# FORMAT FOR ANNUAL DEPARTMENT/CENTRE REPORT

## (PERIOD: 1 APRIL 2018 – 31 MARCH 2019)

1. **Year of Establishment of the Department /Centre: 1995**
2. **Academic Programmes Offered:**

   (i) B. Tech. Core (Theory and Laboratory) and Elective courses in Chemistry

   (ii) B. Tech. in Chemical Science & Technology

   (iii) M. Sc in Chemistry

   (iv) Ph. D
3. **No. of Laboratories with brief introduction: (Total No: ……) Brief Description of each**

| Sr. No. | Details of Laboratory | Number | Approx. Floor space ($m^2$) | Availability of facilities like board, LCD, PC/Laptop, AC, internet |
|---|---|---|---|---|
| **Laboratories for B. Tech and M. Sc program** | | | | |
| 01 | Chemistry Laboratory (B. Tech, 1st sem) / Chemical Technology Lab – I, B. Tech (CST) | 01 | 200 | White board, PC, internet, phone |
| 02 | Chemical Technology Lab – II, B. Tech (CST) | 01 | 140 | White board, PC, internet, phone |
| 03 | Chemical Technology Lab – III, B. Tech (CST) / Physical Chemistry Lab (M. Sc) | 02 | 300 | White board, PC, internet, phone |
| 04 | Inorganic Chemistry Lab (M. Sc) / Organic Chemistry Lab (M. Sc) | 01 | 180 | White board, PC, internet, phone |
| **Research Laboratories:** | | | | |
| 05 | CHL –101, CHL – 102, CHL –103, CHL – 104, CHL –105, CHL –106, CHL – 201, CHL-202, CHL-203, CHL-204, CHL – 205, CHL – 206, CHL-3201, CHL-3202, CHL-3203, CHL-3204, CHL-3207, CHL-3209, CHEL-004, CHEL-005, CHEL-006, CHEL –101, CHEL –102, CHEL – 103, CHEL – 104, CHEL – 105, CHEL – 106, CHEL –107, CHEL –108, CHEL – 109, CHEL – 201, CHEL –202, CHEL –203, CHEL – 204, CHEL – 205, CHEL – 206, CHEL –207, CHEL – 208, CHEL – 209, CHEL –301, CHEL –302, CHEL –303, CHEL – 304, CHEL – 305, CHEL – 306, CHEL –307, CHEL –308, CHEL – 309. | 48 | 80 (average) | White board, computers, internet, phone, Centralized AC |
| 06 | Analytical equipment Lab I – VI | 06 | 540 | phone, computers, internet, AC |
| 07 | Computer Lab | 02 | 80 | phone, computers, internet, AC |
| 08 | Ultrapure (Milliipore) water Lab | 01 | 50 | AC |

4. **Major Equipment and Facilities acquired during 1 April 2018 – 31 March 2019:**

   (1) Fluorescence Spectrophotometer with quantum yield measurement accessories

   Make: Horiba, Model: Fluoromax Plus 4C (*Status: Order placed*)

   (2) FTIR Spectrophotometer with Universal ATR (02 Nos.)

   Make: PerkinElmer Model: Spectrum two (*Status: Order placed*)

   (3) UV-Visible Spectrophotometer, Make: Agilent Model: Cary-100

   (4) UV-Visible Spectrophotometer (02 Nos.), Make: Hitachi Model: U-2910 (*Status: Order placed*)

   (5) Solvent Purification system, Make: MBraun Model: SPS-800

**5. Major Areas of Research and Development:**

The Department is engaged in various research and Development activities such as:

Catalysis, Supramolecular Chemistry, Nanoscale Science and Technology, Synthesis, structure and reactivity of Inorganics, Newer reagents, Protocols and Newer methodologies, Synthesis of natural products and Carbohydrate Chemistry, Bio-organic Chemistry, Bio-inorganic Chemistry and Co-ordination Chemistry & Organometallics, Chiral recognition using metal complex based host, Metal removal from wastewater using polymer based chelators, Polymer synthesis, Organic Photochemistry, Molecular dynamics, Quantum Molecular dynamics, Physical Chemistry – Spectroscopic and Theoretical investigations on Novel Materials, peptide chemistry, Development of new theoretical approaches to: Laser Assisted Control of Chemical Reactions, and, Resonances in Electron – Molecule Scattering, Biomimetic Chemistry and Chemical Biology, Computational Biophysics and Chemistry, Oxidation Catalysis, Molecular Magnetism, Synthesis of Single-Molecule Magnets (SMMs), MRI Contrast agents, Water Oxidation Chemistry, Experimental & Theoretical Physical Chemistry, Self-organization and Nonlinear dynamics, Liquid crystals, Functional Materials, Molecular Electronics, Self Assembly, Supramolecular dynamic aggregates, peptides, lipids, Time Resolved Absorption and Fluorescence Spectroscopy, SHG, MUPPETS, Synthetic organic chemistry, Natural product synthesis with the emphasis of new synthetic methodology; development of new reactions, asymmetric organocatalysis and transition metal catalysis with new catalyst design; mechanistic study, solar fuel from water, Gas/Vapor/Liquid Adsorption and Catalytic Applications of Metal-Organic Frameworks (MOFs), Peptidomimetics: Synthesis, Conformation and Biological activity, Nanofluidics, Organometallic Chemistry and Catalysis, Bio-inspired Polymer Materials, Drug Delivery, Open Microfluidics, Chemical Sensor, Organofluorine Chemistry etc.

**6. Major initiatives and breakthrough in Research and Development during 1 April 2018 – 31 March 2019:**

**Major Initiatives in R&D:**

Development of novel methods for the construction of diverse organic molecules those are of important in biological and medicinal sciences,

Development of novel strategies for C-H activation for the regioselective carbon-carbon and carbon-heteroatom bonds formations, which are important in academia and chemical industries from both environmental and economic standpoint,

Supramolecular chemistry of polypeptides which are important in drug delivery and nanotechnology,

Design and development of novel approaches for the development drugs for misfolding diseases, such as Alzheimer's disease (AD) and Parkinson's disease etc.

Development of atom economic routes for the construction of novel molecules which are important in pharmaceuticals, materials chemistry such as construction of devices etc

**Breakthrough Innovations:**

There are some salient research achievements observed in the ongoing research and development under institutional and sponsored research projects which has appeared in reputed peer-reviewed journals recently in various fields of chemistry as mentioned below,

- Artificial membrane inspired by fish scales that may help in cleaning oil spills,
- Aloe vera to remove oil from water,

**7. Research Projects:**

**a) New Sponsored Projects (Total No:10)**

| Principal Investigator | Name of Project | Sponsoring Agency | Amount Sanctioned (Rs. in Lakh) | Co-Investigator | Duration |
|---|---|---|---|---|---|
| T. Punniyamurthy | Study of Selective C-H Activation: Carbon-Carbon and Carbon-Heteroatom Bonds Formation | SERB | 55.00 | - | 2019-22 |
| S. Paul | Understanding the Inhibiting Actions of Different Inhibitors on the Aggregation of Human Amylin Peptide | SERB | 45.21 | - | 2018-2021 |
| C. V. Sastri | Perspective of Fluctuations in Electron Transfer Reactions in Non-Heme Chemistry | SPARC | 71.18 | - | 2019-2021 |
| L. M. Kundu | Development and evaluation of peptide conjugated antitumor drugs in combination with nucleobase deaminases for controlled and targeted drug delivery | DBT, NER-BPMC | 69.42 | Prof. Ruchi Anand (IIT Bombay) | 2019-2022 |
| R. Tamuli (BSBE) | Understanding Molecular Mechanism of Calcium Signaling in Neurospora Crassa | DBT | 84.53 | M. Sarma | 3 Years |
| A. S. Achalkumar | Molecular Engineering of Perylene for Energy Conversion | DST-SERB | 41.00 | - | 2019-2021 |
| S. C. Pan | Organocatalytic Asymmetric Kinetic Resolution for the Synthesis of Aziridines and Tetrahydropyrans | DST SERB | 43.00 | - | 3 years |
| K. Raidongia | Aerobic Oxidations of Light Alkanes over Atomically Thin Clay Layers of Controlled Lateral Dimensions | DST Nanomission SERB | 59.50 | - | 3 years |
| U. Manna | Selective absorption based oil/water separation using durable superhydrophobic interfaces | MRPL | 68.58 | - | 1 year |
| Akshai Kumar A. S | Greenhouse Gas to Fuel: Development of Powerful Catalytic Systems Based on Pincer-Metal Catalysts Heterogenized on Solid Supports for the Conversion of Carbon Dioxide to Methanol | SERB-DST | 38.80 | - | 2019-2022 |

