

EXECUTIVE SUMMERY

GAUHATI UNIVERSITY (FOR THE PERIOD APRIL, 2018 TO MARCH, 2019)

This Annual report is a presentation of the activities of the University for the period April, 2018 to March, 2019. The following are the highlights of the Report:

A. Academic contribution by the Faculty Members:

- A total of 539 papers were published in recognized academic journals.
- A total of 107 books/ Chapters of book were published during the period.
- A total of 60 Research Projects were under progress in the period.
- A total of 25 Faculty members went abroad on academic purpose.

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

- Assamese Prof. Upen Rabha Hakacham was awarded Krishna Chandra Gandhi Award/2019 conferred by Purbattor Janajati Shiksha Samitee.
- English Pradipta Borgohain was awarded with Teaching Fellowship in the Department of English, Delhi University..
Asha Kothari Choudhuri was awarded with Teaching Fellowship in the Department of English, NEHU.
- History Paromita Das has been invited to the Indian Council for Cultural Relations, New Delhi as Visiting Professor in Indian Studies Chair (History).
- Lib and Inf Sc Dr. Badan Barman has been Felicitated in recognition of services for upliftment of Library profession by Ranganathan Society for Social Welfare and Society Development.
- Political Sc. Prof Nani Gopal Mahanta was invited as Visiting Fellow from 4th -9th March, 2019 at the Department of Political Science, University of Delhi.
Barasa Deka has been awarded Ph.D degree by the Jawaharlal Nehru University, New Delhi.
- Psychology Dr. Manidipa Baruah was awarded the Gandhi Scholarship award by Pune Neuropsychology Conference.
Dr. Manidipa Baruah was awarded the Best Poster award in Research Conclave, 2019 by IIT, Guwahati
- Communication and Dr. Ankuran Dutta was conferred the "National Award for Outstanding Efforts in Science Journalism and Technology Communication in the Electronic Medium, 2018 by the NCSTC, DST, Ministry of Science and Technology, Government of India on February 28, 2019.
Dr. Ankuran Dutta was Awarded as the Best Media Educator of India (Associate Professor category) at Media and Media Educators Summit, held on 22 December, 2018 at India International Centre, New Delhi, conferred by the IIMC, New Delhi & BW, New Delhi
Anupa Lahkar Goswami has been awarded with the Best Paper at All India Media Educators Meet by the Rajasthan University
- Applied Sc. Dr. Suparna Bhattacharjee was awarded Young Faculty Research Fellowship (YFRF) by the Ministry of Electronics and Information Technology (MeitY), Government of India.
- Botany: Dr. Dhruva Kumar Jha was awarded Fellowship by the Indian Phytopathological Society.
Dr Niraj Agarwala was awarded Focus Area Science Technology Summer Fellowship (FAST-SF) at IISER, Pune by IASc-INSA-NASI
Dr Niraj Agarwala was awarded INSA visiting Scientist at Delhi University by Indian National Science Academy, New Delhi, India.
- Biotechnology: Prof Mohan Chandra Kalita has been awarded Fellow of Linnaean Society (FLS), London (UK) by Linnaean Society (FLS), London (UK)
Prof Mohan Chandra Kalita has been Nominated Member for the Governing Body of IASST, Guwahati for the period 2018-2021 by the DST, Govt of India.
- Chemistry Dr. R. Thakuria was invited as a Guest editor for virtual special issue on " π - π Stacking in Crystal Engineering: Fundamentals and Applications" of Crystal Growth & Design, ACS, 2019.

Dr. R. Thakuria was awarded as the Emerging Investigators in Crystal Growth & Design conferred by ACS Publication.

Dr. D. Mahanta was awarded the JNCASR Visiting Fellowship Award by JNCASR.

- ELT Dr. Padmini Bhuyan Boruah has been awarded Fulbright-Nehru Academic and Professional Excellence (FNAPE) Fellowship for 2019-20 conferred by United States – India Educational Foundation (USIEF)
- ECT Dr. Hidam Kumarjit Singh was awarded the Visvesvaraya Young Faculty Research Fellowship conferred by MeitY, Govt. Of India.
- ECE Prof. Kandarpa Kumar Sarma has been selected for AICTE-UKIERI Leadership Development Programme by British Council.
- Statistics Prof. Kishore K. Das was serving as an Adjunct Faculty of Assam University.

C. Patent Generated by the Faculty members:

- **Department of Applied Sciences:** ☞ Inventor: Dr. Samiul Haque, Patent title: Development of thermistor device from the liquid crystalline polymers, Indian Patent No. 296096 dated 25/04/2018.
- **Department of Biotechnology:** ☞ Inventor: Prof. Mohan Chandra Kalita, Patent title: Substrate based bioformulation for control of bacteria & wilt of brinjal and its preparation thereof, Patent Application grant No. 303359 granted in 2018
- **Department of Physics:** ☞ Inventor: Dr. Bimal Kumar Sarma, Patent title: An improved AZO sputtering target for manufacturing transparent conducting film and the method thereof, Indian Appl. No. 201831022820', Patent filed on 19.06.2018 and published on 13.07.2018.

