



Debika Datta

Ph.D. (Biosciences and Bioengineering)
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Education

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
Ph.D.	Indian Institute of Technology Guwahati	8.17/10	2013-present
P.G. Diploma (Advanced Bioinformatics)	University of Calcutta, Kolkata	76.4 %	2012-2013
B.Tech (Biotechnology)	West Bengal University of Technology, Kolkata	8.62/10	2008-2012
Senior secondary	WBCHSE (West Bengal Council of Higher Secondary Education) Board	74 %	2006-2008
Secondary	WBBSE (West Bengal Board of Secondary Education) Board	84 %	2005-2006

Research Publications

- Aromatic-rich C-terminal region of LCI is a potent antimicrobial peptide in itself. Karabi Saikia, Vinay Kumar Belwal, **Debika Datta**, and Nitin Chaudhary. *Biochemical and Biophysical Research Communications*, 2019, DOI: 10.1016/j.bbrc.2019.09.013
- Insights to the assembly of functionally active leptospiral ClpP1P2 protease complex along with its ATPase chaperone ClpX. Anusua Dhara, Md. Hussain, **Debika Datta**, and Manish Kumar. *ACS Omega*, 2019, DOI:10.1021/acsomega.9b00399
- Lipid hydrogels from β -turn motif-connected tandem repeats of A β_{16-22} . **Debika Datta**, Vishnu Kumar, Sachin Kumar, Ramakrishnan Nagaraj, and Nitin Chaudhary. *Soft Matter*, 2019, DOI:10.1039/C9SM00343F
- Hydrogel Formation by an Aromatic Analogue of a β -Amyloid Fragment, A β_{16-22} : A Scaffold for 3D Cell Culture. **Debika Datta**, Vishnu Kumar, Sachin Kumar, Ramakrishnan Nagaraj, and Nitin Chaudhary. *ACS Omega*, 2019, DOI:10.1021/acsomega.8b02771
- Self-Assembly of β -turn motif-connected tandem repeats of A β_{16-22} and its aromatic analogs. **Debika Datta**, Adicherla Harikrishna, Ramakrishnan Nagaraj, and Nitin Chaudhary. *Peptide Science*, 2018, DOI:10.1002/pep2.24099
- Investigations into the Role of Amphiphilicity in A β_{16-22} Self-Assembly. **Debika Datta**, Richa Arya and Nitin Chaudhary. *Journal of Proteins and Proteomics*, 2014, - SPECIAL ISSUE Conference Proceedings Combined

Teaching Experience

- Bioinformatics and Computational Biology**, Teaching Assistant, Department of Biosciences and Bioengineering, IIT Guwahati.

Projects

- **Tailoring Short Self-Assembling Peptides into Biocompatible Gelators (Ph.D. Thesis)** 2013-Present
Project Mentor: Dr. Nitin Chaudhary, Associate Professor, Department of Biosciences and Bioengineering, IIT Guwahati.
 - **Expression Analysis of Intragenic miRNA and Host mRNA (Research Internship under INSA-IASc-NASI Summer Research Fellowship program)** 2013
Project Mentor: Dr. Chetan Gadgil, Scientist, Chemical Engineering Division, CSIR-National Chemical Laboratory (CSIR-NCL) Pune.
 - **Molecular Phylogenetics and Population Genetics of micro-RNA and its Target Across Species (Research Internship)** 2011
Project Mentor: Prof. T.S. Vasulu, Professor, Biological Anthropology Unit, Indian Statistical Institute (ISI) Kolkata.
 - **Radio-Protection of Turmeric Extract in Bacterial System (Research Internship)** 2010
Project Mentor: Prof. Arun Kumar Pal, Professor, Biophysics Division, Saha Institute of Nuclear Physics (SINP) Kolkata.
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Conferences Presentations