**b) Ongoing Sponsored Projects (Total No:26)**

| Principal Investigator | Name of Project | Sponsoring Agency | Amount Sanctioned (Rs. in Lakh) | Co-Investigator | Duration |
|---|---|---|---|---|---|
| HoD | DST–FIST Project under level–II category | DST | 550.00 | - | 5 years |
| | Advanced Materials and Molecules | MHRD | 400.00 | - | 5 years |
| A. Chattopadhyay, R. P. Palathinkal & D. Bandyopadhyay | Centre for Excellence in Research and Development of Nanoelectronic Theranostic Devices | Department of Electronics and Information Technology | 5775.00 | Faculties from other departments of IITG | 2014-2020 |
| A. K Saikia | Diastereo- and Enantio-selective Synthesis of Oxygen, Nitrogen and Sulfur Heterocyclic | SERB (DST) | 50 .00 | - | 3 Years |

| | | | | | |
|---|---|---|---|---|---|
| | Compounds | | | | |
| B. Mandal | Effect of naturally occurring as well as synthetic cyclic molecules on inhibition of beta amyloid aggregation in vivo and in vitro | DBT | 72.00 | Amal Chandra Mondal, JNU | 3 years |
| C. V. Sastri | Bioinspired green catalysts for water purification | DST-UKIERI | 5.68 | | 2018-2020 |
| D. Manna | Cancer Immunotherapy: Mechanism-Based Design of Potent Inhibitor for Indoleamine 2,3-Dioxygenase-1 | SERB | 50.81 | - | 3 years |
| | Development of Novel Inhibitors of AKT: An Unorthodox Approach Targeting the Pleckstrin Homology Domain | DBT | 107.90 | Manas Santra | 3 years |
| C. Mukherjee | Synthesis and MR Image Investigation on MRI Contrast Agent-Entrapped Mesoporous Silica Nanoparticles | DBT | 69.00 | A. S. Achalkumar | 2018-2021 |
| | Synthesis, Characterization and Utilization of Radical-Containing Transition metal Complexes for Mechanistic Understanding and Catalysis | SERB | 48.40 | - | 2016-2019 |
| C. K Jana | Synthesis and Biological Evaluation of Dysideanone and Its SyntheticAnalogs for the Development of Potent and Selective Anti-Oral-Cancer Agents | DBT | 44.10 | - | 2018-2021 |
| D. Das | Bioinspired Semi-conductive Peptides: Self-assembly, Nano-structures and Application in Organic-electronics | SERB | 49.00 | - | 3 years |
| | Peptide Based Semiconducting Materials for Organic-electronic devices | UKIERI | 16.00 | Oren A. Schermann | 3 years |
| S. C. Pan | Organocatalytic Asymmetric Reactions with 3-carbomethoxy-dihydro-2-quinolones | CSIR HRDG | 12.00 | - | 3 years |
| | Novel Rationally Designed DNA Gyrase Inhibitors as Antibacterials | DBT | 41.00 | - | 3 years |
| K. Raidongia | Molecular Sieving by Nanochannel Networks of Reconstructed Layered Materials | SERB | 38.00 | - | 5 years |
| D. Srimani | Integration of Photoredox catalysis with Chiral Bronsted Acids: Towards Enantio-selective synthetic routes of versatile structural motifs | DST-INSPIRE | 35.00 | - | 5 years |
| | N-Heterocyclic Nitrenium Based Pincer Ligand and their Transition Metal Complexes: Exploring Potential Catalytic Application | DST-SERB, ECR | 47.00 | - | 3 years |
| K. P. Bhabak | Development of ROS-Sensitive Tum-on Fluorescent Probes for Targeted Delivery of Anti-cancer Compounds | SERB | 53.04 | - | 2017-2021 |
| A. Das | Terminal Oxo and Imido | DST- | 35.00 | - | 5 years |

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|---|---|---|---|---|---|
| | Transition-Metal Complexes of Groups 11 (Cu, Ag, Au): Strategies for Sequential C-H Bond Activation and Functio-nalization, Carbon-Heteroatom (C–N and C–O) Bond-Forming Reactions and Group-transfer catalysis | INSPIRE | | | (2014-2019) |
| | Incorporation of Pendant Lewis Pairs into Secondary Coordination Sphere of the Metal ions: Cooperative Substrate Binding and Activation | DST, SERB | 46.20 | - | 3 years (2017-2020) |
| U. Manna | Multilayer of Porous Micro-Capsules to Develop Robust Slippery Liquid-Infused Porous Surface (SLIPS) | BNRS | 25.00 | - | 3 years |
| | "'Bulk' Superhydrophobic Polymer materials for controlled and Tunable release of Antimicrobial peptides: A novel material for generating antimicrobial Material" | DBT | 42.14 | Sunanda Chatterjee | 3 years |
| | Bio-mimicked Interface for Developing Smart and Reusable Chemical Sensors Using Liquid Crystal µ-Droplets | IIT Guwahati | 10.00 | - | 1 Year |
| Akshai Kumar A. S | Fluorine and Boron Doped pi Conjugated Organic Materials Via Transition Metal Catalyzed C-F Activation | BRNS-DAE | 19.98 | - | 2017-2020 |
| | Fuel Chemical Synthesis Via Catalytic Transformation of Hydrocarbons Using Pincer-Ligated Complexes Based on Inexpensive Transition Metals | CSIR | 6.00 | - | 2017-2020 |
| | | | | | |

**c) Completed Sponsored Projects (Total No:……)**

| Principal Investigator | Name of Project | Sponsoring Agency | Amount Sanctioned (Rs. in Lakh) | Co-Investigator | Duration |
|---|---|---|---|---|---|
| A. Chattopadhyay | Newer Chemical and Physical Methods of Engineering Devices with Nanoscale Functional Components | DST | 92.00 | - | 05 |
| | Engineering Nanoscale Materials and their Applications in nanotechnology | DST | 2.02 | - | 03 |
| | Novel Nanoscale Materials: Generation, Characterization, and Device Applications | DST | 190.60 | A number of faculty members from various departments | 03 |
| | Development of Nanoscale Materials for Bacteria Removal from Surface Water | DRL | 9.98 | S.S.Ghosh | 02 |
| T. Punniyamurthy | Studies Toward C-H Activation for Carbon-Carbon and Carbon-Heteroatom Bond Formation | SERB | 38.75 | - | 2015-2018 |
| S. Paul | The Role of Aqueous Solutions of | DST | 21.38 | - | 3 years |

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|---|---|---|---|---|---|
| | Trimethylamine-N-Oxide (TMAO) on the Pressure Induced Hydrophobic Interactions and the Pressure Induced Hydrogen Bond Properties and Dynamics | | | | |
| | Counteraction of Osmolyte Trimethylamine-N-Oxide on Pressure Induced and Urea Induced Denaturation of Proteins BPTI and Rnase A: Molecular Dynamics Simulation Study | CSIR | 10.62 | - | 3 years |
| | The mechanism of bioprotective effect of trehalose through hydrophobic and hydrogen bonding interactions on peptide and polypeptide: A molecular dynamics simulation study | BRNS | 24.245 | D. Manna | 3 years |
| | Effect of osmolytes urea and trimethylamine-N-oxide on hydrophobicity and protein folding/unfolding under confinement | DST | 20.70 | - | 3 years |
| C. V. Sastri | Structure-Reactivity Correlations of High Valent Metal Intermediates Bearing Structurally Tunable Coordination Spheres | DST-SERB | 46.90 | | 2015-2018 |
| A. S. Achalkumar | Symposium Grant | DST-SERB | 1.50 | - | |
| C. K Jana | Metal and Oxidant Free Stereoselective sp3C-H Arylation: Facile Access to Optically Active Disubstituted N-heterocycles and Their Application in Synthesis | SERB | 30.90 | - | 06/2015-05/2018 |
| K. Sahu | Excited state hydrogen bonding driven photophysics in solvent mixtures- spectroscopic and theoretical approach | CSIR | 6.00 | - | 2015-2018 |
| K. Sahu | Study of nanoparticle-fluorophore interaction inside surfactant assemblies | SERB-DST | 52.50 | - | 2015-2018 |
| S. C. Pan | Asymmetric Organocatalytic Benzylic C-H Activation: Application to the synthesis of sugiol and its Derivatives with Biological Study | DST SERB | 46.00 | - | 3 years |
| K. Raidongia | Application of Nanofluidic Channels of Reconstructed Two-dimensional Nanomaterials for Chiral Resolution | SERB | 30.31 | - | 3 years |
| Krishna P. Bhabak | Enhancement of the Anti-cancer Properties of Lipids: Possible Role of Antioxidants towards Cancer | DST-INSPIRE | 34.36 | NA | 2013-2018 |
| | Design and Synthesis of Novel Fluorescent Substrates for Sphingolipid Metabolizing Enzymes | SERB (Start-up) | 22.30 | - | 3 years |
| U. Manna | Stimuli Responsive Superhydrophobic Material for Triggered Drug Release | IIT Guwahati | 5.00 | - | 2 years |
| | Physically and Chemically Durable "Bulk" Superhydrophibic Material: An Avenue for Smart Drug Delivery | DST | 31.56 | - | 3 years |

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|---|---|---|---|---|---|
| Akshai Kumar A S | Chiral and Achiral Hydrofunctionalization of Olefins Via Iron and Cobalt Catalyzed X-H (X = C and O) Activation Reactions: Access to High Value Fuels, Organic Materials and Commodity Chemicals | SERB-DST | 23.10 | - | 2016-2019 |
| S. Chatterjee | Design, Synthesis and Conformational Analysis of αγ Hybrid Peptides containing $\gamma^3/\gamma^2$ Amino Acids with Proteinogenic Side Chains | SERB-DST | 26.70 | - | 2015-2018 |

**8. Consultancy (Total No:01…)**

| Principal Investigator | Name of Project | Sponsoring Agency | Amount Sanctioned (Rs. in Lakh) | Co-Investigator | Duration |
|---|---|---|---|---|---|
| Akshai Kumar AS | Catalytic Enhancement of Aromatic Yield | Reliance India Limited | 17.70 | - | 2019-2020 |

