



ANNUAL REPORT

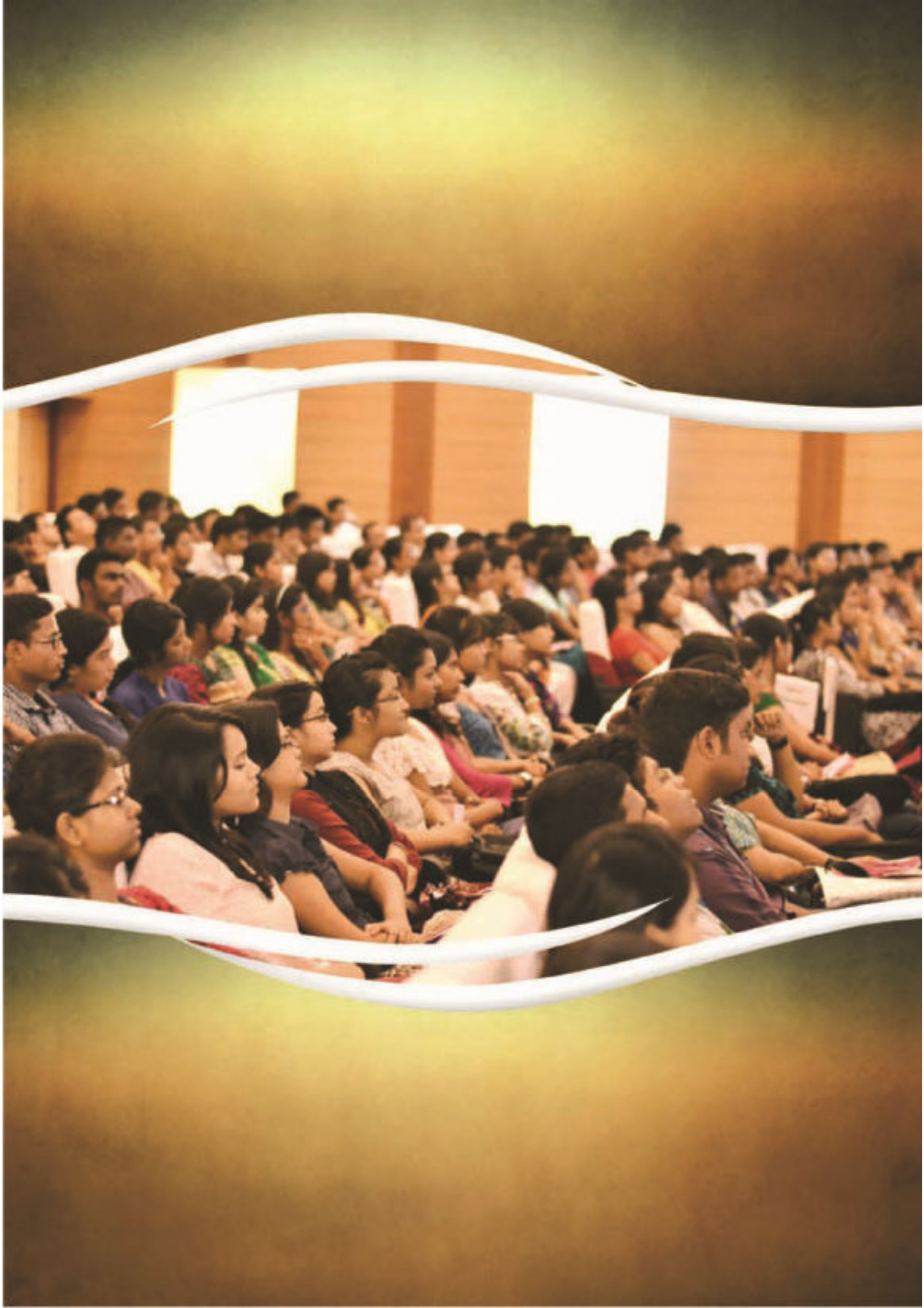
April 2013 - March 2014



TEZPUR UNIVERSITY

Established in 1994





Annual Report

2013-14



Specialized Knowledge Promotes Creativity

Tezpur Univeristy

Napaam, Tezpur 784028, Assam

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28 October 2014

From the desk of the Vice-Chancellor



Professor Mihir K. Chaudhuri, FASc, FNA,
Vice-Chancellor

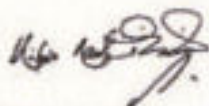
It is my pleasant duty to present the Annual Report of Tezpur University for the year 2013-14. The detailed report that follows gives an account of our journey during the year including the achievements of our students, research scholars, members of faculty and staff. The enrolment rose to nearly 3,100 with 45% girls students on the campus. Being a residential institution, the students are all accommodated in designated hostels of boys and girls. The 11th Convocation was solemnised on 24 May 2013 with six hundred students graduating as B.Techs, M.Techs, M.As, M.ScS and Ph.Ds. Nearly 57% of our students were placed through on-campus placement endeavours, while many others secured engagements off the campus. A number of 84 students qualified NET, 17 cleared SLET and 113 students secured good rankings in GATE. Many of our graduates are now pursuing research both in India and abroad. Nearly all premier institutions of the country have our students on roll. Many essential facilities have been made available on the campus. The sports, games and other facilities like gymnasium and yoga centres provide ample scope for extra-curricular activities to our students. The University Health Centre has been providing essential medical support to everyone residing on the campus.

For a vibrant institution of higher learning both teaching and research receive equal importance. Our University believes in state-of-the-art teaching heavily backed by research. In recognition of the quality of research, an amount of 45 crore has been generated through external funding. Nearly 590 publications in both national and international journals have emerged in addition to a large number in conference proceedings. We have a reasonably good IPR culture in the University and ten patents have been filed for during the year. Some of our faculty members have received accolades including the National Bioscience Award by Professor Asish K. Mukherjee of the department of MBBT. Three UKEIRI projects are in operation with active collaboration between scientists from UK and our University. All sophisticated equipment acquired by the University are functional catering to the needs of researchers working in the University as well as many other institutions. At present, we have eight UGC-SAP supported departments, a Women Study Centre, Centre for Assamese Studies and a Centre for Endangered Languages. The University is particularly careful in industry-academia interactions and to that end, we have on-going collaborations with ONGC, Numaligarh Refinery Ltd. and OIL. Several outstanding scholars including Professor Andre Beteille delivered lecture on the campus and closely interacted with our students.

During the year under report, two research scholars' hostels, one each for boys and girls, were made ready with the research scholars now occupying these dwellings. The permanent building of Tezpur University-KendriyaVidyalay is nearly ready, while the construction of HSS complex is a little more than half way through. I am rather pained with acute fund constraints during the on-going plan. Hopefully, the situation will improve soon.

It is always gratifying to see the students and the members of faculty and staff are happy on the campus. However, there is a great need for central theatres complex, a swimming pool, a larger students' activity centre, stadia and a good number of residential units, for which I am on the job, and it is my hope that most of these requirements, if not all, will be made available within the next couple of years.

To conclude, I must place on record the help, assistance and support that I have received from my colleagues and students enabling me to serve the University with highest possible sincerity and diligence. I wish all stakeholders of the University a very happy, productive and rewarding year ahead.



(Mihir K. Chaudhuri)

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Tezpur Univeristy

Annual Report 2013-14

A Gist

UNIVERSITY PROFILE

Name of the University	: Tezpur University
State	: Assam
Address	: Napaam, Tezpur 784028, Sonitpur District
Year of Establishment	: 1994
Type of University	: Unitary Type Residential Central University

HIGHLIGHTS OF THE YEAR 2013-2014

Vice Chancellor	: Professor Mihir Kanti Chaudhuri, FASc, FNA
Pro Vice-Chancellor	: Professor Amarjyoti Choudhury, PhD (Oxon)
Registrar	: Dr Biren Das, PhD (Gau)

Total number of

▪ Academic Departments	17
▪ Academic Centers	5
▪ Students	3087
Female	1234
Male	1853
▪ Teachers	213
Female	42
Male	171
▪ Teachers (General)	120
▪ Teachers (SC/ST)	41
▪ Non teaching Employees	262
Female	28
Male	234
▪ Non teaching Employees (General)	103
▪ Non teaching Employees (SC/ST)	62
▪ Departments under UGC-SAP DRS1	9
▪ Departments under DST-FIST	9
▪ Papers published by Faculty in national and international journals	587
▪ Conference proceedings	122
▪ Books produced by Faculty	15
▪ Book chapters produced by Faculty	62
▪ Sponsored ongoing projects	119
▪ Total Financial outlay	₹ 4214.54 lakh
▪ Sponsored projects beginning 2013-14	47
▪ International Collaborative Research projects	9

▪ Grants received for the projects beginning 2013-14	₹ 1221.62709 lakh
▪ Seminars/Workshops organized by various Departments	43
▪ Seminars/Workshops attended by Faculty abroad and in India	161
▪ Talks given by Faculty aboard and in India	98
▪ International visits by Students and Faculty	15
▪ International Visitors to the University	28
▪ International Fellowships	2
▪ Awards received by Faculty	35
▪ Students who qualified NET, SLET, GATE	84, 17, 113

FINANCIAL PROFILE

Annual budget for the financial year 2013-14

Plan	: Rs. 11123.94 lakh
Non Plan	: Rs. 3970.50 lakh

Funds utilised for Infrastructural Development

Total outlay on this count

Building	: Rs.3733.27 lakh
Library books	: Rs.145.93 lakh
Campus development	: Rs.149.77 lakh

INFRASTRUCTURAL DEVELOPMENT

The following constructional activities were taken up and completed during 2013-14:

- i. Construction of a 482 capacity single bedded Boys' Hostel Building
- ii. Construction of a 300 capacity single bedded Girls' Hostel Building
- iii. Construction of a RCC Type-D residential building (1Block =18 Unit)
- iv. Extension of the Student Activity Centre
- v. Extension of the Gymnasium
- vi. Extension of the Amenity Centre with ATM Counter
- vii. Construction of Visitor's Waiting Room cum Reception Counter

FURTHER HIGHLIGHTS OF THE YEAR

A number of noteworthy events took place in the University during the period, which includes the following:

- The University adopted in February 2004 a nearby village called Amolapam in order to provide to the villagers basic amenities such as pure drinking water, toilets and the like.
- The Public Outreach Committee of the University organized a good number of programmes in the nearby schools and villages for the students, house wives and the villagers in general. These include series of lectures of health and hygiene, motivational talks, workshops, and competitions.
- A multilevel collaboration between Tezpur University and Queens University, Belfast (UK) was approved by the Ministry of Human Resource Development (MHRD), Government of India and UGC, New Delhi for a period of six years.
- Prof Mihir Kanti Chaudhuri, Vice-Chancellor was awarded Green Chemistry Institutes Distinguish Honored Lecture Award by American Chemical Society on December 4, 2013.
- Prof Rajpal S Sirohi, Padma Shree, FNAE, FNASc, FOSA, FSPIE, FOSI, was appointed as Lokapriya Gopinath Bordoloi Chair Professor in Physics on October 21, 2013.

- InSCIgnis, the first annual mega science festival was organized by the Students' Science Council of Tezpur University during February 28 – March 1, 2014.
- A Microsoft Innovation Centre was formally opened at the School of Engineering Complex by Mr. Joshep Landes, General Manager, DPE-Microsoft on 2 September, 2013.
- The Eleventh Convocation of the University was held on May 24, 2013 where the students and the scholars who had qualified in the year, 2012 were conferred degrees by the Governor of Assam and the Chancellor of the University, Sri J B Patnaik.
- The University Grants Commission approved in January 2014 University's proposal to establish at the University a Centre for Endangered Languages. The UGC has granted one such centre each also to Sikkim University, and Rajiv Gandhi University. With the Tezpur University Centre as the Consortium Leader the three Centres will be working together towards preservation and promotion of the endangered languages of this part of the country. The UGC had sanctioned to the University a grant of six crore rupees for the Centre for a period of three years.
- A team of Academic Administrative Audit (AAA) visited the University during December 2013.
- Three new academic Departments with the programmes BA-BEd and BSc-BEd (Department of Education); MA in Social Work (Department of Social Work); and MCom (Department of Commerce) were started.
- Major collaborations that took place during the academic year 2013-14 were the ones with public sector giants like Numaligarh Refinery Limited (NRL) and Oil India Limited (OIL).
- The Director, International Office led a Tezpur University delegation, consisting of faculty, the Education Officer and students of the Chinese Certificate programme, to Yunnan University of Finance and Economics, Kunming, China in order to work out an actionable Memorandum of Understanding.
- The University conducted for the first time the Tezpur University Student Council Election 2014-15 during the period.
- The Faculty members of Tezpur University acquired a number of projects during the period. Notable among them are UGC-UKEIRI, DST-UKEIRI and the 3.26 crore DIT project.
- Currently the Central Library has a collection of 63,422 books of which 5061 books were bought during the concerned period. A total of 630 journals (print and online) were also subscribed to during the period.
- A team of officials from the United Nations Organization visited the University during April 2013 and discussed with the University officials on initiating multilevel collaborations with Tezpur University.
- Eminent Social Scientist, Professor Andre Beteille, National Research Professor and Fellow of the British Academy visited the University and delivered a talk, *Universities in the Twenty First Century*, under the Horizon Lecture Series of the University on October 25, 2013.
- The second campus of Tezpur University got a fillip with taking over of 44 acres of land from the State Government at Jonai, Dhemaji District.
- A number of reputed companies like Capgemini, IBM, Microsoft, Vodafone, OIL, TCS, Infosys, HCL Infosystems, NEDFI, Asian Paints, Tech Mahindra, Azim Premji Foundation, PRADAN, Power Grid Corporation of India Ltd., Axis Bank, Dabur India held campus interviews at the University and recruited 87% of Management and 55% of Engineering graduates.



TEZPUR UNIVERSITY

During the year 2013-2014 the University moved onto its twenty first year on January 21, 2014. Despite its best efforts the the University was lagging behind in creating the required infrastructure during the previous Plan Periods. It could not meet its desired goal due to various factors. However, the University with limited Development Grants from UGC planned its activities and could around achieve around 70 % of its targeted goals. The University could retain its records of maintaining strict fiscal discipline during the period. This year too, the University was within the first few among the Central Universities to submit the Annual Report and the Audited Annual Accounts to the Parliament well in advance of the deadline set by the Ministry of Human Resource Development, Government of India and the University Grants Commission.

As per guidelines of the University Grants Commission for XII Plan proposals, the University submitted its proposal to UGC for an estimated amount of Rs. 43458.51 lakh and Rs. 60336.23 lakh, respectively, for Scenario I and Scenario II. It is pertinent to mention that as per The Tezpur University Act, it is a residential University. In view of this, in the proposals, the University emphasized on infrastructure development for new departments/programmes in thrust areas and for hostel accommodation to accommodate the students to be admitted to new programmes. Emphasis was also put on construction of residential buildings for teaching and non-teaching staff for their accommodation on the campus. However, the University Grants Commission approved only Rupees one hundred and eleven crore under XII Plan. Fifty four out of ninety Residential Units for the Teaching and the Non-Teaching Staff and 763 Units of hostel accommodation for the students (316 for girls; 447 for boys) for which work started during the last financial year have been completed and occupied.

At the beginning of the financial year, the vacancies for teaching and non-teaching positions were 25 in each category. In addition, the University received 13 teaching positions for the new Department of Education. It is worth mentioning that filling up of teaching positions with quality manpower is a challenging task. The University made all efforts to fill in the above mentioned vacant positions through 3 advertisements during the year. However, the University succeeded in filling up 5 teaching and 24 non-teaching positions only. On the closing day of the financial year, the total number of sanctioned and filled in teaching and non-teaching positions stands at 249 and 272 & 209 and 262, respectively. With these sanctioned strength, the ratio for teaching to non-teaching staff stands at 1:1.09.



The University is considering to establish a few Chairs for enhancement of standard of teaching and research in some selected fields or areas. To this effect, the University has already established a Chair after Srimanta Sankardeva. An eminent scholar selected by a search-cum-selection committee has been appointed. The University has also established a Chair after of Bharat Ratna Lokapriya Gopinath Bordoloi. This Chair is a rotational one to be attached to a particular department for a period of three years. At the moment it is attached to the Department of Physics with a renowned scholar at the chair.

The University has also established a Centre for Innovation, Incubation and Entrepreneurship Development. An international innovator has been appointed as its Visiting Director for a period of three years. This center has developed some artefacts involving local and student innovators. An exhibition room has been constructed to showcase the items innovated by the Center.

The University offered 60 academic programmes under 17 departments. The total number of students on roll in this year is 3059. This University launched two new academic programmes during the year under report. Out of 17 departments of the University, nine were under the UGC's Special Assistance Programme (SAP) (DRS-I) during the year. The University has 7 Departments under the FIST programme of the Department of Science & Technology, Government of India. The University implemented the academic reforms of the Government of India and extended the provision of Inter Departmental Credit Transfer (20%).

The University is in the process of preparing itself for the next NAAC accreditation. To this effect, the University conducted the Academic and Administrative Audit by a group of external experts in December 2013.

Keeping with its commitment to the society and people at large various extension and awareness activities, through the Equal Opportunity and Career Counseling Cell, and the Outreach Programme Committee were conducted during this period as well. Apart from others, a number of programmes relating to Disability, Human Rights, Inclusive Social Development, Gender Inequality, Health Camps at several neighborhood villages, Research Methodologies for Social Science, NET Coaching, etc. were organized. A good number of outreach programmes have also been organized by the Outreach Programme Committee amongst the fringe villagers. A significant development during the period was the initiation of the Tezpur University - Amolapam Village Development Initiative. The NSS and NCC units of the University were also involved in various extension activities and social services.

Like the previous year, this year too, as part of the State Government's programme Gyan Yatra, the University organized visits for school and college students to our academic departments. On these visits, Awareness Lectures on academic programmes of the University and Career Counselling were also organized for the benefit of the students.



THE UNIVERSITY ADMINISTRATION

The University administration provides the management support platform for smooth operation of the teaching, learning, research and extension activities of the University. The administration constantly strives for incorporating and internalizing the contemporary concepts and practices of modern governance in all aspects of its functioning. The administration endeavours to ensure effective execution of the academic and administrative reforms through e-governance with transparency, information sharing, vigilance, accuracy and inclusive mechanism ensuring participatory decision making involving all stake holders from within and outside the University.

The University functions within objects and mandate depicted in its Act and as governed by its Statutes and Ordinances. The rules, regulations and directives of the Government of India, which have relevance mostly to academic matters and are communicated through the Ministry of Human Resource Development (MHRD), University Grants Commission (UGC), and such other statutory authorities, have also an important bearing on the overall administration of the University. The administration is conducted under the following authorities.

FINANCIAL PROFILE

The Statutory authorities of the University are:

1. The Board of Management
2. The Academic Council
3. The Planning Board
4. The Finance Committee
5. The Research Committee
6. The School Board
7. The Board of Studies
8. The Building Committee

THE NUMBER OF MEETINGS HELD DURING THE YEAR 2012-13

- | | |
|------------------------|-----|
| 1. Board of Management | : 5 |
| 2. Finance Committee | : 2 |
| 3. Building Committee | : 2 |
| 4. Academic Council | : 2 |
| 5. Planning Board | : 1 |
| 6. Research Committee | : 2 |

FUNCTIONS

These statutory authorities act in accordance with the powers and functions which have been clearly defined in the Act, Statutes and the Ordinances. The Board of Management is the principal executive body of the University. The Board of Management takes policy decisions as well as administrative decisions on all major issues and/or it considers the recommendations of the other statutory bodies like the Finance Committee, the Academic Council, the Planning Board, the Building Committee, and the Selection Committees, etc.

In the organizational hierarchy, the Chancellor is the Head of the University while the Vice-Chancellor is the Principal Executive and Academic Officer. There are other officers in the administrative set up, each with specific domains, assignments and responsibilities. The Vice-Chancellor exercises general supervision and control over the affairs of the University and gives effect to the decision of all the authorities of the University. The Vice-Chancellor is also the ex-officio Chairperson of the Board of Management, the Academic Council, the Finance Committee, the Planning Board, the Research Committee and the Building Committee and the Selection Committees.

The University administration is computer intensive and has been making strategic efforts towards complete e-governance with the help of its computer centre and the department of Computer Science & Engineering.

All academic activities are implemented with strict adherence to its Academic calendar. Almost all academic reforms prescribed by the UGC and MHRD are implemented at Tezpur University.

ADMINISTRATIVE DIVISIONS

The major divisions of the University in respect of the functions are identified as:

- Academic Affairs (including examinations)
- Establishment and General Administration
- Finance and Accounts
- Campus Development
- Students' Affairs

The Administrative set-up and the key functionaries under each division are presented below.

ACADEMIC AFFAIRS

The Academic Council is the principal academic body of the University. The first Academic Council was constituted on expiry of the ten-year term of the Planning and Academic Committee. The School Board and Board of Studies formulate policy recommendations. The Deans of concerned Schools of studies, the Heads of Departments implement the decisions of the authorities.

The evaluation of students is made through the approved examination scheme and procedures. The Controller of Examinations is the nodal officer, who is responsible for organization of examinations and declarations of results. A Deputy Registrar, one Assistant Registrar and one Section Officer with a few ministerial staff help the Controller of Examinations in the work assigned to this division. The Academic Division constitutes a major division in the administration. The division is also responsible for coordinating the whole process of admission of students, preparing and implementing the academic calendar and such other tasks related to the academic affairs.

ESTABLISHMENT & GENERAL ADMINISTRATION

The Registrar is the nodal officer of the overall general administrative set-up, which functions under the control and supervision of the Vice-Chancellor. All activities viz., implementation of decisions of the University, recruitment, creation and development of physical infrastructure, academic infrastructure, purchase, welfare oriented schemes, administrative support to the research projects funded by external agencies, etc., fall within the ambit of the general administration. On the basis of diverse activities performed, the tasks are assigned to different sections under the control and supervision of designated officers including the Deputy Registrars. The different sections under General Administration deal with the following matters.

RECRUITMENT AND PERSONNEL

Assessment of vacancies and recruitment is assigned to an Assistant Registrar who is assisted by one Section Officer. In addition, Section to deal all matters relating to personal files/service matters of the employees.

Two Section Officers and three ministerial staff work under the supervision and control of the Assistant Registrar in the Establishment. Matters relating to participation in Seminar, Conference, Workshop etc. by faculty members are look after by the General Administration under the supervision of an Assistant Registrar. Matters relating to sponsored research projects taken up by the faculty members are looked after by the office of the Dean, Research and Development.

TRANSPORT, GUEST HOUSE, HOSTEL AND RTI MATTERS

All matters relating to arrangement of transport for the employees and students, maintenance of the Guest House, and management of the hostels are carried out by a Deputy Registrar under the General Administration. The section also deals with the matters related to RTI.

STORES AND PURCHASE

A Deputy Registrar, assisted by a Section of ministerial staff implements the decisions of the Tender and Purchase Committee relating to matters of purchase of all store items including equipments, chemicals and consumables, furniture and stationery. This section also maintains the Central Stock Register.

ESTATE SECTION

An Assistant Registrar is assigned the responsibility of the Estate and an Assistant Horticulturist is in charge of the landscaping and garden maintenance of the University which has a 262 acre campus. The Academic Buildings, general facilities like the Central Library, Health Centre, Computer Centre, Sophisticated Analytical Instrumentation Centre, Hostels, Students Activity Centre with the Playground and evening playing facilities, Auditorium, DG Installation, Guest House, Cafeteria, Canteen, Shopping Complex, Women Study Centre, Water Treatment Plants, Botanical Garden, etc., have been developed on the campus on the basis of a Master Plan. Maintenance of the general cleanliness of the campus is outsourced to M/S Sulabh International. A Horticulture Section under the Engineering Cell looks after the landscaping and gardening activities.

FINANCE AND ACCOUNTS

The Finance Officer is the key officer of this division. This division is responsible for preparation of budget, proper management of funds, receipt and expenditure, submission of utilization certificates, compliance with financial rules in effecting all transactions in accordance with the decisions of the competent authorities. One Deputy Registrar (Finance), a Deputy Registrar (Accounts) and one Assistant Finance Officer, one Internal Audit Officer, two Section Officers and five Junior Accountants and a few support staff members assist the Finance Officer in performing the duties of this section. The Finance Division prepares the balance sheet and the accounts of the University for audit. The University has been submitting its audited accounts to the MHRD for submission to the Parliament well before the stipulated deadlines.

CAMPUS DEVELOPMENT

The work of campus development includes both creation of new infrastructure and maintenance of the existing facilities. Expansion and maintenance of facilities like buildings, roads, electricity and water supply has been a continuous process. An Associate Dean, Planning and Development provides the general guidelines for the smooth creation and operation of the major civil infrastructures on the campus. The Engineering Cell of the University is under the supervision of an Executive Engineer. He is supported by two Assistant Engineers, two Junior Engineers, a Junior Architect Engineer and a few supporting staff members, perform all these activities.

THE TRAINING AND PLACEMENT CELL

The University has a Training & Placement Cell and it interfaces between the recruiting organizations and the students. The Cell facilitates both on campus and off campus recruitments and has been organizing

various pre-placement training programmes to enhance the employability of the prospective students. The University took all possible measures to give the Cell a fresh boost during the last year. It organized various pre-placement training programmes. A Deputy Director supported by Training & Placement Officer is assigned the responsibility of the Training and Placement Cell. In addition, every department has a faculty-in-charge, Training & Placement to assist the Training & Placement Cell.

STUDENTS' AFFAIRS

As part of a fully residential University, all students stay on the campus in the University hostels. The University focuses on a holistic development of the personalities of the students. All affairs related to the students including discipline, accommodation, extra-curricular activities, administration and management of the hostels, annual activities like sports events, cultural events etc., are looked after by the Dean, Students' Welfare along with two Associates Deans, Students' Welfare in co-ordination with the Wardens of the hostels, Sports Officer, Cultural Officer and the Controller of Examinations. The new Students Council was constituted through election in March as per the University Ordinance framed on the basis of Lyngdoh Commission recommendations.

THE EQUAL OPPORTUNITY CELL

The University has an Equal Opportunity Cell. The Cell organized a number of programmes in the form of training programmes, workshops, courses and seminars during the year. These programmes had the objective of creating awareness among the students, academics and general people about the contemporary issues of equity, gender, inclusive development and also capacity building. A number of pre-placement training programmes with the objective of enhancing the placement prospects of the students were also organized under the aegis of the Equal Opportunity and Training & Placement Cell. These trainings centered on soft skill development, enhancement of aptitudes and development of correct attitudes.

THE HINDI CELL

The University has a very active Hindi Cell manned by Assistant Director (Official Language), Hindi Translator and a typist. This Cell looks into the implementation of official languages as per GOI requirement. During the year under report, this cell organized two (04) meetings of official language Implementation Committee and two (02) workshop for Non-teaching staff of the University. The cell also organized Hindi Fortnight in the month of September, 2013 with many competitions for teaching and non-teaching staff, students and staff children.

EXTENSION SERVICE

The University is maintaining its social responsibilities to the society in the form of extension notice also. A dedicated team of faculty members, research scholars, students and the non-teaching staff has been regularly delivering lectures to and holding demonstrations for the young school children of the neighbouring villages and towns on weekends. The lectures are popular in nature highlighting the concepts of science and technology, hygiene and health care, human rights, social awareness for education and growth etc.

THE HEALTH CENTRE

The University Health Centre looks after the basic health care of the entire University community. The Health Centre has three full time (one of them is contractual) post-graduate Medical Officers and three Visiting Specialist Doctors. The Centre has the basic infrastructure for routine diagnosis and three Ambulances. The Centre provides 24 x 7 services for emergency patients in addition to routine OPD services.

FINANCIAL PROFILE

The Accounts of the University are maintained in four parts: Part I deals with Non-Plan Maintenance Grants, Part II deals with Plan Grants, Part III deals with Earmarked Special Funds and Part IV deals with the Debts and Deposits Accounts. The Accounts of the financial year 2013-14 has been prepared in the New Accounting Format for Educational Institutions as prescribed by MHRD, Govt. of India.

The opening balance at the beginning of the year 2013-14 was Rs. 3656.77 lakh. During the year, the University received Rs. 9569.39 lakh as grants under various schemes, namely Non-Plan, Plan and for Projects. Thus, the total funds available during the year was Rs. 13226.16 lakh. Of the available funds, the University incurred an expenditure of Rs. 12406.54 lakh during the financial year, leaving an unspent balance of Rs. 2441.13 lakh.

A) THE FOLLOWING STATEMENT PRESENTS THE RECEIPT AND EXPENDITURE AT A GLANCE

Statement of Receipt & Expenditure, 2013-14

(Rs. in lakh)

RECEIPTS			EXPENDITURE		
Particulars	Amount	Total Amount	Particulars	Amount	Total Amount
A) Opening Balances			E) Expenditure		
1. Non-Plan			Part- I (Non –Plan)	3996.03	
Cash in hand	0.00		Part- II (Plan)	6188.02	
Bank balances	266.14		Part -III (Earmarked)	2222.49	12406.54
Advances	57.32		& Special Fund		
Investment	0.00		F) Closing Balance		
2. Plan			1. Non-Plan		
Cash in hand	0.00		Cash in hand	0.23	
Bank balances	512.60		Bank balances	279.92	
Advances	140.75		Advances	37.96	
Investment	20.39		Investments	0.00	
3. Earmarked Spl. Fund			2. Plan		
Cash in hand	-		Cash in hand	-	
Bank balances	1672.68		Bank balances	169.55	
Investments	586.00		Advances	100.58	
Advances	400.89	3656.77	Investments	250.00	
B) Grant Receipts			3. Earmarked Spl.Fund		
Part -I (Non –Plan)	2932.24		Cash in hand	-	
Part- II (Plan)	4754.13		Bank balances	1097.00	
Part- III	1883.02	9569.39	Investments	494.43	
(Earmarked & Special Fund)			Advances	11.46	2441.13
C) Internal Receipts		1251.78			
D) Current Liabilities		369.73			
Grand Total		14847.67	Grand Total		14847.67

B) XII PLAN GRANT

During the year 2013-14, the UGC sanctioned and released Rs 3691.25 lakh as XII Plan General Development Grant. Besides the Plan Grants, the UGC also released a one-time grant of Rs 1000.00 lakh as an additional Grant for the establishment of the School of Education. During 2013-14, the total expenditure was Rs. 6188.02 lakh (which includes the OBC Grant; an additional grant for GDG during 2012-13; and recurring and non-recurring expenditure for School of Engineering, School of Management, and School of Education).

The Plan Grants were utilized for creation of new infrastructure as mentioned below:

(Rs. in lakh)

Sl. No.	Infrastructure Created and Other Expenses	Amount	Amount
A	Building against XII Plan:	403.07	
	1) Construction of R.C.C.-3 storied Type –B Residential Building	273.95	
	2) Construction of R.C.C.-3 storied Type-C Residential Building	2.02	
	3) Construction of R.C.C.-3 storied Type-D Residential Building	1019.51	
	4) Construction of 447- capacity Single Bedded Boys Hostel No-8	455.71	
	5) Construction of 316- capacity Single Bedded Girls Hostel No-6	229.22	
	6) Construction of School Building for KV	8.44	
	7) Construction of Academic Building for Physics Dept.	446.22	
	8) Construction of Acca. Building for School of Humanities of Social Sciences	117.26	2955.40
	9) Construction of R.C.C.-2 storied Library Building		
B	Building against Establishment of School of Education:		
	1) Construction of RCC-3 storied Academic Building		431.06
C	Building against Faculty of Management:		
	1) Construction of Management Building	190.62	
	2) Construction of Residential Building for Medical Officer	48.14	
	3) Construction of Residential Building for Medical Staff	62.66	301.42
D	Building against Addl Grant under GDG XII Plan 2012-13		
	1) Construction of RCC 2-storied Building for Eng Cell & COE Office		45.39
	Total Expenditure under Building Head		3733.27
E	Library Books		
	1) XII Plan Dev Grant	145.26	
	2) Addl. Grant for GDG under XII Plan	0.67	145.93
F	Laboratory Equipment		
	1) School of Management	1.86	
	2) School of Engineering	101.07	
	3) XII Plan Dev Grant	368.39	471.32
G	Furniture		22.04
H	Campus Development		149.77
I	Central Facilities		3.16
J	Salary & Other Expenditure		1662.53
	TOTAL		6188.02

C) EARMARKED SPECIAL FUND

The Faculty members earned a total of Rs. 1883.02 lakh against 203 Projects and Programmes (including DBT sponsored grant for development/upgradation of infrastructure in Medical colleges in NE states) during the year 2013-14. This amount was released to the concerned Principal Project Investigators as and when requisitioned.

Internal receipts generated by the University during the year 2013-14 was Rs. 1251.78 lakh.

REPORT FROM THE DEAN, RESEARCH & DEVELOPMENT

In keeping with the mandate of Tezpur University, the University is pursuing research activities in the frontier areas of science and technology and is also promoting research to meet local needs. Research is also equally being promoted in Humanities and Social Science. A brief report of the activities of the office of the Dean, R&D and their status is presented below.

1. The office of the Dean, R&D facilitates the implementation and smooth conduct of research projects that are funded by the various funding agencies like UGC, DST, DBT, DOI, AICTE, DAE, DRDO, DRL, ICMR, Ministry of Earth Science, Ministry of Food Processing Industries, MNRE and others for their completion within the stipulated duration. In this context, the office has forwarded 80 research proposals for consideration of approval to the funding agencies during the last financial year. It takes care of the advertisement and appointment of project staff; conducts field trips/visits, provides permission to attend workshops/seminars/symposiums/ conferences; and allows visit to different research laboratories. The office facilitates UGC-SAP funds, UGC-BSR start up grants and DBT funded schemes such as the establishment of Institutional Level Biotech Hub, and Strengthening of Biotechnology Teaching, Training and Research in Universities and Colleges in Northeast. Dean R&D also conducts the Tezpur University Ethical Committee and Bioinformatics Infrastructure Facility meetings, reviews/approves projects if found suitable and reviews the same for compliance of stipulated norms. Further, the office coordinates the implementation of projects approved by ONGC-CPBT.

The office has forwarded 80 research proposals for consideration of approval to the funding agencies during the last financial year. There is a total of 119 ongoing research projects out of which 113 are major research projects and 6 are minor research projects with a financial outlay of ₹4214.54 lakhs. A total of 47 new projects were sanctioned during 2013-2014. Ongoing projects include a number of collaborative projects, out of which 3 projects are under UKIERI scheme, 1 with Indo-UK, 1 with CEFIPRA (France), 1 with Indo-European countries (SAHYOG project), 1 project with Finland, 1 with Romania and 1 with Germany. The maximum grant received in a single project is ₹ 326.43 lakhs. Nine departments were funded under UGC-SAP DRS1 of which 4 departments have applied for the next level grant. The research works conducted in these projects/schemes have led to the publication of papers in high impact factor journals. Further, these projects have augmented the research skills of the project staff.

2. The office also facilitates consultancy projects of faculty as per guidelines. The total amount earned through consultancy during 2013-2014 was ₹19,15,229/-. This amount was earned as consultancy fee by individual faculty from the School of Science and the School of Engineering.

3. The office is also entrusted with the responsibility of collecting and maintaining records of analytical service charge for sophisticated instruments housed at Sophisticated Analytical Instruments Facility and various departments. During the year of report, ₹ 7,03,506/- was collected as analytical service charge from applicants within the University as well as other Universities, research institutes and industries.

4. This office also looks after all fellowships for PhD other than institutional fellowships. During the year under report, 19 Research Scholars received RGNF fellowships, 20 Research Scholars received UGC-NET JRF/SRF, 20 Research Scholars received DST INSPIRE fellowship, 2 Research Scholars received ICSSR JRF, 3 Research Scholars received UGC MANF, 1 Research Scholar received MNRF SRF, 3 Research Scholars received DBT JRF, and 24 Research Scholars received CSIR JRF/SRF.

5. Post Doctoral scholars also receive their fellowships through this office. During 2013-2014, 1 Post Doctoral fellow availed ICSSR Post Doctoral fellowship, and 3 Post Doctoral fellows availed UGC Dr. D.S. Kothari Post Doctoral fellowship.



REPORT FROM THE DEAN, STUDENTS' WELFARE

The office of the Dean of Students' Welfare looks after the welfare of the students with active support from the elected representative of the students, faculty and administration. As per the Act and Statute of the UGC, the University for the first time, on 04 March 2014, conducted a Students' Election to form the 17th Tezpur University Students' Council. (Previously, the 16th Students' Council was formed with representatives from each academic programme, together with the best competitors competing in various major events in the Previous Annual Meet of the University). A Bye Election was held on 15 March 2014 as some posts remained uncontested.

THE TUSC 2014-15 ELECTED MEMBERS ARE AS FOLLOWS :

1. Vice President	: Prabal Jyoti Mazumdar
2. General Secretary	: Ranjan Das
3. Assistant General Secretary	: Sourav Chakraborty
4. Indoor Games Sports Secretary	: Homen Lahan
5. Outdoor Games Sports Secretary	: Md Akuib Ali Hazarika
6. Cultural Secretary	: Sohenii Bhattacharjee
7. Literary Secretary	: Nirmali Barman
8. Magazine Secretary	: Niborna Hazarika
9. Hobby Club Secretary	: Sorat Doley
10. Executive Member, MA (Cultural Studies)	: Koustabh Jyoti Goswami
11. Executive Member, Integrated BA/BEd(English)	: Ayushman Devraj
12. Executive Member, MCA	: Mridul Suklabaidya
13. Executive Member, MSc (Nano Science & Technology)	: Kasturi Sarmah
14. Executive Member, MTech (IT)	: Sumant Pushp
15. Executive Member, BTech (FET)	: Bibek Mohan Sarmah
16. Executive Member, MA (Linguistic)	: Monjushna Sudhakaran
17. Executive Member, MTech (FET)	: Nijw M Mushahary
18. Executive Member, BTech (Civil Engineering)	: Manjeet Yadav
19. Executive Member, BTech (ECE)	: Gaurab Mahaliah
20. Executive Member, BTech (Mechanical Engineering)	: Ajoy Chetry
21. Executive Member, MA (English)	: Ananya Hazarika
22. Executive Member, MA (Hindi)	: Susmita Kumari
23. Executive Member, MA (MCJ)	: Hemen Das
24. Executive Member, MA (Sociology)	: Dinesh Mishong
25. Executive Member, MTech (EDT)	: Jagat Das
26. Executive Member, MTech (Energy Technology)	: Dudul Das
27. Executive Member, MBA	: Niku Das

The office of the Dean of Students' Welfare also looks after issues related to discipline and disciplinary action in relation to the students of the University. Tezpur University follows the recommendations of the Raghavan Committee (constituted by the Supreme Court of India) towards a 'Ragging Free University Campus'. Each and every student has to give an undertaking that she or he would not in no way get involved in ragging, and that if found involved she or he would be legally punished. The Anti Ragging Committees, Anti Ragging Squads, Anti Ragging Cells at the Departments and hostels kept a constant vigil to keep the University ragging free. There was no incidence of ragging during the academic year 2013-2014.

The Office promotes cultural and sports activities and takes care of the infrastructural development of the facilities available in the University for the development of the students. During the academic year 2013-2014, several events like the Inter University East Zone Youth Festival, 2013, All India Inter University Youth Festival 2014, and Participation in the Zonal Inter University Meet were conducted with active participation from the students.

CULTURAL SECTION

The cultural environment of Tezpur University is very enriching and extravagant. Batch by batch students have shown extraordinary talents in the cultural field and added to the glory of the University. The University has also provided every possible avenue to nourish the talents of the students and have been providing a platform to show case their talents.

FACILITIES

The University has provided certain facilities to the students interested in cultural activities. For performances and rehearsals the University has provided buildings and complexes like the Students' Activity Centre, Kalaguru Bishnu Prasad Rava Auditorium, Community Hall, Chandra Prava Saikiani Bhawan, etc. where students practice regularly.

There are around 40 different sophisticated instruments procured by the University for the students. They are accessible to the students for use.

Different workshops related to art and culture are held for the students to help them fortify their talents and to help them gain new knowledge in various fields.

ZONAL AND NATIONAL ACCOLADES ACHIEVED BY THE STUDENTS OF TEZPUR UNIVERSITY IN THE PERIOD 2013-2014

Inter University East Zone Youth Festival, 2013

A team of 17 students from Tezpur University participated in cultural and literary competitions of the 29th Inter University East Zone Youth Festival, 2013 organized by Association of Indian Universities in association with Lalit Narayan Mithila University, Darbhanga, Bihar, held from 23 to 27 November 2013. The achievements of Tezpur University in the competitions are as follows:

- Folk Orchestra : 1st Prize
- Debate : 1st Prize
- Quiz : 2nd Prize
- Photography : 3rd Prize

Besides these, Tezpur University team was adjudged the best literary team in the festival.

ALL INDIA INTER UNIVERSITY YOUTH FESTIVAL 2014

A team of 14 students from Tezpur University, participated in the cultural and literary competitions of 29th All India Inter University Youth Festival organized by Association of Indian Universities, in association with Kurukshetra University, Kurukshetra, Haryana, held during 18-22 February, 2014. The achievements of Tezpur University in the competitions are as follows:

- Folk Orchestra : 2nd Prize
- Quiz : 3rd Prize

INTRA UNIVERSITY EVENTS

• 18 April, 2013 : Painting and Quiz competition by SPICMACAY

A painting competition was organized among the students of KVCUT and Takshashila Vidyapeeth under the banner of SPICMACAY Heritage Club, Tezpur University. Around 60 students participated in the event. Former Registrar of the University, Prof. Alak Buragohain (Presently Vice-Chancellor of Dibrugarh University, Assam) graced the occasion with his kind presence and also distributed prizes and certificates among the winners.

- **21 – 28 April, 2014: International Film Festival in association with Cine ASA**

An international film festival was organized by Tezpur University in association with Cine ASA, Guwahati from 21- 28April 2013. The film festival screened classic movies from different parts of the world.

- **3May, 2013: TU Open Quiz**

A few students interested in Quiz organized the TU Open Quiz competition on 3 May 2013.

- **4May 2013: Spring Fest 2013**

“Boxontor Lohore Lohore”, Spring Fest 2013 was celebrated on 3May 2013 in the University in association with Pragati Women’s Association. Students actively participated in the event. Renowned artist Jina Rajkumai was invited to perform as the Guest Artist.

- **23May 2013: Cultural Evening of the 11th Convocation**

A cultural eveningbased on classical music and dance was organized on the eve of the 11th convocation. Both ongoing students and alumnis performed in the evening. Classical forms like Satriyya, Odissi, Kathak and Bharatnatyam were performed in the event. Deodhani, an ancient folk dance form was also performed in the evening, thereby highlighting the rich cultural heritage of India.

- **20 June 2013:Celebration of Rabha Diwas**

A Colloquium was organized on the occasion of Rabha Diwas 2013. Prof. Amarjyoti Choudhury, Pro Vice-Chancellor of Tezpur University graced the occasion as the chief guest and inaugurated the colloquium. Prof. Pradip Jyoti Mahanta and Prof. Smriti Sinha were the speakers in the event.

- **24 August 2013: General Freshers’**

A General Freshers was organized centrally on 24August 2014 to welcome the newly enrolled students to the University. The evening comprised of many power-packed cultural items from both the ongoing students and the freshers. Miss and Mr Freshers competition was organized among the new students.

- **10September 2013: Painting Competition**

A painting competition was organized among the students to identify new talent in the field of painting. The competition was held at Chandraprava Saikiani Bhawan on 10September 2013.

- **21 September 2013: Stage play by Students**

A play named “JUNJ” based on Shakespeare’s famous play Othello was staged by the students of the University at Kalaguru Bishnuprasad Rabha Auditorium on 21 September 2013. The play was appreciated by the University Fraternity.

- **1-2 November 2013: Photography Workshop and Exhibition**

A photography workshop and exhibition was organized to nurture the talent of students in the field of Photography. Mr. Dipankar Bhagawati, renowned photographer and an ex-student of Tezpur University was present as the instructor in the Workshop. The workshop was followed by an exhibition.

- **5November 2013: Tribute to Dr Bhupen Hazarika**

On 5 November 2014, a tribute was paid to Xudhakontho Dr Bhupen Hazarika. Prof. Mihir Kanti Chaudhuri, the Honorable Vice Chancellor graced the occasion as the chief guest. Prof. Pradip Jyoti Mahanta was invited as the speaker for the evening. He gave a detailed overview about the life and works of Dr Bhupen Hazarika. It was followed by performances by the students of the University

- **13 November 2013: Stage show by Seema Biswas**

Renowned actress, Seema Biswas staged a play in Tezpur University on 13November 2013. The play, “Stree Patra” written by Kaviguru Rabindranath Tagore was enacted by Seema Biswas in KBR auditotium of Tezpur University. Honourable Vice Chancellor, Prof. Mihir Kanti Chaudhuri graced the occasion with his kind presence. The play was followed by an interaction of the actor with the audience. It was a very successful event.

- **27 November 2013: University Debate Competition**

A university debate competition was organized among the students of the University on 27 November 2013 at the Council Hall. There was a massive participation from the students in this event.

- **17 January 2014: Shilpi Diwas**

Shilpi Diwas was celebrated in the University on 17 January 2014. Renowned singer and national award recipient, Srimati Tarali Sarma was invited as the guest speaker for the occasion. She gave a detailed analysis of the songs of Rupkonwar Jyoti Prasad Agarwalla. It was followed by renditions of a few Jyoti Prasad Agarwalla's songs by her.

- **20- 23 February 2014: Annual Week**

The annual week of Tezpur University is organized every year in the last week of February. It is one of the most awaited events for all the students. There were almost 50 competitions under different cultural categories. About 30-40 students participated in all the categories. There were both group and solo competitions. The group competitions were either Inter-Departmental or Inter-Hostel.

- **22-29 March 2014: Workshop on Bihu Dance and Dholbadon**

A workshop on Bihu Dance and Dholbadon was organized by Tezpur University from 22 - 29 March 2014 under the guidance of Sri Somnath Bora (Ojha). Around hundred boys and girls in the age group of 3-25 years participated in the workshop. On the closing day, the Vice Chancellor, Tezpur University, Prof. Mihir Kanti Choudhuri graced the occasion with his presence. All the students were given certificates on the closing day followed by their performances.

SPORTS SECTION

The sports section of Tezpur University was established in the year 1995 with limited infrastructure and some sports facilities. The sports complex along with a gymnasium was established in the year, 1998. The First annual meet of the university was held in the year, 1997 with 25 sports and cultural events. The university authorities decided to invite one outstanding sports personality to the annual meet every year. At present, the sports complex comprises of a football ground, a volley ball ground, a basket ball court, a gymnasium, a badminton court and a tennis court.

THE FOLLOWING ACTIVITIES WERE UNDERTAKEN DURING THE YEAR 2013-2014.

The 17th Annual Meet, 2013-14 of Tezpur University started in the month of August, 2013 with a series of Football, Volleyball, Basketball, Badminton and Table tennis competitions. The concluding session was held from 20 February to 23 February, 2014 with track and field events.

Inter hostel Football, Cricket, and Basketball competitions started in the first week of March and ended by the first week of May, 2014. Following is a list of best performers of the 17th Annual Meet, Tezpur University:

XVII ANNUAL MEET, 2013-14

Category	Winners
BEST PLAYER (Basketball, Men)	Rup Kumar Mech (ECE)
BEST PLAYER (Basketball, Women)	Rasmi Ranjana, DWH HOSTEL
BEST PLAYER (Volleyball, Men)	Vivek Basumotary, ENERGY
BEST PLAYER (Volleyball, Women)	Sandhyarani Gogoi, PMCW HOSTEL
BEST PLAYER (Football)	Nazatul Haque Sultan, CSE
BEST LIFTER	Dhrubajyoti Gogoi, PHYSICS
STRONGMAN OF TU	Dhrubajyoti Gogoi, PHYSICS
MR. TEZPUR UNIVERSITY	Dhrubajyoti Gogoi, PHYSICS
CHAMPION OF THE CHAMPIONS (Armrestling Men)	Arindam Khound, ME
CHAMPION OF THE CHAMPIONS (Armrestling Women)	Mayasri Das, MBBT
MAN OF THE MATCH (Cricket)	Abhinaav Saikia, ECE
BEST BALLER (Cricket)	Abhinaav Saikia, ECE
MAN OF THE SERIES (Cricket)	Mayur Barman, ENERGY
BEST ATHLETE (Women)	Binita Hazarika, MBBT
BEST ATHLETE (Men)	Akash Deep Biswas, MBBT
MARATHON CHAMPION	Kanhaiya Lal Kisan, FET
BEST COMMANDER (March-past Women)	Priakshi Sharma, KWH HOSTEL
BEST COMMANDER (March-past Men)	Nabajyoti Saikia, NMH HOSTEL

WINNERS OF TEAM EVENTS

Events	Department
Cricket- Champion	Electronic & Communication Engineering
Cricket- Runner-up	Combined team of Energy + MBBT+FET+EVS
Football- Champion	Mechanical Engineering
Football – Runner-up	Computer Science & Engineering
Volleyball- Champion (M)	Combined team of Energy + MBBT+FET+EVS
Volleyball-Runner-up (M)	Electronic & Communication Engineering
Volleyball-Champion (W)	Pobitara M.C.Women's Hostel
Volleyball-Runner-up (W)	Bordoichilla Women's Hostel
Basketball-Champion (M)	Electronic & Communication Engineering
Basketball- Runner-up (M)	Computer Science & Engineering
Basketball-Champion (W)	Dhansiri Women' Hostel
Basketball-Runner-up (W)	Pobitara M.C.Women's Hostel

PARTICIPATION IN THE AIU & OTHERS EVENTS

- 6 students represented the University in The East Zone AIU Inter University Chess competition held during 25-28 October, 2013 at Jadavpur University, West Bengal. Dr. Bipul Kr. Sarmah, Assistant Professor, Department of Mathematical Sciences, Tezpur University accompanied the team as Team Manager. Mr. Bhairab Gogoi of Physics department was awarded the champion in his board and he also secured the highest point in the tournament.
- A selected University cricket team consisting of 15 players participated in the East Zone AIU inter University Cricket tournament held at Jadavpur University during 4-12 January, 2013. Mr Raju Singh, Sports Officer led the team as Team Manager.
- A selected University Basketball team of 10 players participated in the East Zone AIU inter University Basketball tournament held at Benaras Hindu University from 1 February, 2014. Mr. Pankaj Kumar Borah, Assistant Director of Sports, Tezpur University accompanied the team.
- Mr. Tezpur University title winner, Mr. Dhrubajyoti Gogoi of Physics department represented Tezpur University in the AIU All India University Best Physique & Power Lifting Competition. Out of 63 participants he was among the top fifteen contestants. Mr Raju Singh, Sports Officer accompanied him as Team Manager.
- A selected University cricket team consisting of 15 players participated in The North East Forum for Technical Institution's T-20 Cricket Tournament held during 22-30 March, 2014 at NITS Mirza play ground, Guwahati. Dr. Debasish Mohapatra, Assistant Professor, Department of English and Foreign Languages, Tezpur University accompanied the team as Team Manager.
- A team of 3 members participated in the 30th Iron Games of Sonitpur District Bodybuilder's Association held at Panchmile, Tezpur during 7-8 December, 2013. Mr Dhrubajyoti Gogoi of Tezpur University broke the district record in Dead lift event and was awarded the 'Strongman of Sonitpur' Trophy.





