

Priyanga Deb

Summary

Given a chance in this position I will be utilizing the expertise I acquired in my graduation and post-graduation in Chemistry, and through working for more than 8 years in Chemistry Research laboratory as a scholar. Also, I have experience working on three short-term research projects in different institutes, along with a good academic background.

Education

1. PhD in Chemistry: (Thesis submitted) (Percentage:77)

Jadavpur University, Kolkata, India.

Thesis: "Design and synthesis of multifunctional biomimetic metal complexes: some having application as chemotherapeutic agents, some as radio-protective agents"

2. Masters in Chemistry (M.Sc): 2011-2013 (Percentage: 61.6 and CGPA-6.85, First class)

Specialisation: Organic Chemistry

Presidency University, Kolkata, West Bengal, India.

Thesis: "Purification and Structure Perturbation of a Plant Lectin."

3. Bachelor of Science (B.Sc, Chemistry Hons.): 2008-2011 (Percentage: 66.4, First class)

Presidency College Under University of Calcutta, Kolkata, India.

4. Higher Secondary (10+2th level): 2007 (Percentage: 85.5, First class)

West Bengal Council of Higher Secondary Education, India.

5. Secondary (10th level): 2005 (Percentage: 88, First class)

West Bengal Board of Secondary Education, India.



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Date of Birth: 20-oct-1989

Married and have a son

COVISHIELD VACCINATED

Achievements to name a few

- National level all India Masters Entrance Examination (IIT-ISM DHANBAD):
Ranked 5th in All India.
- National level all India Examination: *Graduate Aptitude Test in Engineering* (GATE)
Qualified in 2013

Cutting Edge Professional Expertise

1. Course Title: **Certificate Course Artificial Intelligence Deep Learning**
Conferring Institute: IIT Roorkee with Couldxlab
Duration: 6 months
Mode: online
Area of learning: Python Programming, Machine Learning, Deep Learning, and an overall idea about Artificial Intelligence.
2. Course Title: **Introduction to Artificial Intelligence (AI)**
Conferring Institute: Coursera and IBM
Duration: 1 month
Mode: online
Area of learning: Knowledge about Artificial Intelligence and its applications in different fields.
3. Course Title: **Basics and Fundamentals of Bioinformatics**
Conferring Institute: Bionome
Mode: Online
Area of Learning: Basics of bioinformatics, hands-on experience using primary tools in bioinformatics, molecular docking, and in-silico pharmacological studies.

Teaching experience (3 years 3 Months): April 2019 – July 2022

Assistant Teacher (full time) of Chemistry, Nava Nalanda Group of Schools (Higher Secondary Section)

- I have assumed various responsibilities, including delivering theoretical classes in chemistry for 11th and 12th-grade students, conducting laboratory sessions, providing guidance for board exam project work, creating question papers, and evaluating answer scripts.
- I am well-versed in utilizing different online teaching platforms to facilitate virtual learning.
- I have also dedicated myself to inspiring and assisting students in extracurricular activities. I have encouraged their participation in annual programs, quiz competitions, and annual sports events.

- I have helped students in preparing scientific models, nurturing their creativity and scientific thinking abilities.

Research Experience

October 2014 - August 2023: Design and Development of Chemotherapeutic agents and radio-protectors. (*Doctoral Research*)

Supervisor: Prof. Saurabh Das, Dept. of Chemistry, *Jadavpur University*, Kolkata, India

- I have acquired extensive knowledge and expertise in synthesizing diverse metal complexes with a wide range of biological and catalytic applications.
- Characterisation of the metal complexes was done by various spectroscopic as well as other sophisticated techniques like NMR, PXRD, Single Crystal XRD, IR, UV-Vis, EPR, TGA and also by DFT calculation and TD-DFT studies.
- The application of the metal complexes was investigated as artificial nuclease by various spectroscopic and hydrodynamic methods, and also by gel electrophoresis studies using calf thymus DNA and plasmid DNA.
- Designing and developing metal complexes that can be good radio-protectors and can protect DNA from radiation-induced damage.
- Radio-protection ability was assessed by fluorimetric technique and gel electrophoresis techniques also.
- Performed biomimetic vanadium Haloperoxidase (VHPO) enzymes catalytic properties of synthesized metal complexes.

