Curriculum Vitae

Dr. Pooja Sahu

Designation: Assistant Professor (Contractual),

Department of Chemical Engineering,

Harcourt Butler Technical University, Kanpur, Uttar Pradesh 208002, India

Contact Details:

E-mail**:** poojasahunitrkl@gmail.com; poojasahuche@gmail.com

Google Scholar: https://scholar.google.com/citations?hl=en&user=J2zHvt8AAAAJ

ResearchGate: https://www.researchgate.net/profile/Pooja-Sahu-7?ev=hdr_xprf

Linkedin: https://www.linkedin.com/in/dr-pooja-sahu-25b105126/

Education Details:

Ph.D. in Chemical Engineering
Indian Institute of Technology Chennai, Tamil Nadu, India 2024
- Advisor: Prof. Upendra Natarajan

M.Tech in Chemical Engineering
National Institute of Technology Rourkela, Orissa, India 2017
CGPA: 8.13/10
- Advisor: Prof. Abanti Sahoo

B.Tech in Chemical Engineering
U.I.E.T. Chhatrapati Sahu Ji Maharaj University, Kanpur, U.P. India 2014
CGPA: 8.9/10
- Advisor: Dr. Abhishek Kumar Chandra

Intermediate with Physics, Chemistry, Mathematics, Hindi and English
Board of High School and Intermediate Education, Uttar Pradesh 2009
Percentage: 79%

High School with Mathematics, Science, English, Hindi and Social Science
Board of High School and Intermediate Education, Uttar Pradesh 2007
Percentage: 84%

Research Interest:
- Molecular Simulation
- Molecular structure and dynamics of polar polymer in organic/inorganic solvent
- Self-assembly behavior of amphiphilic molecules in salt-free aqueous solution

- Interaction behaviors of block copolymer with silver/gold nano particles providing stability to polymeric micelle
- Removal of metal ions from industrial water

Publications:

1. Sahu, P., Chockalingam, R., & Natarajan, U. (2024). Influence of charge on conformations, inter-molecular structure and thermodynamics of symmetric polystyrene-block-polymethacrylic acid (PS-*b*-PMA) polyelectrolyte micelle in aqueous solution. *Molecular Simulation*, *50*(17-18), 1600-1613.

Research Experience:

- **Major Project handling during Ph.D. Program**

  I have expertise on molecular dynamics simulation of polyelectrolytes and amphiphilic molecules in salt-free aqueous solution:

  - Micellization of Cationic and Anionic Surfactants in Aqueous Solution
  - Behavior of Polyelectrolyte Complexation in Salt-free Aqueous Solution
  - Structure, Hydration and Thermodynamic of Polyelectrolyte-Neutral Diblock Copolymer in Salt-free Aqueous Solution

- **M.Tech Project**

  - Modification in process design of sponge iron production plant for energy conservation using Aspen Plus and Microsoft excel.

Conference and Workshop:

- JNCASR-CECAM conference MD@60, JNCASR Bangalore, February 26th to 29th, 2024.
- Indian Chemical Engineering Congress & 75th Annual Session of Indian Institute Chemical Engineers, *CHEMCON 2022*, HBTU Kanpur, December 27th to 30th, 2022.
- 5th International Conference on Soft Material, *ICSM 2022*, MNIT Jaipur, December 11th-16th, 2022.
- 36th European Colloid and Interface Society Conference, *ECIS-2022*, Chania, Crete, Greece, September 04th - 09th, 2022.
- Recent Advances in Modeling and Simulation Techniques in Engineering and Sciences, *RAMSTES 2021*, Manipal University Jaipur, India, December 8th - 10th, 2021.
- ACS Fall 2021, Atlanta, GA, *95th-CSSS 2021,* August 22th - 26th, 2021. (virtual)
- 95th ACS Colloid and Surface Science Symposium, June 14th – 16th, 2021. (virtual)
- 1st DAE-BRANS Computational Chemistry Symposium, Bhabha Atomic Research Centre (BARC), *DAE-CCS-2019,* Anushaktinagar, Mumbai, November 7th – 9th, 2019.
- Short term courses on “Fundamentals of Molecular Simulations”, Indian Institute of Technology Kanpur, *FunMolSim 2019,* March 5th - 9th, 2019.
- 7th International Conference on Electroactive Polymers, *ICEP-2019*, Udaipur, India, February 3rd - 8th, 2019

- 15th International conference on Polymer Science and Technology, *SPSI MACRO-2018*, IISER-Pune and CSIR-NCL Pune, India, December 19th -22th, 2018.

Technical Skills:

- Molecular Dynamics Simulation Engines: GROMACS, LAMMPS
- Molecular editor & visualization tools: Visual molecular dynamics (VMD), Material Studio, Avogadro
- Data Analysis tools: Python, Shell scripting, Microsoft excel, Origin

Specialization:

- Chemical engineering thermodynamics (Classical)
- Chemical reaction engineering
- Heat transfer
- Process control
- Fluid Mechanics