D. Ongoing Faculty Research Projects:

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 ELT: ☞ Disciplinary Literacy in Information Technology at the Undergraduate Level: using effective reading strategies for academic purposes.

4. Dept of Pol Sc.

☞ Contested Urban Space by Prof. Akhil Ranjan Dutta for 1.5 years funded by the Centre for South East Asian Studies.

☞ Assam's tryst with Destiny with Citizenship NRC and Immigration by Prof Nani Gopal Mahanta for 2 years funded by Centre for South East Asian Studies Gauhati University

5. Dept of WS:

☞ Prevention, Prohibition and Redress of Sexual Violence at Professional and Public Places in Assam by Dr. Polly Vauqueline for 3 Years sponsored by UGC.

☞ 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 Dr. 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 Anthropology:

- ☞ Rock Art in N.E. India by Prof. Dwipen Bezbaruah for 2 years funded by IGNCA, New Delhi.
- ☞ Impact of consanguinity on health: A study in Barpeta district, Assam by Dr. Gulrukh Begum for 2 years funded by ICSSR.

9. Dept of Bio Engg and Tech:

- ☞ Study of molecular basis of fruit morphology variation in Assam lemon through genomic approach by Dr. S. Banu for 3 years funded by DBT.
- ☞ Integrated approach to understand agarwood formation and value addition of agarwood (*Aquilaria malaccensis*) Dr. S. Banu for 3 years funded by DBT.
- ☞ Deciphering the role of microbes in agarwood deposition and functional characterization of important key enzymes Dr. S. Banu for 3 years funded by DBT.
- ☞ Human resource Development for Health Research in Molecular Biology/ Molecular Diagnosis by Dr. Subhash Medhi for 5 years and funded by DHR
- ☞ ICMR Task force project Assessment of viral Hepatitis burden in northeast India: A systematic study by Dr. Subhash Medhi for 4 years and funded by ICMR.

10. Dept of Biotech:

- ☞ Integrated Biorefinery approach towards production of sustainable fuel and chemicals from algal biobased systems by Prof. M.C.Kalita for 5 years funded by DBT Indo-Brazil International Research collaboration.
- ☞ Integrating herbal medicine of NER with contemporary approaches to develop therapeutic Strategies for metabolic syndrome by Prof. M.C.Kalita for 4 years funded by DBT, Govt. of India.
- ☞ Establishment of Institutional Biotech Hub by Prof M.C.Kalita for 9 years funded by DBT, Govt. of India.
- ☞ Quest for Cancer Drugs: Screening and Bioassay Guided Phytochemical Investigation of selected Endemic Medicinal Plants of Eastern Himalaya by Prof M.C.Kalita for 4 years funded by DBT, Govt. of India.
- ☞ "Molecular and Biochemical studies on indigenous medicinal plants from the North East India including *Urginea indica* (Bon Pollundu) and *Dactyloscapnos scandens* for the development of potential Anti-diabetic formulations".

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.
- ☞ Assessing phytoplankton diversity in different fresh water habitats of Assam, Tripura and Arunachal Pradesh by Prof. Partha Pratim Baruah for 3 years funded by MoEF &CC, Govt. of India
- ☞ Whitefly (*Bemisia tabaci*) in North Eastern India: Diversity, Factors of virus transmission and natural Inhibitor 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
- ☞ Plant-microbe consortia for remediation of Polycyclic Aromatic Hydrocarbons (PAHs) contaminated soils of Assam and influence of biogenic nanomaterials on PAHs fate and accumulation by 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* *Ralstonia solanacearum* by Dr. Niraj Agarwala for 2 years funded by UGC, Govt of India
- ☞ Inventorization of wild edible fruits of Assam with special reference to their sustainable utilization for livelihood generation by Dr. Namita Nath for 3 years funded by ASTEC.
- ☞ 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:

- ☞ Activation and Functionalization of Organic Molecules using Sulphonamide Based Reagents by Prof. P. Phukan for 4 years funded by DST.
- ☞ Fluorescent self assembled monolayers on quartz glass substrates: Sensing metal ions and small biomolecules by Prof. D.K.Das for 4 years funded by DST.
- ☞ Developing paper strip sensor for naked eye detection of fluoride in drinking water by Prof. D.K.Das for 3 years funded by ASTEC.
- ☞ 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 Carbon-Metal Oxide-Conducting Polymer Composites for Electrochemical Supercapacitors by Dr. D. Mahanta for 4 years funded by SERB-DST.
- ☞ Targeted Organometallic Compounds for Photodynamic Destruction of Cancer by Dr.T.K.Goswami for 5 years funded by DST-INSPIRE.
- ☞ Photo-induced Anticancer Activities of Targeted Ferrocene-conjugated 3d Metal Complexes by Dr.T.K.Goswami for 2 years funded by UGC.
- ☞ Synthesis of Polycarbonates from the Greenhouse Gas CO₂ by Supramolecular Catalysts Designed via Co-Ordination Driven Self-assembly by Dr.S. Ghosh for 3 years funded by DST-SERB.
- ☞ Development of residual chemical shift anisotropy based NMR Methods for determination of Small molecule constitutions and configurations by Dr. N. Nath for 4 years funded by DST-SERB(Early Career Research award).
- ☞ Stimuli-responsive nanoconstructs for targeted delivery, site-selective release and activation of combination drugs by Dr. B.Banik for 5 years funded by DST, India.