THE STATUTORY BODIES

The Board of Management ■

The Planning Board ■

The Academic Council ■

The Finance Committee ■

The Building Committee ■

THE BOARD OF MANAGEMENT

(01/04/2013 - 31/03/2014)

Vice-Chancellor	Chairman
Pro Vice-Chancellor	Member
Dr Devi Singh Director, Indian Institute of Management Lucknow 226 013	Member
Prof Iftekhar Ahmed Dean, Film and Television Institute of India Pune 411 004	Member
Prof Partha S Ghosh B-10/7334, VASANT KUNJ New Delhi 110 070	Member
Prof Birendranath Datta 104 Gopinath Bordoloi Road Guwahati 781 003	Member
Dr Lakshmi Goswami (Mrs) Goswami Nursing Home Tezpur 784001	Member
Prof S K Dutta Dean, School of Humanities and Social Sciences	Member (till 31.12.2013)
Prof N D Baruah Dean, School of Sciences	Member (w.e.f. 01.01.2014)
Prof S K Dolui Department of Chemical Sciences	Member (w.e.f. 17.05.2013)
Dr P Anbarasan Department of Mass Communication and Journalism	Member (w.e.f. 18.04.2013)
Mr S Mahapatra Department of Energy	Member
Finance Officer	Special Invitee
Controller of Examinations	Special Invitee
Registrar	Secretary

THE PLANNING BOARD

(01/04/2013 – 31/03/2014)

Vice Chancellor	Ex- Officio Chairman
Pro- Vice Chancellor	Member
Prof S K Dutta Dean, School of Humanities & Social Sciences	Ex- Officio Member (till 31.12.2013)
Prof P J Mahanta Dean, School of Humanities & Social Sciences	Ex-officio Member (w.e.f. 01.01.2014)
Prof N D Baruah Dean, School of Sciences	Ex- Officio Member
Prof S S Sarkar Dean, School of Management Sciences	Ex- Officio Member
Prof D K Bhattacharyya Dean, School of Engineering	Ex- Officio Member
Prof D Deka Dean, Students' Welfare	Ex- Officio Member (till 31.10.2013)
Prof D C Baruah Dean, Students' Welfare	Ex- Officio Member (w.e.f. 01.11.2013)
Prof CharuLataMahanta Dean, Research and Development	Ex- Officio Member
Dr U K Das Associate Dean, Planning and Development	Ex- Officio Member
<i>SIX TEACHERS NOMINATED BY THE ACADEMIC COUNCIL</i>	
Prof P K Das Department of English & Foreign Languages	Member
Prof S M Hazarika Department of Computer Science & Engineering	Member
Prof Nilakshi Das Department of Physics	Member
DrPaporiBaruah Department of Business Administration	Member (till 26.11.2013)

Dr B P Sarmah Department of Mathematical Sciences	Member (w.e.f. 27.11.2013)
Dr S Deka Department of Civil Engineering	Member
Dr JuriGogoi Konwar Department of Cultural Studies	Member
<i>ONE REPRESENTATIVE OF MHRD</i>	Vacant
<i>ONE REPRESENTATIVE OF UGC</i> Prof VarunSahni CIPOD, School of International Studies Jawaharlal Nehru University, New Delhi	Member
<i>ONE REPRESENTATIVE OF NEC</i>	
Director (HRD & E) NEC, Nongrim Hill Shillong- 793003	Member
<i>ONE REPRESENTATIVE OF GOVT OF ASSAM</i> The Commissioner & Secretary Department of Higher Education Govt of Assam, Guwahati 781006	Member
<i>TWO NOMINEES BY THE BOARD OF MANAGEMENT</i> Prof RanjanChakraborty Vice Chancellor, VidyaSagar University West Bengal, Midnapur 721102	Member
Mr R K Dutta Former Chairman cum Managing Director Oil India Limited (OIL), Kolkata 700071	Member
Controller of Examinations	Permanent invitee
Finance Officer	Permanent invitee
Librarian	Permanent invitee
Registrar	Ex- Officio Secretary

THE ACADEMIC COUNCIL

(01/04/2013 - 31/03/2014)

Vice Chancellor	Ex-officio Chairman
Pro- Vice Chancellor	Ex-officio Member
DEANS OF THE UNIVERSITY	
Prof SSSarkar Dean, School of Management Sciences	Ex-officio Member
Prof S K Dutta Dean, School of Humanities & Social Sciences	Ex-officio Member (till 31.12.2013)
Prof P J Mahanta Dean, School of Humanities & Social Sciences	Ex-officio Member (w.e.f. 01.01.2014)
Prof D K Bhattacharyya Dean, School of Engineering	Ex-officio Member
Prof N D Baruah Dean, School of Sciences	EX-officio Member
Prof DDeka Dean, Students' Welfare	EX-officio Member (till 31.10.2013)
Prof D C Baruah Dean, Students' Welfare	Ex-officio Member (w.e.f. 01.11.2013)
Prof CharuLata Mahanta Dean, Research & Development	EX-officio Member
<i>PROFESSORS AS NOMINATED BY THE VICE CHANCELLOR</i>	
Prof KKBaruah Department of Environmental Science	Member
Prof M Borah Department of Mathematical Sciences	Member
<i>HEADS OF DEPARTMENTS/CENTRES</i>	
Prof P K Das Head of English and Foreign Languages	Ex-officio Member
Dr D P Nath Head of Cultural Studies	Ex-officio Member
Prof D Das Head of Business Administration	Ex-officio Member

Prof D Hazarika Head of Mathematical Sciences	Ex-officio Member
Prof CSHN Murthy Head of Mass Communication & Journalism	Ex-officio Member (till 31.05.2013)
Prof P J Mahanta Head of Mass Communication & Journalism	Ex-officio Member (till 31.12.2013)
Prof S K Dutta Head of Mass Communication and Journalism	Ex-officio Member (w.e.f. 01.01.2014)
Dr K Kikhi Head of Sociology	Ex-officio Member
Dr U Sarma Head of Computer Science and Engineering	Ex-officio Member
Prof J C Dutta Head of Electronics and Communication Engineering	Ex-officio Member
Dr Shashi Baruah (Mrs) Head of MBBT	EX-officio Member
Dr Nidhi Saxena Bhattacharyya Head of Physics	EX-officio Member
Dr R RHoque Head of Environmental Science	EX-officio member
Dr M K Hazarika Head of Food Engineering & Technology	Ex-officio Member
Prof D C Baruah Head of Energy	Ex-officio Member (till 24.09.2013)
Prof DDeka Head of Energy	Ex-officio Member (w.e.f. 25.09.2013)
Prof N Karak Head of Chemical Sciences	Ex-officio Member (till 31.08.2013)
Prof R C Deka Head of Chemical Sciences	Ex-officio Member (w.e.f 01.09.2013)
Dr DDatta Head of Mechanical Engineering	Ex-officio Member
Dr U K Das Head of Civil Engineering	Ex-officio Member
Dr S K Tripathy Head of Hindi	Ex-officio Member
Dr B Borah Head, Computer Centre	Ex-officio Member (till 09.03.2014)
Dr N Sarma Head, Computer Centre	EX-officio Member (w.e.f. 10.03.2014)

Dr DNath Head, Centre for Disaster Management	Ex-officio Member
<i>TWO ASSOCIATE PROFESSORS OF THE UNIVERSITY AS NOMINATED BY THE VICE CHANCELLOR</i>	
Mr PAmbarasan Department of Mass Communication and Journalism	Member
Dr C Goswami Department of Business Administration	Member
<i>TWO ASSISTANT PROFESSORS NOMINATED BY THE VICE CHANCELLOR</i>	
Mr S I Singh Department of Computer Science and Engineering	Member
Dr Heera Borpuzary Department of Business Administration	Member
<i>THREE NOMINEES OF THE BOARD OF MANAGEMENT</i>	
Prof B N Goswami Director, Indian Institute of Tropical Meteorology Pune 411008	Member
Prof (Mrs) MaltrayeeChaudhuri Jawaharlal Nehru University New Delhi 110067	Member
Prof Kankan Bhattacharyya Director and Senior Professor Indian Association for the Cultivation of Science Kolkata 700032	Member
<i>ONE REPRESENTATIVE OF UGC</i>	
Prof S SMantha Chairman, AICTE New Delhi- 110 001	Member
ONE REPRESENTATIVE OF THE MHRD	Vacant
ONE REPRESENTATIVE OF THE NEC	
Director (HRD & E) North Eastern Council (NEC) Shillong 793003	Ex-officio Member
<i>ONE REPRESENTATIVE OF STATE GOVT OF ASSAM</i>	
Commissioner & Secretary/Principal Secretary In-Charge of Higher Education Govt of Assam, Guwahati 781006	Ex-officio Member
Dr Biren Das Controller of Examinations	Ex-officio Member (till 19.12.2013)
Dr L Boral Controller of Examinations	Ex-officio Member (w.e.f. 20.12.2013)
Librarian	Ex-officio Member
Registrar	Ex-officio Secretary

THE FINANCE COMMITTEE

(01/04/2013 - 31/03/2014)

Vice-Chancellor	Chairman
Pro Vice-Chancellor	Member
Dr Renu Batra Joint Secretary, UGC New Delhi 110002	Member
C R Valsala Hariharan Deputy Secretary (CU&L), MHRD New Delhi 110 115	Member
Mr Partap Singh Deputy Secretary (Finance), MHRD New Delhi 110 115	Member
Dr Bhupati Kumar Das Managing Director, Bharat Oman Refineries Limited Bhopal 462 023	Member
Mr A G West Kharkongor Director (Finance), NEEPCO Limited Shillong 793 003	Member
Prof M M Sarma Department of EFL (Member, Board of Management)	Member (till 22.01.2014)
Prof N D Baruah Department of Mathematical Sciences	Member (w.e.f. 23.01.2014)
Finance Officer	Secretary

THE BUILDING COMMITTEE

(01/04/2013 - 31/03/2014)

Vice-Chancellor	Chairman
Pro Vice-Chancellor	Member
Mr Bani Kanta Das Chief Engineer, Public Works Department (Roads) Government of Assam, Guwahati 781 003	Member
Prof Anjan Dutta Department of Civil Engineering IIT Guwahati, Guwahati 781 039	Member
Superintending Engineer, PWD (Building) Tezpur Building Circle, Tezpur 784001	Member
Mr D Saikia Deputy Architect, PWD Government of Assam, Guwahati 781 003	Member
Dr Lakshmi Goswami (Mrs) Goswami Nursing Home Tezpur 784 001	Member
University Executive Engineer	Member
Finance Officer	Member
Registrar	Secretary





Academic Departments and Centres

- School of Engineering ■
- School of Humanities and Social Sciences ■
- School of Management Sciences ■
- School of Sciences ■
- Centre for Open and Distance Learning ■



School of Engineering

- Dept of Civil Engineering
- Dept of Computer Science and Engineering
- Dept of Electronics and Communication Engineering
- Dept of Energy
- Dept of Food Engineering and Technology
- Dept of Mechanical Engineering



SCHOOL OF ENGINEERING

The School of Engineering (SoE) was established in the year 2006 with a vision - *to be a leader in higher education recognized for excellence in teaching, research, innovation and service*. Its mission is to -

- strive hard to build supremacy in teaching, research and service so as to become one of the most sought after institutions of higher learning in the country.
- create infrastructure and provide a challenging environment conducive to enriching learning opportunities for the students and aims at generating future leaders in their domain.
- imbibe virtues among students, staff and faculty members that resonates through their work culture, team work.
- enthuse the students to aim for highest level of learning for personal and professional growth.
- foster innovation and nurture critical and creative thinking.
- involve in public service and outreach activities with stakeholders for the benefit of the region, state, country and the world.
- promote multidisciplinary and collaborative research with other institutes and industries that visibly impacts society.
- facilitate co-curricular and extracurricular pursuits of students, staff and faculty.

The present SoE is housed in seven buildings, one building each for the six engineering departments, and one separate building of approximate built-up area of 2980 sqm for housing common facilities for all the departments under SoE. It has a common drawing hall, Chemistry and Physics laboratories, a common Computer Centre, a lecture hall, a lecture gallery, a Microsoft Incubation Centre, a office of CIIE and a state-of-the-art video conferencing room. The lecture hall, the lecture gallery and the class rooms are used for conducting common classes of SoE, as well as for departmental courses of the constituent departments. The administrative set up of the School comprising the Dean's office, the conference room, B Tech Admission room, AICTE Cell room, the examination control room are located at this building.

The built-up areas of Civil Engineering, Computer Science and Engineering, Electronics and Communication Engineering, Energy, Food Engineering and Technology and Mechanical Engineering are 3570 sqm, 2738.62 sqm, 3431.92 sqm, 1093.26 sqm, 3182.3 sqm, 4775 sqm, respectively. All these departments have adequate space with sufficient number of class rooms, tutorial rooms, seminar hall, department library and laboratories for UG and PG programmes as well as for research activities. These departments are equipped with all the recent state-of-the-art equipment to support academics and research. The current faculty strength of the school is 77, out of which 47 have a PhD. Every faculty member is motivated to publish peer-reviewed articles in leading journals and to participate in conferences.

At present SoE offers six UG and eight PG programmes. The various UG programmes are: B. Tech in (a) Civil Engineering, (b) Computer Science and Engineering, (c) Electronics and Communication Engineering, (d) Mechanical Engineering, (e) Electrical Engineering and (f) Food Engineering Technology. The eight PG programmes running under SoE are: (a) MTech in Bio Electronics, (b) MTech in Electronics Design and Technology, (c) MTech in Energy Technology, (d) MTech in Information Technology, (e) MTech in Food Engineering and Technology, (f) MTech in Mechanical Engineering, (g) Master of Computer Application and (h) Integrated MTech. in Food Engineering and Technology. Students of the MTech programmes with valid GATE score receive AICTE's GATE scholarship. The current strength of students is 1426.

The school also offers PhD programmes and at present there are more than 150 PhD students.

During the last five years, the faculty members as well as the students of SoE have achieved several significant achievements. Some of them are enumerated below:

- The school has been selected for AICTE's special funding under NEQIP for 2014-2017. An amount of Rs 681.47 lakh has been sanctioned for the same.

During the last five years, the faculty members as well as the students of SoE have achieved several significant achievements. Some of them are enumerated below :

- The school has been selected for AICTE's special funding under NEQIP for 2014-2017. An amount of Rs 681.47 lakh has been sanctioned for the same.
- TU is selected for setting up of Centre of Excellence (CoE) based on the proposal of Department of Computer Science and Engineering on 'Machine Learning Research and Big Data Analysis' under MHRD's FAST proposal for the period 2014-19.
- The following departments have received UGC's special funding:
Department of Computer Science and Engineering (DRS Phase-II)
Department of Electronics and Communication Engineering (DRS Phase-I)
- The Department of Electronics and Communication Engineering has received support from UGC under Innovative Programme for starting MTech course in Bioelectronics.
- The following departments have received special funding from DST:
Department of Computer Science and Engineering (FIST I),
Department of Electronics and Communication Engineering (FIST I),
Department of Energy (FIST I) and
Department of Food Engineering and Technology (FIST I).
- The Department of Food Engineering and Technology has received support from MoFPI for starting (i) PG programme, (ii) UG programme and (iii) for establishing Food Testing Laboratory.
- The Department of Energy received research support under Indo-UKIERI research collaboration. The Department has also undertaken three international collaborative research projects viz., (i) Indo-UK, (ii) Indo-European and (iii) Indo-Finland with National and International partners in the field of bio-energy.
- Micro Small and Medium Enterprises (MSME), Govt. of India granted an amount of Rs 40.496 Lakh for the year 2014-15 to seven projects submitted by student entrepreneurs of SoE under "Support for Entrepreneurial and Management Development of SMEs through Incubators" scheme.
- A Research Scholar from the Department of Energy received CIMO fellowship from Abo Akademi University, Finland, 2013.
- Research scholars from the Department of CSE received the best paper award in various international conferences. Another Research Scholar has received the best thesis award for his thesis.
- Faculty members from the school have achieved INSA's best teacher award, fellow membership of IETE and Senior membership of IEEE.
- Scholarships have been awarded to students from GE Foundations under GE Scholars Leader Program and REC foundations New Delhi
- Students of ME and ECE Department achieved national level recognition (9th position) in Efficycle 2013 Competition held in Punjab University.
- Students have made notable achievements in national level cultural activities and in all India inter university youth festival.
- Microsoft Innovation Center at Tezpur University was formally launched at SoE complex by Mr. Joseph Landes, General Manager, DPE-Microsoft, on 2 September, 2013. A state-of-the-art laboratory and a Videoconferencing facility have been created under MIC.

The School now aims to achieve the following during the period 2014-16:

- NBA Accreditation of all UG/PG Programmes
- Introduction of new UG/PG programmes
- Support from UGC under SAP and from DST under FIST for other eligible Departments
- Setting up of an inter-disciplinary research centre with foreign collaboration

DEPARTMENT OF CIVIL ENGINEERING

THE DEPARTMENT

The Department of Civil Engineering was established in 2009 under the School of Engineering with an aim to provide quality engineering education to students, carry out excellent research and consultancy, and to produce top-quality civil engineers. Currently the Department offers BTech and PhD programmes. It has plans to introduce an MTech programme from 2015.

ACADEMIC PROGRAMMES

- BTech in Civil Engineering
- PhD

STUDENT INTAKE

Programme	Student Intake
BTech in Civil Engineering	60
PhD	Intake variable, 1 registered during this period

MAJOR FACILITIES & EQUIPMENT AVAILABLE

Geotechnical Engineering Laboratory, Hydraulics Laboratory, Surveying Laboratory, Environmental Engineering Laboratory, Material Laboratory, Transportation Laboratory

Major Equipment: Digital Triaxial Testing Equipment, Direct Shear Apparatus, Unconfined compression test apparatus, Permeability Apparatus, Orifice and Mouth Piece, Reynold's Apparatus, Cavitation Apparatus, Laminar flow Table Apparatus and Darcy's Law Apparatus, Auto level, Standard Vernier Theodolite, Electronic Theodolite, Total Station (Electronic), Digital Planimeter, Compression Testing Machine, Abrasion Testing Machine, Impact Value Testing Machine, California Bearing Ratio Apparatus, COD Reactor, Flame Photometer, Spectro Photometer, BOD Reactor.

Softwares available in the Department: Plaxis 2D, Civil FEM for ANSYS version 12.1, Matlab and Simulink R2011b.

PUBLICATIONS

International and National Journals

Ahamad, K.U. and Jawed, M. 2013. Breakthrough studies with mono-binary- and ternary-metal ion systems comprising of Fe(II), F⁻ and As(III) using river sand packed columns for groundwater treatment. *Water and Health*, 11(2).

Das, U. K., Bhardwaj, B., Choudhury, B. and Sapkota, G. 2013. Effect of gradation of fine aggregate on development of hairline cracks in wall plaster. *Indian Journal of Applied Research*, 3(5).

Debnath, N., Deb, S. K., Dutta, A. 2013. Frequency band wise passive control of linear time invariant structural systems with H[∞] optimization, *Journal of Sound and Vibration*, 332(23).

Sil, S. B., Kumar, A., Saikia, P., Bui, P. and Banarjee, J. 2013. Computation of least cost pipe network – an alternate method. *International Journal of Computational Engineering Research*, 3(2).

Sil, S. B., Kumar, A., Saikia, P., Bui, P. and Banarjee, J. 2013. Use of Excel-Solver as an optimization tool in design of pipe network. *International Journal of Hydraulic Engineering*, 2(4).

CONFERENCE PROCEEDINGS

Baruah, A., Bez, R. and Das, U. K. Effect of over-used sampler shoe on standard penetration test 6 results. In Proceedings of the NE Students Geo-Congress, Guwahati, 28 September, 2013.

Saikia, A. and Das, U. K. Suction profile of unsaturated residual soil hill slopes of Guwahati. In Proceedings of the Indian Geotechnical Conference, Roorkee, 22-24 December, 2013.

Sil, S.B. and Choudhury, P. Comprehensive assessment of sediment flow in river reaches using multi objective genetic algorithm. In Proceedings of the Fortieth National Conference on Fluid Mechanics and Fluid Power, Himachal Pradesh, 12-14 December, 2013.

DISTINGUISHED VISITORS TO THE DEPARTMENT

Prof Anajan Dutta, IIT Guwahati

Prof Sudip Talukdar, IIT Guwahati

AWARDS AND ACHIEVEMENTS :

The following paper jointly produced by A Baruah, R Bez, both on the BTech CE Programme, and U K Das, Associate Professor of the Dept, was awarded at NE Students Geo-Congress 2013, Guwahati:

Baruah, A., Bez, R., and Das, U K. 2013. Effect of over-used sampler shoe on standard penetration test results. Proceedings, NE Students Geo-Congress 2013, 139-144.

The Department has been offering consultancy and testing & analysis services to government and non-government organizations since January, 2013.

NUMBER OF STUDENTS WHO PASSED NET/JRF/GATE

GATE: 07

THE FACULTY OF THE DEPARTMENT

Associate Professors

U K Das, PhD (Gauhati)

Head of the Department

Specialization/Areas of Interest: Geotechnical Engineering

E-mail: ukrdas@tezu.ernet.in

Assistant Professors

A Saikia, MTech (IIT Kharagpur)

Specialization/Areas of interest: Geotechnical Engineering

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K U Ahamad, PhD (IIT Guwahati)

Specialization/Areas of interest: Environmental Engineering

E-mail: kahamad@tezu.ernet.in

B S Sil, PhD (NIT Silchar)

Specialization/Areas of interest: Water Resource Engineering

E-mail: brititu@tezu.ernet.in

B K Narzary, MTech (IIT Guwahati)

Specialization/Areas of interest: Transportation Engineering

E-mail: binanda@tezu.ernet.in

D B Sonowal, MTech (IIT Roorkee)

Specialization/Areas of interest: Structural Engineering

E-mail: bailung@tezu.ernet.in

S Deka, PhD (IIT Guwahati)

Specialization/Areas of interest: Geotechnical Engineering

E-mail: deka.s@tezu.ernet.in

Pinom Ering, MTech (IISc) (Ad-hoc)

Specialization/Areas of interest: Geotechnical Engineering

E-mail: pinom43@tezu.ernet.in

N Debnath, MTech (IIT Guwahati) (Ad-hoc)

Specialization/Areas of interest: Structural Engineering

E-mail: nirmal@tezu.ernet.in

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

THE DEPARTMENT

The prime objective of the Department has been to promote specialized knowledge and to carry out research in the frontier areas of Computer Science and Information Technology. The Department strives to channel the talented youth of the region to this challenging and knowledge-intensive field by imparting quality technical knowledge and skills. The thrust areas of research for the Department have been the following :

- Data Mining
- Bioinformatics
- Biomimetic and Cognitive Robotics
- Computer and Network Security
- Image Processing and Pattern Recognition
- Knowledge Representation and Reasoning
- Natural Language Processing
- Networks
- Optimization Techniques
- Workflow Analysis

ACADEMIC PROGRAMMES

- BTech in Computer Science & Engineering
- Master in Computer Application
- MTech in Information Technology
- PhD

STUDENT INTAKE

Programme	Student Intake
BTech in Computer Science & Engineering	52
MCA	60
MTech in Information Technology	30
PhD	Intake variable, 4 registered during this period

MAJOR FACILITIES AND EQUIPMENT AVAILABLE

- Embedded System Trainer Lab (8085 & Arm) Processor Based (2 nos)
- Logic Analyzer
- Mixed Mode Oscilloscope
- Bench Mark LAN Trainer/i-security
- Matrox Image System
- IBM X3550 M3 Server
- HP Elite 8300MT (i5) PCs
- HP Workstation 8600/6600
- Cisco 2821 Router

MAJOR RESEARCH FINDINGS/RESEARCH AND DEVELOPMENT ACTIVITIES

Principal Investigator	Description of the Project
D K Bhattacharyya	<p>Developed a robust Biclustering Algorithm for identification of Shifting-and-scaled patterns of gene expression data. (Published in IEE/ACM Transactions on Computational Biology and Bioinformatics, 2014)</p> <p>Developed an efficient feature selection Methods and Tools. (Published in Journal of Expert System with Application Elsevier)</p> <p>Developed an effective method for Gene Co-expression Network Construction. (Published in BMC Bioinformatics)</p>
S M Hazarika	Developed a Firewall verification and validation tool.
N Sarma	Development of a MAC protocol for Cognitive Radio Networks.
U Sharma	<p>Developed a 20 Hrs Assamese speech corpus with phonetic transcription of pitch and break marking, and syllabification of nearly 3 hrs.</p> <p>Identified some dialectal features in Assamese speech.</p> <p>Developed some effective methods for web application security.</p>
S Patra	Development of novel active learning technique for the classification of remote sensing images.
S Deka	Development of power-allocation technique for underlay Cognitive Radio Network. (Published in NWCDMA 2014, Jadavpur University.
D Boro	Development of a supervised ensemble method for classification of data.

RESEARCH PROJECTS: ONGOING AND NEW

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigators
Machine intelligence & NLP	UGC	74.00 lakhs	5 years	DK Bhattacharyya
DDOS attack detection using ensemble approach	DIT	56.00 lakhs	3 years	DK Bhattacharyya (PI) N Sarma (Co-PI)
Beyond clustering gene expression data	DST	10.00 lakhs	1 year	DK Bhattacharyya (PI) N Sarma (Co-PI)
MAC Protocol design for CRN	DIT	72.00 lakhs	2 years	N Sarma (PI) S Deka (Co-PI)
Design and development of a dynamic firewall solution	DIT	225 lakhs	3 years	S M Hazarika
Design and development of a cost-effective bio-signals controlled prosthetic hand	DIT	37.68 lakhs	5 years	S M Hazarika
Development of prosodically guided phonetic engine for searching speech databases in Indian languages	DIT	30.00 lakhs	2 years	U Sharma (PI) S K Sinha (Co-PI)

PUBLICATIONS**In International and National Journals**

- Ali Ahmed, Rustam and Borah, Bhogeswar. 2014. Triangle wise mapping technique to transform one face image into another face image. *International Journal of Computer Applications*, 87(6).
- Baruah, U. and Hazarika, S. M. 2014. A dataset of online handwritten Assamese characters. *Journal of Information Processing Systems*, (accepted).
- Bhattacharyya, D. K. and Kalita, J. K. 2013. Towards an unsupervised method for network anomaly detection in large datasets. *Journal of Computing and Informatics*, 33(1).
- Bhuyan, M. H., Kashyap, H. J., Bhattacharyya, D. K. and Kalita, J. K. 2014. Distributed denial of service attack detection: methods, tools and future directions, *The Computer Journal*, 57(4).
- Bora, P., Ahmed, H., and Bhattacharyya, D. K. 2014. A statistical feature selection technique in the net. *MAHIB*, 3(1).
- Chatterjee, B.C., Sarma, N. and Sahu, P. P. 2013. A QoS-aware wavelength assignment scheme for optical networks, *Optik - Int. J. Light Electron Opt*, 124(20).
- Singh, P. and Borah, B. 2014. Forecasting stock index price based on M-factors fuzzy time series and particle swarm optimization. *International Journal of Approximate Reasoning*, 55(3).
- Gogoi, P., Bhattacharyya, D. K., Borah, B., and Kalita, J. K. 2014. MLH-IDS: a multi-level hybrid intrusion detection method. *The Computer Journal*, 57(4).
- Das, S. K. and Borah, B. 2013. A density-based micro aggregation technique for privacy-preserving data mining. *International Journal of Research in Engineering and Technology*, 2(2).
- Singh, P. and Borah, B. 2013. An efficient time series forecasting model based on fuzzy time series. *Engineering Applications of Artificial Intelligence*, 26(10).
- Singh, P. and Borah, B. 2013. High-order fuzzy-neuro expert system for time series forecasting. *Knowledge-Based Systems*, 46.
- Gogoi, P. and Bhattacharyya, D. K. 2013. A rough set-based effective rule generation method for classification with an application in intrusion detection. *International Journal of Security and Networks*, 8(2).
- Das, D. and Saharia, S. 2014. Implementation and Performance Evaluation of Background Subtraction Algorithms. *International Journal of Computational Sciences and Applications*, 4(2).
- Dash, D., Bishnu, A., Gupta, A. and Nandy, Subhas C. 2014. Line coverage measures in wireless sensor networks. *Journal of Parallel and Distributed Computing*, 74(7)
- Deka, S. Kr., Sarma, N. and Yarnagula, Hema Kr. 2014. A power allocation strategy for underlay cognitive radio networks. *IJPAM*, (accepted).
- Hoque, N., Nath, B. and Dutta, M. 2013. A comparative study on rare association rule mining. *Periodic Research, Social Research Foundation*, 2(2).
- Kakoty, N. M. and Hazarika, S. M. 2013. A two layered control architecture for prosthetic grasping. *Paladyn Journal of Behavioural Robotics*, 4(1).
- Kakoty, N. M. and Hazarika, S. M. 2014. Development of an electromyographic controlled biomimetic prosthetic hand. *International Journal of Computational Vision and Robotics*, 4(1).
- Kakoty, N. M. and Hazarika, S. M. 2013. Towards electromyogram based grasps classification. *International Journal of Biomechatronics and Biomedical Robotics*, (accepted).
- Kakoty, N. M., Saikia, A. and Hazarika, S. M. 2014. Exploring a family of wavelet transforms for EMG based grasp recognition. *Signal, Image and Video Processing*, (accepted).
- Mahanta, P., Ahmed, H. A., Bhattacharyya, D. K. and Kalita, J. K. 2014. FUMET: A fuzzy network module extraction technique for gene expression data. *Journal of Bioscience*, 39(2).
- Nath, B., Bhattacharyya, D. K. and Ghosh, A. 2013. Incremental association rule mining: a survey. *DMKD, Wiley Interdisciplinary Review*, 3(3).

Nath, Sanghamitra, Sarma, Himangshu and Sharma, Utpal. 2014. A preliminary study on the VOT patterns of the Assamese language and its Nalbaria variety. *Lecture Notes in Computer Science*, 8404.

Nath, Sanghamitra, Sarma, Himangshu and Sharma, Utpal. 2014. Dialect translation system-a preliminary proposal. *International Journal on Natural Language Computing*, AIRCC, (accepted).

Roy, S., Bhattacharyya, D. K. and Kalita, J. K. 2013. CoBi: pattern based co-regulated biclustering of gene expression data pattern recognition letters, 34(14).

Sarmah, Rosy. 2013. Gene expression data clustering using a fuzzy link based approach. *International Journal of Computer Information Systems and Industrial Management Applications*, 5.

Sharma, A., Sinha, S. K. and Hazarika, S. M. 2013. Formal concept analysis: current trends and directions. *Artificial Intelligence Review*, (accepted).

Singla, A., Patra, S. and Bruzzone, L. 2014. A novel classification technique based on progressive transductive SVM learning. *Pattern Recognition Letters*, 42.

Patra, S. and Bruzzone, L. 2014. A novel SOM-SVM based active learning technique for remote sensing image classification. *IEEE Transactions on Geoscience and Remote Sensing*, 52(11).

CONFERENCE PROCEEDINGS

Baishya, R. C., Sarmah, R., Bhattacharyya, D. K., Dutta, M. A similarity measure for clustering gene expression data. In *Proceedings of the First International Conference, ICAA, Kolkata, 2014*.

Baruah, R. and Hazarika, S. M. A framework for recognition of motion events using qualitative knowledge. In *Proceedings of the 3rd IEEE International Advance Computing Conference IACC-2013*. New Delhi, 2013.

Bhuyan, M. H., Bhattacharyya, D. K. and Kalita, J. K. Information metrics for low-rate DDoS attack detection: a comparative evaluation. In *Proceedings of the Workshop on Optimization Methods for Anomaly Detection (OMAD 2014)*, Pennsylvania, 2014.

Binong, J. and Hazarika, S. M. Completion of qualitative spatio-temporal explanations using context. In *Proceedings of the 3rd IEEE International Advance Computing Conference (IACC-2013)*. New Delhi, 2013.

Choudhuri, P. P., Dutta, U. K. and Bhattacharyya, D. K. Multispectral satellite data classification using soft computing approach. In *Proceedings of the CNC 13*. Chennai, 2013.

Chutia, B., Boro, D. and Bhattacharyya, D. K. Optimal feature subset selection using multilevel hybrid Model. In *Proceedings of the CNC13*. Chennai, 2013.

Gogoi, M. and Bhattacharyya, D. K. Fusion of fingerprint and iris biometrics using binary ant colony optimization. In *Proceedings of the 3rd International Conference On Soft Computing for Problem Solving (SocProS – 2013)*. IIT Roorkee, 2013.

Goswami, R., Bhattacharyya, D. K. and Dutta, M. Multiobjective differential evolution algorithm using binary encoded data in selecting views for materializing in data warehouse. In *Proceedings of the LNCS Proc. of SEMCCO'13*. Chennai, 2013.

Goyal, A., Ahmed, H. A. and Bhattacharyya, D. K. A measure corresponding to Gene Expression Data Analysis. In *Proceedings of CNC 13*. Chennai, 2013.

Hoque, N., Nath, B. and Bhattacharyya, D. K. An efficient approach for rare association rule mining. In *Proceedings of the Seventh International Conference on Bio-Inspired Computing: Theories and Applications (BIC-TA 2012)*. Gwalior, 2013.

Kakoty, N. M. and Hazarika, S. M. A biomimetic similarity index for prosthetic hands. In *Proceedings of the IEEE Symposium on Computational Intelligence in Rehabilitation and Assistive Technologies CIRAT*. Singapore, 2013.

Kalita, S. and Hazarika, S. M. A rule relation calculus for verification and validation of firewalls. In *Proceedings of the 19th National Conference on Communications*. New Delhi, 2013.

Mahanta, P., Bhattacharyya, D. K. and Ghosh, A. A subspace module extraction technique for gene expression data. In Proceedings of the Fifth International Conference on Pattern Recognition and Machine Intelligence (PReMI'13), Kolkata, 2013.

Podder, A., Das, S., Dash, D. and Karmakar, A. Maintaining connected dominating set in wireless sensor network on sensor failure. In Proceedings of the National Workshop and Conference, Discrete Mathematics and its Applications. Kolkata, 2014.

Roy, S., Bhattacharyya, D. K. and Kalita, J. A new gene co-expression networking technique for in-silico expression data. In Proceedings of the 10th Bioinformatics and Biotechnology Symposium (BIOT 2013). Brigham Young University: USA, 2013.

Roy, S., Das, D., Choudhury, D., Gohain, G., Sharma, R. and Bhattacharyya, D. K. Causality inference techniques for in-silico gene regulatory network. In Proceedings of the International Conference, Machine Intelligence and Knowledge Exploration (MIKE). LNAI: Springer Verlag, 2013.

Saikia, A. and Hazarika, S. M. Solving a maze: experimental exploration on way finding behavior for cognitively enhanced collaborative control. In Proceedings of the 2nd International Conference on Intelligent Interactive Technologies and Multimedia (IITM 2013). Allahabad, March, 2013.

Deka, S. Kr., Sarma, N. and Yarnagula, Hema Kr. Distributed TDMA based MAC protocol for data dissemination in Ad-Hoc cognitive radio networks. In Proceedings of the 7th IEEE International Conference on Advanced Networks and Telecommunication Systems (ANTS). Chennai, 2013.

Chettri, S. K. and Borah, B. An efficient microaggregation method for protecting mixed data. In the Proceedings of the Fourth International Conference on Networks & Communications (NetCom): Lecture Notes in Electrical Engineering, Chaki, Nabendu; Meghanathan, Natarajan; Nagamalai, Dhinakaran (Eds), 131.

BOOK CHAPTERS

Chettri, S. K. and Borah, B. 2014. Privacy preservation of time series data using discrete wavelet transforms. In Smart Innovation, Systems and Technologies. Berlin Heidelberg: Springer-Verlag.

SEMINARS/CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

B Bora attended the workshop, RISAT-UP training with special emphasis on Applications in North East, organized by North Eastern Space Application Center, Meghalaya, 10-15 February, 2014.

B Bora attended the workshop, Training Programme (Phase-II), organized by National Board of Accreditation (NBA), Guwahati, 21-23 March, 2014.

D Boro attended the 5th Indian School, Logic and its Application, organized by Department of CSE, Tezpur University, 6-17 January, 2014.

D Boro attended the international conference, Advances in Communication Network and Computing, CNC, organized by Association of Computer Electronics and Electrical Engineers (ACEEE) and sponsored by the Indian Society for Technical Education (ISTE), Feb 21-22, 2014.

D Boro attended the workshop, ISTE workshop on Computer Programming, organized by IIT Mumbai, 21-26 April, 2014.

Rosy Sarmah attended the international conference, ICAA 2014, organised by Deptt. of CSE and IT, Heritage Institute of Technology, Kolkata, 13-15 January, 2014.

Rosy Sarmah attended the Refresher course in IT, organized by NEHU, Shillong, 01-21 June, 2013

S Deka attended the 5th Indian School, Logic Logic and its Application, organized by Department of CSE, Tezpur University, 6-17 January, 2014.

S Deka attended the workshop, Microsoft Saksham-IT champion training program, organized by Tezpur University, Tezpur, 19-28 April, 2013.

Sanghamitra Nath attended the 5th Indian School, Logic Logic and its Application, organized by Department of CSE, Tezpur University, 6-17 January, 2014.

Sanghamitra Nath attended the international conference, Intelligent Text Processing and Computational Linguistics, organized Centre For Communication & Development Studies, Nepal. April 6-12, 2014 – Kathmandu.

Sanghamitra Nath attended the workshop, ISTE workshop on Computer Programming, organized by IIT Mumbai, June 16-21, 2014.

Sanghamitra Nath attended the workshop, Workshop on Image and Speech Processing, organized by IITG, 13-14 December 2013,

S Saharia attended the 5th Indian School, Logic and its Application, organized by Department of CSE, Tezpur University, 6-17 January, 2014.

TALKS BY THE FACULTY ABROAD AND IN INDIA

D K Bhattacharyya delivered a talk, DDoS Attack using Botnet current Trends, at a national symposium, organized by CDAC, Pune, Guwahati, October, 2013.

N Sarmadelivered an Invited talk, Cognitive Radio Networks: challenges and opportunities, at the TEQIP workshop, organized by the Deptt of CSE, NERIST, 3May 2013.

S M Hazarika delivered a lecture at the Annual workshop, Calcutta Logic Circle, organized by Calcutta Logic Circle, 30 October - 1 November, 2013.

S M Hazarikadelivered a lecture at the International workshop, Diagram Logic and Cognition, organized by Jadavpur University and University of Brighton, UK, 28-29October, 2013

U Sharma delivered a talk, at North-East Regional Workshop on Natural Language Processing at SMIT, Sikkim, 22 February, 2014

U Sharma delivered a talk, Choice Based Credit System at at IQAC Workshop at Dibrugarh University, organized by Dibrugarh University, 7February, 2014.

U Sharma delivered the talk, Talk on Parsing of Natural Language at TEQIP Sponsored Faculty Development Programme at NERIST, organized by NERIST, 2 October, 2013.

SEMINARS/WORKSHOPS/SYMPOSIA/OTHER SUCH PROGRAMMES ORGANIZED BY THE DEPARTMENT

ISLA 2014; 5th Indian School on Logic and its Application, 6-17Janary, 2014.

Organized a 2 day training for NNSC (National Network Security Championship) in collaboration with IIT, Delhi, 23-24 November, 2013.

Organized a one day workshop on MIC grooming, 15February, 2014.

National Workshop on Network Security (NWNS 2013), Sponsored by DIT and UGC under SAP, 15-16 March, 2013.

DISTINGUISHED VISITORS TO THE DEPARTMENT

Prof Alok Goswami, ISI Kolkata

Prof Bhabani P Sinha, ISI Kolkata

Prof Binay Bhattacharya, Simon Fraser University, Canada

THE FACULTY OF THE DEPARTMENT**Professors**

D K Saikia, PhD (IIT Kharagpur)

(On lien as Director, NIT, Meghalaya)

Specialization/Areas of interest: Mobile Computing, Computer Networks

E-mail: dks@tezu.ernet.in

M Dutta, PhD (IIT, Kanpur)

Specialization/Areas of interest: Data mining, Optimization

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D K Bhattacharyya, PhD (Tezpur)

Dean, School of Engineering

Specialization/Areas of interest: Cryptography, Data Mining, Networks security and Bio-informatics

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S K Sinha, PhD (Tezpur)

Specialization/Areas of interest: Workflow Automation, Semi-structured Databases, Web Technology

E-mail: smriti@tezu.ernet.in

S M Hazarika, PhD (Leeds, England)

Specialization/Areas of interest: Qualitative Spatial Reasoning, Cognitive robotics, Intelligent Assistive Systems

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U Sharma, PhD (Tezpur)

Head of the Department

Specialization/Areas of interest: Natural Language Processing

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N Sarma, PhD (IIT Guwahati)

Specialization/Areas of interest: Mobile Networks, Networks Security

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Associate Professors

B Borah, PhD (Tezpur)

Specialization/Areas of interest: Data Mining, Image Processing

E-mail: bgb@tezu.ernet.in

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B Nath, PhD (Tezpur)

Specialization/Areas of interest: Data Mining, Artificial Neural Network

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Assistant Professors

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Specialization/Areas of interest: Data Mining

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S S Satapathy, PhD (Tezpur)
Specialization/Areas of interest: Networking, Bioinformatics
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D Boro, MTech (Tezpur)
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E-mail: deb0001@tezu.ernet.in.

A K Karmakar, PhD (ISI, Kolkata)
Specialization/Areas of interest: Computational geometry
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Specialization/Areas of interest: Data Mining
Email: snath@tezu.ernet.in

D Dash, PhD (IIT Kharagpur)
Specialization/Areas of interest: Sensor Network and Algorithms
Email: ddash@tezu.ernet.in

S Patra, PhD (Jadavpur)
Specialization/Areas of interest: Pattern Recognition, Evolutionary Computing, Neural Networks
Email: swpatra@tezu.ernet.in



DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

THE DEPARTMENT

The Department was started in 1997 with an MTech programme in Electronics Design & Technology. In August 2004, the Department also introduced an MTech in Bioelectronics as approved by the UGC under its scheme called Teaching and Research in Interdisciplinary and Emerging Areas. The course aims at producing professionals in the fields of medical, food safety, agriculture, defence, biotech, and biosensor industries. Both courses have been recognized by AICTE. The Department has also introduced a BTech programme in Electronics and Communication Engineering in August 2006. It has also introduced a career oriented programme, Advanced Diploma in Healthcare Informatics and Management (supported by UGC). The Department has been a UGC-SAP and DST-FIST supported Department. The Department is also going to introduce a BTech in Electrical Engineering in Aug, 2014.

The thrust areas of research for the Department have been: Bioelectronics, Biosensors, Microwave Engineering, Communication Engineering, Microelectronics, and Signal, and Image Processing.

ACADEMIC PROGRAMMES

- BTech in Electronics & Communication Engineering
- BTech in Electrical Engineering
- MTech in Electronics Design & Technology
- MTech in Bioelectronics
- Advanced Diploma in Healthcare Informatics & Management (Part-time)
- PhD

STUDENT INTAKE

Programme	Student Intake
BTech in Electronics & Communication Engineering	60
BTech in Electrical Engineering	30
MTech in Electronics Design & Technology	28
MTech in Bioelectronics	15
Advanced Diploma in Healthcare Informatics & Management (Part-time)	30
PhD	Intake variable 10 registered during this period

MAJOR FACILITIES AND EQUIPMENT AVAILABLE

Bioelectronics Laboratory (UGC sponsored Innovative Programme Scheme) Matlab – Software E-nose setup Image processing setup Robotic setup Neuroengineering setup Biomedical setup	Micro fabrication Laboratory (DST-FIST Sponsored) Suss Photolithography set up Thin film and E-gun deposition set up Spin coating instrument Oxidation furnace etc.
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<p>Digital Laboratory Microprocessors Microcontrollers Function generators Logic analyzers Digital trainers Digital Ics Pulse generator Data acquisition cards Stepper motor controller cards Relay & opto-coupler interfacing cards</p>	<p>Software Laboratory Server with computer Lab view Xilinx CPLD-FPGA Electronic Design Automation (EDA) software Microsim Matlab GENIE Orcad Oracle</p>
<p>Instrumentation Laboratory CRO Optical Transducers Temperature measurement tutor Load cell 100kg Load cell 10kg Pressure cell RPM measurement tutor Microprocessor based data acquisition Multi-channel temperature Indicator with thermocouple Humidity probe with indicator PC based stepper motor Servo motor driver etc</p>	<p>Mechanical workshop Lathe machine Vertical milling machine Notching machine Drilling machine Welding machine Bench grinder-cum-polisher Flexible shaft grinder Pipe bending Z Section cutters Hand shears Wood working lathe Wood working surface-cum-thickness planner Sheet folding machine Portable gun type welding machine Heavy duty drill machine High frequency PVC welding machine Automatic coil winding machine</p>
<p>Communication Engineering Laboratory Amplitude modulation / demodulation Frequency modulation/ demodulation, Transmitter/receiver, Data formatting, PSK, FSK, ASK, DSSS set up, Fiber Optic Kit</p>	<p>PCB Laboratory PCB art work table PCB magnifier Photo resist UV exposure Photo resist coating whirler Drying oven Guillotine shearing machine High speed drilling machine</p>
<p>Microwave Laboratory Microwave bench, Microwave sources High frequency spectrum analyzer etc</p> <p>Hardware Laboratory Soldering/Desoldering station. Testing equipments Oscilloscopes Hand tools Components</p> <p>DSP Laboratory MATLAB DSP kits</p> <p>Modelling and Simulation Laboratory PCs attached to a LAN server consisting of about 35 terminals all connected to Internal Server FPGA boards (Spartan 3E family) Different circuit simulators</p>	<p>Basic Electrical Engineering Laboratory D C machines with power supply Voltmeter Ammeter Wattmeter Q meter Network theorem kits A/C, D/C bridges Power supplies Oscilloscope Transistor characteristics kit Variac Digital IC trainer OPamp voltage comparator/multiplier Analog digital trainer BJT amplifier trainer kits Digital trainer (GATE) Analog circuit maker Digital logic trainer</p>

BTech Summer Training Laboratory (for outside institutes) E-nose sensors Data acquisition cards Microcontroller/Microprocessors Measuring & testing equipment ICT Laboratory Newly developed	Function generator P C based logic analyzer Diode characteristic kits Clipping clamping trainer kits FET trainer Single phase transformer DC generator DC motor
	Image Processing Laboratory Newly developed

RESEARCH PROJECTS: ONGOING AND NEW

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigators
Design and development of compressed sensing based image reconstruction prototype hardware architecture for medical imaging applications	DST	28.00 lakh	3 years	BDeka
Development of compressed sensing based image reconstruction techniques for medical imaging applications.	UGC	18.00 lakh	3 years	BDeka
Hardware based field-type e-nose for flavor detection of tea using metal oxide semiconductor (mos) sensors	DST	33.53 lakh	3 years	M Bhuyan
Setting up of+ facilities for fabrication of mems devices	DIT	326.43 lakh	5 years	P P Sahu
DST-FIST for setting up of micro fabrication facilities	DST	137.00 lakh	5 years	Departmental Project
SAP	UGC	69.00 lakh	5 years	Departmental Project

PUBLICATIONS

International and National Journals

Ahmed, Taslima and Dutta, Jiten Ch. 2014. A GUI (Graphical User Interface) framework to introduce H-H model in comparison with Kv3.3 model. *American Journal of Biomedical Sciences*, 6(1).

Ahmed, Taslima and Dutta, Jiten Ch. 2013. Hodgkin-Huxley's introduction of the conductance based model neuron (1952). *International Journal of Advances in Electrical and Electronics Engineering*, 3(1).

Barthakur, M., Hazarika, D. and Nath, V.K. 2013. Wavelet based despeckling of medical ultrasound images using speckle reducing anisotropic diffusion and local wiener filtering. *International Journal of Computer Applications*, 73.

Baruah, Ratul K. and Roy P. Paily. 2014. A dual-material gate transistor using high-k spacer for enhanced analog performance. *IEEE Transactions on Electron Devices*, 61(4).

Bonjyotsna, A. and Bhuyan, M. 2014. Performance comparison of artificial neural network using FBPA, LVQ and GMM for vocal/nonvocal segmentation for singer identification. *International Journal of Engineering and Technology*, 6.

Bonjyotsna, A. and Roy, S. 2013. Correlation of drowsiness with electrocardiogram: a review. *International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering*, 3.

Bordoloi, Anup Kr., Borah, Pranjal, Bhattacharyya, Satyajib, and Bhattacharyya, Nidhi S. 2014. Planar patch antenna with 100- μ m slit for size reduction and dual-band applications. *Microwave Optical Technology Letters*, 56(7).

- Chatterjee, Bijoy Chand, Sarma, Nityananda and Sahu, Partha Pratim. 2013. A QoS-aware wavelength assignment scheme for optical networks. *Optik - International Journal for Light and Electron Optics*, 124 (20).
- Chutia, R. and Bhuyan, M. 2014. Best frequency for temperature modulation of tin oxide gas sensor for chemical vapor identification. *UET*, 6.
- Das, Hemanga Kumar and Sahu, Partha Pratim. 2013. Coupled nerve: a technique to increase the nerve conduction velocity in demyelinating polyneuropathic patients. *Procedia Engineering*, 64.
- Deka, K. and Roy, S. 2014. Glutamate gated spiking neuron model. *Annals of Neurosciences*, 21(1).
- Deka, K. and Roy, S. 2013. Biologically inspired circuit model for simulation of glutamate gated ion channels of the postsynaptic membrane at synaptic cleft. *Annals of Neurosciences*, 20(4).
- Deka, B. and Bora, P.K. 2013. Removal of correlated speckle noise using sparse and over complete representations. *Biomedical Signal Processing and Control*, 8(6).
- Deka, Bhabesh and Choudhury, Sangita. 2013. A multiscale detection based adaptive median filter for the removal of salt and pepper noise from highly corrupted images. *International Journal of Signal Processing, Image Processing and Pattern Recognition*, 6(2).
- Deka, Bhabesh and Rai Baruah, M.K. 2013. Single-image super-resolution using compressive sensing. *International Journal of Image Processing and Visual Communication*, 1(4).
- Deka, Bhabesh and Rai Baruah, M.K. 2013. Image denoising using sparse and overcomplete representations-a study. *International Journal on Current Science and Technology*, 1(1).
- Deka, Bhabesh and Bora, P.K. 2013. Wavelet based despeckling of medical ultrasound images. *IETE Journal of Research*, 59(2).
- Devi, K., Hazarika, D. and Nath, V.K. 2013. Video denoising based on exploiting intrascale and interscale dependency in wavelet domain. *International Journal of Computer and Communication Technology*, 4.
- Dutta, Aradhana, Deka, Bidyut, and Sahu, Partha Pratim. 2013. Modeling and fabrication of evanescent waveguide based optical sensor for sensitivity enhancement using SiON technology. *Journal of Optical Engineering*, 52(7)
- Dutta, Aradhana, Deka, Bidyut, and Sahu, Partha Pratim. 2013. Design and fabrication of silicon oxynitride based evanescent optical waveguide sensor for rapid detection of adulteration in petrol. *Procedia Engineering*, 64.
- Kakoty, Nayan M. and Hazarika, Shyamanta M. 2013. A two layered control architecture for prosthetic grasping, paladyn. *Journal of Behavioral Robotics*, 4(1).
- Kakoty, Nayan M., Saikia, Adity, and Hazarika, Shyamanta M. 2013. Exploring a family of wavelet transforms for EMG based grasp recognition. *Journal of Signal Image and Video Processing*, (accepted).
- Kakoty, Nayan M., Kaiborta, Mantoo, and Hazarika, Shyamanta M. 2013. Electromyographic grasp recognition for a five fingered robotic hand. *International Journal of Robotics and Automation- IAES*. 2(1).
- Kakoty, Nayan M. and Hazarika, Shyamanta M. 2013. Towards Electromyogram based grasps classification. *International Journal of Biomechatronics and Biomedical Robotics*, (in press).
- Kakoty, Nayan M. and Hazarika, Shyamanta M. 2014. Development of an electromyographic controlled biomimetic prosthetic hand. *International Journal of Computational Vision and Robotics*, 4(1).
- Kakoty, P. and Das, K. 2013. Design of high frequency and low power successive approximation ADC. *International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering*, 2(8).
- Mondal, B., Basumatary, B., Das, J. Roychaudhury, H., Saha, H. and Mukherjee, N. 2014. ZnO-SnO₂ based composite type gas sensor for selective hydrogen sensing. *Sensors and Actuators B*, 194.

- Nath, V.K., Hazarika, D., and Mahanta, A. 2014. Lapped transform based image denoising with the generalised Gaussian prior. *International Journal of Computational Vision and Robotics*, 4.
- Roy, S. and Vanlalchaka, R. H. 2013. 4-bit ripple carry adder using proposed energy efficient single phase adiabatic logic technique. *International Journal on Current Science and Technology*, 1(2).
- Roy, S. and Vanlalchaka, R. H. 2013. Design & analysis of N-bit comparator based on low power adiabatic logic technique. *International Journal on Current Science and Technology*, 1(2).
- Roy, S., Boro, M., Dutta, J. C., and Vanlalchaka, R. H. 2013. Acetylcholine gated spiking neuron model. *International Journal on Current Science and Technology*, 1(1).
- Roy, S. and Vanlalchaka, R. H. 2013. Power efficient adiabatic gray to binary and binary to gray code converter circuits. *International Journal on Current Science & Technology*, 1(1).
- Sahu, Partha Pratim. 2013. An ultra compact multi mode interference coupler with parabolic down tapered geometry. *Procedia Engineering*, 64.
- Sharma, Jayeeta., Bhagawati, Amlan Jyoti, and Chutia, Riku. 2013. Fuzzy logic based odour classification System in electronic nose. *International Journal of Computer Applications*, 78.
- Sharma, S., Kalita, S., Mishra, H. and Sharma, S. 2013. Design and development of a controlled rectifier for a PMDC Motor. *International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering*, 2(9).
- Singh, Mahipal and Sahu, Partha Pratim. 2013. A wideband linear sinusoidal frequency to voltage converter with fast response time. *Procedia Engineering*, 64.

Conference proceedings

- Ahmed, Taslima and Dutta, J. C. An approach to develop parametric analogy of "improved" H-H model using GUI. In *Proceedings of the IEEE international conference, Cloud & Ubiquitous Computing & Emerging Technologies*. Pune, 2013.
- Baishya, A., Sarkar, S., Naskar, M.K. and Sahu, P.P. A new CMOS voltage controlled ring oscillator for low power radio transceiver applications. In *Proceedings of the SPIE 8760 international conference, Communication and Electronics System Design*. Jaipur, India:28 January, 2013.
- Baishya, A., Sarkar, T., Sahu, P.P. and Naskar, M.K. Design and performance analysis of low power RF operational amplifier using CMOS and BiCMOS technology. In *Proceedings of the international Conference, Recent Trends in Information, Telecommunication and Computing*. Chandigarh, 2013.
- Baruah, Ratul Kr. and Roy, P. Paily. A dual material double-layer gate stack transistor for enhanced analog performance. In *Proceedings of the 17th international symposium, VLSI Design and Test (VDATE 2014)*. Malaviya National Institute of Technology: Jaipur, 2014.
- Bhagawati, Amlan Jyoti, Sharma, Jayeeta, and Kakoty, Nayan M. Optimal combination of frequency and voltage for maximum centre deflection of membrane. In *Proceedings of the International Conference on Nanotechnology (ICNT-2013)*. Haldia Institute of Technology: Haldia, 2013.
- Bhuyan, Tulika, Barman, Trishna, VEDI, Prem P., Kakoty, Nayan M. and Hazarika, Shyamanta M. Development of a biomimetic prosthetic finger. In *Proceedings of the international conference, Advances in Robotics*. Pune, 2013.
- Borah, Pranjal. and Bhattacharyya, Satyajib. Design of a dual band "V" shaped patch antenna using shorting posts. In *Proceedings of the Applied Electromagnetics Conference*. KIIT University: Bhubaneswar, 2013.
- Deka, Bhabesh, Gorain, Kanchan, Kalita, Navadeep, and Das, Biplab. Single image super-resolution using compressive sensing with learned overcomplete dictionary. In *Proceedings of the fourth national conference, Computer Vision, Pattern Recognition, Image Processing and Graphics (NCVPRIPG)*. IIT Jodhpur, Rajasthan, 2013.

Dutta, Aradhana, Deka, Bidyut. and Sahu, Partha Pratim. Sensitivity enhancement of evanescent waveguide optical sensor for detecting adulterant traces in petroleum products using SiON technology. In Proceedings of SPIE 8785, 8th Ibero American Optics Meeting/11th Latin American Meeting on Optics, Lasers, and Applications, 8785 CP. Portugal, 18 November, 2013.

Dutta, Aradhana, Deka, Bidyut and Sahu, Partha Pratim. Study on highly sensitive asymmetric waveguide optical sensor for detection of sucrose concentration based on leaky quasi-modes. In Proceedings of SPIE 8785, 8th Ibero American Optics Meeting/11th Latin American Meeting on Optics, Lasers, and Applications, 8785 CP. Portugal, 18 November, 2013.

Dutta, Aradhana, Deka, Bidyut. and Sahu, Partha Pratim. Comparative study on compact planar waveguide based photonic integrated couplers using simple effective index method. In Proceedings of SPIE 8785, 8th Ibero American Optics Meeting/11th Latin American Meeting on Optics, Lasers, and Applications, 8785 CP. Portugal, 18 November, 2013.

Dutta, Aradhana, Deka, Bidyut. and Sahu, Partha Pratim. Study on compactness of planar waveguide based integrated optic couplers using tooth shaped grating assisted geometry. In Proceedings of SPIE 8785, 8th Ibero American Optics Meeting/11th Latin American Meeting on Optics, Lasers, and Applications, 8785 CP. Portugal, 18 November, 2013.

Hazarika, D. and Bhuyan, M. Despeckling SAR images in the lapped transform domain. In Proceedings of the Furth National Conference, Computer Vision, Pattern Recognition, Image Processing and Graphics (NCVPRIPG). IITJodhpur, Rajasthan, 2013.

Kakoty, Nayan M. and Hazarika, Shyamanta M. A biomimetic similarity index for prosthetic hands. In Proceedings of the IEEE symposium series, Computational Intelligence in Rehabilitation and Assistive Robotics. NTU:Singapore, 2013.

Kakoty, Nayan M. and Hazarika, Shyamanta M. Hand control for Tezpur University bionic hand grasping. In Proceedings of the international conference, Advances in Robotics. Robotic Society of India:Pune, 2013.

Kakoty, Nayan M., Hazarika, Shyamanta M., Koul, Majid H., and Saha, Subir K. Model predictive control for finger joint trajectory of TU Biomimetic Hand. In Proceedings of the 2014 IEEE International Conference on Mechatronics and Automation. Tianjin, China, 2014.

Konwar, S., Singha, T.B., Roy, S., and Vanlalchaka, R.H. Adiabatic logic based low power multiplexer and demultiplexer. In Proceedings of IEEE international conference, Computer Communication and Informatics. Sri Shakti Institute of Engineering and Technology: Coimbatore, 2014.

Mondal, B., Hungyo, S., Roychaudhury, C., and Saha, H. Zinc Oxide nano-rod based hydrogen sensor operated at low temperature. In Proceedings of the ICANMEET-2013. Satyabama University, Tamilnadu, 2013.

Mondal, B., Ghosh, Sugato, Das, Jayoti, Roychaudhury, C., and Saha, H. Enhanced hydrogen sensitivity and selectivity of ZnO-SnO₂ based sensor. In Proceedings of the INDICON-2013. IIT Bombay, Mumbai, 2013.

Mondal, B., Sarma, Bhargav, Das, Jayoti., Roychaudhury, C., and Saha, H. ZnO-SnO₂ based composite type carbon mono-oxide sensor. In Proceedings of the international conference, Structural and Physical Properties of Solids (SPPS 2013). Indian School of Mines (ISM), Dhanbad, 2013.

Mondal, B., Meetei, Maibam Sanju, Das, Jayoti., Roychaudhury, C., and Saha. Quantification of H₂, CH₄ and CO using neural network and micor gas sensors. In Proceedings of the international conference, Emerging Trends in Engineering and Applied Science. Rajasthan College of Engineering for Women, Rajasthan, 2013.

Roy, S. and Vanlalchaka, R.H. Power efficient odd parity generator & checker circuits. In Proceedings of the IEEE international conference, Emerging Trends & Applications in Computer Science (ICETACS).2013.

