



IIT PALAKKAD

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<https://sushabhan.wixsite.com/iitpkd-chembiol>

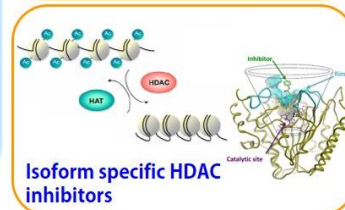
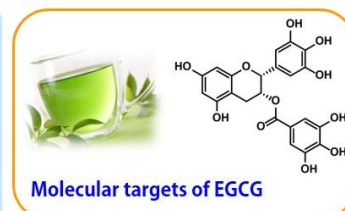
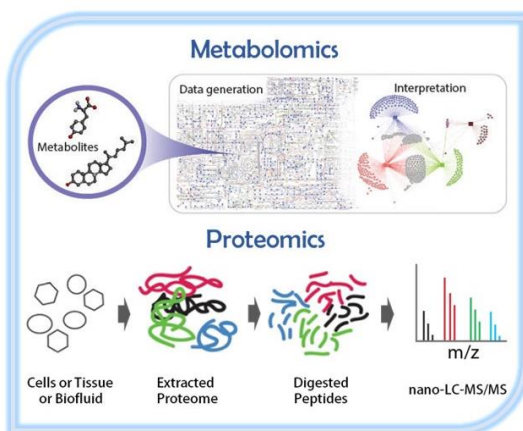
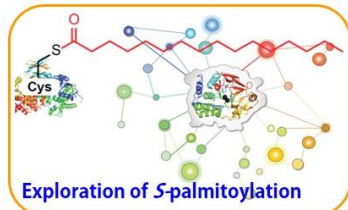
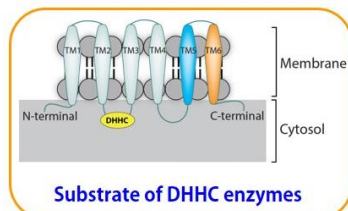


### Research Interests

- Chemical Biology
- Bio-organic Chemistry
- Drug Discovery & Delivery
- Cancer Cell Metabolism
- Metabolomics & Proteomics

### Brief Summary of Research

Our lab is interested in deciphering the role of various protein post-translational modifications (PTMs) in physiological and pathophysiological conditions using chemical biology toolbox. To date, more than 300 different types of PTMs have been identified and almost all of them are correlated with various human diseases including cardiac diseases, diabetes, cancers. Therefore, an in-depth understanding of how and when those PTMs occur is crucial not only for gaining a perception of broad biological processes but also towards developing therapeutics for many life-threatening diseases. We integrate the aspects of chemical synthesis, enzymology, metabolomics and proteomics along with cellular and animal models as our arsenal. Our long-term goal is to further capitalize on the findings to develop novel therapeutics (e.g. target-specific inhibitors) for the treatment of human diseases.



### Project

- **Early Career Research (ECR) Award** (2019-2022)  
Funding Source: DST-SERB, India

### Selected Publications

- De, I.; **Sadhukhan, S.\*** *Euro. J. Cell Biol.* **2018**, 97, 319-338. [Featured on the journal cover page.](#)
- **Sadhukhan, S.**; Liu, X.; et al. *Proc. Natl. Acad. Sci. USA.* **2016**, 113, 4320-4325. (Highlighted on many science news outlets including [Science Daily](#), [EurekAlert!](#), [Medical News Today](#), [Scicasts](#))
- **Sadhukhan, S.**; Zhang, G-F.; et al. *ACS Chem. Biol.* **2014**, 9, 1706-1711.
- **Sadhukhan, S.**; Han, Y.; et al. *Free Rad. Biol. Med.* **2014**, 70, 78-85.
- **Sadhukhan, S.**; Han, Y.; et al. *J. Am. Chem. Soc.* **2010**, 132, 6309-631.