

Dr. Pooja Ghosh
Research Associate
Polymer Research Centre
Department of Chemical Sciences
Indian Institute of Science Education & Research (IISER) Kolkata,
Mohanpur - 741246, West Bengal, India

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Academic background:

- **Ph.D**
Indian Institute of Technology Kharagpur
Kharagpur-721302, India
Thesis Title: Protein- and polymer-based nanoparticles for delivery of flavonoids
Thesis Supervisor: Professor Swagata Dasgupta

2012 (December)-2018 (June)

- **M.Sc.**
Vidyasagar University, West Bengal, India
(90.5%, 1st class 1st)

2010-2012

- **B.Sc. (Chemistry Hons.)**
Midnapore College, Vidyasagar University, West Bengal, India
(72.25%, 1st class, position 4th)

2007-2010

- **Higher Secondary**
West Bengal Council of Higher Secondary Education
(89.2%, 1st class)

2005-2007

- **Madhyamik**
West Bengal Board of Secondary Education
(87.5%, 1st class)

2005

Achievements:

- **Gold medal** awarded by Vidyasagar University for securing **1st position** in M.Sc. (*in 2012*).

- **Gold medal (Scientist Dr. Narayan Chandra Rana memorial medal)** awarded by Vidyasagar University for standing **best student** of the year 2012 in all PG examination in science
- **Gold medal (Sucharita Basu memorial medal)** awarded by Vidyasagar University for standing **1st** among candidates in all PG examinations (*in 2012*).
- **Gold medal (Biswanath De memorial medal)** awarded by Vidyasagar University for standing **1st** among candidates in M.Sc examination in Chemistry (*in 2012*).
- **Gold medal (Pravabati devi memorial medal)** awarded by Vidyasagar University for securing highest marks among the successful candidates in M.Sc examination in Chemistry (*in 2012*).
- Qualified for the National Eligibility Test (**NET**) conducted by Council of Scientific and Industrial Research, India (*in 2012*).
- Qualified for the Graduate Aptitude Test in Engineering (**GATE**) (*in 2012*).

Teaching Experience:

Teaching experience in

[August 2013-December 2015]

- Physical Laboratory Classes (B. Tech)
- Biochemistry Laboratory Classes (M. Sc.) and
- Physical Chemistry Tutorials Classes (B. Tech)

Mentored one M.Sc student and one undergraduate student

Research Interest:

- Nanoparticles and drug delivery
- Protein Chemistry
- Spectroscopic Techniques
- Protein and Polymer based nanoparticles
- Biophysical Chemistry
- Polymer Chemistry

Brief Research Activities:

- **Protein based nanoparticles for the effective delivery of polyphenols:**

Preparation and characterization of polyphenol loaded human serum albumin (HSA) nanoparticles and to observe their *in vitro* release properties, antioxidant and anticancer activities

- **Polymer based nanoparticles and effect of protein on their release properties:**

Preparation and characterization of polyphenol loaded PLGA nanoparticles and to monitor their interaction with plasma protein (HSA) and further study the effect of HSA on their antioxidant and release properties

- **Antiglycation activity of nanoparticles:**

To study the inhibitory properties of nanoparticles on nonenzymatic glycation of protein

- **Antibacterial and anticancer activities of nanoparticles**

- **Effect of nanoparticles on model lipid bilayer membranes:**

Preparation and characterization of artificial model lipid bilayer membranes and further observe the ability of the nanoparticles to permit across the lipid membranes

Skills and Techniques Known:

- Proficient in experimental methodology and interpretation of the data from techniques such as Fluorescence, UV-vis, Circular Dichroism, FTIR spectroscopy and High resolution transmission electron microscopy (HRTEM), Transmission electron microscopy (TEM), Scanning electron microscopy (SEM), Field emission scanning electron microscopy (FESEM), Atomic force microscopy (AFM), Fluorescence microscopic techniques
- Expertise in independent handling of instruments like UV-vis spectrophotometer, Spectrofluorometer, Circular Dichroism spectropolarimeter, Gel electrophoresis technique, Isothermal titration calorimetry, Dynamic Light Scattering.
- Experience in cell culture study and antibacterial study
- Softwares such as PyMol, Sybyl, WINDOWS, Microsoft Office, Chem Draw, Adobe photoshop, Origin, OMNIC-FTIR software

Conference and Workshop Attended:

