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IN THIS ISSUE

01

National Institutional
Ranking Framework
(NIRF) 2018

02

Faculty Awards &
Honours

03

Students' Awards & Honours

05

20th Convocation

07

Research
Publications

29

New Joinings

28

New Research
Projects

26

Conference /
Seminar Abroad

17

Book / Book
Chapters

25

GIAN course on Biofuel
Cell Technology

Fundamentals and
Applications

19

Invited Lectures
of Departmental
Faculty

20

Patents

21

Awards and
honours for
Faculty members

24

Advanced Instructional
School on Algebraic
Number Theory

23

Workshop for
Sustainable
Agriculture in
North-Eastern
region

22

Visitors from other
Institutes



National Institutional Ranking Framework (NIRF) 2018



Shri Prakash Javadekar, Hon'ble Minister of Human Resource Development, is handing over the certificates and plaque of the NIRF-India Rankings 2018 to IIT Guwahati at Vigyan Bhawan, New Delhi. Also present, Dr. Satya Pal Singh, Hon'ble Minister of State, Human Resource Development (Higher Education).

IIT Guwahati has retained 7th position among the Best Engineering Institutions of the country in the 'India Rankings 2018' of National Institutional Ranking Framework (NIRF), Ministry of Human Resource Development, Government of India. The result was declared by Shri Prakash Javadekar, Hon'ble Minister of Human Resource Development, in a ceremony held at Vigyan Bhawan, New Delhi, on 3 April 2018. In the overall ranking, the Institute was placed in 12th position .

Prof. Gautam Biswas, Director, IIT Guwahati and Prof. Parameswar K. Iyer, Prof. In-Charge, Peer Review & Institutional Ranking received the award on behalf of IIT Guwahati.

The parameters for assessment broadly include 'teaching, learning and resources', 'research and professional practices', 'graduation outcomes', 'outreach and inclusivity' and 'perception'.

Faculty awards & Honours

The research work on “Bioengineered Intervertebral (Spinal) Disc for back pain mitigation” by Dr. Biman B. Mandal and his team at Department of Biosciences and Bioengineering was featured in “Rajya Sabha TV”. The report can also be viewed on the link <https://www.youtube.com/watch?v=JTyewOLYKI&feature=youtu.be>

This research work is part of PhD thesis work by Mr. Bibhas K. Bhunia published in the peer reviewed journal PNAS, 2018



The Ambassador of the European Union to India, Mr. Tomasz Kozłowski was at IIT Guwahati as part of the EU Day celebrations in India on 9 April 2018. He interacted with the Director of IIT Guwahati, Prof. Gautam Biswas along with the Deans and Heads of various departments on strengthening India-EU collaborations through research and Joint Degree Programmes between IIT Guwahati and Higher Education Institutions in Europe. The Ambassador thereafter

addressed the students on various policy initiatives of the European Union such as the Horizon 2020 Project aimed at enhancing Research and Academic Collaborations with HEIs in India. The delegation which included the ICT Counsellor of the European Union then highlighted the various avenues for research available under ICT, the Erasmus+ mobility programme and other funding opportunities available for students in India.



A huge 'shout-out' to our alumni for their continued support to the Institute; especially the batch of 2015, whose generous contribution made it possible for these equipment to be procured for different Gymkhana Clubs. Seen here is Prof. Gautam Biswas, Director of IIT Guwahati, inspecting

the equipment given to the Robotics Club (3D Printer) Electronics Club (Oscilloscope) and Movie Club (Shoulder Mounted Rig, Camera Stabiliser, etc) after the handing-over ceremony which was held recently

Students' Awards & Honours



A student team from IIT Guwahati has won second place in the Stanford Center on Longevity 2017-2018 Design Challenge competition. The team was comprised of Akshat Mandloi, Nakul Kasture, Nikhil Kumar and Purvish Shah.

The entry from IIT Guwahati named "Gesturecise" is a prototype aimed to detect body gestures through a

computer webcam and prompts the user to stretch and move if they have been sedentary for a long period.

The Stanford Center on Longevity Design Challenge is a global competition aimed at encouraging students to design products and services to improve the lives of people across all ages.



The team comprising of Ms. Poulami Datta and Ms. Sayanti Ghosh, PhD students of the Centre for the Environment, have won the First Prize at North East Biostart: Innovation and Talent Search Contest organised by Guwahati Biotech Park for their project 'Utilization of Waste Motor Oil and Oily Wastewater: Degradation and Product Formulation'. Ms.

Poulami Datta is pursuing her research under the guidance of Dr. Lalit Mohan Pandey and Dr. Pankaj Tiwari and Ms. Sayanti Ghosh is pursuing her research under the guidance of Prof. Saswati Chakraborty and Prof. Prof. Manabendra Ray. The prize includes memento and cash prize of rupees thirty thousand.

Munmi Saikia, Dept. of Humanities & Social Sciences received the Best Student Paper award in the 28th Annual Convention of International Trade and Finance Association

at Beijing for the paper titled "India's foreign direct investment position-Dynamic or developmental" held from 23-26 May 2018.



A decisive step to establish a joint-degree programme and research mobility between IIT Guwahati and Curtin University, Australia.

The agreement for a 'Collaborative Doctoral Programme' between IIT Guwahati and Curtin University, Australia

was signed on 29th June, 2018 in Adelaide, Australia. The agreement was signed in the presence of Shri Prakash Javadekar, Hon'ble Minister of Human Resource Development, Govt. of India, and Mr. Simon Birmingham, Hon'ble Minister of Education, Australia.



20th Convocation



The 20th Convocation of IIT Guwahati was held on 25 June 2018 at the Dr. Bhupen Hazarika Auditorium of the Institute. The convocation was chaired by Dr. Rajiv I. Modi, Chairman of the Board of Governors of the Institute. The Chairman of the Senate and the Director of the Institute Prof. Gautam

Biswas awarded the degrees of Bachelor of Technology (BTech), Bachelor of Design (BDes), Master of Science (MSc), Master of Technology (MTech), Master of Design (MDes) and Doctor of Philosophy (PhD) to the students who completed the requirements for these degrees.



Dr. Satya Pal Singh, Hon'ble Minister of State for Human Resource Development (Higher Education), Government of India, graced the occasion as the Chief Guest.

The Director of IIT Guwahati, Prof. Gautam Biswas thanked Dr. Satya Pal Singh for accepting the invitation to be the Chief Guest of this Convocation and for kindly agreeing to deliver the Convocation Address. Prof. Biswas in his address apprised the activities and achievements of the Institute during the past year with detailed reports ranging from academic activities to research and development, from physical infrastructure development to students activities and campus placement of students.

Dr. Rajiv I. Modi in his address expressed his pride and happiness to see the young budding Indians who are going to take our country to newer heights. Dr. Modi was confident that the years they have spent in this beautiful campus has helped them to enhance their character, their understanding of how to face the new world and he is confident that the academic programme that they have experienced have helped them forward to take next step to be the future contributing citizen of India and a citizen of the world..

Dr. Satya Pal Singh while delivering his address stated that education is not just about creating technology, science or publishing theses in journals, Singh said the first and foremost aim should be on how to create good human beings. Dr. Singh

urged IIT Guwahati to concentrate on finding solutions to the problems plaguing the Northeast especially floods and protection of ecology. Dr. Singh also praised the traditional gown donned by IIT-Guwahati passouts at the convocation and described it as a 'glowing example of decolonized Indian minds.'

Altogether 1450 students – including 584 Bachelor of Technology (BTech) and 45 Bachelor of Design (BDes), 26 Master of Arts (MA), 140 Master of Science (MSc), 388 Master of Technology (MTech) and 24 Master of Design (MDes), 11 Master of Science by Research [MS (R)] and 232 Doctor of Philosophy (PhD) – received their degrees at the Convocation. Dr. Singh also gave away the President of India Gold Medal to the Institute toppers among the BTech and BDes programme students and Dr Shankar Dayal Sharma gold medal to the student adjudged best in general proficiency.

Abheek Ghosh of Mathematics and Computing was awarded the President of India Gold Medal for securing the highest Cumulative Performance Index (CPI) among all the graduating BTech and BDes students. Sujeet Saurav of Chemical Science and Technology was awarded the Dr. Shankar Dayal Sharma Gold Medal. This medal is awarded to a graduating student adjudged to be the best in terms of general proficiency including character, conduct, and excellence in academic performance, extra-curricular activities, and social service. Fourteen students were awarded the Institute Silver Medal for securing the highest CPI in their respective departments of BTech, BDes and MSc programmes.



Research Publications

BSBE

Ashutosh Kumar, Swati Sharma, Lalit M. Pandey and Pranjali Chandra; Nanoengineered material based biosensing electrodes for enzymatic biofuel cells applications; *Materials Science for Energy Technologies*; 2018; 1; 1; 38-48.

M. H. Akhtar, K. K. Hussain, N. G. Gurudatt, P. Chandra and Y. B. Shim; Ultrasensitive dual probe immunosensor for the monitoring of nicotine induced-brain derived neurotrophic factor released from cancer cells; *Biosensors and Bioelectronics*; 2018; 116; 108-115.

A. Baranwal, A. K. Chiranjivi, A. Kumar, V. K. Dubey and P. Chandra; Design of commercially comparable nanotherapeutic agent against human disease-causing parasite, *Leishmania*; *Scientific Reports*; 2018; 1; 8814.

A. Baranwal, A. Srivastava, P. Kumar, V. K. Bajpai, P. K. Maurya and P. Chandra; Prospects of Nanostructure Materials and Their Composites as Antimicrobial Agents; *Frontiers in Microbiology*; 2018; 9; 422.

I. Bhatnagar, K. Mahato, K. K. R. Ealla, A. Asthana and P. Chandra; Chitosan stabilized gold nanoparticle mediated self-assembled gliP nanobiosensor for diagnosis of Invasive *Aspergillus*; *International Journal of Biological Macromolecules*; 2018; 110; 449-456.

U. Goswami, A. Sahoo, A. Chattopadhyay, S. S. Ghosh; In Situ Synthesis of Luminescent Au Nanoclusters on a Bacterial Template for Rapid Detection, Quantification, and Distinction of Kanamycin-Resistant Bacteria; *ACS Omega*; 2018; 3; 6; 6113-6119.

N. Arora, S. L. Gavya, S. S. Ghosh; Multi-facet implications of PEGylated lysozyme stabilized-silver nanoclusters loaded recombinant PTEN cargo in cancer theranostics; *Biotechnology and Bioengineering*; 2018; 115; 5; 1116-1127.

S. Kumar; Investigation of the sexual transmission of Zika virus: More to explore; *Lancet Glob Health*; 2018; 6; 6; 618.

N. Akhtar, A. Shah, V. Kumar, N. Pradhan, S. Panda, S. Morla, S. Kumar and D. Manna; Diphenylethylenediamine-Based Potent Anionophores: Transmembrane Chloride Ion Transport and Apoptosis Inducing Activities; *ACS Applied Materials & Interfaces*; 2018; 10; 40; 33803-33813.

S. Kumar; Reduction in antimicrobial resistance by the way of extensive vaccination; *Hum Vaccin Immunother*;

N. N. Barman, B. Nath, V. Kumar, A. Sen, T. K. Dutta, B. Dutta, T. Rahman, S. Kumar; The emergence of porcine circovirus 2 infections in the Northeastern part of India: A retrospective study from 2011 to 2017; *Transbound Emerg Dis*; 2018.

M. Das, S. Kumar; Analysis of codon usage pattern of infectious laryngotracheitis virus immunogenic glycoproteins and its biological implications; *Infect Genet Evol*; 2018; 62; 53-59.

S. Glingston, R. Deb, S. Kumar, S. Nagotu; Organelle dynamics and viral infections: at cross roads; *Microbes Infect*; 2018; 1-13.

S. J. Jakhesara, B. Nath, J. K. Pal, C. G. Joshi, S. Kumar; Emergence of a genotype I variant of avian infectious bronchitis virus from Northern part of India; *Acta Trop*; 2018; 183; 57-60.

