CURRICULUM VITAE

Dr. Swadesh Kumar Gupta
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Objective

To work with new ideas on challenges to create new technology or advancement of current technology.

Research Interest

Liquid Crystals and devices, Inkjet Printing, Quantum size materials, Luminescent materials and Devices.

Professional Details

1. Current employment:

Assistant Professor, Physics Department, DBS College, Kanpur since November 2019.

2. Past employment:

Visiting Scholar at Department of Electronics and Computer Engineering, Hong Kong University of Science and Technology, Hong Kong from 07/2017 to 10/2019.

Principal investigator of SERB, India research project entitled "**Modulating electro-optics of liquid crystal tunable gratings with electric field and nanomaterial dispersion**" at Physics Department, **IIT Delhi**, New Delhi, India from 07/2016 to 07/2017.

3. Past teaching experience:

Lecturer at Eram Girls Degree College, Lucknow: For Academic Year 2015-2016. Electronics classes and Lab Course at University of Lucknow, Lucknow during Ph.D. program: Academic Year 2010-2012.

Academic background:

Ph. D. (2014) on the topic "*Dielectric and electro-optical study of nanostructure doped liquid crystals*" from Department of Physics, University of Lucknow, Lucknow, India under Supervision of Prof. Rajiv Manohar. http://hdl.handle.net/10603/42302

M. Sc. (2009) in Physics (Specialization in Electronics) from University of Lucknow, Lucknow, India.

Awards and fellowships:

- Oral Presentation award for securing the first position in National Seminar on development and scope in renewable energy on topic **"*Inkjet Printing for Organic Solar Cells*"**, organized by Bhrahmanand College, Kanpur, India during 10-11 February 2025.
- KIDS bronze paper award on title **"Photo Aligned Nano Rod Emissive Films by Printing for LCD Backlighting**" in the 18th international meeting on information display 2018 (IMID 2018) held in Busan, South Korea during 28-31 August 2018.
- CSIR-Research fellowship (JRF-SRF) India: January 2010- December 2014
- CSIR-UGC-NET (JRF) in Physics: June 2009 (Rank 32 all over India)

Memberships:

Indian Liquid Crystal Society, Bangalore, India. (Life membership L-373)

Publications:

Patents

1. US patent on "Stable photo luminescence porous films" **patent No. *12023946*** dated 02/07/2024.
2. Chinese Patent on "Inkjet ink and inkjet printing for the fabrication of the photo-aligned nanorod enhancement films for the liquid crystal display backlight" **patent No. *110607094*** dated 05/04/2024.
3. US patent on "ligand, nanoparticle and thin film with the same" **patent No. *11441074*** dated 13/09/2022.

Books/Chapters

1. Chapter "Metal oxides in organic solar cells" in Book "Metal Oxides for Next-Generation Optoelectronic, Photonic, and Photovoltaic Applications"
   Publisher: Elsevier, **2024**, **ISBN:** 978-0-323-99143-8. Pages 577-599.
2. Chapter "Quantum dots for modern display devices" in Book "Graphene, Nanotubes and Quantum Dots- based Nanotechnology"
   Publisher: Elsevier, **2022**, **ISBN:** 978-0-323-85457-3. Pages 899-923.

Research Papers in Refereed International Journals: (46)
https://www.researchgate.net/profile/Swadesh_Gupta

1. *Nematic Liquid Crystals Dispersed with Thermoelectric Gallium Oxide (Ga_2O_3) Microrods: A Perspective for Improving the Response Time of Electro-Optical Devices*

Bhupendra Pratap Singh, Samiksha Sikarwar, Kamal Kumar Pandey, Sidharth Duraisamy, ***Swadesh Kumar Gupta****, and Rajiv Manohar,* ***Journal of Physical Chemistry C 126(37), 15924-15935, 2022.***

2. *Ferroelectric liquid crystals: futuristic mesogens for photonic applications*

