

# Curriculum Vitae

## Dr. Payel Bhattacharjee, M.Sc., Ph.D.

**Designation:** Assistant Professor, Department of Zoology,  
Rabindra Mahavidyalaya, Champadanga, Hooghly (University of Burdwan)  
**Residential Address:** Shankargachi, P.O. Bamangachi, North 24 Paraganas, PIN-743248, West Bengal, India  
**Email:** [payel.iicb@gmail.com](mailto:payel.iicb@gmail.com); [drpayelb.rmz@gmail.com](mailto:drpayelb.rmz@gmail.com)  
**Date of Birth:** 21-08-1984  
**Nationality:** Indian  
**Areas of Research Interest:** Snake Venom Research, Natural Products, Toxicology, Protein Biochemistry, Peptide-based Drug Designing, Proteomics, Protein Biomarkers, Neurodegenerative and Psychiatric Diseases

### Academic Qualification:

Degree	Board/University	Year	Subjects	Marks obtained and Class/Division
Madhyamik (10 <sup>th</sup> Std)	WBSE	2001	Beng, Eng, Maths, Phy. Sc., Life Sc., Geo, Hist, Addl. Biol.	First division with 85.6% marks
Higher Secondary (10+2)	WBCHSE	2003	Beng, Eng, Maths, Phys, Chem, Biol	First division with 76.5% marks
Bachelor of Science	University of Calcutta	2006	Zoology (Hons.), Botany, Chemistry	First class with 70.9% marks
Master of Science	University of Calcutta	2008	Zoology	First class with 78.5% marks
Ph.D	Jadavpur University, Kolkata, India. Affiliation: Council of Scientific and Industrial Research - Indian Institute of Chemical Biology (CSIR-IICB)	2014	Life Sciences and Biotechnology	

### Professional Experience:

Work Period	Position	Organization	Job Description
23.12.2023-Present	Assistant Professor	Dept. Of Zoology, Rabindra Mahavidyalaya (University of Burdwan), Champadanga, Hooghly	Teaching undergraduate students along with involvement in research activities related to biomarker discovery and targeting molecular pathways of cancer and neurological disorders for drug designing
07.09.2022-21.12.2023	Research Scientist-II (Scientist C)	Multidisciplinary Research Unit, Institute of Postgraduate Medical Education and Research, Kolkata, India	Monitoring of clinical research projects of various disciplines at Institute of Postgraduate Medical Education and Research, Kolkata
10.01.2022-09.07.2022	Research Scientist	Department of Neuropsychiatry, Institute of Neurosciences, Kolkata, India.	Designing and monitoring of Clinical Research Projects on Autism, Alzheimer's disease and other neuronal disorders.
03.01.2019-02.01.2022	CSIR-Senior Research Associate (Scientist's pool scheme)	Department of Biophysics, Bose Institute, Kolkata, India (Mentor- Prof. Siddhartha Roy)	<b>Project (CSIR funded):</b> Detection of amyloid protein using microchip device with beta-sheet mimic peptide immobilized on the micro-fluidic channels.
01.08.2015-31.07.2017	Post-doctoral Fellow	Department of Psychiatry and Neurochemistry, Sahlgrenska Academy, University of Gothenburg,	<b>Project (Funded by The Michael J. Fox Foundation for Parkinson's Research, USA):</b> Characterization and validation of

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		Gothenburg, Sweden (Mentor- Prof. Henrik Zetterberg)	disease specific alpha-synuclein species in Parkinson's disease.
<b>01.07.2009-10.04.2015</b>	<b>Doctoral Fellow (CSIR-UGC NET/JRF) and Extended Senior Research Fellow (DST)</b>	Division of Structural Biology and Bioinformatics, CSIR-IICB, Kolkata, India (Supervisor- Dr. Debasish Bhattacharyya)	<b>Doctoral thesis:</b> Evaluation of bioactive components from natural products for prevention of toxicity and neurological disorders. <b>Project (DST cognitive Science initiative program):</b> Evaluation of the efficacy of protein aggregation inhibitors from natural sources.
<b>17.09.2008-19.06.2009</b>	<b>Junior Research Fellow (GATE, 2008)</b>	Division of Molecular Medicine, Bose Institute, Kolkata, India (Supervisor- Prof. Tanya Das)	<b>Project (DST sponsored):</b> Evaluation of anti-cancer properties of plant polyphenols using human breast cancer cell lines.