N. Meher, S. Panda, S. Kumar and P. K. Iyer; Aldehyde group driven aggregation-induced enhanced emission in naphthalimides and its application for ultradetection of hydrazine on multiple platforms; *Chem Sci*; 2018; 9; 16; 3978-3985.

R. Kumar, V. Kumar and S. Kumar; Production of recombinant Erns protein of classical swine fever virus and assessment of its enzymatic activity: A recombinant Newcastle disease virus-based approach; *Process Biochem*; 2018; 66; 113-119.

R. Patwa, N. Soundararajan, N. Mulchandani, S. M. Bhasney, M. Shah, S. Kumar, A. Kumar, V. Katiyar; Silk Nano-Discs: A Natural Material for Cancer Therapy; *Biopolymer*; 2018.

B. L. Sailo, K. Banik, G. Padmavathi, M. Javadi, D. Bordoloi, A. B. Kunnumakkara; Tocotrienols: The promising analogues of vitamin E for cancer therapeutics; *Pharmacol Research*; 2018; 130; 259-272.

Manishekhar Kumar, Prerak Gupta, Sohenii Bhattacharjee, Samit K. Nandi and Biman B. Mandal; Immunomodulatory injectable silk hydrogels maintaining functional islets and promoting anti-inflammatory M2 macrophage polarization; *Biomaterials*; 2018; 187; 1-17.

Dimple Chouhan, Naresh Thatikonda, Linnea Nilebäck, Mona Widhe, My Hedhammar and Biman B. Mandal; Recombinant spider silk functionalized silkworm silk matrices as potential bioactive wound dressings and skin grafts; *ACS Applied Materials and Interfaces*; 2018; 10; 23560-23572.

M JC, Samit Nandi, Biman B Mandal; Multifunctional cell instructive silk-bioactive glass composite reinforced scaffolds towards osteoinductive, proangiogenic and resorbable bone grafts; *Advanced Healthcare Materials*; 2018; 7; e1701418.

Yogendra Pratap Singh, Joseph Christakiran Moses, Bibhas K. Bhunia, Samit Kumar Nandi and Biman B. Mandal; Hierarchically Structured Seamless Silk Scaffolds for Osteochondral Interface Tissue Engineering; *Journal of Materials Chemistry B*; 2018; 6; 5671-5688.

Adil Rather, Arpita Shome, Suresh Kumar, Bibhas K. Bhunia, Biman B Mandal, Hemant Srivastava, Uttam Manna; Alkali Metal-ion Assisted Michael Addition Reaction in Controlled Tailoring of Topography in Superhydrophobic Polymeric Monolith; *Journal of Materials Chemistry A*; 2018; 6; 17019-17031.

Bibhas K. Bhunia and Biman B. Mandal; Modulation of Extracellular Matrix by Annulus Fibrosus Cells on Tailored Silk Based Angle-ply Intervertebral Disc Construct; *Materials and Design*; 2018; 158; 74-87.

Dimple Chouhan, Janani Guru, Bijayashree Chakraborty, Samit Nandi and Biman B Mandal; Functionalized PVA-Silk blended nanofibrous mats promote diabetic wound healing via regulation of extracellular matrix and tissue remodeling; *Journal of Tissue Engineering and Regenerative Medicine*; 2018; 12; e1559-1570.

Sudesna Chakravarty, Bedanta Gogoi, Biman B Mandal, Nandana Bhardwaj and Neelotpal Sen Sarma; Silk fibroin as a platform for dual sensing of vitamin B12 using photoluminescence and electrical techniques; *Biosensors and Bioelectronics*; 2018; 112; 18-22.

Lalit Goswami, N. Arul Manikandan, Ben Dolman, Kannan Pakshirajan, G. Pugazhenth; Biological treatment of wastewater containing a mixture of polycyclic aromatic hydrocarbons using the oleaginous bacterium *Rhodococcus opacus*; *Journal of Cleaner Production*; 2018; 196; 1282-1291.

Varun Saxena, Pranjal Chandra, & Lalit M. Pandey; Design and characterization of novel Al-doped ZnO nanoassembly as an effective nanoantibiotic; *Applied Nanoscience*; 2018; 1-17.

Ajeet Singh, Abshar Hasan, Sakshi Tiwari and Lalit M. Pandey; Therapeutic Advancement in Alzheimer Disease: New Hopes on the Horizon?; *CNS & Neurological Disorders - Drug Targets*; 2018; 17; 571-589.

Swati Sharma, Varun Saxena, Anupriya Baranwal, Pranjal Chandra and Lalit M Pandey; Engineered nanoporous materials mediated heterogeneous catalysts and their implications in biodiesel production; *Materials Science for Energy Technologies*; 2018; 1; 1; 11-21.

Rasmi Ranjan Behera, Apurba Das, Pamu Dobbidi, Lalit M Pandey and M.R. Sankar; Mechano-tribological properties and in vitro bioactivity of biphasic calcium phosphate coating on Ti-6Al-4V; *Journal of the Mechanical Behavior of Biomedical Materials*; 2018; 86; 143-157.

Abshar Hasan, Gyan Waibhaw and Lalit M. Pandey; Conformational and Organizational Insights into Serum Proteins during Competitive Adsorption on Self-Assembled Monolayers; *Langmuir*; 2018; 34; 28; 8178-8194.

Swati Sharma, Sakshi Tiwari, Abshar Hasan, Varun Saxena and Lalit M. Pandey; Recent advances in conventional and contemporary methods for remediation of heavy metal-contaminated soils; *3 Biotech*; 2018; 8; 2160-2190.

Swati Sharma, Abshar Hasan, Naveen Kumar and Lalit M. Pandey; Removal of methylene blue dye from aqueous solution using immobilized *Agrobacterium fabrum* biomass along with iron oxide nanoparticles as biosorbent; *Environmental Science and Pollution Research*; 2018; 25; 22; 21605-21615.

Ranbhor Ranjit, Anil Kumar, Kirti Patel, Vibin Ramakrishnan, and Susheel Durani; Automated design evolution of stereo-chemically randomized protein foldamers; *Physical biology*; 2018; 15; 3; 036001.

Prakash Kishore Hazam, Anjali Singh, Nitin Chaudhary and Vibin Ramakrishnan; Bactericidal Potency and Extended Serum Life of Stereo-Chemically Engineered Peptides Against *Mycobacterium*; *International Journal of Peptide Research and Therapeutics*; 2018; 1-8.

Ranbhor Ranjit, Anil Kumar, Abhijit Tendulkar, Kirti Patel, Vibin Ramakrishnan and Susheel Durani; IDEAS: Automated Design Tool for Hetero-chiral Protein Folds; *Physical biology*; 2018; 15; 6; 066005.

S. Nahar, L. Sahoo, B. Tanti; Screening of drought tolerant rice through morpho-physiological and biochemical approaches; *Biocatalysis and Agricultural Biotechnology*; 2018; 15; 150-159.

P. K. Sharma, M. Saharia, R. Srivastava, S. Kumar, L. Sahoo; Tailoring microalgae for efficient biofuel production; *Frontiers in Marine Science*; 2018.

S. Bordoloi, R. Hussain, V. K. Gadi, H. Bora, L. Sahoo, R. Karangat, A. Garg, S. Sreedeeep; Monitoring soil cracking and plant parameters for a mixed grass species; *Géotechnique Letters*; 2018; 8; 1; 49-55.

S. Bordoloi, V. K. Gadi, R. Hussain, L. Sahoo, A. Garg, S. Sreedeeep, G. Mei, T. G. Poulsen; Influence of *Eichhornia crassipes* fibre on water retention and cracking of vegetated soils; *Géotechnique Letters*; 2018; 8; 2; 130-137.

S. Nahar, L. R. Vemireddy, L. Sahoo, B. Tanti; Antioxidant Protection Mechanisms Reveal Significant Response in Drought-Induced Oxidative Stress in Some Traditional Rice of Assam, India; *Rice Science*; 2018; 25; 4; 185-196.

Abhishek Kumar and P. Satpati; Principle of K⁺/Na⁺ selectivity in the active site of Group II intron at various stages of self-splicing pathway; *J Mol Graph Model*; 2018; 84; 1-9.

Gopal Pandit, Humaira Ilyas, Suvankar Ghosh, Anil Parsram Bidkar, Sk. Abdul Mohid, Anirban Bhunia, Priyadarshi Satpati, and Sunanda Chatterjee; Insights into the Mechanism of Antimicrobial Activity of Seven-Residue Peptides; *J. Med. Chem.*; 2018; 61; 17; 7614-7629.

Abhishek Kumar and P. Satpati; Principle of K⁺/Na⁺ selectivity in the active site of Group II intron at various stages of self-splicing pathway; *J Mol Graph Model*; 2018; 84; 1; 9.

Keerthi R., N. Selvaraju, Lity Alen Varghese, Anu N.; Source apportionment studies for particulates (PM₁₀) in Kozhikode, South Western India using a combined receptor model; *Chemistry and Ecology*; 2018; 34; 9; 797-817.

Aneesh V., Ganesh Paramasivan and N. Selvaraju; Simultaneous design and control of Ternary Reactive distillation column with Inert; *Chemical Engineering & Technology*; 2018.

T. Silambarasan, Balasubramani Govindasamy, N. Selvaraju & Dhandapani Ramamurthy; Evaluation of Multitudinous Potentials of Photosynthetic Microalga, *Neochloris aquatica* RDS02 Derived Silver Nanoparticles; *Smart Science*; 2018.

E. Nakkeeran, Chandi Patra, Tasrin Shahnaz, S. Rangabhashiyam, N. Selvaraju; Continuous biosorption assessment for the removal of hexavalent chromium from aqueous solutions using *Strychnos nux vomica* fruit shell; *Bioresource Technology Reports*; 2018; 3; 256-260.

V. C. Padmanaban, N. Selvaraju, Vasudevan V. N., Anant Achary; Radiolytic degradation of Reactive Textile dyes by Ionizing High Energy (γ - Co60) Radiation: Artificial Neural Network modelling; *Desalination and Water Treatment*; 2018.

V. Karthik, N. Sivarajasekar, E. Nakkeeran and N. Selvaraju; Biosorption of xenobiotic Reactive Black B onto metabolically inactive *T.harzianum* biomass: Optimization and Equilibrium Studies; *International Journal of Environmental Science and Technology*; 2018.

Abhishek Ajmani, Saranya Narayanan, Chandi Patra and N. Selvaraju; Studies on the remediation of chromium (VI) from simulated waste water using novel biomass of *Pinus kesiya* cone; *Desalination and Water Treatment*; 2018.

Saranya N., Abhishek Ajmani, V. Sivasubramanian, N. Selvaraju; Hexavalent chromium removal from simulated and real effluents using *Artocarpus heterophyllus* peel biosorbent - Batch and continuous studies; *Journal of Molecular Liquids*; 2018; 265; 779-790.

V. C. Padmanaban, N. Selvaraju, Vasudevan V. N., Anant Achary; Augmented Radiolytic (⁶⁰Co γ) degradation of Direct Red 80 (Polyazo dye): Optimisation, Reaction Kinetics & G-value interpretation; *Reaction Kinetics, Mechanisms and Catalysis*; 2018; 125; 1; 433-437.

Surajbhan Sevda, Swati Sharma, Chetan Joshi, Lalit Pandey, Namrata Tyagi, Ibrahim AbuReesh and T. R. Sreekrishnan; Biofilm formation and electron transfer in bioelectrochemical systems; *Environmental Technology Reviews*; 2018; 7; 1; 220-234.

Mohd. Ziauddin Ansari, Amrendra Kumar, Dileep Ahari, Anurag Priyadarshi, Padmavathi Lolla,

Rashna Bhandari and Rajaram Swaminathan; Protein charge transfer absorption spectra: an intrinsic probe to monitor structural and oligomeric transitions in proteins; *Faraday Discussions*; 2018; 207; 91-113.

B. Saha, Krishna Kumar H., M. P. Borgohain, R. P. Thummer; Prospective applications of Induced Pluripotent Stem Cells in Military Medicine; *Med J Armed Forces India*; 2018; 74; 313-320.