February 2014 - September 2014: "Thermoreversible Gelation of Stereocontrolled Poly(N-isopropyl acrylamide)." (*JRF- CSIR-funded project*)

Supervisor: Prof. Biswajit Ray, *Benaras Hindu University*, Dept. of Chemistry, India

- Working in the polymer lab during this period proved to be a valuable experience, as it provided me with extensive knowledge and hands-on training in the field of polymer chemistry and also studying the techniques of polymerization and gelation.

January 2013 - September 2013: "Purification and Structure Perturbation of a Plant Lectin." (*Master's Thesis*)

Supervisor: Professor Dipak K. Mandal (Retired), Presidency University, Kolkata, India.

- In this period, I gathered a hands-on experience in protein extraction from natural sources and their purification.
- Studied the structure perturbation of protein in different pH environments.

June 2012 - July 2012: "Preliminary Electrochemical Study on Functionalized Carbon Nanotubes (CNTs)" (*M.Sc Summer Project*)

Supervisor: Professor Santosh K. Haram, *Savitribai Phule Pune University*, Pune, India.

- During this project the primary focus was on functionalizing carbon nanotubes by introducing acid functionality.
- This process involved modifying the CNTs to enhance their electrochemical properties. Subsequently, various electrochemical studies were done, such as cyclic voltammetry (CV), impedance spectroscopy, and chronoamperometry, to investigate the behavior and characteristics of the functionalized CNTs.
- This hands-on experience provided me a deeper understanding of the electrochemical properties of carbon nanotubes and their potential applications.

Research Publications

- “Synthesis, characterization, theoretical simulation, and DNA-nuclease activity of a newly synthesized Mn–oximate complex”. *Journal of Coordination Chemistry*, 3250-3265, 71 (20), 2018. **Priyangana Deb**, Madhulika Ghose, Nayim Sepay, Satyabrata Maiti & Kalyan K. Mukherjea.
- “Synthesis and Characterization of a Highly Active Dioxomolybdenum Complex [*cis*-MoO₂(BHAN)₂] with β-Hydroxy-α-Naphthaldehyde (BHAN) Ligand: Insights into Structural Features and Promising Catalytic Performance in Haloperoxidase mimicking oxidative bromination.”: **Communicated**
- “Unveiling the Protective Role of *cis*-MoO₂(BHAN)₂ Complex against Radiation-Induced DNA Damage: Insights into Mechanisms and Potential Therapeutic Applications.”: **Communicated**
- “Ortho-Vanillin Derived *cis*-MoO₂(OV)₂ Complex: Synthesis, Characterization, and Remarkable Haloperoxidase Activity for Oxidative Bromination Reactions.”: **Manuscript under preparation**

- “Harnessing the Potency of *cis*-MoO₂(OV)₂ Complex for Safeguarding against Radiation-Induced DNA Damage: Insights and Implications for Radioprotective Strategies.”: **Manuscript under preparation**

Presentation in symposiums, conferences, and seminars (a few important ones are listed below)

- *Invited to present a talk* at **International Conference on “Energy, Functional Materials & Nanotechnology” (ICEFN-2016).**
- *Presented Poster* at **International Symposium on Modern Trends in Inorganic Chemistry-XVI (MTIC-XVI-2017).**
- *Participated* in **Chemistry of Functional Materials of Current Interest (CFMCI-2016).**
- *Participated* in **National Seminar on Emerging Trends in Chemistry (ETC-2017).**

Computer skills

- Windows, MS Office (Word, Excel, PowerPoint) – Expert
- FORTRAN Programming – Expert
- PYTHON Programming- Expert

Languages

- Mother tongue is *Bengali* and can write and speak *English*, and also can speak *Hindi*.

Self-assessment

I like to work in an environment where I shall find a space to apply my domain of knowledge, a chance for accepting challenges, and work with a team that will take both me and my working space to a higher level.

Hobbies and interests

Painting, recitation, singing and playing harmonium, reading books.

Listening to music with an inclination towards country-folks-classical, watching movies of specific genre.