

Profile Page



Name : Dr Praveen Malik
 Designation : Associate Professor
 Department : Physics
 Qualification : Ph.D Physics (Liquid crystals) (Thapar Institute of Engineering and Technology, Pataila)
 M.Phil Material science (University of Roorkee (IIT Roorkee))
 M.Sc Physics (CCS University, Meerut)
 B.Sc PCM (Gurukul Kangri University, Haridwar)
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Research Interests :

- Study of electro-optic properties ferroelectric and Nematic Liquid crystals liquid crystals materials.
- Study of Dielectric properties in Liquid crystals and its composites.
- Morphological and optical effects in polymer dispersed liquid crystals composites.
- Study of Polymer and Nano materials stabilized Blue Phase Liquid Crystals.
- Synthesis and characterization of Nanofluids

Other Profile Links :

Google Scholar Link :

Praveen Malik [Click Here](#)

Journal Publications :

| Year | Journal | Publication |
|------|---|--|
| 2023 | Optical Materials | Sumit Yadav, Poonam Malik; Praveen Malik; CdTe Quantum dot-polymer stabilized blue phase liquid crystal nanocomposite with wide blue phase and improved electro-optical responses, 137, 113608 |
| 2023 | Journal of molecular liquids, 373, 121578 | Ashwani Kumar Singh, Praveen Malik; Metal oxide alumina nanowire-induced polymer-dispersed liquid crystal composites for low power consumption and smart windows |

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|------|--|---|
| 2023 | Liquid Crystals | A Chaudhary, R K Shukla, P. Rani, A Choudhary, P Malik, R Mehra, K K Raina, Polymer Dispersed Liquid Crystals Devices: Role of Photopolymerization to Control Defect Orientation, Optical and Electro-optical Properties |
| 2023 | Journal of molecular liquids | G Chauhan, Praveen Malik, Akash deep; Morphological, dielectric, electro-optic and photoluminescence properties of titanium oxide nanoparticles enriched polymer stabilized cholesteric liquid crystal composites; 376; 121406 |
| 2022 | Critical Reviews in Solid State and Materials Sciences | P Parchila; P. Malik, Supreet, A Kumar, R Castagna ;Gautam Singh; Recent advances and future perspectives on nanoparticles controlled alignment of liquid crystals for displays and other photonic devices; ; Volume 48, 2023 - Issue 1 |
| 2022 | Liquid crystal | A Singh, P Malik ; Textural, electro-optical, dielectric and fluorescence studies of citrate buffer stabilized gold nanoparticles doped in polymer-dispersed liquid crystals composites |
| 2022 | Bulletin of Materials Science | P Kumar, Chinky, P Malik ; Interdependency among Electro-Optic Characteristics and Absorption Coefficient of Homeotropically Aligned Liquid Crystal considering Beer's Law Theory |
| 2022 | Liquid Crystals | Praveen Malik, G Chauhan, Pankaj Kumar, Akash deep, Effect of polymer concentration on the electro-optical, dielectric and photoluminescence properties of confined ferroelectric liquid crystals composites |
| 2022 | Liquid Crystals | Poonma, S Kumar, Khushboo, A Upmanyu, P Kumar, P Malik , Thermo-acoustical studies of zinc oxide nano particles dispersed nematic liquid crystals mixtures in the temperatures range 283.15 K318.15K |
| 2022 | ECS Transactions, 107 (1), 5481 | R Gahrotra, V Sharma, AR Dogra, P Malik, P Kumar ; Temperature Dependent Morphological and Electro-Optical Characteristics of Dye Doped Cholesteric Liquid Crystal |
| 2022 | ECS Transactions; 107 (1), 163 | C Jaggi, P Kumar, P Malik; Studies of Electro-Optic and Thermal Behaviour of Azo Dye Doped Vertically Aligned Liquid Crystal |
| 2022 | ECS Trans 107 (1), 7925 | Sumit Yadav, Praveen Malik, Ashwani K singh; , Gagandeep Kaur, Garima Chauhan, Thermal and Electro-Optical Properties of Size Dependent Nickel Nanoparticle Doped Blue Phase Liquid Crystals |
| 2022 | Journal of Molecular Liquids | G Kaur, Khushboo, Praveen Malik , Mesomorphic, electro-optic and dielectric behavior of self-assembled nanocomposite materials: Nematic mixture doped with carbon coated cobalt nanoparticles |
| 2022 | Optical Materials | Ridhima Gahrotra, Ankit Rai Dogra, Vandna Sharma, Praveen Malik, Performance Augmentation of Bistable Cholesteric Liquid Crystal Light Shutter- Effect of Dichroic Dye on Morphological and Electro-Optical Characteristics |
| 2021 | Phase Transitions | Praveen Malik; Sumit Yadav; Arshdeep Singh; Aluminum nanowires and gold nanoparticles - driven stabilization of blue phase liquid crystals |
| 2020 | Journal of molecular liquids | Ashok Chaudhary, Praveen Malik, Ravi Shukla, Rohit Mehra, K K Raina, Role of SiO ₂ optically active mediators to tailor optical and electro-optical properties of ferroelectric liquid crystalline nanocomposite |
| 2020 | Liquid Crystals | Sumit Yadav, Praveen Malik; Thermal Stability and Electro-Optical Characteristics of Polymer Stabilized Blue Phase Liquid Crystalline Materials: A Role of Polymer Concentration |
| 2020 | Liquid crystals | Amit sharma, Pankaj kumar, Praveen Malik, Textural and electro-optical study of a room temperature nematic liquid crystal 4?-pentyl-4-biphenylcarbonitrile doped with metal oxide nanowires in planar and In-plane switching (IPS) cell configurations |

