

## CURRICULUMVITAE

**Name:** Dr. Rubia Mondal

**Date of birth:** 15/04/1990

**Contact address:**

Residence: 497, Narayantala West, Sib Shankar Building, Block L2, 1st floor, Flat: L6 & L7, Kolkata- 700059

Office: Institute of Health Sciences, Presidency University, Plot No. DG/02/02, Premises No. 14-0358, Action Area-ID, Newtown (Near Biswa Bangla Convention Centre), Kolkata-700156, West Bengal, India

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### **Employments**

<b>Designation</b>	<b>Department and Institution</b>	<b>Tenure</b>
Assistant Professor	Institute of Health Sciences, Presidency University, Kolkata	18/03/2026 till date
Senior Demonstrator	Department of Physiology, All India Institute of Medical Sciences, Kalyani	15/03/2024- 14/03/2026

### **Research interests and presently working areas of research**

Driven by over a decade of expertise in clinical physiology and molecular research, I serve as an Assistant Professor at the Institute of Health Sciences, Presidency University. My research trajectory focuses on the intricate intersection of Endocrinology, Environmental Toxicology, and Reproductive Biology, with a specialized emphasis on the systemic effects of Arsenic on mammalian models. Having transitioned from a significant tenure at AIIMS Kalyani, my current work employs a multi-omic lens, integrating LC-MS-driven metabolomics and genomic analysis, to address high-burden health challenges in the Indian context. I am currently leading and collaborating on several externally funded projects, including a DHR-sanctioned study on the Hepcidin-HIF Axis in iron deficiency anemia and an Endocrine Society of Bengal-funded investigation into POMC pathway biomarkers and obesity. My broader research portfolio extends to translational genomics work exploring 'TMPRSS6' polymorphisms, and developing predictive models for complex conditions such as NAFLD, T2DM, and COPD. Committed to a student-centric pedagogy, my mission at Presidency is to foster an environment where rigorous bench side research translates into meaningful clinical insights, empowering the next generation of researchers to tackle global environmental and metabolic health crises.

## Academic Qualifications:

Examination	Discipline/ Specialization	School/college/Department	Board/ University/Institute	Year of Passing
Ph.D.	Human Physiology, (Reproductive toxicology)	Department of Physiology	University of Calcutta	Awarded on 16th January,2024
M.Sc.	Human Physiology	Presidency University, Kolkata	Presidency University, Kolkata	2014, June (Distinction, 1 <sup>st</sup> class 2nd)
B.Sc.	Physiology	Vidyasagar College, Kolkata	University of Calcutta	2012
Higher Secondary	Science	Guti Uday Chand Vidhyaa mandir, Hooghly	W.B.C.H.S.E	2007
Secondary (Madhyamik)	General	Monteswar S. K. M Girls' High school, Burdwan	W.B.B.S.E	2005

## Research Experience

- **2017- 2024: Worked as PhD student at Department of Physiology, University of Calcutta.**

**Thesis title: “Studies On The Protective Role Of  $\alpha$ -Tocopherol And Ascorbic Acid On Arsenic Mediated Female Reproductive Disorders In Adult Rats”**

Supervisor: Dr. Alok Chattopadhyay, Associate Professor, Department of Physiology, Harimohan Ghose College, University of Calcutta.

Joint Supervisor: Dr. Amit Bandyopadhyay, Assistant Professor, Department of Physiology, University College of Science, Technology and Agriculture, University of Calcutta.

Associate Supervisor: Prof. Prabir Kumar Mukhopadhyay, Professor, Department of Life Sciences, Presidency University.

- **2018-2023: Worked as Research fellow at Department of Life Sciences, Presidency University, Kolkata.**

**Project Title: “Molecular dissection on the protective ability of vitamin E and C against arsenic induced reproductive disorders in adult female rats”**

Funding agency: WBDSTBT

Position: IRE+SRE

Project PI: Prof. Prabir Kumar Mukhopadhyay, Professor, Department of Life Sciences, Presidency University

- **2014 - 2015: Worked as Technical Assistant at Indian Institute of Technology, Kharagpur (IIT-Kharagpur)**

Population based study “**Examining the Foetal Origin Hypothesis: Does Ramadan fasting of the mother affect long term physical development of children?**” IIT Kharagpur, West Bengal.

Mentor: Zakir Husain, Associate Professor.

Study was based on field survey in Basanti Block, 24 Parganas South. Visited the survey sites to take measurements of anthropometric parameters using Harpenden’s skinfold caliper, anthropometric rod and tape, Body fat monitor.