Swadesh Kumar Gupta*, Daniel Budaszewski, Dharmendra Pratap Singh,* ***The European Physical Journal Special Topics 231, 673–694, 2022.***

3. *Unidirectionally aligned bright quantum rods films, using T-shape ligands, for LCD application*

Maksym F. Prodanov, Chengbin Kang, ***Swadesh K. Gupta****, Valerii V. Vashchenko, Yuhao Li, Minchao Qin, Xinhui Lu & Abhishek K. Srivastava,* ***Nano Research 15, 5392–5401, 2022.***

4. *Stable bright perovskite nanoparticle thin porous films for color enhancement in modern liquid crystal displays*

Yiyang Gao, Maksym F. Prodanov, Chengbin Kang, Valerii V. Vashchenko, ***Swadesh K. Gupta****, Christopher C. S. Chan, Kam Sing Wong and Abhishek K. Srivastava,* ***Nanoscale 13, 6400-6409, 2021.***

5. *Thermally Stable Quantum Rods, Covering Full Visible Range for Display and Lighting Application*

Maksym F. Prodanov, ***Swadesh K. Gupta****, Chengbin Kang, Maksym Y. Diakov, Valerii V. Vashchenko, and Abhishek K. Srivastava,* ***Small 17(3), 2004487, 2020.***

6. *Low voltage tunable liquid crystal Fibonacci grating*

Swadesh K. Gupta*, Zhibo Sun, Hoi-Sing Kwok and Abhishek K. Srivastava,* ***Liquid Crystals 47 (8), 1162-1169, 2020.***

7. *Inkjet-Printed Aligned Quantum Rod Enhancement Films for their Application in Liquid Crystal Displays*

Swadesh K. Gupta*, Maksym F. Prodanov, Wanlong Zhang, Valerii V. Vashchenko, Tetiana Dudka, Andrey L. Rogach, and Abhishek K. Srivastava,* ***Nanoscale 11, 20837-20846, 2019.***

8. *Formulation of a Composite System of Liquid Crystals and Light-Emitting Semiconductor Quantum Rods: From Assemblies in Solution to Photoaligned Films*

Tetiana Dudka, Wanlong Zhang, Julian Schneider, ***Swadesh K. Gupta****, Maksym F. Prodanov, Valerii V. Vashchenko, Abhishek K. Srivastava, and Andrey L. Rogach,* ***Advanced Materials Technologies 4, 1900695, 2019.***

9. Highly efficient ultra-broadband terahertz modulation using bidirectional switching of liquid crystals.

Xuequan Chen, Kaidi Li, Rui Zhang, ***Swadesh Kumar Gupta***, Abhishek Kumar Srivastava, and Emma Pickwell-MacPherson, ***Advanced Optical Materials 7, 1901321, 2019***.

10. *Ligand shell engineering on quantum rods for their optimal photo-induced alignment in liquid crystal displays.*

Wanlong Zhang, Maksym F. Prodanov, Julian Schneider, ***Swadesh K. Gupta****, Tetiana Dudka, Valerii V. Vashchenko, Andrey L. Rogach, Abhishek K. Srivastava,* ***Advanced Functional Materials 29, 1805094, 2019***.

11. *Manifestation of strong magneto-electric dipolar coupling in ferromagnetic nanoparticles−FLC composite: evaluation of time-dependent memory effect.*

Tripti Vimal, Shivani Pandey, ***Swadesh K. Gupta****, Dharmendra P. Singh, Kaushlendra Agrahari, Govind Pathak, Sumit Kumar, Pankaj K. Tripathi and Rajiv Manohar,* ***Liquid Crystals 45, 687-697, 2018.***

12. *Effect of metallic silver nanoparticles on the alignment and relaxation behaviour of liquid crystalline material in smectic C* phase.*

Tripti Vimal, ***Swadesh Kumar Gupta****, Rohit Katiyar, Atul Srivastava, Michal Czerwinski, Katarzyna Krup, Sandeep Kumar, and Rajiv Manohar,* ***Journal of Applied Physics 122, 114102, 2017.***