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|------|---|---|
| 2020 | Liquid crystals | Gagan deep kaur, Pankaj kumar, Ashwani kumar, Divya Jayoti, Praveen Malik, Dielectric and electro optic studies of a ferroelectric liquid crystal dispersed with different sizes of silica nanoparticles |
| 2020 | Journal of Applied Polymer Science | Vandana Sharma, Chinky, Pankaj Kumar; Praveen Malik, K. K. Raina, Preparation and Electro-optic Study of Reverse Mode Polymer Dispersed Liquid Crystal - Performance Augmentation with the Doping of Nanoparticles and Dichroic Dye, 137, 22, 48745 |
| 2019 | Bulletin of Material Science | Amit Sharma, Praveen malik, R. Dhar, Pankaj Kumar; Improvement in electro-optic and dielectric characteristics of ZnO nanoparticles dispersed in a nematic liquid crystal mixture, 42 (215) |
| 2019 | Current Applied Physics | A. Chaudhary, R.K. Shukla, P. Malik, R. Mehra, K.K. Raina, ZnO/FLC nanocomposites with low driving voltage and non-volatile memory for information storage applications, 1196, 866-873 |
| 2019 | Journal of Radio analytical and Nuclear Chemistry | Rohit mehra, anamika chauhan, Praveen Malik, Assessment of radiological impacts of natural radionuclides and radon exhalation rate measured in the soil samples of Himalayan foothills of Uttarakhand, India, 10 (2019) |
| 2019 | Liquid Crystals | Sumit Yadav, Praveen Malik, Khushboo, Divya Chaudhary; Electro-optical, dielectric and optical properties of graphene oxide dispersed nematic liquid crystal, Vol-1188, 51-56 |
| 2019 | Journal of Molecular Structure | Pankaj kumar, Chinki , K K Raina, Praveen Malik, Pankaj kumar; Nano particles induced vertical alignment of liquid crystal for display devices with augmented morphological and electro-optical characteristics, Vol 1196, 866-873. |
| 2019 | Integrated ferroelectrics | Amit Sharma, Praveen Malik, Pankaj Kumar; Electro-optical and dielectric responses of ZnO nanoparticles doped nematic liquid crystal in In-plane switching (IPS) mode, 202:1, 52-66 |
| 2019 | Journal of Molecular Structure | Praveen Malik, Sumit Yadav, Khushboo; Textural, phase transition and electro-optic studies of polymer-stabilized blue phase liquid crystals, 1188 (51-56) |
| 2018 | Journal of Radiation and Nuclear Application | KM Anamika, R Mehra, Praveen Malik, A Comparative Study of Uranium Concentration Using Two Different Analytical Techniques and Assessment of Physicochemical Parameters in Groundwater, 3, 149-156 |
| 2018 | Journal of Molecular Liquids | Divya Jyoti, Praveen Malik, S Krishana Prasad, Effect of ZnO nanoparticles on the morphology, dielectric, electro-optic and photo luminescence properties of a confined ferroelectric liquid crystal material, 250, 381-387. |
| 2018 | Liquid Crystals | Khushboo, P Sharma, P Malik, KK Raina, Size dependent studies in ferromagnetic nanoparticles dispersed ferroelectric liquid crystal mixtures, 45(6), 896-906 |
| 2017 | Journal of Molecular Liquids | Divya Jayoti, Praveen Malik, Arshdeep Singh, Analysis of morphological behaviour and electro - optical properties of silica nanoparticles doped polymer dispersed liquid crystal composites, 225, 456-461. |
| 2017 | Molecular Crystals Liquid Crystals | P Kumar, V Sharma, C Jaggi, D Jayoti, KK Raina, P Malik, Impact of Dye on Switching Responses of Polymer Dispersed Ferroelectric Liquid Crystal, 647, 1-10. |
| 2017 | Molecular crystals liquid crystals | Khushboo, Praveen Malik, D Jayoti, P Sharma, KK Raina, ,Textural and optical studies of magneto-mesogen material for display applications, 647, 1-6. |
| 2017 | liquid crystals | Khushboo, P. Sharma, P Malik, K K Raina, Textural, thermal, optical and electrical properties of Iron nanoparticles dispersed 4?-(Hexyloxy)-4-biphenylcarbonitrile liquid crystal mixture, 44, 1717-1726 |

