

# Curriculum Vitae

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## Dr. Pubalee Sarmah

Associate Professor  
Department of Chemistry  
Royal Global University  
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Assam, India  
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## Educational Qualification

**2005-2010**

### **Ph.D. in Physical/Theoretical Chemistry**

Tezpur University, Tezpur, Assam, India

Thesis Title: “*Quantum Chemical Structure-Reactivity Studies of Anticancer Drug Molecules and an Insight into Drug-DNA interaction*”

Supervisor: Prof. Ramesh C Deka

**2002-2004**

### **M.Sc. in Chemistry (Specialization: Physical Chemistry)**

Gauhati Univeristy, Guwahati, Assam, India

Dissertation Title: Synthesis of dihydropyrimidinones using iodine as catalyst.”

Supervisor: Dr. Prodeep Phukan

**1999-2002**

### **B.Sc. in Chemistry**

GauhatiUniveristy, (B. Borroah College), Guwahati, Assam, India

## Research Profile



[Pubalee Sarmah –Google Scholar](#)



[Pubalee Sarmah- ResearchGate](#)



[Pubalee Sarmah- \(0000-0002-8069-8685\)-ORCID](#)

## Awards/Fellowship Received:

- 1) Received **Best Poster Award** in National Seminar On “Science for Sustainable Development” which was held at the Department of Chemistry, B. Borooah, Guwahati in collaboration with ASTEC from 25<sup>th</sup> September to 26<sup>th</sup> September, 2020.
- 2) Received **Best Poster Award** in National Seminar On “Science, Technology & Innovation” which was held at the Department of Chemistry, Arya Vidyapeeth College, Guwahati on 29<sup>th</sup> Feb, 2020.

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- 3) Received the best oral presentation award as “**Best Young Investigator’s Talk**” in National Symposium Cum Workshop on *Advances in Computational Biology and Computer Aided Drug-Design*, which was held at the Department of Biosciences and Bioengineering, **IIT Guwahati**, Assam, India from June 24<sup>th</sup> to 26<sup>th</sup>, 2015
- 4) **Junior Research Fellow (JRF)** in the DST sponsored research project. (28<sup>th</sup> January 2009 – 15<sup>th</sup> July 2009)
- 5) **Institutional Scholarship** from Tezpur University for pursuing Ph.D. research (2007-27<sup>th</sup> January 2009)

### Research Interests:

Computational chemistry, Catalysis & Adsorption, Chemo-informatics, Anticancer drugs, Computer aided drug design, DFT based reactivity descriptors, QSAR.

### Skills :

Computational software like Gaussian, Hyperchem, GAMESS, DMol3, Material Studio, GaussView, ChemDraw etc.

### Research Experience:

- 1) **Principal Investigator of a DST SERB fast track project** entitled “*Structure, Reactivity and Reaction Mechanism of Platinum and Ruthenium Based Complexes with Anticancer Activity: A Density Functional Theory Approach*”. This project work has been sanctioned by **Science and Engineering Research Board (SERB)**, New Delhi for a period of three years (2014-2017).
- 2) **Junior Research Fellow (JRF) in the DST sponsored research project** entitled “*Computational Studies of bare and zeolites-supported palladium nanocluster and their application in catalysis*” (From 28<sup>th</sup> January 2009 – 15<sup>th</sup> July 2009) in the Department of Chemical Sciences, Tezpur University.
- 3) **Project Assistant in the CSIR sponsored research project** entitled “*Structure & Stability of transition metal cations in the framework of ZSM-5 zeolite*” (3<sup>rd</sup> January 2006 – 28<sup>th</sup> February, 2007) in the Department of Chemical Sciences, Tezpur University.

### Work Experience (in years):

	<b>Institute</b>	<b>No. of years</b>
<b>Teaching</b>	Royal Global University erstwhile Royal Group of Institutions	<b>13 years 7 months</b> (16/07/09 to till date)
<b>Research</b>	Tezpur University,	<b>5 years</b> (during Ph. D.)

