IVY BHATTACHARYA

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RESEARCH INTERESTS

Affective judgment and decision-making processes in the cognition of visual and literary art

EDUCATION AND RESEARCH TRAINING

- Research Assistant — August, 2019 – present
  Department of Mathematics, IIT Bombay

  Project: Control of Attention During Changing Reading Direction for a Single Word – The Case of Reading Numerals in Urdu

  - Designed experiments to discern the differences between bi-directional and unidirectional reading on the control of attention using EEG
  - Currently recording fixation durations during reading of Urdu sentences containing numerals

  Advisor: Prof Azizuddin Khan (Psychophysiology Laboratory)

- Master of Technology (M. Tech.) Biomedical Engineering — July, 2017 – July, 2019
  Department of Biosciences and Bioengineering, IIT Bombay — GPA: 8.89/10.00
  (Research Component: 9.48/10.00)

  Master's Thesis: Bhattacharya, I. (2019) *Probing Cytoskeletal Changes in Neuronal Stem Cells due to Glucose Dysregulation.* (Master of Technology). Indian Institute of Technology Bombay, Powai. Mumbai. India. (archived) (presentation)

  - Conducted a literature review of cellular manifestations of diabetic neuropathy and formulated a project at the intersection of cellular biophysics and neuroscience based on identified gaps
  - Planned and executed experiments involving mammalian cell culture, differentiation and gel preparation
  - Performed trypsin deadhesion and live cell imaging for cellular contractility studies, Atomic Force Microscopy (AFM) for cellular stiffness studies
  - Quantified intracellular activated myosin with pMLC staining to find underlying molecular mechanisms behind observed cellular dynamics

  Advisor: Prof Shamik Sen (Cellular Biophysics Laboratory)

- Bachelor of Technology (B. Tech.) Biotechnology — June, 2013 – May, 2017
  School of Bio Sciences and Technology, VIT University, Vellore — GPA: 7.49/10.00
  (Research Component: 10.00/10.00)

  Bachelor's Thesis: Quantification of Trace Elements in Prostasomes, and its Correlation with Sperm Motility and Viability in Fertile and Infertile Human Male Smokers
  Advisors: Prof T B Sridharan, Prof Ramesh Pathy M.

- Undergraduate Intern Dec, 2015 – Jan, 2016
  Intas Biopharmaceuticals, Ahmedabad

  - R & D: Production of protein: cloning heavy and light chain genes of monoclonal antibody (p29), transfection to CHO –S cells and screening by the DHFR selection system, followed by limiting dilution cloning
  - Quality Control: 360-degree performance appraisal of the quality control unit, with inputs to enhance efficiency

ACADEMIC HONORS

- St. Gallen Wings of Excellence – Leader of Tomorrow Award and invited essayist, Beyond the End of Work – 48th St. Gallen Symposium, University of St. Gallen, Switzerland, 2 – 5 May, 2018

- Undergraduate Oral Presentation Award for: **Bhattacharya I.**, Goswami C., Sen D. *Role of Delta Opioids in the Treatment of Parkinson's Disorder*, presented at XIII International Conference of Science, Engineering and Technology, VIT Vellore, May 2 – 3, 2016

TEACHING EXPERIENCE

- Ministry of Human Resource Development (MHRD) Graduate Teaching Assistantship, IIT Bombay, for the course: BB101 – Biology for Engineers, 2017 – 2019

PEER-REVIEWED PUBLICATION

- Singh, D., Bharti, D., **Bhattacharya, I.**, & Devi, S. C. (2018). *Epidemiological Survey of Subjects in the age group of 18 to 24 Years for Failed Secondary Response to Varicella Zoster Virus (VZV).* Research Journal of Pharmacy and Technology, 11(7), 2817-2820.

RESEARCH SKILLS

- Experimental skills: EEG, EMG, Eye-tracking, mammalian cell culture, microscopy (fluorescence, confocal, SEM, TEM, AFM), spectroscopy (UV-Vis, fluorescence, AAS), genetic engineering tools (DNA isolation, cloning and expression, electrophoresis, PCR, transformation, SDS PAGE), basic biochemical and biophysical assays, HPLC, fabrication of microfluidic devices using PDMS

- Programming: C/C++, Python, MATLAB, LabView

- Software: BESA Research, BESA Statistics, ImageJ, GraphPad Prism, OriginLab, SolidWorks

OTHER AWARDS & EXPERIENCE

- Editorial Board Member, Insight, the official student media body of IIT Bombay, 2018 – 2019 (flagship edition)

- Student Chair, Gender Sensitization Series, Gender Cell, IIT Bombay, Mar, 2018 – Mar, 2019

- Invited author, Echoes 2.0, the annual literary magazine, IITB Litzkreig, Mar, 2019

- Indian Institute of Science Center for Biosystems Science and Engineering BioEngineering Summer Training Fellowship, 2018

- Invited essayist, TeamWork Arts Pvt. Ltd., ZEE Jaipur Literature Festival (JLF), January, 2018
- Biotech Innovation Ignition Scholar**,** Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI), funded by National Innovation Foundation (NIF), Department of Science and Technology (DST), Govt. of India, Dec, 9 – 29, 2017
- Co-founder, Spartans Association of Youth, a non-profit organization targeted at increasing the literacy rate in southern India, 2017
- Finalist, National Youth Poetry Slam (NYPS) 2016, Airplane Poetry Movement, Bangalore, in association with University of Illinois Chicago & College Unions Poetry Slam Invitational (CUPSI) September, 2016
- Invited short fiction writer, Terribly Tiny Tales, 2014 – 2015
- Creative director and invited contributor, The Anonymous Writer project, New Delhi, 2014 – 2016
- Grant Awardee, Book: *26 Jumpstraps: Twenty-six Thumb Rules of Entrepreneurial Bootstrapping*, published by FixNix Incorporation, 2014

OTHER SKILLS

- Graduate certificate in the Indian classical dance form of Kathak – certified by Anart Foundation, Ahmedabad, India, 2011

- Languages
  - Native/Bilingual: Hindi, Bengali
  - Fluent: English
  - Conversant: Gujarati
  - Basic: Sanskrit, French, German