13. *Effect of $Cd_{1-x}Zn_xS$/ZnS core/shell quantum dot on the optical response and relaxation behaviour of ferroelectric liquid crystal.*

Kaushlendra Agrahari, Govind Pathak, Rohit Katiyar, Geeta Yadav, Tripti Vimal, Shivani Pandey, Dharmendra Pratap Singh, ***Swadesh Kumar Gupta****, and Rajiv Manohar,* ***Molecular Crystals and Liquid Crystals 652, 195-205, 2017.***

14. *ZnS quantum dot induced phase transitional changes and enhanced ferroelectric mesophase in QDs/FLC composites.*

T. Vimal, S. Pandey, D.P. Singh, ***S.K. Gupta****, K. Agrahari, P. Kumbhakar, A.K. Kole, R. Manohar,* ***Journal of Physics and Chemistry of Solids 100, 134-142, 2017.***

15. *Mn^{2+} doped ZnS quantum dots in ferroelectric liquid crystal matrix: Analysis of new relaxation phenomenon, faster optical response and concentration dependant quenching in photoluminescence.*

D. P. Singh, A. Daoudi, ***S. K. Gupta****, S.Pandey, T Vimal, R.Manohar, A.K. Kole, P. Kumbhakar and A. Kumar,* ***Journal of Applied Physics 119, 094101, 2016.***

16. *Core/shell quantum dots in ferroelectric liquid crystals matrix: effect of spontaneous polarisation coupling with dopant.*

Shivani Pandey, Tripti Vimal, Dharmendra Pratap Singh, ***Swadesh Kumar Gupta****, Govind Pathak, Rohit Katiyar and Rajiv Manohar,* ***Liquid Crystals 43(7), 980-993, 2016.***

17. *Quenching of photoluminescence and enhanced contrast of ferroelectric liquid crystal dispersed with* $Cd_{1-X}Zn_XS/ZnS$ *core/shell nanocrystals.*

D. P. Singh, S.Pandey, ***S. K. Gupta****, R.Manohar, A. Daoudi, A. H. Sahraoui, Chinmay Phadnis, S. Mahamuni,* ***Journal of Luminescence 173, 250-256, 2016.***

18. *Tuning phase retardation behaviour of nematic liquid crystal using quantum dot*

Swadesh Kumar Gupta*, Dharmendra Pratap Singh, Rajiv Manohar and Sandeep Kumar,* ***Current Applied Physics 16, 79-82, 2016.***

19. *Tailoring of Cholesteric Plane Spacing, Dielectric Relaxation and Optical Properties of High Temperature Chiral Nematic Phase by UV Irradiation*

Dharmendra Pratap Singh, Tripti Vimal, ***Swadesh Kumar Gupta****, Prachi Tripathi, Mahesh C Varia, Sandeep Kumar and S Manohar and Rajiv Manohar,* ***Molecular Crystal and Liquid Crystal 625, 1-10, 2016.***

20. *Thermal and optical study of semiconducting CNTs-doped nematic liquid crystalline material.*

T. Vimal, D. P. Singh, ***S. K. Gupta****, S. Pandey, K. Agrahari and R. Manohar,* ***Phase Transitions 89, 632-642, 2016.***

21. *Enhancement of birefringence for Liquid Crystals with dispersion of poly (butyl methacrylate) (PBMA)*

Mukti Pande, Pankaj Kumar Tripathi, ***Swadesh Kumar Gupta****, Rajiv Manohar and Shri Singh,* ***Liquid Crystals 42, 1465-1471, 2015.***

22. *Analysis of physical parameters and collective dielectric relaxations in core/shell quantum dot ferroelectric liquid crystal composite*

Shivani Pandey, Tripti Vimal, Dharmendra Pratap Singh, ***Swadesh Kumar Gupta****, Shailaja Mahamuni, Atul Srivastava and Rajiv Manohar,* ***Journal of Molecular Liquids 4, 157-163, 2015.***

