



Dr. Noorjahan
Assistant Professor

- Contact Details:** Department of physics & Astronomical science CUHP, Shahpur (kangra), H.P
- Academic Qualification:** M.Sc (Guru Nanak Dev university Amritsar) , M.Tech (JMI, New Delhi), PhD *Academy of Scientific and Innovative Research (AcSIR), CSIR-National Physical Laboratory, New Delhi*
- Positions Held:** none
- Specialisation:** Expertise in synthesizing nanomagnetic materials (Fe₃O₄, CoFe₂O₄, MnZn Fe₂O₄ etc) via high-energy ball milling and co-precipitation to develop ferrofluid/MR fluid.
- Analysis of rheological and viscoelastic properties of ferrofluid and MR fluid with effect of shear rate, strain amplitude, frequency, magnetic field and temperature etc.
- Analysis of Structural, magnetic and morphological properties of these materials
- Research Interest:** Ferrites, Nanomagnetic fluid, MR fluid, Magneto-Rheology, Magnetohydrodynamics, Nanomagnetic fluid based devices.
- XRD, SEM and Magneto-rheometer, EPR, MXRD, Thin Film Coating Unit, RF-Sputtering , Chemical Vapor Deposition, UV-Visible spectrophotometer, Spin coating unit
- Publications:**
1. Dipolar interaction and magneto-viscoelasticity in nanomagnetic fluid, **Noorjahan**, G. A. Basheed, Komal Jain, Dhruv Bakshi and R.P.Pant , *Journal of Nanoscience and Nanotechnology* **Vol. 17, 1-6, 2017**

2. Enhancement in Viscoelastic Properties of Flake-Shaped Iron Based Magnetorheological Fluid Using Ferrofluid, **Noorjahan**, Surabh Pathak, komal Jain and R.P.Pant, *Journal of Colloids and Surfaces A*, 529 (2017) 88-94
3. The effect of particle concentration on viscoelastic properties of ferrogel, **Noorjahan**, Komal Jain, Surabh Pathak and R. P. Pant, *Journal of Colloids and Surfaces A*, 539 (2018) 273-279
4. Magnetic Fluid Based High Precision Temperature Sensor Saurabh Pathak, Komal Jain, **Noorjahan**, Vinod Kumar and R. P. Pant, *Journal of IEEE Sensor* DOI: 0.1109/JSEN.2017.2675440
5. Improved magnetoviscous properties of bidispersed Magneto-rheological fluids” Mahesh Chand, Ajay Shankar **Noorjahan**, Komal Jain, and R. P. Pant, *RSC journal* DOI: 2015
6. Room Temperature Ferromagnetic behaviors of Indium-doped SnO₂ Dilute Magnetic Semiconductor Nano crystalline thin films. Simrjit Singh, **Noorjahan**, Atul Khanna, Gurmeet Singh, N.K Verma. *Journal of Chalcogenide Letters* Vol.9,73(2012)

Research Projects Completed/Ongoing: None

M.Phil. Supervised: None

Ph.D. Supervised: none

Ph.D. Supervising:

Participation in Seminars/Conferences: The effect of dilution on dipolar interaction and viscoelastic behavior of magnetic nanofluid, Noorjahan, Dhruv Bakshi, G. A. Basheed, and R.P.Pant “9th international Advance in metrology conference CSIR-NPL, India” February 24-26,2016

2. The effect of dipolar interaction on viscoelastic properties of magnetic nanofluid ic-rmm2, Noorjahan, Dhruv Bakshi, G. A. Basheed, and R.P.Pant 2nd International Conference on Rheology and Modelling of Materials in Miskolc-Lillafüred, Hungary, October 5-9, 2015

3. The effect of induced size on physical properties of Fe₃O₄ based ferrofluid, Noorjahan, Komal Jain Mahesh Chand, Rajni porwal and R. P. Pant "Second International Conference on Nanostructured Materials and Nanocomposites (ICNM 2014) 19-21 December 2014 at Mahatma Gandhi University, Kottayam, Kerala, India".

4. Attended international Meeting Nanotechnology ISO/Tc229 meeting held at IHC , India form 3-7Nov 2014. Noorjahan

1. "Synthesis and characterization of Mn-Zn ferrite based ferrofluids for biomedical applications" **Noorjahan**, Mahesh Chand, Ajay Shankar and R. P. Pant NSE-MD-2014 Feb. 21-22-2014 G.V.M GIRLS College, Sonapat
2. "Investigation of mechanism of chain like structure formation in kerosene based MR Fluid" Piyoosh Tripathi, **Noorjahan**, Mahesh Chand, Sonia, G.A. Basheed and R. P. Pant, NSE-MD-2014.Feb21-22-2014. G.V.M GIRLS College, Sonapat
3. Fe₃O₄-MWCNT based aqueous hybrid A. Shankar, T.K. Gupta, M. Chand, K. Jain, Sonia, **Noorjahan**, S.Thakur, R.P.Pant NSE-MD-2014, Feb.21-22,2014. G.V.M GIRLS College, Sonapat
4. Induced size effect on magnetic properties of Ni_{0.4}Zn_{0.6}Fe₂O₄, Komal Jain, Sonia, **Noorjahan**, Piyoosh Tripathi, Ajay Shankar and R. P. Pant. NSE-MD-2014. Feb 21- 22, 2014. G.V.M GIRLS College, Sonapat
5. Size induced effect on physical

- properties of Fe_3O_4 based ferrofluid, **Noorjahan**, Mahesh Chand, Ajay Shankar, Komal Jain and R.P.Pant, National conference on nanotechnology and renewable energy (April 28-29, 2014), Faculty of Engineering and Technology, Jamia Millia Islamia, New Delhi.
6. Investigation of mechanism of chain like cluster formation in mr fluid, *Piyooosh Tripathi*, Mahesh Chand, **Noorjahan**, Ajay Shankar, G A Basheed and R. P. Pant *National Conference on Nanotechnology and renewable energy (April 28-29, 2014)*, Faculty of Engineering and Technology, Jamia Millia Islamia, New Delhi. (Accepted).
 7. Spin dynamic investigation of Fe_3O_4 based ferrofluid in polymer matrix, Moscow international symposium on magnetism *MISM-2014*; Sonia ,K.Jain, A.Shankar, M. Chand , **Noorjahan**, S.R. Dhakate and R.P. Pant

Certificate of UGC Workshop,
Banaras Hindu university(BHU) (2014)

Membership of Learned Societies/ Professional none

Bodies:

Awards & Honours Received:

1. Exhibitor in global R&D summit 2015 organized by FICCI and DST.
2. CSIR-SRF- (2013-2015).
3. Merit-cum-Means Minority Scholarship during M. tech (2011-2012)
4. DST scholarship during M.sc (2008-2010) Best poster award in National conference NCMNLU Nov 18,2015
5. Best poster award in International Conference "9th international Advance in metrology conference" February 24-26,2016

Others:

none