13. Dept of ECT: ☞ Visvesvaraya Fellowship Scheme by Prof. Tulsi Bezburuah funded by DeitY, Govt. of India.

- ☞ Design and Fabrication of low cost indigenous instrumentation system for use in characterization of photoresistors, photodetectors and solar cells by Dr. Hidam Kumarjit Singh for 2 years funded by MeitY, Govt. Of India.
- ☞ Soft computational framework for simulation, design and fabrication of a metamaterial loaded antenna for wireless application by Mr. Kumaresh Sarmah for 2 years funded by Gauhati university.

14. Dept of Geography: ☞ Dynamics of Sedimentation and its impact on local resources in Upper north bank of Brahmaputra: An integrated study using field surveys and geospatial technologies by Dr. D. Saharia funded by ISRO, Department of Space, Govt. of India.

15. Dept of Inst. & USIC: ☞ Development of a customised E-Nose setup for tea quality discrimination by Dr. Debashis Saikia for 3 years funded by G.U.

16. 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
- ☞ Colour pure near UV light emission enhancements from ZnO based thin film devices conducted by Dr. Bimal K Sarma for 3 years funded by ASTEC.
- ☞ ALICE-Upgrade, Operation and Utilization by Dr. Buddhadeb Bhattacharjee for 5 years funded by DST
- ☞ Flexible and surface tailored Graphene based derivatives as toxic gas / vapour sensors by Dr. Hemen Kumar Kalita for 3 years funded by DST-SERB.
- ☞ Quantification and understanding of the variability of 3D turbulence using atmospheric by Dr. Banti Tiru for 3 years funded by DST-SERB
- ☞ Investigating multi-nucleon transfer and n-p correlation: effects of nuclear deformation / orientation by Dr. Kushal Kalita for 3 years funded by DAE-BRNS
- ☞ A study on thunderstorm genesis, process and development of thunderstorm warning system

17. 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.

E. New Courses Started:

- Department of Folklore Research: A One Year Diploma Course in Indian Classical Music (Vocal) was designed and syllabus was prepared under the Centre for Performing Arts attached with the Department.
- Department of Law: 1) Centre for Refugee Law S and Refresh 2. Centre for Humanitarian law S and Refresh.
- Department of Instrumentation and USIC: Post Graduate Diploma in Embedded System under process.
- Department of Mathematics: M. Phil.
- Department of Physics: PhD in Radiological Physics
- University Law College: P. G. Diploma Course in Basics of Law.

F. 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: SAP-DRS- II.
- Department of Anthropology: SAP DRS-I
- Department of Biotechnology: DST-FIST
- Department of Botany: FIST-Level I
- Department of Business Administration: SAP
- Department of Chemistry: DSA-II& DST-FIST Level II
- Department of Geography: SAP-III (2013-2018)
- Department of Instrumentation and USIC: Sophisticated Analytical Instrument Facility (SAIF) sponsored by DST is a National Facility.
- Department of Physics : UGC-SAP (DRS III), FIST (Level I)
- Department of Mathematics: SAP(DRS-II)
- Department of Statistics: FIST
- Department of Zoology: SAP-DRS -III (2015-2020)

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

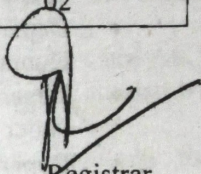
- A total of 402 Ph.D degrees were awarded in the period under review.
- 211 Students cleared UGC NET.
- 43 Students cleared NET-JRF.
- 117 students cleared SLET.
- 50 students cleared GATE examination.
- 1 student cleared CAT
- 1 student cleared DELF A1

H. International/ National Seminar/ Conference/ Workshop held:

A total of 76 number of International and National level seminars /conferences/ workshops were organised by different departments of the University during this period.

I. Affiliated Colleges under Gauhati University

Sl. No.	Stream	No. of College
1.	Law College (Public Affiliation Colleges + Colleges registered under Society)	15+4
2.	B.Ed. College (NCTE Recognized + Permitted)	39+9
3.	Engineering College	02
4.	Colleges offering P.G. Course along with U.G. Course	75
5.	Music College	01
6.	Architecture College	02
7.	Fine Arts and Craft College	02
8.	Fashion & Design College	02
9.	Physical Education	02



Registrar,
Gauhati University