

## **STATEMENT OF RESEARCH ACHIEVEMENTS**

Research in Siddhesh's lab at IISER Pune focuses on studying the biological mechanisms of lipid signaling pathways in the mammalian physiology, and how dysregulation in this lipid metabolism results in human pathological conditions and diseases (e.g. neurodegenerative diseases, autoimmune diseases, metabolic syndrome, infections, inflammation etc.). Siddhesh's lab has a special interest in identifying and functionally characterizing hitherto unknown lipid signalling pathways, annotating the metabolic enzymes and cognate receptors that regulate their biology, and providing new mechanistic insights and therapeutic opportunities for treating human diseases. He has been credited for integrating diverse chemical biology approaches with cutting edge liquid chromatography coupled to mass spectrometry (LC-MS) based lipidomics and metabolomics techniques towards achieving the aforementioned research goals. This innovative multi-pronged chemical biology strategy developed by his lab marks a paradigm shift in how chemical biologists' worldwide study such poorly abundant, under-studied, yet physiologically important, signalling lipids *in vivo* in humans. Siddhesh has established a globally competitive chemical biology lab and published numerous high-quality research publications and comprehensive reviews in reputed journals (e.g. *Chemical Reviews*, *Nature Chemical Biology*, *Cell Chemical Biology*, *PNAS*, *ACS Chemical Biology*, *JBC*). In addition, he has extensively collaborated with several groups within the country, and enabled them to reveal underlying metabolome-dependent phenotypes across scales and model systems. These collaborations have yielded high quality papers in reputed journals (e.g. *PNAS*, *Elife*, *JCB*). His academic achievements have been recognised by various national and international scientific forums, which include:

1. **Editorial Board Membership, Journal of Biological Chemistry** (2023)  
(<https://apps.asbmb.org/jbcboard/Default.aspx?SearchPhrase=kamat>)
2. **Editorial Board Membership, British Journal of Pharmacology** (2022)  
(<https://bpspubs.onlinelibrary.wiley.com/hub/journal/14765381/editorial-board.html>)
3. **SwarnaJayanti Fellowship 2021** (in Life Sciences Category)  
(<https://dst.gov.in/sites/default/files/LIST%20OF%20SJF%20AWARDEES-%202020-21.pdf>)
4. **The CDRI Award for Excellence in Drug Research 2021** (Life Sciences Category)  
([https://cdri.res.in/pdf/award/CDRI\\_Awards\\_2021.pdf](https://cdri.res.in/pdf/award/CDRI_Awards_2021.pdf))
5. **EMBO Young Investigator Award 2020**  
(only Indian to receive this award in 2020 amongst 27 scientists worldwide)  
(<https://www.embo.org/press-releases/twenty-seven-life-scientists-become-embo-young-investigators/>)

6. **Merck Young Scientist Award in Biological Sciences 2019**  
(<https://www.merckgroup.com/in-en/company/merck-young-scientist-awards.html>)
7. **Indian National Science Academy (INSA) Young Scientist Medal 2019**  
(<https://www.insaindia.res.in/youngmedal.php>)
8. **UAA-ICT Distinguished Alumni Award – Young Achiever 2019**  
(<https://www.udctalumni.org.in/newsroom/news/UAA-ICT-Distinguished-Alumni-Awards-Announced-808.dz>)
9. **DST-SERB India, Early Career Research Award (2017)**
10. **DBT/Wellcome Trust India Alliance, Intermediate Fellowship (2016)**  
(<https://www.indiaalliance.org/fellow/siddhesh-s-kamat>)
11. **9<sup>th</sup> Irving S. Sigal Postdoctoral Fellowship from the American Chemical Society (2013).** This fellowship is given biannually to only 1 Ph.D. student from the chemistry departments of the top 50 US universities interested in pursuing a postdoc in chemical biology.  
(<https://www.acs.org/content/acs/en/funding-and-awards/grants/sigalfellowship/pastrecipients.html>)

In addition to Siddhesh himself, his students have also attained considerable recognitions. His first Ph.D. student Shubham Singh was awarded the prestigious HFSP Postdoctoral Fellowship (for 2021), the highly competitive Sun Pharma Science Scholars Award in Biomedical Sciences (for 2021), and the AWSAR award by DST (for 2020). Of note, Shubham Singh was the first student from any IISER to receive the Sun Pharma Science Scholars Award. His second Ph.D. student, Neelay Mehendale, was interviewed twice by ACS Chemical Biology in the “Introduction to Authors” section, as two papers from his Ph.D. research made it to the front cover of this journal. Furthermore, three of his current Ph.D. students, Karthik Shanbhag, Sonali Gupta and Ojal Saharan are recipients of the very competitive Prime Minister’s Research Fellows (PMRF) scheme in support of their Ph.D. research. Together, these reflect very positively on the training, mentorship and the research program offered by Siddhesh.