23. *Quantum dot doped ferroelectric liquid crystal system: Investigation of electro-optical parameters and relaxation behavior.*

Swadesh Kumar Gupta*, Shivani Pandey, Dharmendra Pratap Singh, Tripti Vimal, S Manohar and Rajiv Manohar,* ***Molecular Crystal and Liquid Crystal 610, 227–234, 2015.***

24. *Influence of CdSe quantum dots on molecular/ionic relaxation phenomenon and change in physical parameters of ferroelectric liquid crystal.*

Dharmendra Pratap Singh, ***Swadesh Kumar Gupta****, Shivani Pandey, Tripti Vimal, Prachi Tripathi, Mahesh C Varia, Sandeep Kumar, S Manohar and Rajiv Manohar,* ***Liquid Crystals 42(8), 1159-1168, 2015.***

25. *Electrical and polarization behaviour of titania nanoparticles doped ferroelectric liquid crystal.*

Swadesh Kumar Gupta*, Dharmendra Pratap Singh and Rajiv Manohar,* ***Advanced Materials Letters 6, 68-72, 2015.***

26. *Enhanced negative dielectric anisotropy and high electrical conductivity of the SWCNT doped nematic liquid crystalline material.*

Tripti Vimal, Shivani Pandey, ***Swadesh Kumar Gupta****, Dharmendra Pratap Singh and Rajiv Manohar,* ***Journal of Molecular Liquids 204, 21-26, 2015.***

27. *Cd1-xZnxS/ZnS core/shell quantum dot ferroelectric liquid crystal composite system: Analysis of faster optical response and lower operating voltage*

Shivani Pandey, Tripti Vimal, Dharmendra Pratap Singh, ***Swadesh Kumar Gupta****, Prachi Tripathi, Chinmay Phadnis, Shailaja Mahamuni, Atul Srivastava and Rajiv Manohar,* ***Liquid Crystals 41, 1811-1820, 2014.***

28. *Effect of Cadmium Selenide quantum dots on the dielectric and physical parameter of ferroelectric liquid crystal*

Dharmendra Pratap Singh, ***Swadesh Kumar Gupta,*** *R Manohar, M. C. Varia, S. Kumar and A. Kumar,* ***Journal of Applied Physics 116, 034106, 2014.***

29. *Dielectric, electro-optical, and photoluminescence characteristics of ferroelectric liquid crystals on a graphene-coated indium tin oxide substrate*

Dharmendra Pratap Singh, ***Swadesh Kumar Gupta****, Tripti Vimal and Rajiv Manohar,* ***Physical Review E 90, 022501, 2014.***

30. *Enhancement of Dielectric and Electro-Optical Properties in SWCNT Dispersed Ferroelectric Liquid Crystals*

Swadesh Kumar Gupta, *Dharmendra Pratap Singh and R Manohar,* ***Ferroelectrics 468, 84–91, 2014.***

31. *Electro-optical, UV absorbance and UV photoluminescence analysis of Se95In5 chalcogenide microparticle doped ferroelectric liquid crystal.*

Dharmendra Pratap Singh, ***Swadesh Kumar Gupta,*** *Shivani Pandey, Kedar Singh and R Manohar,* ***Journal of Applied Physics 115, 214103, 2014.***

32. *Reduced ionic contaminations in CdSe quantum dot dispersed ferroelectric liquid crystal and its applications.*

Dharmendra Pratap Singh, ***Swadesh Kumar Gupta,*** *Prachi Tripathi, M. Varia, S. Kumar and R Manohar,* ***Liquid Crystals 41(9), 1356–1365, 2014.***

33. *Formation of periodic domains and change in physical properties of paramagnetic copper doped ZnO nanoparticles dispersed ferroelectric liquid crystal system.*

Dharmendra Pratap Singh, ***Swadesh Kumar Gupta,*** *Tripti Vimal and R Manohar,* ***Journal of Molecular Liquids 198, 267–273, 2014.***