**9. Research Publications**

**International and National Journal (PERIOD: 1 APRIL 2018 – 31 MARCH 2019)**

**Total No. of International Journal: 188**

**Total No. of National Journal: 01**

**Format for submission of Research Publications/Journals**

| Sl. No. | Authors | Paper Title | Journal Name | Year | Vol. | Issue No. (If any) | Starting Page | Ending Page |
|---|---|---|---|---|---|---|---|---|
| 1 | Singh M.P., Shankar K., Baruah J.B. | Study on the interactions of nitrophenols with bis-8-hydroxyquinolinium zinc-2,6-pyridinedicarboxylate | Inorganica Chimica Acta | 2019 | 489 | | 204 | 210 |
| 2 | Singh M.P., Baruah J.B. | Photophysical Properties of Phthalimide and Pyromellitic Diimide Tethered Imidazolium Nitrophenolate Salts | ChemistrySelect | 2019 | 4 | 1 | 10 | 16 |
| 3 | Tarai A., Baruah J.B. | Separation or combination of non-covalently linked partners provides polymorphs of: N -(aryl)-2-(propan-2-ylidene)hydrazine carbothioamides | CrystEngComm | 2019 | 21 | 9 | 1397 | 1406 |
| 4 | Tarai A., Baruah J.B. | Water-Assisted Emission Enhancement of 2-Hydroxynaphthaldoxime and Related Compounds | ChemistrySelect | 2018 | 3 | 41 | 11406 | 11413 |
| 5 | Khakhlary P., Singh M.P., Bhuyan A., Baruah J.B. | Cocrystals of Naphthalenediols with Aliphatic Amines and Their Photoluminescence Properties | ChemistrySelect | 2018 | 3 | 27 | 7983 | 7990 |
| 6 | Singh M.P., Tarai A., Baruah J.B. | Changes in Emission Properties by π-Stacking and Conformation Adjustment of an Imidazole-Tethered Naphthalimide Derivative | ChemistrySelect | 2018 | 3 | 23 | 6364 | 6373 |
| 7 | Baruah J.B. | Predominantly ligand guided non-covalently linked assemblies of inorganic complexes and guest inclusions | Journal of Chemical Sciences | 2018 | 130 | 5 | 56 | |
| 8 | Simon A.T., Dutta D., Chattopadhyay A., Ghosh S.S. | Copper Nanocluster-Doped Luminescent Hydroxyapatite Nanoparticles for Antibacterial and Antibiofilm Applications | ACS Omega | 2019 | 4 | 3 | 4697 | 4706 |
| 9 | Mandal N., Bhattacharjee M., Chattopadhyay A., Bandyopadhyay D. | Point-of-care-testing of α-amylase activity in human blood serum | Biosensors and Bioelectronics | 2019 | 124-125 | | 75 | 81 |
| 10 | Roy S., Bhandari S., Manna M., De S., Chattopadhyay A. | The nature of binding of quinolate complex on the surface of ZnS quantum dots | Physical Chemistry Chemical Physics | 2019 | 21 | 2 | 589 | 596 |

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|---|---|---|---|---|---|---|---|---|
| 11 | Goswami U., Kandimalla R., Kalita S., Chattopadhyay A., Ghosh S.S. | Polyethylene Glycol-Encapsulated Histone Deacetylase Inhibitor Drug-Composite Nanoparticles for Combination Therapy with Artesunate | ACS Omega | 2018 | 3 | 9 | 11504 | 11516 |
| 12 | Goswami U., Sahoo A.K., Chattopadhyay A., Ghosh S.S. | 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 |
| 13 | Roy S., Manna M., Chattopadhyay A. | Complex Transfer Reaction from ZnO to ZnS Quantum Dots Driven by Surface Anions | Journal of Physical Chemistry C | 2018 | 122 | 18 | 9939 | 9946 |
| 14 | Basu S., Bhandari S., Pan U.N., Paul A., Chattopadhyay A. | Crystalline nanoscale assembly of gold clusters for reversible storage and sensing of CO2: Via modulation of photoluminescence intermittency | Journal of Materials Chemistry C | 2018 | 6 | 30 | 8205 | 8211 |
| 15 | M. Das, U. Goswami, S. S. Ghosh, and A. Chattopadhyay | Bimetallic Fe-Cu-Nanocomposites on Sand-Particles for Inactivation of Clinical Isolates and Point of Use Water Filtration | ACS Applied Bio Materials | 2018 | 1 | | 2153 | 2166 |
| 16 | U. N. Pan, P. Sanpui, A. Paul, and A. Chattopadhyay | Synergistic Anticancer Potential of Artemisinin When Loaded with 8-Hydroxyquinoline-Surface Complexed-Zinc Ferrite Magnetofluorescent Nanoparticles and Albumin Composite | ACS Applied Bio Materials | 2018 | 1 | | 1229 | 1235 |
| 17 | S. K. Sailapu, D. Dutta, A. K. Sahoo, S. S. Ghosh and A. Chattopadhyay | Single Platform for Gene and Protein Expression Analyses Using Luminescent Gold Nanoclusters | ACS Omega | 2018 | 3 | | 2119 | 2129 |
| 18 | A. Dutta, U. Goswami, and A. Chattopadhyay | Probing Cancer Cells through Intracellular Aggregation-Induced Emission Kinetic Rate of Copper Nanoclusters | ACS Applied Material Interfaces | 2018 | 10 | | 19459 | 19472 |
| 19 | S. Pramanik, S. Bhandari, U. N. Pan, S. Roy and 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 | | 1800323 | |
| 20 | R. Gattu, S. Mondal, S. Ali, A. T. Khan | Iodine monobromide catalysed regioselective synthesis of 3-arylquinolines from α-aminoacetophenones and: Trans -β-nitrostyrenes | Organic and Biomolecular Chemistry | 2019 | 17 | 2 | 347 | 353 |
| 21 | A. Ghosh, R. Gattu, A. T. Khan | Synthesis of Benzothiazoles via Condensation Reaction of 2-Aminothiophenols and β-Oxodithioesters Using a Combination of PTSA and CuI as Catalyst | ChemistrySelect | 2018 | 3 | 48 | 13773 | 13776 |
| 22 | S. Bhattacharjee, R. Gattu, A. T. Khan | Triethylamine-Mediated One-Pot Synthesis of Benzo[f]chromene Derivatives | ChemistrySelect | 2018 | 3 | 17 | 4760 | 4763 |
| 23 | 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 |
| 24 | S. Ghosh, S. Pal, S. Rajamanickam , R. Shome, P. R. Mohanta, S. S. Ghosh, B. K. Patel | Access to Multifunctional AEEgens via Ru(II)-Catalyzed Quinoxaline-Directed Oxidative Annulation | ACS Omega | 2019 | 4 | 3 | 5565 | 5577 |
| 25 | A. Behera, A. Rakshit, A.K. Sahoo, B. K. Patel | One Pot Sequential Synthesis of N-[2-(Phenylsulfinyl)phenyl]acetamides: A Ring Opening Rearrangement Functionalization (RORF) | European Journal of Organic Chemistry | 2019 | 2019 | 5 | 1154 | 1165 |
| 26 | B. A. Mir, S. J. Singh, R. Kumar, B. K. Patel | tert-Butyl Nitrite Mediated Different Functionalizations of Internal Alkenes: Paths to Furoxans and Nitroalkenes | Advanced Synthesis and Catalysis | 2018 | 360 | 19 | 3801 | 3809 |
| 27 | A Behera, P. Sau, A. K. Sahoo, B. K. Patel | Cyano-Sacrificial (Arylthio)arylamination of Quinoline and Isoquinoline N-Oxides Using N-(2-(Arylthio)aryl)cyanamides | Journal of Organic Chemistry | 2018 | 83 | 18 | 11218 | 11231 |
| 28 | K. Talukdar, S. Roy, R. Bag, T. | Room Temperature Rh-Catalyzed Oxidative Tandem C-C/C-N Bond Formation of Quin-oxalines with | Organic and Biomolecular | 2019 | 17 | | 2148 | 2152 |