Computer Science

Sunil Kumar Sahu, Ashish Anand; What matters in a transferable neural network model for relation classification in the biomedical domain?; *Artificial Intelligence in Medicine*; 2018.

Sweta Agrawal, Amit Awekar; Deep Learning for Detecting Cyberbullying Across Multiple Social Media; *ECIR*; 2018.

B.Shilpa, T. Venkatesh; Delay Management in Mesh-based P2P Live Streaming Using a Three-stage Peer Selection Strategy; *Journal of Network and Systems Management*, Springer; 2018; 26; 2; 401-425.

Basant Subba, Santosh Biswas, Sushanta Karmakar; A game theory based multi layered intrusion detection framework for wireless sensor networks; *International Journal of Wireless Information Networks (IJWI)*; 2018.

Tushar Semwal, Gaurav Mathur, Promod Yenigalla, Shivashankar B. Nair; Practitioners Guide to Transfer Learning for Text Classification using Convolutional Neural Networks; *International Conference on Data Mining (SDM 2018)*.

Kunal Banerjee, Ramanuj Chouksey, Chandan Karfa, Pankaj Kumar Kalita; Automatic Detection of Inverse Operations while Avoiding Loop Unrolling; *40th International Conference on Software Engineering (ICSE 18)*; 2018; 175-176.

P. P. Nair, A. Sarkar, S. Biswas; Design of Light Weight Exact DES Diagnoser using Measurement Limitation: Case Study of EFI system; *International Journal of Systems Science*, Taylor & Francis; 2018; 49; 8; 1760-1783.

Basant Subba, Santosh Biswas, Sushanta Karmakar; A game theory based multi layered intrusion detection framework for VANET; *Future Generation Computer Systems (FGCS)*, Elsevier; 2018; 82; 12-28.

Simi Zerine Sreeba, John Jose, Mini M.G.; An Energy Efficient Fault Tolerant Technique for Deflection Routers in 2D Mesh NoCs; *IET Computers & Digital Techniques (IET-CDT)*; 2018; 12; 3; 69-79.

Bala Prakasa Rao Killi, S. V. Rao; On Placement of Controllers and Hypervisors in Virtualized Software Defined Network; *IEEE Transactions on Network and Service Management*; 2018; 15; 2; 840-853.

Sandeep Vidyapu, V Vijaya Saradhi, and Samit Bhattachary; FixationIndices based Correlation between Text and Image Visual Features of Webpages; *ACM Symposium on Eye Tracking Research & Applications (ETRA 2018)*; 2018; 53:01:00-53:05:00.

Ramanuj Chouksey, Chandan Karfa and Purandar Bhaduri; Translation Validation of Code Motion Transformations Involving Loops; *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*; 2018.

S. Kumar, P. Vishnoi, A. Sarkar, A. Sur; QoE Aware Resource Allocation for Multi-View Video Flows in LTE; *20th IEEE International Conference on High Performance Computing and Communications (HPCC)*; 2018.

S. Moulik, R. Devaraj, A. Sarkar; HETERO-SCHED: A Low-overhead Heterogeneous Multi-core Scheduler for Real-time Periodic Tasks; *20th IEEE International Conference on High Performance Computing and Communications (HPCC)*; 2018.

B. Deepakraj, S. Kumar, S. Padhi, A. Sarkar, A. Mondal, K. Ramamritham; Brownout Based Blackout Avoidance Strategies in Smart Grids; *ACM e-Energy*; 2018.

R. Devaraj, A. Sarkar, S. Biswas; Exact Task Completion Time Aware Real-Time Scheduling Based on Supervisory Control Theory of Timed DES; *European Control Conference (ECC)*; 2018.

Biswajit Bhowmik, Santosh Biswas, Jatindra Kumar Deka, Bhargab Bhattacharya; Reliability-Aware Test Methodology for Detecting Manufacturing Short-Channel Faults in On-Chip Networks; *IEEE Trans. on VLSI systems*; 2018; 26; 6; 1026-1039.

M. Agarwal, S. Biswas and S. Nandi; An Efficient Scheme to Detect Evil Twin Rogue Access Point Attack in 802.11 Wi-Fi Networks; *International Journal of Wireless Information Networks (IJWI)*; 2018; 25; 2; 130-145.

Aparajita Dutta, Tushar Dubey, Kusum Kumari Singh, Ashish Anand; SpliceVec: Distributed feature representations for splice junction prediction; *Computational Biology and Chemistry*, Volume 74; 2018.

Satish Kumar, P. Vishnoi, Arnab Sarkar, Arijit Sur; QoE Aware Resource Allocation for Multi-View Video Flows in LTE; *20th IEEE International Conference on High Performance Computing and Communications (HPCC)*, 2018.

Giuseppe Ascia, Vincenzo Catania, Salvatore Monteleone, Maurizio Palesi, Davide Patti, John Jose; Improving Energy Consumption of NoC based Architectures through Approximate Communication; 7th Mediterranean Conference on Embedded Computing (MECO); 2018.

Akshay B P, Ganesh K M, Thippeswamy D R, Vishnu S Bhat, Anitha Vijayakumar, Ananda Y R, John Jose; Implementation of a Novel Fault Tolerant Routing Technique for Mesh Network on Chip; 22nd International Symposium on VLSI Design and Test (VDAT); 2018.

K. S. Midhula, Sarath Babu, John Jose, Sangeetha Jose; Performance Enhancement of NoCs using Single Cycle Deflection Routers and Adaptive Priority Schemes; 22nd International Symposium on VLSI Design and Test (VDAT); 2018.

Sujay B Shaunak, Shashank S Rao, Ajay S, Satya Sai Krishna Mohan G, Krutthika H K, Ananda Y R, John Jose; Source Hotspot Management in a Mesh Network on Chip; 22nd International Symposium on VLSI Design and Test (VDAT); 2018.

Chemical

Anand Mohan. Verma., Kushagra. Agrawal., Harshal. Kawale., Nanda. Kishore; Quantum Chemical Study on Gas Phase Decomposition of Ferulic Acid; Molecular Physics; 2018; 116; 14.

Srinu. Nagireddi., A. K.. Golder., Ramgopal. Uppaluri; Role of protonation and functional groups in Pd(II) recovery and reuse characteristics of commercial anion exchange resin-synthetic electroless plating solution systems; Journal of Water Process Engineering; 2018; 22; 227-238.

Vihangraj V. Kulkarni., A. K.. Golder., P. K.. Ghosh; Synthesis and characterization of carboxylic cation exchange bio-resin for heavy metal remediation; Journal of hazardous materials; 2018; 341; 207-217.

R. Saha, R. V. S. Uppaluri, and P. Tiwari; Silica Nanoparticle Assisted Polymer Flooding of Heavy Crude Oil: Emulsification, Rheology, and Wettability Alteration Characteristics; Industrial & Engineering Chemistry Research; 2018; 57; 6364-6376.

R. Saha, A. Sharma, R. V. S. Uppaluri, and P. Tiwari; Interfacial interaction and emulsification of crude oil to enhance oil recovery; International Journal of Oil, Gas and Coal Technology; 2018; DOI: 10.1504/IJOGCT.2018.10011553.

R. Phukan, S. B. Gogoi, and P. Tiwari; Enhanced oil recovery by alkaline-surfactant-alternated-gas/CO₂ flooding; Journal of Petroleum Exploration and Production Technology; 2018; 8; 28; 1-14.

P. Das and P. Tiwari; Valorization of packaging plastic waste by slow pyrolysis; Resources, Conservation and Recycling; 2018; 128; 69-77.

Kibrom Alebel Gebru, Chandan Das; Humic acid removal using cellulose acetate membranes grafted with poly (methyl methacrylate) and aminated using tetraethylenepentamine (TEPA); J. Environ. Manage; 2018; 217; 600-610.

Suman Saha, Chandan Das; A lab-scale spinning basket membrane module for the assessment of Humic acids ultrafiltration with effect of sonication on membrane fouling; Chemical Eng. Comm; 2018; 205(10); 1457-1468.

Kulbhushan Samal, Kuntal Maity, Kaustubha Mohanty, Chandan Das; Ultrafiltration of aqueous PVA using spinning basket membrane module; Water, Air, & Soil Pollution; 2018; 229 (3); 96.

Kibrom Alebel Gebru, Chandan Das; Removal of chromium (VI) ions from aqueous solutions using amine-impregnated TiO₂ nanoparticles modified cellulose acetate membranes; Chemosphere ; 2018; 191; 673-684.

N. Siti, E.M. Woo, Y.T. Yeh, F. Luo, & V. Katiyar; Lamellae Assembly in Dendritic Spherulites of Poly (l-lactic Acid) Crystallized with Poly (p-Vinyl Phenol); Polymers 2018; 2018; 10(5); 545.

R. Patwa, N. Soundararajan., N. Mulchandani, S. M. Bhasney, M. Shah, S. Kumar, A. Kumar and V. Katiyar; Silk nano-discs: A natural material for cancer therapy; Biopolymers; 2018; DOI: 10.1002/bip.23231.

R. Patwa, A. Kumar, and V. Katiyar; Effect of silk nano-disc dispersion on mechanical, thermal and barrier properties of poly(lactic acid) based bionanocomposites; J. Appl. Polym. Sci; 2018; DOI.org/10.1002/app.46590.

Prodyut Dhar, Surendra Singh Gaur, Amit Kumar and Vimal Katiyar; Cellulose Nanocrystal Templated Graphene Nanoscrolls for High Performance Supercapacitors and Hydrogen Storage: An Experimental and Molecular Simulation Study; Scientific Reports; 2018; DOI:10.1038/s41598-018-22123-0.

Arvind Gupta, Akhilesh Pal, Eamor Woo and Vimal Katiyar; Effects of Amphiphilic Chitosan on Stereocomplexation and Properties of Poly(lactic acid) Nano-biocomposite; Scientific Reports; 2018; DOI:10.1038/s41598-018-22281-1.

Gourhari Chakraborty, Ravi Babu Valapa, G. Pugazhenthii, Vimal Katiyar; Investigating the Properties of Poly (lactic acid)/Exfoliated Graphene Based Nanocomposites Fabricated by Novel Coating Approach; International Journal of Biological Macromolecules; 2018; doi.org/ 10.1016/j.ijbiomac.2018.03.037.

Rahul Patwa, Amit Kumar, Vimal Katiyar; Crystallization kinetics, morphology and hydrolytic degradation of novel bio-based poly (lactic acid)/crystalline silk nano-discs nanobiocomposites; Journal of Applied Polymer Science; 2018; doi.org/10.1002 /app.46590.

Gourhari Chakraborty, Arvind Gupta, G. Pugazhenthii, Vimal Katiyar; Facile Dispersion of Exfoliated Graphene/PLA Nanocomposites via in situ Polycondensation cum Melt Extrusion Process and its Rheological Studies; Journal of Applied Polymer Science; 2018; DOI: 10.1002/app.46476.

Bhaskar Jyoti Medhi, Vipin Agrawal, Anugrah Singh; Experimental investigation of particle migration in suspension flow through bifurcating microchannels; AICHEJ; 2018; 64; 6; 2293-2307.

V.L Dhadge, M Changmai, M K Purkait; House hold unit for the treatment of fluoride, iron, arsenic and microorganism contaminated drinking water; Chemosphere; 2018; 728-736.

A. Bhattacharjee, A. Gumma, M K Purkait; Fe₃O₄ promoted metal organic framework MIL-100(Fe) for the controlled release of doxorubicin hydrochloride; Microporous & Mesoporous Materials; 2018; 259; 203-210.

M Changmai, M K Purkait; Poly (2-ethyl-2-oxazoline) coated temperature responsive ceramic composite membrane; Ceramic International; 2018; 44 (1); 959-968.

P. Mandal, M K Purkait; Green synthesized iron nanoparticles supported on pH responsive polymeric membrane for nitrobenzene reduction and fluoride rejection study: Optimization approach; J. Cleaner Production; 2018; 170; 1111-1123.

