

Personal Information	Email: somde@iitkgp.ac.in Phone: +91-3222-284552	
Background	Associate Professor School of Bioscience, IIT Kharagpur	May 2023 - present
	Assistant Professor School of Bioscience, IIT Kharagpur	Aug 2015 – May 2023
	Postdoctoral Fellow University of British Columbia, Vancouver, Canada	Aug 2011 – Aug 2015
	Postdoctoral Fellow Cornell University, Ithaca, USA	Jan 2011 – May 2011
	PhD in Biophysics Cornell University, Ithaca, USA	July 2004 – Jan 2011
	MSc. in Industrial Chemistry IIT Kharagpur	July 2002 – May 2004
	BSc. in Industrial Chemistry IIT Kharagpur	July 1999 – May 2002
Research Interests	Biophysics; Biochemistry; Enzymology; Signal Transduction and Gene Expression; Protein engineering; Nuclear Magnetic Resonance (NMR) Spectroscopy	
Important Roles	Course co-ordinator from IIT Kharagpur for the integrated MSc – PhD course in ‘Chemical and Molecular Biology’	July 2016 – Dec 2022
	Co-Incharge of 600 MHz NMR Spectrometer at CRF	Dec 2016 - present
	Incharge of Analytical Ultra Centrifuge at CRF	Jul 2017 - present
	Co-Incharge of Isothermal Titration Calorimeter at CRF	Jan 2023 - present
	Faculty Advisor of students enrolled in the course ‘Chemical and Molecular Biology’	Jul 2016 – present
	NSS Program Officer	January 2021 - present
Projects (PI)	In vitro and in Vivo Investigation of the Role of Intrinsically Disordered Regions in the Regulation of HOX Transcription Factor Function, Science and Engineering Research Board (SERB)	Mar 2021 – Mar 2024
	Structural and Functional Studies of Mycobacterium Tuberculosis Peptidyl-tRNA Hydrolase: A Novel Drug Target of Multidrug-resistant Tuberculosis, Department of Biotechnology (DBT)	Mar 2021 – Mar 2024
	Dissecting the Roles of DNA-Binding Autoinhibition, Post-Translational Modification and Protein Partnerships in the Regulation of the HOX Transcription Factors HOXA9 and HOXB4. Science and Engineering Research Board (SERB)	Mar 2017 – Feb 2020

Investigating the Molecular Mechanisms of Functional Regulation and DNA-Binding Specificity in the HOX Transcription Factors. **ISIRD, SRIC**

Dec 2015 – Nov 2018

Projects (Co-PI)	Structural And Functional Characterization Of Mycobacterium Tuberculosis Beta-Hydroxyacyl-Acp Dehydrataes And Monooxygenases For Understanding Its Thiourea Mediated Mode Of Inhibition, Department of Biotechnology (DBT)	Sep 2021 – Sep 2024
	Elucidating Ca ²⁺ /CaM-master regulator(s) and their potential target proteins in rice aiming at abiotic stress mitigation. Science and Engineering Research Board (SERB)	Jun 2023 – Jun 2026

PhD Students

Current Students	Nikita Veronica Saibo Area of Research: Regulation of HOX transcription factors	Date of Joining: 11 Jul 2017 Co-Supervisor: Abhijit Das
	Rituparna Saha Area of Research: Structural Biochemistry	Date of Joining: 02 Jan 2018 Co-Supervisor: Amit K Das
	Aakanksha Area of Research: Structure and dynamics of EXD transcription Factor	Date of Joining: 08 Sep 2020
	Soumya Sarathi Ganguly Area of Research: Structure and dynamics of β -hydroxyacyl-ACP dehydratases	Date of Joining: 02 Aug 2021 Co-Supervisor: Amit K Das
	Srijon Sen Area of Research: Protein Engineering of Intein Enzyme	Date of Joining: 25 Jul 2022
	Puja Banerjee Area of Research: Regulation mechanism of HOX-A9 transcription facot	Date of Joining: 25 Jul 2022
	Beas Mukherjee Area of Research: Protein Engineering of DNA and RNA binding proteins	Date of Joining: 25 Jul 2022
Graduated Students	Snigdha Maiti Area of Research: Regulation of HOX transcription factors	Date of Joining: 31 Dec 2015 Date of Defense: 12 Apr 2022
	Aditya Jyoti Basak Area of Research: Structure-function Relation of Membrane Proteins/Cell Adhesion Molecules	Date of Joining: 31 Dec 2015 Date of Defense: 08 Apr 2022 Jt-Supervisor: Dibyendu Samanta
	Atashi Panda Area of Research: Protein Chemistry	Date of Joining: 31 Dec 2015 Date of Defense: 12 Dec 2022 Jt-Supervisor: Swagata Dasgupta

Bidisha Acharya
Area of Research: Regulation of HOX
transcription factors

Date of Joining: 31 Dec 2015
Date of Defense: 20 Jan 2023
Jt-Supervisor: Dibyendu
Samanta