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|---|---|---|---|---|---|---|---|---|
| | Punniyamurthy | Alkynes: Synthesis of Substituted Heterocyclic Quaternary Ammonium Salts | Chemistry | | | | | |
| 29 | S. Banerjee, P. B. De, S. Pradhan, T. A. Shah, T. Punniyamurthy | Ru(II)-Catalysed Regioselective C-N Bond Formation of Indolines and Carbazole with Acyl Azides | European Journal of Organic Chemistry | 2019 | | 7 | 1677 | 1684 |
| 30 | T. A. Shah, P. B. De, S. Pradhan and T. Punniyamurthy | Transition-metal-catalyzed site-selective C7-functionalization of indoles: advancement and future prospects | Chemical Communications | 2019 | 55 | | 572 | 587 |
| 31 | V. Satheesh, H. K. Srivastava, S. V. Kumar, M. Sengoden and T. Punniyamurthy | Stereospecific Al-Catalysed Tandem C-N/C-Se Bond Formation of Isoselenocyanates with Aziridines: Synthesis and DFT Study | Advanced synthesis & catalysis | 2019 | 361 | 1 | 55 | 58 |
| 32 | V. Satheesh, S. V. Kumar, and T. Punniyamurthy | Expedient stereospecific Co-catalyzed tandem C-N and C-O bond formation of N-methylanilines with styrene oxides | Chemical Communications | 2018 | 54 | | 11813 | 11816 |
| 33 | P. B. De, S. Banerjee, S. Pradhan, and T. Punniyamurthy | Ru(II)-catalyzed C7-acyloxylation of indolines with carboxylic acids | Organic and Biomolecular Chemistry | 2018 | 16 | | 5889 | 5898 |
| 34 | B. K. Das, S. Pradhan and T. Punniyamurthy | Stereospecific Ring Opening and Cycloisomerization of Aziridines with Propargylamines: Synthesis of Functionalized Piperazines and Tetrahydropyrazines | Organic Letters | 2018 | 20 | | 4444 | 4448 |
| 35 | S. V. Kumar, S. Ellairaja, V. Satheesh, V. S. Vasantha, and T. Punniyamurthy | Rh-Catalyzed regioselective C-H activation and C-C bond formation: Synthesis and photophysical studies of indazolo[2,3-a]quinolines | Organic Chemistry Frontiers | 2018 | 5 | | 2630 | 2635 |
| 36 | R. Bag, and T. Punniyamurthy | K2S2O8-Mediated Dioxygenation of Aryl Alkenes Using N-Hydroxylamines and Air | ChemistrySelect | 2018 | 3 | | 6152 | 6155 |
| 37 | V. Satheesh, S. V. Kumar, M. Vijay, D. Barik, and T. Punniyamurthy | Metal-Free [3+2]-Cycloaddition of Thiiranes with Isothiocyanates, Isoselenocyanates and Carbodiimides: Synthesis of 2-Imino-Dithiolane/Thiaselenolane/Thiazolidines | Asian Journal of Organic Chemistry | 2018 | 7 | | 1583 | 1586 |
| 38 | M. Vijay, V. Satheesh, S. V. Kumar, and T. Punniyamurthy | Regiospecific Bi - Catalysed Domino C - N/C - S Bonds Formation: Synthesis of 1,4 - Thiazines / 1,4 - Thiomorpholines | Advanced synthesis & catalysis | 2018 | 360 | 16 | 3030 | 3037 |
| 39 | T. Sarkar, S. Pradhan, and T. Punniyamurthy | Ruthenium(II)-Catalyzed Positional Selective C–H Oxygenation of N-Aryl-2-pyrimidines | Journal of Organic Chemistry | 2018 | 83 | | 6444 | 6453 |
| 40 | S. Roy, S. Pradhan, and T. Punniyamurthy | Copper-mediated regioselective C–H etherification of naphthylamides with arylboronic acids using water as an oxygen source | Chemical Communications | 2018 | 54 | | 3899 | 3902 |
| 41 | P. B. De, S. Pradhan, T. A. Shah, and T. Punniyamurthy | Iodine-Mediated Intramolecular C-H Amination of Benzimidazoles: A Metal-Free Route to Dihydroimidazobenzimidazoles | Synthesis | 2018 | 50 | | 3224 | 3230 |
| 42 | P. Terangpi, S. Chakraborty and M. Ray | Improved removal of hexavalent chromium from 10 mg/L solution by new micron sized polymer clusters of aniline formaldehyde condensate, | Chemical Engineering Journal | 2018 | 350 | | 599 | 607 |
| 43 | C. Das, T. Dutta and M. Ray | Effect of Ligand and Bridge substitution on Chiral Recognition of 1-Phenylethylammonium Cation by an Anionic Binuclear Ni(II) complex, | Inorganica Chimica Acta | 2019 | 486 | | 367 | 376 |
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| 143 | S. Ghosh, B. Pramanik and D. Das | Self-Aggregation of a Naphthalene-monoimide Amphiphile and its Charge-Transfer Complexation Driven Morphogenesis in Water | ChemNanoMat | 2018 | 4 | 8 | 867 | 873 |
| 144 | B. Pramanik and D. Das | Aggregation Induced Emission or Hydrolysis by Water? The Case of Schiff Bases in Aqueous Organic Solvents | Journal Physical Chemistry C | 2018 | 122 | 6 | 3655 | 3661 |
| 145 | D. K. Sahu, T. Pal and K. Sahu | A New Phase Transfer Strategy to Convert Protein-Capped Nanomaterials into Uniform Fluorescent Nanoclusters in Reverse Micellar Phase | ChemPhysChem | 2018 | 19 | | 2153 | 2158 |
| 146 | D. Singha, D. K. Sahu, and K. Sahu | Anomalous Spectral Modulation of 4-Aminophthalimide inside Acetonitrile/AOT/n-Heptane Microemulsion: New Insights on Reverse Micelle to Bicontinuous Microemulsion Transition | Journal Physical Chemistry B | 2018 | 122 | | 6966 | 6974 |
| 147 | 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 Physical Chemistry B | 2018 | 122 | | 6610 | 6615 |
| 148 | D. K. Sahu, D. Singha, K. Sahu | Sensing of iron(III)-biomolecules by surfactant-free fluorescent copper nanoclusters | Sensing and Bio-Sensing Research | 2019 | 22 | | 100250-1 | 100250-8 |
| 149 | N. Nandi, K. Sahu | Analysis of excited state proton transfer dynamics of HPTS in methanol-water mixtures from time-resolved area-normalised emission spectrum (TRANES) | Journal of Photochemistry & Photobiololgy A | | 374 | | 138 | 144 |
| 150 | R. Maity, S. C. Sahoo and S. C. Pan | Organocatalytic Asymmetric Michael–Acyl Transfer Reaction of α-Nitroketones with 2-Hydroxybenzylidene Ketones | European Journal of Organic Chemistry | 2019 | 2019 | 12 | 2297 | 2304 |
| 151 | S. C. Sahoo, R. Maity, and S. C. Pan | DBU-Mediated Addition of α-Nitroketones to α-Cyano-enones and α,β-Unsaturated α-Ketoesters: Synthesis of Dihydrofurans and Conjugated Dienes | ACS Omega | 2019 | 4 | 2 | 2792 | 2803 |
| 152 | S. Mukhopadhyay and S. C. Pan | Organocatalytic Asymmetric Synthesis of 2,5-disubstituted Oxazolidines | Advanced synthesis & catalysis | 2019 | 361 | 5 | 1028 | 1032 |
| 153 | S. C. Sahoo and S. C. Pan | Catalytic Enantioselective Synthesis of 3,4,5-Trisubstituted Isoxazoline N-oxides and Regioselective Synthesis of 3,4,5-Trisubstituted Isoxazoles. | European Journal of Organic Chemistry | 2019 | 2019 | 6 | 1385 | 1389 |
| 154 | N. Bania, and S. C. Pan | Organocatalytic asymmetric Michael/ hemi-ketalization/acyl transfer reaction of 1,3-propanediones with (E)-2-(2-nitrovinyl)phenols. | Organic & Biomolecular Chemistry | 2019 | 17 | | 1718 | 1721 |
| 155 | S. Mukhopadhyay and S. C. Pan | Organocatalytic asymmetric synthesis of highly substituted pyrrolidines bearing a stereogenic quaternary centre at the 3-position | Organic & Biomolecular Chemistry | 2018 | 16 | | 9349 | 9353 |
| 156 | M. Balha and S. C. Pan | Organocatalytic Asymmetric Synthesis of Bridged Acetals with Spirooxindole Skeleton | The Journal of Organic Chemistry | 2018 | 83 | 23 | 14703 | 14712 |
| 157 | C. Gharui, D. Behera and S. C. Pan | Organocatalytic Asymmetric Domino Michael/Acyl Transfer Reaction Between α-Nitroketones and in situ-Generated ortho-Quinone Methides: Route to 2-(1-Arylethyl)phenols | Advanced synthesis & catalysis | 2018 | 360 | 23 | 4502 | 4508 |
| 158 | B. Mondal and S. C. Pan | Organocatalytic Asymmetric Cascade Reaction between o-Hydroxycinnamaldehydes and γ/δ-Hydroxyenones: A Route to Tetrahydrofuran/Tetrahydropyran-Fused 3,4-Dihydrocoumarins | Advanced synthesis & catalysis | 2018 | 360 | 22 | 4348 | 4353 |

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| 159 | B. Mondal, M. Balha and S. C. Pan | Organocatalytic Asymmetric Synthesis of Highly Substituted Tetrahydrofurans and Tetrahydropyrans via Double Michael Addition Strategy | Asian Journal of Chemistry | 2018 | 7 | 9 | 1788 | 1792 |
| 160 | S. Mukhopadhyay and S. C. Pan | An organocatalytic asymmetric Mannich reaction for the synthesis of 3,3-disubstituted-3,4-dihydro-2-quinolones | Organic & Biomolecular Chemistry | 2018 | 16 | | 5407 | 5411 |
| 161 | B. Mondal, R. Maity, and S. C. Pan | Highly Diastereo- and Enantioselective Synthesis of Spiro-tetrahydrofuran-pyrazolones via Organocatalytic Cascade Reaction between γ-Hydroxyenones and Unsaturated Pyrazolones | The Journal of Organic Chemistry | 2018 | 83 | 15 | 8645 | 8654 |
| 162 | K. Mondal and S. C. Pan | Organocatalytic Asymmetric Domino Michael/Acyl Transfer Reaction between γ/δ-Hydroxyenones and α-Nitroketones. | The Journal of Organic Chemistry | 2018 | 83 | 9 | 5301 | 5312 |
| 163 | N.J. Castellanos, Z. Martinez Rojas, H.A. Camargo, S. Biswas, G. Granados-Oliveros | Congo red decomposition by photocatalytic formation of hydroxyl radicals ( · OH) using titanium metal–organic frameworks | Transition Metal Chemistry | 2019 | 44 | 1 | 77 | 87 |
| 164 | B. Santra, D. Mandal , V. Gupta., P. Kalita, V. Kumar, R.S. Narayanan , A. Dey, N. Chrysochos, A. Mohammad, A. Singh, M. Zimmer, R. Dalapati, S. Biswas, C. Schulzke, V. Chandrasekhar, D. Scheschkewitz, A. Jana | Structural Diversity in Supramolecular Organization of Anionic Phosphate Monoesters: Role of Cations | ACS Omega | 2019 | 4 | 1 | 2118 | 2133 |
| 165 | A. Das, S. Das, V. Trivedi, S. Biswas | A dual functional MOF-based fluorescent sensor for intracellular phosphate and extracellular 4-nitrobenzaldehyde | Dalton Transactions | 2019 | 48 | 4 | 1332 | 1343 |
| 166 | C. Gogoi, M. Yousufuddin, S. Biswas | A new 3D luminescent Zn(ii)-organic framework containing a quinoline-2,6-dicarboxylate linker for the highly selective sensing of Fe(iii) ions | Dalton Transactions | 2019 | 48 | 5 | 1766 | 1773 |
| 167 | S. Nandi, E. Sharma, V. Trivedi, S. Biswas | Metal-Organic Framework Showing Selective and Sensitive Detection of Exogenous and Endogenous Formaldehyde | Inorganic Chemistry | 2018 | 57 | 24 | 15149 | 15157 |
| 168 | M. Sk, S. Banesh, V. Trivedi, S. Biswas | Selective and Sensitive Sensing of Hydrogen Peroxide by a Boronic Acid Functionalized Metal-Organic Framework and Its Application in Live-Cell Imaging | Inorganic Chemistry | 2018 | 57 | 23 | 14574 | 14581 |
| 169 | M. Sk, S. Nandi, R.K. Singh, V. Trivedi, S. Biswas | Selective Sensing of Peroxynitrite by Hf-Based UiO-66-B(OH) 2 Metal-Organic Framework: Applicability to Cell Imaging | Inorganic Chemistry | 2018 | 57 | 16 | 10128 | 10136 |
| 170 | C. Gogoi, S. Biswas | A new quinoline based luminescent Zr(iv) metal-organic framework for the ultrasensitive recognition of 4-nitrophenol and Fe(iii) ions | Dalton Transactions | 2018 | 47 | 41 | 14696 | 14705 |
| 171 | R. Dalapati, S. Nandi, H. Reinsch, B.K. Bhunia, B.B. Mandal, N. Stock, S. Biswas | Fluorogenic naked-eye sensing and live-cell imaging of cyanide by a hydrazine-functionalized CAU-10 metal-organic framework | CrystEngComm | 2018 | 20 | 29 | 4194 | 4201 |
| 172 | R. J. Das, K. Mahata | Synthesis, Photophysical, Electrochemical, and Halochromic Properties of peri-Naphthoindigo | Organic Letters | 2018 | 20 | | 5027 | 5031 |
| 173 | R. K. Gogoi and K. Raidongia | Intercalating cation specific self-repairing of vermiculite nanofluidic membrane | Journal of Material Chemistry A | 2018 | 6 | 44 | 21990 | 21988 |