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**Members of Scientific Bodies:** Life membership of Assam Science Society (Membership No.: 6659)

## **Publications:**

- 1) **P. Sarmah** and R.C. Deka, Reactivity of 9-anilinoacridine derivatives as potent anticancer agents: A DFT approach. *Current Physical Chemistry*, 2022, 12, 203-215.
- 2) **P. Sarmah** and B. Choudhary Nanomaterials for Targeted Delivery of Anticancer Drugs: An Overview. *Current Nanomaterials*, 2021, 7, 31-39
- 3) **P. Sarmah**, DFT-based Reactivity and QSPR Studies of Platinum (IV) Anticancer Drugs J. *Mol. Graph. Model.* 2020, 100, 107682-107689
- 4) S. Rajkhowa, I. Hussain<sup>1</sup>, K. K. Hazarika, **P. Sarmah** and R.C. Deka, Quantitative Structure-Activity Relationships of the Antimalarial Agent Artemisinin and Some of its Derivatives – A DFT Approach. *Combinatorial Chemistry & High Throughput Screening*, 2013, 16, 590-602.
- 5) N. Barua, **P. Sarmah**, R.C. Deka and A.K. Buragohain, DFT-based QSAR Models to Predict the Antimycobacterial Activity of Chalcones, *Chemical Biology & Drug Design*. 2012, 79, 553-559.
- 6) **P. Sarmah** and R.C. Deka, Stability of AMD473(cis-[PtCl<sub>2</sub>(NH<sub>3</sub>)(2pico-line)]) Drug-DNA Adduct and Proton Transfer in DNA Base Pairs : A Theoretical Study. *Chem. Phys. Lett.* 2011, 508, 295-299.
- 7) **P. Sarmah** and R.C. Deka, Hydrolysis and Binding Mechanism of AMD473 (cis-[PtCl<sub>2</sub>(NH<sub>3</sub>)(2-picoline)]) with Guanine: A Quantum Mechanical Study. *J. Mol. Struct. THEOCHEM* 2010, 955, 53-60.
- 8) **P. Sarmah** and R.C. Deka, Anticancer Activity of Nucleoside Analogues: A Density Functional Theory Based QSAR Study. *J. Mol. Model.* 2010, 16 411-418.
- 9) **P. Sarmah** and R.C. Deka, DFT-based QSAR and QSPR Models of Several cis-Platinum Complexes: Solvent Effect. *J. Compt. Aided .Mol. Des.* 2009, 23, 343-354.
- 10) **P. Sarmah** and R.C. Deka, Solvent Effect on the Reactivity of cis-Platinum (II) complexes: A Density Functional Approach. *Int. J. Quant. Chem.* 2008, 108, 1400-1409\.
- 11) **P. Sarmah** and R.C. Deka, *Density Functional Studies on the Electron Affinities of DNA and RNA Bases*, *Mol. Simulation* 34 (2008) 879-885.
- 12) D. Katakai, P. Chakraborty, **P. Sarmah** and Pradeep Pukan, Scalable synthesis of 3,4-dihydropyrimidin-2(1H)-ones under solvent free condition. *Indian Journal of Chemical Technology* 2006, 13, 519-521.

## **Book Published:**

**Pubalee Sarmah** and R. C. Deka, *Theoretical Aspects of Anticancer Drugs*, ISBN 978-3-8443-8280-8, 2011.

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## Research Project Sanctioned:

**P. Sarmah**, Structure, Reactivity and Reaction Mechanism of Platinum and Ruthenium Based Complexes with Anticancer Activity: A Density Functional Theory Approach, **Science and Engineering Research Board, Department of Science and Technology**, New Delhi. (SB/FT/CS-107/2012).