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| 2017 | Integrated Ferroelectrics | Khushboo, Nikhar Bhargava, Khyati Anand, Praveen Malik, Puneet Sharma, Divya Jayoti and K K Raina, Dielectric and polarization switching studies in nickel nanoparticles dispersed ferroelectric liquid crystal mixtures, 183, 1-7. |
| 2016 | Liquid Crystals | Pankaj Kumar, Vandna Sharma, Chinky Jaggi, Praveen Malik, Kuldeep Kumar Raina, Orientational control of liquid crystal molecules via carbon nanotubes and dichroic dye in polymer dispersed liquid crystal, 43, (2016). |
| 2016 | Liquid Crystals | A. Singh, P. Malik, D. Jayoti, Observation of blue phase in chiral nematic liquid crystal and its stabilization by silica nanoparticles, 30, 1650011, 2016. |
| 2016 | Liquid Crystals | A. Singh, D. Jayoti, Khushboo, and P. Malik, Electro-optics of polymer stabilized blue phase liquid crystal in In-plane-switching mode, DOI-10.1080/02678292.2016.1196507, 2016. |
| 2016 | Journal of Molecular Liquids | Khushboo, Aarti, P. Malik, H Manchanda, Thermodynamic and acoustical study of zinc oxide-nematic liquid crystals mixtures, 214, 145-148, 2016 |
| 2016 | Liquid Crystals | Khushboo, P. Sharma, P. Malik and K K Raina, Electro-optic, dielectric and optical studies of NiFe ₂ O ₄ - ferroelectric liquid crystal: a soft magnetoelectric material, DOI: 10.1080/02678292.2016.1193909, 2016 |
| 2016 | Liquid Crystals | D. Jayoti, A Singh, Khushboo and P. Malik, Effect of polymer concentration on morphology, dielectric and optical properties in a polymer dispersed ferroelectric liquid crystal, 43 (5), 623-631, 2016 |
| 2016 | AIP Conference Proceedings | Khushboo, Puneet Sharma, D. Jayoti, P. Malik, K K Raina, Dielectric studies of iron nanoparticles-ferroelectric liquid crystal mixture, 1728 020670, Doi: 10.1063/1.4946721, 2016 |
| 2016 | AIP Conference proceedings | D. Jayoti, P. Malik, A. Singh, Dielectric studies in gold nanoparticles doped ferroelectric liquid crystals, 1728 020647, Doi:10.1063/1.4946698, 2016 |
| 2015 | Macromolecular Symposia | A. Singh, P. Malik, Phase transition and electro-optic studies in polymer stabilized blue phase liquid crystal, 137 (1), 141-147, 2015 |
| 2015 | Macromolecular Symposia | D. Jayoti and P. Malik, Polymer concentration dependent morphological and electro-optic properties of polymer dispersed ferroelectric liquid crystal composites, 357(1), 148-153, 2015 |
| 2015 | Phase Transitions | Khushboo, P. Sharma, P. Malik and K K Raina, Dielectric and electro-optical studies of a nickel-ferrite nanoparticle- doped ferroelectric liquid crystal mixture, 89(2), 144-154, 2015 |
| 2014 | Integrated Ferroelectrics | Khushboo, D. Jayoti, P. Malik and K. K. Raina, Properties of ferroelectric liquid crystal/multiwall carbon nanotube doped composite, 158, 123-130, 2014 |
| 2014 | Journal of Advances in Physics | Khushboo, P. Malik and A Chaudhary, Field induced studies in carbon nanotube doped nematic liquid crystal mixture, 4(3), 565-570, 2014 |
| 2013 | Phase Transitions | Praveen Malik, Ashok Chaudhary, Rohit Mehra & K.K. Raina, Observation of memory behaviour in cadmium sulphide nanorods doped ferroelectric liquid crystal mixture, 86 (12), 1256-1266, 2013 |
| 2013 | Journal of Molecular Liquids | A. Chaudhary, P. Malik, KK Raina, R Mehra, Influence of ZnO nanoparticles concentration on electro-optic and dielectric properties of ferroelectric liquid crystal mixture, 188, 230-236, 2013 |
| 2012 | Journal of Molecular Liquids | Praveen Malik, Ashok Chaudhary, Rohit Mehra & K.K. Raina, Electro-optic, thermo-optic and dielectric responses of multiwalled carbon nanotube doped ferroelectric liquid crystal thin films, 165, 7-11, 2012 |