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| | T. J. Konch, R. K. Gogoi, A. Gogoi, K. Saha, J. Deka, K. Anki Reddy and K. Raidongia | Nanofluidic transport through humic acid modified graphene oxide nanochannels | Material Chemistry Frontiers | 2018 | 2 | 9 | 1647 | 1654 |
| 174 | A. Das, S. Sengupta, J. Deka, A. M. Rather, K. Raidongia and U. Manna | Synthesis of fish scale and lotus leaf mimicking, stretchable and durable multilayers | Journal of Material Chemistry A | 2018 | 6 | 33 | 15993 | 16002 |
| 175 | K. Saha, J. Deka, S. Hens, S. Saikia and K. Raidongia | Chemical reactions under the nanofluidic confinement of reconstructed lamellar membranes | Journal of Material Chemistry A | 2018 | 6 | 45 | 22931 | 22939 |
| 176 | A. Gogoi, T. J. Konch, K. Raidongia and K. Anki Reddy | Water and salt dynamics in multilayer graphene oxide (GO) membrane: Role of lateral sheet dimensions | Journal of Membrane Science | 2018 | 563 | - | 785 | 793 |
| 177 | J. Deka, K. Saha, T. J. Konch, R. K. Gogoi, S. Saikia, P. P. Saikia, G. K Dutta and K. Raidongia | Reconstruction of Soil Components into Multifunctional Freestanding Membranes | ACS Omega | 2019 | 4 | 1 | 1292 | 1299 |
| 178 | K. Das, A. Mondal and D. Srimani | Selective Synthesis of 2-Substituted and 1,2-Disubstituted Benzimidazoles Directly from Aromatic Diamines and Alcohols Catalyzed by Molecularly Defined Nonphosphine Manganese(I)Complex | Journal of Organic Chemistry | 2018 | 83 | | 9553 | 9560 |
| 179 | K. Das, A. Mondal and D. Srimani | Phosphine Free Mn-complex catalysed dehydrogenative C-C and C-Heteroatom bond formation: a sustainable approach to synthesize quinoxaline, pyrazine, benzothiazole and quinoline derivatives | Chemical Communications | 2018 | 54 | | 10582 | 10585 |
| 180 | K. Banerjee, G. Padmavathi, D. Bhattacherjee, S. Saha, A. B.Kunnumakkara, K. P. Bhabak | Potent Anti-proliferative Activities of Organochalcogenocyanates towards Breast Cancer | Organic & Biomolecular Chemistry | 2018 | 16 | | 8769 | 8782 |
| 181 | D. Parbat, U. Manna | Fish-Scale' Mimicked Stretchable an Robust Oil-Wettability That Perform in Practically Relevant Various Physically/Chemically Severe Scenarios | Journal of Materials Chemistry A | 2018 | 6 | | 22027 | 22036 |
| 182 | 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 & Interfaces | 2018 | 10 | | 23451 | 23457 |
| 183 | A. M. Rather, A. Shome, S. Kumar, B. Bhunia, B. B. Mandal, H. K. Srivastava, U. 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 |
| 184 | A. Shome, A. M. Rather, U. Manna | Aloe Vera Mucilage Derived Highly Tolerant Underwater Superoleophobic Coating | Journal of Materials Chemistry A | 2018 | 6 | | 22465 | 22471 |
| 185 | A. M. Rather, A. Shome, B. Bhunia, A. Panuganti, B. B. Mandal, U. Manna | Simultaneous and Controlled Release of Two Different Bioactive Small Molecules from Nature Inspired Single Material | Journal of Materials Chemistry B | 2018 | 6 | | 7692 | 7702 |
| 186 | N. Jana, D. Parbat, U. Manna | Rational Use of Dual Chemical Reactivity in Single Interface for Optimizing both Superhydrophobicity and Underwater Superoleophobicity | Chemistry of Materials | 2019 | 31 | 5 | 1479 | 1484 |
| 187 | G. Pandit, K. Roy, U. Agarwal, S. Chatterjee | Self-Assembly Mechanism of a Peptide-Based Drug Delivery Vehicle | ACS Omega | 2018 | 3 | | 3143 | 3155 |
| 188 | G. Pandit, H. Ilyas, S. Ghosh, A. P. Bidkar, Sk. A. Mohid, A | Insights into the Mechanism of Antimicrobial Activity of Seven-Residue Peptides | Journal of Medicinal Chemistry | 2018 | 61 | | 7614 | 7629 |

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| | Bhunia, P. Satpati, S. Chatterjee | | | | | | | |
| 189 | K. Roy, S. Ghosh, M. Chetia, P. Satpati, S. Chatterjee | Dicyclohexylurea derivatives of amino acids as dye absorbent organogels and anion sensors | Organic & Biomolecular Chemistry | 2019 | 17 | | 3026 | 3039 |

**Conference/Workshop/Seminar/Symposia (PERIOD: 1 APRIL 2018 – 31 MARCH 2019)**

**Total No. of papers published in Conference Proceedings: ……36…….**

**Format for submission of papers published in Conference Proceedings**

| Sl. No. | Authors | Paper Title | Name of Conference/ Workshop/ Seminar/ Symposia Proceedings | Year | Starting Page | Ending Page |
|---|---|---|---|---|---|---|
| 1 | S. Roy, S. Pradhan, and T. Punniyamurthy | Copper-Mediated Regioselective Etherification of Naphthylamides with Arylboronic Acids using Water as an Oxygen Source via Directed C(γ)–H Activation | XIV-JNOST, CSIR-IICT, Hyderabad,. | Nov 22-25, 2018 | | |
| 2 | P. B. De, S. Pradhan, S. Banerjee and T. Punniyamurthy | Expedient Co(II)-Catalyzed Regioselective C7-Arylation of Indolines with Boronic Acids | FICS, IIT Guwahati, Guwahati, | Dec 6-8, 2018. | | |
| 3 | S. Roy, S. Pradhan, and T. Punniyamurthy | Copper-Mediated Directed C(γ)–H Activation and Regioselective Etherification of Naphthylamides with Arylboronic Acids | FICS, IIT Guwahati, Guwahati, | Dec 6-8, 2018. | | |
| 4 | V. Satheesh, S. V. Kumar, and T. Punniyamurthy | Cobalt-Catalyzed Sequential Ring expansion and C-O bond formation of Styrene Oxides with N-methylanilines | FICS, IIT Guwahati, Guwahati, | Dec 6-8, 2018 | | |
| 5 | B. K. Das, S. Pradhan, S. Banerjee and T. Punniyamurthy | Stereospecific Synthesis of Functionalized Piperazines and Tetrahydropyrazines via Ring Opening and Cycloisomerization of Aziridines with Propargylamines | FICS, IIT Guwahati, Guwahati, | Dec 6-8, 2018 | | |
| 6 | T. Sarkar, S. Pradhan and T. Punniyamurthy | Ruthenium(II)-Catalyzed Regioselective C-H Oxygenation of Aniline Derivatives using Removable Pyrimidine Auxiliary | FICS, IIT Guwahati, Guwahati, | Dec 6-8, 2018 | | |
| 7 | S. Banerjee, P. B. De, S. Pradhan, T. A. Shah and T. Punniyamurthy | Ru(II)-Catalyzed Site-selective C-N Bond Formation of Indolines and Carbazole with Acyl Azides | ORGANIX, Tezpur University, Tezpur, | Dec 20-21, 2018 | | |
| 8 | P. B. De, S. Pradhan, S. Banerjee and T. Punniyamurthy | Expedient Cobalt(II)-Catalyzed Site-Selective C7-Arylation of Indolines with Boronic Acids | ORGANIX, Tezpur University, Tezpur, | Dec 20-21, 2018. | | |
| 9 | S. Roy, S. Pradhan, and T. | Regioselective Etherification of Naphthylamides with | ORGANIX, Tezpur University, Tezpur, | Dec 20-21, 2018 | | |

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| | Punniyamurthy | Arylboronic Acids Via Picolinamide Directed C(γ)−H Activation | | | | |
| 10 | P. B. De, S. Pradhan, S. Banerjee and T. Punniyamurthy | Robust Cobalt(II)-Catalyzed Site-Selective C7-Arylation of Indolines with Boronic Acids | 24th CRSI National Symposium in Chemistry, CSIR-CLRI Chennai | February 8-10, 2019 | | |
| 11 | B. Mandal | Anti-amyloid peptide design using supramolecular chemistry and beyond | National conference on Synthetic and biological peptides: Structures and strategies for the development of drugs, biologics and materials | 2019 | 23 | 24 |
| 12 | | New Strategies to Tackle Alzheimer's and Type II Diabetes | National Seminar on Frontiers in Chemical Sciences (NSFCS-2018) | 2018 | 32 | 33 |
| 13 | Sourav Kalita, Sujan Kalita, A. Paul and B. Mandal | Inhibition of Amylin Aggregation by Single Point Mutation of hIAPP at Different Positions | 7th Indian Peptide Symposium (IPS) 2019 | 2019 | P-41 | P-41 |
| 14 | Sujan Kalita, Sourav Kalita and B. Mandal | Tail-to-Side Chain Cyclic Peptides synthesized via Incorporation of Dicarboxylic Acids at the N-Terminus Exhibits Inhibitory Efficacy of Alzheimer's Amyloid-β (Aβ1-40) Fibrils | 7th Indian Peptide Symposium (IPS) 2019 | 2019 | OPA-5 | OPA-5 |
| 15 | T. Mondal and B. Mandal | Development of Functional Mimic of α-secretase towards the Drug Design against Alzheimer's Disease | Frontier in Chemical Sciences (FICS 2018) | 2018 | 299 | 299 |
| 16 | | Development of Novel Scorpion Peptides towards the Drug Design against Alzheimer's Disease | 23rd CRSI National Symposium in Chemistry (CRSI NSC-23) | 2018 | 179 | 179 |
| 17 | T. Kalita and B. Mandal | Ethyl 2-Cyano-2-(2-nitrobenzenesulfonyloxyimino) acetate (o-NosylOXY) mediated Curtius rearrangement : One pot racemization free synthesis of ureas and carbamates | 23rd CRSI National Symposium in Chemistry (CRSI NSC-23) | 2018 | 182 | 182 |
| 18 | S. Kalita, A. Paul, S. Kalita and B. Mandal | Mechanistic Investigation of Arresting Amyloid Fibrils by a Synthetic Paratope -A Therapeutic Approach Against Alzheimer's Disease | 23RD CRSI National Symposium in Chemistry (CRSI-NSC-23) | 2018 | 175 | 175 |
| 19 | Sujan Kalita, Sourav Kalita and B. Mandal | Development of Cyclic Peptides as Inhibitors Against Amyloid Fibrillogenesis -A Therapeutic Approach Against Alzheimer's Disease | Frontiers in Chemical Sciences (FICS) 2018 | 2018 | 429 | 429 |
| 20 | R. S. Giri and B. Mandal | Self-assembly of Boc-Gly-Phe-Phe-OMe and Boc-Gly-Phg- | Frontiers in Chemical Sciences | 2018 | 365 | 365 |