- **2013-2014: Worked as Dissertation Fellow at the Indian Institute of Chemical Biology (IICB), a CSIR unit. Jadavpur, Kolkata**

Dissertation project on ‘**Involvement of selected compounds as the anti-proliferative agent in ovarian cancer cells**’.

Guide: Dr. Sib Sankar Roy, Principal Scientist, CSIR-IICB.

Performed techniques like- cell line maintenance, DNA, RNA and Protein isolation, PCR, Immunoblotting, transfection, Zymography, Confocal Microscopy, Seahorse XF-Analyzer and Flow Cytometry.

- **2012-2013: Worked as M.Sc. Dissertation Trainee at Presidency University, Kolkata**

Guide: Prof. Prabir Kr Mukhopadhyay, Professor, Presidency University.

Performed techniques- Laboratory animal maintenance, handling, surgery and dissection study, Histological and Histochemical Techniques, along with Biochemical studies.

### **Ongoing Projects:**

<b>Title of the project</b>	<b>Role</b>	<b>Approved Budget (INR)</b>	<b>Approved agency/Institute</b>
The Hcpidin-HIF Axis: A Comparative Analysis of Metabolic Remodeling in IRON Deficiency Anemia and Iron-Refractory Iron Deficiency Anemia in Reproductive-age Women in Kalyani, West Bengal’	Co-PI	90000.00	Multidisciplinary Research Unit, DHR, Govt. of India (Extramural)
Exploring bowel nosodes: from preparation to therapeutic applications	Co-PI	24,80,000.00	Central Council For Research In Homeopathy, Ministry of Ayush, Govt. of India (Extramural)
Association between POMC pathway biomarkers with body fat percentage	Co-PI	1,50,000.00	Endocrine Society of Bengal (Extramural)

in Obese Individuals: An observational study”			
Statistical Modeling of Pulmonary Function Tests to Derive Normative and Disease-Specific Reference Values	Co-PI	Non-funded	All India Institute of Medical Sciences, Kalyani (Intramural)
Study of neurocognitive functions in healthy volunteers through EEG analysis by using Montreal Cognitive Assessment (MoCA)- A cross-sectional study	Co-PI	Non-funded	All India Institute of Medical Sciences, Kalyani (Intramural)

**EOI accepted:**

<b>Title of the project</b>	<b>Role</b>	<b>Proposed Budget</b>	<b>Agency</b>
Identification of haplotype block associated with spectrum of anemia in Indian population and exploring its diagnostic as well as therapeutic potential	Co-PI	4995070.00	Department of Biotechnology, Ministry of Science and Technology, Government of India  Call for Proposal under “Translational Research using GenomeIndia Data”

**List of published research articles**

<b>Sl. No</b>	<b>Author(s)</b>	<b>Title</b>	<b>Journal</b>	<b>Vol</b>	<b>Pg</b>	<b>IF</b>	<b>Month</b>	<b>Year</b>
1	Rubia Mondal, Raghwendra Mishra, Jeet Maity, Prakriti Chanda, Samhita Das, Maitree Dey, Subhadeep Ghoshal, Tandra Ghosh, Prabir Kumar Mukhopadhyay	The blood toll of arsenic: addressing hematological disorders and future directions	International Journal Of Community Medicine And Public Health	13	15-53 -15-68		Feb	2026
2	Rubia Mondal	Re-defining	Indian Journal of	77	4	-	Dec	2025

		the immune peace: The enduring legacy of three physiologists in peripheral immune tolerance- NOBEL PRIZE 2025 IN PHYSIOLOGY OR MEDICINE	Physiology and Allied Sciences				mber	
3	Alpa Nasrin, Samuel Shaikh, Charu Bansal, Arpita Chakraborty, Rubi Mondal, Boudhayan Das Munshi, Manjusha Ashlesh Shinde, Tandra Ghosh	Assessing the predictive values of sural/radial amplitude ratio and dorsal sural/radial amplitude ratio in peripheral neuropathy of type 2 diabetes mellitus	J Neurosci Rural Pract	-	-	0.9	July	2025
4	Arpita Chakraborty, Subhadeep Ghoshal, Suraiya	Interaction of Body Mass Index	International Journal of Kinanthropometry	5(1)	14-15-3	-	April	2025

