DR. SRISTI MAJUMDAR
DST-NPDF in Nano Science and Technology (2022-ongoing)
Laboratory of Molecular Virology and Oncology,
Department of Bioengineering and Technology,
Gauhati University-781014
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MOTIVATION: An enthusiastic, adaptive and fast-learning person with a broad and acute interest in the understanding and working towards the development of biosensor for disease biomarker, I particularly enjoy collaborating with scientists from different disciplines to develop new skills and solve new challenges.

PUBLICATIONS:

1. **Sristi Majumdar**, Devipriya Gogoi, Purna K. Boruah, Ashutosh Thakur, Priyakhee Sarmah, Parishmita Gogoi, Sanjib Sarkar, Priyakshi Pachani, Prasenjit Manna, Ratul Saikia, Vikash Chaturvedi, Manjusha V. Shelke, Manash R. Das, Hexagonal Boron Nitride Quantum Dots Embedded on Layer-by-Layer Assembled Biopolymer Films for Peroxidase-Assisted Colorimetric Detection of β-galactosidase producing Pathogens, *ACS Applied Material and Interfaces (Accepted in April 2024)*

2. **Sristi Majumdar**, Krishnakshi Bhuyan, Jyotirekha Das, Nishu Sekar, Sandra Kannampuzha, Anirban Goutam Mukherjee, Reshma Murali, Uddesh Ramesh Wanjari, Aarthi Sukumar, Kaviyarasi Renu and Abilash Valsala Gopalakrishnan, Synthesis of Iron Nanoparticles from Banana Peel Extract and Its Genotoxic Effect on Human Blood Leukocyte Culture, *Int J Hum Genet*, 23, 191-200, **2023** DOI: 10.31901/24566322.2023/23.2-3.850

3. Jayanta Sarmah Boruah, **Sristi Majumdar**, Ankita Deb, Jahnabi Gogoi & Devasish Chowdhury, Trending 2D Nanomaterial Composites in Detection and Sensing of Biological Contaminants. In: 2D Nanomaterials for Energy and Environmental Sustainability. Materials Horizons: From Nature to Nanomaterials. *Springer, Singapore,* **2022** https://doi.org/10.1007/978-981-16-8538-5_8

4. **Sristi Majumdar**, Debajit Thakur and Devasish Chowdhury, DNA Carbon-Nanodots based Electrochemical Biosensor for Detection of Mutagenic Nitrosamines, *ACS Applied Biomaterial*, 3, 1796-1803, **2020**

   https://www.researchgate.net/publication/339305735_DNA_Carbon-Nanodots_based_Electrochemical_Biosensor_for_Detection_of_Mutagenic_Nitrosamines

5. Devasish Chowdhury, **Sristi Majumdar** and Debajit Thakur, Actinobacteria mediated synthesis of bio-conjugate of carbon dot with enhanced biological activity, *Applied Nanoscience,* 10, 2199–2206, **2020**

   https://www.researchgate.net/publication/340739963_Actinobacteria_mediated_synthesis_of_bio-conjugate_of_carbon_dot_with_enhanced_biological_activity

6. **Sristi Majumdar**, Tuhin Bhattacharjee, Debajit Thakur, and Devasish Chowdhury, Carbon Dot based fluorescence sensor for Retinoic acid, *Chemistry Select*, 3(2), 673-677, **2018**
   https://www.researchgate.net/publication/322531437_Carbon_Dot_based_Fluorescence_sensor_for_Retinoic_acid

7. **Sristi Majumdar**, GargeeKrishnatreya, Neelam Gogoi, Debajit Thakur and Devasish Chowdhury, Carbon-Dot Coated Alginate Beads as a Smart Stimuli Responsive Drug Delivery System, *ACS Applied Material and Interfaces*, 8(50), 34179- 34184, **2016**
   https://www.researchgate.net/publication/311821675_Carbon-Dot-Coated_Alginate_Beads_as_a_Smart_Stimuli-Responsive_Drug_Delivery_System

8. **Sristi Majumdar**, Upama Baruah, Gitanjali Majumdar, Debajit Thakur and Devasish Chowdhury, Paper carbon dot based fluorescence sensor for distinction of organic and inorganic sulphur in analytes, *RSC Advances*, 6(62) 57327- 57334, **2016** https://pubs.rsc.org/en/content/articlelanding/2016/ra/c6ra07476f

