RESUME

Dr. Narinder Kumar

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Objective

To obtain a creative and challenging position that enables me to gain valuable commercial experience and improve the development and design skills of Electronics that I gained as part of my degree course and academic projects. Orderly and focused researcher dedicated to innovative, dynamic and organized work. Successful at maintaining accuracy and productivity through long and short-term projects with proven history of efficiency. Extensive knowledge of research and skill in finding additional funding for projects.

Experience

Currently working as a Research Associate (RA) in Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, 226025, U. P.

Five years teaching experience worked as a Lecturer in Yamuna Engg College, Gadholi, Yamuna Nagar, Haryana from 2011 to 2015.

Six months experience in the B. Tech. Engg. College as a lecturer. (2010-2011)

Professional Qualification:

1 **Ph.D. (Applied Physics)** Awarded in 2021 from Department of Physics, School of Physical and Decision Sciences, **Babasaheb Bhimrao Ambedkar University**, Lucknow, 226025, U. P. **(**Topic **"*Comparative Study of Electro-Optical Properties of Liquid Crystal Molecules*"** under the supervision of Prof. Devesh Kumar).

2 **M.Sc (Applied Physics)** from **K.U.K** in year 2010. (65% marks).

3 **B.Sc (Electronics)** from **K.U.K.** in year 2008.

4 **B. Ed**. From **K. U. K.** in 2015.

Research Keywords:

- Liquid Crystals
- Organic Molecules
- Polymers
- Nano-Clusters
- Molecular Docking
- DFT Calculations

Member of National and International committee:

- American Chemical Society (ACS)
- Indian Association of Physics Teacher (IAPT)

Reviewer of National and International Journals:

- Medicinal Chemistry
- IOP Sciences
- Emergent's Material
- Journal of Physical Science

Fellowships:

- Rajiv Gandhi National Fellowship (RGNF) 2017-2019.
- Senior Research Fellowships (SRF) 2019-2020.

List of Publications

1. **Narinder Kumar**, Pawan Singh, Pranav Upadhyay, Shivani Chaudhary, Khem B. Thapa, A. K. Dwivedi, Devesh Kumar "Odd–even effect of 7O.m liquid crystal compound series studied under the effect of the electric field by density functional theory (DFT) methods, ***European Physical Journal- Plus****,* 135, 388, 2020.

2. **Narinder Kumar*,** Pawan Singh, Khem B Thapa and Devesh Kumar, "Molecular spectroscopy and adverse optical properties of N-(p-hexyloxy-benzylidene)–p-toluidine (HBT) liquid crystal molecule studied by DFT methodology" **IOP SciNotes**, 1, 015202, 2020.

3. **Narinder Kumar,** Bhavna Pal, Shivani Chaudhary, Devendra Singh, Devesh Kumar, "Reduced graphene oxide contains a minimum of six oxygen atoms for higher dipolar strength: A DFT study", **French-ukrainian Journal Of Chemistry**, 08(01), 167-173, 2020.

4. **Narinder Kumar,** P. Singha, S. Chaudharya, K. B. Thapaa, P. Upadhyayb, A. K. Dwivedi and D. Kumara, "Spectroscopy Existing behind the Electro-Optical Properties with an Even-Odd Effect of nCB Liquid Crystal Molecules: A Theoretical Approach", ***Acta Physica Polonica A***, 137,1135, 2020.

5. **Narinder Kumar,** Shivani Chaudhary, Pranav Upadhyay, A. K. Dwivedi, and Devesh Kumar, "Even–odd effect of the homologous series of nCHBT liquid crystal molecules under the influence of an electric field: A theoretical approach", ***Pramana – Journal of Phyiscs,*** 94, 106, *2020.*

6. **Narinder Kumar*,** Pawan Singh, Khem B. Thapa, Devesh Kumar, "Electro-optical effect of the nCOOCB liquid crystal molecules under the terahertz (THz) frequency range: A theoretical approach" ***Journal of Physical Science****,* 31(3) 113-127(2020).

7. **Narinder Kumar*,** Bhavna Pal, Pawan Singh, Khem B. Thapa, Devendra Singh, Devesh Kumar, "Electro-optical effect of E7 liquid crystal molecule studied under the impact of an external electric field (THz): A theoretical approach", ***Jordan Journal of chemistry***, 15, 94-101, 2020.

