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**Prof. Prabal Sengupta,**

Professor of Practice, Chemistry

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## Education

PhD (1999) – Indian Association for the Cultivation of Science, Jadavpur, West Bengal

Thesis titled “Chemical and Immunochemical studies on *O*-antigens from enteropathogenic *E.coli*”

MSc (1992) – Science College, Kolkata, West Bengal

BSc (1989) – Ramakrishna Mission Vivekananda Centenary College, Kolkata, West Bengal

## Key Skills

Prof. Prabal is capable of leading in the research and development field and provide technical feedback for writing proposals. He is capable of contributing in the following areas:

- Involve in the development and designing of courses and curriculum
- Introduce new courses and deliver lectures as per institutional policies
- To encourage students in innovation and entrepreneurship projects & provide necessary mentorship for these activities
- To focus on enhanced industry-academia collaborations
- Conduct workshops and seminars, deliver special lectures and training programs, jointly in collaboration with regular faculty members of the institution
- Carryout joint research project or consultancy services in collaboration with the regular faculty members within GSFC University

## Background

Joined GSFC University in August 2024

## Scholarship and Accomplishments

Prof. Prabal is a proficient researcher. His research interests are in Organic and Medicinal Chemistry, with a special focus on Drug Discovery. He is particularly interested in identifying novel drug discovery targets which are of key interest to human mankind based on their therapeutic categories and execute the ideas into reality. He has expertise and experience of developing computational and synthetic strategies for the new chemical entities in various therapeutic areas like anticancer, neurodegeneration and antiinflammation. Prof. Prabal has developed a novel

anticancer Bcr-Abl enzyme kinase inhibitor drug (Vodobatinib) for CML (Chronic Myelogenous Leukemia) in Sun Pharma which was also repurposed for PD (Parkinson's Disease) as c-Abl kinase was also found to be responsible for neurodegeneration. IND (Investigational New Drug) was filed for both these drugs and they have advanced to human clinical trials.

Prof. Prabal has a vast research experience of 22 years wherein he has served as General Manager and Team Lead at Sun Pharma Advanced Research Company Ltd, Gujarat and also as Scientist at Wockhardt Research Centre, Maharashtra. Apart from this, he has done 2 Postdoctoral Research (3 years) at Glycobiology Division, The Burnham Institute, USA and Department of Chemistry, National Taiwan University, Taiwan wherein he has done chemoenzymatic synthesis of oligosaccharides. He has completed his doctoral thesis in Carbohydrates wherein he has identified the structure of *E.coli* O-antigenic lipopolysaccharides, synthesized some oligosaccharides along with the immunochemical studies related to them. He has been awarded a Research Fellowship (JRF & SRF) from DST (Department of Science and Technology) to carry out his research work.

At GSFC University, he teaches Organic Chemistry, Research Methodology and Ethics to science students at Ph.D., M.Sc. and B.Sc. Programs. He is willing to teach students the fundamentals and basics of science and believes that teaching is the best way to conduct research in education. He is willing to mentor/guide students/faculties for their research work. Also, being involved in industry for so many years, he has lot of industry connect and he is willing to guide/help students for research internship and also for job placements.

Prof. Prabal has many published more than 20 articles/patents during his career with both academics and industry. Most of the articles are being published in Journals having good impact factor and of International repute and the patents are filed across the globe including India, USA, UK, Europe, Japan, Korea, China, etc. Apart from this, he has also contributed in a book chapter.

He has received the Young Scientist Award from Indian Science Congress Association held in Chennai (1999) for oral presentation. He has also qualified GATE-1993 for pursuing his doctoral studies.

He has presented in various places during his doctoral, postdoctoral and research areas and also attended numerous seminars/conferences/workshops.

### **Most Three Notable Publications**

1. In the Quest for Potent and Selective Malic Enzyme 3 Inhibitors for the Treatment of Pancreatic Ductal Adenocarcinoma; Gaurav Sheth, Shailesh Shah, **Prabal Sengupta**, Tushar Jarag, Sabbirhusen Chimanwala, Sairam Kalapatapu, Vaibhav Jain, Rashmi Talwar, Avinash Dhanave, Mehul Raviya, Soumya Menon, Shivangi Trivedi and Chitturi Trinadha Rao; *ACS Med. Chem. Lett.*, 2023, 14, 1, 41-50.
2. Synthesis, preliminary biological evaluation and molecular modeling of some new heterocyclic inhibitors of TACE; **Prabal Sengupta**, Chetan Puri, Hemant Chokshi, Chetana Sheth, Ajay Midha, Chitturi Trinadha Rao, Thennati Rajamannar, Prashant Murumkar and Mange Ram Yadav; *Eur. J. Med. Chem.*, 2011, 46, 5549-5555.
3. Chemoenzymatic Synthesis of Sialylated Oligosaccharides for their Evaluation in the Polysialyltransferase Assay; **Prabal Sengupta**, Anup Kumar Misra, Misa Suzuki, Minoru Fukuda and Ole Hindsgaul; *Tetrahedron Lett.*, 2003, 44, 6037-6042.