9. NishuSekar, Rajiv Sundaramoorthy, **Sristi Majumdar**, Krishinakshi Bhuyan, Jyotirekha Das, Abilash V. Gopalakrishnan. Determination of Allicin in *Allium Sativum*Using High Performance Liquid Chromatography and study of genotoxic effect on Human Leukocytes. *Asian J Pharm Clin Res*, 8(6),153-156, **2015** https://innovareacademics.in/journals/index.php/ajpcr/article/view/8022/3354

RESEARCH EXPERIENCE:

1. Position: **Senior Project Associate**
   Institution: **CSIR-NEIST**
   Supervisor: **Dr. Manash R Das**
   Project: **Nanonzyme decorated paper-based analytical devices (µPADs) for detection of pathogens and pesticides**.
   Duration: **01.04.2021-31.03.2022 (One year)**

2. Position: **Voluntary Scientist**
   Institution: **COVID-19 Testing and Research Lab, IASST**
   Job Description: **Sample Testing and Documentation**
   Duration: **01.04.2020-30.09.2020 (Six months)**

ACADEMIC QUALIFICATIONS:

- **2015-2020: Ph.D. in Biotechnology (Material Nanochemistry)**
  Institution: Institute of Advanced Study in Science and Technology (IASST)
  Thesis title: "Novel Carbon Nanomaterial for Detection, Diagnostic and Therapeutic Applications".
  Supervisor: Dr. Debajit Thakur and Dr. Devasish Chowdhury
  Thesis Defense: 08-08-2020
  Degree Received: **31-08-2020**

- **2014: M. Sc. in Biomedical Genetics (92.06%)**
  Institution: Vellore Institute of Technology (VIT)
  Specialization: Biomedical Genetics
  Thesis title: "The Virological and Molecular Based Study of Hepatitis B Virus in Guwahati Region".
  Supervisor: Dr. P. K. Suresh

- **2012: B. Sc. in Biotechnology(78.08%)**
  Institution: Cotton College, Guwahati.
  Thesis title: "Micropropagation of *Lindernia crustecea* using nodal explants and synthesis of Silver nanoparticles from the plant extract".
  Supervisor: Dr. Novonita Baruah

SKILLS KNOWN:

- **Instrumentation:** Spectroscopy (UV and PL), DLS, SEM, TEM, XRD, FTIR, XPS, Cyclic Voltammetry, AFM
- **Culture techniques:** Plant tissue culture, Leukocyte culture, Microbial Culture
- **Molecular biology:** Nucleic acid extraction and purification, AGE, SDS-PAGE, RT-PCR, Karyotyping, Buccal Micronucleus Cytome (BMCyt) assay, BSL-II work experience
- **Languages:** English, Hindi, Assamese.

ACHIEVEMENTS:

- Received DST-NPDF in Nano Science and Technology fellowship, 2022-2024.
- Received DST Travel grant for presenting my work at European Society for Biomaterials (ESB), 4-8 September, 2023 at Davos, Switzerland.
- Received DST Travel grant for presenting my work at European Society for Biomaterials (ESB), 9-13 September, 2019 at Dresden, Germany.
- Awarded with DBT-ISNM fellowship for attending Nanobioteck-2017 Conference.
- Awarded with best oral talk for "Nano-bots: engines of the future" during IASST Colloquium, 2016
- Awarded with best oral talk for "Carbon Nano-allotropes: A viable solution to all current issues?" during IASST Colloquium, 2015.
- Completed DAE-BRNS project entitled "Physico-chemical study of Carbon dots and its application as sensors"
- Awarded with best oral talk for "Iron nanoparticle synthesis from Banana" during 7th International conference on Science and Engineering, VIT University, 2013.
- Awarded Merit Scholarship for best academic performance in the academic year 2013-14 from VIT University.
- Awarded Merit Scholarship for best academic performance in the academic year 2012-13 from VIT University.

REFEREE DETAILS:

1. **Prof. Devasish Chowdhury**
   Professor, IASST
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2. **Dr. Debajit Thakur**
   Associate Professor II, IASST
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   Phone Number: +91 7399129256
3. **Dr. Subhash Medhi**
   Assistant Professor, Gauhati University
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   Phone Number: +91 70024-85869
4. **Dr. Manash R. Das**
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