## Paper Presented in Conference/Symposium/ Workshop:

- 1) Presented a paper in National Seminar on “Emerging Priorities in Science and Technology with Special Focus on Rural and Green Technology” on 24<sup>th</sup> March 2022 organized by Department of Chemistry, B. Borooah College in collaboration with Assam Science Society, Assam
- 2) Presented a paper in National Seminar on “Science for Sustainable Development on 26<sup>th</sup> September, 2020 organized by Department of Chemistry, B. Borooah College in collaboration with ASTEC, Assam.
- 3) Presented a paper National Seminar on “Science, Technology & Innovation on 29<sup>th</sup> Feb, 2020 organized by Department of Chemistry, Arya Vidyapeeth College, Guwahati.
- 4) Presented a paper in Seminar on “Science for Sustainable Development on 9<sup>th</sup> January, 2019 organized by Department of Chemistry, B. Borooah College in collaboration with ASTEC, Assam
- 5) Presented a paper in National Symposium on Accelerating Biology 2017 during Jan 17<sup>th</sup> to 19<sup>th</sup>, 2017 organized by Centre for Development of Advanced Computing, Pune, Maharashtra
- 6) Presented a paper entitled “ in 18<sup>th</sup> CRSI National Symposium in Chemistry and 10<sup>th</sup> CRSI-RSC Symposium during Feb 4<sup>th</sup> to 7<sup>th</sup>, 2016 organized by Department of Chemistry, Panjab University, Chandigarh.
- 7) Presented a paper entitled “ in National Symposium Cum Workshop on *Advances in Computational Biology and Computer Aided Drug-Design* during June 24<sup>th</sup> to 26<sup>th</sup>, 2015, organized by Department of Biosciences and Bioengineering, IIT Guwahati.
- 8) Presented a paper entitled “ in Conference on *Current Trend in Computational Chemistry* during March 16-17, 2012, organized by Department of Chemistry, NEHU, Shillong, India
- 9) Presented a paper entitled “ in Conference on *Recent Developments & Trends in Computational Chemistry* during March 12-13, 2010, organized by Department of Chemistry, NEHU, Shillong, India
- 10) Presented a paper entitled “ in 14<sup>th</sup> National Workshop on Catalysis during December 21-23, 2009, organized by Department of Chemical Sciences, Tezpur University, Assam, India
- 11) Presented a paper entitled “ in 12<sup>th</sup> *ISCBC International Symposium* during February 22-24, 2008, organized by Department of Chemistry, BITS, Pillani, Rajasthan, India.
- 12) Presented a paper entitled “ in *National Symposium on Condensed Matter Days* during August 29-31, 2006, organized by Department of Physics, Tezpur University.

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## **Training Courses, Faculty Development Programmes, Workshop Attended:**