Dutta, P. P., Sharma, S., Gogoi, T.K., Gogoi, R., Barman, K., Mahanta, A., Choudhury, A., Baruah, D.C., Gupta, S. and Das. A. Design and development of an improved hybrid tricycle. In Proceedings of the National Conference on Recent Advancement in Mechanical Engineering (NCRAME). NERIST, Itanagar, 2013.

Sharma, S. and Saikia, A. Suppression of gate induced drain leakage in bulk MOSFET using non-uniform gate oxide thickness. In Proceedings of the international conference, Emerging Trend in ETEICE. Organised by Bhilai Institute of Technology and Institute for Research Development, India, Raipur, 2014.

Singha, T.B., Konwar, S., Roy, S., and Vanlalchaka, R.H. Power efficient priority encoder and decoder. In Proceedings of the IEEE International Conference, Computer Communication and Informatics. Sri Shakti Institute of Engineering and Technology: Coimbatore, 2014.

Sonowal, D. and Bhuyan, M. Linearizing thermistor characteristics by piecewise linear interpolation in real time FPGA. In Proceedings of the International Conference on Advances in Computing, Communications and Informatics (ICACCI). Sri J. C. College of Engineering, Mysore, 2013.

SEMINARS/CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

V K Nath, S. Sharma and S. Roy attended a training programme, Saksham-IT Champion training program, 19-28 April, 2013 at Tezpur University by Microsoft.

BB Deka, R. K. Baruah, B. Mondal, R. Chutia, Priyanka Kakoty attended the two-Week ISTE Workshop on Fluid Mechanics under the National Mission on Education through ICT (MHRD, Govt. of India) during 20 - 30 May, 2014 conducted by IIT Kharagpur.

B Deka attended and presented a paper "Single Image Super-Resolution using Compressive Sensing with Learned Overcomplete Dictionary" in the IEEE sponsored National Conference, NCVPRIPG, 2013 during 18 -21 December, 2013 at IIT Jodhpur, Rajasthan.

B Deka, V. K. Nath, R. Chutia, B. Mondal, D. Sonowal, Deepika. Hazarika, Priyanka Kakoty and Ananya Bonjyotsna attended the ISTE workshop, Analog Electronics, conducted by Indian Institute of Technology, Kharagpur, at Tezpur University from 4 -14 June, 2013.

N M Kakoty attended the International Conference, Advances in Robotics, ACM Publication, Pune, 2013.

R K Baruah attended the International Conference, Emerging Trends and Applications in Computer Science (ICETACS 2013), Shillong, September 13-14, 2013.

B Mondal participated and presented a paper in INDICON 2013, organized by Indian Institute of Technology Bombay, Mumbai, 13-15 December, 2013.

D Sonowal attended the International Conference, Advances in Computing Communications and Informatics (ICACCI), organized by Sri Jayachamarajendra College of Engineering, Mysore, 22-25 August, 2013.

D Sonowal and Priyanka Kakoty attended the Coordinators workshop, Analog Electronics, Organised by NMEICT, MHRD at IIT Kharagpur, 1- 5 April, 2013.

Priyanka Kakoty attended the IEEE Workshop, MEMS, Microfluidics and Microsystems with Hands-on Training in Device Simulation and Microfabrication Process, at IIT Kharagpur, 4-6 July, 2013.

Priyanka Kakoty attended the National Conference, Emerging Global Trends in Engineering and Technology (EGTET), at Don Bosco College of Engineering and Technology, Guwahati, 7-8 March 2014.

V K Nath, Deepika Hazarika and Ananya Bonjyotsna attended the workshop, Computer Programming, organized by IIT Bombay at Tezpur University, 30 May-16 June, 2013.

V K Nath and Deepika Hazarika attended the Fourth National Conference, Computer Vision, Pattern Recognition, Image Processing & Graphics, at IIT Jodhpur, 19-21 December, 2013.

SEMINARS/WORKSHOPS/SYMPOSIA/EXTENSION PROGRAMMES ORGANIZED BY THE DEPARTMENT

Two week NMEICT workshop on Analog Electronics organized by IIT Kharagpur, Tezpur University, Tezpur, 4-14 June, 2013.

Remote Centre Coordinator (RCC) Half-day ISTE workshop on Green Building Awareness organized by IIT, Bombay under NME-ICT project, Tezpur University, Tezpur, 24 August, 2013.

Remote Center Coordinator (RCC), 2 week ISTE workshop on Engineering Mechanics organized by IIT, Bombay under NME-ICT project, Tezpur University, Tezpur, 26 November- 06 December, 2013.

TALKS BY THE FACULTY ABROAD AND IN INDIA

B Deka delivered a talk at the TEQIP sponsored workshop, Recent Advances in Signal Processing and Semiconductor Devices, organized by NERIST, Itanagar, 24-29 January, 2014.

J C Dutta delivered an invited talk at the INCNE, NBRC, Department of Biotechnology; Government of India sponsored workshop, Advances in Computational Neuroscience, organized by Department of Biomedical Engineering, NEHU, Shillong, 24-29 March, 2014.

J C Dutta delivered a lecture, Current Trends in Research at the national seminar, organized by the Department of Physics, Darrang College, Tezpur, 30 January-1 February, 2014.

S Sharma delivered a lecture, Optical Techniques and Devices in Scientific and Engineering System Application at FDP, TEQIP, organized by NERIST, Itanagar, 28 October – 1 November, 2013.

S Sharma delivered a lecture, Integrated Circuits and Power Electronics at FDP, organized by NERIST, Itanagar, 30 September - 6 October, 2013.

NUMBER OF STUDENTS WHO PASSED NET/SLET/JRF/GATE

GATE: 21

THE FACULTY OF THE DEPARTMENT

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Assistant Professors

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Specialization/Areas of interest: Instrumentation, Embedded System, ANN, Signal Processing

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Deepika Hazarika, MTech (IIT Guwahati)

Specialization/Areas of interest: Image and Video Processing, Multi-Dimensional Signal Processing, Object Tracking.

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Specialization/Areas of interest: Microelectronics, MEMS based Sensors and Sensing Materials

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Specialization/Areas of interest: Microprocessor Based/Embedded System Design, Instrumentation Sensors

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Specialization/Areas of interest: Biomedical signal processing

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Priyanka Kakoty, MTech (Tezpur)

Specialization/Areas of interest: Design and Fabrication of Gas Sensor

Email: priyankak@tezu.ernet.in



DEPARTMENT OF ENERGY

THE DEPARTMENT

The Department of Energy was established in 1996 with an aim to produce manpower pools in the field of Energy; develop new and efficient energy technologies; and to carry out research and extension activities in diverse areas of Energy. The thrust areas of teaching, research and extension activities for the Department have been new and renewable energy technologies and systems, relevant to regional/national needs and current international trends. Energy planning, management and conservation including the climate change issues have been the special thrust areas for the Department.

ACADEMIC PROGRAMMES

- MTech in Energy Technology
- PhD

STUDENT INTAKE

Programme	Student Intake
MTech in Energy Technology	28
PhD	Intake variable, 6 registered during this period

MAJOR FACILITIES AND EQUIPMENT AVAILABLE

- PG Stat Auto Lab, Model: 302N
- Gas Chromatograph, Model: HP 4890
- Fibretech System, Make: FOSS TECATOR
- Portable Digital Power Meter, Make: Yokogawa
- Biomass Gasifier with Wood Cutter, Make: Ankur Scientific
- TOC Analyzer, Make/Model:LiquiTOCII, Elementar
- UV-VIS Spectrophotometer, Make: Shimadzu, Model: 1700
- Research Radiometer, Make: International Light
- Sunshine Recorder, Make: National Instruments
- Angstrom Compensation Pyrheliometer, Make: National Instruments
- Pyranometer, Make: Kipp and Zonen Model: CNP 11
- Single Cylinder 4-Stroke Petrol Engine Test Rig with Electrical Dynamometer, Make: Apex Innovation
- Computerized Diesel Engine Test Rig, Make: Apex Innovation
- Laboratory Scale Pyrolyser with Temperature Control System
- Air Quality Monitor and Dust Track Aerosol Monitor (Nephelometer), Model: Q Trak CEE-717
- Auto-bomb Calorimeter, Make: Changsha Kaiyuan Instruments Co Ltd. Model: AC-5E
- Rotary Vacuum Evaporator Strike, Model: 102/B
- Oxidation Stability Apparatus, Model: Rancimat-743
- Dual Fuel Engine, Make: Apex Innovation, Model: P228
- Micro Hydro-Power Generating Equipment (Demonstration Unit)
- Fuel Cell Kit Stack, Make:H-Tech,Model: XX2 3002
- Integrated Biodiesel Production Plant, Make: Malnad Industries, Model
- Muffle Furnace, Labtech
- Biomethanation Plant
- Biogas analyzer, Make: AmbetronicsPvt Ltd. Model: IR 5000

MAJOR RESEARCH FINDINGS/RESEARCH AND DEVELOPMENT ACTIVITIES

- Development of renewable catalysts from biomass for production of biodiesel
- Development of a dehulling machine for multiple types of non-edible oil seeds
- Drying model of CTC tea of local cultivar (T3E3)
- Characterization of biodiesel from two types of locally available seed oil
- Development of a robust and design independent generic thermal performance parameter and test procedure for solar cookers
- Development of high activity photo catalyst in the visible spectrum of solar radiation through basic hydrolytic and non-hydrolytic synthesis procedure using biotemplating as well as normal growth process
- Identification of new feedstocks suitable for thermochemical conversion process
- Agricultural and industrial biowaste to biochar as a soil amendment for sustainable agricultural production and mitigation of GHG emission
- Mapping of wind energy resource potential for the Tezpur region using Automatic Weather Station data
- Energy consumption pattern analysis in different sectors (households, industrial, commercial, service, market sector, transportation) of the five districts of NBPZ
- Design of an improved cook stove with provision of waste heat recovery
- Wind energy resource assessment of the NE region of India
- Installation of a 50 m³ biogas plant at Patkai Men's Hostel to meet cooking energy of the hostel

RESEARCH PROJECTS: ONGOING AND NEW

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Proposal for development of a fuel efficient all-purpose biomass stove	ASTEC	1.75 lakh	2 years	D C Baruah
Instrumented solar hot air generator (ISHAG) for optimum thermal load in tea processing	DST	28.54 lakh	3 years	D C Baruah
Optimizing phosphate recovery from community bio-energy system: low cost sustainable fertilizer production for rural community	UGC-UKIERI	15.72 lakh	3 years	D C Baruah
Rural hybrid energy enterprise systems (RHEES)	DST-SEED	198.00 lakh	3 years	D C Baruah (PI) S Mahapatra (Co-PI)
Synthesis of platform biofuels from renewable sources using acid modified supported ionic liquid catalysts	DST-(Indo-Finish)	34.00 lakh	3 years	D Deka
Assessment and analysis of the plant oil feedstock available in north-east India for biodiesel production	UGC	9.25lakh	3 years	D Deka
Development of a test setup for solar thermal collector with air as working fluid and design a microcontroller-based mechanism for controlling the collector output	ASTEC	1.25 lakh	2 years	P K Choudhury
Strengthening networking on biomass research and biowasteconversion – Biotechnology for Europe India integration (SAHYOG)	DBT-(Indo- EU)	44.79 lakh	3 years	R Katak
Production of biochar from various bio-wastes and its soil application for sustainable soil management and mitigation of GHG emission	UGC	12.95 lakh	3 years	R Katak

PUBLICATIONS

International and National Journals

- Boro, J., Konwar, L. J., Thakur, A. J. and Deka, D. 2014. Ba doped CaO derived from waste shells of *T. striatula* (TS-CaO) as heterogeneous catalyst for biodiesel production. *Fuel*, 129.
- Bora, P., Boro, J. and Deka, D. 2013. A study on the development of *Mesua ferrea* L. seed oil based micro emulsified fuel system. *International Journal of Emerging Technology and Advanced Engineering*, 3(3).
- Borah, R. R., Palit, D. and Mahapatra, S. 2014. Comparative analysis of solar photovoltaic lighting systems in India. *Energy Procedia*, (in press).
- Boro, B., Basumatary, S., Choudhury, P. K. and Gogoi, B. 2014. Feedstocks, production, properties and blending effect of biodiesel: a review. *International Journal of Recent Development in Engineering and Technology*, 2(6).
- Boro, J., Konwar, L. J. and Deka, D. 2013. *Vigna radiata* (mung bean) ash as heterogeneous base catalyst for biodiesel production. *Journal of Bioprocess Engineering and Biorefinery*, 2(1).
- Boro, J., Konwar, L. J. and Deka, D. 2014. Transesterification of non-edible feedstock with lithium incorporated egg shell derived CaO for biodiesel production. *Fuel Processing Technology*, 122.
- Chakraborty, M. and Baruah, D. C. 2013. Production and characterization of biodiesel obtained from *Sapindus mukorossi* kernel oil. *Energy*, 60(1).
- Choudhury N. D., Chutia R. S., Bhaskar T. and Katak R. 2014. Pyrolysis of jute dust, effect of reaction parameters and analysis of products. *Journal of Material Cycles and Waste Management*, (in press).
- Choudhury, P. K. and Baruah, D. C. 2013. Development of an empirical model for assessment of solar air heater performance. *Distributed Generation and Alternative Energy*, (in press).
- Chutia, R. S., Katak R. and Bhaskar, T. 2014. Characterization of liquid and solid product from pyrolysis of *Pongamia glabra* deoiled cake. *Bioresource Technology*, 165.
- Das, B., Nair, R. G., Rajbongshi, B. and Samdarshi, S. K. 2013. Investigation of the photoactivity of pristine and mixed phase N-doped titania under visible and solar irradiation. *Materials Characterization*, 83.
- Das, S., Thakur, A. J. and Deka, D. 2014. Two-Stage conversion of high free fatty acid *Jatropha curcas* oil to biodiesel using Brønsted Acidic ionic liquid and KOH as catalysts. *The Scientific World Journal*, (in press).
- Dutta, P. P. and Baruah, D. C. 2014. Gasification of tea shrubs for black tea manufacturing process heat generation in Assam, India. *Biomass and Bioenergy*, 66.
- Dutta P. P. and Baruah D. C. 2014. Drying modelling and experimentation of Assam black tea (*Camellia sinensis*) with producer gas as a fuel. *Applied Thermal Engineering*, 63(2).
- Hatibaruah, D., Sanyal, S. and Baruah, D. C. 2013. Microwave drying characteristics of Assam CTC tea (*Camellia assamica*). *Journal of Food Processing and Preservation*, 37(4).
- Hazarika, B. and Deka, D. 2013. Modern use of biomass fuel in domestic energy sector: a household level case study in the Chirang district of Assam. *Energy Sources*, 35.
- Hiloidhari, M., Das, D. and Baruah, D. C. 2014. Bioenergy potential from crop residue biomass in India. *Renewable and Sustainable Energy Reviews*, 32.
- Hormozi, M. A., Asoodar, M. A., Abdeshahi, A. and Baruah, D. C. 2014. The role of water pumping in energy efficiency of rice cropping systems in Khuzestan province, Iran. *International Journal of Agriculture: Research and Review*, 3(1).
- Kalita, P., Nanibabu, G., Vivek, K. P., Saha, U. K. and Mahanta, P. 2013. Design and performance evaluation of a novel biomass feeding system. *Journal of Scientific and Industrial Research*, 72.

Konwar, L. J., Boro, J. and Deka, D. 2014. Review on latest developments in biodiesel production using carbon-based catalysts. *Renewable and Sustainable Energy Reviews*, 29.

Konwar, L. J., Das, R., Thakur, A. J., Salminen, E., Mäki-Arvela, P., Kumar, N., Mikkola, J-P and Deka, D. 2014. Biodiesel production from acid oils using sulfonated carbon catalyst derived from oil-cake waste. *Journal of Molecular Catalysis A: Chemical*, 388-389.

Nair, R. G., Samdarshi, S. K. and Boury, B. 2013. Surface mineralization of cellulose by metal chloride—an original pathway for the synthesis of hierarchical urchin and needle carpet like TiO₂ super structures. *European Journal of Inorganic Chemistry*, 30.

Phukan, M. M., Chutia, R. S., Kumar, R., Kalita, D., Konwar, B. and Kataki, R. 2013. Assessment of antimicrobial activity of bio-oil from Pongamiaglabra, Mesuaferrea and para chlorella spp. deoiled cake. *International Journal of Pharma and Bio Sciences*, 4(4).

Purkayastha, M. D., Das, S., Manhar, A. K., Deka, D., Mandal, M. and Mahanta, C. L. 2013. Removing antinutrients from rapeseed press-cake and their benevolent role in waste cooking oil-derived biodiesel: Conjoining the valorization of two disparate industrial wastes. *Journal of Agriculture & Food Chemistry*, 61.

Rajbongshi, B. and Samdarshi, S. K. 2014. Cobalt-doped zinc blende—wurtzite mixed-phase ZnO photocatalyst nanoparticles with high activity in visible spectrum. *Applied Catalysis B: Environmental*, 144.

Rajbongshi, B. and Samdarshi, S. K. 2014. ZnO and Co-Zn On anods - complementary role of oxygen vacancy in photocatalytic activity of under UV and visible radiation flux. *Materials Science and Engineering B*, 182.

Rajbongshi, B., Ramchiary, A. and Jha, B. M. and Samdarsh S. K. 2014. Synthesis and characterization of plasmonic visible active Ag/ZnO photocatalyst. *J Mater Sci: Mater Electron*, 25.

Ramchiary, A. and Samdarshi, S. K. 2014. High visible light activity of hydrogenated structure-engineered mixed phase titaniaphotocatalyst. *Chemical Physics Letters*, 597.

Ramchiary, A. and Samdarshi, S. K. 2014. Ag deposited mixed phase titania visible light photocatalyst—Superiority of Ag-titania and mixed phase titania co-junction. *Applied Surface Science*, 305.

Sahoo, B. K., Hiloidhari, M. and Baruah, D. C. 2013. Global trend in wind power with special focus on the top five wind power producing countries. *Renewable and Sustainable Energy Reviews*, 19.

Sahoo, B N. and Baruah, D. C. 2013. Investigation of the effect of formation water disposal on ground water in oil fields of Assam, India. *International Journal of Applied Sciences and Biotechnology*, 1(2).

Saikia, M. and Baruah, D. C. 2013. Analysis of physical properties of biomass briquettes prepared by wet briquetting method. *International Journal of Engineering Research and Development*, 6(5).

Saikia, M., Bhowmik, R., Baruah, B., Dutta, B. and Baruah, D. C. 2013. Prospect of bioenergy substitution in tea industries of North East India. *International Journal of Modern Engineering Research*, 3.

Singh, M K., Mahapatra, S. and Teller, J. 2014. Relation between indoor thermal environment and renovation in Liege residential buildings. *Thermal Science*, (in press).

CONFERENCE PROCEEDINGS

Basumatary, V. and Kataki, R. Activated carbons from agricultural residues: A review. In *Proceedings of the International Conference on Harnessing Natural Resources for Sustainable Development: Global Trends*. Cotton College: Guwahati, 2014.

Bordoloi, N., Phukan, M.M., Chutia, R. S., Bora, A. and Kataki, R. Microalgae as a source of bio-fuel. In *Proceedings of the International Conference on Harnessing Natural Resources for Sustainable Development: Global Trends*. Cotton College: Guwahati, 2014.

Brahma, D.K., Sut, D. and Kataki, R. Biodiesel production from Kayeaassamica, its characterization and performance analysis in direct injection diesel engine. In Proceedings of the International Conference on Green Energy and Smart Materials Through Science, Technology & Management (GESM'14). Gauhati University: Guwahati, 2014.

Brahma, D.K., Sut, D. and Kataki, R. Biodiesel production from non-edible feedstock available in north-eastern region of India and their engine performance. In Proceedings of the International Conference on Harnessing Natural Resources for Sustainable Development: Global Trends. Cotton College: Guwahati, 2014.

Choudhury, N. D., Chutia, R.S. and Kataki, R. Industrial waste as feedstock for biofuel and Biomaterial production. In Proceedings of the 7th International symposium on feedstock recycling of polymeric materials. CSIR-IIP Dehradun: New Delhi, 2013.

Choudhury, N.D., Gohain, P.P., Bikash, B., Baruah, S.D. and Kataki, R. Production of hydrocarbon liquid by pyrolysis of *Camellia sinensis* (Tea) seed deoiled cake and characterization of products. In Proceedings of the 3rd National Conference on Recent Advances in Bio-energy Research. SSS-NIRE: Kapurthala, 2013.

Chutia, R.S., Kataki, R. and Bhaskar, T. Characterisation of liquid and solid product from pyrolysis of Pongamiaglabradeoiled cake. In Proceedings of the Xth Convention of Biotech Research Society of India and International Conference on Advances in Biotechnology and Bioinformatics (ICABB 2013). Dr. D. Y. Patil Biotechnology and Bioinformatics Institute: Pune, 2013.

Chutia, R.S., Kataki, R. and Bhaskar, T. Production of Renewable Hydrocarbon through catalytic pyrolysis of large bio-polymers: A review. In Proceedings of the 7th International symposium on feedstock recycling of polymeric materials. CSIR-IIP Dehradun: New Delhi, 2013.

Das, C., Chilukuri, S. and Kataki, R. Selective hydrogenolysis of glycerol to propanediol over Cu and Ni doped spinels. In Proceedings of the Xth Convention of Biotech Research Society of India and International Conference on Advances in Biotechnology and Bioinformatics (ICABB 2013). Dr. D. Y. Patil Biotechnology and Bioinformatics Institute: Pune, 2013.

Das, P.P. and Mahapatra, S. Thermal Energy Performance Analysis of Tea Processing Unit. In Proceedings of the 4th International Conference on Advances in Energy Research (ICAER). IIT Bombay, 2013.

Das, S., Thakur, A.J., and Deka, D. Biodiesel production by esterification of oleic acid over a Brønsted acidic ionic liquid catalyst. In Proceedings of the International Conference on Harnessing Natural Resources for Sustainable Development: Global Trends. Cotton College: Guwahati, 2014.

Das, S., Thakur, A. J. and Deka, D. Esterification of oleic acid with methanol using a new imidazolium based bronsted acidic ionic liquid catalyst for biodiesel synthesis. In Proceedings of the International Conference on Green Energy and Smart Materials Through Science, Technology & Management (GESM'14). Gauhati University: Guwahati, 2014.

Deka, K., Mahapatra, S., Bordoloi, P.K. and Medhi, B. Design and testing of a control system for supply side electrical load management. In Proceedings of the First International Conference on Non-conventional Energy (ICONCE 2014). JIS College of Engineering: Kalyani, 2014.

Gogoi, D. and Kataki, R. Fast pyrolysis reactors and recent progress in design: A review. In Proceedings of the International Conference on Harnessing Natural Resources for Sustainable Development: Global Trends. Cotton College: Guwahati, 2014.

Gohain, P.P., Baruah, S.D. and Kataki, R. Biodiesel production from tea seed oil. In Proceedings of the 7th International symposium on feedstock recycling of polymeric materials. CSIR-IIP Dehradun: New Delhi, 2013.

Jayswal, V. K., Verma, R., Kataki, R. and Samdarshi, S. K. Structural, optical and electrochemical properties of Ceria doped Titania thin films for solar energy applications: A review. In Proceedings of the India-Japan Workshop on Bio molecular Electronics and Organic Nanotechnology for Environment Preservation. Delhi Technological University (DTU): New Delhi, 2013.

Jayswal, V. K., Kataki, R. and Samdarshi, S.K. Electrochemical properties of Ceria doped Titania thin films for solar energy applications: A review. In Proceedings of the International Conference on Green Energy and Smart Materials Through Science, Technology & Management (GESM'14). Gauhati University: Guwahati, 2014.

Mahapatro, A., Kalita, P., Mahanta, P., Saha, U.K. and Mallick, S.S. Numerical simulation of gas-solid flow in a pressurized circulating fluidized bed riser. In Proceedings of the 11th International conference on Fluidized Bed Technology (CFB-11). Chinese Academy of Sciences: Beijing, 2014.

Narzari, R., Kataki, R., Gogoi, N. and Borkotoki, B. Biochar as a potential soil amendment and carbon sequestrate. In Proceedings of the International Conference on Harnessing Natural Resources for Sustainable Development: Global Trends. Cotton College: Guwahati, 2014.

Roy, P., Kataki, S. and Baruah, D. C. Management of anaerobic digested slurry for enhancing profitability of biogas technology: an analysis. In Proceedings of the International Conference on Green Energy and Smart Materials Through Science, Technology & Management (GESM'14). Gauhati University: Guwahati, 2014.

Sahu, B. K. and Choudhury, P.K. Designing and testing of the battery performance of a pic microcontroller based solar wind hybrid system during the load and no load conditions. In Proceedings of the International Congress on Renewable Energy (ICORE2013). KIIT University: Bhubaneswar, 2013.

Saikia, R. and Kataki, R. Lignocellulosic perennial grass biomass as a potential feedstock for pyrolytic bio-oil production. In Proceedings of the International Conference on Harnessing Natural Resources for Sustainable Development: Global Trends. Cotton College: Guwahati, 2014.

Sut, D. and Kataki, R. Prospects of biodiesel production from non-edible oil seeds of north-east India: A review. In Proceedings of the 3rd National Conference on Recent Advances in Bio-energy Research. SSS-NIRE: Kapurthala, 2013.

Sut, D., Bora, D.K. and Kataki, R. Evaluation of characteristics of *Thervetia peruviana* biodiesel and performance analysis in diesel Engine. In Proceedings of the 7th International symposium on feedstock recycling of polymeric materials. CSIR-IIP Dehradun: New Delhi, 2013.

Sut, D., Brahma, D.K. and Kataki, R. Potential non-edible oil resources in India as feedstock for biodiesel production. In Proceedings of the International Conference on Harnessing Natural Resources for Sustainable Development: Global Trends. Cotton College: Guwahati, 2014.

Tasnin, W. and Choudhury, P. K. Designing of a temperature control mechanism for solar water heating system. In Proceedings of the International Conference on Green Energy and Smart Materials Through Science, Technology & Management (GESM'14). Gauhati University: Guwahati, 2014.

BOOK CHAPTERS

Bora, P., Boro, J. and Deka, D. 2013. Formulation and characterization of non-edible oil based micro-emulsified fuel. In Suresh S. and Sudhakar K. Global Scenario in Environment and Energy. Hyderabad: BSP Books Pvt. Ltd.

Das, S., Thakur, A. J. and Deka, D. 2013. Influence of free fatty acids content in catalytic activities of [B5MIM] Cl ionic liquid for biodiesel production from non-edible acidic oils. In Kumar, S., Sarma, A.K., Tyagi, S.K. and Yadav, Y.K. Recent Advances in Bioenergy Research, Kapurthala: SSS-NIRE.

Dev Choudhury, N., Gohain, P. P., Bikash, B., Baruah, S. D. and Kataki, R. Production of hydrocarbon liquid by pyrolysis of *Camellia sinensis* (Tea) seed deoiled cake and characterization of Products. In Kumar, S., Sarma, A.K., Tyagi, S.K. and Yadav, Y.K. Recent Advances in Bioenergy Research. Kapurthala: SSS-NIRE.

Kalita, P. 2014. Pressurized circulating fluidized bed technology: A literature review towards a novel design approach. In Prasad, R. Shivakumar, Sharma, U C. Hydrogen and Other Technologies. USA: Studium Press, LLC.

Kataki, R., Chutia, R. S., Mishra, M., Bordoloi, N., Saikia, R. and Bhaskar, T. 2014. Feedstock suitability for thermochemical processes. In Pandey, A., Bhaskar, T. and Stocker, M. Advances in thermochemical conversion of biomass, Elsevier, (in press).

Sut, D. and Kataki, R. 2014. Prospects of biodiesel production from non-edible oil seeds of north-east India: A review. In Kumar, S., Sarma, A.K., Tyagi, S.K. and Yadav, Y. K. Recent Advances in Bioenergy Research. Kapurthala: SSS-NIRE.

TALKS BY THE FACULTY ABROAD AND IN INDIA

D C Baruah delivered a lecture, Biomass and Bio-energy: an alternative to conventional energy sources, for the One Week Short Term Course on Renewables in Science and Engineering (RISE-2014), National Institute of Technology, Silchar, 12 January, 2014.

D C Baruah delivered a lecture, Renewable energy for North-East India: Assessment for resources and technologies, in a National Seminar on Energy Science and Engineering, Tripura Institute of Technology, 29 November, 2013.

P Kalita participated and delivered a talk on "Pressurized Fluidized Bed Technology" in the international workshop on "Advanced biomass thermal conversion processes" organized by Thermal Engineering Division, CSIR-CMERI in collaboration with Cranfield University of UK, UCL of Belgium and IIT Guwahati, held at CSIR-CMERI during 18 -19 December, 2013.

R Kataki delivered an invited lecture, Bioenergy byproducts (BEBP) utilization for Biooil and Biomaterials, in the 5th India-Korea joint Workshop on Bioenergy: Incorporating Biofuels and Bio refineries, organized by DST (MoST), Govt. of India and Ministry of Science, ICT and Future Planning (MSIP), Govt. of Korea, at CSIR-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST), Thiruvananthapuram, India, 9 -10 September, 2013.

R Kataki delivered an invited lecture, Biomass as a Source of Futuristic Inputs for a low-carbon Economy, in the International Conference on Advances in Biotechnology and Bioinformatics (ICABB 2013), organised by Dr. D. Y. Patil Biotechnology and Bioinformatics Institute, Pune in association with Biotech Research Society of India (BRSI) at Hotel Le Meridian, Pune, 25-27 November, 2013.

R Kataki chaired the third Technical Session on Biohydrogen, 5th India-Korea Joint Workshop on Bioenergy: Incorporating Biofuels and Biorefineries, organized by the DST (MoST), Govt. of India and Ministry of Science, ICT and Future Planning (MSIP), Govt. of Korea at CSIR-National Institute of Interdisciplinary Science & Technology, Triruvananthapuram, India, 9-10 September, 2013.

SEMINARS/WORKSHOPS/SYMPOSIA/OTHER SUCH PROGRAMMES ORGANIZED BY THE DEPARTMENT

Indo-Finnish Workshop, Green Chemistry: Green catalytic approaches for production of biofuel and chemicals, under the Indo-Finland collaborative research project, 14 December, 2013.

Second Group meeting cum Workshop under the Indo-UK collaborative research project, Rural Hybrid Energy Enterprise System (RHEES), 10-12 November, 2013.

AWARDS/HONOURS RECEIVED BY THE FACULTY/STUDENTS/RESEARCH SCHOLARS/ THE DEPARTMENT

D C Baruah, Member, Technical Committee, 1st International Conference on Non-conventional Energy, 16-17 January, 2014, Kalyani, India

DISTINGUISHED VISITORS TO THE DEPARTMENT

Dr D P Kothari, Former Director (i/c), IIT Delhi

Dr Helen West, School of Bioscience, University of Nottingham, UK

Juergen Reinhard, Life Cycle Analysis (LCA) specialist, Department of Mobility, Energy and Environment, EMPA, Switzerland

Prof Jyri Pekka-Mikkola, Abo Akademi University, Finland

Prof Michele Clarke, School of Geography, University of Nottingham, UK

Dr Narendra Kumar, Abo Akademi University, Finland

Dr N S Rathore, Faculty of Engineering, Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan

Dr Sarah Martin, Dr Joel Chaney, Dr Paolo Matelloni, Dr Debadayita Raha, Post Doctoral Fellows, University of Nottingham, UK

Dr Trevor Drage, School of Engineering, University of Nottingham, UK

NUMBER OF STUDENTS WHO PASSED NET/SLET/JRF/GATE

GATE: 18

THE FACULTY OF THE DEPARTMENT

Professors

D Deka, PhD (Tezpur)

Head of the Department (from September 25, 2013)

Specialization/Areas of interest: Bio energy, Energy and Environment

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D C Baruah, PhD (Punjab)

Head of the Department (till September 24, 2013)

Dean, Student's Welfare

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S K Samdarshi, PhD (IITDelhi), *(On lien)*

Specialization/Areas of interest: Solar Energy, Energy Materials and Energy Education

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Associate Professors

R Katak, PhD (Tezpur)

Specialization/Areas of interest: Bio fuels, Biochar and Environment, Energy Environment interface

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Assistant Professors

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Specialization/Areas of interest: Renewable Energy, Energy Management

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P K Choudhury, MTech (Tezpur)

Specialization/Areas of interest: Energy Conservation, Integration of Renewable Energy Systems

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P Kalita, PhD (IITGuwahati)

Specialization/Areas of interest: Two Phase Flow and Heat Transfer, Combustion and Gasification

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DEPARTMENT OF FOOD ENGINEERING & TECHNOLOGY

THE DEPARTMENT

The Department of Food Engineering and Technology of Tezpur University is one of the six constituent Departments under the School of Engineering. The main objective of the Department is to create trained and skilled human resources to cater to the needs of the rapidly growing food processing sector. The Department (earlier known as Department of Food Processing Technology) was opened in 2006 with a two-year MSc programme in Food Processing Technology. The Department is currently offering an MTech, a BTech, an Integrated MTech and PhD programme in Food Engineering and Technology. A number of projects sponsored by various funding agencies like UGC, MoFPI, DST, DBT, DRDO are being carried out by the Department.

ACADEMIC PROGRAMMES

- BTech in Food Engineering & Technology
- MTech in Food Engineering & Technology
- Integrated MTech in Food Engineering & Technology
- PhD

STUDENT INTAKE

Programme	Student Intake
BTech in Food Engg & Tech	30
MTech in Food Engg & Tech	18
Integrated MTech in Food Engg & Tech	12
PhD	Intake variable, 4 registered during this period

MAJOR FACILITIES AND EQUIPMENT AVAILABLE

- Atomic absorption spectroscopy
- Rapid Visco Analyser
- Texture Analyzer
- High-performance liquid chromatography
- Uv-Vis Spectrophotometer
- FT-IR Spectrometer
- Pasteurizer
- Packaging And Packaging Material Testing Equipment
- Bio-Safety Cabinet
- BoD Incubator
- Autoclave
- Gel Documentation System
- Fermentor
- Trinocular Microscope
- Ice Maker
- Hunter Lab Color Meter
- Automated Microscope
- Refrigerated Centrifuge

- Variable Speed Rotor Mill
- Ultra Pure Water Purification System
- Laboratory Tray Drier
- Plate Type Heat Exchanger
- Unsteady State Heat Transfer Apparatus
- Plate & Frame Filter Press
- Single Effect Evaporator
- Crystallization Unit
- Liquid-Liquid Extraction
- Spray Extraction Column
- Fibra Plus
- Hot Air Oven
- Colony Counter
- Vacuum Filtration Assembly
- Digital Water Bath
- Shaking Water Bath
- Muffle Furnace
- Vacuum Oven with Vacuum Pump

RESEARCH PROJECTS: ONGOING AND NEW

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Studies on development of cereal based functional breakfast food from the underutilized crops of north-east India	MoFPI	29.02 lakh	2years	A B Das
Pilot scale process technology for bhim kol (Musa balbisana) slice, grites and powder using hybrid drying methods	MoFPI	35.00 lakh	2 years	B Srivastava
Development of health promoting extruded rte breakfast cereal incorporating choukua rice and bhimkol banana of assam along with Carambola pomace	MoFPI	40.32lakh	2.5 years	Charu Lata Mahanta
Development of continuous wet cum dry grinder for grinding waxy rice for use in the state of Assam	DST	15.12 lakh	2 years	Charu Lata Mahanta
Design and development of vacuum frying system for the production of healthy snack products	DST	10.00 lakh	2 years	Charu Lata Mahanta
Characterisation of technofunctional and biofunctional properties of napin protein hydrolysates of rapeseed meal	DRL	5.00 lakh	2 years	Charu Lata Mahanta
Development of ready to reconstitute misti dahi powder	MoFPI	15.97 lakh	3 years	D K Seth
Osmotic dehydration and microwave vacuum drying of Kachkal banana	MoFPI	21.00 lakh	2years	K K Dash
Processing and packaging of various edible bamboo shoot species growing in different agro-ecological regions of Assam	UGC	9.51 lakh	3 years	L S Badwaik

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Development of technology for quick cooking rice production through up-gradation of a traditional method	AICTE	16.50 lakh	3 years	MK Hazarika
Development of enzyme based extraction process for improving quality and recovery of starch from different varieties of <i>Colocasia esculenta</i> (arbi) of Assam for food use	MoFPI	26.00 lakh	2years	NSit
Studies on functional properties of the dominant microflora found in rice beer of Assam	MoFPI	46.02 lakh	2 years	R K Duary
Encapsulation and controlled delivery of herbal extracts in dairy food matrix using cow milk protein against in vitro simulated inflammatory cell line models	DST	25.00 lakh	2years	R K Duary
Comparative metagenome of human gut of north and north-eastern region of India	DBT	64.70 lakh	2year	R K Duary
Studies on functional properties of the dominant microflora found in rice beer of Assam	MoFPI	46.02 lakh	2 years	SC Deka

PUBLICATIONS

International and National Journals

Badwaik, L. S., Borah, P. K. and Deka, S. C. 2014. Antimicrobial and enzymatic antibrowning film used as coating for bamboo shoot quality improvement. *Carbohydrate Polymers*, 103.

Badwaik, L. S., Borah, P. K., Borah, K., Das, A. J., Deka, S. C. and Sharma, H. K. 2014. Influence of fermentation on nutritional compositions, antioxidant activity, total phenolic and microbial load of bamboo shoot. *Food Science and Technology Research*, 20(2).

Badwaik, L. S., Choudhury, M., Dash, K. K., Borah, P. K. and Deka, S. C. 2013. Osmotic dehydration of bamboo shoots enhanced by centrifugal force and pulsed vacuum using salt as osmotic agent. *Journal of Food Processing and Preservation*, (accepted).

Badwaik, L. S., Choudhury, S., Borah, P. K., Sit, N. and Deka, S. C. 2013. Comparison of kinetics and other related properties of bamboo shoot drying pretreated with osmotic dehydration. *Journal of Food Processing and Preservation*, (accepted).

Badwaik, L. S., Choudhury, S., Borah, P. K. and Deka, S. C. 2013. Optimization of osmotic dehydration process of bamboo shoots in mixtures of sucrose and sodium chloride solutions. *Journal of Food Processing and Preservation*. 37(6).

Bhattacharya, S. S., Barman, S., Ghosh, R., Duary, R. K., Goswami, L. and Mandal, N. C. 2013. Phosphate solubilizing ability of *Emericella nidulans* strain V1 isolated from vermicompost. *Indian J Exp Biol.*, 51.

Chandran, A., Duary, R. K., Grover, S. and Batish, V. K. 2013. Relative expression of bacterial and host specific genes associated with probiotic survival and viability in the mice gut fed with *Lactobacillus plantarum* Lp91. *Microbiological Research*. 168(9).

Das, D. K., Dutta, H. and Mahanta, C. L. 2013. Development of a rice starch-based coating with antioxidant and microbe-barrier properties and study of its effect on tomatoes stored at room temperature. *LWT-Food Science and Technology*, 50(1).

- Das, P., Manhar, M., Das, A.K., Borah, V.K., Mandal, A., Thakur, M.A.J. and Mahanta, C.L. 2014. Antioxidative, hemocompatible, fluorescent carbon nanodots from an end-of-pipe agricultural waste: exploring its new horizon in the food-packaging domain. *Journal of Agricultural and Food Chemistry*, 62.
- Das, P. and Mahanta, C.L. 2014. Statistically designed optimal process conditions for recuperation of protein from rapeseed meal. *Journal of Food Science and Technology*, (accepted).
- Das, P. M., Dutta, N., Kalita, D. and Mahanta, C.L. 2014. Exploratory analysis for characterization of solvent-treated products (meal and extract) from rapeseed press-cake: preliminary investigation using principal component analysis. *Waste Biomass Valorization*, (accepted).
- Das, P. M., Das, S., Manhar, A.K., Deka, D., Mandal, M., and Mahanta, C.L. 2013. Removing antinutrients from rapeseed press-cake and their benevolent role in waste cooking oil-derived biodiesel: conjoining the valorization of two disparate industrial wastes. *Journal of Agricultural and Food Chemistry*, 61.
- Das, P. M., Nath, A., Deka, B.C. and Mahanta, C.L. 2013. Thin layer drying of tomato slices. *Journal of Food Science and Technology*, 50(4).
- Dutta, H. and Mahanta, C.L. 2014. Laboratory process development and physicochemical characterization of a low amylose and hydrothermally treated ready-to-eat rice product requiring no cooking. *Food and Bioprocess Technology*, 7(1).
- Dutta, H. and Mahanta, C.L. 2014. Laboratory process development and physicochemical characterization of a low amylose and hydrothermally treated ready-to-eat rice product requiring no cooking. *Food and Bioprocess Technology*, 7(1).
- Hazarika, M. K., and Datta, A. K. 2014. Estimation of drying rate constant from static bed moisture profile by neural network inversion. *Agric Eng Int: CIGR Journal*, 16(1).
- Hazarika, E.B., Borah, A. and Mahanta C.L. 2013. Optimisation of extrusion cooking conditions and characterization of rice (*Oryza sativa*)- sweet potato (*Ipomoea batatas*) and rice-yam (*Dioscorea alata*) based RTE products. *Agricultural Sciences*, 4.
- Mishra, P., Mishra, S., Mahanta, C.L. 2013. Effect of maltodextrin concentration and inlet temperature during spray drying on physicochemical and antioxidant properties of amla (*Embllica officinalis*) juice powder. *Food Bioprod Process*, (accepted).
- Mishra, P., Mishra, S. and Mahanta, C.L. 2013. Effect of maltodextrin concentration and inlet temperature during spray drying on physicochemical and antioxidant properties of amla (*Embllica officinalis*) juice powder. *Food and Bioproducts Processing*, (accepted).
- Paul, S.K., Dutta, H., Mahanta, C.L. and Prasanna, G.V. 2014. Process standardization, characterization and storage study of a sweet. *International Food Research Journal*, 21(3).
- Purkayastha, M. D., Nath, A., Deka, B. C. and Mahanta, C.L. 2013. Thin layer drying of tomato slices. *Journal of Food Science and Technology*, 50(4).
- Roy, J. K., Borah, A., Mahanta, C. L. and Mukherjee, A. K. 2013. Cloning and overexpression of raw starch digesting α -amylase gene from *Bacillus subtilis* strain AS01a in *Escherichia coli* and application of the purified recombinant α -amylase (AmyBS-I) in raw starch digestion and baking industry. *Journal of Molecular Catalysis B: Enzymatic*, 97.
- Saikia, S. and Mahanta, C. L. 2013. Effect of steaming, boiling and microwave cooking on the total phenolics, flavonoids and antioxidant properties of different vegetables of Assam, India. *International Journal of Food and Nutrition Sciences*, 2.
- Sit, N., Misra, S. and Deka S. C. 2013. Physicochemical, functional, textural and colour characteristics of starches isolated from four taro cultivars of north east India. *Starch/Stärke*, 65(11-12).
- Sit, N., Misra, S., Baruah, D., Badwaik, L. S., and Deka, S. C. 2014. Physicochemical properties of taro and maize starch and their effect on texture, colour and sensory quality of tomato ketchup. *Starch/Stärke*, 66.
- Sit, N., Misra, S. and Deka, S. C. 2014. Yield and functional properties of Taro starch as affected by ultrasound. *Food and Bioprocess Technology*, 7.

Sudhakaran, V. A., Panwar, H., Chauhan, R., Duary, R. K., Rathore, R. K., Batish, V. K. and Grover, S. 2013. Modulation of anti-inflammatory response in lipopolysaccharide stimulated human THP-1 cell line and mouse model at gene expression level with indigenous putative probiotic lactobacilli. *Genes & nutrition*, 8(6).

BOOK CHAPTERS

Hazarika, M. K. 2014. Energy-efficient food processing: Principles and Practices. In J KSahu(Ed). Introduction to Advanced Food Process Engineering. CRC Press.

SEMINARS/CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

B Srivastava attended the 7th International Food Convention NSURE-Healthy Foods, Central Food Technological Research Institute, Mysore, 18-21, December, 2013.

Charu Lata Mahanta attended the 7th International Food Convention NSURE-Healthy Foods, Central Food Technological Research Institute, Mysore, 18-21, December, 2013.

Charu Lata Mahanta presented a paper at the World Congress on Engineering & Technology (CET 2013) in the area of agricultural and food Engineering, Sanya, China, 25-27 October, 2013.

L S Badwaik attended an ISTE workshop, Engineering Mechanics, Tezpur University, Tezpur, 26 November- 6 December, 2013.

L S Badwaik attended UGC sponsored Orientation Programme at RTM Nagpur University, Nagpur (Maharashtra), 2-29 January, 2014.

M K Hazarika attended NBA PHASE-I workshop, Training of Evaluators /Resource Persons on Outcome Based Accreditation, Guwahati Nodal Centre (NBA), 5 March, 2014.

M K Hazarika attended NBA PHASE-II workshop, Training of Evaluators /Resource Persons on Outcome Based Accreditation, Guwahati Nodal Centre (NBA), 21-23 March, 2014.

Poonam Mishra attended 21 days orientation course at University of Allahabad, 3-22 December, 2013.

Poonam Mishra attended the International Conference on Technological Advances in Super Foods for Health Care, Puduchery, 27-28, December 2013.

Poonam Mishra attended the international conference on Technological Advances in Super Foods for Health Care, Puduchery, 4-5 May, 2013.

DISTINGUISHED VISITORS TO THE DEPARTMENT

Prof. H N Mishra, IIT Kharagpur, West Bengal

Prof. M D Alim, Bangladesh Agricultural University, Bangladesh

Prof. P P Srivastava, IIT Kharagpur, West Bengal

Prof. R Jagan Mohan, IICPT, Thanjavur - 613 005, Tamil Nadu, India

DEPARTMENTAL ACHIEVEMENT

DST FIST (under Level-I)

Category with a sanction of Rs 75,00,000/ (Rupees Seventy lakhs Only) under FIST program-2013 to strengthen the Post Graduate teaching and Research at the Department.

AWARDS/HONOURS RECEIVED BY THE FACULTY/STUDENTS/RESEARCH SCHOLARS

GE Foundation Scholarship - Ms. Papor Chutia

REC scholarship - Ms. Pallavi Nath, Ms. Papor Chutia, Ms. Parmita Gogoi

NUMBER OF STUDENTS WHO PASSED NET/SLET/JRF/GATE

GATE: 4

NET: 1

THE FACULTY OF THE DEPARTMENT

Professors

Charu Lata Mahanta, PhD (CFTRI, Mysore)

Dean, Research & Debelopment

Specialization/Areas of interest: Food Science, Rice Processing, Food Analysis, Food Quality, Product Development

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S C Deka, PhD (HAU)

Specialization/Areas of interest: Food Chemistry, Food Quality, Fermented Foods

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Associate Professors

M K Hazarika, PhD (IIT Kharagpur)

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B Srivastava, PhD (IIT Kharagpur)

Specialization/Areas of interest: Process & Food Engineering, Fruits & Vegetable Processing and Machineries, Drying & Dehydration, Unit Operations in Food Engineering.

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Assistant Professors

N Sit, PhD (Tezpur), Specialization/Areas of interest: Food Engineering, Food Biotechnology, Food Processing

E-mail: nandan@tezu.ernet.in

Poonam Mishra, MTech (HBTI, Kanpur)

Specialization: Food Technology

E-mail: poonam@tezu.ernet.in

L S Badwaik, MTech (SLIET, Longowal)

Specialization/Areas of interest: Food Packaging, Fermentation Technology, Food safety and food quality

E-mail: badwaik@tezu.ernet.in

D Seth, MTech (IIT Kharagpur)

Specialization/Areas of interest: Dairy & Food Engineering, Dairy Technology, Unit operations & Transport Process

E-mail: dibya05@tezu.ernet.in

R K Duary, PhD (NDRI, Karnal)

Specialization/Areas of interest: Dairy Microbiology, Molecular Biology

E-mail: duary@tezu.ernet.in

K K Dash, PhD (IIT Kharagpur)

Specialization/Areas of interest: Food process Modeling, Dairy and Food Engineering, Unit Operations in Food Engineering

E-Mail: kshirod@tezu.ernet.in

A B Das, MS (IIT Kharagpur)

Specialization/Areas of interest: Food Process Design, Mechanical Operations in Food Engineering, Food Preservation

E-Mail: amittu@tezu.ernet.in

DEPARTMENT OF MECHANICAL ENGINEERING

THE DEPARTMENT

The prime objective of the Department of Mechanical Engineering, which was established in 2006, has been to promote quality technical education and to produce human resource capable of contributing to both industry and academics. In view of the present competitive market resulting from globalization and fast technological developments, the Department is committed to continuous improvement of the students in knowledge and skills. Presently the Department is offering B.Tech, M.Tech and Ph.D Programmes in Mechanical Engineering.

ACADEMIC PROGRAMMES

- BTech in Mechanical Engineering
- MTech in Mechanical Engineering
- PhD

STUDENT INTAKE

Programme	Student Intake
BTech in Mechanical Engineering	52
MTech in Mechanical Engineering	18
PhD	Intake Variable 3 registered during this period

MAJOR FACILITIES AND EQUIPMENT AVAILABLE

Central Workshop

- MIG Welding Set
- All Geared Precision Lathe
- Radial Drilling Machine
- Slotting Machine
- TIG Welding Set
- Argon Gas Cylinder
- Carbon di-oxide Cylinder
- All Geared Precision Lathe
- Shaping Machine
- Pedestal Grinding Machine
- Pillar Drilling Machine
- Horizontal Milling Machine
- Vertical Milling Machine
- CNC Lathe Machine
- IEICO Lathe Tool Dynamometer
- Surface Grinding Machine
- AC Arc Welding Machine
- CNC Milling Machine
- Universal Milling Machine
- Universal Tool & Cutter Grinder
- HMT High Speed Precision Lathe
- Hydraulic Power Hacksaw Machine
- Plate Bending Machine

Fluid Mechanics Lab

- Hydraulic bench
- Impact of jet module
- Flow over weirs module
- Bernoulli's theorem demo module
- Orifice discharge module
- Energy losses in bends module
- Osborne Reynolds demo module
- Flow meter demo module
- ARMFIELD make Centrifugal pump demonstration unit
- ARMFIELD make Plunger pump demonstration unit
- Pelton turbine
- Propeller turbine

Strength of Material Lab

- Universal testing machine
- Rockwell Hardness tester
- Brinell Hardness tester
- Vickers hardness tester
- Impact testing machine

Theory of Machine lab

- Static and Dynamic balancing
- Gyroscope
- Governor
- Whirling of shaft apparatus
- Moment of Inertia set up
- Tachometer
- Sound level meter with sound level calibrator

Vibration lab

- Universal vibration apparatus
- Sound level meter with sound level calibrator

CAD lab

- Ansys academic teaching
- Pro-E software
- Server with rack
- Sharp Projector

Metrology lab

- Vernier Caliper (Dial)
- Outside Micrometer (Digimatic)
- Tubular inside Micrometer
- Indicating Micrometer
- Digital depth gage
- Depth Micrometer
- Universal bevel Protractor
- Dial Indicator (plunger type)
- Dial Indicator (Lever type)
- Magnetic stand for mounting dial indicator
- Surface roughness tester
- Slip Gauges/Gauge block
- Filler Gauge
- Pitch Gauge range 0.25-7mm



- Pitch Gauge range 4-42 TPI
- Radius gauge
- Sine bar
- Straight edge
- V-block with clamp
- C-clamp

IC Engine and Automobile lab

- Diesel Engine test set up VCR
- AVL Smoke meter with accessories
- Serviceable of Maruti Esteem Car
- Cut section models of engine parts

S/CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Development of an innovative model of combined heat and power from purely producer gas based engine alternator system for partial conventional energy substitution of tea processing industries in North East India	DST- SERB	18.45 lakh	3 years	P P Dutta
Characterization of producer gas generated from different locally available woody and non woody biomass through gasification by using Gas Chromatograph analysis and their potential application as renewable energy to supplement thermal energy requirement for tea processing industries in Assam	UGC	14.90 lakh	3 years	P P Dutta
Processing and mechanical property evaluation of micro alloyed 2219 Al alloys	DST	18.38 lakh	3 years	S Banerjee
Fabrication of Calcium Carbonate filled composites and optimization of their manufacturing parameters using multi-objective evolutionary algorithms	DST-SERB	24.30 lakh	3 years	S Kashyap
Study of performance, combustion and emission characteristics of a turbocharged diesel engine fuelled with indigenous tree seed based biodiesel available in North-Eastern region of India	DST	33.60 lakh	2 years	T K Gogoi

PUBLICATIONS

International and National Journals

Ahmed, N., Sengupta, S. and Datta, D. 2013. An exact analysis for MHD free convection mass transfer flow past an oscillating plate embedded in a porous medium with Soret effect. *Chemical Engineering Communications*, 200(4).

Banerjee, S., Deka, A., Sarmah, G. D. and Bhardwaj, N. 2014. Artificial Neural Network Modeling of the Effect of Cutting Conditions on Cutting Force Components during Orthogonal Turning. *International Journal of Current Engineering and Technology*, 2.

Bardalai, M. and Mahanta, D. K. 2013. Study of effects of some catalysts in biomass pyrolysis. *International Journal of Current Research and Review*, 5(20).

Datta, D. 2013. Unit commitment problem with ramp rate constraint using a binary-real-coded genetic algorithm. *Applied Soft Computing*, 13(9).

Datta, D. and Figueira, J. R. 2013. A real-integer-discrete-coded differential evolution. *Applied Soft Computing*, 13(9).

Datta, D., Figueira, J. R., Gourtani, A. and Morton, A. 2013. Optimal administrative geographies: an algorithmic approach. *Socio-Economic Planning Sciences*, 47(3).

Dutta, P. P., Baruah, V., Baruah, S. and Goswami, R. Computer based automatic security gate operation system. *International Journal of Engineering Sciences*, (accepted).

Dutta, P. P. and Baruah, D. C. 2014. Modelling and experimental studies of black tea using producer gas as fuel. *Applied Thermal Engineering*, 63.

Dutta, P. P. and Baruah, D. C. 2014. Gasification of up rooted tea shrubs for process heat generation in Tea manufacturing, *Biomass and Bioenergy*, (in press).

Dutta, P. P. and Baruah, D. C. 2014. Possibility of biomass gasification in Tea manufacturing industries. *International Journal of Energy Technology and Policy*, (accepted).

Dutta, P. P., Pandey, V., Das, A. R., Sen, S. and Baruah, D. C. 2014. Downdraft gasification modelling and experimentation of indigenous biomass for thermal application. *Procedia Energy*, (accepted).

Gogoi, T. K. and Talukdar, K. 2014. Thermodynamic analysis of a combined reheat regenerative thermal power plant and water- LiBr vapour absorption refrigeration system. *Energy Conversion and Management*, 78.

Gogoi, T. K. 2014. A combined cycle plant with air and fuel recuperator for captive power application, Part 1: Performance analysis and comparison with non-recuperated and gas turbine cycle with air recuperator. *Energy Conversion and Management*, 79.

Gogoi, T. K. and Das, R. 2014. A combined cycle plant with air and fuel recuperator for Captive power application, Part 2: Inverse analysis and parameter estimation. *Energy Conversion and Management*, 79.

Haloi, P., Baruah, R., Mazumder, N. S., Sarmah, D. and Bharti, A. 2014. Stability and surface free energy analysis of a liquid drop on a horizontal cylindrical wire using fem simulation. *International Journal of Research in Engineering and Technology*, 3 (3).

Kashyap, S. 2013. Formation of Inter-linked voids in Bioactive glass 45S5 upon crystallization. *Materials Science Research India*, 10(1).

Kashyap, S. 2013. Fracture behaviour of bioactive glass ceramic: An effort to increase its mechanical properties. *International Journal of Engineering Sciences*, 2(2).