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| 2012 | Advances in condensed matter physics | Praveen Malik, Ashok Chaudhary, Rohit Mehra & K.K. Raina, Electro-optic and dielectric studies in cadmium sulphide nanorods/ferroelectric liquid crystal mixtures, 853160 2012 |
| 2012 | Phase Transitions | Ashok Chaudhary, Praveen Malik, Rohit Mehra & K.K. Raina, Electro-optic and dielectric studies of silica nanoparticle doped ferroelectric liquid crystal in SmC* phase, 85, 244-254, 2012 |
| 2012 | Journal of International Academy of Physical Sciences | P. Malik and K.K.Raina, Improvement in physical properties of dispersed liquid crystal thin films for storage display devices, 15, SP2, 2012 |
| 2011 | Molecular crystal liquid crystal | Jitendra K. Kushwaha, Praveen Malik, K. K. Raina and V. P. Arora, Dielectric spectroscopy of wide temperature range nematic liquid crystal mixtures, 541, 236, 2011 |
| 2011 | Molecular crystal liquid crystal | Praveen Malik, Ashok Chaudhary, Rohit Mehra & K.K. Raina, Dielectric studies and memory effect in nanoparticle doped ferroelectric liquid crystal films, 541, 243-251, 2011 |
| 2010 | Physics B Condensed Matter | Praveen Malik , K.K.Raina, Dichroic dye dependent studies in guest-host polymer dispersed liquid crystal films, 405, 161-166, 2010 |
| 2010 | Thin Solid Films | Praveen Malik, K. K. Raina and A.K. Gathania, Effects of polymer viscosity on the polymerization switching and electro-optical properties of unaligned liquid crystal/UV curable polymer composites, 519, 1047-1051, 2010 |
| 2010 | Thin Solid Films | Praveen Malik, A.Chaudhary, K. K. Raina, A. Bubnov and Rajbir Singh, Electro-optic switching and dielectric spectroscopy studies of ferroelectric liquid crystals with high and low spontaneous polarization, 519, 1052-1055, 2010 |
| 2009 | Asian Journal of chemistry | Praveen Malik, Ashok Chaudhary and K. K. Raina, Dielectric studies in multiwall carbon nano tube doped ferroelectric liquid crystal thin films, 21, S095-098, 2009 |
| 2008 | Molecular Crystal Liquid Crystal | Praveen Malik, A. M. Bubnov and K. K. Raina, Electro-optic and thermo-optic properties of phase separated polymer dispersed liquid crystal films, 494, 242-251, 2008 |
| 2006 | Conference Proceeding IIT Kanpur, INDIA | Pankaj Kumar and K.K. Raina, Guest-host polymer dispersed liquid crystal display device: role of dichroic dye, 8-12 Oct, 2006 |
| 2006 | Phase Transitions | Praveen Malik, K. K. Raina, Alexej Bubnov and C. Prakash, Dielectric spectroscopy of a high polarization ferroelectric liquid crystal, 79, 889-898, 2006 |
| 2006 | Bulletin of Materials Science | Pankaj Kumar, Praveen Malik, K.K. Raina, Morphological control and polarization switching in polymer dispersed liquid crystal materials and devices, 23, 599-603, 2006 |
| 2005 | Conference Proceeding, IRDE Dehradun | Pankaj Kumar, and K. K. Raina, Morphological and electro-optical responses of polymer dispersed liquid crystal thin films: influence of dichroic dye, 12-15 Dec 2005 |
| 2004 | Conference Proceeding, CUST, Kochi | Pankaj Kumar and K. K. Raina, Charge induced droplet orientation and optical properties of polymer dispersed liquid crystal thin films, 9-11 December 2004 |
| 2004 | Optical Materials | Praveen Malik, K.K. Raina, Droplet orientation and optical properties of polymer dispersed liquid crystal composite films, 27, 613-617, 2004 |
| 2003 | Current Applied Physics | Praveen Malik, Jasjit K. Ahuja and K.K. Raina, Effect of polymer viscosity on morphological and electro optic properties aligned polymer dispersed ferroelectric liquid crystal composite films, 3, 325-329, 2003 |
| 11/2019 | Liquid Crystals | Sumit Yadav, Praveen Malik, Divya Jayoti, Electro-optical, dielectric and optical properties of graphene oxide dispersed nematic liquid crystal composites |
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Conference Publications :