- 253rd American Chemical Society NATIONAL MEETING & EXPOSITION held during April 2-6, 2017 in San Francisco, CA, USA
- 22nd Conference of National Magnetic Resonance Society (NMRS) 2016 organized by Department of Chemistry, IIT Kharagpur held on 18th-21st February, 2016 at IIT Kharagpur, India
- 18th CRSI NATIONAL SYMPOSIUM in Chemistry held during February 5-7, 2016 in Punjab University, Chandigarh, India
- Author Workshop on “ Scholarly Publishing”, organized by Wiley and Central Library, IIT Kharagpur, held on March 23, 2015 at IIT Kharagpur, Kharagpur, India
- National Symposium on Biophysics & Golden Jubilee Meeting of Indian Biophysical Society (IBS) held during February 14-17, 2015 in Jamia Millia Islamia, New Delhi, India
- One day symposium on Current Trends in Synthetic Organic Chemistry held on January 13, 2015 in IIT Kharagpur, Kharagpur, India
- International Conference on “Light in Chemistry, Materials and Biology (LCMB 2014)”, held during February 24-25, 2014 at IIT Kharagpur, Kharagpur, India
- “Author Workshop jointly organized by Springer and IIT Kharagpur” held on February 12, 2014 at IIT Kharagpur, India
- National Symposium on Molecular Architecture and Assembly in Living System (MADALS-2014) held during February 7-10, 2014, jointly organized by Indian biophysical Society (IBS) and Saha Institute of Nuclear Physics (SINP), at SINP, Kolkata, India
- ACS on Campus event held on November 25, 2013 at IIT Kharagpur, India
- One Day International Symposium on ‘Frontiers in Chemical Sciences-2012’ organized by Department of Chemistry and Chemical Technology, Vidyasagar University, Midnapore, India held on 21st March, 2012

List of Publications:

- **Ghosh, P.**; Patwari, J.; Dasgupta, S. Complexation With Human Serum Albumin Facilitates Sustained Release of Morin From Polylactic-Co-Glycolic Acid Nanoparticles *J. Phys. Chem. B* **2017**, *121*, 1758-1770.
- **Ghosh, P.**; Bag, S.; Singha Roy, A.; Subramani, E.; Chaudhury, K.; Dasgupta, S. Solubility enhancement of morin and epicatechin through encapsulation in an albumin based nanoparticulate system and their anticancer activity against the MDA-MB-468 breast cancer cell line. *RSC Adv.* **2016**, *6*, 101415-101429.
- **Ghosh, P.**; Roy, A.S.; Chaudhury, S.; Jana, S.K.; Chaudhury, K.; Dasgupta, S. Preparation of albumin based nanoparticles for delivery of fisetin and evaluation of its cytotoxic activity *Int. J. Biol. Macromol.* **2016**, *86*, 408-417.
- Singha Roy, A.; Samanta, S.; **Ghosh, P.**; Tripathy, D.R.; Ghosh, SK.; Dasgupta, S. Cell cytotoxicity and serum albumin binding capacity of the morin-Cu(II) complex and its effect on deoxyribonucleic acid *Mol. Biosyst.* **2016**, *12*(9), 2818-2833.
- Singha Roy, A.; **Ghosh, P.**; Dasgupta, S. Glycation of human serum albumin affects its binding affinity towards (-)-epigallocatechin gallate *J. Incl. Phenom. Macrocycl. Chem.* **2016**, *85*, 193-202.
- Chaudhury, S.; **Ghosh, P.**; Parveen, S.; Dasgupta, S. Glycation of human γ B-crystallin: A biophysical investigation *Int J Biol Macromol.* **2016**, *96*, 392-402.
- Singha Roy, A.; **Ghosh, P.**; Dasgupta, S. Glycation of human serum albumin alters its binding efficacy towards the dietary polyphenols: a comparative approach *J Biomol Struct Dyn.* **2016**, *34*(9), 1911-8.
- Singha Roy, A.; **Ghosh, P.** Characterization of the binding of flavanone hesperetin with chicken egg lysozyme using spectroscopic techniques: effect of pH on the binding. *J. Incl. Phenom. Macrocycl. Chem.* **2016**, *84*, 21-34.
- Das, S.; **Ghosh, P.**; Koley, S.; Singha Roy, A. Binding of naringin and naringenin with hen egg white lysozyme: A spectroscopic investigation and molecular docking study *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* **2018**, *192*, 211-221.
- Das, S.; Karn, A.; Sarmah, R.; Rohman, M.A.; Koley, S.; **Ghosh, P.**; Singha Roy, A. Characterization of non-covalent binding of 6-hydroxyflavone and 5,7-dihydroxyflavone with bovine hemoglobin: Multi-spectroscopic and molecular docking analyses *J Photochem Photobiol B.* **2017**, 40-52.

- Majumdar, R.; Bag, B.G.; **Ghosh, P.** Mimusops elengi bark extract mediated green synthesis of gold nanoparticles and study of its catalytic activity *Applied Nanoscience*. **2015**, 6, 521-528.
- Roy, P.; Parveen, S.; **Ghosh, P.**; Ghatak, K.; Dasgupta, S. Flavonoid loaded nanoparticles as an effective measure to combat oxidative stress in Ribonuclease A *Biochimie*. **2019**, 162, 185-197.

Personal Details:

Date of Birth: 27.03.1989

Sex: Female

Nationality: Indian

Languages known: English, Hindi, Bengali

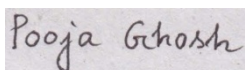
Contact Address:

Permanent address: C/O Madhusudan Ghosh
Keranitola (Sukanta Sarani)
Post: Midnapore
District: Paschim Medinipur
West Bengal
Pincode: 721101

Present address: Mohanpur Campus
Post: Krishi Viswavidyalaya
Nadia-741252
West Bengal

Declaration:

I hereby declare that the above-mentioned information is correct upto my knowledge and I bear the responsibility for the correctness of the above mentioned particulars.



Pooja Ghosh