	Ferdous, Shaikh Alpa Nasrin Samuel, Rubia Mondal, Tandra Ghosh	and Sex on Pulmonary Function Tests among patients with Chronic Obstructive Respiratory Disease: An Observational study from a Tertiary Centre in India						
5	Anil Kumar Yadav, Manjusha A. Shinde, Alpa Nasrin, Rubia Mondal, Arpita Chakraborty, Subhadeep Ghoshal, Aruna Raju, Boudhayan Das Munshi, Tandra Ghosh	Weight-Adjusted Waist index as an Independent Predictor of Sarcopenia in Patients with type 2 Diabetes Mellitus	International Journal of Kinanthropometry	5(2)	87 - 95	-	September	2025
6	Alpa Nasrin Samuel Shaikh, Manjusha A. Shinde, Charu Bansal, Arpita Chakraborty, Rubia Mondal, Suraiya Ferdous, Tandra Ghosh	Enhancing diagnostic accuracy in carpal tunnel syndrome: integrating the	Journal of Family Medicine and Primary Care (Wolters Kluwer)	14(9)	37 - 37 98	1	September	2025

		median- ulnar F- wave latency differen- tials with sympto- m severity score and katz hand diagram						
7	Mondal R, Majumdar A, Sarkar S, Goswami C, Joardar M, Das A, Mukhopadhy- ay PK, Roychowdhur- y T	An extensiv- e review of arsenic dynamic s and its distribut- ion in soil- aqueous -rice plant systems in south and Southea- st Asia with bibliogr- aphic and meta- data analysis	Chemosp- here (Elsevier)	352	14 14 60	8. 1	Fe- br- ua- ry	2024
8	Mondal R, Pal P, Biswas S, Chattopadhy- ay A, Bandyopadhy- ay A, Mukhopadhy- ay A, Mukhopadhy- ay PK.	Attenuat- ion of sodium arsenite mediate d ovarian DNA damage, follicula- r atresia, and	Naunyn Schmiede- bergs Archives of Pharmac- ology, (Springer)	PM ID: 371 296 05	27 01 - 27 20	3. 6	M- ay	2023

		oxidative injury by combined application of vitamin E and C in post pubertal Wistar rats						
9	Biswas S, Pal P, Mondal R, Mukhopadhyay PK.	Casein and pea enriched high-protein diet attenuates arsenic provoked apoptosis in testicles of adult rats	Toxicology Research, (Oxford University Press)	1-553	551-563	2021	June	2023
10	Mondal R, Mukhopadhyay A, Chattopadhyay A, Bandyopadhyay A, Mukhopadhyay PK	Ovarian follicular atresia and uterine toxicity after sub chronic oral exposure of post pubertal rats to sodium arsenite	Comparative clinical pathology, (Springer)	31	597-612	2022	August	2022
11	Dutta S, Mondal R, Das R, Ganguli S, Dey SR	Development of Web-Based Digital Key from	International Journal for Research in Applied	11	891-903	2023	April	2023

		Dichotomous Key through Computer Programming: Model Aphid Predator Neuroptera	Science & Engineering Technology					
12	Mondal R, Biswas S, Chatterjee A, Mishra R, Mukhopadhyay A, Bhadra R.K. and Mukhopadhyay PK	Protection against arsenic-induced hematological and hepatic anomalies by supplementation of vitamin C and vitamin E in adult male rats"	Journal of Basic and Clinical Physiology and Pharmacology, (De Gruyter)	27	643-652	1.64	November	2016

### Book chapters

Sl.No	Title	Author's Name	Publisher	Year of Publication
1.	Fluoride and arsenic-mediated oxidative damage can cause disorders in reproductive system	Pal P, Biswas S, <b>Mondal R</b> , Mukhopadhyay PK	Nova Science Publishers	2023
2.	Arsenic-mediated Female Reproductive disorders and its possible protection	Mukhopadhyay A, <b>Mondal R</b> , Biswas S, Mukhopadhyay PK	Aaheli Publishers, Kolkata	2017

**Academic membership:**

1. Life member, The Physiological Society of India (PSI-LM932)
2. Life member, The Indian Science Congress Association (L36648)

**Web page:**

1. <https://sites.google.com/aiimskalyani.edu.in/physiologyaiimskalyani/home/resident?authuser=0>
2. <https://lacewingsofwestbengal.in/>

