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)
IChemE, 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] Ligesh 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)