Scientific Publications: (<https://scholar.google.com/citations?user=Ranzb3MAAAAJ&hl=en>)

## Selected Research articles:

1. Margarida Rodrigues, **Payel Bhattacharjee**, Ann Brinkmalm, Dung Do, Colin Pearson, Suman De, Aleks Ponjavic, Juan Varela, Francesco Ruggeri, Isabelle Baudrexel, Ji Lee, Alexander Carr, Klara Kulenkampff, Tuomas Knowles, Henrik Zetterberg, Thomas Snaddon, Sonia Gandhi, Steven Lee, and David Klenerman<sup>#</sup>. Structure specific amyloid precipitation in biofluids. **Nature Chemistry**, 2022, 14, 1045–1053. (<https://doi.org/10.1038/s41557-022-00976-3>)
2. Debashree De\*, **Payel Bhattacharjee\***, Hrishita Das, Karri Suresh Kumar, Subhas Chandra Biswas, Debasish Bhattacharyya<sup>#</sup>. Destabilization of  $\beta$ -amyloid aggregates by thrombin derived peptide: plausible role of thrombin in neuroprotection. **The FEBS Journal**, 2020, 287, 2386-2413. (doi: 10.1111/FEBS.15149) (\* denotes equal contribution; Impact factor: 4.73)
3. **Payel Bhattacharjee**, Annika Öhrfelt, Tammarny Lashley, Kaj Blennow, Ann Brinkmalm, Henrik Zetterberg<sup>#</sup>. Mass spectrometric analysis of Lewy body-enriched  $\alpha$ -synuclein in Parkinson's disease. **Journal of Proteome Research**, 2019, 18, 2109-2120. doi: 10.1021/acs.jproteome.8b00982. (Impact Factor: 4.26)
4. Ann Brinkmalm, Annika Öhrfelt, **Payel Bhattacharjee**, Henrik Zetterberg<sup>#</sup>. Detection of  $\alpha$ -synuclein in biological samples using mass spectrometry. **Methods in Molecular Biology**, 2019, 1948, 209-220. doi: 10.1007/978-1-4939-9124-2\_16. (Impact Factor: 10.2)
5. **Payel Bhattacharjee**, Debashree De, Debasish Bhattacharyya<sup>#</sup>. Degradation of fibrin- $\beta$  amyloid co-aggregate: A novel function attributed to ubiquitin. **BBA - Molecular Cell Research**, 2018, 1865, 1465-1478. doi.org/10.1016/j.bbamcr.2018.07.012 (Impact Factor: 5.2)
6. **Payel Bhattacharjee**, Debasish Bhattacharyya<sup>#</sup>. Factor V activator from *Daboia russelli russelli* venom destabilize  $\beta$ -amyloid aggregate, the hallmark of Alzheimer disease. **Journal of Biological Chemistry**, 2013, 288, 30559- 30570. doi: 10.1074/jbc.M113.511410 (**With citation of cover image, cited in Science and Business Exchange, Nature Publishing Group, SciBX 6(38); doi:10.1038/scibx.2013.1066, Published online Oct. 3 2013**). (Impact Factor: 4.0)

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## Additional Information:

