Name: Dr. Gaganpreet

Qualification : M.Sc. (Hons.) Physics, Ph.D., Post Doctorate

Area Of Specilization : Computational Materials Science (Toxic gas sensing and water desalination using layered materials)

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Research Experience : Six Years

- **DST Women Scientist,** Indian Institute of Science Education and Research, Mohali (1 December, 2017 to December, 2020)
- **Post-Doctoral Research Fellow**, Indian Institute of Science Education and Research, Mohali (1 March to 30 November 2017)
- **Post Doctoral Fellow** Instituteof Nano Science and Technology, Sector-64, Ph-X, Mohali (September 2014 to August 2016)
- **Research Associate**, Indian Institute of Technology, Delhi (April 1, 2014 to August 2014)
- **Scientist C**, Institute of Nano Science and Technology, Sector-64, Ph-X, Mohali (Feb. 2013 to March 2014).

Teaching Experience : (Three Years)

- Assistant Professor, PGGCG-11, Chandigarh Since December 2019

List Of Publications

1. Y. Pathania* and **Gaganpreet***, Self-passivated nanoporous phosphorene as a membrane for water desalination, Desalination, 114777, **497** (2021). *Equal contribution of both the authors.
2. Harshita Trivedi, **Gaganpreet,** Arash Boochani, Naresh Shagya, Jayeeta Lahiri, Zohreh Ghoannevis, Investigating optical, structural and morphological properties of polycrystalline CdTe thin-film deposited by RF magnetron sputtering, Materials letters: X, 100087, **11** (2021).
3. **Gaganpreet**, Enhanced sensitivity of doped phosphorene for toxic gas sensing: NH_3 and NO_2, Applied surface Science, 144967, **507**, (2020).
4. Munish Shorie, Harmanjit Kaur, **Gaganpreet Chadha**, Kulvinder Singh, and Priyanka, Sabherwal, Graphitic Carbon nitride QDs impregnated biocompatible

agarose cartridge for removal of heavy metals from contaminated water samples, J. of Hazardous Materials, 629, **367** (201

5. **Gaganpreet Chadha** and Priyanka Chug, Enhanced CO2 adsorption on doped Au32 gold nanocages: A density functional approach, Materials Research Express, IOP, 065038, **5(6)** (2018).
6. **Gaganpreet** and Sunita Srivastava, Interfacial Layer Effect on Specific Heat of Colloidal Suspensions, Advanced material letters, 645, **8(5)** (2017).
7. Vinod Kumar, Jack R. Brent, Munish Shorie, H. Kaur, **Gaganpreet Chadha**, Lan Nguyen, Edward A. Lewis, Nicky Savjani, Paul D. McNaughter, Sarah J. Haigh, David J. Lewis, Paul O'Brien, A.K. Ganguli, Priyanka Sabherwal, Nanostructured Aptamer Functionalised Phosphorene Sensing Platform for Label-Free Detection of Myoglobin, a Cardiovascular Disease Biomarker, Applied Materials and Interface, 22860, **8,** (2016).
8. **Gaganpreet** and Sunita Srivastava, Viscosity of Nanofluids: Particle Shape an d fractal Aggregate, Phys. And Chemistry of Liquids: An International Journal, 174, **53** (2014).
9. **Gaganpreet**, Sunita Srivastava and K. Tankeshwar, Role of triplet correlations in anomalous self diffusion coefficient, Chem. Phys., 60, **40** (2012).
10. **Gaganpreet** and Sunita Srivastava, Effect of aggregation on thermal conductivity and viscosity of nanofluids, Appl Nanosci. 325, **2** (2012).
11. Y. Pathania* and **Gaganpreet***, Developments of black phosphorous based membrane material for water treatment Bioremediation of Industrial Effluents, Springer 2021 *Equal contribution of both the authors. (Accepted). 2022 Book Chapter
12. Book Chapter: **Gaganpreet**, S. Srivastava and K. Tankeshwar, Transport properties of Colloids in bulk and in confinement at nanoscale Book Title: Innovation in Nanomaterials, 169-194, ISBN No. 978-1-63483-572-5, Nano Science and Technology, Nova Science Publishers, (2015). Book Chapter
13. Gagandeep Kaur, Shuchi Gupta, **Gaganpreet** and Keya Dharamvir, Hydrogen Molecule on Lithium Adsorbed Graphene: a DFT Study, AIP Conf. Proc. 020434-1, 1728 (2016).
14. **Gaganpreet** and Sunita Srivastava, Influence of particle shape on the viscosity of Nanofluids AIP Conf. Proc. 984, 1512 (2013).
15. **Gaganpreet** and Sunita Srivastava, Effect of Particle Shape and Interfacial Layer in Thermal Conductivity and Viscosity of Nanofluids, AIP Conf. Proc. 407, 1349 (2011).
16. **Gaganpreet**, Sunita Srivastava and K. Tankeshwar Anomalous behavior of Mori coefficients for the Gaussian core Fluid, AIP Conf. Proc. 263, 1393 (2011).