Kirtania, S. and Chakraborty, D. 2014. Analysis of carbon nanotube-reinforced alumina matrix nanocomposites with a broken fiber. *Journal of Reinforced Plastics and Composites*, 33 (3).

Kirtania, S. and Chakraborty, D. 2014. Fracture behavior of carbon nanotube-based composites with a broken fiber using multi-scale finite element modeling. *Journal of Computational and Theoretical Nanoscience*, 11(3).

Nath, P. K. and Datta, D. 2014. Multi-objective hardware-software partitioning of embedded systems: a case study of JPEG encoder. *Applied Soft Computing*, 15.

Singh, S. K. and Tiwari, R. 2014. Detection and localisation of multiple cracks in a shaft system: an experimental investigation. *Measurements*, 53.

Conference proceedings

Banerjee, S., Deka, A., Sarmah, G. D. and Bhardwaj, N. Artificial neural network modeling of the effect of cutting conditions on cutting force components during orthogonal turning. In *Proceedings of the 1st International Conference on Advances in Mechanical Sciences (ICAMS)*. Hyderabad, 2014.

Banerjee, S., Deka, A., Sarmah, G. D. and Bhardwaj, N. A computational modeling of surface roughness as a function of the cutting conditions during orthogonal turning. In *Proceedings of the National Conference on Manufacturing: Vision for Future (MVF)*. IIT Guwahati, 2013.

Dutta, P. P., Kalita, K. and Dixit, U. S. Experimental investigation on laser bending of mild steel coated with black enamel paint. In *Proceedings of the Manufacturing: Vision for future*. IIT Guwahati, 2013.

Dutta, P. P. Experimental and numerical investigation on laser bending of mild steel sheet. In proceedings of the National Conference on Recent Advancements in Mechanical Engineering (NCRAME). NERIST, Arunachal Pradesh, 2013.

Dutta, P. P., Sharma, S. and Gogoi, R. Design of compact tricycle. In Proceedings of the National Conference on Recent Advancements in Mechanical Engineering (NCRAME). NERIST, Arunachal Pradesh, 2013.

Dutta, P. P., Kumar, B. and Das, A. Development of a plate heat exchanger. In Proceedings of the National Conference on Recent Advancements in Mechanical Engineering (NCRAME). NERIST, Arunachal Pradesh, 2013.

Dutta, P. P., Saharia, Sarmah, J. N. and Baruah, D. C. Thermal performance studies of a rectangular duct solar air heater. In Proceedings of the 22th National and 11th International Conference of ISHMT, ASME, Heat and Mass Transfer Conference. IITKharagpur, 2013.

Dutta, P. P., Pandey, V. A., Das, R., Sen, S. and Baruah, D. C. Downdraft gasification modelling of indigenous biomass for thermal application. In proceedings of the IVth International Conference on Advances Energy Research. IIT Bombay, 2013.

Dutta, P. P., Das, A. and Pandey, V. Fuel characteristics of some locally available biomass as a potential gasification feedstock for thermal applications. In Proceedings of the International Conference on Energy System Modelling. NIT Durgapur, 2013.

Haloi, P., Banerjee, A. K. and Choudhury, A. Analysis and investigation of solar thermal energy in a parabolic trough solar collector system with extended surfaces. In Proceeding of the National Conference Proceedings of New and Renewable Energy Technologies. Coimbatore, 2013.

Kashyap, S. Manufacturing crystalline bioactive glass 4555 to formulate its crystallization kinetics. In Proceedings of the Manufacturing: Vision for future (MVF 2013). IIT Guwahati, 2013.

Kashyap, S. Fracture behaviour of bioactive glass ceramic: an effort to increase its mechanical properties. In Proceedings of the ICAET. Pune, 2013.

Kalita, P., Kumar, R., Sarmah, B. and Kalita, D. A diffusion regulated scheme applied to some high speed flows. In proceedings of the National Conference on Recent Advancements in Mechanical Engineering (NCRAME). NERIST, Arunachal Pradesh, 2013.

Kalita, P. and Dass, A. K. Computation of high speed flows using diffusion regulation. In Proceedings of the 40th National Conference on Fluid Mechanics and Fluid Power. National Institute of Technology, Hamirpur, 2013.

Kirtania, S., Kalita, K., Gohain, A. P. and Medhi, J. Modeling and simulation of fiber-reinforced composites, and bending tests of bamboo. In Proceedings of the National Conference on Recent Advancements in Mechanical Engineering (NCRAME). NERIST: Arunachal Pradesh, 2013.

Kirtania, S., Talukdar, R. G., Kalita, T. J. and Medhi, P. Bending analysis of beams using finite element method. In proceedings of the National Conference on Recent Advancements in Mechanical Engineering (NCRAME). NERIST: Arunachal Pradesh, 2013.

Book chapter

Kirtania, S. and Chakraborty, D. 2013. Stress transfer characterizations at fiber break in carbon nanotube-reinforced composites. In *Advanced Nanomaterials and Nanotechnology*. Springer Proceedings in Physics. Berlin Heidelberg: Springer-Verlag.

SEMINARS/CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

M Bardalai attended the one-week Short term training programme on Innovative in Curriculum Design, conducted by NITTTR, Kolkata, Guwahati, 3-7 June, 2013.

M Bardalai attended the one-week Short term training programme on Product Design, conducted by NITTTR, Kolkata, 3-7 July, 2013.

M Bardalai attended the one-week Short term training programme on Institutional Development, conducted by NITTTR, Kolkata at Guwahati, 15-19 July, 2013.

M Bardalai attended the two-week ISTE workshop, on Engineering Mechanics, under the National Mission on Education through ICT conducted by Indian Institute of Technology Bombay, 26 November - 06 December, 2013.

P Haloi attended the one week short term course on CAD using Inventor, conducted by NITTTR Bhopal, Bhopal, 08-12 July, 2013.

P Haloi attended the two-week ISTE workshop, on Engineering Mechanics, under the National Mission on Education through ICT conducted by Indian Institute of Technology Bombay, 26 November -06 December, 2013.

Polash P Dutta attended the International Conference on Advances in Engineering and Technology Lonavala, Pune, India, 15-17 May, 2013.

Polash P Dutta attended the one-week Short term course, on Application of Lasers in Manufacturing, held at IIT Guwahati, 24 - 28 June, 2013.

Polash P Dutta attended the National Conference on Theoretical Physics (NCTP 2013), Tezpur University, Assam, India.

P PDutta attended the 22th National and 11th International Conference of ISHMT, ASME, Heat and Mass Transfer Conference, IIT Kharagpur, 28-31December, 2013.

P PDutta attended the IVth International Conference on Advances Energy Research, IIT Bombay, 10-12 December, 2013.

P PDutta attended the National Conference on Recent Advances in Mechanical Engineering, NERIST, Itanagar, 08-09November,2013.

P Kalita attended the one-week Short Term Course on Role of Numerical Analysis in Scientific Computing, IIT Guwahati, 20-24 May, 2013.

P Kalita attended the two-week ISTE workshop, Engineering Mechanics, under the National Mission on Education through ICT conducted by Indian Institute of Technology Bombay, 26 November -06 December, 2013.

P Kalita attended the one-week Co-ordinators' workshop, on Fluid Mechanics, IITKharagpur, 11-15 March, 2014.

S Kirtania attended the two-week ISTE workshop, on Engineering Mechanics, under the National Mission on Education through ICT conducted by Indian Institute of Technology Bombay, 26 November -06 December, 2013.

S Banerjee attended the 'Saksham – IT Champion Training program' by Microsoft, Tezpur University, 19 - 28 April, 2013.

S Banerjee attended the one day Workshop, on Intellectual Property Rights (IPR) conducted by MHRD IPR Chair, Tezpur University, 8 Aug, 2013.

S Banerjee attended the National Conference on Manufacturing: Vision for Future (MVF 2013), IIT Guwahati, India, 12-13 October, 2013.

S Banerjee attended thetwo-week ISTE workshop, Engineering Mechanics, under the National Mission on Education through ICT conducted by Indian Institute of Technology Bombay, 26 November -06 December, 2013, 2013.

S Banerjee attended the 1st International Conference on Advances in Mechanical Sciences (ICAMS 2014), Hyderabad, India,09-11 January, 2014.

S Kashyap attended the Faculty Development Programme, Recent Advances in Tribology and Materials for Tribological Applications, held at North Eastern Regional Institute of Technology (NERIST), Arunachal Pradesh, 10 – 14 April, 2013.

S Kashyap attended the one-week Short term course, on Application of Lasers in Manufacturing, held at IIT Guwahati, 24 - 28 June, 2013.

S Kashyap attended the two-week ISTE workshop, on Engineering Mechanics, under the National Mission on Education through ICT conducted by Indian Institute of Technology Bombay, 26 November-06 December, 2013.

S K Singh attended the Coordinators' Workshop on Engineering Mechanics, IIT Bombay, Mumbai, 16-20 September, 2013.

TALKS BY THE FACULTY ABROAD AND IN INDIA

Polash P Dutta delivered a talk, Safety in Engineering Laboratories, at the National Workshop, organized by Department of Physics, Tezpur University, Tezpur, 8 February, 2014.

S Banerjee delivered a talk, Fundamentals on Scanning Electron Microscope (SEM) and Sample Preparation, at Department of Physics, Tezpur University, Tezpur, 21Aug, 2013.

SEMINARS/WORKSHOPS/SYMPOSIA/OTHER SUCH PROGRAMMES ORGANIZED BY THE DEPARTMENT

Online Workshop, Engineering Mechanics, conducted by IIT, Bombay, under NME-ICT, 26November – 06 December, 2013.

NUMBER OF STUDENTS WHO PASSED NET/SLET/JRF/GATE

- GATE: 29

AWARDS/HONOURS RECEIVED BY THE FACULTY/STUDENTS/RESEARCH SCHOLARS

Anubhav Joshi (BTech, 6th Semester) begged 2nd prize in Quiz in 29th East Zone Inter University Youthfest 2013, at LNM University, Darbhanga, Bihar.

Apratim Choudhury (BTech, 4th Semester) begged 1st prize in the event AUTOBOTZ organized under AUXESIS 2013, at Dibrugarh University, 2013.

Apratim Choudhury (BTech, 4th Semester) begged 2nd prize in the event ANATRICKS organized under AUXESIS 2013, at Dibrugarh University, 2013.

Kalyani Kaushik (BTech, 2nd semester) begged 1st prize in Debate in 29th East Zone Inter University Youthfest 2013, at LNM University, Darbhanga, Bihar.

P P Dutta was selected as a Life Member of Indian Society of Heat and Mass Transfer.

Rituporna Gogoi, Arindam Choudhury, Debaraj Barua, Sushant Kr. Gupta, Arindam Mahanta and Kunal Barman (BTech, 8th Semester) begged 9th position in the event Efficycle -2013, organized under SAE NIS EFFI-CYCLE 2013, by SAE (Society of Automotive Engineers)/UIET, Chandigarh.

S Banerjee received the 'Second Best Paper Award' in the 1st International Conference on Advances in Mechanical Sciences (ICAMS 2014), Hyderabad, India.

S Kashyap was awarded SERB Start-Up Research Grant, Young Scientist for 2012-2015 in the discipline of Engineering Sciences.

THE FACULTY OF THE DEPARTMENT

Associate Professors

T K Gogoi, PhD (Tezpur)

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D Datta, PhD (IIT Kanpur)
(Head of the Department)
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Assistant Professors

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Specialization/Areas of interest: Materials and Manufacturing
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Specialization/Areas of interest: Bioenergy
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Specialization/Areas of interest: Material Science, Mechanical Metallurgy, Characterization Techniques, Bioceramics
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Zahnupriya Kalita, MEngg (AIT, Thailand)
Specialization/Areas of interest: Mechatronics
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V K Mehta, PhD (IIT Kanpur)
Specialization/ Areas of interest: Optimization/Robotics.
E-mail: vkmehta@tezu.ernet.in



School of Humanities and Social Sciences

- Dept of Cultural Studies
- Dept of English and foreign Languages
- Dept of Hindi
- Dept of Mass Communication and Journalism
- Dept of Sociology





SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

In the increasingly changing socio-economic scenario in India, the realm of higher education institutions imparting higher education and the Universities in the country in particular, are confronted with increasing challenges and greater responsibilities. Not to speak of science and technology, traditional disciplines in Humanities and Social Sciences are also subjected to a process of intense self- searching to validate themselves in the changing contexts. The schools or centres dealing with Humanities and Social Sciences in Indian Universities are struggling to reorient themselves to rise up to the occasion and meet the growing challenges.

Tezpur University is situated in the far north-eastern frontier of the sub-continent amidst a social and cultural environment where myth and history meet and various communities and social groups co- exist .The School of Humanities and Social Sciences (SHSS), started practically with the establishment of the University in 1994 with two departments - Traditional Culture and Art Forms (now changed as Cultural Studies) and English and Foreign Languages, has also been increasingly growing with the growth and expansion of the University over the last two decades and has today under its umbrella other departments like Sociology, Mass Communication and Journalism, Hindi, Social Work and the Education (the latter two launched during the present semester). The above seven departments, Chandraprabha Saikiani Centre for Women Studies, the Centre for Assamese Studies and the Equal Opportunity Cell are engaged in responding to the needs, hopes and aspirations of the people of the state under the changing cultural contexts in addition to their engagement with respective academic programmes.

The School of Humanities and Social Sciences envisaged a mission to be a leader in the domain of higher education in the region and the country with excellence in teaching, research, extension, innovation and service to the society.

ALSO ADDED TO THE OBJECTIVES ARE :

- Creating a healthy and inspirational environment for structuring as well as instrumentalizing enriched learning opportunities for students for building up young leaders of the nation in respective domains.
- Inculcating abiding social values and virtues and a spirit of social commitment among students, staff and faculty that find resonated in the work culture, team work and their productivity.
- Inspiring the students to emulate hard work, proficiency as well as creative and critical thinking.
- Promoting an orientation towards social service through interaction with the stakeholders so as to benefit the society, the region and the nation taking its multiethnic, multireligious, multilinguistic social and cultural matrix in view.
- Promoting multidisciplinary and collaborating research and extension activities.
- Facilitating co-curricular and extra-curricular pursuits for personality development of students and staff.

The School of Humanities and Social Sciences, presently housed in Academic Building I with most of the departments under one roof except the Dept. of Mass Communication and Journalism in a building exclusively done for it and the Chandraprabha Saikiani Centre for Women's Studies in the Chandraprabha Saikiani Bhavan, offers Post Graduate as well as PhD programmes. The Department of English and Foreign Languages has also launched five year Integrated BA-Bed programmes as an innovative exercise. The Centres having no permanent faculty positions – like the Chandraprabha Saikiani Centre for Women's Studies and the Centre for Assamese Studies have launched Credit Based interdisciplinary courses for students in Post Graduate as well as PhD programmes having encouraging response from students across



disciplines. The School has been attached with the prestigious Srimanta Sankardeva Chair awarded to the University by UGC for undertaking research activities on the contributions of Sankardeva and the Bhakti Movement in Assam.

As the reports of individual departments under the School illustrate, numerous projects have been undertaken by each department which indicate their commitment to the larger society around, parallel to their routine teaching-learning programmes. In simultaneity to the projects of variegated nature, content and scope various departments and centres under the School organized large number of Seminars – both national and international- on a series of subjects which are theoretically grounded as well as responsive to social discourses and have thus created an interface between academics and society in which a galaxy of academicians and distinguished social as well as cultural activists joined hands. Such events have contributed immensely towards enrichment of academic environment of the campus. It is also a matter of pride and satisfaction for the School that many of the faculty members belonging to the School were invited as experts, resource persons and guest speakers in a number of seminars and conferences in different institutions of repute inside and outside the country, some of whom even were invited speakers on memorable occasions. Such invitations, it needs no insisting that, bring honour and dignity to the University.

Without being complaisant, I also take the pleasure to put on record that faculties from different departments under the School have a continuity of good record of research publications which include authored books, contribution to edited volumes (critically edited and reviewed) and peer reviewed journals. Some of the departments have published edited volumes of above nature during the year. Mention may be made in this regard of two important edited volumes – Cultural Studies : Perspectives from North East India (2013) brought out by the Dept. of Cultural studies under its SAP-DRS (I), and Lakshminath Bezbaroa, The Architect of Modern Assamese Literature : Issues of Nationalism and Beyond (2013) brought out by the Centre for Assamese Studies to commemorate Bezbarua's 150th Birth Anniversary.

It is also worthwhile to mention that two departments under the School – the Department of English and Foreign Languages and Cultural Studies are recipients of SAD-DRs (I) of University Grants Commission working on certain thrust areas within the domains of respective departments. The University Grants Commission has awarded Tezpur University the Centre for Endangered Languages under the School to study and document endangered languages of Assam, Manipur and Nagaland. This centre (TUCFEL) is also the nodal head of the North East cluster of Centres for Endangered Languages which comprises Rajiv Gandhi University, Arunachal Pradesh and Sikkim University, Sikkim. Likewise the Dept. of Mass Communication and Journalism was supported by UNICEF in conducting a research programme on Participatory Communication involving local communities .

The list of activities and achievements of the departments under the School is thus quite exhaustive as shown by them which always leaves room for strengthening it further and striving harder to make themselves leaders in their respective disciplines in the region and the country as well.

The School in the coming years envisages to introduce Integrated BA programme in Sociology and Cultural Studies, Post Graduate programmes in Education and Economics, bring more departments under SAP-DRS(I) of UGC and enhance research collaboration with more and more leading institutes of higher learning of India and abroad.

DEPARTMENT OF CULTURAL STUDIES

THE DEPARTMENT

The Department of Cultural Studies, Tezpur University, is one of the earliest Departments in the country to be fully devoted to the pursuit of Cultural Studies. Founded in 1995, the Department engages with cultural products, practices and forms with a special focus on North East India. Students and faculty in the Department engage in interdisciplinary approaches to traditional fields of study where the aim is to explore emergent cultural and cross-cultural phenomena from multiple points of view. Researchers and faculties, drawn from various disciplines like Anthropology, Performance Studies, Literature, Folklore, Media and Film Studies, Gender Studies are actively engaged in exploring subjects like cultural history, folklore and culture, local and national media, heritage, gender, cultural theory, comparative literature, translation and formation of nationalisms.

ACADEMIC PROGRAMMES

- MA in Cultural Studies
- PhD

STUDENT INTAKE

PROGRAMME	STUDENT INTAKE
MA in Cultural Studies	46
PhD	Intake variable, 3 registered during this period

MAJOR FACILITIES AND EQUIPMENTS AVAILABLE

- Computer Laboratory
- Departmental Library
- Audio-Visual Class Room Cum Seminar Hall with Projector
- Departmental Museum
- Departmental Archive

MAJOR RESEARCH FINDINGS/RESEARCH AND DEVELOPMENT ACTIVITIES

The Department has been exploring the possibility of collaborative research work with distinguished national and foreign universities. The Department is currently engaged in working out a model for collaboration with the Department of Culture, Film, and Media of the University of Nottingham.

RESEARCH PROJECTS: ONGOING AND NEW

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Emerging media and the public sphere: a study with reference to Assam	UGC	1.00 lakh	18 months	J V Das
Preparation –preservation & nutritional aspects of indigenous food of some selected ethnic groups of Assam	ICSSR	4.88 lakh	3 years	Juri Gogoi Konwar



Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Philosophy in performance: a study of Bhakti expressive forms in Assam	ICRP	5.00 lakh	3 years	P J Mahanta
The Vaishnava music of Assam in the performative context (Departmental SAP project)	UGC	41.00 lakh	5 years	P J Mahanta (Coordinator)

PUBLICATIONS

INTERNATIONAL AND NATIONAL JOURNALS

- Baruah, Mandakini. 2013. Gender stereotypes in the context of Assamese folktales. *Research Drops*, 3 (2).
- Dutta, Parasmoni, and Dutta, Minakshi. 2013. The Assamese films of Bhabendra Nath Saikia: another parallel stream of Indian cinema. *Journal of Creative Communications*, 6(1,2).
- Goswami, Madhurima. 2013. Kherai of the Bodos: imagination of their world. *International Journal of Physical and Social Sciences*, 3 (1).
- Hashik, N. K. 2013. Mappila Muslims of Kerala - text in the life and life in the text: towards a complimentary model. *Performing Islam*, 1(2).
- Konwar, Juri Gogoi, and Konwar, B. K. 2013. Ethnicity and identity in the context of Naga folk tales and oral literatures. *University News*, 51(5).
- Mahanta, Pradip Jyoti. 2013. Sattriya Dance: it's journey through history. *Nartanaus*, 13 (2).
- Nath, Debarshi Prasad. 2013. Indira Goswami's under the shadow of Kamakhya. *Muse India*, 47.

CONFERENCE PROCEEDINGS

- Devi, S. Preventive conservation assessment in Kamrupa Anusandhan Samiti Collection, Guwahati, Assam. In *Proceedings of the 45th National Conservation Conference 2013*, IASC: New Delhi.
- Nath, Debarshi Prasad. Of violence, performance and pornography: analysing media texts from Assam. In *Proceedings of the 1st annual International Conference on Contemporary Cultural Studies*, Singapore, 2013.

BOOKS

- Konwar, Juri Gogoi. 2013. *Warp and Weft: Textile Tradition of the Bodos*. Guwahati: Purbanchal Prakash.
- Mahanta, Pradip Jyoti and Debarshi Prasad Nath (Eds). 2013. *Cultural Studies: Perspectives from North East India*. Guwahati: Purbanchal Prakash.
- Nath, Debarshi Prasad, Madan M. Sarma (Eds). 2014. *Lakshminath Bezbaroa: The Architect of Assamese Literature- Issues of Nationalism and Beyond*. Guwahati: Perfect Imagers, (in press).
- Nath, Debarshi Prasad. 2013. *Jacques Lacan and the French Feminists: Theory and Praxis*. Guwahati: Purbanchal Prakash.
- Nath, Debarshi Prasad. *Women's Narrative from North East India: Lives in the Margins*. Delhi: Sage Publications, (in press).
- Sarma, Parag Moni and Neelakshi Goswami. 2013. *Gender in Folk Narratives: Theory and Practice*. New Delhi: D.V.S. Publication.

BOOK CHAPTERS

- Baruah, M. 2013. Gender and North East India. In Pradip J. Mahanta and Debarshi P Nath (Eds). *Cultural Studies: Perspectives from North East India*. Guwahati: Purbanchal Prakash, (in press).

Mahanta, P. J. 2013. Srimanta Sankaradeva kalabiksha: eti darshanik bichar. In Nirupama Mahanta (Ed). Ankiya Bhaonar Aharyya. Guwahati: Directorate of Cultural Affairs, Government of Assam.

Baruah, M. 2014. Constructing feminine ideology: An approach through Assamese proverbs. In Nigamananda Das (Ed). Metaphysics of Redemption: An Anthology of World Literature, Delhi: Adhyayan Publication.

Das, J. V. 2013. Media and Culture. In Pradip J Mahanta, and Debarshi P Nath (Eds). Cultural Studies: Perspectives from North East India. Guwahati: Purbanchal Prakash.

Devi, S. 2013. Contextualizing institutional practices in heritage studies. In Pradip J Mahanta, and Debarshi P Nath (Eds). Cultural Studies: Perspectives from North East India. Guwahati: Purbanchal Prakash.

Dutta, P. 2013. Heritage Studies. In Pradip J Mahanta, and Debarshi P Nath (Eds). Cultural Studies: Perspectives from North East India. Guwahati: Purbanchal Prakash.

Dutta, S. K. 2013. Folklore of Assam. In Pradip J Mahanta, and Debarshi P Nath (Eds). Cultural Studies: Perspectives from North East India. Guwahati: Purbanchal Prakash.

Goswami, M. 2013. Performance Studies. In Pradip J Mahanta, and Debarshi P Nath (Eds). Cultural Studies: Perspectives from North East India. Guwahati: Purbanchal Prakash.

Hashik N. K. 2013. Ritual Studies: A theoretical premise. In Pradip J Mahanta and Debarshi P Nath (Eds). Cultural Studies: Perspectives from North East India. Guwahati: Purbanchal Prakash.

Konwar, Juri Gogoi. 2013. Ethnicity and Culture. In Pradip J Mahanta and Debarshi P Nath (Eds). Cultural Studies: Perspectives from North East India. Guwahati: Purbanchal Prakash.

Mahanta, P. J. 2013. The Sattria institution in Assam. In S.Kothari (Ed). Sattriya: Classical Dance of Assam. Mumbai: Marg Foundation.

Mahanta, P. J. 2013. North East Studies. In Pradip, J Mahanta, and Debarshi P Nath (Eds). Cultural Studies: Perspectives from North East India. Guwahati: Purbanchal Prakash.

Mahanta, P. J. 2014. Bezbaroa's Writings on Sankaradeva, vaishnavite religion and philosophy. In Madan M Sarma, and Debarshi P Nath (Eds). Lakshminath Bezbaroa: The Architect of Assamese Literature- Issues of Nationalism and Beyond. Guwahati: Perfect Imagers, (in press).

Dutta, P. 2014. Bezbaroa as a Folklorist. In Madan M Sarma, and Debarshi P Nath (Eds). Lakshminath Bezbaroa: The Architect of Assamese Literature- Issues of Nationalism and Beyond. Guwahati: Perfect Imagers, (in press).

Dutta, S. K. 2014. Lakshminath Bezbaroa's poems and lyrical compositions. In Madan M Sarma, and Debarshi P Nath (Eds). Lakshminath Bezbaroa: The Architect of Assamese Literature- Issues of Nationalism and Beyond. Guwahati: Perfect Imagers, (in press).

SEMINARS/CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

J V Das presented a paper, Alternative sites of resistance: women's struggle find a medium, at the international conference, International Communications on Media in Transformation Exploring Role of ICT, Innovative Communications and New Media, organized by GCRA, Colombo, Sri Lanka, 14-16 February, 2014.

S Devi participated at the workshop, Saksham, organized by Microsoft India and the Department of Computer Science and Engineering, Tezpur University, Tezpur, 18 -27 April, 2013.

SEMINARS/WORKSHOPS/SYMPOSIA/OTHER SUCH PROGRAMMES ORGANIZED

A special function on the occasion of World Philosophy Day, organized jointly by Indian Council of Philosophical Research (ICPR), New Delhi and department of Cultural Studies, Tezpur University, Tezpur, 29 November, 2013.



International Seminar on Philosophy of Culture

Department of Cultural Studies, Tezpur University
Under UGC - SAP - DRB ID

in Association with
Indian Council of Philosophical Research, New Delhi

March 31- April 1, 2014



Two days Regional Workshop, Traditional Knowledge, Socio Economic Development and Intellectual Property Rights, 10-11 February, 2014.

Workshop-cum-Demonstration program by Mr. Altaf Mazid, Film maker and Critic, 21 March, 2014.

National Seminar, Mobility and World View of the Singpho and Khampti Tribes of Arunachal Pradesh and Assam sponsored by ICPR, 27-28 March, 2014.

International Seminar, Philosophy of Culture, sponsored by ICPR, New Delhi, 31 March- 01 April, 2014.

A special program, in loving memory of Dr. Parag Moni Sarma and Dr. Kailash Dutta, 28 April, 2014.

Paramesh Dutta Memorial Lecture, 19 August, 2013.

Photographic Exhibition, on Cultural Heritage of Assam, 18- 27 April, 2013.

TALKS BY THE FACULTY ABROAD AND IN INDIA

P J Mahanta delivered a special lecture, The Namghar as a Socio-Cultural Institution in Assam and its Abiding Value, at Vivekananda Institute of Culture, Guwahati, September, 2013.

P J Mahanta delivered a lecture, Srimanta Sankardeva in the context of Oriental Learning under the aegis of Sarat Chandra Sarma Institute of Oriental Learning, Guwahati, August, 2013.

DISTINGUISHED VISITORS TO THE DEPARTMENT

Altaf Mazid, film maker and critic

Dr K C Baral, distinguished scholar and Director, English and Foreign Languages University, Shillong campus, April 2013

Prof Sujata Miri, Formerly Professor, North Eastern Hill University, Shillong, March 2014

Prof Tulasi Diwasa, noted litterateur and academic, also a former Cultural Secretary at the Nepalese Embassy in the USA, March 2014

Prof PC Pattanaik, Head, Department of Modern Indian and literary Studies, University of Delhi

AWARDS/HONOURS RECEIVED BY THE FACULTY/STUDENTS/RESEARCH SCHOLARS/THE DEPARTMENT

Best paper award received by Dr. Mandakini Baruah and Dr. Debarshi Prasad Nath for the paper, Representation of the Mother-Figure in Folk Genres of Assam, from Higher Education and Research Society, Navi Mumbai, 2013.

NUMBER OF STUDENTS WHO PASSED NET/SLET/JRF/GATE

- NET: 7
- JRF: 3

THE FACULTY OF THE DEPARTMENT**Professors**

P J Mahanta, PhD (Gauhati)

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Juri Gogoi Konwar, PhD (Dibrugarh)

Specialization/Areas of interest: Medical Anthropology, Anthropology of Food and Culture

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DEPARTMENT OF ENGLISH AND FOREIGN LANGUAGES

THE DEPARTMENT

The Department, which was established in 1994, aims to give instruction and carry out research in English Literature, Women's Writing in English, American Literature, Indian Writing in English, New Literatures in English, Critical Theory, English Language Teaching and Linguistics. In August 2012 a MA programme in Linguistics and Language Technology was introduced. Other academic programmes include Integrated MA in English, Integrated BA BEd, and Certificate Course in Chinese.

ACADEMIC PROGRAMMES

- MA in English
- MA in Linguistics and Language Technology
- Integrated MA in English/Integrated BA BEd
- One-Year Certificate Course in Chinese
- PhD

STUDENT INTAKE

Programme	Student Intake
MA in English	50
MA in Linguistics and Language Technology	20
Integrated MA in English/Integrated BA BEd	20
Certificate Course in Chinese	39
PhD	Intake variable, 6 registered during this period

MAJOR RESEARCH FINDINGS/RESEARCH AND DEVELOPMENT ACTIVITIES

The Department is at present carrying out its major research work in the following areas:

- Travel writing and Migration narratives
- Life writing
- Translation Studies
- English Language Teaching
- Morphology and Syntax (of some of the indigenous languages of Assam and Arunachal Pradesh)
- American Literature
- African Literature
- New Literatures in English
- Indian Writing
- Book History
- Critical Theory
- English Literature



RESEARCH PROJECTS: ONGOING AND NEW

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
SAP- DRS	UGC	32.00 lakh	5 years	B K Danta Coordinator
Language contact and convergence study of bugun (khowa) in west kameng district of arunachal pradesh)	ICSSR	5.21375 lakh	2 years	Madhumita Barbora
Indian languages corpora initiative (phase-2)	DeitY	27.03 lakh	2½ years	Madhumita Barbora (PI) A K Nath (Co-PI)
Digital language preservation	DeitY	39.14 lakh	3 years	Madhumita Barbora (PI) G K Borah (Co-PI)

PUBLICATIONS

INTERNATIONAL AND NATIONAL JOURNALS

Biswas, Sravani. 2013. Relevance of universally loved: Reception of Tagore in North-East India. *Man and Society: A Journal of North-East Studies*, 10.

Daimari, Esther. 2013. Images of Women in Mamang Dai's Fiction. *New Academia: An International Journal of English Language, Literature and Literary Theory*, 2(4).

Gogoi, Bashabi. Striving for grace: A Study of the novel and film adaptation of J M Coetzee's *Disgrace*. *Adaptation: A Journey from Words to Visuals*, (accepted).

Kumar, Pramod. In Search of Language Contact between Jarawa and Aka-Bea: The Languages of South Andaman. *Acta Orientalia*, (accepted).

Medhi, Hemjyoti. 2013. A 'Herculean Task': Women's Education and Christian Missionary Intervention in Assam. *Man and Society: A Journal of North-East Studies*, 10.

Patgiri, Bipasha. 2013. Ergativity in Axomiya. *Language in India*, 13(12).

Books / Book Chapters

Borah, G. K. 2014. Bezbaroa's Reflections on Language. In M M Sarma and Debarshi P Nath (Eds). *Lakshminath Bezbaroa: The Architect of Modern Literature: Issues of Nationalism and Beyond*. Guwahati: Perfect Imagers, (in press).

Borah, Gautam K. 2014. Aspect in Modern Assamese. In D Das (Ed). (forthcoming)

Barbora, M., Acharya, P. and Wango, T. 2013. Numerals in Bugun, Deori and Nocte. In Stephen Morey, Mark Post and Gwendelyn Hyslop (Eds). *North East Indian Linguistics: 6* (forthcoming).

Danta, Farheena and Danta, Bijay, K. Competing Imaginaries and the Female Subject: Indira Goswami's *The Man from Chinnamasta*. In Debarshi Prasad Nath (Eds). *Women's Narratives from North East India*. New Delhi: Sage Publications, (in press).

Jha, Pallavi. 2014. Folktale to Realism: Bezbaroa's Literature for Children. In M M Sarma and Debarshi P Nath (Eds). *Lakshminath Bezbaroa: The Architect of Modern Literature: Issues of Nationalism and Beyond*. Guwahati: Perfect Imagers, (in press).

Medhi, Hemjyoti. 2014. The Aideo and her Others: Construction of Gender in Laxminath Bezbaroa's Select Writings. In M M Sarma and Debarshi P Nath (Eds). *Lakshminath Bezbaroa: The Architect of Modern Literature: Issues of Nationalism and Beyond*. Guwahati: Perfect Imagers, (in press).

Nath, A. K. 2014. Bezbaroa's Language: A Linguistic Appraisal. In M M Sarma and Debarshi P Nath (Eds).

Lakshminath Bezbaroa: *The Architect of Modern Literature: Issues of Nationalism and Beyond*. Guwahati: Perfect Imagers, (in press).

Sahoo, Sanjib. 2014. *Fictions of Money: Reading Lakshminath Bezbaroa's Short Fiction*. In M M Sarma and Debarshi P Nath (Eds). *Lakshminath Bezbaroa: The Architect of Modern Literature: Issues of Nationalism and Beyond*. Guwahati: Perfect Imagers, (in press).

Sarma M. M. and G. K. Borah. (Eds). *Languages of Assam*. Commissioned by Assam Academy for Cultural Relations. Guwahati, (in press).

Book Reviews

Danta, B. 2013. *Comedy: A rhetorical fiction (musically composed); five essays on Shakespeare's comedies*. Amresh Datta (Eds). Gauhati University: Margins, 2.

SEMINARS/CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

AK Nath presented a paper, *Voices of Unheard and Multilingualism: In the Praxis of Everyday Life in North East India*, at the national seminar, *The Practice of Everyday Life conference in North-East*, organized by the Department of English and Foreign Languages, Tezpur University, sponsored by ICSSR, Tezpur, 14-15 March, 2014.

D Mohaptra delivered key note, *Different Classroom Teaching Practices: Goals and Achievements*, at the national seminar organized by the Department of English, Madhabdev College, Narayanpur, Lakhimpur, 6-7 May, 2013.

D Mohaptra presented a paper, *21st Century Learners: Learning styles and strategies*, at the 44th annual national conference of ELTAI, SRM University, Chennai, Chennai, 18-20 July, 2013.

D Mohaptra presented a paper, *Languages for Special Purposes in a Multilingual, Trans Cultural World*, at the 19th European Symposium, *Languages for Special Purposes*, organized by Centre for Translation Studies, University of Vienna, Vienna, 8-10 July, 2013.

Hemjyoti Medhi presented a paper, *Reading Sources, Locating Translations: The case of the Asamiya Novel Abhijatri and Other Writings*, at the XVth international conference, *Forum on Contemporary Theory* organized by University of Mysore on Translation, Corporatism and the Global South, Mysore, Mysore, 15-18 December, 2013.

Hemjyoti Medhi presented a paper, *Chandraprabha Saikiani's World of Translation: Rethinking the Borders of the Literary Public Sphere*, at the national seminar, *Translation and Assamese Literature: History and Theory*, organized by Department of Humanities and Social Sciences, Indian Institute of Technology, Guwahati and the Centre for North East studies and Policy Research, Jamia Millia Islamia, New Delhi and Sahitya Akademi, New Delhi, Guwahati, 7-8 March, 2014.

Hemjyoti Medhi presented a paper, *Seito Monot Ase (That I Remember)*, at the XIVth national conference of women's Studies on Equality, Pluralism and the State: Perspectives from the Women's Movement, organized by IAWS and WSD, Gauhati University, Guwahati, 4-7 February, 2014.

GK Borah presented a paper, *The Bare Noun and Its Particularization: The Bare Noun as a Proper Name*, at ICOLSI-I, an international conference, CIIL, Mysore, 27-29 November, 2013.

G K Borah chaired 2 technical sessions at the international linguistics conference, ICOLSI-I, CIIL, Mysore, 27-29 November 2013.

G K Borah delivered 4 talks on a Refresher Course in Assamese Language and Literature organized for college and University teachers, Academic Staff College, Gauhati University, Guwahati, 5-6 July, 2013.

G K Borah delivered 4 talks on a Refresher Course in English (27 January-17 February 2014) organized for



college and university teachers of English, Dept of English, Academic Staff College, Manipur University, Imphal, 12-14 February, 2014.

G K Borah presented a paper, Bezabruah's Understanding of Metaphor, at a seminar on Lakhminath Bezbaroa organized by Centre for Assamese Studies, Tezpur University, 26-27 November 2013.

Madhumita Barbora presented a paper, India North East Indian Linguistics, at the international conference, NEILS organized by Gauhati University and La Trobe University, Melbourne, Australia, Guwahati, 31 January -2 February, 2014.

Madhumita Barbora presented a paper, Sound System of Bugun, at the 46th international conference, Sino-Tibetan Languages and Linguistics, organized by Dartmouth College, Hanover, New Hampshire, 7-10 August, 2013.

MM Sarma presented a paper, Literary Translation and The Translation of Short Stories into Assamese, at the national seminar, Literary Translation, organized by the Departments of Assamese and English, Jhanji Hemnath Sarma College, Jhanji, 7-8 June, 2013.

MM Sarma presented a paper, Translation of the Bible into Assamese: Strategies Adopted and Language Used in Dharmapustak, at the national seminar, Translation and Assamese Literature: History and Theory, organized by the Department of Humanities and Social Sciences, Indian Institute of Technology, Guwahati and the Centre for North East studies and Policy Research, Jamia Millia Islamia, New Delhi and Sahitya Akademi, New Delhi, Guwahati, 7-8 March, 2014.

P K Das presented a paper, Appropriating Print: The Case of the Orunodoi in Nineteenth-Century Assam, at the national seminar, Journey of the Book: From Manuscript to Digital, organized by the Department of English, Pune University, Pune, 23-25 September, 2013.

SEMINARS/WORKSHOPS/SYMPOSIA/EXTENSION PROGRAMMES ORGANIZED BY THE DEPARTMENT

National Seminar, The Practice of Everyday Life in North-East India: An Interdisciplinary Approach, sponsored by ICSSR, 14-15 March 2014.

TALKS BY THE FACULTY

MM Sarma delivered the Special Annual Lecture, Guwahati Artists' Guild, Nandantatva: Prachya aru Paschatya: Eti Parisiti (Aesthetics: Eastern and Western): An Introduction, at Guwahati Artists' Guild, Guwahati, 9 March, 2014.

DISTINGUISHED VISITORS TO THE DEPARTMENT

Dr Bodhisattva Kar, University of Cape Town

Prof George van Driem, University of Berne, Switzerland

Prof Pramod Nayar, University of Hyderabad

Prof Scot Delancey, University of Oregon, US

Dr Seino van Breughel, author of A Grammar of Atong (Brill: Leiden, 2014)

Prof Stig Toft Madsen, Nordic Institute of Asian Studies, Copenhagen, Denmark

AWARDS/HONOURS RECEIVED BY THE FACULTY/STUDENTS/RESEARCH SCHOLARS

Dr A K Nath, Assistant Professor in Linguistics was awarded a Deutscher Akademischer Austausch (DAAD) scholarship in October 2013 to do research in Germany in the summer of 2014.

Dr Hemjyoti Medhi received her PhD degree from the University of Delhi in March 2014 for her thesis, 'The Women's Question in Colonial Assam: A Case Study of Chandraprabha Saikiani and the Assam Mahila Samiti.

UGC has approved of the department's proposal for establishing a Centre for Endangered Languages and has selected the Tezpur University Centre to be the Consortium leader (the other Centres being Sikkim University and Rajiv Gandhi University, Itanagar).

NUMBER OF STUDENTS WHO PASSED NET/JRF/SLET

- NET: 05
- JRF: 01

THE FACULTY OF THE DEPARTMENT

Professors

M M Sarma, PhD (Dibrugarh)

Specialization/Areas of interest: Literature in English, Critical Theory, Fiction, ELT (Syllabus Design and Materials Production) and Linguistics

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B K Danta, PhD (Utkal)

Specialization/Areas of interest: American Literature, Critical Theory, Translation and Translation Politics

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Farheena Danta, PhD (Dibrugarh)

Specialization/Areas of interest: American Literature, Modernist Poetics, Cultural Studies

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P K Das, PhD (Gauhati)

Specialization/Areas of interest: Indian Writing in English, American Literature

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Madhumita Barbora, PhD (Tezpur)

Specialization/Areas of interest: Linguistics (Morphology, Syntax, Language Acquisition)

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Associate Professors

G K Borah, PhD (NTNU, Norway)

Specialization/Areas of interest: Philosophy of Language, General and Cognitive Linguistics, English Literature, Applied Linguistics

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D Mohapatra, PhD (EFLU, Hyderabad)

Specialization/Areas of interest: Curriculum Development, Materials Production, Language Policy

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Sravani Biswas, PhD (NEHU)

Specialization/Areas of interest: Critical Theory, Indian Writing in English

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Assistant Professors

Hemjyoti Medhi, PhD (Delhi)

Specialization/Areas of interest: Gender Studies, Women's Studies

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R Chakraborty, MPhil (JNU)

Specialization/Areas of interest: Chinese Language & Literature

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Reetamoni Narzari, MA(NEHU)

Specialization/Areas of interest: Women's Writing, Commonwealth Literature, Indian Writing in English

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Pallavi Jha, MPhil (Hyderabad)

Specialization/Areas of interest: Children's Literature, Popular Culture and Literature, Postcolonial Writing

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Specialization/Areas of interest: Indian Writing in English, Ecocriticism, Travel Writing

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Specialization/Areas of interest: Indian Writing in English, Critical Theory

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A K Nath, PhD (JNU)

Specialization/ Areas of interest: Language Typology, Morphology, Language Endangerment, Multilingualism, Sociolinguistics

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Bipasha Patgiri, MPhil (JNU)

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Esther Daimari, MPhil (Gauhati)

Specialization/Areas of interest: South Asian Literature

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P Kumar, PhD (JNU)

Specialization/Areas of interest: Language Description & Documentation, Endangered Languages & Lesser known Languages, Language Typology, General Linguistics

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Ningshen Zingjarwon, MPhil (JNU)

Specialization/Areas of interest: Chinese Language & Literature

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DEPARTMENT OF HINDI

THE DEPARTMENT

The Department of Hindi was established in January 2010. At present the Department offers a Post Graduate Diploma Programme in Translation (Hindi), a Choice Based Credit Transfer (CBCT) in Hindi, and Hindi as a Modern Indian Language (MIL) to students of integrated BA. The Department also offers a PhD Programme (in Hindi literature/language). Furthermore, the Department offers a Certificate Course in Official Hindi (Level-1) to the employees of the University in order to help them develop their skill and self-confidence in speaking and writing the language.

ACADEMIC PROGRAMMES

- MA in Hindi
- Post Graduate Diploma in Translation (Hindi)
- Certificate Course in Official Hindi
- PhD

STUDENT INTAKE

Programme	Student Intake
MA in Hindi	25
Post Graduate Diploma in Translation (Hindi)	23
Certificate Course	10
PhD	Intake variable, 7 registered during this period

PUBLICATIONS

International and National Journals

- Anju Lata.2013. Hindi Kahani ka Vikas aur Samajik Parivartan. Aroh, 1.
- Anushabda. 2013. Janchetana Ke Vaitaalik: Bhupen Hazarika Aur Baba Nagarjun,Alochana, 50.
- Anushabda. 2013. Poorvottar ke rajyon mein Hindi shikshan ki chunautiyan aur samadhan(Assam ke Wishesh sandarbh mein). Samanway Poorvottar, 19.
- Anushabda. 2013. Bhartiyata aur Bhashayi Ekta ka Antarsambandh. Mook Aawaz,1(2).
- Anushabda. 2013. Bahubhashikata Ki Samaajikta. Sahriday,17.
- Anushabda. 2013. Vartaman Pariwesh mein Chhatrasanghon ki bhumika. Mook Aawaz,1(3).
- Anushabda. 2013. Saradar Patel:Ek karmyoddha. Pratyay, 13(14).
- Anushabda. 2013. Jatiya Nirman ke Upakaran aur Ramwilas Sharma. Malti,2(2).
- Anushabda. 2014. Parampara ke prati wiwek Bhaw aur Ramwilas Sharma. Shodh Drishti,5(2).
- Tripathi, S.K. 2013. Hindi : Dastane nam.Sahitya Vimarsh : An International Research Journal, (3,4).
- Tripathi, S.K. 2013.Hindi ki Muslim Kavyitri. Ananya. A Bi-Annual Refereed Research Journal, (4,5).
- Tripathi, S.K. 2013. Shabad-Shavshthav. Sangrathan. A Research Journal, 6.
- Tripathi, S.K. 2014. Nagarjun baba to ali baba hai. Shodh Dhara. Research Journal of Humanities and Social Science,(31,32).



Books

Anushabda. 2013. (Translated) David C Korten(2008), Agenda for New Economy, Ek Nayi Arthwyawastha Ki Karyasoochi, Delhi: Granthshilpi.

Nath, A. K. 2013. Sandesh Rasak. Panbazar: Bandhav Publication.

Tripathi, S.K. 2013 . Lok ka Awlokan. Delhi: Arya Prakashan Mandal.

Seminar/Conference/Workshops/Symposia Attended:

A K Nath, participated as resource person, at the national seminar, Hindi Assamiya Upanyaso mein Nari, organized by ADP College, Nagaon, 25March, 2014.

Anju Lata presented a paper, Samkalin katha sahitya aur bhartiayata, at the national seminar, Bharatiyata aur Bharatiya Sahitya, organized by Department of Hindi, Rajiv Gandhi University, Arunachal Pradesh, 22-23 April, 2013.

Anju Lata presented a paper, Hindi ka snatkottar pathaykram: punarvichar ki aavshayakta at the national seminar, Hindi Ka Snatoutar Patyakram: Punar Vichar Ki Avayshaykta, organized by JNU, Delhi, 6-7 March, 2014.

Anushabda presented a paper, Nari chetana ka wartman paridrishya (Uttar Bhartiya gamin kshetron ke wishesh sandarbhmein) at the national seminar, Nari Chetna aur Hindi Sahitya, organized by Vidyashri Nyas and S.B.P.G. College, Varanasi, 14 January, 2014

Anushabda presented a paper, Bhashai ekta ki awadharana (Bhartiya bhashaon ke wishesh Sandarbh mein), at the national seminar, organized by BHU, CIIL Mysore and CICT Chennai, Varanasi, 25 January, 2014.

Anushabda presented a paper, Bhojpuri lokgeeton mein Nari ki dasa ewam disha, at the national seminar, organized by Sahitya Academy and BHU, Varanasi, 31 January, 2014.

S K Tripathi delivered a lecture, Nari chetna ki awadharna: Badlate Paridrisya, at the national seminar, Nari chetna aur Hindi Sahitya, organized by Vidyasrinyas and S.B.P.G. Collage, Varanasi, 12January, 2014.

S K Tripathi delivered a lecture, Rajbhasha hindi ka vikash aur uske prayog, at the workshop, Hindi Training, organized by K.V. Tezpur University, Tezpur, 20 March, 2014.

THE FACULTY OF THE DEPARTMENT

Professors

A K Nath, PhD (Manipur)

Specialization/Areas of Interest: Medieval Poetry, Folkloristic, Comparative Literature

E-mail: ananta@tezu.ernet.in

Associate Professors

S K Tripathi, PhD (BHU)

Head of the Department

Specialization/Areas of Interest: Applied Linguistics, Indian Poetics, Folkloristics

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Assistant Professors

Anju Lata, MPhil (JNU)

Specialization/Areas of Interest: Medieval Poetry, Fiction

E-mail: anju@tezu.ernet.in

Anushabda, PhD (Delhi)

Specialization/Areas of Interest: Linguistics, Media, Poetry, Indian and Western Poetics.

E-mail: anush@tezu.ernet.in

DEPARTMENT OF MASS COMMUNICATION & JOURNALISM

THE DEPARTMENT

The Department of Mass Communication and Journalism, Tezpur University, was established in 2001. It is a prominent media Department in the region, engaged in teaching and research in Media and Communication studies. It has been undertaking research on emerging trends in media and communication locally and globally. The thrust areas of the Department are Social Communication, New Media and Audience Studies with emphasis on critical understanding of theory and practice. The faculty members are specialized in diverse areas of the discipline. In order that students can gain first-hand experience the Department organizes two 4-week internship training programs every year in collaboration with various media organizations. In the interest of the North-East, the Department is, in its teaching as well as research, concentrating at the moment primarily on development communication. The Department also publishes a monthly laboratory journal called News Café.

Since August 2010 the Department has also been running a one-year (2 semesters) PG Diploma Programme in Mobile and Multimedia Communication (PGDMMC) under the Innovative Programme Scheme of UGC. The syllabus of the programme has been designed taking into consideration the special demands of the media market in the region. The Department also offers a PhD programme.

ACADEMIC PROGRAMMES

- MA in Mass Communication and Journalism
- Post Graduate Diploma in Mobile and Multimedia Communication
- PhD

STUDENT INTAKE

Programme	Student Intake
MA in Mass Communication and Journalism	35
Post Graduate Diploma in Mobile and Multimedia Communication	20
PhD	Intake variable, 8 registered during this period

MAJOR FACILITIES AND EQUIPMENT AVAILABLE

- The Department is fully equipped with all modern facilities and equipments
- Screening Hall: For screening of movies and documentaries, Seminars, Workshops and Conferences, the Department has a fully air-conditioned hall with 100 seating capacity with complete audio-video facilities.
- Non-Linear Edit Suite: For video editing the Department uses all Mac Based systems with Final Cut Pro/Studio.
- Windows computers and imac systems with all kinds of software required
- New Media Lab: The department has the latest technology for page designing, web page making etc.
- Print Lab: The Department has latest Windows computers and imac systems with all kinds of software required, several colour and B/W laser printers in the lab for the use of the students.
- Audio Lab: The Audio edit suit is configured with Digi Design Pro Tools and Sound Forge.



- Television Studio: The Studio is equipped with Video Mixer, Audio Mixer, Studio Tripod, Talk Back System, Recorders, Microphones, Light Systems, etc.
- Audio-Video Library
- For photography the Department has different types of SLR cameras in digital and analog systems.
- The Department is using different types of video cameras: Panasonic P2 HD and Sony DSR 570 for multi camera production (indoor and outdoor).
- All the classrooms are fit with multimedia projection systems with an uninterrupted power supply.
- The Department is also going to have a full-fledged Community Radio Station in the near future.

PUBLICATIONS

International and National Journals

Anbarasan, P. 2013. Media in Assam: moving from late news syndrome to 24 x 7. Aayvagam: an International Journal of Multidisciplinary Research, 1(5).

Bora, A. 2013. Community radio seeks that elusive boost. VIDURA, 5(2).

Bora, A. 2013. India's higher education at the crossroads. Special Issue on National Higher Education Mission, 51(2).

Bora, A and Daimari, P. J. 2013. Nationalism in Bollywood sports films. International Journal for Research and Development, 1(2).

Bora, A and Daimari, P. J. 2013. Gender and sports films of Bollywood. Journal of Research, Extension and Development, 1(11).

Chakraborty, J. and Borah, A. 2013. Witch-hunting in Assam: strategizing alternative media for women empowerment and overcoming superstition. Journal of North East India Studies, 3(2).

Lakhendra, B. 2013. Leprosy Eradication: contribution of Bapu and media literacy. Drashta, 6(2).

Lakhendra, B. 2013. MGNREGA and gender equity: role of community media. Chintan, 10(3).

Lakhendra, B. 2013. A Study on Bhupen Hazarika's songs and its impact on Assamese Society. International Journal of Humanities and Social Sciences, 2(3).

Lakhendra, B. 2014. A study on the influence of mass media on the culture and tradition of Singpho tribe in Tinsukia district of Assam. Journal of Business Management and Social Sciences Research, 3(2).

Nagraj, A. 2013. Re-reading McLuhan in the second decade of 21st century. IOSR Journal, 9(5).

Nagraj, A. 2013. A call for more responsible reporting. Vidura, 5(2).

Nagraj, A. 2013. Significance of time biased media in 21st Century. Paripex: Indian Journal of Research, 2(2).

Nagraj, A. 2013. Political movements and changing media ecologies. Advances in Journalism and Communication, 1(2).

Pegu, U. 2013. Information and communication technology in inclusive development: assessment on citizens' perception and usage pattern of e-governance in Assam. The International Journal of Northeast Indian Cultures, 1.

Books

Anbarasan, P. 2013. European Union and Media: Constructing Identity beyond Borders. New Delhi: Trans Knowledge Publishers.

Anbarasan, P. 2013. European Radio on Gulf War: Discourses of War versus Diplomacy. New Delhi: Trans

Anbarasan, P. 2013. European Radio on Gulf War: Discourses of War versus Diplomacy. New Delhi: Trans Knowledge Publishers.

Lakhendra, B. 2013. Community Radio a Tool of Participatory Communication for Development: Germany: Scholar's Press.

INVITED TALKS BY THE FACULTY IN INDIA AND ABROAD

Bala Lakhendra delivered a talk, Team work and team building essentials at Leadership Training Camp of NCC, T.H.B. College, Jamugurihat, 22 May, 2013.

Bala Lakhendra delivered a talk, Character making and Personality Development at Leadership Training Camp of NCC, T.H.B. College, Jamugurihat, 23 May, 2013.

Bala Lakhendra delivered a talk, Life Skill development and Management at Leadership Training Camp of NCC, T. H. B. College, Jamugurihat, 24 May, 2013.

Bala Lakhendra delivered a talk, Youth Empowerment through National Service Scheme, at NSS National Mega Camp by the Ministry of Youth Affairs and Sports, Government of India at Tezpur University, Tezpur, 5 January, 2014.

Bala Lakhendra delivered a talk, Youth Development and Media at NSS National Mega Camp by the Ministry of Youth Affairs and Sports, Government of India at Tezpur University, Tezpur, 6 January, 2014.

DISTINGUISHED VISITORS TO THE DEPARTMENT

Prof Birendas Sharma, Satyajit Ray Film and Television Institute, Kolkata

Prof S K Basu, Department of Mass Communication, BHU, Varanasi

Mr Samrufus, Communication Expert

NUMBER OF STUDENTS WHO PASSED NET/SLET/JRF/GATE

- NET: 7
- JRF: 6

THE FACULTY OF THE DEPARTMENT

Professors

S K Dutta, PhD (Visva Bharati)

Head of the Department, (since 01.01.2014)

Specialization/Areas of interest: Folklore Studies, Assamese Language Culture and Literature

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Associate Professors

A Bora, PhD (Gauhati)

Specialization/Areas of interest: Radio, Development Communication, Print media, Media Literacy, Science Communication,

Email: abhijitb@tezu.ernet.in

P Anbarasan, PhD (JNU)

Specialization/Areas of interest: Media Studies, Cultural and Subaltern Studies, International Communication, Reporting & Editing

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Assistant Professors

Joya Chakraborty, PhD (Hyderabad)

Specialization/Areas of interest: ICT for Development, Development Communication, Women and Media; Traditional Media.

