Dhananjay Kumar Gaur

Assistant Professor

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Work Experience

- **Assistant Professor** in the Department of Physics, Kashi Naresh Government Post Graduate College, Gyanpur, Bhadohi

  December 2021 – Till now

Education

- **Ph.D. (pursuing),** Banaras Hindu University, Varanasi, India in Soft Condensed Matter Physics.

  Thesis title: *Impact of dispersion of nanoparticles on the dielectric, optical and spectroscopic properties of nematic liquid crystals.*

- **M.Sc. (*Under M.Sc–PhD dual degree programme*),** Indian Institute of Technology, Kanpur in 2014. ***December 2014***

- **B.Sc. (Hons.) Mathematics,** Banaras Hindu University, Varanasi, India

  June 2011

Awards and Achievements

- Qualified Junior Research Fellowship from Council of Scientific and Industrial Research (CSIR) ***June 2015***
- Qualified Joint Admission Test for M.Sc. in Indian Institute of Technology (IITs)

  JAM 2010 and JAM 2011

Area of Research Interest:

Computer Simulations:

- MC/MD Simulations for the kinetics of phase transitions in ordered systems.

- MC/MD Simulations for phase transitions properties in liquid crystals.

Experimental works

- Structure and properties of polymer dispersed liquid crystals.
- Properties of liquid crystals in confined geometry.
- Influence of nanoparticles, dyes and quantum dots on the dielectric, electro-optical, spectro-scopic and other properties of ferroelectric, antiferroelectric, Nematic, bent-core liquid crystals

Publications

- Shubham Mishra, Dhananjay Kumar Gaur, S. Singh, Twist-Bend Nematic Phase: Role of Third-Order Legendre Polynomial Term in Chiral Interaction Potential, Published in Brazilian journal of physics, 5 (2020) 518-524.

- D K Gaur, A Rastogi, H Trivedi, A Parmar, R Manohar and S Singh**.** Investigation of dielectric and optical properties of pure and diamond nanoparticles dispersed nematic liquid crystal PCH5, Liq. Cryst. 48 (2020) 1257–1267.

- D K Gaur, F P Pandey, A Rastogi, A Parmar, R Manohar and S Singh. Investigation of dielectric, optical and zeta potential properties of pure and Zinc Ferrite Nanoparticles dispersed nematic liquid crystal PCH5, Applied Physics A, 128 (2022).

- D K Gaur, B P Singh, K Agrahari, Md B Alam, A Parmar, R Manohar, S Singh. Optical properties and zeta potential of polyvinyl pyrrolidone capped gold nanoparticles dispersed nematic liquid crystal mixture E7 (under review)

- D K Gaur, Md B Alam, A Parmar, R Manohar, S Singh. Impact of Dispersion of low concentrations of carbon quantum dot (CQD) into Nematic liquid crystal mixture e7 on the optical and zeta potential properties of dispersed systems. (under-review)
- S Tripathi, S Agarwal, S Tiwari, D K Gaur; A Srivastava. Augmented fluorescence parameters in a dye doped nematic liquid crystal fostered by non-covalent pi-pi interactions. (Under review).

Conference

- International conference on “Recent Advances in Condensed Matter Physics and Complex Systems” held in Savitribai Phule Pune University from 30 October to 1 November, 2017.
- Bangalore School on Statistical Physics – IX, from 27 June – 13 July, 2018, ICTS Bangalore.
- 24th National Conference on Liquid Crystals, from October 11-13, 2017, IISER Mohali.
- International conference on “Advances in Biological System and Materials Science in Nano World” held in IIT (BHU) from 19-23 February, 2017.
- 13th International conference on Fiber Optics and Photonics, held in IIT Kanpur from Dec 5 – 8 (2016).
- International conference on “Nano science and Nano technology (ICNN) – 2017, held in Babasaheb Bhimrao Ambedkar University from September 22 - 24, 2017
- 27th National conference on liquid crystals held on Amity Institute of Applied science, Amity University Uttar Pradesh, Noida.