

Rohit Goswami

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EDUCATION

HBTU KANPUR

B.TECH. IN CHEMICAL ENGINEERING
2018 | Kanpur, India
First Division

DPS KALYANPUR

INTERMEDIATE (AISSCE)

May 2013 | Kanpur, India
Central Board of Secondary Education (CBSE), 87.2%

HIGH SCHOOL (AISSE)

May 2011 | Kanpur, India
Central Board of Secondary Education (CBSE), CGPA 9.8

INTERNSHIPS

R&D INDUSTRIAL INTERN

2017-2018

Keva Fragrances Ltd, Mumbai

SURGE SCHOLAR

Summer 2017

Department of Chemistry, IIT Kanpur

VISITING SCHOLAR

Summer 2017

Physics Department, IMSc. Chennai

RESEARCH INTERN

Summer 2016

Department of Chemistry, IIT Bombay

MEMBERSHIPS

CURRENT

OSA, 2014, Student→Early Career

APS, 2015, Student→Early Career

AIChE, 2015, Student→Young Professional

IEEE, 2015, Student→Young Professional

IOP, 2015, Student→Member (MInstP)

ICChemE, 2019, Associate (AMiChemE)

URSI, 2019, Corresponding

ACM, 2019, Professional

SPIE, 2019, Early Career

IEI, 2019, Associate (AMIE)

OSI, 2019, Individual

SKILLS

SIMULATION

ESPReSSoMD • LAMMPS • GROMACS •
VMD • OVITO • LineageOS Developer • Linux
Kernel • QT • CMake • Matlab

CREATED

zenYoda • docuYoda • d-SEAMS •
pyQtNumSim • starDoc • grimoire • hzArchIso

PROGRAMMING

C++ • FORTRAN • Python • Ruby • Julia • Lua
• LaTeX • Javascript • Golang • Sass • CSS

EXPERIENCE

IIT KANPUR | SENIOR PROJECT ASSOCIATE

2019 – present | Department of Chemistry

I am affiliated to the Femtolab under the project “Femtosecond Laser Approaches to Quantum Information and Quantum Computation (SPO/MEITY/CHM/2018356)”

IIT KANPUR | PROJECT ASSOCIATE

2018 – 2019 | Department of Chemical Engineering

I was associated with the Computational Nanoscience group. Over the course of two centrally funded projects, “Nucleation On Nanostructured Surfaces Computer Simulation Studies (SPO/DST/CHE/2017294)” and “Advanced Computation Research and Education (SPO/MHRD/CC/20130176)”:

- I worked on the implementation of an enhanced version of the CHILL (CHILL+) algorithm for tracking ice types.
- Designed a linear discriminant analysis technique for near-surface ice structure determination which is undergoing rigorous testing
- Implemented a graph based network connectivity model for ice structures
- Spearheaded the development of High Performance GPU accelerated molecular dynamics simulation analysis tools
- Worked on the determination of optimal GPU cluster configurations
- Designed and administered academic outreach websites

PUBLICATIONS

PEER REVIEWED | JOURNALS (1), CONFERENCES (2), PREPRINTS (1)

- [1] Rohit Goswami, Amrita Goswami, and Debabrata Goswami. “Semi-Supervised Approaches to Ultrafast Pulse Shaping”. In: *ICOL-2019*. Ed. by Kehar Singh, A. K. Gupta, Sudhir Khare, Nimish Dixit, and Kamal Pant. Springer Proceedings in Physics. Singapore: Springer, 2021, pp. 747–749. isbn: 9789811592591. doi: 10.1007/978-981-15-9259-1_172. url: 10.1007/978-981-15-9259-1_172.
- [2] Rohit Goswami, Amrita Goswami, and Jayant Kumar Singh. “d-SEAMS: Deferred Structural Elucidation Analysis for Molecular Simulations”. In: *Journal of Chemical Information and Modeling* (Mar. 2020). issn: 1549-9596. doi: 10.1021/acs.jcim.0c00031. arXiv: 1909.09830.
- [3] Ligeshe Theeyancheri, Subhasish Chaki, Nairhita Samanta, Rohit Goswami, Raghunath Chelakkot, and Rajarshi Chakrabarti. “Translational and Rotational Dynamics of a Self-Propelled Janus Probe in Crowded Environments”. In: *Soft Matter* (Aug. 5, 2020). issn: 1744-6848. doi: 10.1039/D0SM00339E.
- [4] Rohit Goswami. “Don’t Pull Punches in Peer Review”. In: *Nature* 574 (Oct. 8, 2019), pp. 176–176. doi: 10.1038/d41586-019-03024-2.
- [5] Rohit Goswami, Amrita Goswami, and Debabrata Goswami. “Space Filling Curves: Heuristics For Semi Classical Lasing Computations”. In: *2019 URSI Asia-Pacific Radio Science Conference (AP-RASC)*. Mar. 2019, pp. 1–4. doi: 10.23919/URSIAP-RASC.2019.8738612.
- [6] Prerna, Rohit Goswami, Atanu K. Metya, S. V. Shevkunov, and Jayant K. Singh. “Study of Ice Nucleation on Silver Iodide Surface with Defects”. In: *Molecular Physics* (Aug. 25, 2019), pp. 1–13. issn: 0026-8976, 1362-3028. doi: 10.1080/00268976.2019.1657599.
- [7] Nairhita Samanta, Rohit Goswami, and Rajarshi Chakrabarti. *Diffusion of self-propelled Janus tracer in polymeric environment*. 2017. arXiv: 1704.06207.
- [8] Rohit Goswami and Debabrata Goswami. “Quantum Distributed Computing with Shaped Laser Pulses”. In: *13th International Conference on Fiber Optics and Photonics* (2016). doi: 10.1364/photonics.2016.w4c.3.

ACCOLADES, CERTIFICATIONS & WORKSHOPS

SPRINGER BEST STUDENT PAPER AWARD | PHOTONICS 2016

JOURNAL OF OPEN SOURCE SOFTWARE | REVIEWER (7)