Chemistry

M. P. Singh, A. Tarai, J. B. Baruah; Changes in Emission Properties by π -Stacking and Conformation Adjustment of an Imidazole-Tethered Naphthalimide Derivative; ChemistrySelect; 2018; 3; 23; 6364-6373.

J. B. Baruah; Predominantly ligand guided non-covalently linked assemblies of inorganic complexes and guest inclusions(Review); Journal of Chemical Sciences; 2018; 130; 5.

U. Goswami, A. K. Sahoo, A. Chattopadhyay; In Situ Synthesis of Luminescent Au Nanoclusters on a Bacterial Template for Rapid Detection, Quantification, and Distinction of Kanamycin-Resistant Bacteria; ACS Omega; 2018; 3; 6; 6113-6119.

A. Dutta, U. Goswami, A. Chattopadhyay; Probing Cancer Cells through Intracellular Aggregation-Induced Emission Kinetic Rate of Copper Nanoclusters; ACS Applied Materials and Interfaces; 2018; 10; 23; 19459-19472.

S. Pramanik, S. Bhandari, U. N. Pan, S. Roy, A. Chattopadhyay; A White Light-Emitting Quantum Dot Complex for Single Particle Level Interaction with Dopamine Leading to Changes in Color and Blinking Profile 10, 2018;14; 20.

S. Roy, M. Manna, A. Chattopadhyay; Complex Transfer Reaction from ZnO to ZnS Quantum Dots Driven by Surface Anions; Journal of Physical Chemistry C; 2018; 122; 18; 9939-9946.

K. Ahmad, A. Pal, U. N. Pan, A. Chattopadhyay, A. Paul; Synthesis of single-particle level white-light-emitting carbon dots: Via a one-step microwave method; Journal of Materials Chemistry C; 2018; 6; 25; 6691-6697.

R. Gattu, S. Bhattacharjee, K. Mahato, A. T. Khan; Electronic effect of substituents on anilines favors 1,4-addition to: Trans - β -nitrostyrenes: Access to N-substituted 3-arylindoles and 3-arylindoles; Organic and Biomolecular Chemistry; 2018; 16; 20; 3760-3770.

S. Bhattacharjee, R. Gattu, A. T. Khan; Triethylamine-Mediated One-Pot Synthesis of Benzo[f]chromene Derivatives; ChemistrySelect; 2018; 3; 17; 4760-4763.

R. Bag, T. Punniyamurthy; K₂S₂O₈-Mediated Dioxygenation of Aryl Alkenes Using N-Hydroxylamines and Air; *ChemistrySelect*; 2018; 3; 12; 6152-6155.

T. Sarkar, S. Pradhan, T. Punniyamurthy; Ruthenium(II)-Catalyzed Positional Selective C-H Oxygenation of N-Aryl-2-pyrimidines; *Journal of Organic Chemistry*; 2018; 83; 12; 6444-6453.

P. B. De, S. Pradhan, T. A. Shah, T. Punniyamurthy; Iodine-Mediated Intramolecular C-H Amination of Benzimidazoles: A Metal-Free Route to Dihydroimidazobenzimidazoles; *Synthesis (Germany)*; 2018.

M. Das, A. K. Saikia; Stereoselective Synthesis of Pyrroloisoindolone and Pyridoisoindolone via aza-Prins Cyclization of Endocyclic N-Acyliminium Ions; *Journal of Organic Chemistry*; 2018; 83; 11; 6178-6185.

K. Saloni; A. Saikia; Bounding Hilbert coefficients of parameter ideals; *Journal of Algebra*; 2018; 501; 1; 328-344.

S. Samanta, S. Halder, G. Das; Twisted-Intramolecular-Charge-Transfer-Based Turn-On Fluorogenic Nanoprobe for Real-Time Detection of Serum Albumin in Physiological Conditions; *Analytical Chemistry*; 2018; 90; 12; 7561-7568.

U. Manna, G. Das; Progressive Cation Triggered Anion Binding by Electron-Rich Scaffold: Case Study of a Neutral Tripodal Naphthyl Thiourea Receptor; *Crystal Growth and Design*; 2018; 18; 5; 3138-3150.

R. Singh, G. Das; Fluorogenic detection of Hg²⁺ and Ag⁺ ions via two mechanistically discrete signal genres: A paradigm of differentially responsive metal ion sensing; *Sensors and Actuators, B: Chemical*; 2018; 258; 1; 478-483.

U. Manna, G. Das; Cyclic (H₂O)₆ confined hexameric host-guest assemblies and aerial CO₂ fixation by electron-rich neutral urea/thiourea scaffolds; *CrystEngComm*; 2018; 20; 26; 3741-3754.

T. Sahareen, P. Dey, S. Mukherjee, G. Das; Potential of Pyridine Amphiphiles as Staphylococcal Nuclease Inhibitor; *ChemBioChem*; 2018; 19; 13; 1400-1408.

R. K. Gupta, D. Das, P. K. Iyer, A. S. Achalkumar; First Example of White Organic Electroluminescence Utilizing Perylene Ester Imides; *ChemistrySelect*; 2018; 3; 18; 5123-5129.

P. Gopikrishna, N. Meher, P. K. Iyer; Functional 1,8-Naphthalimide AIE/AIEEgens: Recent Advances and Prospects; *ACS Applied Materials and Interfaces*; 2018; 10; 15; 12081-12111.

N. Meher, S. Panda, S. Kumar, P. K. Iyer; Aldehyde group driven aggregation-induced enhanced emission in naphthalimides and its application for ultradetection of hydrazine on multiple platforms; *Chemical Science*; 2018; 9; 16; 3978-3985.

K. Ahmad, A. Pal, U. N. Pan, A. Chattopadhyay, A. Paul; Synthesis of single-particle level white-light-emitting carbon dots: Via a one-step microwave method; *Journal of Materials Chemistry C*; 2018; 6; 25; 6691-6697.

S. K. Behera, M. Pegu, G. Krishnamoorthy; Modulation of Twisted Intramolecular Charge Transfer Emission of 2-(4'-N,N-Dimethylaminophenyl)imidazopyridines in Aqueous Cucurbit[7]uril⁺; *ChemistrySelect*; 2018; 3; 16; 4147-4155.

G. Borgohain, S. Paul; Atomistic level understanding of the stabilization of protein Trp cage in denaturing and mixed osmolyte solutions; *Computational and Theoretical Chemistry*; 2018; 1131; 78-89.

P. K. Naik, M. Mohan, T. Banerjee, S. Paul, V. V. Goud; Molecular Dynamic Simulations for the Extraction of Quinoline from Heptane in the Presence of a Low-Cost Phosphonium-Based Deep Eutectic Solvent; *Journal of Physical Chemistry B*; 2018; 122; 14; 4006-4015.

R. Paul, S. Paul; Synergistic host-guest hydrophobic and hydrogen bonding interactions in the complexation between endo-functionalized molecular tube and strongly hydrophilic guest molecules in aqueous solution; *Physical Chemistry Chemical Physics*; 2018; 20; 24; 16540-16550.

G. Gogoi, S. Keene, A. S. Patra, T. K. Sahu, S. Ardo, M. Qureshi; Hybrid of g-C₃N₄ and MoS₂ Integrated onto Cd_{0.5}Zn_{0.5}S: Rational Design with Efficient Charge Transfer for Enhanced Photocatalytic Activity; *ACS Sustainable Chemistry and Engineering*; 2018; 6; 5; 6718-6729.

A. Banik, M. S. Ansari, S. Alam, M. Qureshi; Thermodynamic Barrier and Light Scattering Effects of Nanocube Assembled SrTiO₃ in Enhancing the Photovoltaic Properties of Zinc Oxide Based DSSC; *Journal of Physical Chemistry C*; 2018.

S. S. Bag, S. K. Das, H. Gogoi; Design of a fused triazolyl 2-quinolinone unnatural nucleoside via tandem CuAAC-Ullmann coupling reaction and study of photophysical property; *Tetrahedron*; 2018; 74; 18; 2218-2229.

S. S. Bag, S. De; Multipurpose isothiocyanyl alanine/lysine: Use as solvatochromic IR probes and in site specific labeling/ligation of short peptides; *Bioorganic and Medicinal Chemistry Letters*; 2018; 28; 8; 1404-1409.

J. Chandra, S. R. Manne, S. Mondal, B. Mandal; (E)-Ethyl-2-cyano-2-(((2,4,6-trichlorobenzoyl)oxy)imino)acetate: A Modified Yamaguchi Reagent for Enantioselective Esterification, Thioesterification, Amidation, and Peptide Synthesis; *ACS Omega*; 2018; 3; 6; 6120-6133.

A. Roy, S. Das, D. Manna; Effect of Molecular Crowding Agents on the Activity and Stability of Immunosuppressive Enzyme Indoleamine 2,3-Dioxygenase; *ChemistrySelect*; 2018; 3; 23; 6294-6301.

S. J. Deka, A. Roy, D. Manna, V. Trivedi; Integrating virtual screening and biochemical experimental approach to identify potential anti-cancer agents from drug databank(Conference Paper); *Journal of Bioinformatics and Computational Biology*; 2018; 16; 3.

R. K. Gupta, A. S. Achalkumar; Microwave-Assisted Method for the Synthesis of Perylene Ester Imides as a Gateway Toward Unsymmetrical Perylene Bisimides; *Journal of Organic Chemistry*; 2018; 83; 12; 6290-6300.

R. K. Gupta, D. Das, P. K. Iyer, A. S. Achalkumar; First Example of White Organic Electroluminescence Utilizing Perylene Ester Imides; *ChemistrySelect*; 2018; 3; 18; 5123-5129.

H. K. Singh, B. Pradhan, S. K. Singh, R. Nandi, D. S. S. Rao, S. K. Prasad, A. S. Achalkumar, B. Singh; Substituted Aroylhydrazone Based Polycatenars: Tuning of Liquid Crystalline Self-Assembly; *ChemistrySelect*; 2018; 3; 14; 4027-4037.

R. K. Gupta, H. Ulla, M. N. Satyanarayan, A. A. Sudhakar; A Perylene-Triazine-Based Star-Shaped Green Light Emitter for Organic Light Emitting Diodes; *European Journal of Organic Chemistry*; 2018; 13; 1608-1613.

S. Ahmed, K. N. Amba Sankar, B. Pramanik, K. Mohanta, D. Das; Solvent Directed Morphogenesis and Electrical Properties of a Peptide-Perylenediimide Conjugate; *Langmuir*; 2018; 34; 28; 8355-8364.

K. Sahu, N. Nandi, S. Dolai, A. Bera; A Ratio-Analysis Method for the Dynamics of Excited State Proton Transfer: Pyranine in Water and Micelles; *Journal of Physical Chemistry B*; 2018; 122; 25; 6610-6615.

D. Singha, D. K. Sahu, K. Sahu; Anomalous Spectral Modulation of 4-Aminophthalimide inside Acetonitrile/AOT/n-Heptane Microemulsion: New Insights on Reverse Micelle to Bicontinuous Microemulsion Transition; *Journal of Physical Chemistry B*; 2018; 122; 27; 6966-6974.

A. Phukon, N. Nandi, K. Sahu; Pre-micellar interaction or direct monomer to micelle transition for zwitterionic sulfobetaine surfactant in water? A comparative fluorescence study with cationic surfactant; *Journal of Photochemistry and Photobiology A: Chemistry*; 2018; 357; 140-148.

K. Mondal, S. C. Pan; Organocatalytic Asymmetric Domino Michael/Acyl Transfer Reaction between γ/δ -Hydroxyenones and α -Nitroketones; *Journal of Organic Chemistry*; 2018; 83; 9; 5301-5312.

U. Nath, D. Chowdhury, S. C. Pan; Nonenzymatic Dynamic Kinetic Resolution of in situ Generated Hemithioacetals: Access to 1,3-Disubstituted Phthalans; *Advanced Synthesis and Catalysis*; 2018; 360; 8; 1628-1633.