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U K Pegu, PhD (Jamia Milia Islamia)

Specialization/Areas of interest: Information and Communication Technology Implications on Society, Science Communication, Film Studies, Media Analyses

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Specialization/Areas of interest: Electronic Media Production, Documentary Filmmaking, Television Production and Advertising

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Kapou Malakar, MA (Jamia Milia Islamia)

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DEPARTMENT OF SOCIOLOGY

THE DEPARTMENT

The Department of Sociology at Tezpur University was established in 2006 with a Master's programme. Subsequently, it launched a PhD programme in 2008. The Department is dedicated toward creating competent and socially sensitive graduates through rigorous teaching programmes and to carry out research in emerging areas of sociological relevance. The curriculum lays emphasis on the teaching and learning of general concerns of sociology as well as the issues of sociological significance in north-eastern India which constitute a special focus of the teaching and research of the Department. A combination of participatory, experiential and creative pedagogy is used for transacting the curricula with a view to fostering dialogue, mutual learning and critical reflection. The students pursuing their Masters in the Department not only have to learn critical approaches and perspectives in the classroom but are also encouraged to participate in short field visits during vacations as part of their mandatory research projects. The Department also takes care to expose the students to the prevailing social realities through activities such as outreach programmes, regular film screening, seminars and other programmes in collaboration with other social organisations.

ACADEMIC PROGRAMMES

- MA in Sociology
- PhD

STUDENT INTAKE

Programme	Student Intake
MA in Sociology	35
PhD	Intake variable, 10 registered during this period

MAJOR FACILITIES AVAILABLE

- Audio-visual class room cum seminar hall with projector
- Departmental library cum reading room

RESEARCH PROJECTS: ONGOING AND NEW

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Status report on children and women in the tea gardens of ATCL, Assam	UNICEF	5.89 lakh	1 year	K Kikhi and A K Das
Land identity and development in Nagaland	ICSSR	15.00 lakh	2 years	K Kikhi
Gender and mental health in Assam: A study on magnitude, causes and impact of mental illness on women	ICMR	12.75 lakh	1 year	K Kikhi
A micro study of media of instruction and languages taught in the schools of Assam	UGC	1.3 lakh	2 year	Nirmali Goswami



Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Class, caste and commons- a study in Nagaon District of Assam	ICSSR	5.5 lakh	1.5 year	Sarmistha Das
Primary health care system and inclusive development in North East India: A situation analysis of primary health centres in Assam	UGC	10.69 lakh	2 year	Sumesh S S

PUBLICATIONS

International and National Journals

Deka, Rabin. 2013. Agrarian classes in Assam: a historical overview. *The North Eastern Research Bulletin*, 12.

Das, S. 2013. Re examining kinship organizations and gender relations. *Man and Society*, 10.

BOOK CHAPTERS

Deka, Rabin. 2014. Ideals of romanticism and its reflection in the works of Lakshminath Bezbaroa. In M.M. Sarma and D. P. Nath (Eds). *Lakshminath Bezbaroa--The Architect of Modern Assamese Literature: Issues of Nationalism and Beyond*. Guwahati: Perfect Imagers, (in press).

Goswami, N. and Das, S. 2014. Community rights and women in Khasi society. In Sangeeta Borthakur Tamuli (Ed). *Women Empowerment in Northeast India*. Guwahati: Eastern Publishers.

Kalam, M A. 2014. Indian model of managing diaspora (Non-Resident Indians). In M. N. Khan and Saira Rehman (Eds). *Potentials and Prospects of Pakistani Diaspora*. Germany: Islamabad Policy Research Institute and Hanns Seidel Foundation.

Kikhi, Kedilezo. 2013. Researches on the role of Naga women in management of resources. In K. Jose, S.V.D. Gautam, K. Bera and R.P. Athparia (Eds). *Anthropology in North-East India: Empirical Perspectives*. New Delhi: Omsons Publications.

Kikhi, Kedilezo. State politics in India: Nagaland. In A.C. Sinha (Ed). *State Politics in India*. New Delhi: Primus Books, (in press).

Sharma, C. K. 2014. Contemporary social milieu and Bezbaroa's works. In M.M. Sarma and D.P Nath (Eds). *Lakshminath Bezbaroa: The Architect of Modern Assamese Literature: Issues of Nationalism and beyond*. Guwahati : Perfect Imagers, (in press).

Sharma, C. K. and Baruah, M. (Eds). 2013. Reading Robert Reid's a history of frontier areas bordering on Assam. In Robert Reid. *Introduction to History of the Frontier Areas Bordering on Assam: 1883-1941, 1942*. Guwahati: Bhabani Books.

Sharma, C. K. 2013. Statewater policy of Assam 2007: Conflict over commercializing water. In P.J. Das (Ed). *Water Conflicts in Northeast India: A Compendium of Case Studies*. Pune: Forum for Policy Dialogue on Water Conflicts in India.

Sharma, C. K. 2013. Krishak Mukti Sangram Samity and its struggle: The new peasant assertion in Assam. In A. Baruah and S. Sengupta (Eds). *Social Forces and Politics in North East India*. Guwahati: DVS Publishers.

BOOK REVIEWS

Goswami, N. 2014. School education, pluralism and marginality. Sleeter et al. (Eds). *Sociological Bulletin*. 63(1).

Sharma, C.K. 2013. A Century of Protests: Peasant Politics in Assam since 1900. Arupjyoti Saikia. *Labour Development*. 21(2).

SEMINARS/ CONFERENCES/ WORKSHOPS/ SYMPOSIA/ INVITED TALK / SESSIONS CHAIRED BY FACULTY

C K Sharma delivered a lecture, An Assessment of Sociological Research in Northeast India, at the national symposium, Social Science Research in Northeast India, organized by the Department of Political Science, North Eastern Hill University, Shillong, 21-22 March, 2014.

C K Sharma participated as a panellist, at the national seminar, Mobility and Worldview of the Singpho and Khampti Tribes of Arunachal Pradesh and Assam, organized by the Department of Cultural Studies, Tezpur University and Indian Council of Philosophical Research, New Delhi, Tezpur, 27-28 March, 2014.

C K Sharma participated as a panellist, at the national conference, Research Survey and Explorations in Sociology and Social Anthropology, organized by ICSSR, at Jawaharlal Nehru University, Delhi, 10-11 February, 2014.

C K Sharma presented a paper, The Forest Villages and the Forest Dwellers of Assam and the FRA 2006, at the national seminar, Forest and Forest Dwellers in the Himalayas and the Adjacent Regions, organized by Centre for Himalayan Studies, North Bengal University, Sikkim, 27-28 September, 2013.

K Kikhi presented a thematic paper, at the national workshop, Research in Social Sciences: Retrospect and Prospect, organized by Dimapur (Government) College, Dimapur, 14-15 June, 2013.

K Kikhi delivered a keynote lecture, at the national seminar, Social and Economic Status of the Marginalised Communities in Nagaland with Special Reference to Scheduled Caste Groups, organized by Patkai Christian College, Dimapur, Dimapur, 1-2 November, 2013.

K Kikhi delivered a lecture, Challenges to Research on NE tribes, at the national workshop, Interdisciplinary Approaches to Doing Studies of Tribes, organized by Tribal Studies Centre, Assam University, Diphu Campus, Diphu, 13-14 March, 2014.

K Kikhi presented a paper, The Influx Trap, at the national seminar, Conflict to Peace Trap: the Naga Story, organized by Japfu Christian College, Kohima, Kohima, 21-22 March, 2014.

K Kikhi presented a paper, Aging in the Context of Tribal in North East India, organized by Equal Opportunity Cell and Chandraprabha Saikiani Centre for Women's Studies, Tezpur University, Tezpur, 1-2 October, 2013.

K Kikhi presented a paper, Indigenous Agricultural Practices amongst Naga Tribes, at the 17th World Congress of International Union of Anthropological Sciences, University of Manchester, Manchester, 5-10 August, 2013.

K Kikhi presented a thematic paper, at the national seminar, Ethnicity and Politics of Identity in Northeast India: Issues and Challenges, organised by Kaliabor College, Kaliabor, 20-21 September, 2013.

K Kikhi presented a thematic paper, at the national seminar, Ethnic Diversity in the North-eastern States and the Problems of Social and Political Unrest, organized by T.H.B. College, Jamugurihat, 29-30 August, 2013.

M A Kalam chaired a technical session, at the national seminar, The Practice of Everyday Life in North-East India: An Interdisciplinary Approach, organized by the Department of English and Foreign Languages, Tezpur University, Tezpur, 14-15 March, 2014.

M A Kalam chaired an academic session, Ethnic Identity, Social Mobility, Urbanization and Development, at the national seminar, Mobility and World View of the Singpho and Khampti Tribes of Arunachal Pradesh and Assam, organized by the Department of Cultural Studies, Tezpur University, Tezpur, 27-28 March, 2014.

M A Kalam chaired the Inaugural Session of the national seminar, Social and Economic Status of the Marginalised Communities in the Brahmaputra Valley with special reference to the Scheduled Caste Groups, organized by the Department of Sociology, Tezpur University and ICSSR (Shillong), Tezpur, 27-28 September, 2013.



M A Kalam chaired two academic sessions, Ecology, Forests and Resource Management (I and II), at Indian Anthropology Congress, Dibrugarh University, Dibrugarh, 21-23 February, 2014.

M A Kalam delivered a keynote address, Neglected because it is Elementary?: Examining and Locating Primary and Secondary Schooling in the larger context, at the North East business summit, organized by Ministry of Development of North East Region and Indian Chamber of Commerce, Dibrugarh University, Dibrugarh, 23-24 November, 2013.

M A Kalam delivered a lecture, Aging and Progressive Gender Discrimination, at the National seminar, Aging in India with Special Reference to North-East India, organised by Equal Opportunity Cell and Chandraprabha Saikiani Centre for Women Studies, Tezpur University, Tezpur, 22-23 March, 2014.

M A Kalam delivered a lecture, Human Origins and Diversity: Physical and Socio-Cultural Facets at University Colloquium, Dibrugarh University, Dibrugarh, 20 December, 2013.

M A Kalam delivered a lecture, History, Oral Literature and Fiction: Complements/Supplements to Ethnography and Fieldwork, Nagaland University, Kohima, 6 December, 2013.

M A Kalam delivered a lecture, Primary Schooling, Health issues, and Development at the National Education Conclave, Ajmal Foundation, Hojai, Nagaon, 1 December, 2013.

M A Kalam delivered a lecture, Education and Employability: is our Scholastic Slip Showing? at the national education day, organized by Tezpur University, Tezpur, 11 November, 2013.

M A Kalam delivered a lecture, Insights into Secularism and Non-violence, at Gandhi Jayanti, organized by Tezpur University, Tezpur, 2 October, 2013.

M A Kalam delivered a lecture, Diversity Issues in India, at the orientation programme for research scholars and faculty members belonging to scheduled castes and other marginalized groups, organized by Equal Opportunity Cell, Tezpur University, Tezpur, 23 September, 2013.

M A Kalam delivered a lecture, Linguistic and Socio-Cultural Heterogeneity, at the University of Science and Technology, Meghalaya, 19 September, 2013.

M A Kalam presented a paper, Encountering and Countering Hegemonies: Re-examining Exclusion, Exploitation, and Oppression, at the national seminar, Social and Economic Status of the Marginalised Communities in the Brahmaputra Valley with special reference to the Scheduled Caste Groups, organized by the Department of Sociology, Tezpur University and ICSSR (Shillong), Tezpur, 27-28 September, 2013.

N Goswami chaired a technical session, at the national seminar, Gaps in Gender Development in Assam, organized by Panigaon OPD College, North Lakhimpur, 5-6 August, 2013.

N Goswami jointly co-ordinated the sub-theme, Education, Knowledge and Institutional Space(s), at the XVth national conference, Women's Studies, organized by the Indian Association of Women's Studies, Gauhati University, Guwahati, 4-7 February, 2014.

N Goswami presented a paper, Linguistic Diversity and School Education in Assam, at the national seminar, Education for What and for whom?, organized by OKDISCD, Guwahati, 10-12 April, 2013.

S Das chaired a technical session, at the national seminar, Panchayati Raj System and Involvement of Women in Rural Development, organized by Rupohi College, Rupohi, 18-19 June, 2013.

S Das presented a paper, Changing Agrarian Social Structure and Women: Voices from the field, at the XVth national conference on Women's Studies, organized by Indian Association of Women's Studies, Gauhati University, Guwahati, 4-7 February, 2014.

S Das presented a paper, Changing Livelihood Patterns of Scheduled Castes: Ethnography of a Village in Central Assam, at the national seminar, Social and Economic Status of the Marginalized Communities in the

Brahmaputra Valley with Special Reference to SC Group, organized by Department of Sociology, Tezpur University and ICSSR (Shillong), Tezpur, 27-28 September, 2013.

S Ray delivered a lecture, 'The Tribe Question' in Human Genetic Research in India, at the national seminar, Interdisciplinary Approaches to Studies of Tribes, organized by Tribal Studies Centre, Assam University, Diphu Campus, Diphu, 13-14 March, 2014.

S Ray presented a paper, Cast(e)ing the Genome: A Sociological Study of Caste in Research Practices of Human Genetics, at the international seminar, Producing Knowledge, Governing Populations: Anthropology, Science Studies and Health Policies, organized by Ecole Normale Supérieure, Lyon, France, 10-13 September, 2013.

Sumesh S S attended a four week orientation programme, organized by Academic Staff College, University of Kerala, Kerala, 29 April -27 May, 2014.

Sumesh S S delivered a lecture, Methodological Issues in Social Science Research and Objectivity and Subjectivity in social science research, at the national workshop for Capacity Building Programme for Social Science Faculty Members, organised by ICSSR NERC, in NEHU Campus, Shillong, Shillong, 6-19 March, 2014.

Sumesh S S delivered a lecture, Academic Research Writing and Citation Styles, at the workshop, Research Methodology in Social Science for Ph.D Scholars, organised by Department of History, Assam University, Diphu Campus, Diphu, 27 February, 2014.

Sumesh S S presented a paper, Social Stigma, Exclusion and Inclusion: The Political Economy of caste in contemporary India, at the national seminar, Social and Economic Status of the Marginalised Communities in the Brahmaputra Valley with special reference to Scheduled Caste Groups, organized by Department of Sociology, Tezpur University and ICSSR, (Shillong), Tezpur, 27-28 September, 2013.

Sumesh S S delivered a lecture, Quantitative Methods in Evaluation Research, at a workshop, Executive Programme on Evaluative Methods, organized by Government of Assam, O.K.D. Institute of Social Change and Development and UNICEF, Guwahati, Guwahati, 13-17 February, 2014.

SEMINARS/ WORKSHOPS/ SYMPOSIA/ EXTENSION PROGRAMMES/ INVITED LECTURES ORGANIZED BY THE DEPARTMENT

National Seminar, Social and Economic Status of the Marginalized Communities in the Brahmaputra Valley with Special Reference to Scheduled Castes, sponsored by ICSSR (Shillong), 27-28 September, 2013.

National workshop, Executive Programme on Evaluative Methods, organized by Government of Assam, O.K.D. Institute of Social Change and Development and UNICEF, Sponsored by Government of Assam and UNICEF, Guwahati, 13-17 February, 2014.

Human Vistas Lecture Series, August 2013 :

- Fieldwork at Home, Fieldwork Abroad: Cross-cultural Perspectives, Learning and Conditioning, delivered by Prof M A Kalam, Professor, Department of Sociology, Tezpur University, 14 August, 2013
- Satra Institution in Assam: Past and Present, delivered by Dr. Dambarudhar Nath, Former Professor, Srimanta Sankardeva Chair, Centre for Assamese Studies, Tezpur University, 27 August, 2013
- Undoing the Disengagements Surrounding Food Security Bill 2013, delivered by Dr. Rajshree Bedamatta, Assistant Professor, Department of Humanities and Social Sciences, IIT Guwahati, 23 September, 2013
- Social Formation in Eastern Himalayas in 1940s: A Story of Sikkim and India, delivered by Prof. A.C. Sinha, ICSSR National Fellow, 13 November, 2013
- Longitudes and Latitudes: Aspects of Culinary and Kinship patterns from North to South, and Northeast to Northwest, delivered by Prof. Stig Toft Madsen, Nordic Institute of Asian Studies, Copenhagen, Denmark, 21 March, 2014



AWARDS/HONOURS RECEIVED BY THE FACULTY/STUDENTS/RESEARCH SCHOLARS

C K Sharma was invited as Visiting Fellow, Centre for Advanced Study in Sociology, Delhi School of Economics, Delhi, February-March, 2014.

M A Kalam was appointed as Adjunct Professor, Indian Institute of Dalit Studies, New Delhi (October 2013).

M A Kalam was invited as Scholar-in-Residence for interaction with the Faculty members at Dibrugarh University, Dibrugarh, 20 December, 2013.

DISTINGUISHED VISITORS TO THE DEPARTMENT

Prof Andre Beteille, Chancellor, NEHU and Professor Emeritus, Delhi University

Prof Ake Sander, Behavioral Studies of Religion, University of Gothenburg, Sweden

Prof Annette Gomis, University of Zaragoza, Spain

G Aloysius, Visiting Faculty, EFLU Hyderabad

Dr M Dolores Herrero, University of Zaragoza, Spain

Dr Ranjana Padi, Independent writer and activist, Delhi

Prof Stig Toft Madsen, Nordic Institute of Asian Studies, Copenhagen, Denmark.

NUMBER OF STUDENTS WHO PASSED NET/JRF/GATE

- JRF: 6
- NET: 17

FACULTY OF THE DEPARTMENT

Professors

M A Kalam, PhD (Madras)

Professor of Eminence

Specialization/Areas of interests: Migration, Identity Politics, Ethnicity, Environment and Society

E-mail: kalam@tezu.ernet.in

C K Sharma, PhD (Delhi)

Specialization/Areas of interest: Sociology of Development, Environmental Sociology, Social Movements, Identity Politics, Culture Studies, Northeast India.

E-mail: chandan@tezu.ernet.in

Associate Professors

K Kikhi, PhD (NEHU)

Head of the Department

Specialization/Areas of interest: Sociology of Northeast India, Gender and Society,

Sociology of Development, Tribal Studies, Ethnic Movements

E-mail: kedi@tezu.ernet.in

R Deka, PhD (Dibrugarh)

Specialization/Areas of interest: Sociological Theories, Sociology of Movement, Agrarian Sociology

E-mail: rdeka@tezu.ernet.in

Assistant Professors

A K Das, MPhil (Delhi)

Specialization/Areas of interest: Sociology of Development, Research Methodology, Sociology of Medicine.

E-mail: amiyadas@tezu.ernet.in



S S Sumesh, PhD (Kerala)

Specialization/Areas of interest: Social Stigma and Social Exclusion, Public Health, Environmental Sociology, Quantitative Sociology,

E-mail: sumesh@tezu.ernet.in

Nirmali Goswami, PhD (IIT Kanpur)

Specialization/Areas of interest: Sociology of Education, Multiculturalism, Multilingual education, Community identity and women

E-mail: nirmalig@tezu.ernet.in

Sarmistha Das, MPhil (JNU)

Specialization/Areas of interest: Gender Studies, Sociology of North East India, Agrarian Studies, Livelihood and Development

E-mail: sarmistha@tezu.ernet.in

P Salah, MPhil (JNU)

Specialization/Areas of interest: Sociology of Conflict and Collective Violence, Political Sociology, Sociology of Marginalized Communities

E-mail: salahp@tezu.ernet.in

S Ray, MPhil (Delhi)

Specialisation /Area of Interest: Sociology of Science, Sociology of India, Sociological Theory, Sociology of Literature

E-mail: sray@tezu.ernet.in



School of Management Sciences

- Dept of Business Administration
- Centre for Disaster Management
- Intellectual Property Rights Cell

SCHOOL OF MANAGEMENT SCIENCES

The School of Management Sciences has, at present, the following Departments/Centres:

- Department of Business Administration
- Department of Commerce
- Centre for Disaster Management
- Intellectual Property Rights Cell (IPR)

The Department of Business Administration offers 2 year Masters of Business Administration (MBA) programme, 1 year Post Graduate Diploma in Tourism Management (PGDTM) programme, a 6-month Certificate Course on Air Ticketing and Computerized Reservation System (for students undergoing degree programmes), PG Diploma in Retail Management (through distance education), PG Diploma in Investment Management (through distance education), PG Diploma in Human Resource Management (through distance education). Besides, the Department also offers Ph. D. programme in management.

The Centre for Disaster Management besides organizing various programmes for creating awareness for disaster mitigation, also offers Choice Based Credit Transfer (CBCT) courses for undergraduate and postgraduate students of the University.

The Intellectual Property Rights (IPR) cell is headed by a IPR Chair Professor. This position of Chair Professor is created by the Ministry of Human Resource Development (MHRD), Government of India. The cell takes care of innovations and its patentability by providing support to the innovators. The Cell has been actively involved in organizing seminars, workshops related to IPR issues. The cell also offers CBCT courses on IPR to undergraduate, postgraduate and Ph.D. students of the University.

The School of Management Sciences has recently introduced the Integrated M.Com. programme w.e.f. the Academic session 2014-15 under the newly established "Department of Commerce". The programme is designed to provide the basis for developing the skills necessary to face the challenges of job market. The course structure builds competency of the students in attaining success in NET/SET and other competitive examinations and also takes care of both the practical and theoretical dimensions of the subject. Moreover, possible care has been taken to ensure that the students acquire relevant skills and knowledge expected of a successful graduate, enabling him/her to pursue any professional programme of his/her choice. This course structure also attempts to ensure that the students are equipped with necessary soft and behavioural skills, which are expected from them. The pass outs of the Integrated M. Com. Programme are expected to fulfill the requirements of various professional careers.

The School of Management Sciences also desires to collaborate with other Schools of the University for offering management programmes that are suited to the industry needs vis-à-vis requirement of the region and country.



DEPARTMENT OF BUSINESS ADMINISTRATION

THE DEPARTMENT

The Department of Business Administration was opened in January 1995. The flagship programme of the Department is its 2-year Master's degree in Business Administration. The other programmes are Post Graduate Diploma in Tourism Management, and Doctor of Philosophy. The specialized areas include Human Resource Management, Financial Management, Marketing Management, Industrial Management, and Information Technology.

The faculty members of the Department are actively engaged in research and other academic activities, availing of overseas fellowships, and participating in national and international seminars and conferences. The Department is awarded special assistance under UGC-SAP DRS-1. The Department has also been regularly organizing seminars, conferences, symposiums, and refresher courses. It has also been conducting MDPs/FDPs for the corporate executives and academics. The Department is rated A by MBA by CHOICE, Discovery Education Media in 2013. The Department is also awarded as Best Business School in the Category of Placements (N.E. Region) by BUREAUCRACY in 2013. Today, the students of the Department have been bagging various prizes by participating in extra-curricular activities organized in and outside the University.

ACADEMIC PROGRAMMES

- MBA (Full-time)
- Post-Graduate Diploma in Tourism Management (PGDTM)
- PhD

STUDENT INTAKE

Programme	Student Intake
MBA (Full-time)	50
PGDTM	23
PhD	Intake variable, 6 registered during this period

MAJOR FACILITIES AND EQUIPMENT AVAILABLE

The Department has one air-conditioned Boardroom which facilitates for case discussions. Classrooms have audio-visual facilities such as LCD projectors.

The Department has a small library-cum-reading room, a fully air conditioned seminar hall and a training hall. The Office is equipped with a modern office automation system.

The Department also has one air-conditioned Computer Lab which facilitates for doing computer practicals.

MAJOR RESEARCH FINDINGS/RESEARCH & DEVELOPMENT ACTIVITIES

The Department has been on a SAP-DRS-I (UGC) project on Micro-Finance and Livelihood and has completed the base line survey. A workshop was conducted to discuss the survey result.



RESEARCH PROJECTS: ONGOING AND NEW

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
An Impact Assessment of Microfinance Programme of MFIs on their Clients in the Sonitpur District of Assam	UGC	1.40 lakh	2 years	A Roy
Financial Inclusion In Assam: Achievements and Hindrances	ICSSR	5.16 lakh	3 years	D Das
Evaluation of Evaluation Study of Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)	Planning Commission Government of India	26.00 lakh	2 years	S S Sarkar and Papori Baruah

CONSULTENCY: ONGOING

Title of the project	Funding Agency	Amount in INR	Duration	Team
Implementation Of Performance Related Pay Based Performance Management System In Assam Gas Company Limited, Duliajan	Public Enterprise Department, Government of Assam	0.5 lakh	6 Months	S S Sarkar and Papori Baruah
Implementation Of Performance Related Pay Based Performance Management System In Assam Petrochemicals Limited, Namrup	Public Enterprise Department, Government of Assam	0.5 lakh	6 Months	S S Sarkar and Papori Baruah
Training Needs Analysis, Design Of Training, Training Plan And Training Policy Of State Level Public Enterprises; And (ii) Support And Facilitation For Introducing And Institutionalizing Memorandum Of Understanding Based Performance Rating System At Assam Cooperative Jute Mills Limited	Public Enterprise Department, Government of Assam	12 lakh	2 Years	S S Sarkar (Coordinator) all Faculty Members

PUBLICATIONS

International and National Journals

Barpujary, H. 2014. Assessing quality of websites through observation. International Journal of Research in IT, Commerce and Management, 4(1).

Baruah, U. K. and Sarma, M.K. 2014. Tourists' indulgence towards unplanned expenditure: a study in an emerging destination. Tourism Review International, 16(3/4).

Choudhury, B. and Goswami, C. 2014. Leakage of tourism revenue: Areview. Journal of Social ScienceBodoland University, 2 (1).

Das, D. and Borbora, S. 2014. Financing value chains for developing rural livelihoods. International Journal of Managing Value and Supply Chains, 5(1).

Das, Runumi. 2014. Rural market-role of women and poverty elimination. The Brahmaputra Rhythm of the Promises, 7(1).

- Mahanta, K. 2013. Measuring work life balance of female employees: a study of teachers in higher education in Sonitpur District. *Research Promoter*, 3 (3).
- Roy, Arup. 2013. Operation self-sufficiency performances: a comparison of the MFIs of Assam with respect to the national MFIs. *Lakhimpur Commerce College Research Journal*, 1(1).
- Roy, Arup. 2013. Whether age determines asset creation? - a case study of the microfinance institutions of Assam. *International Journal of Applied Management Research*, 1(1).
- Roy, Arup and Goswami, Chandana. 2013. A scientometric analysis of literature on performance assessment of microfinance institutions (1995-2010). *International Journal of Commerce and Management*, 23(2).
- Sarkar, S. S. and Pandey S. K. 2014. CMJSY and PMEGP an instrument for rural development in Assam. *International Journal of Scientific Research*, 3(1).
- Sarkar S. S. and Thingo, C. 2013. Growth and development of MSME in North East India. *International Journal of Research in Commerce, IT and Management*, 3(5).
- Sarma, M. K. and Baruah, U.K. 2013. Destination information sources: a spatial study across time and expenditure. *IUP Journal of Marketing Management*, 12(1).
- Sarma, M.K. and Dey, Banasree. 2014. Influences on souvenir buying intentions of tourists in crafts-rich regions. *ASEAN Journal on Hospitality and Tourism*, 11(2).
- Sarma, M.K. and Goswami, Sinmoy. 2014. Management of guest delight in hotels: an exploratory study. *Vision*.18(1).
- Sarma, M.K. and Goswami, Sinmoy. 2014. Common hospitality parameters that constitute guest delight in hotels: an exploratory study. *SCMS Journal of Indian Management*, 11(2).
- Sarma, M. K. and Sarmah, Upakul. 2013. E-service quality: preferences of online shoppers in five Indian cities. *International Journal of Marketing & Business Communication*, 2(3).
- Sarma T. R. 2014. BATGA: A genetic algorithm with damped-acceleration based adaptive termination mechanism. *International Journal of Computer Science and Engineering*, 3(1).
- Sarma T.R. and Chaudhury P. 2013. Interventions for zero-error operation in a digitally controlled warehouse. *International Journal of Scientific and Engineering Research*, 4(4).
- Tiwari, R. K. and Das D. 2013. Methodological issues in measuring poverty: researcher's dilemma. *Research Promoter*, 3(3).

Conference Proceedings

- Barpujary, Heera and Mahanta, Kakali. Contemporary teaching pedagogy used in management institutions of Eastern India. In *Proceedings of the national conference, Changing Scenario of Management Education in India*. Royal School of Business, Guwahati, 2014.
- Baruah, Papori and Baruah, R. Rashmi. Working group characteristics of teachers: a comparative study of government and private institutions offering management education. In *Proceedings of the national conference, Changing Scenario of Management Education in India*. Royal School of Business, Guwahati, 2014.
- Sarkar, S.S. Corporate governance in public sector enterprises (PSEs) in India through memorandum of understanding (MoU) and performance related pay (PRP). In *Proceedings of the Asian conference, Corporate Governance and Business Sustainability*. Assumption University, Bangkok, 2013.

Books

- Bezborah, P. and Mahanta, Kakali. 2013. *Understanding Attrition of BPOs in India*. Germany: Lambert Academic Publishing.



Sarkar, S.S. and Baruah, P. 2013. Universalization of Primary Education: A Unique Approach. Germany: Lambert Academic Publishing.

BOOK CHAPTERS

Baruah, P. and Borthakur, B. 2013. Impact of socio-cultural factors on women empowerment and its present status: An empirical study on Barak Valley of Assam. In B.M. Doley (Ed). Women in Rural Development. Silapathar: Silapathar College.

Choudhury, B. and Goswami, C. 2014. Leakage of tourism revenue in Kaziranga national park. In M. Das and R. Mahanta (Eds). Development of North-East India: Issues and Dimensions. New Delhi: Lakshi Publishers and Distributors.

Roy, Arup. 2013. Measuring social efficiency of MFIs growth: a case study of Assam. In S K Singh, H P Mathur and Madan Lal (Eds). MICROFINANCE - Issues and Challenges. New Delhi: Shree Publishers & Distributors.

Roy, Arup. 2013. Operating sustainability of the microfinance institutions - a case study of the MFIs of Assam. In Gunindra Nath Sarmah (Ed). Microfinance and Sustainable Development in North East India. Delhi: Commonwealth Publishers Pvt. Ltd.

Sarma, M. K. and Goswami, S. (2013). Customer delight in the hotel industry: an exploratory study. In S.C. Bagri, S. S. Mahar and S. Uniyal (Eds). Tourism and Hospitality Industry: Application and Role of Science & Technology. Dehradun: HNB Garhwal University.

Sarma, M. K. 2014. Random sampling in social sciences. In R Kalita (Ed). Goveshakor Haatputhi (A Handbook for Researchers). Tezpur: Tezpur College.

SEMINARS/CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

A Roy presented a paper, Empowering of scheduled caste women through SHGs in Assam, in the national seminar, Social and Economic Status of the Marginalised Communities in the Brahmaputra Valley – with special reference to scheduled caste groups, organized by Department of Sociology, Tezpur University, Tezpur, 27-28 September, 2013.

D Das participated in the faculty development programme, Commodity Market and Risk Management, organized by Vinod Gupta School of Management, IIT Kharagpur, Kharagpur, 21-27 April, 2014.

D Das participated in the faculty development programme, Case Teaching and Case Writing, organized by AIMA, New Delhi, 16-18 January, 2014.

Heera Barpujary presented a paper, Knowledge, management system architecture for academic libraries, in the national conference, Contemporary Issues and Challenges in Library and Information Management, organized by the Central Library, Tezpur University, Tezpur, 14 -15 February, 2014.

Heera Barpujary participated in the SAKSHAM-IT Champion Training Programme, organized by the Tezpur University in association with Microsoft Corporation, Tezpur, 19-28 April, 2013.

Heera Barpujary participated in the 5th Indian School on Logic and its Application, organized by the Association for Logic in India and Department of Computer Science & Engineering, Tezpur University, Tezpur, 16-17 January, 2014.

Kakali Mahanta participated in a UGC sponsored Orientation Programme, organized by the Academic Staff College, Gauhati University, Guwahati, 16 December-12 January, 2014.

Kakali Mahanta presented a paper, Assessment of stress in University library: a case study, in the national conference, Contemporary Issues and Challenges in Library and Information Management, organized by the Central Library, Tezpur University, Tezpur, 14-15 February, 2014.

MK Sarma and U Sarmah presented a paper, Electronic service quality: online shoppers expectations in

in the national seminar, E-Commerce: An Emerging Issue in the Global Business, organized by Sibsagar Commerce College, Sibsagar, 26-27 April, 2013.

Papori Baruah participated in the SAKSHAM-IT Champion Training Programme, organized by Tezpur University in association with Microsoft Corporation, Tezpur, 19-28 April, 2013.

Papori Baruah presented a paper, Role of leader in organizational success: an empirical study on select NGOs in Assam, at the national seminar, Role of NGOs in Economic Development with Special Reference to the North East Economy, organized by Pragjyotish College, Guwahati, 5-6 September, 2013.

Runumi Das participated in the Orientation Programme for Research Scholars and Faculty Members belonging to Scheduled Castes and Other Marginalized Groups, organized by Tezpur University in association with ICSSR and EOC, TU, Tezpur, 23-27 September, 2013.

Runumi Das participated in a UGC sponsored Orientation Programme, organized by the Academic Staff College, Gauhati University, Guwahati, 16 December-12 January, 2014.

SEMINARS/WORKSHOPS/SYMPOSIA/OTHER SUCH PROGRAMMES ORGANIZED BY THE DEPARTMENT

National Seminar, Financial Inclusion and Inclusive Growth, sponsored by ICSSR, 25-26 October, 2013.

Six Sigma Green Belt Certification Programme, in collaboration with ISI, Bangalore, 30 January-2 February, 2014.

TALKS BY THE FACULTY ABROAD AND IN INDIA

D Das delivered a lecture, Rural Financial Innovations, organized by XLRI, Jamshedpur, 13 September, 2013.

D Das delivered a lecture, Microfinance in North East India, organized by Goreswar College, Goreswar, 24 April, 2013.

D Das delivered a lecture, Financing Rural Development, organized by Rajiv Gandhi University, Itanagar, 26 April, 2013.

D Das delivered a lecture, Livelihood Financing in North East India, organized by Lakhimpur Commerce College, North Lakhimpur, 7 June, 2013.

D Das delivered a lecture, How to Write a Research Paper and Ethics in Research, in a seminar organized by ICSSR in collaboration with Rajiv Gandhi University, Itanagar, 2 June, 2013.

M K Sarma acted as a Resource Person at a national seminar, E-Commerce: An Emerging Issue in the Global Business, organized by Sibsagar Commerce College, Sibsagar, 26-27 April, 2013.

M K Sarma acted as a Resource Person in 2-day Workshop on Research Methodology, sponsored by the UGC, organized by Kaliabor College, Kaliabor, 27 September, 2013.

M K Sarma delivered a lecture, Importance of the Concept of Marketing of Handicrafts and Handlooms in the North eastern Region, for the day long Workshop organized by North Eastern handloom and Handicrafts Development Corporation Limited, Tezpur, 1 October, 2013.

M K Sarma acted as Resource Person in 2-day Workshop on research Methodology, sponsored by the UGC, organized by Tezpur College, Tezpur, 10-11 February, 2014.

T R Sarma delivered a Lecture, Demand Based Product Design for Home-based Fashion Designers at a Career Oriented Programme, organized by Tezpur Mahila Samity, Tezpur, 17 November, 2013.

T R Sarma conducted a session, Management and Demand Survey Basics for Trainees of Professional Programmes at Indian Institute of Entrepreneurship, Guwahati, 24 November, 2013.

T R Sarma delivered a talk, Determining Market Potential for Trainees of Entrepreneurship Programmes at Indian Institute of Entrepreneurship, Guwahati, 8 March, 2014.



DISTINGUISHED VISITORS TO THE DEPARTMENT

- B Paul Muktieh, Chairman & Managing Director, NEDFi, Guwahati.
Bhupesh Jaiswal, Manager- HR, Bharti Airtel Ltd.
Debargha Deb, Regional Manager- HR East, Dabur India Ltd.
E V Patil, Chief Manager (Con), NHDC Ltd, Kolkata.
Emonshree Changkakoti, Coca Cola.
Jai Mahajan, Dy. GM.(F&A) and Company Secretary, NHDC Ltd.
Kamalesh Goswami, EMEDIA Corporation.
Pritam Barkataki, Chief Manager- HR, ICICI Prudential Life Insurance Co. Ltd.
Pubali Giti Borthakur, Sr. Manager- HR & Operations, Zaloni Technologies India Pvt. Ltd., Guwahati.
Prof R P Das, Professor, IM Raipur.
Rakesh K Ranjan, HR Head, Vodafone Spacetel Ltd.
S S Dhakarwal, Dy GM (P & A), Lucknow.
Sanjay Kumar Srivastava, Vodafone.
Sanjeev Kumar Choudhury, Associate Regional Manager, ICICI Prudential Life Insurance Co. Ltd.
Tridip Sarmah, Head- HR, Bharti Airtel, Guwahati.

THE FACULTY OF THE DEPARTMENT

Professors

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- S S Sarkar, PhD (Tezpur)
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Specialization/Areas of interest: Managerial Economics, Entrepreneurship Development, Tourism

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Assistant Professors

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CENTRE FOR DISASTER MANAGEMENT

The Centre for Disaster Management was established in 1997 under the Central Sector Scheme of NDM Division, Ministry of Agriculture and Cooperation, Government of India. The scheme has subsequently been transferred to the Ministry of Home Affairs, Government of India during 2002. At present the Centre is functioning under Tezpur University. The main objectives of the Centre are to:

- Organise and conduct training programmes, conferences, and workshops on disaster management
- Extend academic support to other organisations
- Conduct regular courses on Disaster Management.

CURRENT TEACHING ACTIVITIES

There are at present two Choice Based Credit Transfer (CBCT) courses viz. i) Disaster Management (DM 301) for PG students ii) Disaster Management (DM 101) for UG students being offered by the Centre

Two courses, viz. DEM 104 and DEM 203 in the Post Graduate Diploma in Environmental Management under distance education programme of the University during 2013-14 are also offered by the Centre.

ACTIVITIES OF THE CENTRE

During 2013-14, the Centre has organised 10 training programmes on “Flood and Earthquake Damage Mitigation” at different schools of Sonitpur District.

Sl. No.	Name of the School	Date	No. of participants
1	Dekargaon High School, Dekargaon Sonitpur, Assam	30 January, 2014	76
2	Napaam High School, Napaam, Sonitpur, Assam	01 February, 2014	33
3	Holeswar H. S. School, Holeswar, Sonitpur, Assam	03 February, 2014	108
4	Kendriya Vidyalaya, Tezpur University, Sonitpur, Assam	06 February, 2014	40
5	Becheria H. S. School, Becheria, Sonitpur, Assam	08 February, 2014	94
6	Bishnu Jyoti High School, Baliphukuri, Sonitpur, Assam	10 February, 2014	67
7	Sonitpur Sishu Vikash Academy, Tezpur, Sonitpur, Assam	20 February, 2014	80
8	Jugal High School, Bihoguri, Sonitpur, Assam	06 March, 2014	50
9	Panchmile Girls' High School, Tezpur, Sonitpur, Assam	08 March, 2014	94
10	Agnigarh Vidyalaya, Chandmari, Sonitpur, Assam	13 March, 2014	67

THE FACULTY OF THE CENTRE

Assistant Professor
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INTELLECTUAL PROPERTY RIGHTS CELL

Tezpur University Intellectual Property Rights Cell (TUIPR Cell) was created in 2009 with a vision to develop human resource in the management of Intellectual Property Rights. The Ministry of Human Resource Development (MHRD), Government of India awarded prestigious MHRD IPR Chair has been set up in 2010 to initiate and execute IPR capability development in the North East Region through IP workshops and training programmes. A key objective of the Chair is to integrate IPR with the education process to enhance the quality of thinking. The Cell ensures speedy and accurate identification and protection of innovations carried out in the university and enhances the scope of their commercialization. The Cell also aims to offer assistance to grassroots innovators in the North East Region to realize the commercial benefits of their innovations. As the TUIPR Cell gains experience, it would also act as a think tank on policy matters related to IPR in India with special emphasis on issues relevant to the North East Region.

CURRENT TEACHING ACTIVITIES

There are at present three Choice Based Credit Transfer (CBCT) courses viz. i) IPR (3 credit) for UG students ii) IPR (3 credit) for PG students and iii) IPR (4 credit) for PhD students being offered by the Cell.

MAJOR FACILITIES AVAILABLE

- The Cell has a good collection of books by select authors and experts in the field of IPR which are made available for the students in the Central Library of Tezpur University.
- Well structured course materials used for class lectures are provided to the students both in soft and hard form.
- Remote lecturing mode using National Knowledge Network in the newly installed State-of-the-Art Video-Conferencing facility of the University. In future this facility will expose the students to the IP experts from different parts of the country.

IP SUPPORTS PROVIDED

- The Cell facilitates the Tezpur University fraternity with technical as well as legal supports for filing their intellectual properties in the form of Patent and Copyright and so on.
- Contextual prior art search is made for the inventors, including grassroots innovators for novelty and inventiveness assessment.
- Seven invention disclosure forms have been received for evaluation. Five were sent with recommendation to fulfil the requirement of inventive step.
- Two patent and three copyright applications have been filed.
- One International patent has been filed.

RESEARCH FINDINGS AND DEVELOPMENT ACTIVITIES

A project on Geographical Indications (GI) has been done to study the socio-economic impact of GI status of Muga Silk. The project was in collaboration with DST-TIFAC and ASTEC. The results of this project will pave the way to a long term research project in the field of GI, protection of traditional knowledge and promotion of grassroots innovations in the North East Region.



PUBLICATIONS

International and National Journals

Davé, Raj S., Davey, Neil S., Davey, Sonya S., Ganguli, P., Hohenshell, Jeffrey J., Lindefield, Robert O., Murphy, Brendan B., Thappeta, N., Tomalia, Donald A. and Warden, Philip S. 2013. Intellectual Property Licensing in Nanotechnology. In Battersby, Gregory J. and Grimes, Charles W. (Eds). Licensing Update 2013. USA: Aspen Publishers.

Ganguli, P. 2013. Nanobiotechnology in India....Have we traversed beyond a myth? Biospectrum, October, 2013.

Ganguli, P. 2013. Best Practices on Commercialisation of R&D Results. In, Manual on Critical Issues in Nanotechnology R&D Management: An Asia-Pacific Perspective. New Delhi: Asia-Pacific Centre for Technology Transfer.

Ganguli, P. 2013. Protection and Valuation of Nanotechnologies. In, Manual on Critical Issues in Nanotechnology R&D Management: An Asia-Pacific Perspective. New Delhi: Asia-Pacific Centre for Technology Transfer.

SEMINAR/CONFERENCE/WORKSHOP SYMPOSIA ATTENDED

Juri B. Saikia delivered the talk, IPR sensitization in North East Region, at CSIR- North East Institute of Science and Technology (CSIR-NEIST), Jorhat, 13 February, 2013.

P Deb delivered the talk, Management of Innovations and IPR in an Academic institution, at a national seminar at Silchar, 27-28 November, 2013.

P Ganguly delivered the keynote address, Intellectual Property Rights (IPR).....Steering the future of today, at the 1st KSOL National Conference organized by IPR KIIT University, 12 September, 2013.

P Ganguly delivered the talk, Seeding Ideas to Harvesting Marketables..... Creating Institutional Ecosystems, at the 2nd Annual Congress of TTO Network in Monterrey, Mexico, 15 November, 2013

P Ganguly delivered the talk, The Patent InfoGenie...at Beck and Call, at a Conference on Patent informatics for Corporate Planning and Business Development, Pune, 9 December, 2013.

Suchibrata Goswami delivered the talk, Copyright Protection: India and Abroad as per the Patent & Copyright Act in these countries, in the national seminar organized by National Institute of Electronics and Information Technology (NEILIT) and Department of Electronics and Information Technology (DeitY), at Itanagar, 8 March, 2014.



SEMINAR/CONFERENCE/WORKSHOP/ SYMPOSIA CONDUCTED

Colloquium at Tezpur University, Tezpur, 26 April, 2013.

National workshop, Role of IPR in Enhancing Creativity, Innovation and Commercialisation, organized at Dibrugarh University, Dibrugarh, 9May, 2013

National workshop, Role of IPR on innovation in Electronics, Communication, Computing and Devices organized at Silchar, 27-28 November, 2013

National seminar, Contemporary Physics and the Role of Intellectual Property Rights, organized at Tezpur University, Tezpur, 7 February, 2014

National level training programme, Traditional Knowledge, Socio-Economic Development and Intellectual Property Rights, organized in collaboration with the Dept. of Cultural Studies at Tezpur University, Tezpur, 10-11 February, 2014

OTHER IMPORTANT ACTIVITIES/ACHIEVEMENTS

TUIPR Cell published its maiden issue of the Newsletter IP JAGORAN in January, 2014. The Newsletter is also made available in TU website. It will be a yearly publication from the Cell.

THE MEMBERS OF IPR CELL**MHRD IPR Chair Professor**

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School of Sciences

- Dept of Chemical Sciences
- Dept of Environmental Sciences
- Dept of Mathematical Sciences
- Dept of Molecular Biology and Bio Technology
- Dept of Physics

SCHOOL OF SCIENCES

The School of Sciences comprises five Departments, namely, Departments of Chemical Sciences, Environmental Sciences, Mathematical Sciences, Molecular Biology and Biotechnology (MBBT) and Physics. Departments under the school offer 14 different MTech, MSc, Integrated MSc and Integrated BSc BEd programmes besides the PhD programme in each department. Departments of Chemical Sciences, Mathematical Sciences, MBBT and Physics also offer Integrated MSc programmes with intake of 20 each. Three departments, namely, Chemical Sciences, Mathematical Sciences and Physics also offer Integrated BSc BEd programmes. The Department of Chemical Sciences also offers MTech programme in Polymer Science and Technology, and Department of Physics offers MSc programme in Nanoscience and Technology. Faculty members and technical staff of all five Departments in the School also support teaching and laboratory courses of the first two semesters of BTech programmes offered by the School of Engineering. The total intake of students in all 14 non-PhD programmes running in the School is 287 in addition to an intake of 13 in Self Supporting Scheme.

The total faculty strength of the School is 79, which includes 21 Professors, 22 Associate Professors and 36 Assistant Professors. In addition, Bharat Ratna Gopinath Bordoloi Chair is attached with the School. The Chair is occupied by former IIT Delhi director Padma Shri Professor R.S. Sirohi.

The faculty members of the five Departments in the School of Sciences are engaged in cutting-edge research in their respective areas. They made several significant contributions in academic and research activities during 2013-2014. Faculty members of the School brought projects funded by different funding agencies with a total grant of Rs. 673.82 lakhs. Dr. P. Deb from the Department of Physics got a DBT funded project with an outlay of 122.25 lakhs. Two faculty members from the Department of MBBT have got grants under U-EXCEL NER scheme of DBT and each grant is above 100.00 lakhs. Dr. Suvendu Ray of the same department received an Indo-French collaborative project grant from CEFIPRA/IFCPAR. Prof. S.K. Dolui of Department of Chemical Sciences got a DIT sponsored project of Rs. 92 lakhs.

The faculty members of five Departments in the School have published a total of 288 research papers in peer-reviewed journals during 2013-2014. Department of Chemical Sciences is leading with 135 publications followed by Physics with 57 research papers, MBBT with 38, Mathematics with 31 and Environment Sciences with 27 research publications. Prof. N.S. Islam from the Dept. of Chemical Sciences has been re-elected as a member of Governing Council of CRSI for 3 Years w.e.f. 2014. Prof. N. Karak has been awarded the Technology Innovation award 2013 by the Ministry of Chemical and Fertilizers, New Delhi. Dr. B. Sarma of the Department of Chemical Sciences has been elected as the executive council member of National Magnetic Resonance Society, India for 3 years from 2014. Dr. D. Borah from the Department of Physics was awarded for Excellence in his Ph.D Thesis 2013 by IIT Bombay.

Ms. Sujata Pramanik, PhD student in the Department of Chemical Sciences received the Industrial Green Chemistry Innovation award 2013 (student's category). Himali Horo and Aditi Saikia (2nd Semester MTech Students of the Chemical Sciences Department) received third prize in Essay competition 2013 organised by Asian Paints. In 2013 a total of 20 students qualified NET, 17 students qualified SLET and 38 students qualified GATE. Twenty MSc students from MBBT department qualified GATE with two of them having all Indian ranking of 90 and 120, respectively. A student of Department of MBBT got 34th ranking in CSIR-NET-JRF list.

All the Departments under the School regularly keep organize conferences/workshops. During the period departments in the School organized 13 different national/international conferences/ workshops with Chemical Sciences and Physics organizing 04 each, Mathematics and MBBT organizing 02 two each. Department of Environmental Science organized first International forum on Asian Water Environment Technology (IFAWET) from Dec 18-20, 2013.



DEPARTMENT OF CHEMICAL SCIENCES

THE DEPARTMENT

The Department of Chemical Sciences was established in the year 1997 with the prime objective of creating manpower in different areas of Chemical Sciences. Initially the Department offered an MSc programme in Polymer Science. The Department started an Integrated MSc in Chemistry in 2009, and an MSc in Chemical Sciences in 2010. Since autumn 2011, the Department has been offering an MTech in Polymer Science & Technology and an Integrated BSc BEd in Chemistry. The Department has also been running a PhD programme covering several important areas of research in Chemical Sciences. The Department has eighteen well-experienced (both in academy and industry) and highly qualified faculty members, who are actively engaged in research in various fields of Chemical Sciences. During the last five years, the faculty of the Department has produced 200 high quality publications in peer reviewed international journals and successfully completed more than 20 major research projects. The Department is well equipped with sophisticated equipment. The alumni of the Department are well placed in different industries, R&D organizations and other prestigious institutes in India and abroad.

ACADEMIC PROGRAMMES

- MSc in Chemistry
- Integrated MSc in Chemistry
- MTech in Polymer Science and Technology
- Integrated BSc-BEd In Chemistry
- PhD

STUDENT INTAKE

Programme	Student Intake
MSc in Chemistry	20
Integrated MSc in Chemistry	15
MTech in Polymer Science & Technology	10
Integrated BSc-BEd In Chemistry	10
PhD	Intake variable, 19 registered during this period

MAJOR FACILITIES AND EQUIPMENT AVAILABLE

- 400 MHz NMR spectrophotometer, Jeol
- GCMS, PerkinElmer
- Thermal Analyzer, (Model TGA-50 & DSC-60, Shimadzu (FIST Funded))
- CHN Analyzer, Model PR 2400 Series II Perkin Elmer (FIST Funded)
- FTIR spectrophotometer, Model: Nicolet Impact I-410
- Automated Compression Press, S5 Type, Santac
- Polarizing Microscope, Olympus, M B201



- UV-Visible Spectrophotometer, Shimadzu, UV-2550 Model Carry 100 Bio
- Universal Testing Machine, 10 KN Zwick
- Rheometer, Bohlin Instruments
- Microwave reactor
- High performance computational facilities
- Digital Polarimeter
- Millipore Water Purification System
- Table Top Magnetometer
- Single Screw Laboratory Extruder
- Cyclic Voltmeter

MAJOR RESEARCH FINDINGS/RESEARCH AND DEVELOPMENT ACTIVITIES

Principal Investigator	Research Findings
Nashreen S Islam	<ul style="list-style-type: none">• Synthesised a series novel co-ordination polymeric compounds by incorporating transition metals viz., Vanadium(V), Molybdenum(VI) and tungsten(VI) into water soluble as well as water insoluble polymer matrices. The compounds were characterized on the basis of detailed spectroscopic as well as physico-chemical techniques such as TGA-DSC. Hydrolytic stability of the compounds was investigated by using 51V-NMR, 95Mo and 183W –NMR techniques.• Biochemical application : The water soluble macro complexes were found to be Reasonably resistant to catalase, Potent inhibitors of alkaline phosphatase activity, Exert vascomodulatory effect on rat aorta.• Application as catalyst: Some of the synthesized compounds could serve as efficient homogeneous / heterogeneous catalysts for oxidation of organic sulfides to sulfoxide or sulfone with very high turnover frequency (TOF) under environmentally benign conditions.
S K Dolui	<ul style="list-style-type: none">• Electro-responsive nanocomposite hydrogels were prepared by the radical graft polymerization reaction of partially neutralized acrylic acid on poly (vinyl alcohol) and organically modified MMT nanoclay (OMMT). Finally, the electric stimuli responsive measurement indicates the bending of hydrogel towards the cathode in an aqueous solution of NaCl.• We have synthesized polythiophene (PTh)/graphene oxide (GO) nanocomposites by interfacial polymerization. The Pth/GO composites showed remarkable improvements in thermal stability and electrical conductivity (2.7×10^{-4} S/cm) compared to pure PTh. The specific capacitance of the prepared composite was calculated using cyclic voltammetry technique and was found to be 99F/g.• Poly (styrene-co-butylacrylate)/Polypyrrole Expanded Graphite (EG) core-shell nano composites were synthesized by mini-emulsion polymerization. The core-shell particles could detect methanol vapor of 100 ppm concentration with good response and recovery time.

Principal Investigator	Research Findings
T K Maji	<ul style="list-style-type: none"> • Solution induced intercalation methods were used for the successful fabrication of the green nanocomposites by varying the concentration of different nanofillers like CWs, ZnO and nanoclay. The formation of nanocomposites were confirmed by various physicochemical and spectroscopic techniques .The properties of nanoparticles filled crosslinked nanocomposites were found to be much better than those of the unfilled one, allowing the processing of high performance green nanocomposites. • Wood polymer nanocomposites (WPNC) were prepared by vacuum impregnation of melamine formaldehyde furfuryl alcohol copolymer, 1,3-dimethylol 4,5-dihydroxy ethylene urea, a crosslinking agent, multiwalled carbon nanotubes (MWCNT) and nanoclay. Strain dependent Raman spectroscopy showed efficient load transfer from the wood/polymer to the nanotubes. Dynamic mechanical analysis showed an enhancement in elastic modulus, loss modulus and damping index for the WPNC. Tensile, flexural, hardness and water repellence properties improved significantly after incorporation of MWCNT into the composites. • Wood/MMA-g-starch composites were prepared by using different crosslinkers. The efficiency among different crosslinkers were compared in terms of mechanical properties, thermal properties, flame retardancy, water uptake capacity etc. • Synthesis of curcumin encapsulated phosphorylated chitosan-montmorillonite nanoparticles by ionic gelation technique followed by chemical crosslinking were done. The nanoparticles were studied by FTIR, NMR, XRD, SEM, TEM etc. Encapsulation efficiency, drug loading efficiency, swelling study, cumulative release study, cytotoxicity and mucoadhesivity were studied. • Thiolated starch-MMT coated iron oxide magnetic nanoparticles were prepared for the controlled release of isoniazid drug. Characterisations of the nanoparticles have done by using FTIR, XRD, TGA, VSM, SEM, DLS and TEM. Effect of crosslinking density on various properties of the nanoparticles viz. yield %, swelling %, in vitro drug release%, cytotoxicity and mucoadhesivity have studied. • Aminated starch coated iron oxide nanoparticles loaded with curcumin were prepared and characterized. The effect of different parameters on release behavior of nano particles were checked. These particles could be used as a potential drug carrier for controlled release applications.
N Karak	<ul style="list-style-type: none"> • Design of novel mechanically tough, biocompatible, osteoconductive and biodegradable scaffolds based on sunflower oil modified hyperbranched polyurethane (HBPU) / functionalized multi-walled carbon nanotube (f-MWCNT) nanocomposites (NCs), and the response of an animal model on their post-implantation is done. • A reduced graphene oxide–silver nano hybrid was prepared by simultaneous reduction of graphene oxide and silver ions, using the aqueous extract of the Colocasia esculenta leaf for applications as a non-toxic topical antimicrobial agent in dressings, bandages, ointments etc. The hyperbranched epoxy with the above nano hybrid based nanocomposites find potential in biomedical domain with desired performance. • Green luminescent water soluble oxygenous carbon dots with an average size of 3 nm were synthesized by simply heating banana (Musa acuminata) juice without any surface passivating, oxidizing agent or inorganic salt. The hyperbranched epoxy with the above nano hybrid based nanocomposites find potential as advanced coating material.



