

EXECUTIVE SUMMARY

GAUHATI UNIVERSITY (FOR THE PERIOD APRIL 2017 TO MARCH 2018)

This Annual Report is a presentation of the activities of the University for the period April, 2017 to March, 2018. The following are the highlights of the Report:

A. Academic Contribution By Faculty Members:

- A total of 650 papers were published in recognised academic journals.
- A total of 103 books/ Chapter of books were published during the period.
- A total of 80 research projects were under progress in the period
- A total of 23 faculty members went abroad on academic purpose

B. Honours/Awards/Fellowship earned by the Faculty members:

- Assamese Dr. Malinee Goswami was awarded Puspa Devi Jalan Bata by Jalan Literary Trust and Barta Pakhili
- Applied Sc. Dr. Madhurjya Modhur Borgohain was awarded Focus Area Science & Technology (F.A.S.T.) summer research fellowship by Indian Academy of Sciences
- Botany: Dr. Diganta Narzary was awarded DBT Overseas Research Associateship by DBT, Govt. of India.
Dr. Hemen Deka was awarded UGC Start-up grant by UGC, Govt. of India.
Dr. Hemen Deka was awarded Summer Research Fellowship by Indian National Academy of Sciences
Dr. Niraj Agarwala was awarded Early Career Research Award by SERB, DST, Govt. of India
Dr. Niraj Agarwala was awarded UGC Start-up grant by UGC, Govt. of India.
- Chemistry Prof. D. C. Deka was awarded the **Leading Educationist Award 2018 conferred by** Friendship Forum of India, New Delhi
Prof. P. Phukan was awarded the Fellow of the Royal Society of Chemistry (**FRSC**), UK (2017) by Royal Society of Chemistry, UK
Prof. P. Phukan was elected the Joint Secretary, Chemical Research Society of India.
Prof. P. Phukan became a Member, Executive Committee, Indian Society for Surface Science and Technology.
Dr. R. Thakuria was Invited as Guest editor for a special issue in Crystal Growth & Design ACS publication
Dr. R. Thakuria was Considered among top 3 referee of Crystal Growth & Design of ACS publication
Dr. R. Thakuria was awarded the Visiting Fellowship JNCASR (2017-2018) by JNCASR
- Foreign Languages Prof. Kandarpa Das was invited by the Federation Council, Russian Federation (upper House of the Russian Parliament) to act as International Observer for the elections of the President of the Russian Federation held on 18th March, 2018.
- Physics Dr. Banti Tiru has been invited by the National Atmospheric Research Laboratory Gadanki as Visiting Scientist.
Dr. Buddhadeb Bhattacharjee was invited by GSI Helmholtzzentrum für Schwerionenforschung GmbH, Darmstadt, Germany as a physicist
Dr. Buddhadeb Bhattacharjee was invited by CERN, Switzerland as a physicist.
Dr. Hemen Kumar Kalita has been invited by the IIT, Bombay as the Visiting Fellow.
Dr. Kalpana Bora has been invited by the IIT, Guwahati as the Visiting Faculty.
Dr. Bimal K Sarma has been awarded the Outstanding Reviewer Status by Editors, Journal of Alloys & Compounds, Elsevier
- Information Tech. Sri Kishore Kashyap begged the Best Paper Presentation Award conferred by Compute 2017, SIRT Bhopal & RGPV Bhopal.
- IDOL: Mr. Dalim Ch. Das Assistant Professor of English has been awarded with the Munin Borkotoki Literary Award conferred by the Munin Borkotoki Memorial Trust

C. Ongoing Faculty Research Projects (Individual) in the period:

1. Dept of Assamese: SAP-DRS –II (Terminology of Literature and Culture of North –East India) project by Prof. Upen Rabha Hakacham sponsored by UGC for 5 years
2. Dept of Economics: Outcome Evaluation of State Finances in the context of recommendations of the 14th Finance Commission: Determination of a sustainable debt roadmap for 2020-25, taking into account impact of introduction of GST and other tax/non-tax trend forecasts by Prof. Nissar A. Barua (Principal Researcher) Dr. Nivedita Goswami (Research Associate) Bandana Chowdhury (Research Associate) funded by Fifteenth Finance Commission.
3. Dept of Library :North East India University Library Network (NEILIBNET) by Prof. Narendra Lahkar sponsored by & Inf Sc. UGC for 3 years.
4. Dept of Sociology: Social Impact Assessment by Prof. Monirul Hussain and Dr. Kaberi Das sponsored by SJVN for 1 year.