34. *Effects of polymer doping on dielectric and electro-optical parameters of nematic liquid crystal*

Shivani Pandey, ***Swadesh Kumar Gupta,*** *Dharmendra Pratap Singh, Tripti Vimal, Pankaj Kumar Tripathi, Atul Srivastava and R Manohar,* ***Journal of Polymer Engineering and Science 55(2), 414–420, 2015.***

35. *Guest-Host interaction in ferroelectric liquid crystal-nanoparticle composite system*

Dharmendra Pratap Singh, ***Swadesh K. Gupta****, Satya P. Yadav, P. K. Sharma, A. C. Pandey, Rajiv Manohar,* ***Bulletin of materials Science 37, 511-518, 2014.***

36. *SWCNT doped ferroelectric liquid crystal: The Electro-Optical properties with enhanced dipolar contribution*

Swadesh Kumar Gupta, *Dharmendra Pratap Singh and R Manohar,* ***Current Applied Physics 13(4), 684-687, 2013.***

37. *CdSe quantum dot Dispersed DOBAMBC: An Electro-optical study*

Swadesh Kumar Gupta, *D. P. Singh, Pankaj Kumar Tripathi, Rajiv Manohar, M. C. Varia, Laxmi K. Sagar and S. kumar,* ***Liquid Crystals 40(4), 528-533, 2013.***

38. *$ZnO1-xSx$ Nanosphere in Ferroelectric Liquid Crystal Matrix: The Effect of Aggregation and Defects on the Dielectric and Electro-Optical Properties*
Dharmendra P. Singh, ***Swadesh Kumar Gupta*** *and Rajiv Manohar,* ***Advances in Condensed Matter Physics 2013, Article ID 250301, 2013.***

39. *High Temperature Chiral Nematic Phase in Naphthalene and Cholesterol Derivative Liquid Crystal: Characterization and Dielectric Relaxation Study*
Dharmendra P. Singh, M. C. Varia, ***Swadesh K. Gupta****, Laxmi K. Sagar, Sandeep Kumar, Satya P. Yadav, and Rajiv Manohar,* ***Journal of Physics and Chemistry of Liquids 51(5), 663-676, 2013.***

40. *Dielectric relaxation and electrical properties of ZnO1-xSx nanoparticle dispersed ferroelectric mesophase.*
Dharmendra Pratap Singh, ***Swadesh Kumar Gupta****, A. C. Pandey, and Rajiv Manohar,* ***Advanced Materials Letters 4(7), 556-561, 2013.***

41. *The Phenomenon of Induced Photoluminescence in Ferroelectric Mesophase.*
Dharmendra P. Singh, ***Swadesh Kumar Gupta****, Atul Srivastava and Rajiv Manohar,* ***Journal of Luminescence 139, 60-63, 2013.***

42. *Ferroelectric Liquid Crystal Matrix Dispersed with Cu doped ZnO Nanoparticles*
Dharmendra Pratap Singh, ***Swadesh Kumar Gupta,*** *Kamal Kumar Pandey, Satya Prakash Yadav, M. C. Varia and Rajiv Manohar,* ***Journal of Non-Crystalline Solid 363, 178–186, 2013.***

43. *Improved dielectric and electro-optical parameters of ZnO nanoparticle (8% cu+2) doped nematic liquid crystal.*
Pankaj Kr Tripathi, Abhishek Kr. Misra, Shashwati Manohar, ***Swadesh Kr Gupta*** *and R Manohar.* ***Journal of Molecular Structure 1035, Pages 371–377, 2013.***

44. *Dielectric behaviour of a ferroelectric liquid crystal dimer.*
Swadesh Kumar Gupta*, Dharmendra Pratap Singh, Rajiv Manohar, Uma S. Hiremath and C.V. Yelmaggad,* ***Liquid Crystals 39(9), 1125–1129, 2012.***