C. Gunder, P. K. Dhara, U. Manna, M. Biswas; Block-copolymer assisted fabrication of anisotropic plasmonic nanostructures; *Nanotechnology*; 2018; 29; 35.

A. M. Rather, U. Manna; Green and Rapid Synthesis of Durable and Super-Oil (under water) and Water (in Air) Repellent Interfaces; *ACS Applied Materials and Interfaces*; 2018; 10; 28; 23451-23457.

Electronics

Qianqian Shi, Debabrata Sikdar, Runfang Fu, Kae Jye Si, Dashen Dong, Yiyi Liu, Malin Premaratne, and Wenlong Cheng; 2D Binary Plasmonic Nanoassemblies with Semiconductor n/p-Doping-Like Properties; *Advanced Materials*; 2018; 30; 26; 1801118 (1)- 1801118 (6).

Shubh Lakshmi, Sanjib Ganguly; Modelling and allocation of Open-UPQC-integrated PV generation system to improve the energy efficiency and power quality of radial distribution networks; *IET Renewable Power Generation*; 2018; 12; 5; 605-613.

P. Samal, S. Mohanty, Sanjib Ganguly; Modeling, optimal sizing, and allocation of DSTATCOM in unbalanced radial distribution systems using differential evolution algorithm; *International Journal of Numerical Modelling, (Wiley)*; 2018; doi: 10.1002/jnm.2351.

Vivek Venugopal and Suresh Sundaram; Online Writer Identification With Sparse Coding-Based Descriptors; IEEE Transactions on Information Forensics and Security; 2018; 13; 10; 2538-2552.

Humanities

Pankaj Singh, Eshita Mal, Alika Khare, Sukanya Sharma; A study of archaeological pottery of Northeast India using laser induced breakdown spectroscopy (LIBS); Journal of Cultural Heritage; 2018; <https://doi.org/10.1016/j.culher.2018.03.011>.

Hemanta Barman, Mrinal Kanti Dutta, Hiranya K. Nath; The telecommunications divide among Indian states; Telecommunications Policy; 2018; 42; 7; 530-551.

K. Neel, D. Hussain; Self- Determination, Nurtured Heart Approach, and Motivation: Development and Testing of an Intervention Strategy for Students with Learning Disabilities; Current Psychology; 2018; <https://doi.org/10.1007/s12144-018-9848-0>; 1-12.

N. Tripathi, M. Bharadwaja, V. Ghosh, B. Katak; CSR Activities of a hospital: Perspective of stakeholders; International Journal of Business Excellence; 2018; 15; 4; 502-519.

V. Ghosh, N. Tripathi, H. S. Mukerjee, G. Kabra, G; Transforming human resource management processes through intelligent systems; Indian Journal of Industrial Relations; 2018; 53; 4; 707-710.

A. Sorokowska, A. Groyecka, M. Karwowski, T. Frackowiak, N. Tripathi, P. Sorokowski; Global study of social odor awareness; Chemical Senses; 2018; 47; 7; 503-513.

Vasundhara Jairath; Book Review: Staking Claims: The Politics of Social Movements in Contemporary Rural India; Contributions to Indian Sociology; 2018; 52; 2; 259-261.

S. Borbora; Tourist Potentiality Index: A Case Study at Dibru-Saikhowa National Park in Assam, India; SIBR-Thammasat Conference on Interdisciplinary Business and Economic Research; 2018; 7; 2; 1-12.

Maths

Pratima Biswas and Ashok Singh Sairam; Modeling privacy approaches for location based services; Computer Networks; 2018; 140; 1-14.

Jiten C Kalita, Sougata Biswas, and Swapnendu Panda; Finiteness of corner vortices; Zeitschrift für angewandte Mathematik und Physik; 2018; 69; 2; 1-15.

Physics

Upendra Kumar, Vipin Kumar, Enamullah, Girish S. Setur; Signatures of bulk topology in the non linear optical spectra of Dirac-Weyl materials; EPJB; 2018; 91; 5; 86.

Krishnakanta Bhattacharya, Bibhas Ranjan Majhi; Noncommutative Heisenberg algebra in the neighbourhood of a generic null surface; Nuclear Phys. B; 2018; 934; 557-577.

Mousumi Maitra, Debaprasad Maity, Bibhas Ranjan Majhi; Symmetries near a generic charged null surface and associated algebra: an off-shell analysis; Phys. Rev. D; 2018; 97; 12; 124065.

Krishnakanta Bhattacharya, Ashmita Das, Bibhas Ranjan Majhi; Noether and Abbott-Deser-Tekin conserved quantities in scalar-tensor theory of gravity both in Jordan and Einstein frames; Phys. Rev. D; 2018; 97; 12; 124013.

Rahul Kesarwani; Alika Khare; Surface plasmon resonance and nonlinear optical behavior of pulsed laser deposited semitransparent Nano structured Copper thin films; Applied Phys B; 2018; 124; 6; 116.

Gyan Prakash Bharti; Alika Khare; Single and multiphoton induced photoluminescence in pulsed laser deposited Zn_{1-x}Al_xO (0≤x≤0.10) thin films; J of luminescence; 2018; 197; May; 135-141.

Rahul Kesarwani; Alika Khare; Compositional study of pulsed laser deposited semitransparent Cu thin film using; AIP Conference Proceedings; 2018; 1942; April; 080045-1-080045-4.

Prahlad K. Baruah, Ashwini K. Sharma; Alika Khare; Effect of laser energy on the SPR and size of silver nanoparticles synthesized by pulsed laser ablation in distilled water; AIP Conference Proceedings; 2018; 1942; April; 050036-1-050036-4.

Prahlad K. Baruah, Moghe A. Raman, Ishani Chakrabarty, Latha Rangan, Ashwini K. Sharma, Alika Khare; Antibacterial Effect of Silk Treated with Silver and Copper Nanoparticles Synthesized by Pulsed Laser Ablation in Distilled Water; AIP Conference Proceedings; 2018; 1953; May; 030064-1-030064-2.

Rasmi Ranjan Behera, Mamilla Ravi Sankar, Prahlad Kumar Baruah, Ashwini Kumar Sharma and Alika Khare; Experimental investigations of nanosecond-pulsed Nd:YAG laser beam micromachining on 304 stainless steel; *Journal of Micromanufacturing*; 2018; 1; 1; 62; 75.

CRT

J. Hazarika, U. Ghosh, A. S. Kalamdhad, M. Khwairakpam, J. Singh; Fractionation and reduction in bioavailability of toxic heavy metals during rotary drum composting of paper mill sludge; *Nature Environment and Pollution Technology*; 2018.

P. Borah, P. Singh, L. Rangan, T. Karak, S. Mitra; Mobility, bioavailability and ecological risk assessment of cadmium and chromium in soils contaminated by paper mill wastes; *Groundwater for Sustainable Development*; 2018; 6; 189-199.

K. Das, N. H. Gazi, S. Singha, S. Pinelas; Nonlinear dynamics of expression of BMAL1: a mathematical study; *Nonlinear Studies*; 2018; 25; 1; 233-240.

J. Hazarika, M. Khwairakpam; Evaluation of biodegradation feasibility through rotary drum composting recalcitrant primary paper mill sludge; *Waste Management*; 2018.

R. Das, R. G. Shelke, L. Rangan, S. Mitra; Estimation of nuclear genome size and characterization of Ty1-copia like LTR retrotransposon in *Mesua ferrea* L., pp 1-10; *Journal of Plant Biochemistry and Biotechnology*; 2018.

Environment

N. N. Deshavath, S. Mahanta, V. V. Goud, V. V. Dasu, P. SR; Chemical composition analysis of various genetically modified sorghum traits: Pretreatment process optimization and bioethanol production from hemicellulosic hydrolyzates without detoxification; 2018; doi.org/10.1016/j.jece.2018.08.002.

B. P. Sahariah, J. Anandkumar, S. Chakraborty; Stability of continuous and fed batch sequential anaerobic-anoxic-aerobic moving bed bioreactor systems at phenol shock load application; *Environmental Technology*; 2018; 39; 15; 1898-1907.

M. Gopi Kiran, K. Pakshirajan, G. Das; Heavy metal removal from aqueous solution using sodium alginate immobilized sulfate reducing bacteria: Mechanism and process optimization; *Journal of Environmental Management*; 2018; 218; 486-196.

V. B. Barua, A. Kalamdhad; Anaerobic biodegradability test of water hyacinth after microbial pretreatment to optimise the ideal F/M ratio; *Fuel*; 2018; 217; 91-97.

Nanotechnology

U. N. Pan, P. Sanpui, A. Paul, A. Chattopadhyay; Surface-Complexed Zinc Ferrite Magnetofluorescent Nanoparticles for Killing Cancer Cells and Single-Particle-Level Cellular Imaging; *ACS Appl. Nano Mater*; 2018; 1; 6; 2496-2502.

K. Ahmad, A. Pal, U. N. Pan, A. Chattopadhyay, A. Paul; Synthesis of Single-particle Level White-Light-Emitting Carbon Dots via a One-Step Microwave method; *J. Mater. Chem. C*; 2018; 6; 6691-6697.

A. Dutta, U. Goswami, A. Chattopadhyay; Probing Cancer Cells through Intracellular Aggregation-Induced Emission Kinetic Rate of Copper Nanoclusters; *ACS Appl. Mater. Interfaces*; 2018; 10; 23; 19459-19472.

S. Roy, M. Manna, A. Chattopadhyay; Complex Transfer Reaction from ZnO to ZnS Quantum Dots Driven by Surface Anions; *J. Phys. Chem. C*; 2018; 122; 18; 9939-9946.

S. Pramanik, S. Bhandari, U. N. Pan, S. Roy, A. Chattopadhyay; A White Light-Emitting Quantum Dot Complex for Single Particle Level Interaction with Dopamine Leading to Changes in Color and Blinking Profile; *Small*; 2018; 14; 20; 1800323.

Amit Kumar Singh, Saptak Rarotra, Viswanath Pasumarthi, Tapas Kumar Mandal and Dipankar Bandyopadhyay; Formic acid powered reusable autonomous ferrobots for efficient hydrogen generation under ambient conditions; *The Journal of Materials Chemistry A*; 2018; 6; 9209-9219.

Abir Ghosh, Dipankar Bandyopadhyay and Ashutosh Sharma; Electric Field Mediated Elastic Contact Lithography of Thin Viscoelastic Films for Miniaturized and Multiscale Patterns; *Soft Matter*; 2018; 14; 3963.

Sagnik Middya, Mitradip Bhattacharjee, Nilanjan Mandal and Dipankar Bandyopadhyay; RGO-Paper Sensor for Point-of-Care Detection of Lipase in Blood Serum, accepted; IEEE Sensors Letters; 2018; 2; 3.

Gautam Biswas and Dipankar Bandyopadhyay; Dynamics of deformation and pinch-off of a migrating compound droplet in a tube; Physical Review E; 2018; 97.

Manash Pratim Borthakur, Dipankar Bandyopadhyay and Gautam Biswas; Electric field mediated separation of water-ethanol mixture in carbon-nanotubes integrated to nanoporous graphene membrane; Faraday Discussions; 2018; DOI: 10.1039/c8fd00027a.

Shyam Trivedi, Harshal B. Nemade; Coupled resonance in SH-SAW resonator with S1813 micro-ridges for high mass sensitivity biosensing applications; Sensors and Actuators B: Chemical; 2018; 288-297.

N. Meher; P. K. Iyer; Spontaneously Self-assembled Naphthalimide Nanosheets: Aggregation Induced Emission and Unveiling a-PET for Sensitive Detection of Organic Volatile Contaminants in Water; Angew. Chem. Int. Ed.; 2018; 57; 8488-8492.

N. Meher, S. Panda, S. Kumar, P. K. Iyer; Aldehyde Group Driven Aggregation-Induced Enhanced Emission in Naphthalimides and its Application for Ultradetection of Hydrazine on Multiple Platforms; Chem. Sci.; 2018; 9; 3978-3985.