| Year | Conference | Publication |
|------|---|--|
| 2022 | AIP Conference Proceedings 2357 (1), 050026 | G Kaur, P Malik, P Kumar; Dielectric and UV-Vis studies in silica nanoparticles dispersed liquid crystalline composites |
| 2022 | AIP Conference Proceedings;2357 (1), 050019 | AR Dogra, P Kumar, V Sharma, P Malik, P Khanra, M Kapoor; Deposition of nanoparticles layer on ITO substrate and its application for alignment control of liquid crystal |
| 2022 | AIP Conference Proceedings 2357 (1), 050027 | R Gahrotra, V Sharma, P Malik, P Kumar ; Microscopic studies of chiral nematic liquid crystal doped with dichroic dye |
| 2020 | International conf on condensed matter and Physics (ICC-2019) | Amit Sharma, Praveen Malik and Pankaj Kumar, Textural and electro-optical characteristics of nanoparticles doped nematic liquid crystal composite in IPS mode |
| 2020 | International conf on condensed matter and Physics (ICC-2019) | Sumit Yadav, Praveen Malik, Ashwani Kumar Singh and Gagandeep Kaur, Effect of graphene oxide on thermal, electro-optical and dielectric behavior of nematic liquid crystals |
| 2020 | International conf on condensed matter and Physics (ICC-2019) | Ridhima Gahrotra, Vandna Sharma, Praveen Malik and Pankaj Kumar, Textural and electro-optical study of cholesteric liquid crystal for light shutter |
| 2020 | International conf on condensed matter and Physics (ICC-2019) | Chinky, Ankit Rai Dogra, Vandna Sharma, Ridhima Gahrotra, Praveen Malik and Pankaj Kumar, Effect of dye on electro-optic behavior of vertically aligned liquid crystal display cell, |
| 2019 | ICABS; AIP conf proceeding | P Malik, S Yadav, Synthesis and Observation of Blue Phases In Chiral Dopant Nematic Liquid Crystal Mixtures, 2142, 130003 |
| 2019 | ICABS; AIP conf proceeding | Chinky, P Kumar, V Sharma, R Gahrotra, P Malik, KK Raina,Effect of Dichroic Dye on Absorption Coefficient and Electro-Optic Performance of Nano Particles Induced Homeotropic Aligned Liquid Crystal, 2142, 130005 |
| 2019 | ICABS; AIP conf proceeding | V Sharma, P Kumar, Chinky, R Gahrotra, KK Raina, P Malik; Effect of Nano Particles on Electro Optic Properties of Polymer Dispersed Liquid Crystal in Normal Mode; 2142, 130002 |
| 2019 | ICABS; AIP conf proceeding | Amit Kumar, Praveen Malik, Pankaj Kumar, Studies on Temperature Dependence of Dielectric Anisotropy and Elastic Constant of Nematic Liquid Crystal-Effect of Nano-particles Doping; 2142, 030006 |
| 2018 | AIP Conference Proceedings | V Sharma, P Kumar, Chinky, P Malik, KK Raina, Morphological and electro-optic studies of polymer dispersed liquid crystal in reverse mode, 1953 (1), 100033 |
| 2018 | AIP Conference Proceedings | P Kumar, Chinky, V Sharma, JK Kushwaha, P Malik, KK Raina, Dielectric spectroscopy of ferroelectric liquid crystal mixture,1953 (1), 040025 |