5. Department of WS:Prevention, Prohibition and Redress of Sexual Violence at Professional and Public Places in Assam by Dr Polly Vauqueline sponsored by UGC for 3 Years.
Work place: a site of sexual harassment by Dr Polly Vauqueline sponsored by NEN and DWS, GU for 8 months.
Crèches, Care-Work and the State: A Study Of Childcare Facilities in Guwahati City by Poonam Kakoti Borah for 3 years sponsored by Gauhati University.
6. Dept of Applied Sc.s: Nonlinear Waves and Instabilities in Relativistically Degenerate Dense Plasmas by Dr. Manoj Kr. Deka sponsored by DST-SERB for 3 Years.
7. Dept of Comp Sc.: Fake currency detection and verification by Dr. Sanjib Kumar Kalita sponsored by ASTEC
8. Dept. of Anthropology: Multidisciplinary Studies on Rock Art and Allied subject in N.E. India by Dr. Dwipen Bezbaruah for 5 years funded by Indira Gandhi National Centre for the ARTS,IGNCA, New Delhi
Impact of consanguinity on health: A study in Barpeta district, Assam by Dr. Gulrukh Begum funded by ICSSR
Traditional Bamboo and Cane Craft Among the Plain and Hill Tiwas of Assam by Ms. Humi Thaosen funded by UGC-SAP
9. Dept of Bio Engg: Synthesis, characterization and evaluation of anticancer activity of novel ioessential transition metal and Technology complexes having tumor targeting and antitumor active ligands by Dr. K.K.Saikia
Study of molecular basis of fruit morphology variation in Assam lemon through genomic approach by Dr. S. Banu for 3 years funded by DBT Task Force
Support for imparting training under Human Resources Development scheme for Health Research by Dr. Subhash Medhi for 5 years and funded by ICMR
ICMR Task force project Assessment of viral Hepatitis burden in northeast India: A systematic study by Dr. Subhash Medhi for 5 years and funded by ICMR
10. Dep of Biotechnology: Evaluation of nutritive values of wild and edible insects of Assam and their processing for boos shelf life and rural economy by Prof. A.K.Handique for 4 years funded by Ministry of Food processing, Govt. of India
DBTs Scented Rice Programme for N. E India (Evaluation of nutritive and nutraceutical value values of indigenous land races of Assam by Prof. A.K.Handique for 4 years funded by DBT, Govt. of India. Integrating herbal medicine of NER with contemporary approaches to develop therapeutic strate for metabolic syndrome (PI) by Prof. M.C.Kalita for 4 years funded by DBT Funded under NER – DDRC Health
Integrated Biorefinery approach towards production of sustainable fuel and chemicals from algal biobased systems(PI) by Prof. M.C.Kalita for 5 years funded by DBT Indo-Brazil research collaboration
Unraveling bacterial blight pathogenesis based on rice RNAs as induced by virulent and less-virulent strains of *Xanthomonas oryzae* pv. *oryzae* in presence or absence of functional T3SS by Prof. P.J. Handique for 5 years funded by DBT
Enumeration of medicinal plants used by the Deori tribe of Assam with emphasis to the documentation and analysis of their indigenous knowledge system and traditional herbal pharmacopoeia.by Prof. P. J. Handique for 4 years funded by DST-NRDMS
11. Dept of Botany:Screening, Biochemical evaluation and Toxicity study of some wild edible Mushrooms of Assam by Prof. Nilakshee Devi for 2 years funded by ASTEC, Govt. of Assam.
All India co-ordinated Project Taxonomy on “Assessing phytoplankton diversity in different fresh water habitats of Assam, Tripura and Arunachal Pradesh by Prof. Partha Pratim Baruah for 4 years funded by MoEF &CC, Govt. of India
Collection, evaluation documentation and conservation of banana genetic resources of NE region by Prof. Bhaben Tanti for 3 years funded by DBT, Govt. of India.
Whitefly(*Bemisia tabaci*) in North Eastern India: Diversity, Factors of virus transmission and natural inhibitor Prof. Bhaben Tanti for 3 years funded by DBT, Govt. of India.
Exploration of endophytic microorganisms from selected indigenous rice landraces of North-East India and their applications for improvement of growth and yield of traditional rice varieties by Dr. Kumananda Tayung for 3 years funded by DBT, Govt. of India
Meta-genomic and transcriptomic studies on Termitomyces growing fungal combs of termites found in Assam for bioprospection by Dr. Diganta Narzary for 3 years funded by DBT, Govt. of India
Microbial and Biochemical study on traditionally fermented fish food ‘Napham’ of Assam for Value Addition by Dr.Diganta Narzary for 2 years funded by DST, Govt. of India
Plant-microbe consortia for remediation of Polycyclic Aromatic Hydrocarbons (PAHs) contaminated soils of Assam and influence of biogenic nanomaterials on PAHs fate and accumulationby Dr. Hemen Deka for 2 years funded by UGC, Govt. of India.
Deciphering miRNA-mRNA modules associated with Darjeeling tea quality by Dr. Niraj Agarwala for 3 years funded by SERB,DST,Govt of India