45. *Dielectric Relaxation Study of Two Different Mesogenic Cinnamates with a Substituted Ethyl Terminal Chain*
R. Manohar, ***S. Gupta****, A. K. Prajapati and H. N. Patel,* ***Molecular Crystal and Liquid Crystals 548, 86-95, 2011.***

46. *Modification in dielectric properties of SWCNT doped ferroelectric liquid crystal.*
Swadesh Kumar Gupta*, Anish Kumar, Abhishek Kumar Srivastava and Rajiv Manohar,* ***Journal of Non-Crystalline Solid 357(7), 1822-1826, 2011.***

Papers in Conference proceedings: (10)

1. *Stabilization of Perovskite Quantum Dots in Polymer Matrix in Thin Porous Film for Display Technology*

   Yiyang Gao, Maksym F. Prodanov, ***Swadesh K. Gupta****, Chengbin Kang, Valerii V. Vashchenko, Abhishek K. Srivastava,* ***SID Symposium Digest of Technical Papers 51(1), 1971-1974, 2020.***

2. *Red, Green, and Blue Quantum Rod Based Electroluminescent Light-Emitting Diodes*

   Kumar Mallem, Maksym F. Prodanov, Swadesh K. Gupta, Bryan Siu Ting Tam, Valerii V. Vashchenko, Abhishek K. Srivastava, ***SID Symposium Digest of Technical Papers 51(1), 1768-1770, 2020.***

3. *Photo-aligned Quantum Rods with T-Shaped Ligands Based on Liquid-Crystal Polymer Matrix*

   Chengbin Kang, Maksym F Prodanov, ***Swadesh K Gupta****, Yiyang Gao, Valerii V Vashchenko, Abhishek K Srivastava,* ***SID Symposium Digest of Technical Papers 51(1), 1745-1747, 2020****.*

4. *CdSe/CdS Nanorod Enhancement Film for Blue-Laser Based Visible Light Communication Systems*

   Chun-Hin Cheng, Jian Kang, ***Swadesh K Gupta****, C Patrick Yue, HS Kwok, Abhishek K Srivastava,* ***SID Symposium Digest of Technical Papers 51(1), Pages 781-783, 2020.***

5. *Photo Aligned Quantum Rod Films by inkjet Printing for modern LCDs with Extended Color Gamut*

   Swadesh Kumar Gupta*, Maksym F. Prodanov, Maksym Diakov, Valerii V. Vashchenko, Chengbin Kang, Abhishek K. Srivastava,* **IEEE 19th International Conference on Nanotechnology (IEEE-NANO),** 10.1109/NANO46743.2019.8993874**, 2019**.

6. *Surface Ligands Optimization of Semiconductor CdSe/CdS Nanorods Aligned in Liquid Crystal Polymer Matrix*

   Wanlong Zhang, Maksym F. Prodanov, Julian Schneider, ***Swadesh K. Gupta****, Tetiana Dudka, Valerii V. Vashchenko, Andrei L. Rogach, Hoi-Sing Kwok, Abhishek K. Srivastava.* ***SID Symposium Digest of Technical Papers 50(1), Pages 447-449, 2019.***

7. *Photo Aligned Quantum Rod films by Inkjet Printing*

   Swadesh Kumar Gupta, *W. Zhang, M. Prodanov, V. Vashchenko, V. G Chigrinov, H. S. Kwok, A. K. Srivastava,* ***SID Symposium Digest of Technical Papers 49(1), Pages 847-849, 2018.***

8. *FLC diffraction grating: Efficiency enhancement by SWCNT doping*.

   Swadesh Kumar Gupta*, D. P. Singh and R. Manohar,* ***AIP Conf. Proceedings 1536, 1264-1265, 2013.***

9. *The phenomenon of nanomaterial induced photoluminescence in ferroelectric liquid crystals.*

   D. P. Singh, ***Swadesh Kumar Gupta*** *and R. Manohar,* ***AIP Conf. Proceedings 1536, 629-630, 2013.***

10. *The nanosphere driven optical and dielectric changes in ferroelectric liquid crystal*.