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| 2018 | AIP Conference Proceedings | D Jayoti, P Malik , Dielectric study of gold nanoparticle doped polymer dispersed liquid crystal, 1953 (1), 100085 |
| 2018 | AIP Conference Proceedings | A Sharma, P Kumar, P Malik, Effect of zinc oxide nanoparticles on dielectric behavior of nematic liquid crystal, 1953 (1), 10003 |
| 2016 | AIP Conference Proceedings | Khushboo, Puneet Sharma, D. Jayoti, P. Malik, K K Raina, Dielectric studies of iron nanoparticles-ferroelectric liquid crystal mixture, 1728 020670, Doi: 10.1063/1.4946721, 2016 |
| 2016 | AIP Conference Proceedings | Amit sharma, Divya Jayoti, Praveen Malik, Dielectric studies in gold nanoparticles doped ferroelectric liquid crystals, 1728 (020647), 020647-1-4 |

Research Projects :

| Role | Project Type | Title | Funding Agency | From | To | Amount | Status | Co-Investigator |
|------------------------|--------------------|---|---|-------------|------------|------------|-----------|-----------------|
| Principal Investigator | R&D, Major Project | Electro-optic and dielectric studies in nanomaterial's dispersed ferroelectric liquid crystals | SERB, Department of Science and Technology, New Delhi | 2012 | 30-11-2015 | 27.0 lacs | Completed | NA |
| Supervisor | R&D Minor Project | Dielectric and electro-optic studies in magnetic nanoparticles -ferroelectric liquid crystal mixtures | TEQIP-II, NIT Jalandhar | 17-10- 2016 | | 0.50 lakh | completed | |
| Supervisor | R&D | Study of dielectric response in ZnO doped polymer dispersed ferroelectric liquid crystal mixtures | TEQIP-II, NIT Jalandhar | 17-10-2016 | June 2017 | 0.50 Lakh | completed | |
| Principal Investigator | R&D Major Project | Preparation and electro-optic studies of polymer stabilised Blue Phase Liquid Crystals for display applications | SERB, DST | 10-4-2017 | 9-4-2020 | 43.35 lakh | Completed | NA |