R. Gupta, D. Das, P. K. Iyer, A. S. Achalkumar; First Example of White Organic Electroluminescence Utilizing Perylene Ester Imides; Chemistry Select; 2018; 3; 5123-5129.

Kamal K. Paul and P. K. Giri; Plasmonic Metal and Semiconductor Nanoparticle Decorated TiO₂-Based Photocatalysts for Solar Light Driven Photocatalysis; Encyclopedia of Interfacial Chemistry; Elsevier: Oxford; 2018; 786-794.

B. Choudhury, Kamal K. Paul, D. Sanyal, P. K. Giri, A. Hazarika; Evolution of Nitrogen-Related Defects in Graphitic Carbon Nitride Nanosheets Probed by Positron Annihilation and Photoluminescence Spectroscopy; J. Phys. Chem C; 2018; 122; 9209-9219.

Kamal Kumar Paul, N. Sreekanth, Ravi K. Biroju, Tharangattu N. Narayanan and P. K. Giri; Solar Light Driven Photoelectrocatalytic Hydrogen Evolution and Dye Degradation by Metal-free Few-layer MoS₂ Nanoflower/TiO₂(B) Nanobelts Heterostructure; Solar Energy Materials and Solar Cells; 2018.

Vimal Kumar Singh Yadav, Gayatri Natu and Paily Roy; Analysis of Super-fine Resolution Printing of Polyaniline and Silver Microstructures for Electronic Applications; IEEE Transactions on Components, Packaging and Manufacturing Technology; 2018; DOI 10.1109/TCPMT.2018.2854629.

Shatrudhan Palsaniya, Harshal B. Nemade, Ashok Kumar Dasmahapatra; Synthesis of polyaniline/graphene/MoS₂ nanocomposite for high performance supercapacitor electrode; Polymer; 2018; 150; 150-158.

Book / Book Chapters

BSBE

Joseph Christakiran M., Ankit Gangrade and Biman B. Mandal; Carbon Nanotubes and their Polymer Nanocomposites. "Nanomaterials and Polymer Nanocomposites"; Elsevier; 2018; ISBN 9780128146156; 2018.

Nandana Bhardwaj, Dimple Chouhan, Biman B Mandal; 3D functional scaffolds for skin tissue engineering in "Functional 3D tissue engineering scaffolds"; Elsevier; 2018; 345-365; ISBN: 9780081009796.

Cota Navin Gupta, Jessica Turner, Vince Calhoun; "Source-Based Morphometry: Data-Driven Multivariate Analysis of Structural Brain Imaging Data in: Spalletta G., Piras F., Gili T. (eds) Brain Morphometry, Neuromethods"; Humana Press, New York, NY; 2018; 136; 105-120; 978-1-4939-7647-8.

Ruchika Goyal & Vibin Ramakrishnan; "Peptide-Based Drug Delivery Systems"; Elsevier; 2018; 1; 25-46; 978-0-12-814031-4.

A. Garg, V. K. Gadi, S. Hossain, Abhinav, R. Karangat, S. Sreedeeep, L. Sahoo; "Role of plant health parameters in understanding spatial heterogeneity of hydraulic conductivity of vegetated soil: A case study of urban green infrastructure monitoring: Towards a Sustainable Geoenvironment, In: Environmental Science and Engineering, Liangtong Zhan, Yunmin Chen, Abdelmalek Bouazza (eds)"; Springer Nature, Singapore; 2018; 377-384; 1863-5520.

V. K. Gadi, S. Hossain, G. Deka, A. Garg, R. Karangat, S. Sreedeeep, L. Sahoo; "Spatial heterogeneity of hydraulic conductivity in green infrastructure due to presence of wilted and live grass: A field study: Towards a sustainable geoenvironment, In: Environmental Science and Engineering, Liangtong Zhan, Yunmin Chen, Abdelmalek Bouazza (eds)"; Springer Nature, Singapore; 2018; 393-400; 1863-5520.

M. P. Borgohain, G. Narayan, Krishna Kumar H., C. Dey, R. P. Thummer; "Advances in Microbial Biotechnology: Current Trends and Future Prospects."; Apple Academic Press - CRC Press; 2018; 574; 9781771886673.

Chemical

M. K. Purkait, R. Singh; "Membrane Technology in Separation Science"; Taylor & Francis; 2018; 9781138626263; 340; ISBN: 1138626260.

M. K. Purkait, M. K. Sinha, P Mondal, R. Singh; "Stimuli Responsive Polymeric Membranes"; Elsevier, Academic press; 2018; 312; ISBN: 9780128139615.

C. Das and Kibrom Alebel Gebru; "Polymeric Membrane Synthesis, Modification and Applications: Electro-spun and Phase-inverted Membranes"; CRC Press (Taylor & Francis); 2018; CAT# K377129; ISBN: 9781138585799.

Kulbhushan Samal, Chandan Das, Kaustubha Mohanty; "Adsorption-membrane filtration hybrid process in wastewater treatment in Membrane Technology: Sustainable Solutions in Water, Health, Energy and Environmental Sectors"; Membrane Technology: Sustainable Solutions in Water, Health, Energy and Environmental Sectors; CRC Press (Taylor & Francis); 2018; CAT# K34882; ISBN 9781138095427.

Tabli Ghosh, Vimal Katiyar; "Cellulose-Based Hydrogel Films for Food Packaging"; Cellulose-based Superabsorbent Hydrogels; 2018; Springer International Publishing AG, part of Springer Nature; ISBN 978-3-319-77829-7.

Humanities

R. L. Deka, L. Saikia, C. Mahanta, M. K. Dutta; Increasing Extreme Temperature Events in the Guwahati City During 1971-2010; Urban Ecology, Water Quality and Climate Change; Springer; 2018; 978-3-319-74493-3; 169-179.

N. Kipgen, D. Pegu; Floods, Ecology and Cultural Adaptation in Lakhimpur District, Assam; Development and Disaster Management (Edited by Singh, A. et al); Palgrave Macmillan; 2018; 978-981-10-8484-3; 301-318.

V. Ghosh, N. Tripathi; Cloud computing & e-HRM; In Thite, M. (Ed), e-HRM: Digital Approaches, Directions & Applications; 2018; 9781138043947; 106-122.

Environment

Ponnala Vimal Mosahari, Deepika Singh, Jon Jyoti Kalita, Pragya Sharma, Hasnahana Chetia, Debajyoti Kabiraj, Chandan Mahanta, Utpal Bora; 'Nanotoxicity: Impact on Health and Environment'; CRC Press; 25; 9781351252959; 2018.

Invited Lectures of Departmental Faculty

BSBE

Rakhi Chaturvedi; "Plant Cell Suspension Cultures: An Engineering Considerations for Enhanced Metabolite Production"; Society for In vitro Biology, USA; 3 June, 2018.

Ajaikumar B Kunnumakkara; "Development of Highly Safe, Efficacious and Affordable Drugs for the Prevention and Treatment of Chronic Diseases"; Fayoum University; 12 April 2018.

Ajaikumar B Kunnumakkara; "Development of Highly Safe, Efficacious and Affordable Drugs for the Prevention and Treatment of Chronic Diseases"; Delta University; 14 April 2018.

Ajaikumar B Kunnumakkara; "New Trends in Cancer Therapy"; Mansoura University; 15 April 2018.

Ajaikumar B Kunnumakkara; "Development of Highly Safe, Efficacious and Affordable Drugs for the Prevention and Treatment of Chronic Diseases"; Mansoura University; 16 April 2018.

Ajaikumar B Kunnumakkara; "New Trends in Cancer Therapy"; Kfr El-Sheikh University; 17th April 2018.

Kannan Pakshirajan; "Writing and Publishing First Quality Scientific Manuscripts"; University of Science & Technology, Meghalaya; 24th May 2018.

Lingaraj Sahoo; "Biotechnology for Insect Pest and Virus Management in Cowpea"; Gifu University, Japan; 23 May 2018.

Lingaraj Sahoo; "Industrial Application of Biological Pesticides and Genetically Modified Plants"; Japan Bioindustry Association Meet; 25 May 2018.

Lingaraj Sahoo; "Plant and Algal Bioresource based Biofuel"; JDA talk at Gifu University, Japan; 28 May, 2018.

Chemical

Dr. Vimal Katiyar; "Effect of Functionalized Biopolymers on Stereocomplexation and Properties of Poly (lactic acid) Nanocomposites"; 7th World Congress on Biopolymers and Polymer Chemistry, Osaka, Japan; 04-06 June, 2018.

Dr. Vimal Katiyar; "Sustainable Polymers for Commodity, Engineering and Biomedical Applications"; Yokohama National University, Yokohama, Japan; 31 May, 2018.

Dr. Vimal Katiyar; "Sustainable Polymers for Commodity, Engineering and Biomedical Applications"; Nagoya Institute of Technology, Nagoya, Japan; 28 May, 2018.

Dr. Vimal Katiyar; "Sustainable Polymers: fundamentals to Product Design"; Japan BioIndustry Association, Tokyo, Japan; 25 May 2018.

Dr. Vimal Katiyar; "Sustainable Polymers"; GIFU University, Japan; 29 May, 2018.

Dr. Vimal Katiyar; "Role of Biocatalytic Enzymes for the production of Chemicals through biorefinery Approaches"; Faculty of Engineering, GIFU University, Japan; 23 May, 2018.

Dr. Vimal Katiyar; "Biodegradable Polymers: research and Development Activities"; GIFU University, Gifu, Japan; 24 May 2018.

Dr. Vimal Katiyar; "Effect of Functionalized Biopolymers on Stereocomplexation and Properties of Poly(lactic acid) Nanocomposite Films, trays, and 3D Printed Implants"; National Cheng Kung University, Taiwan; May 15 2018.

Humanities

Prof. Mrinal Kanti Dutta; "Economic Performance of NE Economy and its development potential"; Dept. of Economics, Arya Vidyapeeth College, Guwahati; 12 Apr 2018.

Dr. Sukanya Sharma; "Locating Culture in its Material Specificity: The Upanishads & the Puranas"; Dept. of Sanskrit, Cotton University, Guwahati; 18 May 2018.

Prof. Saundarjya Borbora; "Tourist Potentiality Index: A Case Study at Dibru-Saikhowa National Park in Assam, India"; SIBR-Thammasat University, Bangkok; 23 May 2018.

Dr. Vasundhara Jairath; "Mapping Indigenous Difference in India and Mexico"; LASA, Barcelona, Spain; 26 May 2018.

Dr. Vimal Katiyar; "Joint Project Presentation of Indian Side on the Progress of finding a new solution of Sustainable Energy from Waste Water: Sustainable Polymers for Advance Application"; National I-Lan University, Yi-Lan county, Taiwan; 11 May 2018.

Dr. Vimal Katiyar; "Sustainable Polymers for Commodity, Engineering and Biomedical Applications"; Taiwan National University of Science and Technology, Taipei, Taiwan; 10 May 2018.

Dr. Vimal Katiyar; "Microbial Fuel Cells"; Taipei University of Technology, Taipei, Taiwan; 9 May 2018.

Dr. Vimal Katiyar; "Sustainable Polymers for Energy Storage and Conversion Devices"; Feng Chia University, Taichung, Taiwan; 7 May 2018.

Dr. Vimal Katiyar; "Sustainable Polymers for Commodity, Engineering and Biomedical Applications"; Feng Chia University, Taichung, Taiwan; 7 May, 2018.

Dr. Vimal Katiyar; "Bionanocrystals: Fabrication and its Uses in Commodity and Biomedical Applications"; Kyoto Institute of Technology, Kyoto, Japan; 5 June, 2018.

Dr. Vimal Katiyar; "Sustainable Polymers and Nanocomposites for Advance Applications"; Kyoto University, Kyoto, Japan; 1 June 2018.

Dr. Vimal Katiyar; "Nanobiocomposites for Advance Applications"; Tomos Bata University, Zlin, Czech Republic, 20 April 2018.

Patents

Title: An intelligent multi output control and power electronics systems for an EV/PHEV charging station.

Inventor: Bikash Sah, Praveen Kumar, K. Balasubramanian.