### Expertise Developed

- **Mass spectrometry:** Hands-on expertise in MALDI-TOF and Q-Exactive Hybrid Quadrupole-Orbitrap mass spectrometers (coupled with nanoflow and microflow LC). In depth knowledge of Parallel Reaction Monitoring and proteomics data analysis using Proteome Discoverer, Xcalibur and Pinpoint softwares.
- **Handling human clinical samples:** Experimental analysis, documentation, stock maintenance of postmortem brain, cerebrospinal fluid and blood.
- **Protein analysis:** Extensive knowledge of protein purification, characterization and enzyme assays using various state of the art techniques particularly immunoprecipitation, chromatography, UV visible and fluorescence spectroscopy, surface plasmon resonance, atomic force microscopy, electron microscopy, confocal microscopy, 1- and 2-D polyacrylamide gel electrophoresis, isoelectric focusing, fluorescent labelling of cellular proteins, dot and western blotting, ELISA, Flow Cytometry etc.
- **DNA, RNA analysis:** Identification of viral DNA/RNA in clinical samples, studying protein-DNA interaction and gene regulation using conventional Polymerase Chain Reaction (PCR) and real-time PCR.
- **Mammalian cell culture:** Hand-on experience on culturing human cell lines, particularly neuroblastoma, hepatic, kidney, lung cancer and leukemia cells.
- **Solid Phase Peptide Synthesis:** Synthesized peptides using Fmoc chemistry.
- **Bioinformatics:** ClustalW Multiple Sequence Alignment, NCBI BLAST, Primer-BLAST, UniProt, ExPasy Tools, MASCOT Database Search Engine, Proteome Discoverer etc.

### Teaching Experience as Guest/ Adjunct Faculty

<b>2025- Present</b>	Visiting Professor at Department of Medical Laboratory Science and Technology, Rani Rashmoni Green University, Tarakeshwar, Hooghly
<b>2022- Present</b>	Guest lecturer at S. N. Pradhan Centre for Neurosciences, University of Calcutta.
<b>2017-2018</b>	Guest lecturer at Dept. of Zoology, West Bengal State University.
<b>2011-2013</b>	Laboratory instructor of M.Pharm students of National Institute of Pharmaceutical Education and Research (NIPER, Kolkata).
<b>2011-2014</b>	Guest lecturer at Post Graduate classes, Microbiology Div., Vijaygarh Jyotish Ray College, University of Calcutta.
<b>2008-2015</b>	Supervised seven postgraduate students in biochemistry lab courses.

### Awards/Recognitions

- i. Selected as group leader to present a project on 'Emerging health threats' at Sciathon 2021 global competition conducted by Lindau Nobel Laureate Council.
- ii. Awarded CSIR-Senior Research Associate (Scientists' pool scheme) fellowship (from 2019).
- iii. Invited as an alumnus of Lindau Nobel Laureate meeting, 2017 in an alumni meeting conducted by German Research Foundation (DFG) at New Delhi, India.
- iv. Awarded post-doctoral fellowship (2015-2017) by The Michael J. Fox Foundation (MJFF) for Parkinson's Research, USA for working in a joint consortium in Sweden.
- v. Recipient of scholarship from Department of Science and Technology, India (DST) and German Research Foundation (DFG) as young scientist to participate in the 64<sup>th</sup> Nobel Laureate meeting in the field of Medicine and Physiology in 2014 at Lindau and visit to different laboratories in Germany.

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- vi. Received Dr. S. Gunasekharan award by Indian Spectro-Physics Association (ISPA) in 2014.
- vii. Awarded travel grant by The International Society for Neurochemistry (ISN) and the American Society for Neurochemistry (ASN) to present a poster at 24<sup>th</sup> ISN-ASN biennial meeting in 2013 at Cancun, Mexico.
- viii. Awarded travel fund by The Society for BioChromatography and Nanoseparations (SBCN) for delivering a lecture at 13<sup>th</sup> International meeting in 2012 at Bordeaux, France.
- ix. Awarded second prize for oral presentation in 1st National Conference on Animal, Microbial, Plant Toxins and Snakebite Management (AMPTOX) in Kolkata, India.
- x. Qualified Council of Scientific and Industrial Research-University Grants Commission (CSIR-UGC) National Eligibility Test (2008) and awarded Junior Research Fellowship in 2009.
- xi. Qualified Graduate Aptitude Test in Engineering (GATE) conducted by Indian Institute of Technology (IIT) in 2008 with rank- 250, percentile score - 98.11.
- xii. Often sought as reviewer for examining research papers for Scientific Reports (Springer Nature) Toxicon, Toxicology Reports (Elsevier) Journal of Medicinal Plant Research, African Journal of Microbiology Research (Academic Journals).

## Memberships

Indian Lindau Nobel Laureate Meeting Alumni, Indo German Convention of Lindau Alumni.

Life member of Indian Academy of Neurosciences, The Cytometry Society of India and Toxicological Society of India. Member of Swedish Medical Society, American Society for Mass Spectrometry and International Society for Neurochemistry.