    D. P. Singh, ***Swadesh Kumar Gupta****, Shivani Pandey, Tripti Vimal, A. C. Pandey and R. Manohar,* ***AIP Conf. Proceedings 1591, Pages 1674-1677, 2014.***

Seminar, Conference, Symposium: (15)

1. ***Oral*** *presentation on Inkjet Printing for Organic Solar Cells in* National Seminar on development and scope in renewable energy, organized by **Brahmanand College, Kanpur, India during February 10-11, 2025.**
2. ***Oral*** *presentation on Photoaligned Liquid Crystal Polymer Assisted Quantum Rod Film for LCD Backlight Unit in 27th National Conference on Liquid Crystals, organized by* ***Amity University Uttar Pradesh, Noida, December 21-23, 2020.***
3. ***Oral*** *presentation on Switchable Liquid Crystal Fibonacci Grating in 4th Asian Conference on Liquid Crystals, held at* ***Shenzhen (China), January 17-18, 2019****.*
4. ***Oral*** *presentation on Photo Aligned Quantum Rod films by Inkjet Printing in SID Display Week 2018, held at* ***Los Angeles (USA), May 20-25, 2018****.*
5. ***Oral*** *presentation on 2D Self Assembly of Metallic Silver Nanoparticles in Ferroelectric Liquid Crystalline Material in* ***Ferroelectric Liquid Crystal conference (FLCC 2017)****, held at* ***Hong Kong, Dec 04-07, 2017.***
6. ***Oral*** *presentation on Tuning phase retardation behaviour of nematic liquid crystal using quantum dot in* ***23rd National Conference on Liquid Crystals*** *held at* ***Dhanbad (INDIA), Dec 07-09, 2016****.*
7. ***Oral*** *presentation on CdSe quantum dot dispersed ferroelectric liquid crystals in* ***21st National Conference on Liquid Crystals*** *held at* ***Kanpur (INDIA), November 10-12, 2014****.*
8. ***Poster*** *presentation on Reduction of ionic effects in titania doped Ferroelectric Liquid Crystal in 20th* ***National Conference on Liquid Crystals*** *held at* ***Udupi (INDIA), December 16-18, 2013****.*

9. ***Oral*** *presentation on Nanomaterial based induced phenomenon in liquid crystal mesophase and its applications in* ***International conference on nanomaterials and nanosciences (ICNN 2013)****, held at* ***Lucknow (INDIA) Nov 18-20, 2013***

10. ***Oral*** *presentation on Enhancement of dielectric and electro-optical properties of SWCNT doped ferroelectric liquid crystals in* ***Ferroelectric Liquid Crystal conference (FLCC 2013)****, held at* ***Magdeburg (GERMANY) Sep 01-06, 2013****.*

11. ***Poster*** *presentation on FLC diffraction grating: Efficiency enhancement by SWCNT doping in* ***International Conference on Recent Trends in Applied Physics & Material Science (RAM 2013)****, held at* ***Bikaner (INDIA) Feb 01-02, 2013****.*

12. ***Poster*** *presentation on Complementary Study of SWCNT doped ferroelectric liquid crystal mixture in* ***Conference on condensed matter and biological system*** *held at* ***Varanasi (INDIA), January 11-13, 2013****.*

13. ***Poster*** *presentation on Dispersion of CdSe quantum dot in DOBAMBC: An Electro-optical Study in* ***19thNational Conference on Liquid Crystals*** *held at* ***Patiala (INDIA), November 21-23, 2012****.*

14. ***Poster*** *presentation on Dielectric relaxation study of ferroelectric liquid crystal and its dye doped mixture in* ***Soft Matter Chemistry Workshop*** *held at* ***Bangalore (INDIA), November 9-11, 2011****.*

15. ***Poster*** *presentation on Enhancement in dielectric properties of SWCNT doped ferroelectric liquid crystals in* ***17th National Conference on Liquid Crystals*** *held at* ***Surat (INDIA), November 15-17, 2010****.*