- Assessment of culturable endophytes from indigenous capsicum varieties of Assam for their utilization for effective control of bacterial wilt *pathogen* *Ralstoniasolanacearum* by Dr. Niraj Agarwala for 2 years funded by UGC, Govt of India
- Harnessing endophytes from wild tea germplasms for developing microbial bioformulation aimed at sustainable organic tea production by Dr. Niraj Agarwala for 3 years funded by Gauhati University.
- Investigation on air pollution tolerance index of some plants growing along NH 37, Guwahati by Dr. Nabanita Bhattacharyya for 3 years funded by Gauhati University.**
12. Dept of Chemistry: Helping the Socio-Economically backward SC/ST communities to get potable water by Prof. C. Medhi for 1 year funded by Shakya, University of Cambridge.
 Bioactivity guided fractionation of *Dillenia indica* Linn. and *Murraya koenigii* leaf extract for anti-diabetic potency by Prof. A.K. Talukdar for 3 years, funded by Ministry of Health & Family Welfare. Activation and Functionalization of Organic Molecules using Sulphonamide Based Reagents by Prof. P. Phukan for 3 years funded by SERB.
 Fluorescent self assembled monolayers on quartz glass substrates: Sensing metal ions and small biomolecules by Prof. B.K. Das for 4 years funded by DST-SERB.
 Design and Syntheses of Tryptophan based Ligands for the Recognition of Halide Anions by Dr. R.J. Sarma for 5 years funded by UGC.
 Design and Synthesis of Hierarchically Porous Materials-Conducting Polymer Composites for Electrochemical Supercapacitors by Dr. D. Mahanta for 4 years funded by SERB.
 Asymmetric Hydrogenation of Various Pro-Chiral Organic Substrates by Catalyst Metal Nanoparticle Encapsulated in Chiral Metal Organic Framework MNP@CMOFs by S. Brahma for 3 years funded by DST-SERB.
 Molecular engineering, hoping transport and tuning of electronic properties of conjugated organic semiconductors based on donor-acceptor approach for potential applications in optoelectronics by D. Kalita funded by Gauhati University.
 Targeted Organometallic Compounds for Photodynamic Destruction of Cancer by T.K. Goswami for 5 years funded by DST.
 Photoinduced Anticancer Activities of Targeted Ferrocene-conjugated 3d Metal Complexes by T.K. Goswami for 2 years funded by UGC
 Designing Suitable Host Molecules as Enzyme Mimics for Supramolecular Catalysis by S. Ghosh for 2 years funded by UGC- Start up Grant.
 Synthesis of Polycarbonates from the Greenhouse Gas CO₂ by Supramolecular Catalysts Designed via Co-ordination Driven Self-assembly by S. Ghosh for 3 years funded by DST-SERB.
 Pure Shift NMR Methods for the Enantiodiscrimination in Chiral Anisotropic Media by Dr. N. Nath for 3 years funded by UGC-BSR Start-Up-Grant).
 Stimuli-responsive nano-constructs for targeted delivery and site-selective release and activation of combination drugs by Dr. B. Banik for 5 years funded by Department of Science and Technology (DST), India.
 13. Department of ECT: Visvesvaraya Fellowship Scheme of DeitY, Govt. of India by Prof. Tulsi Bezburuah funded by DeitY, Govt. of India
 Modeling synthesis and characterization of core-shell nanocomposites for application as electronic filter by Prof. P. Dutta for 3 years funded by ASTEC, Govt. of Assam
 14. Dept of Geography: Continuity and change among the Buddhist Tai Communities of Assam by Prof. M. Das funded by UGC.
 15. Dept of Geological Sc: Study of hydrocarbon potential, depositional environment and geological mapping of the Disang-Barail transitional sequence in Assam, Nagaland and Arunachal Pradesh by Dr. Sarat Phukan for 2 years funded by Oil India Ltd.
 Integrated palynofacies and magnetostratigraphic study of Bhuban Formation in some selected outcrops exposed in the central part of Mizoram, NE India by Dr. Bikash Gogoi for 2 years funded by Oil India Ltd.
 Tectonothermal evolution and EPMA geochronology of granulite facies rocks from the Gneissic Complex of Shilong Plateau, India by Dr. A.C. Mazumdar for 2 years funded by UGC
 Determination of elemental and isotopic compositions of tourmaline from Pb-Zn and Cu-Au deposits of Northwestern India: implications for compositional fractionation, ore genetic processes and source of ore forming fluid by Dr. Pranjit Hazarika for 5 years funded by DST-INSPIRE.
 16. Dept of Inst. & USIC: Development and Implementation of a Wireless Sensor Network for Tea Process Parameters Monitoring by Prof. Utpal Sarma for 2 years funded under Under Technology Generation Scheme, ASTEC.
 Band gap tuning of transition metal oxides (ZnO, NiO, CuO, Fe₂O₃) nanoparticles by controlling microstrain and doping concentrations by Dr. Sanjib Karmakar for 3 years funded by DST-SERB.
 Design and Development of Sensing and Control System for Quality Tea Production by Prof. Utpal Sarma for 2 years Funded under DST-SSPP
 Development of a customised E-Nose setup for tea quality discrimination by Dr. Debashis Saikia for 3 years funded by GU.