Soumendu Boral
Area of Research: Structural and dynamic
basis of intein catalysis

Date of Joining: 02 Jan 2018
Date of Defense: 11 May 2023

Teaching

BS20001 Science of Living Systems
BS10003 Science of Living Systems
BS41004 Advances in Protein Structure and Function
BS41002 Structure Determination of Biomolecules
BS61001 NMR spectroscopy: Applications in Biology and Chemistry

Publications

From IIT Kharagpur

1. Soumendu Boral, Srijon Sen, Tushar Kushwaha, Krishna K Inampudi, **Soumya De***, **Protein Science** 2023 Accepted.
 2. Rituparna Saha, Somnath Mukherjee, Bina Singh, **Soumya De**, Manfred S. Weis, Amit K Das*, **Biochemical and Biophysical Research Communications** 2023 Accepted.
 3. Nikita Saibo, Soumendu Boral, Rituparna Saha, Amit Das, **Soumya De***, Book Chapter in Protein Folding Dynamics and Stability, Springer, 2023, 61 – 81.
 4. Atashi Panda, Kabira Sabnam, **Soumya De**, Swagata Dasgupta*, **Biochimie** 2023, 208, 151 – 159.
 5. Atashi Panda, Krishna Halder, Debkumar Debnath, **Soumya De**, Swagata Dasgupta*, **Protein & Peptide Letters** 2022, 30, 92 – 101.
 6. **Soumya De**, Alexander I Greenwood, L Andrea Acevedo, Nathan E Korson, Linda K Nicholson*, Book Chapter in **NMR Spectroscopy for Probing Functional Dynamics at Biological Interfaces**. Royal Society of Chemistry, 2022, 82 – 121.
 7. Atashi Panda, Pritam Roy, Debopriya Goon, Harinarayanan Kottala, **Soumya De**, Swagata Dasgupta*, **International Journal of Biological Macromolecules** 2022, 208, 654 – 666.
 8. Snigdha Maiti, **Soumya De***, **Journal of Magnetic Resonance Open** 2022, 10-11, 100029.
 9. Sayantani Roy, et al., **Soumya De***, **The FEBS Journal**, 2021.
 10. Nikita V. Saibo, Snigdha Maiti, Bidisha Acharya, Soumya De, Book Chapter in **Advances in Protein Molecular and Structural Biology Methods**. Elsevier, USA Editors: Tripathi, T. and Dubey, V.K. 2022 p 535 – 550.
 11. Atashi Panda, Siddhant Karhadkar, Bidisha Acharya, Anwesha Banerjee, **Soumya De**, Swagata Dasgupta*, **Biopolymers** 2021, 112, e23429.
 12. Soumendu Boral, Snigdha Maiti, Aditya J. Basak, Woonghee Lee, **Soumya De***, **Biochemistry** 2020, 59, 4711–4724.
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13. Aditya Basak, Snigdha Maiti, Anita Hansda, Dhrunajyoti Mahata, Kheerthana Duraivelan, Shankar Kundapura, Wonghee Lee, Gayatri Mukherjee*, **Soumya De***, Dibyendu Samanta*, **Journal of Molecular Biology** 2020, 432, 5938-5950.
 14. Rajkumar Kulandaisamy, Tushar Kushwaha, Vikas Kumar, Soumya De, Saroj Kumar, Santosh Kumar Upadhyay, Manoj Kumar, Krishna K Inampudi*, **International Journal of Biological Macromolecules** 2020, 159, 877-885.
 15. Bhisma N Ratha, Rajiv Kumar Kar, Zuzana Bednarikova, Zuzana Gazova, Samuel A Kotler, Sreyan Raha, **Soumya De**, Nakul Chandra Maiti, Anirban Bhunia*, **The Journal of Physical Chemistry B** 2020, 124, 1125-1136.
 16. Snigdha Maiti, Bidisha Acharya, Veda Sheersh Boorla, Bharat Manna, Amit Ghosh, **Soumya De***, **Journal of Molecular Biology** 2019, 431, 1353 – 1369.
 17. Madhurima Roy, Anirban Kundu, Anirban Bhunia, Sujoy Das Gupta, **Soumya De***, Amit Kumar Das*, **The FEBS journal** 2019, 286, 1174 – 1190.
 18. Caroline Fisher, Ross Resnick, **Soumya De**, Lucia Acevedo, Kun Ping Lu, Frank Schroeder and Linda Nicholson*, **Journal of Alzheimer's Disease** 2017, 55, 391-410.