## Participation/Presentations in International / National Symposia / Conferences / Workshops:

- 2026** Oral presentation ‘A novel approach towards development of plasma-based diagnostic assay for Alzheimer’s disease by using amyloid beta aggregation enhancer peptide’ at Two-day International Conference on ‘Decoding the mind: from behavioural sciences to computational neuroscience - clinical, rehabilitation and AI perspective’ organized by Behavioral and Experimental Lab University of Calcutta from 9<sup>th</sup> March to 10<sup>th</sup> March 2026.
- 2025** Invited as Faculty of Laboratory Technology in the Workshop on oncopathology, cytopathology, and hematopathology techniques at Homi Bhabha Cancer Hospital and Research Center, Muzaffarpur from 28<sup>th</sup> November to 30<sup>th</sup> November 2025.
- Attended 2 weeks observership training programme on application of Flow Cytometry in Cancer Diagnosis at Department of Hematopathology of Tata Memorial Centre-Advanced Centre for Treatment, Research and Education in Cancer (ACTREC), Navi Mumbai from 26<sup>th</sup> December 2024 to 6<sup>th</sup> January 2025.
- Successfully completed (with Grade A+) the 18<sup>th</sup> Faculty Induction Programme organized by MMTTC, Jadavpur University, which was held from 01<sup>st</sup> July to 28<sup>th</sup> July 2025.
- 2024** Attended DHR-ICMR sponsored hands-on training program on ‘Whole Exome Sequencing in clinical setting- hands-on workshop’ from 24<sup>th</sup>-27<sup>th</sup> September 2024 held at ICMR-National Institute of Cancer Prevention and Research, Noida, Uttar Pradesh.
- 2022** Attended hands-on training program on the ‘application of ultramicrotomy and electron microscopy in clinical diagnosis’ from 26<sup>th</sup>-29<sup>th</sup> September 2022 held at MRU, IPGME&R, Kolkata.
- Oral presentation: ‘Development of a synthetic peptide-based immunoassay for quantification of amyloid-beta 42 oligomers in plasma from Alzheimer’s disease patients.’ at 18<sup>th</sup> Asian Oceanian Congress of Neurology (AOCN) and 29<sup>th</sup> Annual conference of the Indian Academy of Neurology (IANCON) from 3<sup>rd</sup> – 6<sup>th</sup> November 2022 in New Delhi, India.