17. Dept of Mathematics: Mathematical Modeling in MHD Visco-Elastic Fluid with emphasis on heat and mass transfer by Prof. Rita Choudhury for 3 years funded by UGC.
18. Dept of Physics: Design and implementation of scanned light sheet microscope with spatial light modulator based beam scanning by Dr. Abhijit Das for 3 years funded by DST-SERB
ZnO based single layer and multilayer structures as smart transparent conductors by Dr. Bimal K Sarma for 3 years funded by DST-SERB.
ALICE-Upgrade, Operation and Utilization by Dr. Buddhadeb Bhattacharjee for 5 years funded by DST
Graphene derivatives as resistive and capacitive based prototype sensor for soil moisture detection for agriculture applications by Dr. Hemen Kumar Kalita for 2 years funded by UGC
Surface engineered graphene as toxic gas sensors by Dr. Hemen Kumar Kalita for 2 years funded by GU.
Surface engineered graphene based prototype sensor for soil moisture application by Dr. Hemen Kumar Kalita for 2 years funded by ASTEC
Neutrino nucleon scattering cross sections across energy scales by Dr. Kalpana Bora for 3 years and 3 months funded by SERB (DST)
Near-Infrared Emitting Water Soluble Quantum Dots by Dr. Manos P. C. Kalita for 3 years funded by DST-SERB
19. Dept of Statistics: A study on the pattern of Household Consumption Expenditure in India with special reference to Post-Reforms period
20. Dept of Zoology: ICAR-NBFGR collaborative program on technological and infrastructure support for development of tribal farmers under TSP scheme in Assam Region by Dr. Dandadhar Sarma for 4 years sponsored by NBFGR.
Attempt to develop diagnostics and preventive measure for suspected fish viral diseases encountered in Assam by Dr. Dandadhar Sarma for 4 years sponsored by DBT, GOI.
Establishment of Captive breeding protocols and value additions to selected indigenous ornamental fishes from North East India by Dr. Dandadhar Sarma for 4 years sponsored by DBT, GOI.
Establishment of Aquarium Unit for culture and breeding of indigenous hills stream fishes Dr. Dandadhar Sarma for 4 years sponsored by ICAR-DCFR, Bhimtal.
Biodiversity of Himalayan foot hills of north Bank Landscape, Assam, India by Dr. P. K. Saikia PI & Co- PI Dr. M. K. Saikia for 4 years sponsored by NMHS, MoEF.

