

CV - Arnab Chakraborty

Current affiliation: Research Associate, UT Southwestern Medical Centre, Dallas, USA

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Experience and Education

Postdoctoral Research Associate UT Southwestern Medical Centre, Dallas, USA, Jan 2026 - Present

- Supervisor: Dr Arun Radhakrishnan

Graduate Student (Ph.D.) IISER Pune, India, Aug 2019 – May 2025 (*CSIR JRF-SRF fellowship*)

- Coursework CGPA 8.5/10
- Thesis titled 'Exploring the metabolism of the signaling lipid Lysophosphatidylserine in mammalian physiology and developing LC-MS based platforms' – Supervisor: Dr Siddhesh S Kamat
- Received the *Xytel Best Thesis Award in Biology (2025)* for this PhD thesis.

Associate IT consultant Capgemini, Hyderabad, India, July 2018 – July 2019

- Oracle Certified Associate, Java SE 8 programmer, Qualifying score: 94%

M.Sc. (Hons) Biological Sciences and B.E. (Hons) Chemical Engineering Birla Institute of Technology and Science (BITS) Pilani, Pilani, India, Aug 2013 – May 2018 (*KVPY fellowship*)

- Coursework CGPA 7.58/10
- Master's thesis titled 'Purification of Recombinant Pathogenesis-Related Protein 5 from Bacterial Inclusion Bodies' – Supervisor: Dr Amulya K Panda, National Institute of Immunology, New Delhi, India

Publications

Research articles (First Author articles in **Bold Red**)

- Bhosale, R., **Arnab Chakraborty**, Wong, T. Y., Masal, D., Choudhary, R., Srivastava, S., Reddy, D. S., Aldrich, C., Kamat, S. S., Mohanty, D., Gokhale, R. S. (2025) Enzymatic pathway for kupyaphore degradation in Mycobacterium tuberculosis: mechanism of metal homeostasis and turnover, **ACS Chemical Biology (2025)** 20 (7), 1492-1504.
- Wong, T. Y., Sharma, S., Mehdiratta, K., Bhosale, R. S., Nimmakayala, K., Wilharm, R. K., **Arnab Chakraborty**, Orimoyole, M., Liu, Q., Kamat, S. S., Pierre, V. C., Gokhale, R. S., Aldrich, C. C. (2025) Kupyaphores - self assembling diisocyanolipopeptide Zn(II) ionophores in Mycobacterium tuberculosis Zn(II)/Cu(I/II) homeostasis and antibacterial effects, **JACS (2025)** 147 (44), 40652-40663.
- Kagemann, C. H., Babu, S. P., Ezhumalai, K., **Arnab Chakraborty**, Raghupathy, K., Kamat, S. S., Vishwanathan, V., Huey, S. L., Narasimhan, P. B., Sinha, P., Yu, E. A., Mehta, S., Sarkar, S. (on behalf of the Regional Prospective Observational Research on Tuberculosis India Consortium) (2025) Metabolite dynamics over the course of anti-tuberculosis treatment in individuals with mild and severe tuberculosis, **PLoS Global Public Health (2025)** 5 (10), e0004925.
- Manna, Suman, Gupta, Simran, Prerona Bora, **Arnab Chakraborty**, T. Anand Kumar, Siddhesh S. Kamat and Harinath Chakrapani. "Tandem Biocatalysis to Generate Hydrogen Sulfide and Promote Endogenous Antioxidant Response" – **Angewandte Chemie International Edition (2025)** e202502917. 10.1002/anie.202502917
- Mondal, Atanu, Sandhik Nandi, Vipin Singh, **Arnab Chakraborty**, Indrakshi Banerjee, Sabyasachi Sen, Shrikanth S Gadad, Siddhartha Roy, Siddhesh S Kamat and Chandrima Das. "TCF7I2 Regulates Fatty Acid Chain Elongase HACD3 during Lipid-Induced Stress" – **Biochemistry (2025)** 10.1021/acs.biochem.4c00491