**Accounts of Teaching Hours (March 2024-Feb 2026):**

<b>Name</b>	<b>MBBS-TH +PR (Hrs)</b>	<b>MD-TH+PR (Hrs)</b>	<b>Nursing-TH (Hrs)</b>	<b>Allied Health Services TH +PR (Hrs)</b>	<b>Total Final Hrs.</b>
<b>Dr. Rubia Mondal</b>	<b>29</b>	<b>-</b>	<b>5</b>	<b>10</b>	<b>44</b>
	<b>24</b>	<b>52</b>	<b>9</b>	<b>19</b>	<b>104</b>

**Teaching and research activities**

- Actively involved in taking theory and practical classes of MBBS 1st year students, MD (Post graduate) Physiology, M.Sc Physiology, Paramedical Undergraduate, Nursing Undergraduate students.
- MBBS UG and PG examination in charge, invigilation, and examiner.
- In charge of the establishment of the Molecular and Cellular Physiology Lab in the Department of Physiology. All India Institute of Medical Sciences, Kalyani
- In charge of the Instrument Procurement for the Molecular and Cellular Physiology Lab in the Department of Physiology. All India Institute of Medical Sciences, Kalyani

**Workshop conduction as Organizing Person:**

- Arranged and conducted Workshop entitled Decoding Life: A Hands-on Workshop in Computational Biology for Medicine- SERIES 1, on March 6, 2025, at the Clinical Lab, Department of Physiology, AIIMS Kalyani.
- Arranged and conducted Workshop entitled Decoding Life: A Hands-on Workshop in Computational Biology for Medicine- SERIES 2, November 18-19, 2025, at the Clinical Lab, Department of Physiology, AIIMS Kalyani.

**Major Laboratory Techniques known**

- Cell culture – handling and maintenance of cell line (primary and secondary).
- Animal handling - Care of laboratory animals following CPCSEA guide line, preparation of animal models by gavaging, mating study and surgery.
- DNA and RNA isolation and electrophoresis.
- Polymerase chain reaction - Real Time PCR.
- ARMS-PCR, Sanger sequencing
- Protein Isolation, Preparation of Protein lysate, SDS-PAGE
- Western blot analysis.
- Enzyme linked fluorescent assay.
- Zymography.
- Immunocytochemistry.
- Immunoblotting.
- Flow cytometry- Cell cycle analysis and Apoptosis checking.
- Histology, Histopathology, Histochemistry, Histomorphometry along with microtome handling.
- Microscopy techniques – Light and compound microscopy, Fluorescence microscopy (Zeiss Axo Lab), Confocal microscopy (Leica), Scanning electron microscopy (Zeiss).
- Biochemical assay- SOD, Catalase, GSH, GPX, Uterine peroxidase, SGPT, SGOT, ALP etc.
- Spectrophotometry, Atomic absorption spectroscopy.
- LCMS
- Population study working with rural people, survey work as well as anthropometric measurement, biochemical studies with serum and plasma samples.

**Clinical Techniques known:**

- Autonomic Function Test
- Pulmonary Function Test
- Nerve Conduction Study
- ECG

**Seminars/symposium/ webinars/Workshps attended:**

1. ~~Workshop attended, "Decoding Life: A Hands-on Workshop in Computational Biology for~~

Medicine - Series 2, 18<sup>th</sup> -19<sup>th</sup> November, 2025, Organized by Dept. of Physiology AIIMS, Kalyani. Accredited by West Bengal Medical Council, Govt. of West Bengal.