D. New Courses Started:

- **Department of Foreign languages:** MA in European Studies
- **Department of Library and Information Science:** M.Phil in Library and Information Science.
- **Department of Political Science:** South East Asian Studies.
- **Department of Folklore Research:** An One Year Diploma Course in Indian Classical Music (Vocal) was designed and syllabus was prepared under the Centre for Performing Arts
- **Department of Persian:** One Year PG Diploma in Turkish Language
- **Department of Law:** 1) Centre for Refugee Law S and Refresh 2. Centre for Humanitarian law S and Refresh.
- **Department of Bio Engineering and Technology:** M. Sc. In Cancer Biology
- **Department of ECT:** M. Sc in Microelectronics & Advanced Communication.
- **Department of Mathematics:** M. Phil in Mathematics.
- **Department of Physics:** PhD in Radiological Physics

E. Recognition of the Department:

- **Department of Assamese:** SAP, DRS- II
- **Department of Economics:** SAP-DRS-2
- **Department of Political Science:** UGC-SAP-DRC-II
- **Department of Sanskrit:** The Department received recognition from UGC, New Delhi as a Department of Excellence under SAP-DRS- II in 2018.
- **Department of Anthropology:** SAP DRS-I (2017-18)
- **Department of Biotechnology:** Computer Lab, FIST Lab, DST-FIST Program, RUSA funded Lab.
- **Department of Botany:** SAP
- **Department of Business Administration:** SAP
- **Department of Chemistry:** SAP/COSSIST(ASSIST)/DST/FIST
- **Department of Geography:** SAP-III (2013-2018)
- **Department of Instrumentation and USIC:** Sophisticated Analytical Instrument Facility (SAIF) sponsored by DST
Instrumentation Is a National Facility Centre of Sophisticated

- Department of Physics : UGC-SAP (DRS III), FIST (Level I)
- Department of Statistics: FIST

F. Ph.D. Awarded & Other Achievement by the students:

- A total of 352 Ph.D degrees were awarded in the period under review
- 185 Students cleared UGC NET, 46 Students cleared NET-JRF, 44 students cleared SLET, 22 cleared GATE examination.

G. International/ National Seminar/ Conference/ Workshop held: A total of 52 number of International and National level seminars /conferences/ workshops were organised by different departments of the University during this period.

H. Affiliated Colleges

Affiliated Colleges under Gauhati University		
Sl. No.	Stream	No. of College
1.	Law College	12
2.	B.Ed. College	46
3.	Engineering College	7
4.	Medical College	Nil
5.	College offering P.G. Course along with U.G. Course	45
6.	Music College	01
7.	Architecture College	02
8.	Fine Arts and Craft College	02
9.	Fashion & Design College	02
10.	General Affiliated College (Arts/Science/Commerce)	133
11.	College Registered Society	40
Total Affiliated Colleges		290
12.	Permitted College	59

**Registrar
Gauhati University**