From Postdoc, PhD and MSc

19. **Soumya De**, Mark Okon, Barbara Graves and Lawrence McIntosh, **Journal of Molecular Biology** 2016 428 (8), 1515-1530.
 20. Julien Bergeron, Liam Worrall, **Soumya De**, Nikolaos Sgourakis, Adrienne Cheung, Emilie Lameignere, Mark Okon, David Baker, Lawrence McIntosh, Natalie Strynadka, **Structure** 2015 23 (1), 167-172.
 21. **Soumya De**, Anson Chan, H Jerome Coyne III, Niraja Bhachech, Ulrike Hermsdorf, Mark Okon, Michael Murphy, Barbara Graves and Lawrence McIntosh, **Journal of Molecular Biology** 2014 426 (7), 1390-1406.
 22. Linda Zhang, **Soumya De**, Mark Okon, Lawrence McIntosh and Mark Paetzel, **Biochemistry** 2014 53 (32), 5332-5342.
 23. William Hawse, **Soumya De**, Alexander Greenwood, Linda Nicholson, Jaroslav Zajicek, Kristina Davis, Evgenii Kovrigin, Christopher Garcia, David Krantz, and Brian Baker, **The Journal of Immunology** 2014 192 (6), 2885-2891.
 24. Jerome Coyne III, **Soumya De**, Mark Okon, Sean Green, Niraja Bhachech, Barbara Graves and Lawrence McIntosh, **Journal of Molecular Biology** 2012 421 (1), 67-84.
 25. **Soumya De** and Lawrence McIntosh, "Putting a Stop to 1,d-Transpeptidases." Invited preview article for **Structure** 2012 20 (5), 753-754.
 26. **Soumya De**, Alexander Greenwood, Monique Rogals, Evgenii Kovrigin, Kun Ping Lu and Linda Nicholson, **Biochemistry** 2012 51, 8583-8596.
 27. Alex Greenwood, Monique Rogals, **Soumya De**, Kun Ping Lu, Evgenii Kovrigin, Linda K Nicholson, **Journal of Biomolecular NMR** 2011 51, 21-34.
 28. Linda Nicholson and **Soumya De**, "The twist in Crk signaling revealed." Invited 'News and Views' article for **Nature Chemical Biology** 2011 7(1), 5-6.
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29. Jennifer Dawson, Jolita Seckute, **Soumya De**, Samuel Schuler, Aaron Oswald and Linda Nicholson, **Proceedings of the National Academy of Sciences (PNAS)** 2009 106, 8543-8548.

30. Tushar K Maiti, **Soumya De**, Swagata Dasgupta and Tanmaya Pathak, **Bioorganic and Medicinal Chemistry** 2006 14(4), 1221-1228.

31. Sayan Mukherjee, **Soumya De**, Zhumur Ghosh and Swagata Dasgupta, **Biochemistry and Molecular Biology Education** 2005 33(5), 335-343.

Patent:

32. Lu et. al. **2008 US Patent** US20080058276 A1

Conferences and Symposiums

1. Invited talk at the 28th **Annual Symposium of NMR Society of India** on 26th Feb 2023 at IISER Berhampur.
 2. Invited talk at the **SN Bose National Centre for Basic Sciences (SNBNCBS)** on 19th April 2022 in Kolkata.
 3. Invited talk at the **Tata Translational Cancer Research Centre (TTCRC)** on 23rd March 2022 in Kolkata.
 4. **Invited talk** at the '2nd Indo-Japanese Bilateral meeting on Magnetic Resonance' at TIFR Hyderabad, India on the 9th to 10th of December, 2019.
 5. Selected for 12th Young Investigator Meet in Mahabalipuram, India on 14th to 16th of February, 2020.
 6. Poster presentation in the **International Conference on Intrinsically Disordered Proteins**, IISER Mohali, Punjab, India December **2017**.
 7. Poster presentation in the **23rd meeting of the International Network of Protein Engineering Centers (INPEC)**, Bose Institute, Kolkata, India November **2017**.
 8. Oral presentation in **National Magnetic Resonance Society (NMRS) Symposium**, IIT Kharagpur, Kharagpur, India February **2016**.
 9. Oral presentation in **National Magnetic Resonance Society (NMRS) Symposium**, IIT Bombay, Mumbai, India February **2013**.
 10. Poster presentation in **Gordon research Conference – Proteins**, Holderness, NH, USA June **2013**.
 11. Oral presentation in **Postdoctoral Summer Seminar Series**, The University of British Columbia, Canada May **2013**.
 12. Oral presentation in **Postdoc Research Day**, The University of British Columbia, Canada Aug **2013**.
 13. Oral presentation in **Structure2Function Seminar Series**, The University of British Columbia, Canada January **2012**.
 14. Oral presentation in 10th **Upstate NY NMR Symposium**, **2008**.
 15. Oral presentation in **Biophysics Summer Seminar Series**, Cornell University, **2009**, **2008** and **2007**.
 16. Poster presentation at the 49th **ENC**, **2008**.
 17. Poster presentation at the **Protein Society**, **2007** and **2010**.
 18. Attended **Frontiers in Biophysics**, Cornell University in **2007**, **2008** and **2009**.
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