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| | | Phe-OMe Exhibits Supramolecular Helical Architecture | [FICS -2018] | | | |
| 21 | | Supramolecular Self-association of Two Different Tripeptides: Crystallographic Insights | Regional Seminar on SCIENCE FOR SUSTAINABLE DEVELOPMENT (SSD-2019) | 2019 | 50 | 50 |
| 22 | R. Bhaskaran and M. Sarma | Investigation of Dissociative Electron Attachment Cross – Section to Some Biomolecules Fragments | Gordon Research Conference on Computational Chemistry 2018, United States of America | 2018 | | |
| 23 | M. Sarma | Implementation of Local Complex Potential based Time Dependent Wave Approach in Electron Induced Chemistry | Theoretical Chemistry Symposium (TCS) 2019, Pilani, Rajasthan | 2019 | | |
| 24 | H. K. Singh and M. Sarma | Investigation of the Interaction of the Different Groups Modulated Galantamine Drug with Acetyl Cholinesterase by Molecular Docking and Oniom Model | Theoretical Chemistry Symposium (TCS) 2019, Pilani, Rajasthan, India | 2019 | | |
| 25 | S. Das, L. M. Kundu | Poster presentation titled "Fatty Acid Based Drug Conjugate: A Potent Drug Delivery System" | Frontiers In Chemical Sciences (FICS) 2018, IITG | 2018 | | |
| 26 | H. Horo, L. M. Kundu | Poster presentation titled "Development of Photoresponsive Biopolymeric Nanoparticles Based Drug Delivery System for Antitumor Drug (ICON2018P0036)" | 2nd International Conference on Nano Science & Engineering Application – 2018, JNTU Hyderabad. | 2018 | | |
| 27 | | Poster presentation titled "Development of Chitosan Conjugated Prodrug Nano-Carrier for Photo-mediated Delivery of Antitumor Drug 5-Fluorouracil" | Research Conclave, IIT Guwahati | 2019 | | |
| 28 | G. Bhattacharjee, A. Kamra, L. M. Kundu | Poster presentation titled "Green Synthesis of a Gold Nano-carrier for Antibiofilm Drug Delivery" | Research Conclave, IIT Guwahati. | 2019 | | |
| 29 | C. Mukherjee | Transition Metal Complexes in biomimetic and catalytic applications | 9th Asian Biological Inorganic Chemistry (AsBIC) Conference | 2018 | | |
| 30 | | Molecular Structure Analyses in Understanding Physical and Chemical Properties of Transition Metal Complexes | International Conference on Structural and Inorganic Chemistry (ICSIC)-II | 2019 | | |
| 31 | D. Bhattacharyya, A. Das | Triazine containing Ru(II/III)-NNN pincer complex as catalyst for acceptorless dehydrogenation reaction | Frontiers In Chemical Sciences (FICS) 2018, IITG | 2018 | | |

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| 32 | B. Sarmah, A. Das | Bi(III)-catalyzed formal insertion of carbene and nitrene moiety into $C(sp^2)$-H and $C(sp^3)$-H bonds | Frontiers In Chemical Sciences (FICS) 2018, IITG | 2018 | | |
| 33 | K. Das, M. Dutta, B. Das, H. K. Srivastava, A. Kumar | Oral presentation titled "Highly Efficient PincerRuthenium Catalysts for Atom Transfer Radical Additions" | Research Conclave, IIT Guwahati | 2019 | | |
| 34 | M. Dutta, K. Das, H. K. Srivastava, Kumar, A | Poster presentation titled "Cyanomethylation of Aldehydes Catalyzed by Pincer-Based Nickel Complexes: An Experimental and Computational Study" | Research Conclave, IIT Guwahati | 2019 | | |
| 35 | K. Das, M. Dutta, B. Das, H. K. Srivastava, A. Kumar | Oral presentation titled "Highly Efficient PincerRuthenium Catalysts for Atom Transfer Radical Additions" | Frontiers In Chemical Sciences (FICS) 2018, IITG | 2018 | | |
| 36 | M. Dutta, K. Das, H. K. Srivastava, Kumar, A | Poster presentation titled "Cyanomethylation of Aldehydes Catalyzed by Pincer-Based Nickel Complexes: An Experimental and Computational Study" | Frontiers In Chemical Sciences (FICS) 2018, IITG | 2018 | | |

**Book, Book Chapter, etc. (PERIOD: 1 APRIL 2018 – 31 MARCH 2019)**

**Total No. of Books published: ……..**

**Total No. of Book Chapters published: ……02……..**

**Format for submission of Book**

| Sl. No. | Name of Author/s | Name of Book | Publisher | Volume and Issue No. (If any) | Total Page No. | ISBN | Year of Publication |
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**Format for submission of Book Chapter, etc.**

| Sl. No. | Name of Author/s | Name of Paper | Name of Book | Publisher | Vol. and Issue No. (If any) | Page No. | ISBN | Year and Date of Publication |
|---|---|---|---|---|---|---|---|---|
| 1 | A. S. Amrutha, A. S. Achalkumar and Quan Li | Light driven phase transitions in liquid crystals and their applications | Photoactive Functional Soft Materials | Wiley VCH Publications | | 227-287 | ISBN 978-3-527-34482-6 | 2018 |
| 2 | Kanu Das, Akshai Kumar | | Advances in Organometallic Chemistry | Science Direct | In-Press | | | 2019 |

**10. Conferences/Workshops/Symposia Attended: International, National**

| Name of Faculty | Name of Conf./Workshop | Place | Date | International /National |
|---|---|---|---|---|
| A. K Saikia | An International Conference in Chemistry | Tezpur University | December, 20- 21 2018 | International |
| S. Paul | 54th Symposium of Theoretical Chemistry (STC2018) | Halle (Saale), Germany | September 17-20, 2018 | International |
| | Theoretical Chemistry Symposium (TCS 2019) | BITS Pilani | February 13-16, 2019 | National |
| M. Sarma | Gordon Research Conference on | Mount Snow, | July | International |

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| | Computational Chemistry 2018 | West Dover, Vermont, USA | 22 - 27, 2018 | |
| | Spectroscopy and Dynamics of Molecules and Clusters (SDMC) 2019 | Koti Resorts, Shimla, India | February 21-24, 2019 | National |
| C. Mukherjee | 9th Asian Biological Inorganic Chemistry (AsBIC) Conference | Singapore | December 09-14, 2018 | International |
| | International Conference on Structural and Inorganic Chemistry (ICSIC)-II | Pune, India | March 18, 2019 | International |
| D. Das | 3rd ICSM | Jaipur | December 09-14, 2018 | International |

**11. Invited Lectures of Faculty: In India, Abroad (Please do not repeat entries from Sl. No. 10)**

| Name of Faculty | Name of Lecture | Name of Inst./Org. | Place | Date |
|---|---|---|---|---|
| A. Chattopadhyay | International Conference on Functional Nanomaterials (ICFNM-2019) | IIT BHU | BHU, Varanasi | 23 - 25 February 2019 |
| | NANOBIOTECK- 2018 | Indian Society of Nanomedicine (ISNM) | AIIMS, New Delhi | 24- 27 October 2018 |
| | International Conference on Advancement in Science & Technology (ICAST- 2018) | Visva-Bharati, Santiniketan and JSPS | Visva-Bharati, Santiniketan | 03-04 September 2018 |
| T. Punniyamurthy | Regioselective Carbon-Heteroatom Bond Formation | National Conference OMSRI, IIT Roorkee, | Roorkee | February 10, 2019 |
| | Mankind and Science | INSPIRE Lecture, Kamaraj College, | Tutucorin, | December 28, 2018. |
| | Regioselective Carbon-Heteroatom Bond Formation via C-H Activation, national symposium on Contemporary Challenges in Chemistry | North Eastern Hill University, | Shillong | November 21, 2018. |
| | Regioselective Carbon-Carbon Bond Formation via C-H Activation | Academy Lecture, Guwahati University, | Guwahati | November 8, 2018. |
| | Domino Synthesis of Medicinally Important Heterocycles | Academy Lecture, Guwahati University, | Guwahati | November 8, 2018. |
| | Regioselective Carbon-Carbon and Carbon-Heteroatom Bond Formation via C-H Activation | 29th NOST Conference, | Goa | September 6-9, 2018. |
| | Domino Strategies for the Synthesis of Medicinally Important Heterocycles | IIT Dhanbad, Refresher Course | Dhanbad | June 12, 2018. |
| | Regioselective C-H Functionalization and Carbon-Heteroatom Bonds Formation | IIT Dhanbad, Refresher Course | Dhanbad | June 12, 2018. |
| M. Ray | Chiral recognition of amino alcohols using binuclear Ni(II) complex anion | 255th American Chemical Society National Meeting, | New Orleans, USA | March 18-22, 2018. |
| A. K Saikia | Streoselective Synthesis of Heterocyclic Compounds | Tezpur University | Tezpur | Dec, 20-21 2018 |
| B. Mandal | Anti-amyloid peptide design using supramolecular chemistry and beyond | Department of Studies in Chemistry, Bangalore University, | Bangalore University, Central College Campus, Dr. B.R. Ambedkar Veedhi, | 14th-15th March, 2019 |