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- 2021** Invited presentation: "Insight into the brain: The role of protein biomarkers in understanding neurodegenerative and psychiatric disorders." at 7<sup>th</sup> Indo-German Convention of Lindau Alumni (IGCLA) held annually at KMC, Manipal.
- 2017** Poster presentation: "Identification of truncated forms of  $\alpha$ -synuclein using mass spectrometry: a strategy towards development of biomarker for Parkinson's disease." at 13<sup>th</sup> International Conference on Alzheimer's and Parkinson's Diseases and Related Neurological Disorders (ADPD 2017) in Vienna, Austria.
- 2017** Neuropathology workshop at 13<sup>th</sup> International Conference on Alzheimer's and Parkinson's Diseases and Related Neurological Disorders (ADPD 2017) in Vienna, Austria.
- 2016** Workshop on Proteomics at 15<sup>th</sup> annual Swedish Proteomics Society meeting in Sweden.
- 2016** Workshop on Peptides and Proteins in Mass Spectrometry at 64<sup>th</sup> Annual conference of American Society for Mass Spectrometry at San Antonio, TX, USA.
- 2016** Poster presentation: "Identification of pathological  $\alpha$ -synuclein forms in brain extracts from patients with Parkinson's disease by selected reaction monitoring." at 64<sup>th</sup> Annual conference of American Society for Mass Spectrometry in San Antonio, TX, USA.
- 2016** Workshop on CSF biomarker and neuropathology at 1st meeting of the Society for CSF analysis and clinical neurochemistry at Gothenburg, Sweden.
- 2014** Young scientist participant at 64<sup>th</sup> Nobel Laureate meeting in the field of medicine and physiology at Lindau, Germany.
- 2014** Poster presentation: "Non-toxic derivatives of aristolochic acid as inhibitors of snake venom L-amino acid oxidase" at 4<sup>th</sup> Annual Conference of Toxinological Society of India in Kolkata, India.
- 2013** Poster presentation: "Enzymes from *Aristolochia indica* inhibit co-aggregation of fibrinogen-A $\beta$ 42: an implication in neurovascular diseases." at 24<sup>th</sup> Biennial Meeting of ISN-ASN at Cancun, Mexico.
- 2013** Oral presentation: "Enzymes from *Aristolochia indica* inhibit co-aggregation of fibrinogen-A $\beta$ 42". International Conference on Neurodegenerative and Neurodevelopmental Disorders: Translational Aspect organized by Institute of Post Graduate Medical Education and Research in Kolkata, India.
- 2012** Invited oral presentation: "Chromatographic and proteomic-based approach to isolate a group of novel fibrinolytic enzymes from *Aristolochia indica*." at 13<sup>th</sup> International meeting of SBCN at Bordeaux, France.
- 2012** Poster presentation: "Partial characterization of the aqueous extract of the root of *Aristolochia indica* used as snake venom antidote." at 12<sup>th</sup> International Congress of Ethnopharmacology in Kolkata, India.
- 2012** Oral presentation: "Destabilization of  $\beta$ -amyloid aggregates by Factor V activator from *Daboia russelli russelli* (Russell's viper) venom". Neuro Update organized jointly by University of Calcutta, Calcutta Medical College and CSIR-IICB in Kolkata, India.
- 2012** Oral presentation: "Studies on amyloid aggregation and its destabilization by natural product or their derivatives using biophysical techniques". National conference on recent advances in applied sciences and Annual meeting of Indian Spectrophysics Association (ISPA) in Chennai, India.
- 2010** Oral presentation: "Isolation of protein component from Russell's viper venom that destabilizes  $\beta$ -amyloid aggregate *in vitro*." 12<sup>th</sup> International meeting of SBCN at Lyon, France.
- 2010** Oral presentation: "Partial characterization of a protease from the medicinal plant *Aristolochia indica*." National seminar on Scope and Recent Development of Natural Products in Tripura, India.
- 2010** Oral presentation: "Isolation and purification of Factor V activator from Russell's viper venom that destabilize  $\beta$ -amyloid aggregate *in vitro*." 1st National Conference on Animal, Microbial, Plant Toxins and Snakebite Management (AMPTOX) in Kolkata, India.
- 2010** Workshop on proteomics at PSI Seminar Series at Saha Institute of Nuclear Physics (SINP), Kolkata, India.

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## **Conference/Seminar/Hands-on Workshops organized:**

1. Molecular techniques in Oncopathology on February 15-16, 2023 at IPGME&R, Kolkata.
2. Flow Cytometer: an important tool in Research and Clinical Practice on August 18-19, 2023 at MRU, IPGME&R, Kolkata.
3. As a Convener organized seminar in collaboration with Institute of Postgraduate Medical Education and Research, Kolkata on Mental Health Awareness on 5<sup>th</sup> April, 2024 at Rabindra Mahavidyalaya, Hooghly.
4. As a Convener and Organizing Secretary organized Two Days International Conference on 'Current Advancements in Education, Health and Research (CAEHR 2026) from 12<sup>th</sup> May to 13<sup>th</sup> May 2026 at Rabindra Mahavidyalaya, Hooghly.

## **Administrative responsibilities:**

1. Convener of Health and Wellness cell and Add-on Courses (2024 onwards) at Rabindra Mahavidyalaya, Hooghly.
2. In-Charge of Waste Management and Swayam Courses (2025 onwards) at Rabindra Mahavidyalaya, Hooghly.
3. Member of UGC and WBHED subcommittee, Green subcommittee and Research Cell of Rabindra Mahavidyalaya.
4. Member of Syllabus Committee and Board of Studies of Postgraduate course in Medical Laboratory Science and Technology, Rani Rashmoni Green University, Tarakeshwar, Hooghly.

## **LANGUAGE SKILLS**

Bengali, English (writing, reading, speaking); Hindi (reading, speaking), Basic Swedish

I declare that all given information is true

Regards,

*Payel Bhattacharjee*

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**Dr. Payel Bhattacharjee**