



Pracheta Sengupta

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ABOUT ME

I want to seek a challenging and rewarding career at a reputed and eminent educational organization as a researcher and teacher. I am confident, honest, energetic, flexible and hardworking. I am creative and able to handle multiple tasks.

WORK EXPERIENCE

Post Doctorate Research Associate

Indian Institute of Science Education and research, Kolkata (IISER-K) [17/01/2022 – Current]

Address: Campus Road, Mohanpur, West Bengal, 741246 Kolkata (India) - <https://www.iiserkol.ac.in/>

City: Kolkata

Country: India

Name of unit or department: Department of Biological Science - **Business or sector:** Education

Currently working under Prof. Jaysri Das Sarma on neuroinflammation in murine Beta - Coronavirus infection

Funding Agency: SERB Power Research Grant

Assistant Professor

School of Pharmacy, TechnoIndia University [01/05/2021 – 14/01/2022]

City: KOLKATA

Country: India

I am involved in the teaching of various B. Pharm and D. Pharm course Human anatomy and Physiology, Pharmacology and Pathophysiology through online mode.

Research Scholar

Birla Institute of Technology and Science, Pilani (BITS Pilani), Pilani campus [17/11/2017 – 31/12/2020]

City: Pilani

Country: India

Project Title: Anti-obesity composition from selected Indian Medicinal Plants

Funding: BITS Pilani, Institute fellowship-2017-2020

Project Description: The development of botanical synergistic compositions from selected medicinal plants were tested against Pancreatic lipase (PL). Identification and isolation of marker compounds that were further used to develop an HPLC method of the compositions. The final compositions were tested on High-fat diet-induced obesity in mice (*Swiss albino*). Further, the major phyto-compounds were isolated from these compositions and functional interaction studies of these isolated phyto-compounds were performed using *in vitro*, *in silico* and fluorescence studies.

This is also a part of my Ph.D. thesis work. Submitted my thesis in April 2021

Junior Research fellow

Birla Institute of Technology and Science, Pilani (BITS Pilani), Pilani campus [20/01/2016 – 14/08/2017]

City: Pilani

Country: India

Project Title: Development of Botanical Based Novel Formulation with Mosquito Larvicidal Action for Indian Population

Funding: DST-SY/ST-2015-2017

Project Description: Botanical extracts (hexane, methanol and water) from selected plants were prepared and tested for mosquito larvicidal activity for *Aedes aegypti*, *Anopheles stephensi* and *Culex quinquefasciatus*. Out of the selected plant extracts, three extracts were selected based on the mechanism by which it can damage larval content. *Piper nigrum* hexane extract (PNH), *Camellia sinensis* water extract (CSA) and *Moringa oleifera* water extract (MOA) were taken into consideration due to their acetylcholine esterase, chitinase and tyrosine kinase inhibitory potential, that was enough to damage the larvae.

EDUCATION AND TRAINING

PhD

Birla Institute of Technology and Science, Pilani (BITS Pilani) [15/01/2016 – 03/08/2021]

Address: FD3, BITS Pilani Vidyavihar, Pilani, Jhunjhunu, 333031 Pilani (India)

<https://www.bits-pilani.ac.in/>

Field(s) of study: Pharmacy

Thesis: Anti-obesity composition from selected Indian Medicinal Plants

The development of botanical synergistic compositions from selected medicinal plants were tested against Pancreatic lipase (PL). Identification and isolation of marker compounds that were further used to develop an HPLC method of the compositions. The final compositions were tested on High-fat diet-induced obesity in mice (*Swiss albino*)/

Skills covered:

- Ø Enzyme kinetics
- Ø Isolation of compounds from plant source using Column chromatography and Preparative-HPLC
- Ø Characterisation of compounds from plant source using NMR-spectroscopy
- Ø Method development and validation of compounds/extracts using HPLC, LCMS and HPTLC
- Ø Separation and Identification of proteins using SDS-PAGE Electrophoresis
- Ø Protein-drug interaction using fluorescence spectroscopy and CD-spectroscopy
- Ø *In silico* studies using Glide (Schrodinger) and Molegro Virtual Docker (MVD)
- Ø Molecular dynamics using *GROMACS* and *Desmond*.
- Ø Expertise in QBD

M. Pharmacy (Pharmacology)

K.B. Institute of Pharmaceutical Education and Research [13/08/2013 – 17/06/2015]

Address: GH6 Pujya Mota Cir, Sector 23, 382023 Gandhinagar (India)

<https://kbiper.ac.in/>

Field(s) of study: Pharmacology

Final grade : 70.70%

Thesis: Screening of Novel Compounds for Anti-Cancer Activity on different cell lines

Project Description: Three novel compounds are screened on A549 and Hep G2 cell lines and combination of these drugs with isolated *E. coli* DNA as TLR-9 agonist and Celecoxib as COX-2 Inhibitor.