2. **Completed Certification Course** in IAP-CARDIOPULMONARY RESUCCINATION (CPR for Adult, Child and infant) for Health Care Provider, on 22<sup>nd</sup> October, 2025. Organized by Indian Academy of Pediatrics.
3. **Workshop attended**, "Decoding Life: A Hands-on Workshop in Computational Biology for Medicine - Series 2, March 6th, 2025, Organized by Dept. of Physiology AIIMS, Kalyani.
4. **Awarded as outstanding paper** in 32<sup>nd</sup> West Bengal State Science & Technology Congress, 2024, Govt. of West Bengal. "The association of TMPRSS6 polymorphism rs2413450 and rs4820268 with iron and haematocrit parameters among Women of Reproductive age group in rural population of Nadia district, West Bengal".
5. **Completed certification course** of Autonomic Clinic: Knowledge, Skills and Reporting by St. John's Medical College, Bangalore, India, Jan 27th to Jan 31st 2025.
6. **Presented poster** in the two-day International Conference (Online) on "Biomolecules To Biome" held on August 24-25, 2022, 'Sodium arsenite at higher dose can augment the broad spectrum ovarian and uterine dysfunctions in adult rats' Department of Life Sciences, Presidency University, Kolkata, India.
7. Participated in the one day International Webinar on "A modern outlook in Molecular Biology and Environmental Modelling – Now and Beyond", organized by Department of Zoology, Government General Degree College, Mohanpur in association with IQAC, dated: 20/09/2020.
8. Participated in the one day International Webinar on " Science , Biology, and the World's future" organized by the Department of Botany in collaboration with International Quality Assurance Cell (IQAC) , Dinabandhu Andrews College on 25 th August, 2020.
9. Participated in two day International conference on 'Contemporary Innovative Issues and Future Challenges in Physiology and Allied Sciences (ICCIIFCPAS-2020), 21<sup>ST</sup>- 22<sup>nd</sup>January, 2020 in **oral presentation** event and presented paper entitled 'Effect of graded-doses of sodium arsenite on reproductive functions upon its deposition in ovo- uterine tissues'.
10. **Presented poster** in The Indian Science Congress Association, during the106<sup>th</sup> Indian Science Congress held at Lovely Professional University, Phagwara, Jalandhar from January 3<sup>rd</sup> to 7<sup>th</sup>, 2019.
11. **Awarded as best presentator** in 23<sup>rd</sup> West Bengal State Science and Technology Congress held during 28-29<sup>th</sup> February, 2016 titled 'Amelioration of arsenic mediated utero-ovarian toxicity in adult female rats by a combination of high casein and pea supplementation'.
12. Participated in PHYSIOCON, 2016 (National conference) in **poster presentation** event and presented paper entitled 'Protection against arsenic induced hepatorenal and hematological disorders by the supplementation of Vit-C and Vit-E in adult male rats'.
13. Attended 'NATIONAL SYMPOSIUM on 'MODERN TRENDS IN BIOLOGICAL SCIENCES' at Presidency University, Kolkata, 2014.
14. Attended and **participated in a workshop** on 'Database management & sequence analysis' at Presidency University (DBT CENTERE FOR BIOINFORMATICS), 2013.

15. Attended in 'NATIONAL SEMINAR on PHARMACOVIGILANCE & CLINICAL RESEARCH' at Bengal school of Technology, Hooghly, 2014.

**Computer Skills:**

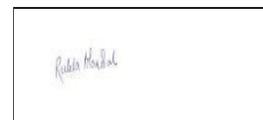
- 1 Operating Systems: Windows, Excel, Linux
- 2 Programming Language: R-studio, SPSS, Graph Pad Prism, Image J, CASP-lab, Mat-lab
- 3 Bioinformatics Pipelines: NCBI tools, Metaboanalyst, DAVID, Cytoscape, Chromas etc.

**Extracurricular Activities:**

- Recitation: Achieved first prize in West Bengal Student Youth Festival, 1996 in recitation organized by Department of Youth Service and Sports, Govt. of West Bengal.
- Participated in a social service programme organised by 'Nazrul Smriti Dristihin Vidyalaya' (Blind Person Association, Burdwan) from 2004-2005.
- Participated in '4<sup>TH</sup> KOLKATA ROUND-TRIP CYCLE RALLY' organised by Kolkata Cycle Samaj on Jan.15, 2017.
- Elected as Class Representative in Presidency University Students Council Election, 2013.
- Member of Presidency College Science Club (Organising seminars and science awareness programs).
- Member of Presidency College Alumni Association.
- Wildlife photography

**Declaration**

Information given above is correct and true to the best of my knowledge and belief.



**Name of the Referees:**

Name	Designation	Institution	Contact Information
Dr. Tarit Roychowdhury	Associate Professor, School of Environmental Sciences	Jadavpur University	tarit.roychowdhury@jadavpuruniversity.in
Dr. Tandra Ghosh	Additional Professor	AIIMS-Kalyani	tandra.physiol@aiimskalyani.edu.in
Dr. Pramit Ghosh	Scientist-E(Medical)	ICMR-National Institute of Research on Bacterial Infections	pramit.ghosh@icmr.gov.in
Dr. Tandra Ghosh	Additional Professor,	All India Institute of	tandra.physiol@aiimskalyani.edu.in

	Department of Physiology & Head	Medical Sciences, Kalyani (AIIMS-K)	
Dr. Amit Bandyopadhyay	Associate Professor, Department of Physiology	University of Calcutta, Rajabazar Science College	bamit74@gmail.com
Dr. Alok Chattopadhyay	Associate Professor, Department of Physiology	Harimohan Ghoshe College, University of Calcutta	alokc1972@gmail.com