Principal Investigator	Research Findings
N Karak	<ul style="list-style-type: none"> • A facile method of ultrasound-assisted noncovalent functionalization of multiwalled carbon nanotubes (MWCNT) with fatty amide of castor oil and use of the same as a reactive component in the in situ polymerization of hyperbranched poly(ester amide) (HBPEA) via an A₂+B₂+A₂A approach is also reported. The nanocomposite finds utility as antistatic material. • Hyperbranched polyurethane/reduced graphene oxide nanocomposite finds application as multi-stimuli responsive shape memory and self-healing material.
Ruli Borah	<ul style="list-style-type: none"> • Multicomponent synthesis of novel naphthoxazine derivatives and their characterization. • Synthesis of quinoline derivatives in solvent-free medium under thermal treatment. • Use of PEG as media/catalyst in protection of carbonyl group. • Diastereoselective synthesis of nitro-aldol reaction in aqueous medium.
A J Thakur	<p>The works were focused on two aspects: Bioactive molecules and nanocatalysis</p> <ul style="list-style-type: none"> • An environmentally benign and chemoselective nucleophilic addition of 6-[(dimethylamino)-methyleneamino]-1, 3-dimethylpyrimidine-2,4 (1H,3H)-dione with aldehydes (aromatic, aliphatic, and heterocyclic) using a “green surfactant” isolated from <i>P. aeruginosa</i> OBP1 in water at room temperature is described. In this protocol, products (i.e., bisuracils) were obtained in moderate to good yields. The biosurfactant is easily recyclable. • Exploiting the diene nature of 6-[1-aza-2-(dimethylamino)prop-1-enyl]-1, 3-dimethyluracil, novel 5-aryl-pyrido [2,3-d] pyrimidines (5a-h) have been synthesized. The reaction proceeds through a triene intermediate whose structure has been conclusively established by single crystal X-ray analysis. Role of water is intriguing as the reaction can be stopped at the intermediate stage. Synthesized compounds have been screened for possible antibacterial properties and results showed modest activity. • A clean synthesis of amide derivatives has successfully been accomplished utilizing reusable nano-MgO under ‘SFRC’ (solvent free reaction condition). The ‘green-ness’ of this protocol makes it a benign alternative for the large scale synthesis. • A recyclable, robust and highly active Fe₂O₃ nanoparticles supported over bio-silica, i.e. diatomaceous earth (Fe₂O₃NPs@DE) catalyzed oxidation of aryl/alkyl/heteroaryl aldehydes at room temperature has been developed. The DE enhanced the catalytic activity of Fe₂O₃NPs dramatically by serving itself as a smart support. Fe₂O₃NPs@DE could be efficiently reused with a slight loss in its catalytic activity. The novel supported catalyst is air stable and hence all the reactions can be conducted under aerobic condition. By the measurement of the “green-ness” our protocol emerges as a benign alternative over the existing methodologies.
A K Phukan	<ul style="list-style-type: none"> • During this period, we have studied the ways to tune the electronic and ligand properties of different heterocyclic carbenes as well as the structure and bonding of donor-acceptor complexes of normal and abnormal N-Heterocyclic Carbenes with Group 13 elements. We have also studied how one can distinguish a carbene from a carbon (0) compound as well as stabilization of Si (0) and Ge (0) compounds by different silylenes and germynes. We have also carried out a thorough mechanistic study on the possible pathways for dinitrogen reduction with tripod iron complexes.
P Bharali	<ul style="list-style-type: none"> • Various mono-metallic and bimetallic nanocrystals of Cu, Ni, and Co have been synthesized and characterized by XRD, SEM-EDX, TEM, BET surface area and UV-visible

Principal Investigator	Research Findings
P Bharali	<p>spectroscopy. Some of the bimetallic combinations of transition metals, e.g. CuNi exhibit very homogeneous distribution of crystals of 3-5 nm in size. The bimetallic nanocrystals were employed for synergistic catalysis for the reduction of "4-nitrophenol to 4-aminophenol" and "reductive conversion of Cr(VI) to Cr(III)" at room temperatures. The kinetics of the reaction was monitored by UV-visible spectroscopy. These results are published in two international journals, viz, Journal of Molecular Catalysis A: Chemical and New Journal of Chemistry.</p> <ul style="list-style-type: none"> In situ generated Cu nanoparticles catalyze the reduction of 4-nitrophenol to 4-aminophenol in the presence of NaBH₄ very efficiently at room temperature with good recyclability up to four cycles. The precursor compound, formed by hydrothermal treatment of copper chloride with urea at 120 °C for 6 h, produces Cu nanoparticles on reduction with NaBH₄ during the course of the reaction. The synthesized precursor and the catalyst are characterized by various analytical techniques such as XRD, FTIR, TGA, SEM-EDX, TEM, and UV-visible spectroscopy. This work is published in New Journal of Chemistry. Cobalt oxide with different morphology and size have been synthesized, characterized by XRD, BET surface area, SEM-EDX, TEM, Raman spectroscopy techniques and evaluated for different cationic and anionic dye reduction activity.
N Gogoi	<ul style="list-style-type: none"> Transition metal complexes with strong uniaxial magnetic anisotropy have been synthesized. Zero field splitting parameters of these complexes were evaluated by investigating field dependence of magnetization at low temperatures. Robust phosphonate based coordination polymers with layered structure have been developed.
B C Sarma	<ul style="list-style-type: none"> Pharmaceutical Cocrystals of drug such as bronchodilator drug theophylline, caffeine etc. have been synthesized, characterized and studied the improvement of physical properties of the drug. Several other drugs with highly water insolubility are under study to improve properties by cocrystal technology.
S K Das	<ul style="list-style-type: none"> We have developed a novel synthetic route which involves cyclization reactions of aryl (2-aryl)glycidyl ethers in the presence of stoichiometric amount of TsOH to get the corresponding trans-4-arylchroman-3-ol derivatives. From the perspective of practical use, cost and availability considerations make TsOH an alternative for these reactions and, in general, for processes where gold and other expensive metals and fluorinated alcohols merely act as Lewis acids or Bronsted acids.

RESEARCH PROJECTS: ONGOING AND NEW

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Improving drug properties by cocrystal technology	UGC-BSR	6.0 lakh	2 years	B Sarma
Rational strategies to build nano-magnets.	DST	24.5 lakh	3 years	N Gogoi
Hyperbranched epoxy nanohybrids immobilized natural biocide for advanced marine coating	NRB	38.00 lakh	3 years	N Karak
Development of multifunctional dendritic polymers for injectable bone tissue engineering	DBT	64.00 lakh	3 years	N Karak



Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Preparation and characterization of peroxo-metal compounds and studies on their biological significance in cellular signaling (Collaboration with Centre for DNA Finger Printing and Diagnostics (CDFD), Hyderabad)	DBT	70.50 lakh	3 years	Nashreen S Islam
Synthesis, characterization and application of novel solid base green catalysts for nucleophilic addition reactions.	DST	30.30 lakh	3 years	R C Deka
Computational studies of bare and zeolite-supported metal nanoclusters and their application in catalysis.	DST	53.00 lakh	3 years	R C Deka
Hybrid quantum mechanics / molecular mechanics calculation on palladium supported TiO ₂ for CO oxidation	DST-UKIERI	31.25 lakh	2 years	R C Deka
Investigation of one pot synthesis of acridine derivatives using greener approach.	CSIR	17.00 lakh	3 years	Ruli Borah
Graphene/graphene oxide based polymer nanocomposite as biosensor and super capacitor	CSIR	15.00 lakh	3 years	S K Dolui
Development of stimuli responsive polymeric hydrogel and their application	DRDO	28.29 lakh	3 years	S K Dolui
Development of polymer nano composite based photovoltaic device	DIT	92.00 lakh	3 years	S K Dolui
Development of natural polymeric system for controlled delivery of anticancer agents	CSIR	10.92 lakh	3 years	T K Maji
Development of bio nano composite for removal of contaminants from water	DRL	9.57 lakh	3 years	T K Maji

PUBLICATIONS

International and National Journals

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Conference proceedings

Ankireddy, S. R., Das, S. P., Boruah, J. J. and Islam, N. S. Polymer-anchored peroxo-tungsten(VI) complexes as non-competitive inhibitors of phosphohydrolase enzyme. In *Proceedings of the 15th RSC-CRSI National Symposium in Chemistry (NSC-15)*. Department of Chemistry, Banaras Hindu University, Varanasi, 2013.

Baishya, S. and Deka, R. C. Zeolite supported atomic gold and CO oxidation: A density functional investigation. In *Proceedings of the 21st National Symposium on Catalysis*. IICT Hyderabad, Hyderabad, 2013.

Barua, S. and Karak, N. Carbon nanotube copper oxide nanohybrid immobilized antibiotic as an efficient antimicrobial agent. In *Proceedings of the 3rd International Conference, Advanced Nanomaterials and Nanotechnology (ICANN-13)*. IIT Guwahat, Guwahati, 2013.

Barua, S. and Karak, N., Hyperbranched epoxy/clay nanocomposite as an efficient antimicrobial coating material. In *Proceedings of the APA International Conference on Polymers Visions and Innovations (APA-2014)*. IIT Delhi, New Delhi, 2014.

Bora, C. and Dolui, S. K. Polypyrrole/graphene composite as glucose biosensor. In *Proceedings of the Young Scientist Award Programme, 100th Indian Science Congress*. Calcutta University, Kolkata, 2013.

Borah, B. J., Saikia, H. and Bharali, P. Catalytic conversion of toxic Cr(VI) to less toxic Cr(III) using formic acid and bimetallic CuNi nanocatalysts. In *Proceedings of the 1st International Forum on Asian Water Environment Technology (IFAWET)*. New Delhi, New Delhi, 2013.

Borkotoky, S. S. and Karak, N. Hyperbranched poly(ester amide)/ functionalized fly ash nanocomposites. In *Proceedings of the National school on sustainable polymers and First symposium on advances in sustainable polymers (ASP-14)*. IIT Guwahati, Guwahati, 2014.

Das, B. and Karak, N. Fe₃O₄ decorated MWCNT/Hyperbranched polyurethane nanocomposite: Antibacterial biomaterial. In *Proceedings of the 7th National Conference of Arthropodology*. DRL Tezpur, Tezpur, 2013.

Das, B. and Karak, N. Nanocomposites of sunflower oil based hyperbranched polyurethane/protein modified MWCNT as a biodegradable bone scaffold. In *Proceedings of the International conference, Advancement in Polymer Materials (APM-2014)*. CIPET, Bhubaneswar, Bhubaneswar, 2014.

De, B., and Karak, N. Photoluminescent Transparent Hyperbranched Epoxy/Carbon Dot Nanocomposites. In *Proceedings of the APA International Conference, Polymers Visions and innovations (APA-2014)*. IIT Delhi, New Delhi, 2014.

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Deka, P., Deka, R. C. and Bharali, P. In situ generated nano-copper catalyzed reduction of 4-nitrophenol to 4-aminophenol. In *Proceedings of the 21st National Symposium, Catalysis-Catalysts for sustainable development*. Hyderabad, 2013.

Deka, P., Sarmah, P., Deka, R. C. and Bharali, P. Catalytic reduction of water contaminant '4-nitrophenol' over manganese oxide supported Ni nanoparticles. In Proceedings of the 1st International Forum, Asian Water Environment Technology (IFAWET). New Delhi, 2013.

Devi, R., Borua, P. J., Bharali, P. and Deka, R. C. Comparative study of potassium salt modified hydrotalcites and their application in the synthesis of chalcones. In Proceedings of the 21st National Symposium, Catalysis-Catalysts for Sustainable Development. Hyderabad, 2013.

Gogoi, S. R., Boruah, J. J. and Islam, N. S. Polymer-Immobilized Peroxo-Molybdenum Compound as Efficient Catalyst for Mild Oxidative Bromination. In Proceedings of the 15th RSC-CRSI National Symposium in Chemistry (NSC-15). Department of Chemistry, Banaras Hindu University, Varanasi, 2013.

Hazarika, A. and Maji, T. K. Study on properties on melamine formaldehyde-furfuryl alcohol impregnated soft wood (*Ficus hispida*). In Proceedings of the Indian Science Congress. Calcutta University, Kolkata, 2013.

Karak, N. Bio-based biodegradable hyperbranched polymers and their nanocomposites. In Proceedings of the UGC-SAP National seminar on Microbial Biotechnology. Tezpur University, Tezpur, 2013.

Karak, N. Green and sustainable hyperbranched polymer and their nanocomposites for multifaceted advanced applications. In Proceedings of the National school, Sustainable Polymers and First Symposium on Advances in Sustainable Polymers (ASP-14). IIT Guwahati, Guwahati, 2014.

Karak, N. Nano composites, smart polymers and their properties. In Proceedings of the Workshop, Testing and Quality Control of Plastic Products. CIPET Guwahati, Guwahati, 2014.

Konwarh, R. and Karak, N. Bio-hybrids of polymeric nanomaterials/nanocomposites: From clean hair shaving technology to multifunctional biomaterial. In Proceedings of the National Conference, Advances Materials and Applications (NCAMA-2013). NIT Tiruchirappolli, Tiruchirappolli, 2013.

Konwarh, R. and Karak, N. Polymer supported nanomaterials as immobilization platform for microbial biocatalysts: prospective application from leather industry to detergent industry. In Proceedings of the UGC-SAP National seminar, Microbial Biotechnology. Tezpur University, Tezpur, 2013.

Mishra, B. K., Bhattacharjee, D. and Deka, R. C. Theoretical Study of the Interaction of NO_x Adsorption on Small Bimetallic Gold-Silver Clusters. In Proceedings of the 15th RSC-CRSI National Symposium in Chemistry (NSC-15). BHU Varanasi, Varanasi, 2013.

Pramanik, S., Barua, S., Gopalakrishnan, R. and Karak, N. Development of bio-based hyperbranched poly(ester amide) nanocomposites: antibacterial, larvicidal and anti-static coatings. In Proceedings of the 7th National Conference of Arthropodology. DRL Tezpur, Tezpur, 2013.

Saikia, B. J. and Dolui, S. K. Synthesis of pH and solvent responsive smart core-crosslinked star polymer by atom transfer radical polymerization. In Proceedings of the National Magnetic Resonance Society Symposium (NMRS-2014). Tezpur University, Tezpur, 2014.

Saikia, C. and Maji, T. K. Comparative study between Starch and CMS nanoparticles as potential drug carrier medium. In Proceedings of the 100th Indian Science Congress. Calcutta University, Kolkata, 2013.

Saikia, P., Bharali, P. and Reddy, B. M. Alumina supported ceria-based nano-catalysts for pollution abatement: a comparative study. In Proceedings of the 21st National Symposium, Catalysis-Catalysts for Sustainable Development. Hyderabad, 2013.

Thakur, S. and Karak, N. Bio-based hyperbranched polyurethane/ graphene oxide and reduced graphene oxide nanocomposites with outstanding performance for multifaceted advanced applications. In Proceedings of the 3rd International conference, Advanced Nanomaterials and Nanotechnology (ICANN-13). IIT Guwahati, Guwahati, 2013.



WORKSHOP/ CONFERENCE ATTENDED

B Sarma attended the national conference, National Magnetic Resonance Society Symposium (NMRS-2013), IIT Bombay, Mumbai, 03-06 February, 2013.

N Gogoi attended the national conference, 20th National Magnetic Resonance Society Symposium, Tezpur University, Tezpur, Tezpur, 2-5 February, 2014.

Nashreen S Islam attended (as Council Member of CRSI) the national conference, 15th RSC-CRSI National Symposium in Chemistry (NSC-15), organized by the Department of Chemistry, Banaras Hindu University, Varanasi, Varanasi, 31 January-3 February, 2013.

P Bharali attended the international conference, Indo-Finnish Symposium on Green Chemistry: Role of catalysts on production of green fuel, Tezpur University, Tezpur, Tezpur, 1 February, 2013.

P Bharali attended the national conference, 21st National Symposium in Catalysis, CSIR-IICT, Hyderabad, Hyderabad, 10-13 February, 2013.

P Puzari attended the international conference, International Conference on Electronic Structure and Dynamics of Molecules and Clusters (ESDMC-2013), organized by the Indian Association for the Cultivation of Science, Kolkata, Kolkata, 17-21 February, 2013.

R C Deka attended the international workshop, Indo-UK Royal Society Joint Workshop on Catalysis at the Interface, IICT, Hyderabad, Hyderabad, 11-13 February, 2013.

R C Deka attended the national conference, 15th RSC-CRSI National Symposium in Chemistry (NSC-15), BHU, Varanasi, Varanasi, 31 January – 3 February, 2013.

SEMINARS/ WORKSHOPS/ SYMPOSIA /OTHER SUCH PROGRAMMES ORGANIZED BY THE DEPARTMENT

Science Academies Lecture Workshop on Modern Trends in Chemistry, November 20-22, 2013.

20th Symposium and Annual meeting of National Magnetic Resonance Society India, NMRS-2014, February 2-5, 2014.

Workshop on "The Deadly Arsenic and Fluoride - How to act?" organized by Students' Science Council, Tezpur University as a part of InSciSignis – 2014 on Science Day, 28 February, 2014.

Workshop on 'Spectroscopic Tools and Their Applications', April, 2013.

TALKS BY THE FACULTY ABROAD AND IN INDIA

A J Thakur delivered an invited talk, Carbon, An Amazing Element, INSPIRE Science Camp, M C College, Barpeta, Barpeta, 20 December, 2013.

A J Thakur delivered an invited talk, Precautions in Chemistry Laboratory, Workshop on Laboratory Safety, Dept. of Physics, Tezpur University, Tezpur, Tezpur, 8 February, 2014.

B Sarma delivered an invited talk at National Seminar on Emerging Trends in Chemistry and Technology, Bajali College, Pathsala, Pathsala, 27-28 June, 2013.

B Sarma delivered an invited talk, Single Crystal X-ray Diffraction, Workshop on Spectroscopic Tools and Their Application, Tezpur University, Tezpur, Tezpur, 6 April, 2013.

N Karak delivered an invited talk, Development of Bio-Based Hyperbranched Poly(ester amide) Nanocomposites: Antibacterial, Larvicidal and Anti-static Coatings, National Conference on Medical Arthropodology, DRL Tezpur, Tezpur, 12-13 December 2013.

N Karak delivered an invited talk, Green and Sustainable Hyperbranched Polymes and Their Nanocomposites for Multifaceted Advanced Applications, National school on sustainable polymers and First symposium on advances in sustainable polymers (ASP-14), IIT Guwahati, Guwahati, 6-11 January, 2014.

N Karak delivered an invited talk, Hyperbranched Polyurethane/GO/RGO Nanocomposites for Advanced Multifaceted Applications, 3rd International conference on advanced nanomaterials and nanotechnology (ICANN-2013), IIT Guwahati, Guwahati, 1-3 December 2013.

N Karak delivered an invited talk, Nano Composites, Smart Polymers and Their Properties, Workshop on Testing and Quality Control of Plastic Products, CIPET Guwahati, Guwahati, 10-21 March, 2014.

Nashreen S Islam delivered an invited talk, Macromolecular Complexes of Vanadium and Molybdenum: Catalytic and Biochemical Aspects, Modern Trends in Inorganic Chemistry (MTIC), IIT Roorkee, Roorkee, December 13-16, 2013.

P Bharali delivered an invited talk, Catalyst Design for Emission Control and Fuel Cell Application, Indo-Finnish Symposium on Green Chemistry: Role of catalysts on production of green fuel, Tezpur University, Tezpur, Tezpur, 1 February, 2013.

R C Deka delivered an invited talk, Combined Theoretical and Experimental Studies on Catalytic Activities of Metal Complexes Supported in Zeolit, 15th RSC-CRSI National Symposium in Chemistry (NSC-15), BHU, Varanasi, Varanasi, 31 January 31- 3 February, 2013.

R C Deka delivered an invited talk, Density Functional Studies on Metal Clusters and Complexes and their Interaction with Zeolite Supports, Indo-UK Royal Society Joint Workshop on Catalysis at the Interface, IICT Hyderabad, Hyderabad, 11-13 February, 2013.

S K Dolui delivered an invited talk, Anisotropic Gold Nanoparticles and Its Use in Photovoltaic Device at Electronics Niketon, DIT, New Delhi, September, 2013.

S K Dolui delivered an invited talk, Polymerization in Supercritical Fluid at Dept. of Molecular Biology and Biotechnology, Tezpur University, Tezpur, April, 2013.

S K Dolui delivered an invited talk, ZnO Nanoparticles and Its Use in Photovoltaic Device, IACS, Kolkata, Kolkata, March, 2014.

DISTINGUISHED VISITORS TO THE DEPARTMENT

Dr A C Kunwar, CSIR-IICT, Hydrabad

Prof A S Brar, VC, GNDU, Amritsar

Prof Anil Saran, INSA Scientist, Mumbai

Dr Bernhard Blumich, RWTH Aachen University, Germany

Dr Christoph Schneider, Institut fur Organische Chemie, University of Leipzig, Germany

Dr Jadab Sharma, International Visiting Research Collaborator, Department of Chemical Engineering, National Taiwan University of Sciences and Tezchnology, Taiwan

Dr Kalyan Raidongia, Department of Material Science and Engineering, Northwestern University, USA

Dr Musahid Ahmed, FAPS, Senior Scientist, Lawrence Berkley Laboratory, Berkley, USA

Dr Robert Griffin, MIT, USA

Dr Srinivas Kuchipudi, Scientist, Advanced System Laboratory, DRDO, Hyderabad



AWARDS/ HONOURS RECEIVED BY THE FACULTY/ STUDENTS/ RESEARCH SCHOLARS/ THE DEPARTMENT

B Sarma got elected as Executive Council member of National Magnetic Resonance Society, India for 3 years from 2014.

Nashreen S Islam was re-elected as Governing Council Member of CRSI for 3 Years w.e.f. 2014.

N Karak awarded technology innovation award 2013 by the Ministry of Chemical and Fertilizers, New Delhi.

N Karak presented Material Research Society of India (MRSI) medal award by MRSI 2014.

AWARDS/HONOURS RECEIVED BY STUDENTS

Himali Horo and Aditi Saikia (2nd Semester M. Tech. Students) received third prize in Essay competition 2013 organised by Asian Paints (Anti corrosive paints).

Sujata Pramanik received the Industrial Green Chemistry Innovation award 2013 (student's category).

NUMBER OF STUDENTS WHO PASSED NET/SLET/JRF/GATE

- NET : 04
- SLET : 12
- GATE : 15

THE FACULTY OF THE DEPARTMENT

Professors

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DEPARTMENT OF ENVIRONMENTAL SCIENCE

THE DEPARTMENT

The Department of Environmental Science was established in January 2004 with the objective of imparting education on regional and global environmental issues. The Department offers two academic programmes, MSc and PhD in Environmental Science. The curricula for MSc and PhD programmes focus on all-important aspects of Environmental Science, covering contemporary problems of nature conservation and environmental quality. Keeping in view the unique physiographic and agro-climatic settings of the North East as a whole and Assam in particular, the Department has been giving emphasis in teaching and research on various aspects of agro-ecosystem and hill ecosystems of North East India.

ACADEMIC PROGRAMMES

- MSc in Environmental Science
- PhD

STUDENT INTAKE

Programme	Student Intake
MSc in Environmental Science	30
PhD	Intake variable, 12 registered during this period

MAJOR FACILITIES AND EQUIPMENT AVAILABLE

- ICP-Perkin Elmer
- Ion Chromatograph
- TOC Analyzer
- Continuous Air Pollution Monitoring Station
- Gas Chromatograph with ECD& FID Detector-Varian CP-3800
- Gas Chromatograph with ECD& FID Detector-Perkin Elmer,Clarus 500
- Portable Photosynthesis System-LI-6400F
- Laser Leaf Area Meter with Root Measurement Attachment -CI-203, CI203RL
- Electronic Semi Micro Balance-CP-225D
- High Speed Refrigerated Centrifuge-Sigma 2-16 K
- Ion Meter-Orion 4 star portable PH/ISE meter)
- HOBO Pro V2 Tea/RH Data Logger- U23-001 S/N 1276464 to 1276471
- Respirable Dust Sampler with Gaseous Sampling Attachment- APM 460 BL
- UV-Visible Spectrophotometer-Shimadzu,UV-1700
- pH Meter - Systronics/362
- Electrophoresis Gel Unit-Atto/EP KITS
- Flame Photometer-Elico/CL 22D



- Nephelometer- Elico/CL 52D
- Trinocular Microscope with Camera & Software
- Sartorius Ultra Pure Water Purification System
- Sartorius RO System
- REMI Centrifuge
- DENVER Analytical Balance
- Digital Pocket Weather Station
- Arc GIS Software
- ERDAS Software

RESEARCH PROJECTS: ONGOING AND NEW

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Exploration, utilization, conservation and documentation of Allium species in northeastern India	UGC	10.89 lakh	3 Years	Ashalata Devi
Hydro-geomorphic characterization of Manas- Aie and Gaurang river basins- A baseline study of geomorphic response to observed precipitation change over Indian region	SERB	24.60 lakh	3 Years	A K Das
Studies on distribution, behavioural ecology, habitat structure and conservation of newly discovered Arunachal macaque (Macacamunzala) in western Arunachal Pradesh India	DST	23.98 lakh	3 Years	Ashalata Devi
Documentation, collection and preservation of biodiversity of Tezpur University	Tezpu University	2.15 lakh	2 Years	Ashalata Devi
Evaluation of carbon sequestration and enhancing carbon sinks in rice based agro-ecosystems of Assam	DST	62.42751 lakh	3 Years	KK Baruah
Soil plant atmospheric study in relation to the CO ₂ flux from terrestrial ecosystem of Assam	Ministry of Earth Science, Govt	54.89 lakh	3 Years	KK Baruah
Distribution and enrichment of heavy metals among sediments, water and aquatic plants and modeling of ecological impact on wetland ecosystem of the Brahmaputra valley	UGC	8.32 lakh	3 Years	KP Sarma
Hydro-geochemical investigation of arsenic-contaminated alluvial aquifers of India through multilayer sampling and evaluations of applicable remediation technique.	DST Fast Track Scheme	23.65 lakh	3 Years	M Kumar

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Tracing source and distribution of heavy metals in the sediment and water of the Brahmaputra river through coupling of speciation and isotopic fingerprinting	UGC	10.6 lakh	3 Years	M Kumar
Impact of climate change with reference to low rainfall on sustainable productivity of pulse crops in Assam	UGC	8.943 lakh	3 years	Nirmali Gogoi
Physiochemical characterization of aerosol and source apportionment in mid Brahmaputra plain in Assam; A modeling approach.	Ministry of Earth Sciences, Gol.	69.7 lakh	3 Years	RR Hoque
Spatial and temporal variation of aerosol optical depth (AOD) on Mid Brahmaputra valley	UGC	10.10 lakh	3 Years	RR Hoque
Modelling Atmospheric Pollution and Networking (MAPAN)	Director, IITM	20.32 lakh	4 Years	RR Hoque
Sustainable utilization of solid waste as a source of plant nutrient in rice based agroecosystem of north-east India	CSIR	14.80 lakh	3 Years	S S Bhattacharya
Qualitative development of vermicompost technology through isolation of novel microorganisms and their application in agricultural waste management of Assam	DBT	64.84 lakh	3 Years	S S Bhattacharya

PUBLICATIONS

International and National

Baroowa, Bhaswatee and Gogoi, Nirmali. 2013. Biochemical changes in two vigna spp. during drought and subsequent recovery. *Indian Journal of Plant Physiology*, 18(4).

Bhattacharya, S.S., Barua, S., Konwarh, R., Das, P., Sanjana, K., Devi, P., Maiti, Tapas, K., Mandal, M. and Karak, N. 2014. Non-hazardous anticancerous and antibacterial colloidal 'green' silver nanoparticles. *Colloids and Surfaces B: Biointerfaces*, (accepted).

Bhattacharya, S.S., Barman, S., Ghosh, R., Duary, R. K., Goswami, L. and Mandal, C.N. 2013. Phosphate solubilizing ability of *Emericellanidulans* strain V1 isolated from vermicompost. *Indian Journal of Experimental Biology*, 51(10).

Daimari, R., Hoque, R. R., Nayak, S. and Upreti, D.K. 2013. Atmospheric heavy metal accumulation in epiphytic Liches and Their Phorophytes in the Brahmaputra Valley. *Asian Journal of Water, Environment and Pollution*, 10(4).

Deka, P. and Hoque, R.R. 2014. Incremental effect of festive biomass burning on wintertime PM10 in Brahmaputra Valley of Northeast India. *Atmospheric Research*, 143.

Deka, P. and Hoque, R. R. 2014. Diwali fireworks: early signs of impact on PM10 properties of rural Brahmaputra valley. *Aerosol and Air Quality Research*. (in press).



- Dutta, Gitamani and Devi, Ashalata. 2013. Plant diversity, population structure, and regeneration status in disturbed tropical forests in Assam, northeast India. *Journal of Forestry Research*, 24(4).
- Goswami, L., Raul, P., Sahariah, B., Bhattacharyya, P. and Bhattacharya, S. S. 2014. Characterization and risk evaluation of tea industry coal ash for environmental suitability. *Clean-Soil Air Water*, 42.
- Goswami, L., Patel, A. K., Dutta, G., Bhattacharyya, P., Gogoi, N. and Bhattacharyya, S. S. 2013. Hazard remediation and recycling of tea industry and paper mill bottom ash through vermiconversion. *Chemosphere*, 92.
- Hoque, R.R., Gohain, M., Das, A. K., Devi, U. and Kurse, B.C. 2013. Levels and source apportionment of trace metal in bed sediment of the Bharalu tributary of Brahmaputra river. *Asian Journal of Water, Environment and Pollution*, 10(3).
- Hussain, K., Rajbongshi, R. and Hoque, R.R. 2014. Understanding levels and sources of PAHs in water of Bharalu tributary of the Brahmaputra river. *Asian Journal of Water, Environment and Pollution*, 11.
- Krishna, C. Murali, Kumar, A., Ray, P. C., Sarma, K., Devi, A. and Khan, M. L. 2013. Impact of road widening on wildlife in Namdapha national park, Arunachal Pradesh, India: a conservation issue. *Asian Journal of Conservation Biology*, 2(1).
- Kumar, A., Sarma, K., Krishna, M. and Devi, A. 2013. The eastern Gibbon (*Hoolockleuconedys*) in eastern Arunachal Pradesh, India. *Primate Conservation*, 27.
- Kumar, M., Herbert, Roger Jr., Ramanathan, A.L., Rao, M. S., Deka, J. P. and Kumar, B. 2013. Hydrogeochemical zonation for groundwater management in the area with diversified geological and land-use setup. *Chemie der Erde- Geochemistry*, 73.
- Kumar, M., Furumai, H., Kurisu, F. and Kasuga, I. 2013. Tracing source and distribution of heavy metals in road dust, soil and soakaway sediment through speciation and isotope fingerprinting. *Geoderma*, 8(17)
- Kumar, M., Furumai, H., Kurisu, F. and Kasuga, I. 2013. Potential mobility of heavy metals through coupled application of sequential extraction and isotopic exchange: comparison of leaching tests applied to soil and soakaway sediment. *Chemosphere*, 90.
- Prabha, S., Kumar, M., Kumar, A., Das, P. and Ramanathan, A.L. 2013. Impact assessment of textile effluent on groundwater quality in the vicinity of Tripur industrial area, southern India. *Environmental Earth Science*, 70.
- Sahariah, B., Sinha, I., Sharma, P., Goswami, L., Bhattacharyya, P., Gogoi, N. and Bhattacharyya, S.S. 2014. Efficacy of bioconversion of paper mill bamboo sludge and lime waste by composting and vermiconversion technologies. *Chemosphere*, 109.
- Sarma, K.P., Goswami, R., Rahman, M. M., Murrill, M. Thakur, R. and Chakraborti, D. 2013. Arsenic in the groundwater of Majuli - the largest river island of the Brahmaputra: magnitude of occurrence and human exposure. *Journal of Hydrology*, (accepted).

BOOK CHAPTERS

- Kumar, A., Devi, A., Gupta, A.K. and Sarma, K. 2013. Population, behavioural ecology and conservation of Hoolock Gibbon in northeast India. In Singaravelan, N. (Ed). *Rare Animals of India*. Bentham Science Publishers.
- Rao, M. S., Kumar, M. and Bhishm, K. 2013. Saline groundwater in the national capital territory Delhi: clues to its origin and evolution. In Yamamoto, K., Furumai, H., Katayama, H., Chiemchaisri, C., Puetpaiboon, U., Viswanathan, C., and Atoh, H. (Eds). *Southeast Asian Water Environment*. London: International Water Association (IWA) Publication.

SEMINARS/CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

Ashalata Devi participated as keynote speaker in the national seminar, Biodiversity Conservation and Management of Bio-resources, organized by Lakhimpur Post Graduate Training College, North Lakhimpur, 4 May, 2013.

Ashalata Devi participated as speaker in the workshop, Media's role in upholding Nameri's Natural Heritage on Media and the Environment, organized by Assam (Bhorelli) Angling and Conservation Association, A(B)ACA, Eco-Camp, Nameri, 20 July, 2013.

Ashalata Devi presented a paper (oral) in the national seminar, Recent Trends in Bioresource Management & Biodiversity Conservation, organized by Rajiv Gandhi University, Itanagar, 17-19 October, 2013.

Ashalata Devi presented a paper (poster) in the international conference, Harnessing Natural Resources for Sustainable Development: Global Trends, organized by Cotton College, Guwahati, 29-31 January, 2014.

SS Bhattacharyya participated in the international conference, Environmental Biology and Ecological Modeling, organized by the Department of Zoology, Visva-Bharati, Santiniketan, 24-26 February, 2014.

SMitra participated as a resource person in the 3rd Sustainable Mountain Development Summit (SMDS), Kohima, 25-27 September, 2013.

SMitra participated in the workshop, Mountain Specific Research in the Context of Himalaya, organised by Mountain Division of G. B. Pant Institute of Himalayan Environment & Development (GBPIHED) in collaboration with International Centre for Integrated Mountain Development (ICIMOD) and Indian National Science Academy (INSA), INSA conference hall, New Delhi, 19-20 November, 2013.

SMitra participated in the workshop, Traditional Knowledge, Socio-Economic development and Intellectual Property Rights organized by Tezpur University, Tezpur, 10-11 February, 2014.

NUMBER OF STUDENTS WHO PASSED NET/SLET/JRF/GATE

- NET: 08

THE FACULTY OF THE DEPARTMENT**Professors**

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Head of the Department

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DEPARTMENT OF MATHEMATICAL SCIENCES

THE DEPARTMENT

The Department of Mathematical Sciences was opened in July 1994 with the objective of producing trained manpower capable of undertaking research and teaching in Mathematics and allied branches. It also aims at grooming trained mathematicians for problem solving in industry and other concerns. The 2-year MA/MSc programme in Mathematics and the PhD programme in Mathematical Sciences have been running in the Department since 1994. A 5-year Integrated MSc programme in Mathematics was started in August 2009, followed by an integrated BSc BEd programme in Mathematics in 2011. A 2-year MSc programme in Mathematics is also being offered in the Distance Education mode under the Centre for Open and Distance Learning of the University since 2012. Apart from these programmes, the Department also teaches Mathematics on the BTech and MTech and Integrated programmes of the University. Faculty members of the Department have been supervising doctoral research in the areas of Discrete Probability Distributions; Combinatorial Optimization; Number Theory and Mathematics influenced by the work of Ramanujan; Algebraic number theory, Fuzzy Mathematics; Topology and its Applications; Operator Theory and Applications; Finite Element Method, Ring Theory and Graph Theory. They have successfully completed several research projects sponsored by DST, ISRO, CSIR, UGC, ICSSR, and DRDO. Currently the Department is working on several other UGC sponsored projects. The Department is being supported under UGC-SAP (Phase-I) since 2011. The Department has been recommended for grant under DST-FIST programme in 2012 for a period of five years.

ACADEMIC PROGRAMMES

- 5-year Integrated MSc in Mathematics
- 4-year Integrated BSc BEd in Mathematics
- MA/MSc in Mathematics
- PhD

STUDENT INTAKE

Programme	Student Intake
Integrated MSc in Mathematics	15
Integrated BSc BEd in Mathematics	10
MA/MSc in Mathematics	60
PhD	Intake variable, 1 registered during this period

MAJOR FACILITIES AND EQUIPMENT AVAILABLE

A computational laboratory was set up in the department in 2005 with partial assistance from the department of science and technology of the university. It has scientific and mathematical software packages which includes matlab, mathematica, techplot, spss, seisan, fortran, c, c++ compilers. The laboratory is fully networked, and is linked to the central computer center of the university via lan, and has access to the internet. One systems analyst with the help of a technical assistant looks after the laboratory.

MAJOR RESEARCH FINDINGS/RESEARCH AND DEVELOPMENT ACTIVITIES

- Complete categorization of secondary and tertiary vortex dynamics in particular the sub- α and sub- β phenomena were carried out by S Sen and J.C. Kalita.



RESEARCH PROJECTS: ONGOING AND NEW

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
A study of k -hyponormality and weak k -hyponormality for finite rank perturbation of weighted shift operators	UGC	1.75 lakh	2 years	Munmun Hazarika
Performance evaluation of some Markovian and non-Markovian queuing system with impatience customer	UGC	6 lakh	2 years	Pallabi Medhi

PUBLICATIONS

International and National Journals

Barman, R. and Kalita, G. 2013. Hypergeometric functions over F_q and traces of Frobenius for elliptic curves. *Proc. Amer. Math. Soc.*, 141, 3403.

Barman, R. and Kalita, G. 2013. Elliptic curves and special values of Gaussian hypergeometric series. *Journal of Number Theory*, 133, 3099.

Barman, R. and Kalita, G. 2013. On the polynomial x^d+ax+b over F_q and Gaussian hypergeometric series. *International Journal of Number Theory*, 9, 1753.

Barman, R. 2013. Another look at Iwasawa λ -invariants of p -adic measures on and σ -transforms. *International Journal of Number Theory*, 9, 1289.

Basnet, D. K. and Bhattacharyya, J. 2014. Nil clean index of rings. *International Electronic Journal of Algebra*, 15, 145.

Bhuyan, A. and Borah, M. 2014. Assessment of regional flood frequency of Tripura region of North East India. *Journal of Applied Hydrology*, (accepted).

Borah, M., Doloi, C. and Gogoi, J. 2013. Cascade system with $P(X<Y<Z)$. *Journal of Informatics and Mathematical Sciences*, 5, 1.

Bose, S. S. Nath, M., and Paul, S. 2013. On the maximal distance spectral radius of graphs without a pendent vertex. *Linear Algebra and its Applications*, 438, 4260.

Choudhury, A. and Medhi, P. 2013. Reneging in queues without waiting space. *International Journal of Research in Applied, Natural and Social Sciences*, 1, 3.

Deka, B. and Ahmed, T. 2013. Convergence of finite element method for linear second order wave equations with discontinuous coefficients. *Numer. Method for PDE*, 29, 1522.

Deka, B. and Deka, R. C. 2013. Finite element method for a class of parabolic integro-differential equation with interfaces. *Ind. J. Pure and Applied Math*, 44, 823.

Deka Baruah, N. and Nath, K. 2013. Infinite families of arithmetic identities for 4-cores. *Bull. Australian Math. Soc.*, 87, 304.

Deka Baruah, N. and Sarmah, B. K. 2013. Identities and congruences for the general partition and Ramanujan's tau functions. *Indian Journal of Pure and Applied Mathematics*, 44, 643.

Deka Baruah, N. and Nath, K. 2014. Some results on 3-cores. *Proceedings of the American Mathematical Society*, 142, 441.

Deka Baruah, N. and Nath, K. 2014. Infinite families of arithmetic identities for self-conjugate 5-cores and 7-cores. *Discrete Mathematics*, 321, 57.

- Deka Baruah, N. and Nath, K. 2014. Infinite families of arithmetic identities for doubled distinct t -cores for $t = 3; 4, \dots, 10$. *International Journal of Number Theory*, 10, 85.
- Deka, B. and Ahmed, T. 2014. Finite element methods for semilinear elliptic problems with smooth interfaces. *Ind. J. Pure. Appl. Math.*, (accepted).
- Deka, B. and Ahmed, T. 2014. Semidiscrete finite element methods for linear and semilinear parabolic problems with smooth interfaces: some new optimal error estimates. *Numerical Functional Analysis and Optimization*, (accepted).
- Deka, B. and Deka, S. 2014. Zeros of trigonometric like functions via two point boundary value problems. *Mathematical Forum*, (accepted).
- Deka, B. and Deka, R. C. 2014. Finite element methods with numerical quadrature for linear parabolic interface problems. *Bull. Korean Math. Soc.*, (accepted).
- Deka, B., Sinha, R. K., Deka, R. C. and Ahmed, T. 2014. Finite element method with quadrature for parabolic interface problems. *Neural, Parallel and Scientific Computations*, (accepted).
- Deka Baruah, N., and Boruah, B. 2014. Colored partition identities conjectured by Sandon and Zanello. *The Ramanujan Journal*, (accepted).
- Dutta, S., Sarkar, S., and Dutta, P. 2014. Analysis of performance of Index funds using co-integration. *Global Business Review*, (accepted).
- Dutta, S. and Bose, A. 2014. Density estimation using bootstrap bandwidth selector. *Statistics and Probability Letters*, (accepted).
- Dutta, S. 2014. Local smoothing using the bootstrap. *Communications in Statistics: Computation & Simulation*, (accepted).
- Goswami, D., Pani, A. K. and Yadav, S. 2014. Optimal L^2 estimates for the semidiscrete Galerkin method applied to parabolic integro-differential equations with nonsmooth data. *ANZIAM J*, (accepted).
- Haloi, R. 2014. Existence of weighted pseudo-almost automorphic mild solutions to non-autonomous abstract neutral differential equations with deviating argument. *Differential Equations and Dynamical Systems*, (accepted).
- Hazarika, M. and Kalita, B. 2013. Finite rank perturbation of 2-hyponormal weighted shifts. *International Journal of Functional Analysis: Operator Theory and Applications*, 5, 19.
- Hazarika, M. and Phukan, A. 2013. Necessary conditions for hyponormality of Toeplitz Operators on the Bergman space. *Int. Journal of Mathematical Analysis*, 7, 485.
- Kalita, D. 2013. Spectral integral variation and unicyclic 3-colored digraphs with second smallest eigenvalue 1. *Linear Algebra and Its Applications*, 439, 55.
- Kalita, D. and Pati, S. 2014. A reciprocal eigenvalue property for unicyclic weighted directed graphs with weights from $\{+1, -1, +i, -i\}$. *Linear Algebra and Its Applications*, 449, 417.
- Kalita, D. 2014. Algebraic connectivity of lollipop graphs: a new approach. *Discrete Mathematics, Algorithms and Applications*, 6, 1450028.
- Nath, M. 2013. Minimal configuration bicyclic graphs. *Linear and Multilinear Algebra*, 61, 255.
- Nath, M. and Paul, S. 2013. Graph transformation and distance spectral radius. *Discrete Mathematics, Algorithms and Applications*, 5, 3.
- Nath, M. and Paul, S. 2013. On the distance spectral radius of trees. *Linear and Multilinear Algebra*, 61, 847.



Nath, M. Bose, S., and Paul, S. 2013. On maximal distance spectral radius of graphs without a pendent vertex. *Linear Algebra and its Applications*, 438, 4260.

Nath, M. and Paul, S. 2014. On the minimal distance spectra radius in the class of bicyclic graphs. *Discrete Mathematics, Algorithms and Applications*, 6, 1450014.

Nath, M. and Paul, S. 2014. A note on the distance spectral radius of some graphs. *Discrete Mathematics, Algorithms and Applications*, 6, 1450015.

Nath, M. and Paul, S. 2014. On the spectra of graph with hedge-pockets. *Linear and Multilinear Algebra*. DOI: 10.1080/03081087.2013.877010

Nath, R. K. 2013. Commutativity degree of a class of finite groups and consequences. *Bull. Aust. Math. Soc.*, 88, 448.

Nath, R. K., Das, A. K. and Pournaki, M. R. 2013. A survey on the estimation of commutativity in finite groups. *Southeast Asian Bulletin of Mathematics*, 37, 161.

Nath, A. and Borah, M. 2014. Inter district developmental disparities on agriculture in Assam. *Jour. Ind. Soc. Ag. Statistics*, (accepted).

Nath, M. and Paul, S. 2014. On the minimal distance spectral radius in a class of bicyclic graphs. *Discrete Mathematics. Algorithms and Applications*, (accepted).

Sarma, M. and Hazarika, D. 2014. On metrizable and covering properties of L-fuzzy metric spaces. *Annals of Fuzzy mathematics and Informatics*, (accepted).

Sen, S. 2013. A new family of (5.5) CC-4OC schemes applicable for unsteady Navier- Stokes equations. *Journal Computational Physics*, 251, 251.

Sen, S. and Kalita, J. 2013. Unsteady separation leading to secondary and tertiary vortex dynamics: the sub- α and sub- β Phenomena. *Journal of Fluid Mechanics*, 730, 19.

Sen, S. Kalita, J. and Gupta, M. M. 2013. A robust implicit compact scheme for two- dimensional unsteady flows with a biharmonic stream function formulation. *Computers and Fluids*, 84, 141.

Sen, S. and Kalita, J.C. 2014. Tackling problems of moving boundaries using the biharmonic approach. *International Journal for Computational Methods in Engineering Science & Mechanics*, (accepted).

BOOK CHAPTERS

Baruah, N. D. and Sarmah, B. K. 2013. Two Quotients of Theta Functions and Arithmetic Identities for 3-cores. In B. C. Berndt and D. Prasad (Eds). *The Legacy of Srinivasa Ramanujan*, RMS Lecture Notes.

SEMINARS/CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

D Goswami attended the workshop, Workshop on Optimization with PDE Constraints, organized by TIFR-CAM Bangalore, Bangalore, 25 November – 6 December, 2013.

M Borah attended (as a resource person) the seminar, National Seminar on Recent Developments in Statistics and its Applications in Allied Disciplines, organized by Dibrugarh University, Dibrugarh, 21-23 March, 2014.

Munmun Hazarika attended the workshop, International Workshop on Operator Theory and Applications (IWOTA 2013), organized by Indian Institute of Science Bangalore, Bangalore, 16-20 December, 2013.

Pallabi Medhi attended the conference, Large Scale Sample Survey and Regression Techniques, organized by Department of Statistics, Gauhati University, Guwahati, 12-14 March, 2014.

Pallabi Medhi attended the workshop, Workshop on Probability, funded by Indian Statistical Institute, Kolkata, organized by Department of Mathematical Sciences, Tezpur University, Tezpur, 2-10 January, 2014.

R K Nath attended (as a resource person) the school, Instructional School on Group Theory and Linear algebra, organized by Central University of Jharkhand, Ranchi, Ranchi, 17-30 December, 2013.

S Sen visited National Taiwan University, Taiwan, December, 2013 – January, 2014 under Visiting Assistantship of NTU.

TALKS BY THE FACULTY ABROAD AND IN INDIA

N D Baruah delivered a keynote address, Ramanujan's Modular Equations and Theta Function Identities with Applications to t-cores, National Conference on Pure and Applied Mathematics, organized by Royal School of Engineering and Technology, Guwahati, Guwahati, 9-10 May, 2013.

N D Baruah delivered a talk, An Inspiring Story of a Genius and the King, DST-INSPIRE Programme, organized by M C College, Barpeta, Barpeta, 18 December, 2013.

N D Baruah delivered a talk, Ramanujan and Pi, DST-INSPIRE Programme organized by Tezpur University, Tezpur, 25 December, 2013.

S Sen delivered a talk, Family of Fourth Order Compact Schemes for 2D Parabolic Problems with Mixed Derivatives, TIMS, NTU, Taiwan, 6 January, 2014.

S Sen delivered a talk, Unsteady Separation Leading to Secondary and Tertiary Vortex Dynamics: the Sub- α and Sub- β Phenomena, TIMS, NTU, Taiwan, 6 January, 2014.

SEMINARS/ WORKSHOPS/ SYMPOSIA/ OTHER SUCH PROGRAMMES ORGANIZED BY THE DEPARTMENT

Workshop on Probability, funded by Indian Statistical Institute, Kolkata, 2-10 January, 2014.

Workshop on Undergraduate Algebra, Analysis and its Applications for North East, organized jointly by the Indian Statistical Institute, North East Centre and the Department of Mathematical Sciences, Tezpur University, 28 March - April 03, 2013 and sponsored by Indian Statistical Institute and GC-SAP (DRS-I) of Tezpur University.

DISTINGUISHED VISITORS TO THE DEPARTMENT

Prof Dipendra Prasad, TIFR, Mumbai

Prof Jayant V Narlikar, Eminent Scientist

Prof K Srinivasa Rao, IMSC Chennai

Prof Michel Waldschmidt, Universite et Marie Curie, France

Prof R B Bapat, ISI, Delhi

Prof Siddhartha Sen, Trinity College, Dublin

NUMBER OF STUDENTS WHO PASSED NET/JRF/GATE

NET/JRF/GATE:06



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DEPARTMENT OF MOLECULAR BIOLOGY AND BIO TECHNOLOGY

THE DEPARTMENT

The Department of Molecular Biology and Biotechnology (MBBT) was established in 1997. The Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India recognized the MSc program for funding in 1998. Further, the Department is also supported by grants from DBT, DST-FIST and UGC-SAP. The objective of the Department has been to contribute to the advancement of the emerging areas of basic and applied Life Sciences and to generate trained human resource.

The Department runs two teaching programs: (i) MSc in Molecular Biology and Biotechnology (ii) Integrated MSc in Biosciences and Bioinformatics and a PhD programme. MSc students regularly qualify national level tests like NET-JRF, NET-LS, GATE, DBT-JRF, ICMR-JRF and also the PhD admission test of various reputed research institutions in the Country. Faculty members are also carrying out research in various fields of modern life sciences. There are about 50 PhD students working in the Department. Faculty members are publishing their research output in reputed research journals and it is very encouraging to note that 111 publications were published during 2013-2014. Many of these publications are result of collaborative research in multidisciplinary areas.

The Department has been ranked constantly within the top 10 biotechnology Departments in the country for the past several years due to student's achievements, research pursued by the Faculty members with support from extramural funding, advanced facilities for biotechnological research, sound faculty strength and staff with expertise in various research fields.

ACADEMIC PROGRAMMES

- MSc in Molecular Biology and Biotechnology
- Integrated MSc in Biosciences and Bioinformatics
- PhD

STUDENT INTAKE

Programme	Student Intake
MSc in Molecular Biology and Biotechnology	30
Integrated MSc in Bioscience and Bioinformatics	20
PhD	Intake variable, 21 registered during this period

MAJOR EQUIPMENT AVAILABLE

- 4-capillary DNA Sequencer
- UHPLC systems
- Fast protein Liquid Chromatography (FPLC)
- Varian Saturn 2200 GC/MS
- Fluorescence spectrophotometer
- Fluorescence Microscope



- Tensiometer and accessories
- Fermenter (5 lts) and accessories
- Gel Documentation System
- Inverted Microscope
- Oxygraph
- Real time PCR
- Nanodrop
- Chemi Documentation

RESEARCH FACILITIES

- Animal Cell Culture Laboratory
- Plant Tissue Culture Laboratory
- Animal Experimentation Laboratory
- In-House Central Instrumentation Facility
- Cold Room
- DBT-funded Bioinformatics Infrastructure facility
- Departmental Library

MAJOR AREAS OF RESEARCH OF FACULTY MEMBERS

Principal Investigator	Research Findings
B K Konwar	Plant Biotechnology and Microbial Biotechnology: The laboratory is focusing on different research areas such as Genomic study of medicinal plants, medicinal compound isolation and characterization from traditional medicinal plants of India, identification of novel industrially important enzymes using metagenomic and bioinformatic tools. Laboratory is also focusing on petroleum biotechnology, biopolymer and biofuel.
A K Buragohain	Drug discovery from Natural Resources including Medicinal Plants and Nanobiotechnology : Mycobacterium tuberculosis, (M.tb) the causative agent of tuberculosis (TB) in humans, currently infects one-third of the world's population in its latent form and claims about 1.3 million lives annually making it the second leading cause of mortality after the human immunodeficiency virus (HIV). Although several first line and second line drugs are available for the treatment of TB but the longer treatment period and side effects of the drugs make this disease still a severe health problem. Therefore identification and characterization of new potential drug targets in the pathogen and also isolation of antimycobacterial compounds from traditionally known medicinal plants is a critical goal in order to improve the control of M.tb infection. My group is interested in the isolation, purification and characterization of antimycobacterial compounds from medicinal plants of N.E India and thereby understanding the molecular mechanisms of action of those bioactive substances.