Presentations

1. Oral Presentation, Toxic gas adsorption on doped phosphorene: A density functional approach, at IEMPHYS 2019 Kolkata November 2019.

2. Poster presentstaion, Oral Presentation, Toxic gas adsorption on doped phosphorene: A density functional approach, Graphene 2019, Rome Italy.
3. Poster Presentation, Doped phosphorene nanosheet based gas sensor: anapplication to NH3, Singapore September 2017.
4. Oral Presentation, Interfacial Layer Effect on Specific Heat of Colloidal Suspensions, RAINSAT, Sathyabama University 8-10 July, 2015.
5. Poster Presentation, Self-Diffusion of colloidal dispersion in nano confinement, ICIACS,Panjab University, Chandigarh, India.
6. Poster Presentation, Anomalousbehavior of Mori coefficients for the Gaussian core Fluid,
   International Conference on Advances in Condensed & Nano Materials, Department of Physics, Panjab University, Chandigarh, India, 23–26 February, 2011.
7. Talk and Poster Presentation, Investigation on static and Dynamical Properties of Nanofluids, Research Proposal in Student Research Convention (ANVESHAN) May 21, SRC 2010, Panjab University Chandigarh.
8. Talk on Research Proposal,Investigation on static and Dynamical Properties of Nanofluids,3 rdNorth Zone Student Research Convention held at University of Jammu, India. 2010.
9. Talk, Effect of Particle Shape and Interfacial Layer in Thermal Conductivity and Viscosity of Nanofluids,55thDAE Solid State Physics Symposium, Manipal University, Manipal, India, 26-30 December, 2010.
10. Poster Presentation,Role of interfacial layer and shape in the effective thermal conductivity of nanofluids, CHASCON 2010 Chandigarh Science Congress, Department of Physics, Centre of Advanced Studies, Panjab University, Chandigarh, India, 26-28 Feb, 2010.
11. Talk and Poster Presentation, Shape optimization using hyperbolic function CHASCON -2009, 3 rd Chandigarh Science Congress, Department of Physics, Centre of Advanced Studies, Panjab University, Chandigarh, India, 26-28 Feb, 2009.
12. Poster Presentation, Fractal Distribution of size of nanoparticles in nanofluids. CHASCON2008, 2nd Chandigarh Science Congress, Department of Physics, Centre of Advanced Studies, Panjab University, Chandigarh, India, Mar 2010.

Awards & Recoginition

- Received International Travel grant from SERB, New Delhi for attending Graphene 2019 Conference at Rome, Italy
- Received travel grant from CICS, Chennai for attending Graphene 2019 Conference at Rome, Italy
- Best I st Oral presentation award, at IEMPHYS-2019, held at IEM, Kolkata.
- DST Women Scientist Project awarded November 2017.
- Best Poster Award in 57th DAE-Solid state Physics Symposium, held at Indian Institute of Bombay, 3-7 December 2012.
- Secured Ist position for the best Research Proposal in Student Research Convention (ANVESHAN) held at Panjab University Chandigarh on May 21, 2010 and Presented in 3rd North Zone Student Research Convention held at University of Jammu, India.

- Among top 10% in Part ANational Graduate Physics Examination (NGPE) 2005-2006 Dept. of Physics, Panjab University, Chandigarh, India.
- Project fellow in a Major Research Project entitled “Thermal Conductivity of Nanofluids”, Awarded by: University Grant Commission (U.G.C.), New Delhi, India. (Feb. 2008- Mar. 2011)
- Research fellowship in Sciences (Nov. 2011 to Jan 31, 2013) Awarded by: University Grant Commission (U.G.C), New Delhi, India.
- Member of Organizing Committee, International Conference on Nano Science and Technology Under the flagship of NANO MISSION DST , Govt. of India, Organized by INST March 2-5, 2014
- Member of Local Organizing Committee, International Conference on Interdisciplinary areas with Chemical science 30 Oct -1 Nov, 2013. Organised Conference:Advanced Materials: Current Trends & Future prospects, May 28- June 1, 2014
- Organised Guest Lecture by Prof. (retd.) Keya Dharamvir, Panjab University, Chandigarh May 12, 2022 Talking Science to the people – How and why