- 1) FDP on *Recent Advances in Material Frontiers: Chemical and Biological Aspects*, August 1<sup>st</sup> to 5<sup>th</sup>, 2022, AMITY University, Kolkata
- 2) FDP on *Intellectual Property Rights (IPR)*, June 20<sup>th</sup> to 24<sup>th</sup>, 2022, Department of Economics & Botany, Guwahati College in collaboration with CDOE, Tezpur University & IQAC, Guwahati College.
- 3) FDP on *ICT Tools for Effective Teaching Learning*, May 23<sup>rd</sup> to 28<sup>th</sup>, 2022, Amar Sewa Mandal's Kamla Nehru Mahavidyalaya, Nagpur, Maharashtra.
- 4) FDP on "*Recent Advances in Material Science*", July 8<sup>th</sup> to 12<sup>th</sup>, 2020 AMITY University, Kolkata
- 5) FDP on "*Skilling Teachers for Online Education*", June 2<sup>nd</sup> to 6<sup>th</sup>, 2020, UKA TARSADIA University, Gujarat
- 6) FDP on "*Recent Trends in Energy Sector (with special emphasis on North-East)*", June 18<sup>th</sup> to 23<sup>rd</sup>, 2018, Royal School of Engineering & Technology, RGU, Guwahati, Assam.
- 7) National Workshop on "*Research Methodology*", June 7<sup>th</sup> to 13<sup>th</sup>, 2018, IQAC, Guwahati College, Guwahati, Assam
- 8) Workshop on Programming with MATLAB and its application, April 27<sup>th</sup> & 28<sup>th</sup>, 2017, Royal Global University, Guwahati.
- 9) FDP on "Entrepreneurship: A Journey to the Concept", 16<sup>th</sup> Feb to 27<sup>th</sup> Feb, 2015, Royal School of Engineering & Technology, Guwahati, Assam
- 10) FDP on *Testing and Quality Control of Plastic Products*, March 10-21, 2014, CIPET, Guwahati, Assam.
- 11) Workshop on *Deployment & Use of NPTEL courses*, April 29-30, 2013, IIT, Guwahati & Assam and Royal Group of Institutions Assam.
- 12) FDP on *Conducting Effective Research and Development in Science & Technology*, May 19, 2012, Royal Group of Institutions, Guwahati, Assam.
- 13) 14<sup>th</sup> National Workshop on Catalysis, December 21-23, 2009, Department of Chemical Sciences, Tezpur University, Assam.
- 14) Summer School on Green Chemistry, June 2-22, 2009, Department of Chemical Sciences, Tezpur University, Assam.
- 15) Workshop on "*Winter School on Catalysis*", February 1-14, 2006 Department of Chemical Sciences, Tezpur University, Assam.

## **Member of RGU Committee**

- 1) Coordinator, MoU Implementation sub-committee, ICT, Mumbai.
- 2) Coordinator, Committee for Waste Management, IQAC, Assam Royal Global University.
- 3) Member, Committee for Preparation of Documents for Central Instrumentation Facility, IQAC, RGU

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- 4) Member, Board of Management, Assam Royal Global University, Guwahati, Assam.
- 5) Member, Academic Council, Assam Royal Global University, Guwahati, Assam.
- 6) Member, Scholarship Committee, Assam Royal Global University, Guwahati, Assam
- 7) Member, Board of Studies, RSAPS, Assam Royal Global University, Guwahati, Assam
- 8) External member, Departmental Research Committee, Department of Physics, RSAPS, Assam Royal Global University, Guwahati, Assam
- 9) Member, Royal Centre for Research, Publications, Projects and Patents, Assam Royal Global University, Guwahati, Assam.

### **Professional Responsibilities Taken:**

- 1) HoD, Department of Chemistry, Royal Global University, Guwahati, Assam.
- 2) Member and chaired as Technical Session in International Conference on Emerging Areas in Science and Technology (EAST 2021), which was held on 2<sup>nd</sup> June, 2021, RSAPS, Royal Global University, Guwahati, Assam, India
- 3) Member of organizing committee for the seminar “Science For Sustainable Development” which was held on 9<sup>th</sup> Jan, 2019, Dept. of Chemistry, B. Borooah College, Guwahati.
- 4) Member of organizing committee for “Science Conclave” which was held on November 15-16, 2018, Royal Global University, Guwahati, Assam, India.
- 5) Member of organizing committee for the seminar “Royal School of Applied & Pure Sciences Lecture Series-I (RSAPSLs-I, 2018)” which was held on January 24-25, 2018 at Royal Global University, Guwahati, Assam, India.
- 6) Member of organizing committee for the seminar on “Non-conventional Sources of Energy: Prospects and Challenges” which was held on 30<sup>th</sup> Jan, 2016 at Royal Group of Institutions, Guwahati, Assam, India.
- 7) Member of organizing committee for the seminar on “Frontiers in Nanotechnology” which was held on 16<sup>th</sup> Nov., 2013 at Royal Group of Institutions, Guwahati, Assam, India.
- 8) Member of organizing committee for the workshop on “Mathematics for Engineering Aspirants” which was held on 5<sup>th</sup>-6<sup>th</sup> June, 2015 at Royal Group of Institutions, Guwahati, Assam, India.