Title: An intelligent source management system for multi output electric vehicle and plug-in electric vehicles charging station.

Inventor: Bikash Sah, Praveen Kumar, K. Balasubramanian.

Title: Glutathione-S-Transferase ? Nanoconjugate Based FET Biosensor for Detection of Glutathione.

Inventor: Ujjwol Barman, Roy P. Paily, Siddhartha Sankar Ghosh.

Title: A Water Insoluble Injectable Supramolecular Hydrogel by a Small Peptide.

Inventor: Debapratim Das, Nilotpal Singha.

Title: Water-Soluble, Highly Stable, Mono(aquated) Mn(II) Complexes And Use Thereof In T1-Weighted MR Imaging.

Inventor: Chandan Mukherjee, Mahmuda Khannam.

Title: Spontaneously Self Assembled Nanosheets for the Detection of Organic Volatile Contaminants in Water.

Inventor: Niranjana Meher, Parameswar Krishnan Iyer.

Title: AIE active Cores luminogens and Crystal Induced Mechanochromism.

Inventor: Peddaboodi Gopikrishna, Parameswar Krishnan Iyer.

Title: An automated method for solving Jigsaw Puzzle.

Inventor: M. K. Bhuyan, L. N. Sharma.

Title: A 12.5KW, 8 pole, high power density induction motor for EV application.

Inventor: Rajendra Kumar, Praveen Kumar, K. Balasubramanian.

Title: A 12.5KW, 6 pole, high power density induction motor for EV application.

Inventor: Rajendra Kumar, Praveen Kumar.

Title: A 12.5KW, 4 pole, high power density induction motor for EV application.

Inventor: Rajendra Kumar, Praveen Kumar.

Title: A 1.5KW, 4 pole, high power density induction motor for EV application.

Inventor: Rajendra Kumar, Praveen Kumar.

Title: A 1.5KW, 6 pole, high power density induction motor for EV application.

Inventor: Rajendra Kumar.

Title: Design of high power density 1.5 kW 8 pole induction motor for 2/3-wheel electric vehicle.

Inventor: Rajendra Kumar, Praveen Kumar.

Title: Silk Hydrogel for Treatment of Burn Wounds.

Inventor: Biman B. Mandal, Dimple Chouhan.

Title: Selective and Super Oil Absorbents for Remediation of Oil Spills.

Inventor: Uttam Manna, Kousik Maji, Adil Majeed Rather, Arpita Shome.

Title: Urokinase production through fiber reinforced silk scaffold using high density perfusion culture.

Inventor: Biman B. Mandal, G. Janani.

Awards and honours for Faculty members

BSBE

Dr. Rakhi Chaturvedi organized and chaired a conference Session for the Society for In vitro Biology, USA on the topic Elicitation of Secondary Metabolites in Plants and Metabolic Engineering of Citation on 3 June, 2018.

Dr. Ajaikumar B Kunnumakkara received from the award Outstanding contribution to science from Kfr El-Sheikh University, Egypt on 17th April 2018.

Chemistry

Dr. Bhubaneswar Mandal received the RASTRIYA GOURAV AWARD - 2017 from the India International Friendship Society on 27 May 2017

Visitors From Other Institutes

Chemical

Dr. N. Sivaraman, Indira Gandhi Centre for Atomic Research; "An introduction about IGCAR and nuclear energy"; June 2018.

Abhinav Sharma, Research Scholar, University of Massachusetts Amherst; "Micro-physiological models that mimic mucosal barrier complexity of the human intestine"; April 2018.

Dr. Jaideep Chatterjee; Principal Scientist, Unilever and Adjunct Faculty of Department of Chemical Engineering, IIT Guwahati; "Comparative analysis of water purification technology"; April 2018.

Prof. Gargi Das, Head, Department of Chemical Engineering, IIT Kharagpur; "Physics of draining in the meso- scale: Experimental and theoretical analysis"; April 2018.

Electronics

Prof. S. A. Soman, IIT Bombay; "Overview of PMU Analytics"; 18 May 2018.

Prof. Arun Kumar, CARE, IIT Delhi; "Acoustic Vector Sensors and related Signal Processing for Air and underwater applications"; 20 April 2018.

Dr. Akshay Kumar Rathore, Concordia University, Canada; "Bidirectional Current-fed Power Electronic Converters"; 29 May 2018.

Prof. Amrish Chandra, Université du Québec, Montreal, Quebec, Canada; "Hybrid Renewable Energy Standalone Systems"; 8 June 2018.

Humanities

Dr. Anindita Sen, Associate Professor, Department of Economics, University of Calcutta; "Does Money Matter? The Impact of a Conditional cash transfer on early marriage and dropout among girls in West Bengal"; 2 April 2018.

Prof. Subhasis Mandal, Principal Scientist, ICAR-Central Soil Salinity Research Institute, Regional Research Station, West Bengal; "Salt-affected Soils in India - Research Strategies, Technology Response, Impact and Policy Needs"; 3rd April 2018.

Mr. Tom Boyd, A Ph.D. candidate in the Department of Social Anthropology at the University of Manchester, UK; "Present absences, future connections: talking about prospective large infrastructure projects on a large river island in rural Assam"; 4 April 2018.

Prof. Achin Vanaik, Retired Professor of "International Relations and Global Politics" and former Head of the Department of Political Science at the University of Delhi; "The Global War on Terror: Necessity or Fraud?"; 6 April 2018.

Prof. N.K. Sharma, Visiting Professor, Dept. of HSS, IITG; "The scientific study of the mind"; 18 April 2018.

Prof. Y.V. Reddy, Former Governor, Reserve Bank of India; "Status of Banking in India"; 20 April 2018.

Dr. Marco B. Mitri, Asst. Professor, Department of History, U.C.C.; "Excavation of Lownogthroh and Myrkhan Neolithic sites of Khasi Hills"; 27 April 2018.

Mathematics

Prof. John Augustine, IIT Madras; "Robust and Efficient Computation in Dynamic Networks with Heavy Churn"; 6 April 2018.

Dr. Sutanu Roy, NISER, Bhubaneswar; "Semi-direct Product of Groups and Beyond"; 23 May 2018.

Workshop for Sustainable Agriculture in North-Eastern region



Inaugural session of Stakeholders' Consultation Workshop for Sustainable Agriculture in North-Eastern region

Centre for Rural Technology (CRT), IIT Guwahati in association with National Council for Science Museums (NCSM) and TIFAC, DST organized a Stakeholders' Consultation Workshop for Sustainable Agriculture in North-Eastern region on 17th February, 2018 (Saturday) under the Global Technology Watch Group (GTWG) project on climate change sponsored by Department of Science and Technology, Govt. of India. Briefly, GTWG is mandated to keep a close watch on the technology development happening globally and map them with India specific requirement for the key six sectors, Sustainable Habitat is one such sector. GTWG

report will provide inputs related to technology needs of the climate change mitigation and adaptation projects dealt by other National Missions on climate change under NAPCC. Practitioners from various sectors related to Agriculture and Rural Development attended this workshop. Farmers from various areas of Assam also attended this meeting. The major agenda of this workshop was to identify technology trends, key policy issues, implementation strategies for mitigation and adaptation to climate change particularly in North-East region of the country.



Mathematics Training and Talent Search (MTTS)

A four-week mathematics summer training camp titled Mathematics Training and Talent Search (MTTS) Programme was organized by the Department of Mathematics during 28 May - 23 June, 2018. The workshop was a part of an annual national programme supported by the National Board for Higher Mathematics, DAE, Govt. of India. Forty undergraduate students drawn from all parts of the country have undergone rigorous training in basic commitment to teaching and are from leading national institutions. Prof. S. Natesan of the Department of Mathematics was the Coordinator of the programme.



Advanced Instructional School on Algebraic Number Theory

The National Centre for Mathematics (NCM), a joint center of IIT Bombay and TIFR Mumbai, organize different training schools in mathematics under the supervision of the Apex Committee of the NCM. The Advanced Instructional School (AIS) on Algebraic Number Theory was held at the

Department of Mathematics, IIT Guwahati during May 14 to June 2, 2018. The local organizers were Prof. Anupam Saikia and Dr. Rupam Barman. A total of 34 students attended the AIS. Eleven of these students are affiliated to institutes in the North East itself.



One-day National Workshop On “Computational Modeling And Simulation For Bioengineering Applications” by the Dept. of Bioscience & Bioengineering on 9 June 2018. The workshop bring together faculty from Chemical, Mechanical and Electrical Engineering who work on Computation modeling and Complex data analytics for varied domains using MATLAB. This workshop is designed to introduce MATLAB as a programming language and to develop an appreciation of its numerous functionalities



for varied data analytics. Also, through a combination of lectures and laboratory practicums, students were exposed to advanced topics and diverse datasets from the field of Bioprocess, Biomechanics and Neural Engineering. This workshop was a starting platform to explore the possibilities of interdisciplinary research especially on advanced optimization methods. The participants were also practically used new methods/tools/software from the laboratories of the speakers and invited experts.

GIAN course On Biofuel Cell Technology: Fundamentals and Applications



A GIAN course On Biofuel Cell Technology: fundamentals and Applications was organized by the Dept. of Bioscience & Bioengineering from April 23-27, 2018.

This course provided a deeper insight into recent advancements in biofuel cells and thereby contributed to the understanding of this important topic. The course content included a brief introduction on the first, second, third and fourth biofuel generations. The course was intended, however, to largely concentrate on advances made in recent years in the area of biofuel cells together with a discussion surrounding their practical application. Furthermore, the

course was extremely useful for researchers, scientists, engineers and graduate students, who are working in the areas of biofuels, more specifically on biofuels cell. More than thirty participants from both industry and academia participated in this course, and Prof. Piet Lens, Professor of Environmental Biotechnology at UNESCO-IHE, Institute for Water Education (The Netherlands), Professor of New Energy Technologies at National University of Ireland (NUI Galway, Ireland) and Professor of Bioengineering at Tampere University of Technology (TUT, Finland), was the guest foreign faculty.



Workshop on Advances in Environmental Protection & Sustainability 2018 organized by the Centre for the Environment on 2 June 2018.

Conference / Seminar Abroad

BSBE

Prof. Latha Rangan attended the BioVision Alexandria (BVA) 2018 held at Bibliotheca Alexandria, Egypt from 20.04.18 to 22.04.18.

Dr. Souptick Chanda attended the 2nd World Congress and Expo on Biotechnology and Bioengineering 2018 held at Dubai, UAE from 25.06.18 to 27.06.18.

Chemical

Dr. Vimal Katiyar delivered an Invited talk at Plastko - 2018 at Tomas Bata University, Zlin, Czech Republic held from 17.04.18 to 20.04.18.

Dr. Vimal Katiyar delivered an Invited talk at Feng Chia University, Taipei University of Technology, Min - Chi University of Technology, National I-Lan University, Taiwan from 05.05.18 to 15.05.18 and at National Cheng Kung University, Taiwan from 14.05.18 to 15.05.18.

Dr. Vimal Katiyar delivered lecture at Gifu University, Japan from 20.05.18 to 30.05.18 and Oral Presentation at 7th World Congress on Biopolymers and Polymers Chemistry at Osaka, Japan from 04.06.18 to 06.06.18.

Dr. Pankaj Tiwari attended the 25th International Symposium on Chemical Reaction Engineering at Firenze Fiera - Palazzo dei Congressi, Florence, Italy from 20.05.18 to 23.05.18.

Dr. Rajesh Kr. Upadhyay attended the 25th International Symposium on Chemical Reaction Engineering at Firenze Fiera - Palazzo dei Congressi, Florence, Italy from 20.05.18 to 23.05.18.

Chemistry

Dr. Subhash Chandra Pan attended the DAAD - IIT Faculty Exchange Program at Max - Panck Institute for Kohlenforschung, Muelheim an der Ruhr, Germany from 25.05.18 to 24.05.18.

Dr. Kalyan Raidongia attended the First International Conference on Materials, Mimicking, manufacturing from and for Bio-Application held at Politecnico Di Milano, Milam, Italy from 27.06.18 to 29.06.18.