- **D. Datta, V. Kumar, S. Kumar, R. Nagaraj, and N. Chaudhary.** Amyloid peptide-based hydrogels as 3D cell-culture scaffolds. 26th American Peptide Symposium, (APS 2019), Monterey, California, USA. (Poster) 2019
 - **D. Datta, A. Harikrishna, R. Nagaraj, and N. Chaudhary.** β -turn-modulated amyloid self-assembly. 43rd Indian Biophysical Society Meeting, (IBS 2019), Indian Institute of Science Education and Research Kolkata. (Poster) 2019
 - **D. Datta, A. Harikrishna, R. Nagaraj, and N. Chaudhary.** Exploring the role of β -turn motifs on amyloid peptides assembly. National Workshop on Fluorescence and Raman Spectroscopy, (FCS 2017), Indian Institute of Technology Guwahati, India. (Poster) 2017
 - **D. Datta, and N. Chaudhary.** Self-assembly of aromatic peptidomimetics. International Conference on Advances in Biological Systems and Materials Science in Nano World, (ABSMSNW 2017), Indian Institute of Technology BHU, Varanasi, India. (Poster) 2017
 - **K. Saikia, D. Datta, A. Mohapatra and N. Chaudhary.** Peptides as potential antibiotics, functional superstructures and protein-membrane interactions. Research Conclave, (RC 2016), Indian Institute of Technology Guwahati, India. (Poster) 2016
 - **D. Datta, and N. Chaudhary.** Nucleated growth of bush-like peptide superstructures. The 13th conference of the Asian Crystallographic Association. (AsCA 2015), Science City, Kolkata. (Poster) 2015
 - **D. Datta, R. Arya and N. Chaudhary.** Investigations into the role of amphiphilicity and aromatic interactions in A β ₍₁₆₋₂₂₎ self-assembly. 6th Annual Meeting of Proteomics Society India, (PSI 2014), Indian Institute of Technology Bombay. (Poster) 2014
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Bioinformatics Skills

- **Programming Languages :** Perl, C*, Java* (*Elementary Proficiency)
- **Molecular Dynamics Simulation :** Gromacs
- **Molecular Modelling and Visualization :** Pymol, VMD, Avogadro, Chimera, Discovery Studio Ribosome.
- **Database and Sequence Analysis Tools :** NCBI, RCSB, PDB-SUM, Swiss-Prot, BLAST, FASTA, Clustal W
- **Web Development :** HTML
- **Others :** Chemscketch, Autodock

Technical Skills

- **Organic Synthesis** : Solid Phase Peptide Synthesis
 - **Biophysical Techniques** : Spectroscopy (UV-Vis, Fluorescence, IR, CD, Raman, NMR), HPLC, MALDI-TOF, ESI-MS, Microscopy (AFM, TEM, FESEM), Powder XRD, DLS DLS-microrheology.
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Positions of Responsibility

- NMR Operator (Central Instruments Facility) 2015-2018
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Awards and Achievements

- Awarded **APS Travel Award** to attend the 26th American Peptide Symposium held in Monterey, California, USA. 2019
 - Received **International Travel Support** from DST (Department of Science and Technology, India) to attend the 26th American Peptide Symposium held in Monterey, California, USA. 2019
 - Awarded **Best Poster Prize** in the Poster Presentation at 6th Annual Meeting of Proteomics Society India, held at IIT Bombay. 2014
 - Qualified Graduate Aptitude Test in Engineering (GATE) 2013 with All India Rank 23. 2013
 - Summer Research Fellowship under INSA-IASc-NASI, CSIR-National Chemical Laboratory, Pune. 2013
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Professional Affiliations

- American Peptide Society
 - Indian Biophysical Society
 - Society of Biological Chemists, India
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Extracurriculars

- Attended, **National Workshop on Advanced Probing Techniques in TEM**, held at IIT Guwahati.
 - Attended, **IuCr Workshop on X-Ray Diffraction Systems and Related Applications**, held at IIT Guwahati.
 - Attended, **Workshop on Mass Spectrometry**, held at IIT Bombay.
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(References available on request)