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| | | | Bangalore-560001 | |
| | New Strategies to Tackle Alzheimer's and Type II Diabetes | Triveni Devi Bhalotia College, (TDB College), Raniganj | Triveni Devi Bhalotia College, (TDB College), Raniganj, West Bengal | 05-06th April, 2018 |
| M. Sarma | Invited Lectures at Induction Course for Newly Recruited Post Graduate Teachers of Chemistry, Navodaya Leadership Institute, Rangia, Kamrup | Navodaya Leadership Institute, Rangia, Kamrup, India. | Rangia, Assam, India | May 22, 2018 |
| | Invited Lecture at Department of Chemistry, Bodoland University, Kokrajhar. | Department of Chemistry, Bodoland University, Kokrajhar, India | Kokrajhar, Assam, India | December 30, 2018 |
| | Invited Lecture at Theoretical Chemistry Symposium (TCS) 2019 | Birla Institute of Technology and Science, Pilani, Rajasthan, India | Pilani, Rajasthan, India | February 13-16, 2019 |
| | Invited Lecture in the Second Edition of Jacobus Henricus van't Hoff Lecture Series at Department of Chemistry, Bodoland University, Kokrajhar | Department of Chemistry, Bodoland University, Kokrajhar, India | Kokrajhar, Assam, India | March 30-31, 2019 |
| A. S. Achalkumar | Organic Chemistry | Navodaya Leadership Institute | JNV, Rangia | May 19, 2018 |
| C. K. Jana | C-H Functionalization Enabled Multicomponent Reactions (CH-MCR)) | Kaleidoscope | Goa | July, 2018 |
| D. Das | Supramolecular chemistry: The surprises continue | IISER Thiruvananthapuram | IISER Thiruvananthapuram | February, 15, 2019 |
| | A Water Insoluble Molecular Hydrogel: Protecting Proteins from Denaturation | MNIT Jaipur | MNIT Jaipur | December 12, 2018 |
| S. C. Pan | Organocatalytic asymmetric cylization reactions | IISER Kolkata | Kalyani | August 13, 2018 |
| | Organocatalytic asymmetric cylization reactions | NOST | Goa | September 07, 2018 |
| | Organocatalytic asymmetric cylization reactions | FICS | IITG | December 08, 2018 |
| | Organocatalytic asymmetric cylization reactions | ICOC | Goa | December 14, 2018 |
| D. Srimani | The Application of Metal-Ligand Cooperativity in Sustainable Catalysis | Surendranath college; "Recent Trends in Chemical Sciences" RTCS-2018 | Kolkata | October 6, 2018 |
| Akshai Kumar A S | Organometallics in Catalytic Conversions: Synthesis of High Value Fuels and Commodity Chemicals | Reliance India Limited | Baroda, Gujarat, INDIA | June 2018 |
| | The Chemistry of p-block , d-block and f-block elements" | JNV Rongia | Guwahati, Assam, INDIA | May 2018 |

**12. Visitors From Other Institutes / Universities / Organisations / Invited Lectures**

**(Only distinguished visitors invited by appropriate authority)**

| Name | Name of Inst./Univ./Org. | Purpose/ Name of Lecture | Date | Remarks |
|---|---|---|---|---|
| Prof. Oren A. | University of Cambridge | UKIERI project related | 05-08 | |

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| Scherman | | | December 2018 | |
| Prof. Samuel de Visser | Manchester University | DST-UKIERI bilateral visit | 03/01/2019 to 15/01/2019 | |
| Prof Benjamin List | Max-Planck-Institut für Kohlenforschung, Germany | Lecture related to DAAD-IIT programme | 7-11 Dec, 2018 | |
| Prof. Tavarekere K. Chandrashekar | NISER Bhubaneswar | Expanded Porphyrins: Molecules with Diverse Application. | 29 March, 2019 | Institute Lecture |
| Prof. Sudip Malik | IACS Kolkata | Polyaniline Nanostructures and its Applications | 4 April,2019 | |
| Prof. Puspendu K Das | IISc Bangalore | Thermodynamics of Protein Adsorption by Second Harmonic Light Scattering in Solution | 1 February, 2019 | |
| Dr. Jyotirmayee Dash | IACS Kolkata | Four Stranded DNA Targets to Synthesize Their Own Ligands | July 27, 2018 | |

**13. Seminars/Workshops/Conferences/Short-Term Courses Organised**

| Sl. No. | Name of Faculty (Convener/ Co-ordinator, etc.) | Name of Sem./Wor./Con. | Funded By | Date | International/ National | No. of participants |
|---|---|---|---|---|---|---|
| 1 | L. M. Kundu and M. K. Purkait | Cleaner Technologies & Waste Minimization for prevention of Industrial Pollution and four R's – Reduce, Reuse, Recycle and Recover – case studies | Central Pollution Control Board (CPCB), India | October 24-26, 2018 | National | 30 |
| 2 | Convener: A. S. Achalkumar Co-conveners: S. P. Biswas & K. P. Bhabak | Frontiers in Chemical Sciences 2018 (FICS 2018) | DST and companies | December 6-8, 2018 | International | 500 |
| 3 | Akshai Kumar A S | Research Conclave 2019 | IITG, SBI, RSc, MERCK | March 14-17, 2019 | International | 950 |

**A brief report on the major NATIONAL and INTERNATIONAL events with photographs may also be given separately in addition to the format given above.**

**14. Patents:**

**No. of Patents Applied with details ……09…….**

**No. of Patents Granted with details …….**

| Sl. No. | Name of Faculty and co researcher | Name | Date Applied/Granted | Application No. | Remarks |
|---|---|---|---|---|---|
| 1 | A. Chattopadhyay, S. K. Sailapu, D. Dutta, A. K. Sahoo, S. S. Ghosh | A device with integrated methods for reverse transcription polymerase chain reaction (RTPCR) and/or DNA/Protein array based analyses | Date of filing 08/05/2018 | International Patent filed with Application number: National phase entry initiated for China | Applied |
| 2 | A. Chattopadhyay, S. K. Sailapu, D. Dutta, A. K. Sahoo, S. S. Ghosh | A device with integrated methods for reverse transcription polymerase chain reaction (RTPCR) and/or DNA/Protein array based analyses | Date of filing 11/05/2018 | International Patent filed with Application number: National phase entry initiated for USA | Applied |
| 3 | B. Mandal and T. Mondal | Engineered Peptides and their Application in Drug Design against Alzheimer's Disease | Indian Patent filed on January 23, 2019 | 201931002772 | applied |

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|---|---|---|---|---|---|
| 4 | C. Mukherjee and M. Khannam | Hexadentate chelate-based contrast agent and a method for producing the same | Indian Patent filed on MAY 30, 2018 | 201831020332 | Applied |
| 5 | C. Mukherjee and M. Khannam | Pentadentate chelate-based contrast agent and a method for producing the same | Indian Patent filed on MAY 30, 2018 | 201831020333 | Applied |
| 6 | D. Das and N. Singha | Peptide-based water insoluble molecular hydrogel | November 16, 2018 | 201831035121 | Applied |
| 7 | U. Manna and A. M. Rather | A method for producing superhydrophobic coating on fibrous material and a product thereof | Indian Patent files on April 17, 2018 | 201831014615 | Applied |
| 8 | U. Manna, V. Nandakumar, Karthick R, K. Maji, A. Shome, A. M. Rather | Selective And Super Oil Absorbent For Remediation Of Oil Spills | Indian Patent filed on August 1, 2018 | 201841029004 | Applied |
| 9 | C. K. Jana, A. B. Kunnumakkara, Md A. Haque, B. L Sailo, G. Padmavathi | Novel carbotetracycles having anti-cancer properties and a method of synthesis thereof | October 13, 2018 | 201831038926 | Applied |

**15. Awards and honours (Only awards/honours at national/international level from reputed organisations)**

(a) Prof. T. Punniyamurthy selected as Fellow, The National Academy of Sciences, 2018.

(b) Prof. A. Paul selected as Fellow of Royal Society of Chemistry (FRSC), 2019.

(c) Dr. Bhubaneswar Mandal, selected for Overseas Associateship from DBT, Govt. of India, which allowed him to pursue part of his research in the Leeds University, UK, on type II diabetes management.

(d) Dr. M. Sarma, selected as Associate Member of the Royal Society of Chemistry (AMRSC), November 2018.