Principal Investigator	Research Findings
A K Buragohain	My group is also interested in assessing the biological properties of certain nanomaterials and nanocomposites like polypyrrole nanotubes, epoxy/clay nano composites, carbon nanotubes etc. Further, the use of the Microcrystalline Cellulose extracted from plants as a drug delivery vehicle is also studied.
A K Mukherjee	<p>Snake Venom Biochemistry and Industrially Important Microbial Enzymes: Biomedical research- mechanism of pro-coagulant and/or anticoagulant action of Indian cobra (<i>Naja naja</i> and <i>N. kaouthia</i>) and Russell's viper (<i>Daboia russelli</i>) venom toxins, management/treatment of snakebite by using Indian medicinal plants, medical and diagnostic application of snake venom proteins with particular reference to treatment of thrombosis and cancer.</p> <p>Microbial biotechnology- discovering industrially and pharmaceutically important microbial enzymes with particular reference to microbial proteases and amylases and their commercial application; environmental microbiology; cardiovascular drug development</p>
Shashi Baruah	<p>Innate Immunity and Immunogenetics: Broadly our laboratory is engaged in research in the areas of immunology and immunogenetics. Our focus is in understanding the heterogeneity and evolution of immune response in context of human genetics and migration history to identify susceptibility/ risk determinants and possible targets of immunotherapeutic interventions. Our lab is currently engaged in understanding the regulation of innate immunity with particular emphasis on regulation of cytokine networks and dissecting inflammation in infectious and non infectious diseases.</p> <p>Based on our finding that cytokine networks are dysregulated in complicated malaria, and that antibody responses differ with ethnicity, we are currently engaged in analyzing the dysregulation in context of regulatory pathways and the involved immune cell populations and sub populations. In addition, we are studying polymorphism of KIRs, TLRs, NLRs and cytokine genes to identify correlates of disease and markers of susceptibility in HNSCC and SLE. Our findings suggest KIR2DL1-HLA-C2+ genotype as heritable risk factor in Oral Squamous Cell Carcinoma (OSCC) predisposing to disease at younger age. Our laboratory is also examining receptor ligand –interactions, inflammasome activation and downstream signaling and the regulatory pathways contributing to exaggerated inflammation as in malaria and SLE or immunosuppression as in cancers to identify possible targets of immunotherapy.</p>
S K Ray	<p>Molecular Plant Microbe Interactions and Molecular Evolution : <i>Ralstonia solanacearum</i> causes a lethal wilt disease in more than 200 different plants. The bacterium is found in tropical, sub-tropical and temperate regions. We are trying to characterize adhesion function of this bacterium. We have isolated several <i>R. solanacearum</i> strains from wilted tomato and chilli plants collected from the survey of fields around Tezpur University, Tezpur, Assam. One of the strains, F1C1, has been characterized further at molecular and biochemical level. F1C1 has been found as a strain belonging to Phylotype I of <i>R. solanacearum</i> species complex. Our finding is in concordance with the results regarding the geographical distribution of different phylotypes of <i>R. solanacearum</i> strains. We have collaboration with scientists of CCMB,</p>



Principal Investigator	Research Findings
S K Ray	<p>Hyderabad and NIPGR, New Delhi on this work.</p> <p>The non-uniform usage of synonymous codons, a phenomenon known as codon usage bias (CUB) is common in organisms. Various mutation and selection mechanisms in cell are known to influence CUB. Our current research focus is to understand these mechanisms influencing CUB. Research in our group has revealed that U-ending codons of Gly and Arg family boxes are selected in the high expression genes in bacteria. These codons are found as good indicators for understanding translational selection in bacteria with high genome G+C%. We have collaboration with scientists of this Department, scientists of Comp Sci & Engg Dept. of TU, and scientists of Statistics Dept., Darrang College, Tezpur on this work.</p>
M Mandal	<p>Biofilm Inhibition and Probiotics : The aim of our study is to screen out plants (extract) which can control infectious as well as food spoilage microorganisms (Bacteria and fungi). Which may be used alone or in combination? Bacteria growing in biofilms are less susceptible to many antibacterial agents. For these reasons, novel approaches for treatment of these biofilm-related infections are needed. A possible novel target is the bacterial communication system. Bacteria monitor their population density through the production and sensing of small signal molecules called autoinducers. This communication system, known as quorum sensing (QS), consists of three components: signal molecules, signal synthesis and signal receptors (Bassler, 1999). The present study aims to screen out the plants which can effectively block any one of the components of quorum sensing. Also the bioactive molecules will be isolated and checked against microorganisms.</p> <p>Key questions.</p> <ul style="list-style-type: none"> • What are the different plants used for curing diseases in Assam? • Plants showing biofilm inhibition activity • Which plants shows anti-bacterial and antifungal activity? • Purification of active compounds responsible for showing biofilm inhibition activity • Efficacy of the plant product alone and in combination
A Ramteke	<p>Cancer Genetics and Chemoprevention : Cancer Genetics: Every population has defined genetic makeup which makes them susceptible to certain disease pathologies including cancer. To identify the risk factor genotypes in north east region as well their dietary habits and epigenetic alterations in that population would give valid information to define the severity of disease and also helps in defining the effective therapeutic regimens for the management of disease. Our lab is also working on identification of novel genetic and epigenetic alterations that might act as risk factor for disease progression and aggressiveness.</p> <p>Cancer Chemoprevention : Current anticancer therapies like radio-and chemo-therapies are often met with the burden of high cost, serious side effects, toxicity and tumor relapse; therefore, approaches that are safe, non-toxic, cost-effective and easily available are desired to control and manage tumor growth and progression. The phyto-chemicals isolated from the plants can inhibit the action of various carcinogens or can act as blocking agents to activate detoxification, to induce antioxidant enzymes, to reduce inflammatory response and to decrease tumor cell growth by inducing apoptosis and /or cell cycle arrest. Importantly these</p>

Principal Investigator	Research Findings
A Ramteke	<p>phyto-chemicals of plant origin are less toxic or not toxic, high efficiency, capability of oral administration and low cost. Our lab is actively working on isolation and characterization of active fraction/ biomolecule having chemopreventive and anticancer activity using in vitro and in vivo model.</p>
R Doley	<p>Snake Venomics and Salivary Gland Proteomics of Hematophagus Organisms : Snake venom is a complex mixture of peptides and proteins that varies among snakes. Understanding the variation in venom composition and to study novel proteins using proteomics and antivenomic approaches is my key area of research. The ultimate goal is for the better management of snakebite patients. Presently we are working on medically important snakes of this region.</p> <p>Ticks are hematophagus organism that feeds on host blood. During feeding it overcome the host haemostasis, inflammation and immune response by injecting bioactive molecules that are synthesized and stored in its salivary gland. Our research is to understand the complexities of salivary gland proteins in these organisms and to indentify novel proteins that could be explored further. Presently we are working on a novel anti-thrombin protein identified from cattle tick of North-East India.</p>
T Medhi	<p>Novel Enzymes from Existing Biodiversity of the North East India : My laboratory focuses on two areas. First, we are interested in finding novel enzymes from existing biodiversity of the North East India finally to purify and characterize them to explore their possibility of commercial use. Our first effort was to purify lipase from possible sources and to immobilize them for process improvement. Second, we are interested in Isolation and purification of components of P450 dependent alkane monooxygenases system and their in vitro reconstitution study for cell free AMO components. Elaboration of basic knowledge and conditions for the construction of an enzyme reactor.</p> <p>Monitoring expression of insecticide resistance related enzymes of important tea pest <i>Heliopeltis theovora</i> for its effective management.</p>
E Kalita	<p>Nanobiotechnology, Cell and Molecular Biology : We have been involved in the design, development and application of nanomaterials for bioimaging applications. We have so far been able to develop fluorescent and magnetic imaging agents, which are reasonably biocompatible and have promising prospects as bioimaging and magnetic imaging probes. We are currently trying to develop functional nanobiomaterials from biological waste products for environmental applications, more specifically for remediation of heavy metal contaminants from potable water sources.</p>
S P G Poonam	<p>Human Molecular Genetics : Ours is a Molecular Genetics Laboratory. My group broadly aims to understand the underlying genetic component, if any, and its possible role in the pathobiology of various human diseases/disorders in Indian cohort of patients, by employing the modern techniques and tools of Molecular Genetics and Cell biology. Currently we are focused on understanding the molecular genetics of diseases like schizophrenia, hereditary cataracts, deafness, keratodermas, demyleinating nueropathies etc.</p>



Principal Investigator	Research Findings
A N Jha	Computational Biophysics : In the last year of April 2013-March2014, I have been involved in the study of interaction between different nano-materials and biological molecules. We have shown the use of various nano-particles and nano-tube in the drug delivery. The system chosen for this study is pyrazinamide (PZA), a known first-line antitubercular prodrug which is highly effective against TB, and also recommended by the World Health Organization (WHO). The biological molecule to show the interaction is pncA enzyme. In this analysis different computational methods such as molecular docking, density functional theory, molecular dynamics simulation, have been extensively used.
R Mukhopadhyay	Cellular and Molecular Biology, Environmental Biotechnology : Chronic inflammation leads to several human diseases. Our main goal is to study the basic mechanism of inflammation. We aim for better understanding of the role of components and pathways of inflammation that would lead to possible therapeutic approaches to treat chronic inflammatory diseases. Another interest of our laboratory to identify novel anti-inflammatory compounds along with their mechanism of action. We are also interested in environmental biotechnology, where we study efficacy of various biotechnological procedures for better management of the industrial waste.
S Saha	Cell and Molecular Biology, Posttranslational Modifications : The focus of ongoing research at Dr. S. Saha's laboratory is on protein arginylation, a poorly understood posttranslational modification, which has been shown to have a global role in embryonic development and maintenance of adult organs like heart. During this modification an amino acid, arginine, is covalently linked to preexisting polypeptide chain. This modification has been shown to affect stability, activity and interaction of the modified protein. The laboratory uses two different approach to understand the role of protein arginylation in cellular and tissue activity. In one approach genetic tools like gene knock out, knock down and knock in are used to study the role of this modification in animal cells. In other approach by using biochemical tools like mass spectrometry new substrates of this modification are searched by detecting new arginylated peptides which holds the key to understand the role of this modification in cellular physiology. Currently the laboratory is studying the role of protein arginylation in adipogenesis..
N D Namsa	Molecular Biology of Rotavirus and Medicinal Plants : Rotaviruses are a major cause of acute gastroenteritis in infants and young children producing a high burden of disease worldwide. Rotavirus NSP5 is a major component of the viroplasm in infected cells. NSP5 in infected cell interact not only with viral proteins (NSP2, NSP6 and VP1) but cellular or host factors as well to form proper viroplasm where viral replication and morphogenesis takes place. Very recently a cellular factor Perilipin A has been reported in regulating the formation of viroplasm in infected cells. We have previously identified MAPK kinase pathway as one of the signaling cascades that abolishes the hyperphosphorylation of NSP5 using pharmacological inhibitors. The genome characterization of prevalent rotavirus strains in north-east India remains largely unknown.The current research focuses mainly on two aspects-Genome characterizations of rotavirus strains prevalent in the north-east India and Elucidation of signaling pathways and identification of host factors that regulate the formation of

Principal Investigator	Research Findings
N D Namsa	viroplasm and phosphorylation of NSP5. Studying the antimicrobial activities of medicinal plants and phytofabrication of metallic nanoparticles is another research interest in the laboratory. Environmentally friendly synthesis of silver nanoparticles were carried out using plant extracts and characterized using UV-Vis, XRD, EDX, SEM, AFM and TEM. These green nanomaterials showed enhanced antibacterial and antifungal properties (Materials Letters 2014 125: 67-70).
V S Kumar M	Structural Biology, Bioinformatics and Computational Biology : In an insilico study on Structural insight into the binding interactions of modelled structure of Arabidopsis thaliana urease with urea, we see the modelled structure of Arabidopsis thaliana urease to be stable and the regions between residue index (50-80, 500-700) to be significantly flexible. The findings from this study is considered to be useful not only in identifying the binding interactions between the Arabidopsis thaliana urease and urea but also helpful in designing the small molecule with the ability of working as receptors for the A. thaliana urease in future. In another Molecular Dynamics study on intrinsically disordered protein (PUMA), we observed dynamic structural changes in the disordered protein when the protein is pulled away from its binding partner.
S Dasgupta	Obesity Induced Insulin Resistance and Type 2 Diabetes Mellitus : Menacing increase of type 2 diabetes mellitus (T2DM) is one of the major cause of morbidity and mortality of human beings worldwide. This pathology is characterized by the presence of insulin resistance (IR), which precedes and predicts the development of T2DM, and is defined as a defect in the ability of insulin to drive glucose into its major target tissue, skeletal muscle and adipose tissue. Increased annual rate of T2DM suggests that existing therapeutic measures are insufficient. Over the last decade, an abundance of evidence has emerged demonstrating a close link between a state of chronic low-level inflammation and obesity induced IR and T2DM, however, the underlying mechanism is not clear. We have recently reported that fetuin-A, a hepatic secretory glycoprotein, act as an adaptor protein that connects fatty acids to toll like receptor 4 (TLR4) and induces adipose tissue inflammation (Nature Medicine 18, 1279–1285, 2012). Presently, we are investigating the role of TLR4 pathway on obesity induced inflammation and IR in skeletal muscle cells and hepatocytes. The discovery of two major subpopulations of adipose tissue macrophage (ATM), namely M1 proinflammatory "classically activated macrophages" and M2 anti-inflammatory "alternative macrophages" and the phenotypic change of the ATMs from M2 in lean mice to M1 in mice with diet-induced obesity indicate that M1 macrophage state induces impairment of adipocyte function. To understand the macrophage phenotypic switching in response to obesity, we are investigating the transcriptional regulation of lipid induced M1 polarization state in macrophages. Although the interrelationship between obesity induced inflammation and insulin resistance is well established, however, the specific mechanisms linking inflammation and defects in insulin sensitivity have been partially characterized and we now have an incomplete picture of a complex cross-talk involving metabolic, nutritional and inflammatory signaling pathways, eventually leading to the development of obesity-induced IR. We are also investigating the underlying molecular mechanism of lipid induced inflammation and insulin sensitivity to understand the interrelationship between obesity induced inflammation and insulin sensitivity in adipocyte and skeletal muscle cells.



RESEARCH PROJECTS: ONGOING AND NEW

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Investigation on the biochemical and molecular approaches	DBT	62.37 lakhs	2 years	A K Buragohain
Isolation, purification and characterization of compounds with activity against mycobacterium species from some medicinal plants of North East India.	NMP Board, AYUSH	16.92 lakhs	3 years	A K Buragohain
Assessment of thrombolytic potential and anticancer activity of fibrinolytic Enzymes purified from Russell's viper venom and bacteria isolated from NE-India	DBT	160.04 lakhs	3 years	A K Mukherjee
In-Silico design and evaluation of sequences for gamma D crystalline protein	DBT	50 lakhs	3 years	A N Jha
Studies on genetic and epigenetic alteration in head and neck cancer prevalent in North East region of India	DBT	47.20 lakhs	3 years	A Ramteke
Bioremediation of crude oil contaminated soil	ONGC	70.03 lakhs	5 years	B K Konwar
GIS modeling based impact assessment - agrowaste based nanobiosorbents	DBT	95.79 lakhs	3 years	E Kalita
Assessment of microbial communities and their biodegradation potential in petroleum hydrocarbon contaminated environments in Assam through construction of microcosms and phylogenetic approach	ONGC	18.00 lakhs	3 years	L Bora
Isolation and characterization of hydrogen producing bacteria from North-Eastern states of India, (with special emphasis on Assam and Arunachal Pradesh), for efficient conversion of biomass to hydrogen	DBT	54.71 lakhs	3 years	M Mandal
Study of microbial diversity and biochemical characteristics of selected non alcoholic fermented (milk, vegetable and pulses) food product of Assam and Arunachal Pradesh	DBT	56.20 lakhs	3 years	M Mandal

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Elucidation of signaling pathways and identification of host cell factors that regulate the formation of viroplasm and hyperphosphorylation of rotavirus non-structural protein 5 (NSP5)	DST	12.00 lakhs	2 years	N D Namsa
Screening and isolation of bioactive compounds from medicinal plants traditionally used against malaria in Arunachal Pradesh	DRDO	9.00 lakhs	2 years	N D Namsa
Isolation, characterization, possible use and clinical manifestation of a neurotoxin from snake venom (naja siamensis) with special reference to warfare importance neuro - toxin as a model.	DRDO	9.8 lakhs	3 years	R Doley
Search for novel treatments for snake venom poisoning: composition analysis of venoms of daboia ruselii and naja naja, and complete characterization of their major toxins	DBT	69.43 lakhs	2 years	R Doley
Role of non-canonical function of ribosomal proteins in inflammation	DBT (U-Excel-NER)	152.07 lakhs	3 years	R Mukhopadhyay
Studies on the efficacy of flavonoid and non-flavonoid polyphenols against chronic inflammation induced disease pathogenesis	DBT	48.60 lakhs	3 years	R Mukhopadhyay
Study on the regulation of adipose tissue development and function by post-translational protein arginylation	DBT	56.10 lakhs	3 years	S Saha
Role of NF- κ B in obesity induced insulin resistance	TU Start-up	1.5 lakhs	3 years	S Dasgupta
Characterization of a potential auto transporter adhesion function in ralstonia solanacearum, the causal agent of bacterial wilt in plants	DBT	35.66 lakhs	3 years	S K Ray
Understanding codon usage bias in organisms	DBT	15.50 lakhs	2 years	S K Ray
Sequencing genomes of some bacteria that invade/resides in tomato plant	DBT	127.63 lakhs	3 years	S K Ray
Studying the role of rpoN, the alternative sigma factor, in the pathogenicity of R. solanacearum, the causal agent of bacterial wilt in plants	IFCPAR/CEFIPRA	44.17 lakhs	3 years	S K Ray



Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Preparation and studies on polymer anchored transition metal compounds - towards development of bio-relevant complexes and active oxidation catalyst	DST	20.85 lakhs	3 years	S Genin (PI, France)
KIR haplotypic variation and activation of natural killer cells in cancer,	ICMR	27.3 lakhs	3 years	Shashi Baruah
Understanding the molecular interaction between NK receptor diversity and activation with diverse malignancy in HNSCC prevalent in the population of Assam	DBT	49.59 lakhs	3 years	Shashi Baruah Shashi Baruah
Longitudinal analysis of changes in cytokine profiles of malaria patients at different stages of treatment and disease resolution: understanding the molecular basis of cure and malarial pathology	DBT	67.06 lakhs	3 years	Shashi Baruah
Studies on bio-ecology of <i>Heliopeltis Theivora</i> and development of an forecasting model of its incidence for effective management	DBT	74.56 lakhs	3 years	T Medhi
Development of phytoremediation protocol for bioremediation of crude oil contamination	ONGC	7.65 lakhs	1.5 years	T Medhi

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Singh, S.P. and Konwar, B.K. 2013. Molecular docking, DFT and ADME-toxicity studies on analogues of Epigallocatechin Gallate as SARS coronavirus 3CL Protease inhibitors. *Journal of Bioinformatics and Intelligent Control*, 2, 1.

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Singh, S.P., Deb, C.R., Ahmed, S. U., Saratchandra, Y. and Konwar, B. K. 2014. In silico studies on the molecular interaction analysis of dietary flavonols as a potent inhibitor of heat shock protein 90 enzyme in fighting against cancer. *J of Biomedical Research*, (In Press).

Singh, S.P., Gogoi, B., Konwar, B.K. and Ramteke, A. 2013. Homology modelling and molecular docking studies of nitric oxide synthase (inducible) of *Gallus gallus*. *Journal of Pharmacy Research*, 7, 443.

Singh, S.P., Konwar, B.K., Bezbaruah, R. L. and Bora, T.C. 2013. Molecular docking and in silico studies on analogues of 2-methylheptyl isonicotinate with DHDPS enzyme of *Mycobacterium tuberculosis*. *Medicinal Chemistry Research*, 22, 4755.

Singh, S.P., Konwar, R., Konwar, B. K. and Karak, N. 2013. Molecular docking studies on analogues of quercetin with D-alanine: D-alanine ligase of *Helicobacter pylori*. *Medicinal Chemistry Research*, 22, 2139.

Singh, S.P., Sagar, K. and Konwar, B.K. 2013. Strategy in metagenomic DNA isolation and computational studies of humic acid. *Current Research in Microbiology and Biotechnology*, 1, 9.

Singh, S., Saikia, J. P., and Buragohain, A. K. 2013. A novel green synthesis of colloidal silver nanoparticles (SNP) using *Dillenia indica* fruit extract. *Colloids and Surfaces B: Biointerfaces*, 102, 83.

Singh, S., Saikia, J. P. and Buragohain, A. K. 2013. A novel reusable PAni-PVA-Amylase film: Activity and Analysis. *Colloids and Surfaces B: Biointerfaces*, 106, 46.

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Tanti, B. and Buragohain, A. K. 2013. Biodegradation of petroleum Tar by *Pseudomonas* spp. from oil field of Assam, India. *Bioremediation Journal*, 17, 107.

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Vinod Kumar Y., Arun T. and Venkata S. K. M. 2014. Structural insight into the binding interactions of modelled structure of *Arabidopsis thaliana* urease with urea: An *In silico* study. *Journal of Biomolecular Structure and Dynamics*, 15, 1.

BOOK CHAPTERS

Kalita, E. 2014. Patenting Nanobiotechnological innovations: The Indian Perspective. In S N Anku et. al. (Eds). *Contemporary Management Strategies in Intellectual Property Rights relevant to NAM and other Developing Countries*. New Delhi: Astral International Pvt. Ltd.

SEMINARS/CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

A N Jha attended the national workshop, SAKSHAM - IT Champion Training Program, organized by Microsoft at Tezpur University, Tezpur, 19-28 April, 2013.

A N Jha attended the national workshop, Workshop on Data Deluge in Biology: Use of High-Performance Grid & Cloud computing, organized by Jorhat Medical College Hospital, Jorhat, 19-20 December, 2013.

A N Jha attended the national workshop, Workshop on Nonlinear Dynamics in Biology, organized by IISc Bangalore, Bangalore, 08-13 July, 2013.

E Kalita attended the international conference, International Conference on Genomics, Mechanism and Function, organized by The Society Of Biological Chemists, India (SBCI), Hyderabad, 2-5 December, 2013.

N D Namsa attended the national conference, 7th Conference of Medical Anthropology, organized by DRL DRDO Tezpur, Tezpur, 12-13 December, 2013.

R Doley attended the international conference, International Conference on Exogenous Factors affecting Thrombosis and Hemostasis, Amsterdam, Netherlands, 5-6 July, 2013.

SK Ray attended the international conference, 4th International Conference on Bacterial Blight (ICBB 2013), organized by CCMB Hyderabad, Hyderabad, 2-4 December, 2013.

SK Ray attended the national conference, 6th NEBInet meeting, organized by Bioinformatics Centre (BIF), Assam University, Silchar, Silchar, 11-12 November, 2013.

T Medhi attended the thematic meeting, Application of Radiation Technology and Radioisotope in the field of Agriculture, Food and Health, organized by AAU, Jorhat, Jorhat, 28-30 May, 2014.

SEMINARS/WORKSHOPS/SYMPOSIA/OTHER SUCH PROGRAMMES ORGANIZED BY THE DEPARTMENT

DBT-BIF Seminar cum workshop on Evolutionary Genomics, 14-17 February, 2014.

DBT-HUB Hands on training in Cell Culture Techniques, 28-30 March, 2014.



ONGC-CPBT workshop on Analytical Techniques in Petroleum Biotechnology for ONGC officials, 28 October – 01 November, 2013.

TALKS BY THE FACULTY ABROAD AND IN INDIA

A N Jha was invited as a resource person to the workshop, Workshop on Basics of Computer-Aided Drug Designing and Protein-Protein Interactions, at BIF, College of Veterinary Science, AAU, Guwahati, Guwahati, 19 February, 2014.

A N Jha was invited as a speaker to the Department of Botany, Rajiv Gandhi University, Itanagar, Itanagar, 6-12 April, 2013.

E Kalita was invited as a speaker to the workshop, Advanced Techniques in life Science Research, organized by the Department of Biotechnology, Gauhati University, Guwahati, 28 April-4 May, 2014.

E Kalita was invited as a speaker to the workshop, Workshop on Molecular Biology, organized by the Department of Biotechnology, Gauhati University, Guwahati, 22-27 April, 2013.

R Doley was invited as a resource person to the workshop, Workshop on Biochemistry and Molecular Biology Techniques sponsored by DBT, organized by Centre for Studies in Biotechnology, Dibrugarh University, Dibrugarh, 19-21 March, 2014.

R Doley was invited as a resource person to the workshop, Workshop on Molecular Structure Determination using X-ray Crystallography: Theory and Hands on Experience, organized by Center with Potential on Biodiversity, Rajiv Gandhi University, Itanagar, Itanagar, 2013.

S K Ray was invited as a resource person to the workshop, Workshop on Statistical Modelling in Addressing Biological Phenomena, Department of Statistics, Dibrugarh University, Dibrugarh, 1 March, 2014.

S K Ray was invited as a resource person to the workshop, Workshop on Basic Techniques in Molecular Biology, organized by North Lakhimpur College, Lakhimpur, 19 April, 2013.

S K Ray was invited as a speaker to the national conference, Contemporary Bioinformatics Research in India (CBRI), National Conference Bioinformatics Centre (BIF), Assam University, Silchar, Silchar, 10 November, 2013.

AWARDS/ HONOURS/ RECOGNITION RECEIVED BY THE FACULTY/ STUDENTS/ RESEARCH-SCHOLARS/ THE DEPARTMENT

A Ramteke was awarded the DBT Overseas Associateship to work as a visiting Faculty at University of Colorado, USA.

Anowar Hussain was awarded a fellowship from the University of Colorado, Aurora, CO, USA for a period of six months for carrying out advanced research in the field of cancer chemoprevention.

Bikash Kar Nath won the Best Poster Award at the International Conference on Genomics, Mechanism and Function, organized by The Society of Biological Chemists, India (SBCI), University of Hyderabad, Hyderabad, 2-5 December, 2013.

M Mandal was awarded the DBT Overseas Associateship to work as a visiting scientist at Harvard Medical School, Boston, USA.

Maitreyee Sharma received a six-month fellowship from NUS-India Research Initiative (IRI), National University of Singapore to visit Prof. R. Manjunatha Kini's Laboratory for advance research.

Monoj Kumar Das was awarded the RGNF Fellowship from University Grants Commission (UGC), New Delhi.

NUMBER OF STUDENTS WHO PASSED NET/SLET/JRF/GATE

NUMBER OF STUDENTS WHO PASSED NET/SLET/JRF/GATE

NET-JRF: 02

NET-LS: 03

GATE: 18

DBT-JRF: 6

DISTINGUISHED VISITORS TO THE DEPARTMENT

Dr D N Rao, AIIMS, New Delhi

THE FACULTY OF THE DEPARTMENT**Professors****B K Konwar**, PhD (Imperial College, London), DIC

(On lien as Vice-Chancellor of Nagaland University)

Specialization/Areas of interest: Petroleum Biotechnology, Plant Biotechnology, Genetic Engineering- Metagenomics, Bioenergy

E-mail: bkkon@tezu.ernet.in, vicechancellornu@yahoo.com

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(On lien as Vice-Chancellor of Dibrugarh University)

Specialization/Areas of interest: Molecular Biology and Plant Biotechnology, Evolutionary Genomics

E-mail: alak@tezu.ernet.in

A K Mukherjee, PhD (Burdwan)

Specialization/Areas of interest: Snake Venom Biochemistry and Microbial Biotechnology

E-mail: akm@tezu.ernet.in

Shashi Baruah, PhD (PGIMER, Chandigarh)

Specialization/Areas of interest: Molecular Immunology

E-mail: sbaruah@tezu.ernet.in

Associate Professors**S K Ray**, PhD (CCMB, Hyderabad)

Head of the Department

Specialization/Areas of interest: Plant-Microbe Interactions; Molecular Evolution

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M Mandal, PhD (IGIB, Delhi)

Specialization/Areas of interest: Microbial Biotechnology

E-mail: mandal@tezu.ernet.in

A M Ramteke, PhD (JNU)

Specialization/Areas of interest: Radiation Oncology and Molecular Biology

E-mail: anand@tezu.ernet.in

R Doley, PhD (Tezpur)

Specialization/Areas of interest: Molecular Toxinology

E-mail: doley@tezu.ernet.in



Assistant Professors

T Medhi, PhD (IIT Kharagpur)

Specialization/Areas of interest: Redox Biochemistry and Enzymology

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E Kalita, PhD (NIPGR, New Delhi & Gauhati)

Specialization/Areas of interest: Molecular Biology

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S P G Ponnampalani, PhD (LVPEI & Hyderabad)

Specialization/Areas of interest: Human Molecular Genetics

E-mail: suryap@tezu.ernet.in

A N Jha, PhD (IISc)

Specialization/Areas of interest: Computational Biophysics, Bioinformatics

E-mail: anjha@tezu.ernet.in

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Specialization: Cellular and Molecular Biology, Environmental Biotechnology

E-mail: mrupak@tezu.ernet.in

S Saha, PhD (IISc)

Specialization/Areas of interest: Cell and Molecular Biology, Protein Arginylation and Stress response

E-mail: sougata@tezu.ernet.in

N D Namsa, PhD (IISc)

Specialization/Areas of interest: Molecular Virology/Traditional medicinal plants

E-mail: namsa@tezu.ernet.in

S Dasgupta, Ph.D (Visva-Bharati)

Specialization/Areas of interest: Molecular Biology/ Disease Biology/ Cellular metabolism

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M V S Kumar, Ph.D. (IIT Guwahati)

Specialization/Areas of interest: Computational Biotechnology and Bioinformatics

E-mail: venkata@tezu.ernet.in

Assistant Professors

L Bora, PhD (Gauhati)

Specialization/Areas of interest: Microbial Biotechnology and Enzyme Technology

E-mail: limpon@tezu.ernet.in

J P Saikia, PhD (Tezpur)

Specialization/Areas of interest: Plant Biotechnology

E-mail: jyoti06@tezu.ernet.in

DEPARTMENT OF PHYSICS

THE DEPARTMENT

Sixteen years since its commencement in January 1998, the Department of Physics has stridden out not only in its post-graduation teaching but also in new frontiers of research. To keep pace with the advancement in science and technology, new special papers have been included with adaptation to new developments within the course content. To preserve this spirit, the Department, in July 2005, started a two-year P.G programme in Nanoscience and Technology. The areas of specialization for post-graduation are: Condensed Matter Physics; Electronics and Photonics; High Energy Physics; and Nano Science and Technology. To develop the students from the graduate level, the Department also started an Integrated M.Sc. in Physics in 2009. Keeping in mind the need of teachers at the school level, the Department has also been running a B.Sc.-B.Ed. programme since July 2011.

Major thrust areas of research of the Department are, Astrophysics, High Energy Physics (Theoretical), Nanomaterials, Neutrino, Optoelectronics, Plasma Physics, Microwaves and Solid State Ionics.

ACADEMIC PROGRAMMES

- MSc in Physics
- MSc in Nanoscience & Technology
- Integrated MSc in Physics
- Integrated BSc BEd
- PhD

STUDENT INTAKE

Programme	Student Intake
MSc in Physics	35
MSc in Nanoscience & Technology	20
Integrated MSc in Physics	15
Integrated BSc BEd in Physics	10
PhD	Intake variable, 13 registered during this period

MAJOR FACILITIES AND EQUIPMENT AVAILABLE

- High Power Nd-YAG Laser
- Microwave Set-up
- High Vacuum Thin Film Coating Unit
- LCRBridge Tester
- Computerized insertion loss measurement x-band system
- CTE measurement setup for polymer materials.
- Electronic Balance



- Tube Furnace
- X-Ray Diffraction (XRD)
- Luminescence Spectro Photometer
- Semi Conductor Characterization Setup
- Scanning Electron Microscope (SEM)
- Polarizing Microscope
- UV-Visible Spectrophotometer
- Vector network Analyser
- High Power Microwave Set-up
- FTIR

RESEARCH PROJECTS: ONGOING AND NEW

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Enhancement of luminescent quantum efficiency and magnetic properties of functional nanomaterials and related computational studies	DST (Nano Mission)	218.23 lakhs	3 years	A J Choudhury
Electrical and thermal transport in conducting polymer nanostructures	UGC-DAE-CSR-Indore	3.93 lakhs	3 years	A Kumar
Development of novel polymer-silicate nanocomposite electrolytes for lithium ion rechargeable batteries	UGC	10.2 lakhs	3 years	A Kumar
Development of biologically functionalized conducting polymer nanostructures for biosensing applications.	DAE-BRNS	24.7 lakhs	3 years	A Kumar
Theoretical spectroscopic studies of polycyclic aromatic hydrocarbon molecules and astrophysical implications	DST	13.20 lakhs	3 years	A Pathak
Photonics properties of rare earth doped nanoscale semiconductors subjected to energetic ion irradiation	IUAC	3.63 lakhs	3 years	D Mohanta
Investigation of photocatalytic response of TiO ₂ nanostructures under doping and irradiation for practical applications.	UGC	13.978 lakhs	3 years	G A Ahmed
Studies on F _L and xF ₃ structure functions of hadrons in lepton-nucleus scattering and related nuclear effects.	DAE-BRNS	16.31 lakhs	3 years	M K Das

Title of the project	Funding Agency	Amount in INR	Duration	Principal Investigator
Study on neutrino masses and mixing in context of recent neutrino oscillation data	UGC	10.508 lakhs	3 years	M K Das
Microwave technology based tea processing systems for NE states	SAMEER	55.3 lakhs	3 years	Nidhi S Bhattacharyya
Study of the role of collisions and their effect on instabilities in high density laser-plasma interactions as well as low-density plasma transport	BRNS-DAE	24.532 lakhs	3 years	Nilakshi Das
A study of the dynamics of dust particles in strongly coupled plasma	UGC	9.658 lakhs	3 years	Nilakshi Das
Study on the controlled self-assembly of magnetic nanostructures using neutron scattering	UGC-DAE	7.67 lakhs	3 years	P Deb
Development of nanomaterial based dual mode contrast agent and their surface mediated conjugation study from first principles	DBT	122.25 lakhs	3 years	P Deb
A plasma-based study of solar equilibrium structure and fluctuation dynamics	DST-SERB	12.48 lakhs	3 years	P K Karmakar
Design consideration of SERS substrate for getting extremely enhanced Raman signal	DST-SERB	27.24 lakhs	3 years	P Nath
Nanostructured graphitic carbon- metal oxide/metal sulfide composites for rechargeable lithium-ion and lithium-O ₂ batteries	UGC	6 lakhs	1 year	S K Das

PUBLICATIONS

International and National Journals

Banerjee, Somik, Konwer, Dimpul and Kumar, A. 2014. Polyaniline nanofiber reinforced nanocomposite based highly sensitive piezoelectric sensors for selective detection of hydrochloric acid: Analysis of response mechanism, *Sensors & Actuators: B. Chemical B*, 190, 199.

Baruah, N. and Sarma, J. K. 2013. Solution of evolution equation for longitudinal structure function F_L up to next-to-next-to-leading order and its t -evolution at small- x . *International Journal of Theoretical Physics*, 52, 2464.

Baruah, N. and Sarma, J. K. 2014. Evolutions of longitudinal structure function F_L up to next-to-next-to-leading orders at small- x . *International Journal of Theoretical Physics* (in press).

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- Bhattacharjee, Saurav and Das, Nilakshi. 2013. Ion-wake-induced anomaly of dust lattice mode in the presence of an external magnetic field. *Phys. Rev. E*, 88, 043106.
- Borah, D. 2013. Deviations from tri-bimaximal neutrino mixing using type II seesaw. *Nuclear Physics B*, 876, 575.
- Borah, D. 2013. Effects of Planck scale physics on neutrino mixing parameters in left-right symmetric models. *Physical Review D*, 87, 095009.
- Borah, D. and Adhikari, R. 2014. Common radiative origin of active and sterile neutrino masses. *Physics Letters B*, 729, 143.
- Borah, D. and Das, M. K. 2013. Neutrino masses and mixings with non-zero θ_{13} in type I+II seesaw models. *Nuclear Physics B*, 870, 461.
- Borthakur, Anshuman and Das, Nilakshi. 2013. Weibel instability due to ultra-intense laser plasma interaction. *IJBSS*, 2, 1.
- Buragohain, M., Pathak, Amit, Hammonds, Mark and Sarre, P. J. 2013. Theoretical quantum chemical study of protonated - deuterated PAHs: Interstellar implications. *AIP Conf. Proc.*, 1543, 258.
- Chetri, Pawan, Deka, Ramesh Ch. and Choudhury, Amarjyoti. 2013. Structural and electronic properties of stable Lin ($n=2-10$) clusters: A density functional study. *Physica B*, 430, 74.
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Nath, Chandrani and Kumar, A. 2013. Fractal like charge transport in polyaniline nanostructures. *Physica B: Physics of Condensed Matter*, 426, 94.

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Nath, N. and Sarma, J. K. 2014. Analytical solution of DGLAP evolution equation for $xF_3(x, Q^2)$ structure functions at low x and low Q^2 using a Q^2 dependent Regge ansatz. *Indian J. Phys.* (in press).

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Nath, P. Hussain, I., and Biswas, R. 2014. Liquid level sensing based on periodic evanescent field absorption from a multimode optical fiber. *Current Science* (in press).

Nath, P. Hussain, I., Dutta, S., and Choudhury, A. 2014. Solvent treated paper resistor for filter circuit operation and relative humidity sensing. *Indian Journal of Physics* (in press).

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Sarma, J. K. 2013. Unpolarised coupled DGLAP evolution equation at small-x. *Pramana J. Phys.*, 80, 61.

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Sarmah, R., Pathak, A., Pradhan, A. C., Murthy, J., and Sarma, J. K. 2013. O VI absorption in the Milky way along the large Magellanic cloud lines of sight. *Adv. Space Research*, 53, 963.

Sarmah, Smritimala and Kumar, A. 2013. Electrical and optical studies in polyaniline nanofiber-SnO₂ nanocomposites. *Bulletin of Materials Science*, 36, 31.

Sarmah, Smritimala and Kumar, A. 2013. Tuneable transport properties of swift heavy ion irradiated PEDOT-DBSA/SnO₂ nanocomposites. *Rad. Eff. Def. Sol.*, 168, 450.

Upadhyay, J. and Kumar, A. 2013. Structural, thermal and dielectric studies of polypyrrole nanotubes synthesized by reactive self degrade template method. *Materials Science and Engineering B*, 178, 982.

Upadhyay, J. and Kumar, A. 2013. Engineering polypyrrole nanotubes by 100 MeV Si⁹⁺ ion beam irradiation: Enhancement of antioxidant activity. *Materials Science and Engineering C*, 33, 4900.

Upadhyay, J., Kumar, A., Gogoi, B. and Buragohain, A. K. 2014. Biocompatibility and Antioxidant activity of polypyrrole nanotubes. *Synthetic Metals*, 189, 119.

SEMINARS/CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

A Kumar attended the national conference, 10th National Conference on Solid State Ionics, organized by Department of Physics and Meteorology, IIT Kharagpur, Kharagpur, 22-24 December, 2013.

A Pathak attended the international conference, IAU Symposium 297: Diffuse Interstellar Bands, organized by Leiden Observatory, Leiden, Noordwijkerhout, the Netherlands, 20-24 May, 2013.

D Borah participated in the international workshop, From Majorana to LHC: Workshop on the Origin of Neutrino Mass, organized by ICTP Trieste, Trieste, Italy, 2-5 October, 2013.

D Borah participated in the workshop, Workshop on High Energy Physics Phenomenology (WHEPP 13), organized by TIFR Mumbai, Puri, 12-21 December, 2013.

G A Ahmed attended the international conference, 14th Electromagnetic and Light Scattering Conference (ELSIV), organized by University of Lille, Lille, France, 17-21 June, 2013.

J K Sarma attended the international conference, International conference on Triggering Discoveries in High Energy Physics (ICTDHEP 2013), organized by Jammu University, Jammu, Jammu, 9-14 September, 2013.

J K Sarma attended the international conference, International Conference on Matter at Extreme Conditions: Then & Now, organized by Bose Institute, Kolkata, Kolkata, 15-17 January, 2014.

J K Sarma participated in the workshop, Workshop on Electroweak and Symmetry Breaking in the light of LHC, organized by IITGuwahati, Guwahati, 20-22 February, 2014.

P Nath attended the international conference, International Conference on Green Energy and Smart Material Through Science and Technology, organized by Gauhati University, Guwahati, Guwahati, 21-24 January, 2014.

S K Das participated in the international conference, International Union of Materials Research Society (ICA2013), organized by IISc, Bangalore, Bangalore, 16-20 December, 2013.

TALKS BY THE FACULTY ABROAD AND IN INDIA

A Kumar delivered a talk, Ionic Liquid Based Polymer-Layered Silicate Nanocomposite Electrolytes and Swift Heavy Ion Irradiation Effects, in the national conference, 10th National Conference on Solid State Ionics, organized by the Department of Physics and Meteorology, IIT Kharagpur, Kharagpur, 22-24 December, 2013.

A Pathak delivered a talk, Spectroscopy of Astrophysical PAHs, in the workshop, Workshop on Light Scattering Techniques and Applications to Astronomy and other areas, organized by S. N. Bose National Centre for Basic Sciences, Kolkata, Kolkata, 19-21 November, 2013.

A Pathak delivered a talk, Interstellar dust, in the workshop, Introductory Workshop on Astronomy, organized by Physics Department, Rajiv Gandhi University, Doimukh, Arunachal Pradesh, 24-25 October, 2013.

A Pathak delivered a talk, Stars and their evolution, in the workshop, Introductory Workshop on Astronomy, organized by Physics Department, Rajiv Gandhi University, Doimukh, Arunachal Pradesh, 24-25 October, 2013.

G A Ahmed delivered a talk, Light Scattering Techniques, in the workshop, Introductory workshop on Astronomy and Astrophysics, organized by Rajiv Gandhi University, Doimukh, Arunachal Pradesh, 24-25 October, 2013.

G A Ahmed delivered a talk, Experimental Analysis of Particle Samples Techniques, in the workshop, Light Scattering Techniques and Applications to Astronomy and other areas, organized by S.N. Bose Centre for Basic Sciences, Kolkata, Kolkata, 19-21 November, 2013.

Rupjyoti Gogoi delivered a talk, Archival UV IR observations of dust in galaxies, in the workshop, Light Scattering Techniques and Applications to Astronomy and other areas, organized by S.N. Bose Centre for Basic Sciences, Kolkata, Kolkata, 19-21 November, 2013.

Rupjyoti Gogoi delivered a talk, Infrared Astronomy, in the workshop, Introductory Workshop on Astronomy, organized by Physics Department, Rajiv Gandhi University, Doimukh, Arunachal Pradesh, 24-25 October, 2013.

DISTINGUISHED VISITORS TO THE DEPARTMENT

DrAbhijit Saha, Scientist F, UGC-DAE Consortium, Kolkata.

Prof D D Sarma, FASc, FNASc, FNA, Indian Institute of Science, Bangalore.

ProfDebatosh Guha, Institute of Radio Physics & Electronics, University of Calcutta.



Prof J V Narlikar, Padmavibhushan, former Director of IUCAA, Pune.

Prof P K Bajpai, Gurughasidas University, Bilaspur.

AWARDS & HONOURS RECEIVED BY THE FACULTY/ STUDENTS/ RESEARCH SCHOLARS

Dr D Borahawarded, Award for Excellence in Thesis 2013 by IIT Bombay, Mumbai.

Dr Rupjyoti Gogoiselected as IUCAA Associate for three years w.e.f. Aug, 2013-July, 2016.

Dr Rupjyoti Gogoiselected as International member of "International ScienceDevelopment Team" (ISDT), Thirty Meter Telescope (TMT) in February, 2014.

Dr S K Das became a life member of Materials Research Society of India.

SEMINARS/WORKSHOPS/SYMPOSIA/OTHER SUCH PROGRAMMES ORGANIZED BY THE DEPARTMENT

Workshop on Solar Astronomy, 17-19 December, 2013.

Departmental Symposium, 7-8 February, 2014.

Workshop on Non-linear Dynamics and Application(NDA-2014), 14-15 March, 2014.

Workshop on RF & Microwave Technology, 24-26 March, 2014.

NUMBER OF STUDENTS WHO PASSED NET/SLET/JRF/GATE

NET: 2

SET: 5

GATE: 1

NOTABLE PLACEMENT : 11

THE FACULTY OF THE DEPARTMENT

Professors

A J Choudhury, PhD (Oxford)

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A Kumar, PhD (IIT Kanpur)

Dean, School of Sciences

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Nidhi S Bhattacharyya, PhD (Delhi)

Head of the Department

Specialization/Areas of interest: Microwave, Material Devices and Antennas

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R S Sirohi, Padma Shri, FNAE, FNASc, FOSA, FSPIE, FOSI, AvH Fellow, AvH Awardee
Professor of Eminence

Specialization/Areas of interest : Coherent Optics, Optical Instrumentation, Laser Application, Optical Metrology

Email: sirohi@tezu.ernet.in

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Specialization/Areas of interest: Nanoscience and Technology

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R Biswas, PhD (Dibrugarh)

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Rupjyoti Gogoi, PhD (Gauhati)

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CENTRE FOR OPEN AND DISTANCE LEARNING (CODL)

The Centre for Open and Distance Learning (CODL) was established in June, 2011 with the aim of disseminating knowledge and imparting quality education through open and distance learning mode. The Centre offers various post-graduate, undergraduate, diploma and certificate programmes in emerging areas of science, technology & engineering, social sciences, management and humanities with a flexible system to cater to the needs of the learners who otherwise cannot avail the regular mode of education. The basic focus of the Centre has been to prepare human resources of the region and the country by making them skilled and employable.

ACADEMIC PROGRAMMES

The CODL has been offering the following programmes since 2012:

1. MA in Mass Communication
2. PG Diploma in Electronic Media
3. PG Diploma in Governance and Development
4. PG Diploma in Functional Hindi
5. PG Diploma in Retail Management
6. PG Diploma in Investment Management
7. PG Diploma in Human Resource Management
8. PG Diploma in Environmental Management
9. MSc in Mathematics
10. PG Diploma in Renewable Energy & Energy Management
11. PG Diploma in System Management

CODL will be introducing the following post graduate programmes w. e. f. Spring (January) semester, 2015:

1. MA in English
2. MA in Sociology
3. MA in Assamese

It has been endeavored to make these programmes as up to date as possible. The syllabi have been framed in such a way that it covers the newest developments in the concerned disciplines. Simultaneously, need of the students and demands of NET etc. examinations have also been taken care of.

Furthermore, CODL will be offering BA programme from January 2015. Efforts have been made to make the programme responsive to the needs of the learners in the changed socio-educational environment. In addition to the content based programmes, there will be courses on soft skills. To make the courses more learner-friendly, more study centres have been envisaged in the coming year to impart counseling sessions.

THE CURRENT STAFF

Dr Sanjib Katakya, Director

Dr Bhim Pd Sharma, Jt Director

Dr Santanu Sharmah, Jt Director

Dr Sanjib Sahoo, Assistant Professor
Dr Uttam Kr Pegu, Programme Co-ordinator, Mass Com
Mr A Nagaraj, Programme Co-ordinator, Mass Com
Prof Chandan K Sharma, Programme Co-ordinator, Sociology
Dr S K Tripathi, Programme Co-ordinator, Hindi
Dr Anjan Bhuyan, Programme Co-ordinator, Business Administration
Dr Runumi Das, Programme Co-ordinator, Business Administration
Dr Nirmali Gogoi, Programme Co-ordinator, Environmental Science
Dr Dipak Nath, Programme Co-ordinator, Environmental Science
Dr S Dutta, Programme Co-ordinator, Mathematical Science
Dr S Sen, Programme Co-ordinator, Mathematical Science
Prof D C Baruah, Programme Co-ordinator, Energy
Mr S Mohapatra, Programme Co-ordinator, Energy
Dr Sarat Sahariah, Programme Co-ordinator, CSE
Mr Kalyan Koch, Stenographer, Grade II
Mr Ranjit Borah, MTS





Other Academic and Research Units

- Centre for Assamese studies
- Chandraprabha Saikiani Centre for Women's Studies
- DBT Nodal Centre

CENTRE FOR ASSAMESE STUDIES

The Centre for Assamese Studies, Tezpur University completed its two years on 7 June 2013.

Prof Dambarudhar Nath, distinguished historian and Aniruddha Dev Chair Professor of Dibrugarh University held the Srimanta Sankaradeva Chair at the University, which is attached to the Centre, for the period 3 June-1 September, 2013.

During the period 1 April, 2013 to 31 March, 2014, the following programmes were organized at the Centre for Assamese Studies:

2-3 April, 2013: Bezbaroa Volume Post Paper-Submission Workshop

The Centre for Assamese Studies organized a two-day post paper-submission workshop for feedback on the papers written for the proposed volume on the life and works of Lakshminath Bezbaroa. The papers presented at the workshop were authored Prof Amarjyoti Choudhury, Prof Pradip Jyoti Mahanta, Prof Madan M Sarma, Prof Sunil Kumar Dutta, Prof ChandanSarma, Ms Hemjyoti Medhi, Dr Juri Dutta, Dr Sanjib Sahoo, Dr Debarshi Prasad Nath, Dr Rabin Deka, Dr Suranjana Barua, Dr Gautam K Borah, Dr Parasmoni Dutta, Dr Arup Kumar Nath, Dr Pallavi Jha and Prof Alak Kumar Buragohain.

7 June, 2013: Second Foundation Day

The Second Foundation Day of the Centre was celebrated on 7 June 2013 with a talk, Development of Assamese Language and Literature Against the Religious Backdrop in Pre Sankaradeva Era. The talk was delivered by Prof Dambarudhar Nath, Srimanta Sankaradeva Chair, Tezpur University.

24-27 July, 2013: Workshop on Reading Manuscripts of Early Assam

A four-day workshop, Reading Manuscripts of Early Assam, was organized under the aegis of the Srimanta Sankaradeva Chair in collaboration with the Centre for Assamese Studies. Prof Nagen Saikia (Retd Laksmintah Bezbaroa Chair Professor, Dibrugarh University) was the Invited Speaker, who delivered a talk, Tradition of Manuscript Writing in Assam - An Introduction. A total of 27 participants from various parts of Assam participated in the event. Prof Ranjit Kumar Dev Goswami (Professor of English, Department of English, Gauhati University), Prof P J Mahanta (Head, Department of Mass Communication and Journalism, Tezpur University), Prof S K Sinha (Department of Computer Science and Engineering, Tezpur University) and Sri Dhanjit Talukdar (Archivist, KKH Library, Gauhati University), Dr Naren Kalita (Retired Professor, ADPCollege, Nagaon), Dr Jiten Das (Secretary, Urban Development Department, Ex-Director, DHAS, Guwahati) were the Resource Persons at the workshop.

Tezpur University resolved to offer through the Centre two fellowships on Dr Bhupen Hazarika (Doctoral and Post-Doctoral) for undertaking research on the life and works of the great cultural icon and also on diverse facets of the cultural history of the region.

CURRENT PROJECTS

Dr Juri Dutta is translating into Assamese Kocharethi: The Araya Woman. She is also working on a study, A Comparative Study of Literary Texts by Women Writers in India.

Dr Suranjana Barua is working on a socio-linguistic research project, The Self-Other Axis in Relation to Assamese Peer Groups, which is in its final manuscript stage. She has also started the ground research for her next project, A History of Translation Activities/ Studies in Assam.

Also, two Research Associates from the Centre helped in the translation and editing of the earmarked portions of the forthcoming Bishnuprasad Rava Volume (a project undertaken by Tezpur University).

PUBLICATIONS

Barua, Suranjana. 2013. Fashioning a folk legend: Bhupen Hazarika in Indira Goswami's poetic imagination. *Aitihya*, IV(2).



Barua, Suranjana. Hermeneutics of the experiencing self and encountered other. In Madan Mohan Sharma and Debarshi Prasad Nath (Eds). Lakshminath Bezbaroa: An Architect of Modern Assamese Literature-Issues of Nationalism and Beyond, (in press).

Dutta, Juri. 2013. Yaruigingam: Manabatabadaru Manabmuktir Sadhana (Yaruigingam: A Contemplation of Humanism and Liberty). *Katha*, 5(4).

Dutta, Juri. Bezbaroa as a Dramatist: A Journey from satirical to serious drama. In Madan Mohan Sharma and Debarshi Prasad Nath (Eds). LakshminathBezbaroa: An Architect ofModern Assamese Literature-Issues of Nationalism and Beyond. (in press).

SEMINARS/CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

Juri Dutta presented a paper, Phato Bihu of Dhakuakhana: An Attempt to Rediscover and Re-establish Identity, at a national seminar, People's Art of North-East India: History, Identity and Emerging Realities, organized by IGRMS, Bhopal and Department of Anthropology, Rajiv Gandhi University, Arunachal Pradesh, March, 2014.

Suranjana Barua is on the Editorial Committee of Language and Language Teaching, a peer reviewed international journal by Vidya Bhawan Society and Aziz Premji University.

CURRENT TEACHING ACTIVITIES

There are at present two Inter-disciplinary (CBCT) courses of 3 credits each being offered by the Centre, Communicative Assamese and Introduction to Translation Studies.

Two courses in MIL (Assamese) of 2 and 3 credits respectively (for Integrated MA, BA-BEd) are also being offered by the Centre.

THE MEMBERS OF CAS

Research Associates

Juri Dutta, PhD (RGU)

E-mail: juri@tezu.ernet.in

Suranjana Barua, PhD (Delhi)

Email: suranjana@tezu.ernet.in

THE MEMBERS OF ADVISORY COMMITTEE OF CAS

Chairperson

Prof A J Choudhury

Pro Vice-Chancellor

Convenor

Prof S K Dutta

Department of Cultural Studies

Members

Prof P J Mahanta

Dean, School of Humanities and Social Sciences

Prof M M Sarma

Department of English and Foreign Languages

Dr B Das

Registrar, Tezpur University

Dr D P Nath

Department of Cultural Studies

CHANDRAPRABHA SAIKIANI CENTRE FOR WOMEN'S STUDIES

The Chandraprabha Saikiani Centre for Women's Studies (CSCWS) functions as a centre to coordinate and promote studies on women belonging to the diverse socio-cultural milieu of a multicultural North East India and the assimilation of women from marginalised tribal / non-tribal and ethnic groups through outreach activities such as field study, advocacy, workshops to enhance awareness and to train manpower to conduct research in women studies. The centre connects, coordinates and constructs a community of women who would significantly contribute towards meeting objectives of gender sensitization and empowerment in this region. The Centre received the approval for continuation of WSC at Tezpur University from The University Grants Commission (UGC), New Delhi through the proposal no. F.No7-1/2012(W.S) dated 6 March, 2012.

ACTIVITIES DURING 2013-2014

The death and birth ceremony of Chandraprabha Saikiani was celebrated on 16 March 2013. Hon'ble Justice of Gauhati High Court, Iqbal Ahmed Ansari delivered a talk, Women and Law Reforms, on this occasion. Feminist and noted writer of Assam, Smt Nirupama Borgohain released a monograph, Chandraprabha Saikiani: Life and Struggle on the occasion. A bust of Chandraprabha Saikiani was also unveiled during the occasion.

A series of lecture were delivered by Prof Aparna Mahanta on the creation of patriarchy, women's studies as an academic discipline, women studies in India, and different issues related to gender in India during 1-6 April, 2013.

Students of CBCT, Women's Studies, Tezpur University gave poster presentations on the life histories of Women's Studies doyens Veena Mazumdar and Sharmila Rege on 18 September, 2013.

A two-day seminar, Aging in North East India, was organized by the Centre on 1-2 October, 2013 in collaboration with the Equal Opportunity Cell, Tezpur University.

International Women's Day was celebrated on 8 March by the Centre. Prof Sucheta Sen Chaudhury from Jharkhand University was present at the programme as the Guest of Honor. The members of Pragati Women's Association delivered speeches on gender and presented songs. Prof Charulata Mahanta, Dean Research and Development, Tezpur University also spoke on the women and education scenario in India. CBCT students of Women's Studies presented dramas, skits on different issues and themes like women and sexual violence, women and domestic violence, and women and women's rights, women and education, and the like.

A one-day workshop was organized on gender sensitization at St Josheph Convent Higher Secondary School, Tezpur on the eve of the death and birth anniversary of Chandraprabha Saikiani (15 March 2014). Forty students of the school actively participated in the workshop. CBCT students of Women's Studies presented skits on different issues related to women, especially on gender crime and domestic violence. A short life history of Chandrapabha Saikiani was also delivered in the workshop. Write-ups were distributed amongst the students for generating awareness.

A national seminar, Aging in India with special Reference to North East India, was organized by the Centre in collaboration with the Equal Opportunity Cell, Tezpur University, 22-23 March, 2014.

CURRENT TEACHING ACTIVITIES :

Two Choice Based Credit Transfer courses are offered by the CSCWS, Introduction to Women's Studies and Introduction to Women's Studies (Project)



ONGOING PROJECTS

Women and Community Radios in North-East India by Bidu Bhusan Dash, PhD Scholar, School of Media and Cultural Studies, Tata Institute of Social Sciences.

Translation of the poetry of Chandrabhabha Saikaini into Hindi.

Publication of books on issues of women in North East India.

THE MEMBERS OF THE CSCWSC

Head

Madhurima Goswami, PhD (Tezpur)

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Research Associate

Mousumi Mahanta, PhD (Tezpur)

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Research Assistant

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P Deka, BA (Gauhati)

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THE MEMBERS OF THE WORKING COMMITTEE OF CSCWS

Dr Madhurima Goswami, Head, CSCWS

Dr Madhumita Barbora

Department of English and Foreign Languages

Dr D P Nath

Department of Cultural Studies

Prof C K Sharma

Department of Sociology

Dr Papor Baruah

Department of Business Administration

Prof Shashi Barua

Department of Molecular Biology and Biotechnology

Dr Hemjyoti Medhi

Department of English and Foreign Languages

Reetamoni Narzari

Department of English and Foreign Languages

Prof Aparna Mahanta

Former Director, WSC, Dibrugarh University

Dr Monisha Behel

Director, North East Network.