- Kapoor, Yogita, Himani Khurana, **Arnab Chakraborty**, Debatri Dutta, Anshu Priya, Archana Singh, Siddhesh Kamat, Neeraj Dhar, Thomas Pucadyil, and Vinay Nandicoori. "Wag31, a membrane tether, is crucial for lipid homeostasis in mycobacteria." **Reviewed preprint v2- eLife (2025)**: 10.7554/eLife.104268.1
- Shambhavi, Sakshi, Sudipta Mondal, **Arnab Chakraborty**, Nikita Shukla, Bapin Kumar Panda, Santhosh Kumar, Priyadarshan Kinatukara, Biswajit Pal, Siddhesh S. Kamat, and Rajan Sankaranarayanan. "Emergence of Dip2-mediated Specific DAG-based PKC Signalling Axis in Eukaryotes." **Reviewed preprint v2- eLife (2025)** : 10.7554/eLife.104011.1
- **Chakraborty, Arnab**, Devarajan, Archit, Kundan Kumar, Rohith C.S., M.S. Madhusudhan, Girish S. Ratnaparkhi, and Siddhesh S. Kamat. " Bioinformatics Analysis Identifies Sequence Determinants of Enzymatic Activity for the PHARC-Associated Lipase ABHD12" **Biochemistry (2025)** 10.1021/acs.biochem.4c00865
- **Chakraborty, Arnab**, Prajwal Punnamraju, Theja Sajeevan, Arshdeep Kaur, Ullas Kolthur-Seetharam, and Siddhesh S. Kamat. "Identification of ABHD6 as a lysophosphatidylserine lipase in the mammalian liver and kidneys." **Journal of Biological Chemistry** 301, no. 2 (2025): 108157.
- Jog, Eeshrita, Ashwin Kumar Jainarayanan, Alessandro La Ferlita, **Arnab Chakraborty**, Afiya Dalwai, Showket Yahya, Anusha Shivashankar, et al. "Inhibiting de novo lipogenesis identifies a therapeutic vulnerability in therapy-resistant colorectal cancer." **Redox Biology (2024)**: 103458.
- Talwadekar, Manasi, Subhash Khatri, Chinthapalli Balaji, **Arnab Chakraborty**, Nandini-Pal Basak, Siddhesh S. Kamat, and Ullas Kolthur-Seetharam. "Metabolic transitions regulate global protein fatty acylation." **Journal of Biological Chemistry** 300, no. 1 (2024).
- Sen, Devashish, Babukrishna Maniyadath, Shreyam Chowdhury, Arshdeep Kaur, Subhash Khatri, **Arnab Chakraborty**, Neelay Mehendale, et al. "Metabolic regulation of CTCF expression and chromatin association dictates starvation response in mice and flies." **Iscience** 26, no. 7 (2023).
- Singhvi, Priyank, Juhi Verma, Neha Panwar, Tabiya Qayoom Wani, Akansha Singh, Md Quadratullah, **Arnab Chakraborty**, Ankit Saneja, Debi P. Sarkar, and Amulya K. Panda. "Molecular attributes associated with refolding of inclusion body proteins using the freeze-thaw method." **Frontiers in Microbiology** 12 (2021): 618559.

Preprints

- Shetty, Shravani, **Arnab Chakraborty**, Shivali Dongre, Siddhesh S Kamat, and Mahendra Sonawane. " Developing epidermis acquires nutrients from the external milieu by mTOR-dependent macropinocytosis." **Biorxiv (2025)**: 10.1101/2025.03.18.644068

Review articles

- **Chakraborty, Arnab**, and Siddhesh S. Kamat. "Lysophosphatidylserine: A Signaling Lipid with Implications in Human Diseases." **Chemical Reviews** 124, no. 9 (2024): 5470-5504.

Conferences

- Presented my research at the Alumni Lecture Series, Department of Biological Sciences (ALSDBS #2), BITS Pilani, 2025
- Presented a poster at the 16th Annual Meeting of the Proteomics Society, India (**PSI**), National Chemical Laboratory, 2024
- Presented a poster at the 2nd Gordon Research Seminar and Conference (**GRC**)- Lipidomics, Lucca, Italy, 2024
- Attended the Introduction to Effective Teaching-Learning workshop held at IISER Pune, 2023.
- Presented a poster at the 92nd Annual Meet of the Society of Biological Chemists (**SBC**), BITS Pilani Goa Campus, 2023
- Presented a poster at the Asian Chemical Biology Initiative (**ACBI**) Meeting 2022, IISER Pune

Awards and Fellowships

- **Xytel Best Thesis Award**, IISER Pune (2025)
- **Infosys Travel Award**, Infosys Foundation (2024)
- **CSIR JRF fellowship**, Council of Scientific & Industrial Research - Human Resource Development Group (2019-2024) – All India Rank: 54
- **KVPY fellowship**, Indian Institute of Science, Bangalore (2013-2018) – All India Rank: 40
- **Dr APJ Abdul Kalam IGNITE award**, National Innovation Foundation, India (2012)