Skills covered:

- Ø *In vitro* experiments on cell lines (primary and secondary cultures)
- Ø Microbial techniques & Isolation of DNA
- Ø Animal handling & Preclinical Studies
- Ø Separation and Identification of DNA using Gel Electrophoresis

B. Pharmacy

NSHM College of Pharmaceutical Technology [01/08/2008 – 26/07/2012]

Address: 124, Basanta Lal Saha Rd, Buroshibtalla, Behala, 700053 Kolkata (India)

<http://www.nshm.com/>

Field(s) of study: Pharmacy

Final grade : 8.41

LANGUAGE SKILLS

Mother tongue(s): **Bengali**

Other language(s):

English

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

Hindi

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

DIGITAL SKILLS

Microsoft Office / Microsoft Word / Microsoft Excel / Microsoft Powerpoint / Zoom / Outlook / Skype / LinkedIn / Instagram / Facebook / Google Docs / Organizational and planning skills / Twitter / Written and Verbal skills / Good listener and communicator / Internet user / Motivated / Team-work oriented / Decision-making

PUBLICATIONS

Evaluation of apoptosis and autophagy inducing potential of *Berberis aristata*, *Azadirachta indica*, and their synergistic combinations in parental and resistant human osteosarcoma cells

[2017]

<https://pubmed.ncbi.nlm.nih.gov/29312880/>

DOI: [10.3389/fonc.2017.00296](https://doi.org/10.3389/fonc.2017.00296)

Development and validation of a new HPTLC method for quantification of conophylline in *Tabernaemontana divaricata* samples obtained from different seasons and extraction techniques: Insights into variation of pancreatic lipase inhibitory activity.

[2018]

<https://www.sciencedirect.com/science/article/abs/pii/S0926669017307689>

DOI: <https://doi.org/10.1016/j.indcrop.2017.11.018>

Optimization of an extraction conditions for *Rumex nepalensis* anthraquinones and its correlation with Pancreatic Lipase inhibitory activity.

[2020]

<https://www.sciencedirect.com/science/article/abs/pii/S0889157520301368>

DOI: <https://doi.org/10.1016/j.jfca.2020.103575>

Synthesis, molecular modelling, in vitro and in vivo evaluation of conophylline inspired novel benzyloxy substituted Indole glyoxylamides as potent pancreatic lipase inhibitors,

[2021]

<https://www.tandfonline.com/doi/abs/10.1080/07391102.2021.1930168?journalCode=tbsd20>

DOI: <https://doi.org/10.1080/07391102.2021.1930168>

Mechanistically acting anti-obesity compositions/formulations of natural origin: a patent review (2010-2021)

[2021]

<https://www.tandfonline.com/doi/abs/10.1080/13543776.2021.1954161?journalCode=ietp20>

DOI: <https://doi.org/10.1080/13543776.2021.1954161>

PATENTS

Larvicidal formulation and a process for the preparation thereof

[2019 – Current]

TEMP/E- 1/4259/2019-DEL

Indolyl Oxo acetamide Analogues as potent Pancreatic Lipase Inhibitors

[2020 – Current]

TEMP/E-1/1079/2020-DEL

Pharmaceutical composition for treating obesity

[2020 – Current]

TEMP/E-1/27012/2020-DEL

Composition(s) for Inhibiting Pancreatic Lipase

[2021 – Current]

202011024478

Pharmaceutical Compositions for Treating Obesity

[2021 – Current]

202011001052

CONFERENCES AND SEMINARS

Screening of Novel Compounds for Anti-Cancer Activity on different cell lines

[Indian Pharmacological Society, 2015, 17/12/2015 – 20/12/2015]