Teresa Rehman

Tehelka Correspondent for the North-East India

THE DBT NODAL CELL

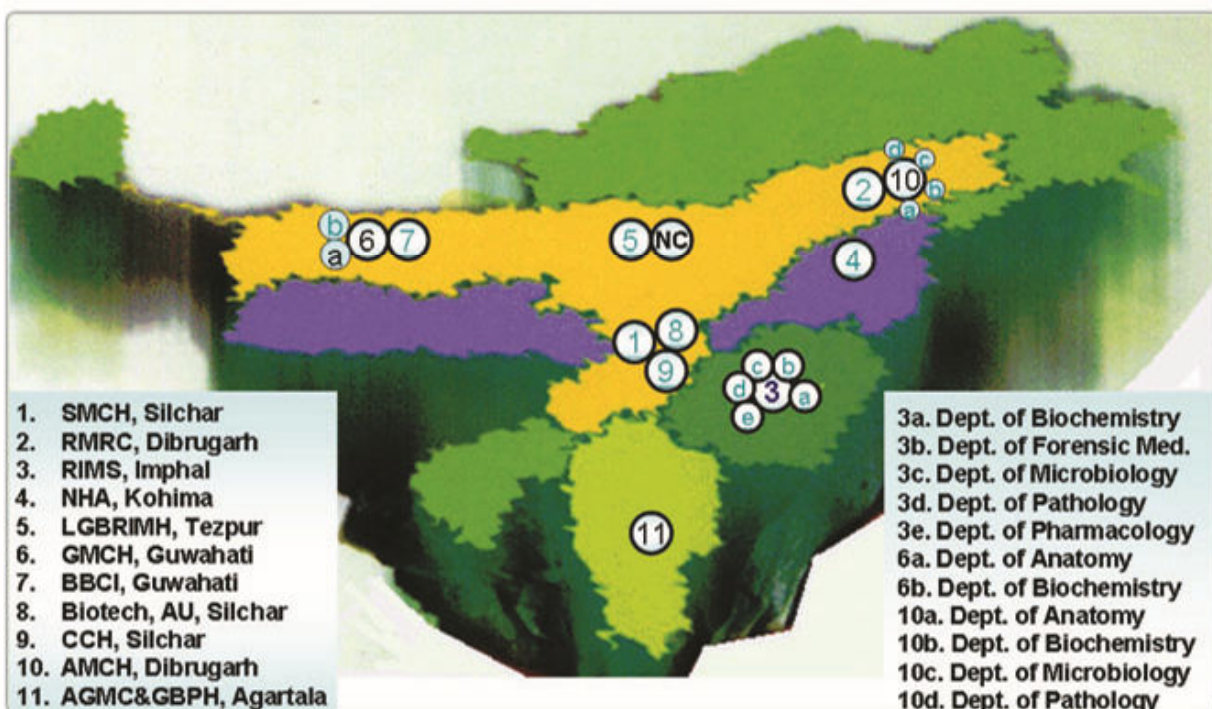
The DBT Nodal Cell was set up at the University in 2009 with the objective of creating a healthy research environment in the North Eastern region by providing physicians and scientists with a common platform for developing multidisciplinary research programs on diseases and ailments common to the region.

This objective is being taken forward through the following two projects:

Development/Upgrading Infrastructure in Medical Colleges in the North Eastern States of India (sanctioned in 2009 with a grant of Rs 40 crore (rupees forty crore).

Research Grant to Support MD/MS-theses (sanctioned in 2011 with a grant of Rs 4 and a half crore).

An overview of the project sites under Development/Upgrading Infrastructure in Medical Colleges



The Development/Upgrading Infrastructure in Medical Colleges in the North Eastern States of India Programme has created some of the best equipped labs in the region so that patients now do not have to go outside the region for specific diagnosis and prophylaxis.

Research Grant to Support the MD/MS-theses is encouraging postgraduate research in medical colleges in the seven States of the region on topics on human health/infectious diseases/chronic diseases.

2013-2014: Completion of four years of Infrastructure Upgradation

The Annual Review and Business Meeting held in December 2013 complimented Tezpur University for taking pioneering initiatives under the Development/Upgrading Infrastructure in Medical Colleges in the North Eastern States of India towards in site development and on site management for the region. A book on the project would be brought out towards the end of the project.

The period 2013-2014 marks the completion of four years of the project. During this time a total of 21 projects were sanctioned in 11 institutions located in Assam, Nagaland, Manipur and Tripura. Infrastructure upgradation was completed at each project site with the supply and installation of equipment with a high



end diagnostic capacity. All 2013-14 fund transfers were duly completed and the verification of concerned UCs of the participating institutions is in progress. The recruitment process for 100 personnel was also completed. All the sanctioned training programmes and workshops were conducted by the Centre at various project sites.

The meeting also noted with satisfaction that the Research Grant to Support the MD/MS-theses Scheme has been able to promote a quality research culture in medical institutions of the region.

The year 2013-2014 marks the completion of three years of the MD/MS-theses Grant Scheme, which was in its sixth phase in November 2013. Out of the targeted 300 applications 290 were received till the sixth phase of the programme. Till date 119 post graduate students have received a fellowship under the scheme. They are from the following institutes: Gauhati Medical College & Hospital, Guwahati, Regional Institute of Medical Sciences, Imphal, Assam Medical College & Hospital, Dibrugarh, North Eastern Indira Gandhi Regional Institute of Health & Medical Sciences, Shillong, Silchar Medical College & Hospital, Silchar, Sikkim Manipal Institute of Medical Sciences, Gangtok, Lokapriya Gopinath Bordoloi Regional Institute of Mental Health, Tezpur, and Agartala Government Medical College, Agartala.

Over 60% DBT Healthcare Labs at the project sites are offering diagnostics for patient care with the upgraded infrastructure and resources. Presentations, publications, PhD dissertations have been regularly made and produced under the projects. The Project Investigators are regularly participating in other research based activities such as Twining, Biotech Hubs, Units of Excellence.

THE MEMBERS OF THE DBT NODAL CELL

Chairperson

Prof MK Chaudhuri

Vice Chancellor

Advisor

Dr Bindu Dey

Scientist G, Advisor, DBT, New Delhi

Head and Coordinator

Prof A K Mukherjee

Department of Molecular Biology and Biotechnology

Joint Coordinator

Prof R C Deka

Department of Chemical Sciences

Scientist-I

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Central Facilities and other services

- The Central Library
- The Computer Centre
- The Engineering Cell
- The Health Centre
- The Horticulture Section
- Centre for Innovation, Incubation and Entrepreneurship



THE CENTRAL LIBRARY

The Central Library of the University was established in 1994. The Library holds its goal of achieving the height of an ideal University library in the country and of serving the University community the best possible ways in their academic and research pursuit. Its current Homepage provides electronic access to full texts and bibliographical databases, e-journals as well as its most actively used collection, which is available to users through OPAC (Online Public Access Catalogue). The Library is fully computerized with the Libsys software, which is an integrated multi-user library management system that supports all its in-house operations.

THE LIBRARY BUILDING

The Library is housed at the centre of the University campus in an aesthetically built two-storied building occupying an area of 2198 sq mt.

MANAGEMENT

The Library Committee is the apex body for management of the Library and it is constituted by the Vice-Chancellor of the University as the Chairman, the Librarian as the Member-Secretary, Deans, and nominees of the Deans, and one student as members.

OPENING HOURS

The Library is open from 9 am–12 midnight on all working days, from 10 am to 9.00 pm on Saturdays and Sundays.

COLLECTIONS

Currently the Library holds 63462 volumes of print documents and has subscriptions of 630 journals (print 128, online 502). The UGC-Infonet Consortia of INFLIBNET Center is providing access facility to 9081 (including 525 on perpetual basis) e-journals and seven databases. The Library also gets online access to 926 e-journals through DelCon Consortium. Currently it holds more than 1800 CDs with various thought contents. The users of the Library can access the book database, the theses database, the journal database, e-journals and other e-resources from any terminal within the University campus.

CURRENT COLLECTION OF THE LIBRARY

Books	63462
Books added during 2013-2014	5061
Indian Journals subscribed for 2014	64 (print)
Foreign Journals subscribed for 2014	64 (print) + 502 (online)
Back volume of journals	5084 (46 titles of journals)
Theses	281
E- resources through UGC-Infonet Consortium	9081 e-journals and 11 databases
E-resources through DelCon DBT-e Library Consortium	926 e-journals and 1 database
E –Database subscribed by Tezpur University	3 databases
CD/ DVD-ROM	1800 CD-ROMs and 81 VCDs
VHS Cassettes	36



DEVELOPMENTS

The following developments were made during the concerned period:

- Government Publications Section: A separate section for government publications was created in order to provide easy access to such publications both in print and online.
- Special Collection: The Library collected a most precious collection: 32 hand-written personal diaries of Lakhminath Bezbaroa (1868–1938).
- Bibliographical database of PhD Theses and Masters Dissertation: The Library developed a centralized database of all the PhD theses/Masters Dissertations submitted to the University.
- Tezpur University Knowledge Repository (TUKR) formed: The Library developed an institutional repository: Tezpur University Knowledge Repository (TUKR). The objectives of TUKR are to collect, preserve and disseminate the intellectual output of the University. TUKR is accessible from the Library website and is also available at <http://192.168.98.248:8080/jspui/>.
- Web Page redesigned: The Website of the Library was redesigned with new additions like Open Access Resources, Open Courseware, Research Support Services and Current Awareness Services.
- Research support service: The Library also started a research support service. The main objective of this service is to provide information related to research and development.
- CD-ROMs database: The Library created a database of CD-ROMs.

LIBRARY SERVICES

The Library provides the following services:

- Book Lending Services
- Book Bank Facility (an additional arrangement of lending books to economically weaker students)
- Reference Services (both in-house and off-house reference services are provided to faculty members, research scholars and other users)
- Online Public Access Catalogue (OPAC)
- User Orientation for Student, Research Scholars and New Users and Information Literacy Programmes
- E-delivery of Literature to Remote Indenters through UGC-Infonet Consortium
- Current Awareness Service (e- News, InfoJournal, InfoGranth)
- New Arrival of Books
- Training cum Demo on Electronic Resources
- Online Renewal and Reservation of Books
- Photocopy Services
- Mobile Alert Service
- Separate Reading Facility for Children
- Library & Information Services to Outsiders on Request
- Research Support Services

VISITORS TO THE LIBRARY (2012-2013)

Visitor category	Student	Research Scholar	Faculty member	Staff	Outsider	Total
Average daily visitor	140	9	03	0.80	3	156
Annual	49184	2988	504	282	1055	54013

CURRENT LIBRARY STAFF

Sl. No.	Designation	No of staff
1	Librarian	1
2	Deputy Librarian	1
3	Assistant Librarian	1
4	Information Scientist	1
5	Professional Assistant	2
6	Semi-Professional Assistant	2
7	Upper Division Clerk	2
8	Library Assistant	3
9	Library Attendant	2
10	Multi-Tasking Staff	2
11	Bearer	1
	Total	18

WORKSHOP AND SEMINAR ORGANIZED

The following events were organized during the concerned period:

Book Exhibition (28 - 29 November, 2013)

Central Library, Tezpur University, has successfully organized the two day Book Exhibition at community hall from 28-29 November 2013. All the reputed national and international publishers participated in this great event. The two day fair was inaugurated by the Honorable pro- Vice Chancellor of Tezpur University Prof. Amarjyoti Choudhury. All the Heads of the departments, Registrar of the University, library staffs were present in book fair.

National Workshop on Use and Awareness of E-Resources' (WUAER, 2013)

Central Library, Tezpur University, Tezpur organized a National Workshop on Use and Awareness of E-Resources' (WUAER, 2013) on 25th May, 2013. The main objective of the workshop was to provide unique opportunity to know more about the access to scholarly journals, databases and e-resources which are available on internet, and will enable the participants to understand different types of resources subscribed and made available for access.

NCCICLIM-2014

A two day National Conference on Contemporary Issues and Challenges in Library and Information Management on 14 -15 February, 2014 was organized by Central Library, Tezpur University, Tezpur. The conference was organized to bring together and provide a platform to Library & Information Science professionals, academicians and educationists to discuss, exchange views and experiences on contemporary issues and challenges in Library and Information Management and to identify the strengths and gaps in the library and information system. The conference programme included plenary sessions, invited and contributed papers, poster sessions, product presentations, panel discussions and an exhibition.



Eqbal, M. and Saikia, M. 2013. A study of service quality management at Maulana Azad Library of Aligarh Muslim University. In Tiwari, R. et al (Eds). Trends and Development in Library and Information Science. New Delhi: Zanith Publication.

Sarma, D. and Talukdar, G. C. 2013. Electronic resources at the Central Library of Tezpur University: an overview. In Saikia, M. and M. Eqbal (Eds). E-Resources Management in Libraries: Issues and Challenges. Guwahati: K. K. Publication.

Gohain, A. and Saikia, M. 2014. Citation analysis of PhD theses submitted to the Department of Chemical Sciences, Tezpur University, Assam. Library Philosophy and Practice (e-journal). Paper 1066.

Gohain, A. and Saikia, M. 2014. Information Seeking Behaviour of engineering students in changing ICT environment in Tezpur University: A case study. Scholars' View: A Journal of Multidisciplinary research, 2(1).

Gohain, A., Saikia, M. and Sarma, D. 2013. Students' and research scholars' attitude to overdue books and overdue fine at Tezpur University: a case study. International Research: Journal of Library & Information Science, 3(4).

Gohain, A. and Saikia, M. 2013. Use and users satisfaction on online public access catalogue (OPAC) services among BTech Students of School of Engineering at Tezpur University: a survey. Library Philosophy and Practice (e-journal). Paper 990.

Hazarika, N and Gohain, A. 2013. Attitudes of college library users to overdue fines: a study of college libraries in Lakhimpur District of Assam, India. International Journal of Digital Library Services, 13(2).

Saikia, M and Gohain, A. 2013. Use and user's satisfaction in library resources and services: a study at Tezpur University), International Journal of Library and Information Science, 5(6).

Gohain, A. 2013. Use of e-journals by research scholars at Tezpur University: a case study. In Saikia, M and Monawwer Eqbal (Eds). E-Resources Management in Libraries: Issues and Challenges. Guwahati: K K Publication.

Gohain, A. 2013. User's attitude to the District Library Tezpur (Sonitpur): a study. Scholars' View: A Journal of Multidisciplinary Research, 1(2).





SEMINARS/CONFERENCES ATTENDED AND PRESENTED

R Borkakoti and G C Talukdar presented a paper, Open Source Library Management and Digital Library Software: An Overview, at the 13th ACLA Biennial Conference cum UGC National Seminar, organised by Nowgong College, Nagaon, 17-19 March, 2013.

Rajesh R Aldarhi, M Eqbal, Smitha C, Devendra Pratap, Anjan G presented a paper, Book Acquisition: Best Practices at Central Library, Tezpur University at a national conference, Contemporary Issues and Challenges in Library and Information Management, organized by Tezpur University, Tezpur University, 14-15 February, 2014.

FUTURE PLANS

- Designing and developing a Subject Gateway
- RFID implementation
- Remote login access
- Establishment of Manuscript archival section



CENTRE FOR INCLUSIVE DEVELOPMENT

(Training & Placement Cell, Equal Opportunity Cell and SC/ST Cell)

The Centre for Inclusive Development (CID) was created with the objective of creating a congenial environment for inclusive growth by participating in the process of growth. The Centre is comprised of the Training & Placement Cell, the Equal Opportunity Cell and the SC/ST Cell of the University. It is envisioned that a more invigorated approach to inclusive growth could be achieved by consolidating and collating the activities and the human and intellectual resources of the three Cells.

FEATURES AND FUNCTIONS

- The CID is an umbrella organization of the Training & Placement Cell, the Equal Opportunity Cell and the SC/ST Cell of the University having a functional commonality.
- The Head of the Centre acts as the common coordinator of all activities/projects of the Centre.
- The Centre conducts a variety of programmes related to inclusive growth. The following are some of them :
 - (i) Career counseling, pre-placement capacity building and placement of students.
 - (ii) Conducting sensitizing and awareness generating seminars and workshops on issues like human rights, women empowerment, dealing with STs, SCs, OBCs, Minorities, the Differently-abled and other marginalized groups of the society.
 - (iii) Organizing remedial coaching for weaker students in identified areas.
 - (iv) Organizing special coaching to prepare students, particularly those belonging to the marginalized groups, for All India Competitive Examinations like the Civil Services Examination, Bank Probationary Officers' Examination, Public Sector and Private Sector Recruitment Examinations, etc.
 - (v) Conducting research/field work to identify problems faced by the underprivileged people and to suggest means for solution.
 - (vi) Rendering relief and rehabilitation services, as much as possible, to the victims of natural disasters like flood, erosion, earthquake, etc.
 - (vii) Organizing special capsule programmes for school drop-outs of the nearby villages with the objective of motivating them to restore their education.
 - (viii) Organizing skill development programmes for village housewives to motivate them to start entrepreneurial and self-help activities.

The activities organized by the three CID Cells during 2013 – 2014 are as follows:

THE TRAINING & PLACEMENT CELL

The Training and Placement Cell acts as the interface between the recruiters and the University students. It organizes need-based training for students and extends assistance/guidance in placement. The Cell, in association with the Equal Opportunity Cell, organizes pre-placement grooming sessions towards preparing the penultimate semester students for recruitment tests/interviews. In order to give them exposure to the real world situation and requirements, interactive sessions are organized inviting executives from the Industry. It also facilitates the Industry-Academia relationship through various collaborations.



The activities and programmes organized or carried out during 2013–2014 are given below:

Pre-Placement Grooming Sessions : Two grooming sessions were organized in order to prepare the eligible students for upcoming placement events: (a) a one-day session, Some Useful Soft Skills for Job Seekers, was conducted by Mr Uday Chava, Hyderabad on 1 April, 2013. (b) a three-day pre-placement grooming session was organized during 12-14 September, 2013 in association with the Equal Opportunity Cell.

Industry-Academia Interactive Sessions : An interactive session was conducted on 2 September, 2013 where Mr Joseph Landes, General Manager, DPE of Microsoft addressed the students and the faculty of the University. On the same day, Mr Landes inaugurated the Microsoft Innovation Centre (MIC) at the School of Engineering. The MIC would train the students of the University in software development.

Earlier on 27 February, 2013 Mr Ranjeev Lahkar, HR Manger of the Microsoft conducted a session on Preparing for an MNC Job for the students of Tezpur University.

Industrial Visits : As part of the University's efforts to build closer ties with various Public Sector Undertakings (PSUs) of the State, a team of officials consisting of Dr Rajeev K Doley, Deputy Director (T&P) and Dr Tapan Kumar Gogoi, Associate Professor (ME) visited the following PSUs during 31 October, 2013 – 2 November, 2013:

- i) Oil & Natural Gas Corporation, Nazira
- ii) Brahmaputra Cracker & Polymer Ltd., Dibrugarh
- iii) Assam Gas Company Ltd., Digboi
- iv) Oil India Ltd., Digboi
- v) Assam Petrochemicals Ltd., Namrup

During the visits the TU officials held elaborate discussions with the responsible functionaries of the above-mentioned PSUs in areas of mutual interest, particularly, students' internship and placement. They submitted to the PSUs relevant credentials of the University.

Placement Activities : The campus placement activities of the session began with the visit of the software giant Capgemini India on 18-19 September, 2013. This was followed by a number of on-campus as well as off-campus recruitment events by reputed organizations, which are shown below :

STUDENTS ON ENGINEERING (MCA BTECH MTECH) PROGRAMMES (TOTAL JOBS OFFERED 73)

Name of Organization	Designation	CTC	Stnds. Placed	Remarks
Capgemini	Software Engineer	Rs. 3.05 L/a	15	Confirmed
Texas Instruments	MCA Interns	-	Nil	Next time might come for B.Tech also
IBM	Associate System Engineer	Rs. 3.40 L - B.Tech Rs 3.75 L -M.Tech	10	Confirmed
Zaloni	Software Engineer	15,000 Per Month	02	Confirmed
Coffee Day Beverages	Sales Trainee (ST) and Technical Production Trainee	Rs. 3.70 L/a -ST Rs. 3.40 L/a -TPT	02	Confirmed
Oil India Limited	Executive Trainee	-	19 short listed	GD/ PI to be conducted.
CG FMCG	Executive	11,000 Per Month	04	Confirmed
Hindustan Motors	Graduate Engineer Trainee	22,000 Per Month	04	Joining Letters Received but Put on a Hold. (plant temporarily closed)

Name of Organization	Designation	CTC	Stnds. Placed	Remarks
TCS	Assistant System Engineer	Rs. 3.15 L/a	05	Confirmed
Microsoft	Interns	-	Nil	
Nile Stream Info Tech.	Software Engineer	Rs. 3.0 L/a	15	Offer Letters issued.
Tech Mahindra	Entry Level Software Engineers	Rs. 3.07 L/a	13	Confirmed
Infosys	Software Engineer	-	03	Confirmed
Job Post of Amazon	Group of Companies	-	-	Recruitment process on 20 June, 2014
M/s Collabera Pvt. Ltd	For IBM's internal customer technical support programs	Rs. 1.8 to 2.1 L/a	-	Recruitment process on 23 & 24, June 2014
Power Grid Corporation of India Ltd.	Executive Trainee	Rs. 13.4 L/a	-	Recruitment process on 04 & 05, July 2014.

STUDENTS ON MANAGEMENT SCIENCES (MBA) PROGRAMME (TOTAL JOBS OFFERED 45)

Name of Organization	Designation	CTC	Stnds. Placed	Remarks
NEDFi	Management Trainee	Rs. 7.20 L/a	02	Confirmed
Vodafone	Trainee	Rs. 4.01 L/a	05	Confirmed
HCL	Sales officer	Rs. 5L+ with exp.	01	Confirmed
Axis Bank	Assistant Manager	Rs. 3.44 L/a	03	Confirmed
Coffee Day Beverages	Sales Trainee	Rs. 4.20 L/a	01	Confirmed
NHDC	Management Trainee	Rs. 20,000 /month.	07	Confirmed
Oil India Limited	Executive Trainee	-	03	Result awaited
Airtel	Trainee	Rs. 3.1 L/a	03	Kept on hold
ICICI Prudential	Trainee	Rs. 1.8 L/a	06	Students not interested.
Hindustan Motors	Management Trainee	Rs. 25,000 /month.	02	On hold due to closure of Plant
Dabur	Sales trainee	Rs. 3.6 L/a	02	Confirmed
Nile Stream Info Technologies	Sales Officer	Rs. 2.4 L/a	02	Offer Letters issued
Pradan	Development Apprentice	Rs. 15,000/ month.	01	Confirmed
HDFC Bank	Management Trainee	Rs. 2.94 L/a	09	Confirmed
TU IPR Cell	Project Assistant	Rs. 14000 pm	01	Joined.
Asian Paints	Trainee	Rs. 3.5 L/a	Nil	-
Coca Cola	Sales Officer	-	Nil	-



STUDENTS ON SCIENCE AND HUMANITIES & SOCIAL SCIENCES PROGRAMMES (TOTAL JOBS OFFERED 05)

Name of Organization	Designation	CTC	Stnds. Placed	Remarks
Nestle India Limited	Nutrition officer	Rs.18700+ pm	01	Joined
Pradan	Development Apprentice	Rs. 15,000/ month.	04	Confirmed
Azim Premji Foundation	Trainee	Rs. 12,500/ month.	04	PI on 7th July 2014

Total Job offers: 73+45+5 = 123

THE EQUAL OPPORTUNITY CELL

The Equal Opportunity Cell of the University was created with a UGC mandate specifying the need of a functionary within the University set up which would empower the weaker sections. Thus the Cell focuses its attention on the people belonging to ST, SC, other backward classes, the Minorities, persons with disabilities, and the economically underprivileged. The Cell also puts a special emphasis on the female students. The Cell primarily orients its activities around training and development and organizes programmes for the students as a supplementary academic support. Furthermore, the Cell conducts sensitization and awareness programmes on a wide array of subjects ranging from Gender, Human Rights, Disability, Inclusion of Marginalized Groups to Peace and Conflict.

The principal focal areas of EOC include:

- Creating awareness about social, political and cultural factors that create barriers of inequality
- Building capabilities towards enhancement of opportunities of life
- Creating awareness about opportunities and developing capabilities among the underprivileged members of the society through extension and outreach programmes
- Research/Action research projects

Name of the Programmes	Target groups	Time	Sponsor
Workshop on Research Methods in Social Science in Collaboration with OKDISCD, Guwahati	Faculty & Research Scholars of colleges/ universities of NE India	28 January -3 February,2013	Sponsored by ICSSR & OKDISCD.
Capacity Building Programme for Faculty in Social Science	Faculty & Research Scholars of different colleges of NE India	14-27March,2013	ICSSR-NERC, Shillong Rs. 7,00,000/-
One Day Basic Training Programme on Human Rights	NSS volunteers, TU	23 March, 2013	NHRC, Delhi
Video –conferencing with American Consulate, Kolkata Resource Person: Dr. Lora Salmaan	Student & R.S. of the school Humanities and Social Sciences.	5 May, 2013	N/A
UGC Sponsored Certificate Course in Technical Writing	Graduates from and outside the University	August-December, 2013	University Grants Commission

Name of the Programmes	Target groups	Time	Sponsor
A three-day Pre-Placement Grooming Session in association with Training & Placement Cell.	Students of the penultimate semesters.	12-14 Sept. 2013	Tezpur University
Workshop on "Orientation programme for the Research Scholars and Faculty Members belonging to Scheduled Tribe and Other Marginalized Groups".	RS & Faculty from ST & other marginalized groups.	23-27 September, 2013	ICSSR, NERC. Rs. 3,60,000/-
Seventh Biennial Conference on Global Change, Ecosystems, Sustainability Organized by the Indian Society for Ecological Economics(INSEE) at Tezpur University, Assam in association with, Omiya Kumar Das Institute of Social Change and Development (OKDISCD), Guwahati.	Scholar from various universities & institutions within India and around the world.	5-7 December, 2013	Sponsored by INSEE
Participants from Tezpur University, Kanya Mahavidyalaya Tezpur and Darrang College, Tezpur.		1-2October, 2013	Sponsored by ICSSR-NERC, Shillong
Participants from all Department of the schools of Humanities and Social Sciences and Sciences and Technology		November, 2013	
Students of Tezpur University		22 – 23March, 2014	Sponsored by ICSSR, Delhi

THE SC/ST CELL

The SC/ST Cell was set up under the Notification No F 15-2/GA-II (SCT)/3638-A dtd 16.10.07. The Cell is headed by a Liaison Officer and is assisted by a supporting staff. The Cell supervises the reservation in recruitment and admission and takes care of the welfare of the Scheduled Caste and Scheduled Tribe (SC/ST) students and employees of the University.

Objectives

- To supervise the implementation of the reservation policy for SC/ST students and employees of the University.
- To collect data regarding the implementation of policies in respect of admission, appointment to teaching and non-teaching positions at the University; to analyze the data showing the trends and changes towards fulfilling the required quota.
- To take up such follow-up measures for achieving the objectives and targets as laid down by Government of India and UGC.
- To implement, monitor continuously and evaluate the reservation policy in the University and suggest measures for ensuring the effective implementation of the policy and programmes of the Government of India.

Functions

- Monitoring the admission of SC/ST students to various courses.
- Guiding the staff of the Student Services Branch about the rules of reservation and the fee concession.
- Maintaining liaison with the Social and Tribal Welfare officers in the State for obtaining scholarships extended to the SC/ST students.



- Preparing and furnishing the detailed enrolment list of SC/ST students to the Ministry of HRD/UGC every year.
- Settlement of un-disbursed amounts and sending the Utilization Certificates to sanctioning agencies.
- Conduct of pre-entrance coaching for AIEEE for SC/ST students.
- Conduct of remedial classes for SC/ST students.
- Dealing with the representations from the SC/ST students.
- Functioning as a Grievances Redress Cell for SC/ST students and employees.
- Maintaining a register of the details of employment of SC/ST candidates in various posts at the University.

Advisory Committee

The SC/ST cell has an Advisory Committee under the Chairmanship of the Vice-Chancellor with members from the teaching Departments and other stake holders.

Coordination Committee

The University has formed a coordination committee to organize and coordinate programmes on developing communicative skills in English and counseling in core courses for SC/ST/OBC and other Minority categories students. Additional care was taken during the year by each and every teaching Department of those students of these categories who needed help in their studies.

Name of the programmes	Beneficiaries				
	SC	ST	OBC (NCL)	Minority	Gen
UGC/NET Coaching Programme	18	24	67	08	87
Yoga Coaching	11	4	23	-	19

Students from the following 11 departments took the CSIR/UGC NET coaching during the concerned year:

UGC NET Coaching Departments:

- Cultural Studies
- English & Foreign Languages
- Environmental Sciences
- Hindi
- Linguistics
- Mass Communication & Journalism
- Sociology

CSIR NET Coaching Departments:

- Chemical Sciences
- Mathematical Sciences
- Molecular Biology & Biotechnology
- Physical Sciences

The Centre for Inclusive Development has also taken up collaborative projects with organizations like Numaligarh Refinery Ltd., Oil India Ltd. etc. These projects will start in the next financial year.

CENTRE FOR INNOVATION, INCUBATION AND ENTREPRENEURSHIP

The Centre for Innovation Incubation and Entrepreneurship (CIIE) was established in September, 2013 with the objective of promoting specialized knowledge in the field of entrepreneurship development, innovation and creative ideas. In view of the worldwide shortage of jobs (in both government and private sectors) and also lack of proper utilization of human resources the CIIE strives to identify talented youths and motivate them to entrepreneurial and innovation work. The Center plans to develop various innovative ideas with the students and local youths. .

OBJECTIVES

- To create awareness among the students of the University and the educated unemployed youths of North east India regarding entrepreneurship as a career option
- To conduct training programmes in the field of entrepreneurial skill development
- To develop entrepreneurship related course curriculum to incorporate in management and engineering programmes
- To provide guidance and facilities to first time entrepreneurs during gestation.
- To explore the possibility of commercialization of some of the potential technologies developed by faculty members and students of the University
- To form a Technology Development Group at the University from enthusiastic graduates of the University and thereby motivating them for self-employment

Members

Dr Uddhab Bharali, NASA admired Innovator

Visiting Director

Prof M Bhuyan,

Head, Dept of Electronics and Communication Engineering, Tezpur University

U Roy, UDC

Advisory Committee Members :

Pro-Vice Chancellor

All Deans of Schools

Dean, Research & Development

Dean, Students' Welfare

Head, Department of Electronics and Computer Engineering

Head, Department of Energy

Head, Department of Mechanical Engineering

Prof Chandan Goswami, Department of Business Administration

Prof S M Hazarika, Department of Computer Science and Engineering

Prof R C Deka, Department of Chemical Science



WORKSHOP FACILITIES

The following machineries have been installed in the Centre:

- Arc welding and teg welding machine with welding accessories
- Hand drill and portable pillar drill with motor and choke
- Angle grinder
- Chop saw
- Bench grinder and grinding stone
- Spary machine
- Electric blower
- Envil

In addition to this, Department of Mechanical Engineering and Department of Electronics and Computer Engineering have workshop facilities for students on projects.

ON-GOING PROJECTS

Projects (2014-15) sponsored by Micro Small and Medium Enterprises, Govt of India

Name of the Incubatee	Details of Idea/ Projects	Sanctioned amount (in INR)
ArunJyotiSaikia	Design of a dehulling/deseeding machine for all types of oil bearing seeds	Rs 5.20 lakh
Dhrubajyoti Das	Design, development and testing of a green fuel powered energy efficient vehicle	Rs 6.25 lakh
ImdadulHoqueMondal	Production of natural antioxidant enriched sandesh using single screw extruder	Rs 6.25 lakh
BituJyotiDoley	Development and fabrication of small capacity paddy parboiling system with process completion indicator ahead of onset of husk splitting	Rs 5.50 lakh
Champak Talukdar	Portable peripheral Nerve testing instrument	Rs 5.90 lakh
Paban Kr Laskar	Polluted Air purification machine	Rs 2.50 lakh
Dr. Uddhab Kr Bharali	Low cost and user friendly portable LIFT for home –for ELDERLY PERSON and PATIENT	Rs 6.25 lakh

Activities with students

Dr Uddhab Bharali extended mentorship to the BTech and MTech students. The following projects were set up by him in different Departments for the students:

Department of Energy

Project: Efficient dryer assistant with bee-hive system and dryer cum community water heating system

Student: Partha Sarkar

Project: Production of low cost wax by mixing vegetable oil

Student: Pranob Jyoti Lahon

Project: Oil extraction machine for bio-fuel

Student: Arun Jyoti Saikia

Department of Chemical Sciences

Project: Motivation, innovation and personality development

Students: Dikshita Sharma, Bhashkar Jyoti Bhattacharjee

Department of Mechanical Engineering

Project: Modernization of the electric vehicle designed by the students of Electronics and Computer Engineering and Mechanical Engineering

Student: Madhurjya Dutta

Project: Design of a manual low cost paddy threshing mechanism

Students: Arif Ahmed and his team

Local Innovator

Biswajit Nath, from Jahamari, Sonitpur has designed a bicycle with a double wheel chain system which runs faster than the normal bicycle. The bicycle is preserved in the Central Workshop, Tezpur University.

New Projects

Two new projects have been taken up by the Centre:

- Use of coconut fibres as means of preventing soil erosion and flood control
- Use of coconut fibres for making eco-friendly curtains with natural herbal colour and design

Showcase of Developed Technology

The University has constructed a Technology Display Hall for commercial display of the technologies developed under the Centre. The following are on display at the moment:

- i) A de-seeding machine for bio-fuel applications
- ii) Mechanised paddy thrasher
- iii) Lo cost bio-oil based festival candle
- iv) Motorised tri-cycle
- v) Automated public toilet flusher and deodorizer
- vi) Hand-held tea tasting instrument
- vii) Electric car
- viii) Coconut coir based products
- ix) Chilly gun
- x) Low cost and user friendly portable lift for elderly people and patients



Contact

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THE COMPUTER CENTRE

The Computer Centre, which was established in 1997, has taken a massive leap in terms of infrastructure and services in recent times. Presently, there are two units of Computer Labs under the Computer Centre, one with 60 Desktop and the other with 68 Desktop Computers. Both are exclusively at the service of the University community. The Centre also provides common lab facilities required in some academic courses.

The Centre has built up its own state-of-the-art Campus LAN covering the entire Campus by using Optical Fiber Backbone. Currently there are more than 1000 official desktops and more than 2500 personal desktops (for students and the staff) which are connected to the Campus LAN. There are approximately 4500 wired Gigabit ports extended to labs, class rooms, faculty rooms, research scholars' rooms, office rooms, and central facilities. The whole network is fully managed by the Computer Centre staff comprising of one Engineer, three Junior Programmers, one Senior Technical Assistant and four Technical Assistants.

The Computer Centre has extended LAN connectivity to hostels and residential establishments with Wi-Fi Technology so that users now can avail network services at their personal gadgets like Tablets, Mobile Phones, iPads, etc. Of late, two new hostels (Pobitora Madam Curie Women's Hostel and CV Raman Men's Hostel) have been provided with Wi-Fi facility.

The Centre has supported implementation of IP based CCTV Surveillance System with 19 Cameras in Feb 2014. The servers are housed at the Computer Centre.

The Proposed Microsoft Innovation Center (MIC) at the University was formally inaugurated in September 2013. A good number of students have already started the App Development Projects. The Computer Centre has earmarked two rooms (Training Room and Project Lab) with a total of 24 Desktop Computers for future use. The Computer Centre has renewed the Microsoft Campus Agreement for software licensing for the year 2014.

The Computer Centre runs part-time (evening) and short-term computer courses (DOEACC 'O', and 'A' level) with support from the Department of Computer Science and Engineering of the University.

The NKN connectivity currently supports 300 Mbps (downlink speed). The University has continued with its 2Mbps commercial link via Educational and Research NETWORK (ERNET) as backup link, which is being primarily used for e-mail and Domain Name Services (DNS).

SERVICES PROVIDED BY THE COMPUTER CENTRE

The chief goal of the Computer Centre has been to provide quality ICT services including computational facilities to the University community. In addition to the maintenance of the computational infrastructure, the following services are supported from the Computer Centre Team:

- Providing Email & Internet Services
- Providing credit/audit practical courses to the different Departments
- Organizing practical sessions for various workshops and refresher courses organized by various Departments
- Organizing training programmes for the employees
- Assist the Administration in the process of selection and procurement of computing resources
- Providing maintenance services for computers/peripherals to the Faculty/Staff /Departments
- Maintaining and monitoring the Campus LAN; Wired as well as wireless.
- Maintaining and monitoring various Internet Links



- System Administration, Network Administration and monitoring of various servers - Email, Web, Proxy, Firewall, etc.
- Maintaining the University Website and intranet portal
- Develop, procure and maintain software for administrative and other purposes of the University
- Computer virus cleaning and other software maintenance
- Providing and maintaining the MMPs in the auditorium and conference hall
- EPABX system administration and maintenance
- CCTV Management

INFRASTRUCTURE AVAILABLE AT THE COMPUTER CENTRE

List of Servers

Server Particulars	Hardware (Make/Model)	Operating System and Application Platform
Email cum DNS Server	IBM / X226	Redhat Enterprise Linux ES 4.0/ Sendmail , Bind
Proxy/NAT/Firewall Server	IBM / x3630M3	Redhat Enterprise Linux ES 6.0/ Squid Proxy
Wireless NMS Server	HP / DL-380G5	CentOS/Aruba
Web cum Secondary DNS Server	IBM / X226	Redhat Enterprise Linux ES 4.0/ Apache
Oracle 10g Database (old)	HP / DL-380G5	Windows 2003 Server/ Oracle 10g Suite
Oracle 10g Database (new)	IBM/X3560	Windows 2008 R2 Server/ Oracle 10g DB
Oracle 10g App. Server(new)	IBM/X3560	Windows 2008 R2 Server/ Oracle 10g App
File cum Kaspersky Antivirus Server	HCL / GL-2360	Windows 2003 Server/ Kaspersky Total Space Security Admin
File Server cum Programming	HP DL 180G5	Redhat Enterprise Linux ES 4.0/ Open Source
Video Streaming Server with Storage	IBM/X3650 + IBM/DS3524	Windows 2008 R2 Server/ Adobe Media Server 5
Network Video Storage Server	Honeywell HUS-NVR-1032	HUS-NVR-1032
CCTV Monitoring Server	IBM/X3560	Windows 2008 R2

Computer Terminals & Peripherals Available

Unit No	Unit Name/Location	Terminals & Peripherals
Unit-0	Central Computer Centre (Academic Building -2)	Terminals = 60(windows 7 Pro.) Laser Printer =4, Scanner = 2
Unit-1	Computer Centre-Cluster-1 (SoE Complex)	Terminals = 68(windows 7 Pro.) Laser Printer =1

Special Computing Facilities

A High Performance Compute Server (SGI Altix350) with four Itanium 2 64-bit processors commissioned in 2004 has been running smoothly over the last 9 years and it is presently under the Annual Maintenance Contract (AMC). This server is being used extensively by the University research community for computational works.

THE CURRENT STAFF

Head

Prof N Sarma, PhD (IIT Guwahati)

Computer Engineer

D K Sarma, MS (Tezpur University)

Junior Programmers

D C Choudhury, MCA (Tezpur University)

P Rajkhowa, BE (JCE)

B Goswami, MCA (Tezpur University)

A Baishya, MCA (Tezpur University)

Senior Technical Assistants

A K Das, Diploma in Engg (CSE)

Technical Assistants

M Baruah, Diploma in Engg (CSE)

N K Deka, Diploma in Engg (Electronics & Telecommunication)

A Sarmah, Diploma in Engg (CSE)

P Borah, DOEACC-A Level, MS(IT)

Student Assistants: 5

MTS: 2

EPABX Technicians: 2 (contractual)





ENGINEERING CELL

The Engineering Cell of the University, which was established on 1 March, 1995, is mainly entrusted with the responsibility of developing the infrastructure in the campus at Napaam, covering an area of about 262 acres of land. The following duties and responsibilities are vested on the Engineering Cell:

- i. Allotment and execution of construction projects involving civil, electrical, water supply and sanitary works.
- ii. Maintenance and repairing of buildings and roads.
- iii. Maintenance of power supply to the university campus.
- iv. Maintenance of water supply to all the buildings including hostels and canteen.
- v. Preparation of agenda note and minutes of Building Committee meetings.
- vi. Maintenance and development of the campus.

CONSTRUCTION ACTIVITIES

The following constructions were taken up and completed during 2013-14:

- i. Construction of a 482 capacity single bedded boys' hostel building
- ii. Construction of a 300 capacity single bedded girls' hostel building
- iii. Construction of a RCC Type-D residential building (1 Block = 18 Units)
- iv. Extension of the Student Activity Centre
- v. Extension of the Gymnasium.
- vi. Extension of the Amenity Centre with an ATM Counter
- vii. Construction of Visitors' Waiting Room cum Reception Counter

ONGOING CONSTRUCTION WORKS

Construction of the following is still continuing and likely to be completed by the end of 14:

- i. Construction of a RCC school building for Kendriya Vidyalaya on the University campus
- ii. Construction of a RCC 3-storied Type-B residential buildings (2 Blocks = 36 Units)
- iii. Construction of a RCC 3-storied Type-C residential buildings (2 Blocks = 36 Units)
- iv. Construction of an academic building for School of Humanities and Social Sciences
- v. Supply, installation, testing and commissioning of 500 KVA, 415V, Silent DG Set
- vi. Construction of LT Double Circuit O H Line including other electrification work the University campus
- vii. Fitting of a false ceiling in the Central Workshop of Mechanical Engineering Department

WORKS DONE WITH TENDER PROCESS

- i. Construction of a RCC academic building for the Department of Physics
- ii. Construction of an Olympic standard swimming pool
- iii. Construction of a RCC two-storied security barrack



- iv. Construction of an inter connectivity linking all the academic buildings of School of Engineering

POWER SUPPLY

The Govt. of Assam has sanctioned 2 MW of power to the UnU is drawing 1069 KW (1.069MW) from the 132/33 KV Depota Grid Sub-Station of ASEB through a 13.50 KM long dedicated power line. This power is received at the University end through a 2 x 2.5 MVA, 33/11KV sub-station constructed by the University and is distributed through a 11KV H.T. Ring Main connected to 4 nos. of sub-station of capacity 2 x 315 KVA, 11KV/0.433 KV located at peak load centers inside the campus. During 2013-14, the total hours of interruptions in supply of power to the University was 212.50 hours out of which maintenance shut down availed by the University was only 10 hours. In the context of the present power crisis in the State, this was rather negligible.

The University has installed and commissioned 4 (Four) Nos. of 500 KVA, 415 V, 50 Hz, silent AC generators for power supply to the entire University campus during break of power supply from ASEB. Installation of another 500 KVA, 415 V, 50 Hz, silent AC generators for power supply will be completed shortly.

WATER SUPPLY

Four deep tubewells, each 102 meters deep and associated with submersible pumps, were installed on the University campus to access ground water. The treatment plant consisting of aerator, flush mixture, sedimentation tank, filter unit, chlorination, was constructed for proper treatment of raw water.

Two overhead reservoirs (OHR) with a capacity respectively of 3 lakh litres and 3.50 lakh litres were constructed to store treated water. Water from the OHR reaches the consumer points through a pipe-line network under the gravity flow.

The presently requirement of water on the University campus is more than 7 lakh litres per day. The demand is likely to increase within a year with the addition of new academic and residential buildings. There was no instance of interruption in supply of treated water during the entire year.

PROPOSALS OF THE YEAR

Planning and designing of the following projects have been taken up:

1. Construction of a Central Lecture Hall Complex
2. Construction of a 1300-capacity Indoor Stadium
3. Sewerage and Drainage System
4. Construction of RCC Residential Buildings of Type B, C, and D

HEALTH CENTRE

Health care services to students, faculty members and staff and their families are provided through the Health Centre of the University, which is located in the southeast corner of the campus, close to Kendriya Vidyalaya. As of now, the centre has over 3500 beneficiaries, which include people temporarily working at the University construction sites.

CURRENT STAFF POSITION

Medical staff	Numbers
Doctors	3
Pharmacist	1
Lab technician	2
Nurse	2
Radiographer(on contract)	1

SERVICES/FACILITIES AVAILABLE

We offer OPD services and ten indoor beds are also available for the initial care of indoor and emergency cases.

OPD SERVICES

The OPD timings are as follows:

Session	Morning	Evening
April to September	8.30AM to 12.30PM	4 PM to 6 PM
October to March	8.30AM to 12.30PM	3 PM to 6 PM
Saturdays and Sundays - From 10 AM to 12 NOON		

One Medical Officer is available round the clock every day of the week. Cases requiring hospitalization are referred to the referral hospitals at Tezpur. Ambulance service is available round the clock and is provided free of cost.

A stock of common medicines including life saving drugs are maintained and are supplied free of cost. Routine laboratory investigations are also done free of cost. One Autoanalyser (automatic) and one Hormone Analyser (Mini-Vidas) are installed which has widened the facilities available in the cCentre. Ultrasound scanning and ECG and X-ray facilities are also available at the Centre. We also keep a set of appliances for people with disability.

EMPANELMENT OF SPECIALISTS

Specialists of the following disciplines are also empanelled:

- i) Dental Surgeon : 2
- ii) Orthopedics Surgeon : 2
- iii) Dermatologist : 1
- iv) Ophthalmologist : 1



REFERRAL HOSPITALS

At Tezpur - All Private hospitals of Tezpur town are considered referral hospitals of the University

At Guwahati - Following Private Hospitals are enlisted as referral Hospitals of the University

Hospitals	Specific disease
GNRC Hospital	Cardiac as well as Neurological
Down Town Hospital	General Speciality
International Hospital	General Speciality
Central Nursing Home, Beltola	Kidney related Surgical problem
Sri Sankardev Netralaya	Eye

VISIT BY SPECIALISTS

The University has engaged Specialists of different disciplines (Paediatrics, Obstetrics and Gynaecology) who visit the Health Centre on different days of the week for the benefit of the University community.

Psychiatrist from LGBRIMH has also been regularly visiting the University for offering counseling on stress related problems.

IMPORTANT ACTIVITIES

- i) The Medical Officers pay periodic visits to the hostels and canteens to assess the prevailing hygiene of the dining halls, water supply and the surroundings to prevent the outbreak of waterborne diseases amongst the boarders
- ii) Annual Health Checkup programme for the employees is done regularly
- iii) Fogging was done on the campus to prevent outbreak of Dengue
- iv) Pulse Polio Immunisation camps were organized in the campus as per directive of the Govt of India
- v) Bone mineral density test for elderly ladies was done in the month of September, 2013
- vi) Blood donation camp was organized on 4.5.2013
- vii) Health checkup of students of Takshyashilla Vidyapith and KV, Tezpur University was done September 2013.

FUTURE PLANS

- Phasewise upgradation of the Centre to a 30-bedded Health Centre
- CT scan and MRI facilities in collaboration with the Medical College, Tezpur
- OPD facilities for outsiders
- Regular vaccination programme for children.

HORTICULTURAL SECTION

The Horticultural Section of the University is entrusted with the task of carrying out landscaping and beautification of the University campus. The Assistant Horticulturist employed at Horticulture Section looks after the activities under the supervision of a faculty as Co-ordinator. He is assisted by one Multi Task Staff (MTS) along with 16 daily wage labourers. The annual horticultural activities during the 1 April, 2013 – 31 March, 2014 are as follows:

PLANTATION PROGRAMMES

A total of 605 seedlings of different ornamental plants/shrubs and fruit trees were planted in different parts of the University campus, which include the VC's residence, Office of the Dean, School of Engineering, Dept of Computer Science & Engineering, Dept of Civil Engineering, Dept of Energy, Dept of Chemical science, Dept of Mass Communication and Journalism, some parts along the boundary of University campus, the Health Centre, the Shopping Complex, Academic Building-II, the Cafeteria, C-type Quarters, parts of the Ring Road and other roads of the residential colony.

NEW DEVELOPMENTAL WORK

During the concerned period landscaping of the following was done: the front of the Office of the Dean, School of Engineering, Dept of Computer Science & Engineering, Dept of Civil Engineering, the TUEE Office, and the Administration Building.

A botanical garden (in about 10 bighas of land) was developed. Field preparation work such as lay out and demarcation of plots was completed. A total of 396 seedlings of different ornamental plants/shrubs, economically important plants, fruit trees, medicinal plants and herbs, palm species, bamboo etc. were planted in the Botanical Garden.

MAINTENANCE OF THE EXISTING TREES AND GARDENS

Essential maintenance work was carried out throughout the year on each and every old tree on the campus. Furthermore, essential maintenance work on all the flower gardens located in front of the Administration Building, the Auditorium, the Guest House, the Central Library, the Community Hall, the Health Centre, the Student Activity Centre, Dept of Energy, Dept of Chemical Science, Dept of MBBT, Dept of Environmental Sciences, Dept of Mass Communication and Journalism, Dept of Business Administration, Academic Buildings I and II, School of Engineering, VC's Residence, the Cafeteria, the Sophisticated Analytical Instrumentation Centre, the Chandraprabha Saikianee Bhaban, the Shopping Complex, the Day Care Centre, the car parking area near the Administration Building, Takshashilla Vidyapeeth, and the Children Park was carried out throughout the year.

MAINTENANCE OF HOUSE PLANT POTS FOR INDOOR DECORATION

Essential maintenance work was also carried out on all the house plant pots (about 800 in number) placed in the Administration Building, the Academic buildings, the Library, the New Guest House, the Community Hall, the KBR Auditorium, the Health Centre, the Student Activity Centre and all other office buildings of the University.

MAINTENANCE OF VERMICOMPOST PROJECT

A Vermicompost project has also been running successfully and has fulfilled the need of organic manure to some extent. About 10.02 quintals of vermi compost was produced during the concerned year.

OTHER ACTIVITIES

In addition to the above, the Horticulture Section carried out regular maintenance work for all parts of the University campus during the concerned period.



INTERNAL QUALITY ASSESSMENT CELL

The Internal Quality Assessment Cell has been established to regularly assess internal quality of the University. During the period (April 2013 to March 2014) the following activities were carried out:

- The office has moved to its new premises, and is now located in the ground floor of the Council Hall extension, next to the International Office.
- At the time of new admissions, expectations from new guardians were collected through a questionnaire designed for that purpose. Feedback was sought from guardians of outgoing students. Both these set of responses were circulated among the Departments for their information.
- Prof M Bhuyan of ECE was requested to frame guidelines for deputing faculty to Industry. The guidelines have been framed and presented in the IQAC meeting and subsequently forwarded to the University authorities.
- The Annual Quality Assurance Report (AQAR) for the period 12 April to 13 March 2013 was submitted to NAAC in the month of November 2013.
- The Academic and Administrative Audit for the University was conducted in December 2013. The members of the Administrative Audit comprised Prof D J Saikia (Vice-Chancellor, Cotton College State University), Prof K G Bhattacharyya (Dept of Chemistry, Gauhati University) and Sri Debabrata Deb (Registrar, NEHU). The Academic Audit Committee comprised Prof A C Bhagawati (Former VC, Rajiv Gandhi University), Prof B P Sinha (ISI, Kolkata), Prof Bharat Sharma (Retired Professor, IIPA, New Delhi), Prof Parama Mahanta (Retired Professor, Dibrugarh University), Prof M Dixit (IIT Gauhati).
- API cases are handled on an ongoing basis.

Prof Chandana Goswami completed her term as Director (IQAC) and Prof Utpal Sarma of CSE has taken over on 1 April 2014.



INTERNATIONAL OFFICE

The International Office (IO) of Tezpur University was established in February 2013. It has recently been allotted office space in the Administrative Building. Its office hours are from 6 to 8 pm. The IO is expected to facilitate academic and research collaboration with educational and research institutes abroad. It is also expected to handle the application and enrolment process of international students. The IO is presently manned by a Director (Prof P K Das) and an Assistant Director (Dr Rupak Mukhopadhyay). It has no office staff as yet.

ACTIVITIES

The IO organized Dr Madhobi Roy's (Senior Education Adviser, USIEF Kolkata) presentation on higher education opportunities in the US on 30 April, 2013.

The IO organized a General Meeting with Ms Manjari Chakravorty, Knowledge Economy Adviser, British Deputy High Commission, Kolkata on 10 June, 2013.

In July 2013, the IO facilitated the admission of Mr Chakri Bhodhimani from Thailand, the first foreign post graduate student (MA in Cultural Studies).

From 2-5 September, 2013, the Director, IO led a Tezpur University delegation, consisting of faculty, the Education Officer and students of the Chinese Certificate programme, to Yunnan University of Finance and Economics, Kunming, China in order to work out an actionable Memorandum of Understanding.





NATION-WIDE REPRESENTATION OF STUDENTS FOR THE ACADEMIC SESSION 2013-14

State	No. of students			International students	
	UG/ Diploma/ Certificate	PG	PhD	PG	PhD
Andhra Pradesh	27	02	01	01 (Thailand)	01 (Sri Lanka)
Arunachal Pradesh	06	09	07		
Assam	735	1361	419		
Bihar	127	30	03		
Chhattisgarh	-	01	-		
Goa	01	-	-		
Gujarat	-	-	-		
Haryana	04	01	-		
Himachal Pradesh	-	01	-		
Jammu & Kashmir	03	-	02		
Jharkhand	12	03	02		
Karnataka	-	-	-		
Kerala	01	-	-		
Madhya Pradesh	08	02	-		
Maharashtra	01	02	02		
Manipur	07	12	04		
Meghalaya	13	08	07		
Mizoram	-	01	-		
Nagaland	01	05	03		
Odisha	-	14	02		
Punjab	02	-	-		
Rajasthan	23	04	-		
Sikkim	-	01	-		
Tamil Nadu	-	-	-		
Telangana	-	-	-		
Tripura	-	09	02		
Uttar Pradesh	79	29	-		
Uttarakhand	07	-	09		
West Bengal	09	32	10		
UTs (Delhi)	07	11	1		
TOTAL	1073	1538	474	02	

THE YEAR IN FIGURES**STATISTICS: STUDENTS**

Total	Male	Female	General		SC		ST		OBC/MOBC				PWD		SSS	
			M	F	M	F	M	F	M	F	M	F	M	F	M	F
3059	1846	1213	897	620	237	126	114	107	521	290	-	-	18	04	59	66

STATISTICS: EMPLOYEES**TEACHING**

Employees	As on 31.3.13	Joined during 2013-14	Left during 2013-14	As on 31.3.14
Professors	52	0	0	52
Associate Professors	48	01	02	47
Assistant Professors	113	04	02	115

NON-TEACHING

Employees	As on 31.3.13	Joined during 2013-14	Left during 2013-14	As on 31.3.14
Group-A	42	05	09	38
Group-B	46	12	03	55
Group-C	103	09	16	96
Group-D	66	08	01	73

STATISTICS: SC/ST EMPLOYEES, FEMALE/MALE EMPLOYEES

(as on 31 March 2014)

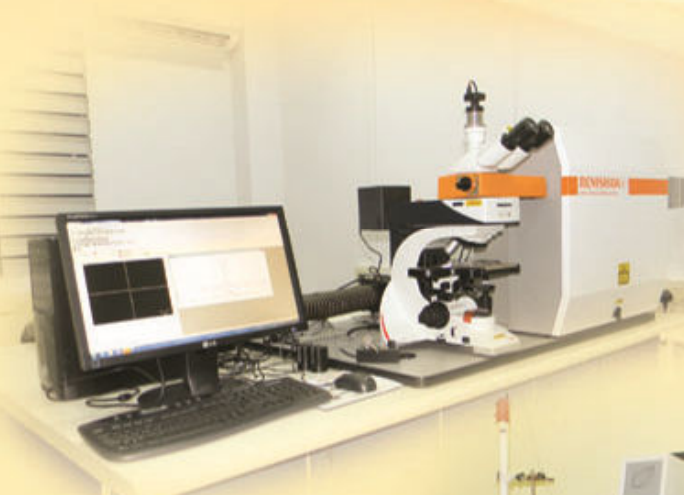
TEACHING

Employees	SC	ST	Female	Male
Professors	01	01	10	42
Associate Professors	07	03	02	45
Assistant Professors	20	11	31	84

NON-TEACHING

Employees	SC	ST	Female	Male
Group-A	04	02	04	34
Group-B	10	04	11	44
Group-C	14	11	09	87
Group-D	12	05	05	68

Sophisticated Instruments







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