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| Principal Investigator | R&D, Major Project | Preparation and Investigations of Nanomaterials- polymer dispersed liquid crystal composites | CSIR, New Delhi | July, 2018 | July, 21 | Rs. 14,87,667 /- + 6,64,000 | completed | ----- |
| Principal Investigator | TEQIP III sponsored (Innovative R&D and Socially Relevant) | Stabilization of Blue Phase liquid crystals for display applications | TEQIP-II, NIT Jalandhar | 8-7-2019 | 31-3-2021 | 4.0 lacs | completed | |
| Principal Investigator | R&D, Major Project (CRG, DST) | PREPARATION AND STUDIES OF ENERGY EFFICIENTGENE RATION DISPLAY DEVICES | SERB, DST | 1-4-2023 | | 36.0 lacs approx | Approved | |

Events Organized :

| Category | Type | Title | Venue | From | To | Designation |
|----------------------|----------|--|--------------------------------------|------------|------------|----------------------|
| STC | National | Recent trends in advanced materials and computing techniques | NIT Jalandhar | 11-3-2013 | 15-3-2013 | Coordinator |
| STC | National | Emerging Trends in Physics and Information Technology | NIT Jalandhar | 10-6-2013 | 14-6-2013 | Coordinator |
| Seminar | National | National Seminar on Physics and Society | NREC, College, Khurja, Uttar Pradesh | 2-4-2006 | | Joint Secretary |
| STC | National | Advances of Statistics in Engineering and Sciences | NIT Jalandhar | 19-9-2016 | 25-9-2016 | Co-Coordinator |
| Conference | National | 1st National Conference on Innovation in Applied Science and Engineering (NCIASE 2019) | NIT Jalandhar | 27-04-2019 | 28-04-2019 | Convener/secretary |
| STC under TEQIP-III | National | Recent Trends in Advanced Materials and Devices | NIT Jalandhar | 21-09-2020 | 25-09-2020 | Coordinator |
| STC (self sponsored) | National | Emerging trends in advanced materials and modeling of devices | NIT Jalandhar | 28/3/2022 | 01/4/2022 | coordinator/convener |

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|------------|---------------|--|---------------|-----------|-----------|----------------------|
| Conference | International | International conference on Innovation in applied science and engineering (Self Sponsored) | NIT Jalandhar | 18/5/2022 | 19/5/2022 | coordinator/convener |
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Professional Affiliations :

| Designation | Organization |
|-------------|---|
| Life Member | International liquid crystal society (ILCS) |
| Life Member | Indian liquid crystal society |
| Life Member | Material Research Society of India |
| Life Member | Punjab Academy of Sciences |

PhD Supervised :

| Scholar Name | Research Topic | Status | Year | Co-Supervisor |
|----------------------|---|------------------------|-----------------------------------|-----------------------------------|
| Kuldeep Kumar Sharma | liquid crystals | Ongoing (part time) | Sep, 2021 | - |
| Garima Chauhan | Preparation and Characterization of Polymer Stabilized Liquid Crystal Composites | full time | July 2019 | Dr Akashdeep |
| Ashwani Kumar Singh | Analysis of Physical Properties of Nanomaterials Polymer Dispersed Liquid Crystal Composites | Full time | July 2019 | |
| Gaganpreet Kaur | Dielectric investigations in Ferroelectric and its composites | Full time | July 2019 | |
| Manpreet Kaur | Liquid crystals | Ongoing (full time) | Jan 2022 | - |
| Divya Jayoti | Studies in nanomaterials doped polymer dispersed liquid crystal composites | Awarded | Dec. 2018 | |
| Sumit yadev | Stabilization and electro-optic properties of blue phase liquid crystals | Full time (completed) | Completed (viva voce 27 Dec 2022) | |
| Arshdeep Singh | Effects of Dopants on The Stabilization and Opto-Electronic Behaviour of Blue Phase Liquid Crystal Materials | Awarded | 2017 | ----- |
| Amit Sharma | Studies of structural, electro-optic and dielectric properties of nematic liquid crystal in In-plane switching mode | Awarded (4 June 2021) | 2016 | Pankaj Kumar |
| Anamika Chauhan | study of natural RadionuclidesUttarakhand | Awarded | 2014 | Rohit Mehra |
| Ashok Chaudhary | Dielectric and Electro-optic studies of nanomaterials doped ferroelectric liquid crystal materials | Awarded | 2013 | Prof K K Raina and Dr Rohit Mehra |
| Harsh Sharma | Liquid crystals | Ongoing (Full Time) | 06 Feb 2023 | NA |