Civil

Dr. Arindam Dey attended the Geo Shanghai International Conference 2018 held at Shanghai, China from 27.05.18 to 30.05.18.

Dr. Amit B Shelke delivered an Invited talks at INCP Project joint summer school organized by the Department of Physics and Technology, UiT Norway at Tromso, Norway from 01.06.18 to 30.06.18.

Dr. Abhishek Kumar attended the 5th Geotechnical Earthquake Engineering and Soil Dynamics held at AT&T Executive Education and Convention Centre, Austin, Texas from 10.06.18 to 13.06.18.

Dr. Suresh Kartha attend Loughborough University, United Kingdom for invited talk from 23.06.18 to 29.06.18.

Dr. Gautam Barua attended the 9th International Conference on Environmental Science and Technology at Houston, Texas, USA from 25.06.18 to 29.06.18.

Computer Science

Dr. Sushanta Karmakar attended the 3rd Highlights of Algorithms (HALG 2018) conference at Amsterdam, Netherlands from 04.06.18 to 06.06.18.

Dr. Arnab Sarkar attended the European Control Conference (ECC 2018) at Limassol, Cyprus from 12.06.18 to 15.06.18.

Design

Prof. Utpal Barua attended the International Culture Art Dialogues Association, Kusadasi, Izmir, Turkey from 21.04.18 to 29.04.18.

Dr. Sougata Karmakar attended the ICOH 2018: The 32nd International Congress on Occupational Health at The Convention Centre Dublin, Ireland from 29.04.18 to 04.05.18.

Prof. Amarendra Kr. Das attended Tools and Methods of Competitive Engineering TMCE 2018 at Conference Center, Faculty of Geography and History, Obelisco Campus, University of Las Palmas de Gran Canaria, Spain from 07.05.18 to 11.05.18.

Dr. Pratul Chandra Kalita attended Tools and Methods of Competitive Engineering TMCE 2018 at Conference Center, Faculty of Geography and History, Obelisco Campus, University of Las Palmas de Gran Canaria, Spain from 07.05.18 to 11.05.18.

Electronics

Dr. Manas Kamal Bhuyan attended the 2nd International Conference on signals and systems 2018 (ICSigSys 2018) at Bali, Indonesia from 01.05.18 to 03.05.18.

Humanities

Dr. Debapriya Basu attended the Dream Conference 2018 at Université Clermont – Auvergne, Clermont – Ferrand, France from 05.04.18 to 06.04.18.

Dr. Priyankoo Sarmah attended Oriental COCOSDA 2018 at Phoenix Seagaia Convention Centre, Japan from 07.05.18 to 08.05.18.

Dr. Debapriya Basu visited National University of Ireland, Galway under Moore Institute Visiting Research Fellowship from 14.05.18 to 31.05.18.

Dr. Anamika Barua attended the Disaster Proof Planning course (WSG 52306) conducted by Wageningen University & Research, the Netherlands from 14.05.18 to 21.06.18.

Dr. Vasundhara Jairath attended the LASA 2018 – XXXVI International Congress at Barcelona, Spain from 23.05.18 to 26.05.18.

Dr. Vasundhara Jairath attended Forced Population Displacements and the Making of Modern World at Brown University in Providence, Rhode Island, USA from 02.06.18 to 16.06.18.

Dr. Vipul Dutta attended the BISA 43rd Annual Conference 2018 – British International Studies Association at bath, The United Kingdom from 13.06.18 to 15.06.18.

Prof. S. Borbora attended the SiBR- Thammasat 2018 Bangkok Conference on Indisciplinary Business and Economics Research at Bangkok, Thailand from 16.06.18 to 17.06.18.

Dr. Amarjyoti Mahanta attended the 14th Meeting of Society for Social Choice and Welfare (SSCW 2018) at Seoul National University, South Korea from 14.06.18 to 17.06.18.

Dr. Shakuntala Mahanta attended the TAL 2018 – Tonal Aspect of Languages at Berlin, Germany from 18.06.18 to 20.06.18.

Prof. Mrinal Kanti Dutta attended the 2nd International Conference on Economics and Development – ICED 2018 at Colombo, Sri Lanka from 20.06.18 to 21.06.18.

Dr. Shakuntala Mahanta attended the 16th Annual Conference of the French Phonology Network (REP 2018) at Paris, France from 27.06.18 to 29.06.18.

Mathematics

Dr. Gautam Kr. Das attended the 12th International Frontiers of Algorithmics Workshop (FAW 2018) at Guangzhou, China from 08.05.18 to 10.05.18.

Dr. Subhamay Saha attended the 40th Conference on Stochastic Processes and their applications – SPA 2018 at Gothenburg, Sweden from 11.06.18 to 15.06.18.

Dr. Sudarshan Kumar K attended the XVII International Conference on Hyperbolic Problems, Theory, Numerics Applications at Pennsylvania State University, USA from 25.06.18 to 29.06.18.

Prof. Jiten Chandra Kalita attended the ICAAMM2018: International Conference on Applied Analysis and Mathematical Modeling at Istanbul Gelisim University, Istanbul, Turkey from 20.06.18 to 24.06.18.

Mechanical

Dr. Swarup Bag visited University of Waterloo, Canada as Visiting Scholar for a period of 05.05.18 to 31.07.18.

Prof. Manmohan Pandey attended the Joint 19th International Heat Pipe Conference and 13th International Heat Pipe Symposium at University of Pisa, Italy from 10.06.18 to 14.06.18.

Dr. Vinayak Narayan Kulkarni visited University de Rennes – 1, Institute de Physique de Rennes (IPR), France for Collaborative research in the area of experimental and computational high speed flows at from 14.06.18 to 14.07.18.

Prof. Uday Shankar Dixit attended the 5th International Conference on Production and Industrial Engineering (CPIE-2018) at Bangkok, Thailand from 25.06.18 to 29.06.18.

Physics

Prof. A. Srinivasan attended the INTERMAG 2018 at Marina Bay Sands Convention Center, Singapore from 23.04.18 to 27.04.18.

Dr. Udit Raha was on an academic visit to Institute of Theoretical Physics, Chinese Academy of Sciences, Beijing, China from 13.05.18 to 26.05.18.

Dr. Sovan Chakraborty was on a Research Collaboration at Max Planck for Physics (MPP), Munich Germany from 21.05.18 to 17.07.18.

Dr. Pankaj Kumar Mishra attended the International Conference on Rayleigh Benard Turbulence at University of Twente, Enschede, The Netherlands from 14.05.18 to 18.05.18.

Dr. Arunansu Sil attended the Planck 2018, 21st International Conference from the the Planck Scale to the Electroweak Scale at Bethe Center for Theoretical Physics, University of Bonn, Germany from 21.05.18 to 25.05.18.

Dr. Debasish Borah was on a research visit at Seol National University and Technology from 01.06.18 to 20.06.18.

Dr. Soumitra Nandi was on an academic visit at Department of Physics, University of Torino & INFN Torino, Italy from 08.06.18 to 08.07.18.

Dr. Debasish Borah delivered an invited talk at Theory Center, Institute for Particle and Nuclear Studies, High Energy Acceleration Research Organization (KEK), Tsukuba Japan and Tokyo Institute of Technology, Tokyo, Japan from 21.06.18 to 30.06.18

Prof. Saurabh Basu attended the attend Graphene 2018 at Dresden, Germany from 26.06.18 to 29.06.18.

CLST

Dr. Samudravijaya K attended the Oriental COCOSDA 2018 at Phoenix Seagaia Convention Centre, Japan from 07.05.18 to 08.05.18.

New Research Projects

Title: Bioengineered 3D constructs for cartilage repair, osteochondral regeneration and high throughput drug screening towards osteoarthritis management.

Funding Agency: Finance Department, Govt of Assam.

Principal Investigator: Biman Mandal.

Title: Laser cooling and trapping of Rubidium atom, and superflash of light using the narrow $5S_{1/2} \rightarrow 6P_{3/2}$ transition at 420 nm.

Funding Agency: Finance Department, Govt of Assam.

Principal Investigator: Kanhaiya Pandey.

Title: Synthesis and MR Image Investigation on MRI Contrast Agent-Entrapped Mesoporous Silica Nanoparticles.

Funding Agency: DBT.

Principal Investigator: Chandan Mukherjee.

Title: Bamboo bricks/laminates from BMFs (Bamboo Micron Fibres) for low cost housing structures for North Eastern Himalayan region.

Funding Agency: MOEF.

Principal Investigator: Pratul Chandra Kalita.

Title: Development of Microbial Fuel Cells and theoretical modeling on the multiple effect of flow-materials in waste water bio-energy reactor.

Funding Agency: DST.

Principal Investigator: Amaresh Dalal.

Title: The development and implementation of sensors and treatment technologies for freshwater systems in India.

Funding Agency: DST.

Principal Investigator: Kannan Pakshirajan.

Title: Development of pill box type rf window based on AlN ceramic for 3.7 GHz.

Funding Agency: BRNS.

Principal Investigator: T. Tiwari.

Title: Fabrication of Biocompatible Scaffolds for Delivery of Stem Cells in Myocardial Infarct Model: In Search of an Ideal Cardiac Patch.

Funding Agency: DBT.

Principal Investigator: Biman Mandal.

Title: Theoretical studies of quantum phase transitions of dipolar bosons in frustrated and flatband lattices.

Funding Agency: SERB.

Principal Investigator: Tapan Mishra.

Title: Seedless plant production and mass scale propagation of *Musa balbisiana* (bhimkol banana) of new using in vitro approaches.

Funding Agency: DBT.

Principal Investigator: Rakhi Chaturvedi.

Title: Fingerprinting Multi-Higgs Models at the LHC.

Funding Agency: Indo Canadian Shastri Institute.

Principal Investigator: Poulouse Poulouse.

Title: Statistical Downscaling for Hydro-Climatic projection with CMIP5 Simulations to assess impact of Climate Change.

Funding Agency: Govt, MOWR.

Principal Investigator: Arup Kumar Sarma.

Title: Validating CFD Simulations of Gas-Liquid Stirred Tank Reactor for different impellers through Radiotracer Based Techniques.

Funding Agency: BRNS.

Principal Investigator: guptar

Title: Placental oxidative stress in gestational diabetes mellitus.

Funding Agency: ICMR.

Principal Investigator: Ajaikumar B. Kunnumakkara.

Title: Reversible Alkali Metal Based Hydrides for High Temperature Thermal Energy Storage.

Funding Agency: DST.

Principal Investigator: P. Muthukumar.

Title: Selective Absorption based Oil/water Separation Using Durable Superhydrophobic Interfaces.

Funding Agency: Uttam Manna.

Principal Investigator: MRPL, ONGC.

Title: Investigation of Flow Behavior of Pulsed Sieve Plate Column through Radiotracer Based Techniques.

Funding Agency: BRNS.

Principal Investigator: R. K. Upadhay.

Title: Studies on the development of devices using MXenes/mono-elemental 2D materials for energy harvesting and storage applications (Part 2: Energy storage applications).

Funding Agency: BRNS.

Principal Investigator: Uday Maiti.

Title: FIST Project Level-2.

Funding Agency: DST.

Principal Investigator: T. Punniyamurthy.

Title: Safer Roads for Safer Childhood (SRSC), Jorhat City.

Funding Agency: International Federation of Red cross and red crescent societies.

Principal Investigator: Anjankumar S.

Title: Production and development of silk gel and powder as a material for the development of haemostatic and other formulations.

Funding Agency: DRDO.

Principal Investigator: Biman Mandal.

Title: Comparative study of low dimensional ferromagnetic Heusler alloys prepared by different routes.

Funding Agency: CSIR.

Principal Investigator: Ananthakrishnan Srinivasan.

Title: Elliptic curves with complex multiplication and hypergeometric sums.

Funding Agency: SERB.

Principal Investigator: Rupam Barman.

New Joinings



Dr. Manas Khatua

Assistant Professor
Computer Science and Engineering



Dr. Moumita Patra

Assistant Professor
Computer Science and Engineering



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