Oral presentation

Development and Optimization of Anti-obesity Compositions from Indian Medicinal Plants using 32 factorial design

[Drug Discovery from Natural Products and Traditional Medicines, Chandigarh, 23/11/2018 – 25/11/2018]

Poster presentation

HONOURS AND AWARDS

Graduate Pharmacy Aptitude Test

AICTE [31/05/2013]

ALL INDIA RANK- 1533

Total Score - 500

Score secured - 175

Maneklal M Award

Kadi Sarwa Vishwavidyalaya [25/01/2014]

Received Scholarship amount of Rs. 34000/-

HOBBIES AND INTERESTS

Reading novels

Singing

Painting

RECOMMENDATIONS

Associate Professor

Name: Dr. Atish T. Paul

Phone number: (+91) 9649202109

Email: atish.paul@pilani.bits-pilani.ac.in

Dr. Paul Atish Tulshiram is currently working as Assistant Professor in the Department of Pharmacy at Birla Institute of Technology and Science, Pilani. He completed his Bachelor of Pharmacy from University of Pune (Maharashtra). He pursued M.S. (Pharmaceutical Sciences) and Ph.D. in Natural Products from National Institute of Pharmaceutical Education and Research (NIPER, S.A.S Nagar, Punjab). After completion of his doctorate, he joined the research group of Prof. Ikhlas Khan as a Postdoctoral Research Associate at the National Center for Natural Product Research (University of Mississippi, USA).

His current research interest is identification of pancreatic lipase inhibitory natural products and synthesis of their inspired analogues for obesity management. He has several research grants from agencies such as DST-SERB, DST (SEED), DBT etc. and has completed few research projects. He has published more than 30 research articles in reputed international journals and has also contributed 24 official monographs on polyherbal formulations in The Ayurvedic Pharmacopoeia of India. He has supervised 2 PhD students and currently 7 students are pursuing Ph. D under his guidance. He is a reviewer for various journals of reputed publishers such as Elsevier, ACS, Wiley, Bentham, , etc. and also for funding agencies such as DST SERB, South African Medical Research Council, etc.

Associate Professor

Name: Dr. Rajdeep Chowdhury

Phone number: (+91) 9680364105

Email: rajdeep.chowdhury@pilani.bits-pilani.ac.in

Dr. Chowdhury completed his Master degree from Calcutta University (2001), and PhD (CSIR-NET 2003) from Jadavpur University (2009). He then joined Massachusetts Institute of Technology (MIT), USA, Department of Bio-engineering, as a post doctoral researcher in 2009. At Wogan lab, MIT he studied the myriad set of genetic events following Nitric Oxide (NO) exposure; his project extended from understanding the effects of NO-induced post-translational modifications to its cancer promoting effect and also its role in cell death mechanisms like, Autophagy. In Oct 2012 he joined BITS Pilani as an Assistant Professor in Dept of Bio-Sciences. At BITS Pilani he is primarily involved in understanding the molecular signature of cancer cells surviving drug stress.

Professor

Name: Dr. Gaurang B. Shah

Phone number: (+91) 9824406772

Email: gaurangbs66@gmail.com

Dr. Shah joined L.M.College of Pharmacy in June 2016. Earlier he worked at KBIPER right from its genesis in August 1995 as a lecturer and progressed to the level of Principal of the institute. He has academic experience of over 25 years. Along with the teaching-learning and administrative responsibilities, he has a keen interest in research. He has guided more than 50 graduate and 8 Ph.D. students in their work. He has executed more than 50 acute, subacute toxicity, dermal and ocular industrial studies of drug formulations for national and international regulatory submissions. He has also conducted 12 industry-sponsored pharmacodynamic studies of drug formulations in the area of CNS, CVS, hematological and respiratory diseases. He has undertaken special training in animal handling in bioresearch at IISc, Bangalore, and has also been trained on good clinical practices and ethics in clinical and animal research. Presently he is a member of the board of studies at various universities. He has been invited as a speaker at various conferences and workshops. He has also developed facilities for *in vitro* animal cell culture studies at KBIPER and has actively worked in the discovery of new anti-cancer agents from natural sources such as herbals and micro-organisms. He has been a consultant to various pharmaceutical industries and has supported their research-based development projects.