(e) Dr. L. M. Kundu, selected as Member of the Advisory Committee for the CPCB Regional Directorate North east, Shillong,

(f) Dr. U. Manna, selected as Emerging Investigators in Journal of Materials Chemistry A (RSC), 2018,

(g) Dr. U. Manna, selected as NASI-Young Scientist Platinum Jubilee Award (NASI, Allahabad, India), 2018

(h) Dr. U. Manna, selected as Associate of the IAS (Indian Academy of Science, Bangalore, India), 2018

(i) Prof. M. Ray, SERB Nominated as the Member of the subject Expert Committee -Chemical Sciences (EarlyCareerResearchAward& NationalPost-DoctoralFellowshipschemes) for 3 year, starting in October 2018

**16. Students' Achievements:**

a) Mr. Rabindranath Paul (Supervisor: Dr. S. Paul) received best poster award in FICS 2018,

b) Mr. Krishna Gopal Chattaraj (Supervisor: Dr. S. Paul) received best poster award in TCS 2019,

c) Ms. Srijita Paul (Supervisor: Dr. S. Paul) received best poster award in Research Conclave 2019 ,

d) Mr. Adil and Ms. Dibyangana (Supervisor: Dr. U. Manna) got Tertiary Prize in ISBE Bionic Innovation Competition, China,

(e) Mr. Avijit Das's (Supervisor: Dr. U. Manna) work highlighted in Science Monitor, Rajya Sabha TV,

(f) Ms. Arpita Shome's (Supervisor: Dr. U. Manna) work highlighted in The Better India, The Hindu Newspaper,

(g) Ms Arpita Shome (Supervisor: Dr. U. Manna) got Best Poster Presentation Award in FICS 2018 at IIT Guwahati

(h) Ms. Dibyangana's (Supervisor: Dr. U. Manna) work highlighted in the Hindu Newspaper, Sci Soup,

(i) Mr. K. Das, Ms. M. Dutta (Supervisor: Dr. Akshai Kumar AS, selected as *Best Oral presentation* during FICS-2018, IIT Guwahati, Dec 2018 (Title: Highly Efficient PincerRuthenium Catalysts for Atom Transfer Radical Additions,

(j) Ms. Himali Horo (Supervisor: Dr. L. M. Kundu) received best poster Presentation award in Research Conclave 2019,

(k) Mr. Kaustav Banerjee, (Supervisor: Dr. K. P. Bhabak) received best poster prize in Research Conclave-2019,

17. **Any Other (Special Mention)**

**Dr. U. Manna and group's research work has been highlighted/reported in different news papers,**

https://www.thehindu.com/sci-tech/science/a-gel-to-selectively-remove-oil-or-water/article26556540.ece

https://journosdiary.com/2019/03/17/iit-guwahati-oil water/?fbclid=IwAR3KMBSPHyGQV6ZxQwFYirISfOQ6wlM10xmbS04tKYmBV2qb79jIIuNpvVQ

https://www.thehindu.com/todays-paper/tp-features/tp-sci-tech-and-agri/iit-guwahati-uses-aloe-vera-to-remove-oil-from-water/article25350303.ece

https://www.thehindubusinessline.com/news/science/artificial-membrane-inspired-by-fish-scales-may-help-in-cleaning-oil-spills/article24013100.ece

https://www.scisoup.com/2018/05/iit-guwahati-based-researchers-have.html

http://vigyanprasar.gov.in/isw/artificial_membrane_cleaning_oil_spills_story.html?fbclid=IwAR33h9LorWeaT1gKqMGrlA5T2DRWfmFAfqZtWj8GjmVI60IqXzuw1MXpBGM

https://www.downtoearth.org.in/news/science-technology/artificial-membrane-inspired-by-fish-scales-may-help-in-cleaning-oil-spills-60672

**Dr. Bhubaneswar Mandal and group's research work has been highlighted/reported in SYNFACTS by Prof. Hisashi Yamamoto and Prof. Wataru Muramatsu, "Modified Yamaguchi Reagent Mediated Coupling Reactions" Synfacts 2019, 15(01), 0100, Published online: 14.12.2018, DOI: 10.1055/s-0037-1611429.**

18. **Faculty Members (In alphabetical order according to surname)**

| Sl. No. | Name | Name of the University/Institute/Org PhD degree received from | Designation | Area(1)s of Interest | Date of joining (new faculty members the period) |
|---|---|---|---|---|---|
| 01 | Achalkumar A.S. | Ph.D. (CSMR, Bangalore) | Associate Professor | Liquid crystals, Functional Materials, Molecular Electronics, Self Assembly, Green Chemistry | |
| 02 | Akshai Kumar A. S. | Ph.D. (IISc Bangalore) | Assistant Professor | Organometallic Chemistry, Inorganic Chemistry, Organofluorine Chemistry, Catalysis (Homogeneous and Heterogeneous), C-H and C-F activation | |
| 03 | Bag Subhendu Sekhar | Ph.D. (IIT Kharagpur) | Professor | Bioorganic Chemistry and Chemistry of Unnatural Nucleic Acid and Peptides | |
| 04 | Baruah, Jubaraj B. | Ph.D. (IISc Bangalore) | Professor | Homogeneous Catalysis, Supramolecular chemistry and | |

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|---|---|---|---|---|---|
| | | | | material design | |
| 05 | Bhabak, Krishna Pada | Ph.D. (IISc Bangalore) | Assistant Professor | Organic and Bio-organic Chemistry | |
| 06 | Biswas, Shyam Prosad | Ph.D. (Ulm University, Germany) | Associate Professor | Gas/Vapor/Liquid Adsorption and Catalytic Applications of Metal-Organic Frameworks | |
| 07 | Chattopadhyay, Arun | Ph.D. (Columbia University) | Professor | Nanoscale Science and Technology | |
| 08 | Chatterjee Sunanda | Ph.D. (IISc Bangalore) | Assistant Professor | Peptidomimetics: Synthesis, Conformation and Biological activity | |
| 09 | Das, Animesh | Ph.D. (University of Goettingen, Germany) | Assistant Professor | Organometallic chemistry and catalysis | |
| 10 | Das, Debapratim | Ph.D. (IACS, Kolkata) | Associate Professor | Supramolecular dynamic aggregates, peptides, lipids | |
| 11 | Das, Gopal | Ph.D. (IIT Kanpur) | Professor | Supramolecular, Bioorganic chemistry and Biomineralization | |
| 12 | Dutta, Sumana | Ph.D. (IACS, Kolkata) | Associate Professor | Experimental & Theoretical Physical Chemistry / Self-organization and Nonlinear dynamics | |
| 13 | Gupta, Ashish K. | Ph.D. (Univ. of California, Los Angeles) | Professor | Quantum Molecular Dynamics | |
| 14 | Iyer, Parasmeswar K. | Ph.D. (CSMCRI, Bhavnagar) | Professor | Polymer synthesis, Organic / Organometallic Chemistry & Device fabrication, Sensors | |
| 15 | Jana, Chandan K. | Ph.D. (WWU Muenster, Germany) | Associate Professor | Total Synthesis/ Natural Product Based Drug Discovery/ Synthetic Methodology/ Development of New Reaction | |
| 16 | Kancharla, Pavan K. | Ph.D. (IIT Kanpur) | Assistant Professor | Organic Chemistry, Carbohydrate Chemistry, Development of Synthetic Methodology, Organocatalysis. | |
| 17 | Khan, Abu Taleb | Ph.D. (Kalyani University, W.B) | Professor | Synthesis of Natural Products, Heterocycles and Carbohydrate Chemistry, Newer Methodologies | |
| 18 | Krishnamoorty, G. | Ph.D. (IIT Kanpur) | Professor | Organic Photochemistry & Spectroscopy | |
| 19 | Kundu, Lal Mohan | Ph.D. (LMU Munich, Germany) | Associate Professor | Nucleic Acid / Peptide Chemistry, DNA / RNA Damage and Repair, DNA Hybrid Materials | |
| 20 | Mahata Kingsuk | Ph.D (University of Siegen, Germany) | Assistant Professor | Solar Fuel from Water, Supramolecular Catalysis, Theranostic Nano-Medicine | |
| 21 | Manivannan, V. | Ph.D. (IACS, Calcutta) | Professor | Coordination Chemistry | |
| 22 | Mandal, Bhubaneswar | Ph.D. (EPFL, Lausanne, Switzerland) | Associate Professor | Peptide Chemistry and Amyloid Research | |
| 23 | Manna, Debasis | Ph.D. (University of Illinois at Chicago) | Associate Professor | Lipid-Protein Interaction, Lipid Synthesis | |
| 24 | Manna, Uttam | Ph.D. (IISc, Bangalore) | Assistant Professor | Bio-inspired Polymer Materials, Drug Delivery, Open Microfluidics, Chemical Sensor. | |
| 25 | Mondal, Biplab | Ph.D. (IIT Bombay) | Professor | Coordination and Bioinorganic Chemistry | |
| 26 | Mukherjee, | | Associate | Oxidation Catalysis / Molecular | |

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|---|---|---|---|---|---|
| | Chandan | Ph.D. (Max-Planck Institute of Bioinorganic Chemistry, Muelheim, Germany) | Professor | Magnetism / Synthesis of Single-Molecule Magnets (SMMs) / MRI Contrast agents / Water Oxidation Chemistry | |
| 27 | Pan, Subhas Chandra | Ph.D. (Max-Planck-Institut fuer Kohlenfor-schung, Muelheim an der Ruhr, Germany) | Associate Professor | Synthetic organic chemistry: Natural product synthesis with the emphasis of new synthetic methodology; development of asymmetric organocatalysis and transition metal catalysis with new catalyst design; mechanistic study | |
| 28 | Panda, Aditya N. | Ph.D. (IIT Kanpur) | Professor | Dynamics of bimolecular scattering processes | |
| 29 | Patel, Bhisma K. | Ph. D. (IIT Kanpur) | Professor | Bio-Organic Chemistry and Newer Methodologies | |
| 30 | Paul, Anumita | Ph.D. (Columbia University) | Professor | Surface Science, Catalysis, Thin Films | |
| 31 | Paul, Sandip | Ph.D. (IIT Kanpur) | Professor | Computational Biophysics and Chemistry | |
| 32 | Punniyamurthy, T. | Ph.D. (IIT Kanpur) | Professor | Synthetic Organic Chemistry | |
| 33 | Qureshi, Mohd | Ph.D. (IIT Kanpur) | Professor | Materials Chemistry | |
| 34 | Ray, Manabendra | Ph.D. (IIT Kanpur) | Professor | Bioinorganic and Coordination chemistry | |
| 35 | Raidongia, Kalyan | Ph.D. (JNCASR) | Assistant Professor | Physical Chemistry | |
| 36 | Sahu, Kalyanasis | Ph.D. (IACS, Kolkata) | Associate Professor | Time Resolved Absorption and Fluorescence Spectroscopy, SHG, MUPPETS | |
| 37 | Saikia, Anil Kr. | Ph.D. (RRL Jorhat) | Professor | New Synthetic Methodology & Natural Product Synthesis | |
| 38 | Sastri, Chivukula V | Ph.D. (University of Hyderabad) | Associate Professor | Biomimetic Chemistry and Chemical Biology | |
| 39 | Sarma, Manabendra | Ph.D. (IIT Bombay) | Associate Professor | Development of new theoretical approaches to Laser Assisted Control of Chemical Reactions, and Resonances in Electron – Molecule Scattering Reactions | |
| 40 | Srimani, Dipankar | Ph.D (IACS, Jadavpur) | Assistant Professor | Organic, Organonometallic Chemistry | |