## Most Three Notable Patents

1. Preparation of quinolyethynylbenzoylbenzohydrazide derivatives and analogs for use as tyrosine kinase inhibitors; **Prabal Sengupta**, Hemant Chokshi, Chetan Puri, Sabbirhusen Chimanwala, Varun Mehta, Dipali Desai, Chitturi Trinadha Rao and Thennati Rajamannar; WO2012/098416.
2. Treatment for Parkinson's Disease; Nitin Damle, Sanjay Mandhane, Manoj Upadhya, Sameer Mehetre, Gajanan Chidrewar, **Prabal Sengupta** and Chitturi Trinadha Rao; WO2017/208267.
3. Preparation of cycloalkylidene carboxylic acids and derivatives as BTK inhibitors; Rajendrasinh Rathod, Virendra Raut, Tushar Bhatt, Pratit Savant, Kiritkumar Joshi, Tushar Jarag, Sabbirhusen Chimanwala, **Prabal Sengupta**, Kadiyala VSN Murty, Chitturi Trinadha Rao; WO2021/038540.
4. 1-Acyl-4-(4-hydroxyphenyl)piperazine compounds as malic enzyme inhibitors and their preparation, pharmaceutical compositions and use in the treatment of cancer; Gaurav Sheth, Sabbirhusen Chimanwala, Tushar Jarag, Aishwarya Hampiholi, Saikat Maity, **Prabal Sengupta**, Gulamnizami Qureshi, Umesh Chaudhari, Rajgopal Venkat, Kadiyala VSN Murty and Chitturi Trinadha Rao; WO2021/074898.

## Book

1. Isolation, purification and chemical studies on outer membrane lipopolysaccharide from enteropathogenic *E.coli* O128; **Prabal Sengupta**, Tapes Bhattacharyya and Sumanta Basu; Trends in Carbohydrate Chemistry, Surya Publications, Dehradun (ed. P. L. Soni), Vol. 2, pp. 83- 92 (1996).

## Awards

- Young Scientist Award, Chemistry Section, Indian Science Congress Association, Chennai (1999)
- National Research Fellowship (GATE), Indian Institute of Technology (IIT) 1993

## Presentations

- **Prabal Sengupta**, Tapes Bhattacharyya and Sumanta Basu, "Isolation, purification and chemical studies on outer membrane lipopolysaccharide from enteropathogenic *E.coli* O128", Xth national Carbohydrate Conference, Anand, Gujarat, 8-9 November, 1995.
- **Prabal Sengupta**, Sumita Sarbajna and Sumanta Basu: Synthesis of some disaccharides related to the O-specific side chains from *E.coli* O126 and O128 lipopolysaccharides", XIIth National Carbohydrate Conference, Lucknow, 20-21 November, 1997.
- **Prabal Sengupta**, "Structural and Immunochemical studies on O-antigen from *E.coli* O128 lipopolysaccharide", 86th Indian Science Congress Association, Chennai, 3-7 January, 1999.
- **Prabal Sengupta**, Advances in AI based tools for Drug Discovery and Development", Faculty of Pharmacy, The Maharaja Sayajirao University of Baroda, Vadodara, 2-8 January, 2023.

## **Training/Conferences/Workshop Attended**

- Attended Workshop entitled “Drug Discovery: Recent Trends”, PERD Centre, Ahmedabad, 18-19 August, 2006.
- Attended Seminar entitled “Frontiers in CNS & Oncology Medicinal Chemistry”, University of Siena, Italy, 7-9 October, 2007.
- Attended Workshop entitled “Process Chemistry in the Pharmaceutical Industry: Challenges in an everchanging climate, Sun Pharma Advanced Research Company Ltd., Vadodara, 18-19 August, 2008.
- Attended Seminar entitled “Current Trends in Antibody Drug Conjugates”, Sheraton Bangalore Hotel at Brigade Gateway, Bangalore, 2-3 March, 2015.
- Attended Workshop entitled “2nd Annual Elemental and Genotoxic Impurities”, The Radisson Hitec, Hyderabad, 2-3 August, 2018.
- Attended Training program entitled “OECD Principles of Good Laboratory Practices (GLP)”, Sun Pharma Advanced Research Company Ltd., Vadodara, 14-15 February, 2018.
- Attended Training entitled “Crucial Conversations”, Sun Pharma, Mumbai, 10-11 February, 2020.
- Attended Conference entitled “International Conference on Drug Discovery”, BITS-Pilani, Hyderabad, 29 February-2 March, 2020.
- Attended Conference entitled “International Conference on Drug Discovery”, BITS-Pilani, Goa, 10-11 November, 2022.