

PAULAMI GHOSH

Senior Research Fellow, School of Chemical Sciences
Indian Association for the Cultivation of Science, Kolkata-700032, India

@ paulamighosh1991@gmail.com, pcp2@iacs.res.in +91 8910173856
Kolkata, West Bengal, India orcid.org/0000-0002-1912-5423

✉ Sarada Sarani, Nivedita Park, Hridayapur, Kolkata-700127

EDUCATION

Ph.D. in Chemical Sciences

CSIR-National Chemical Laboratory, Pune

July, 2016 - June 2017

Indian Association for the Cultivation of Science, Kolkata
June, 2017-Feb, 2022.

Supervisor: Dr. Debashree Ghosh

Thesis title: Application and Development of Quantum
Chemical Methods in Biological Systems.

M.Sc. in Chemistry

Indian Institute of Engineering Science and Technology (IIST),
Shibpur

📅 08/2013-05/2015

CGPA - 7.60 (Chemistry)

B.Sc. in Chemistry

Barasat Government College, WBSU

📅 08/2010-06/2013

Percentage - 67% (Chemistry) (First Class)

Auxiliary subjects: Physics, Mathematics and English.

RESEARCH EXPERIENCE

Research Fellow

CSIR-NCL and IACS

📅 July 2015 - Ongoing

📍 Pune and Kolkata

- Study of Non-radiative photo-processes present in Eumelanin monomers.
- Performed Surface Hopping dynamics for clear understanding of the time evaluation of non-radiative processes of eumelanin monomer.
- Effect of micro-solvation on the non-radiative pathways of eumelanin monomers.
- Effect of dimerization on deactivation pathways of eumelanin monomers.
- Study of non-radiative pathways of unnatural bases of DNA nucleic acids.

CONFERENCE ATTENDED

- Presented a poster at the Theoretical Chemistry Symposium (TCS), Bits Pilani (Rajasthan), February 2019.
- Presented a poster at the Discussions in Structure and Dynamics of Molecules and Clusters (SDMC), Pondicherry, February 2017.
- Presented a poster at the National Science Day Symposium, Pune, February 2017.
- Presented a poster at the Theoretical Chemistry Symposium (TCS), Hyderabad, December 2016.

TECHNICAL SKILLS

- Trained in working with Linux/UNIX OS and various software packages required for a state-of-the-art theoretical/ computational chemistry lab such as Mathematica, Xmgrace, GNU plot, VMD, Avogadro, Molden, Lapack etc.
- Trained in programming languages such as FORTRAN, Python.
- Trained in single point calculation/investigation of non-radiative photo-processes using quantum chemical packages such as Q-Chem, Molpro, SHARC, Gaussian, ORCA etc.
- Communication (verbal and written) skills in English, Bengali and Hindi.
- Strongly trained in working with MS power point, MS word, Excel, latex etc.

AWARDS

- Recipient of DST-INSPIRE scholarship (2010-2017).
- CSIR-UGC National Eligibility Test (NET): qualified on June 2015 (JUNE).
- Graduate Aptitude Test Engineering (GATE): within top 6%, March 2015.
- Received Best Poster Award in National Science Day symposium at NCL, Pune, 2017.
- Indian Academic of Science (IAS) project fellow during 2014-2015 under Prof. Satrajit Adhikary at IACS, Kolkata.

PUBLICATIONS

- P. Ghosh, T. Nandy, D. Ghosh and P. C. Singh, "Surprising multi-channel decay in substituted Indole", (communicated), 2022.
- P. Ghosh, A. Ghosh and D. Ghosh, "Non-radiative pathways of unnatural DNA base: Pyrole 2-carbaldehyde (Pa)", J. Phys. Chem. A, 2021.
- P. Ghosh, and D. Ghosh, "Effect of dimerization on the non-radiative processes of eumelanin monomer", J. Phys. Chem. B, **125(2)**, pp: 547-556, 2021.
- P. Ghosh, and D. Ghosh, "Effect of microsolvation on the non-radiative decay of the eumelanin monomer", J. Phys. Chem. B, **21(47)**, pp: 26123-26132, 2019.
- P. Ghosh and D. Ghosh, "Non-radiative decay of an eumelanin monomer: to be or not to be planar", Phys. Chem. Chem. Phys., **21(12)**, pp: 6635-6642, 2019.
- P. Ghosh, and D. Ghosh, "Elucidating the photoprotection mechanism of eumelanin monomers", J. Phys. Chem. B, **121(24)**, pp: 5988-5994, 2017.
- R. Chakraborty, P. Ghosh, and D. Ghosh, "Evolutionary algorithm based configuration interaction approach", Int. J. Quant. Chem., **118(6)**, p: e25509, 2018.
- K.K. Mishra, S.K. Singh, P. Ghosh, D. Ghosh and A. Das, "The nature of selenium hydrogen bonding: gas phase spectroscopy and quantum chemistry calculations", Phys. Chem. Chem. Phys., **19(35)**, pp: 24179-24187, 2017.
- P. Ghosh, S. Ghosh and N. Bera, "Revisiting the Saha-Basu equation of state", Eur. J. Phys., **40(1)**, p: 015101, 2018.
- P. Ghosh, S. Ghosh and N. Bera, "Finite size effect on classical ideal gas revisited", Eur. J. Phys., **36(5)**, p: 055046, 2015.

Books and Book Chapter

- N. Bera, S. Ghosh and P. Ghosh. (2018). "Physical Chemistry Concepts and Models: Volume I (Gaseous state and Transport Phenomena)", Techno World Publication, India.
- N. Bera, S. Ghosh and P. Ghosh. (2019). "Physical Chemistry Concepts and Models: Volume II (Chemical Kinetics, Catalysis and Surface Chemistry)", Techno World Publication, India.
- N. Bera, S. Ghosh and P. Ghosh. (2020). "Physical Chemistry Concepts and Models: Volume III (Classical Thermodynamics and Introduction of Electrochemistry)", Techno World Publication, India.
- N. Bera, S. Ghosh and P. Ghosh. (2022). "Physical Chemistry Concepts and Models: Volume IV (Quantum Mechanics: Basics and Applications)", Techno World Publication, India.
- N. Bera, S. Ghosh and P. Ghosh. (2019). "Mathematics and Statistics for Chemists", Techno World Publication, India.
- N. Bera, S. Ghosh and P. Ghosh. (2019). "FORTRAN: Basics and Numerical Applications", Techno World Publication, India.
- N. Bera, S. Ghosh and P. Ghosh. (2019). "Classical-Quantum Correspondence revisited: A case study in the context of linear Simple Harmonic Oscillator", Nova Science Pub Inc.

OTHER INFORMATIONS

- Date of Birth: 23.08.1991.
- Parents: Mrs. Alpana Ghosh and Mr. Gopal Chandra Ghosh.
- Teaching assistantship in Numerical analysis by Fortran Lab at IACS, Kolkata from June, 2019 to December, 2019.

REFEREES

Dr. Debashree Ghosh

@ pcdg@iacs.res.in

✉ Associate Professor

School of Chemical Sciences,
Indian Association For the Cultivation of Science.
Kolkata-700032, India

Prof. Sudip Kumar Chattopadhyay

@ sudip.chem@faculty.iiests.ac.in

✉ Professor in Chemistry

Department of Chemistry,
Indian Institute of Engineering Science and Technology (IEST),
Shibpur, Howrah-711103, India

Dr. Nabakumar Bera

@ nabakumarbera@gmail.com

✉ Assistant Professor (WBES)

Department of Chemistry,
Jhargram Raj College, Jhargram-721507,
India