PG Dissertation Guided :

| Student Name | Dissertation Title | Status | Year | Co-Supervisor |
|--------------|----------------------------|-----------|------|---------------|
| Yash | dye synthesized solar cell | completed | 2022 | |

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|--------------------|--|-----------|------|---|
| Bhawana Taylor | dielectric properties of Antiferroelectrics liquid crystals | completed | 2022 | |
| | Electro-optic, dielectric properties of NPd doped NLC | completed | 2022 | |
| Preetika | MAGNETIC NANOMATERIALS DISPERSED LIQUID CRYSTALS: A REVIEW | Completed | 2021 | - |
| Anita | Stabilization of Blue Phase Liquid Crystal by Polymers and Nanoparticles | Completed | 2021 | - |
| Amita Kumari | Dye synthesized solar cell: A Review | Completed | 2021 | - |
| Prinkaya Chowdhary | Thermo-physical properties of aluminium oxide nanofluids : A Review | Competed | 2020 | |
| Arti Khandelwal | Studies in Copper Oxide nanofluids: A Review | Competed | 2020 | |

Patents :

| Name | Reg./Ref. No. | Date of Award/Filling | Organization | Status |
|--|--------------------------------------|-----------------------|--|--------------|
| Nanoparticle doped vertically aligned liquid crystal display; Pankaj Kumar, Chinky, Vandna Sharma and Praveen Malik, INDIAN PATENT | TEMP/E1/17730/2020-DEL, 202011016944 | 20th April 2020. | NIT Jalandhar, Chitkara University Rajpura, Punjab | Patent Filed |
| Method for nanoparticle film deposition facilitating vertical alignment of liquid crystals | TEMP/E1/29049/2021/DEL | 2021 | NIT Jalandhar, Chitkara University Rajpura, Punjab | Filed |

Admin. Responsibilities :

| Position Held | Organization | From | To |
|--|---------------|--------------|------------|
| Warden | NIT Jalandhar | 2009 | 29-4-2017 |
| Cocoodinator, Rajbhasha Cell | NIT Jalandhar | 29-4-2017 | 22-01-2019 |
| Associate Dean Student Welfare II | NIT Jalandhar | 4-2-2021 | 15-2-2023 |
| Member of Library Committee from Physics Department | NIT Jalandhar | 01-7-2021 | continue |
| Member of RAC of ABHISHEK (Roll No. 22513101) Physics | NITJ | 2 feb 2023 | |
| Member of RAC of Gourav Maithani (Roll No. 21804002) | ECE, NITJ | 22 Sep, 2022 | |
| Chairman of Pradhan mantri kaushal vikas yogna (PMKVY 4.0) | NIT Jalandhar | 14/3/2023 | |

Award and Honours :

| Title | Activity | Given by | Year |
|---|---|--|------|
| Silver medal award 2018 | Recognition for research contribution in Liquid crystal | Indian liquid crystal society, Bangalore during NCLC (8-10 Dec, 2022) meeting at Christ university | 2022 |
| Best Teacher Award | Teaching | NIT Jalandhar | 2020 |
| Member of Editorial Board of Journal of Non Metallic Material Science | | Journal NMMS | 2019 |

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|----------------------------|--|-----------------------------------|------|
| Young Achiever Award | 58th DAE-Solid State Physics Symposium | Department of Atomic Energy (DAE) | 2013 |
| INSA-Visiting fellowship | For research work at IITR | INSA | 2012 |
| Senior Research Fellowship | research work | CSIR- Delhi | 2004 |