8. **Narinder Kumar***, Shivani Chaudhary, Pawan Singh, Khem B. Thapa, Devesh Kumar, Electro-optical odd-even effect of APAPA liquid crystal molecules studied under the

influence of an extraneous electric field (THz): A theoretical approach, ***Journal of Molecular Liquid****,* 318 (2020) 114254.

9. **Narinder Kumar*,** Pawan Singh, Khem B. Thapa, Devesh Kumar, "Molecular spectroscopy and electro-optical effect of I52 liquid crystal molecules studied under the influence of an external electric field (THz): A theoretical approach", **Journal of Molecular Modeling, 27, 11, 2021.**

10. **Narinder Kumar*,** Pawan Singh, Khem B Thapa Devesh Kumar, Odd Even effect observed in the electro optical properties of the homologous series of HnCBP liquid crystal studied under the impact of the electric field A theoretical approach, **Iranian Journal of Mathematical Chemistry, 11, 239-254, 2020.**

11. **Narinder Kumar,** Pawan Singh, Khem B. Thapa, Devesh Kumar, DFT-based numeical study of the re-entrant phase and optical parameters of the homogeneous series of MBC liquid crystal molecules under the influence of an electric field, **Bulletin of Material Science**, 44, 130, 2021.

12. Pawan Singh, Khem B. Thapa, **Narinder Kumar** & Devesh Kumar, Tunable transmission of a nematic liquid crystal as defect in a 1D periodic structure of dielectric materials by orientation and re-orientation of liquid crystal molecules" ***European Physical Journal E,*** 41, 100, 2018.

13. Pawan Singh, Khem B Thapa, **Narinder Kumar** and Devesh Kumar "Omnidirectional reflection band of one-dimensional periodic structure (1DPS) of Si/SiO2 with defect mode of nematic liquid crystal (5CB)" ***Journal of Physical Science,*** 30(3), 117–129, 2019.

14. Pawan Singh, Khem B. Thapa, **Narinder Kumar**, Devendra Singh, DeveshKumar, "Study of transmission property of periodic layer consisting of SiO 2 and TiO 2 layers with anisotropic liquid crystal (LC) and LiNbO 3 as defect layers for optical switching" ***Results in Physics****,* 13, 102346, 2019.

15. Pawan Singh, Khem B. Thapa, **Narinder Kumar**, Anil K. Yadav and Devesh Kumar, Tunable optical filter based on one-dimensional periodic structure composed of SiO2 and anisotropic metamaterial (AMM) with a liquid crystal defect layer sandwiched by two SiO2" ***International Journal of Modern Physics B*****,** 33(18), 1950194, 2019.

16. Pawan Singh, Krishan Pal, **Narinder Kumar**, Sudesh K.Singh, Khem B. Thapa, Devesh Kumar, "Tunable Sensing Property of 1D Periodic Structure with Defect of Liquid Crystal Sandwiched by Metallic Layers" ***Sensor Letters*****,** 17(10):800-803, 2019.

17. Gulam Abbas, **Narinder Kumar**, Devesh Kumar, and Gajanan Pandey "Effect of Reaction Temperature on Shape Evolution of Palladium Nanoparticles and Their Cytotoxicity against A-549 Lung Cancer Cells" ***ACS Omega***, 4, 26, 21839–21847, 2019.

18. Dharmendra Pratap Singh, Abhishek Kumar Misra Kamal Kumar, Pandey Bhavna Pal, **Narinder Kumar** Devendra Singh, Kirill Kondratenko, Benoit Duponchel, Paul Genevray, Redouane Douali "Spectroscopic, dielectric and nonlinear current–voltage characterization of a hydrogen-bonded liquid crystalline compound influenced via graphitic nanoflakes: An equilibrium between the experimental and theoretical studies" ***Journal of Molecular Liquid,*** 302, 112537, 2020.

19. Pawan Singh, Khem B Thapa, **Narinder Kumar**, Devendra Singh & Devesh Kumar "Effective optical properties of the one-dimensional periodic structure of TiO_2 and SiO_2 layers with a defect layer of nanocomposite consisting of silver nanoparticle and E7 liquid crystal" ***Pramana - Journal of Physics,*** 93, 50, 2019.

20. Pawan Singh, Khem B Thapa, **Narinder Kumar**, Krishan Pal and Devesh Kumar "Graphene layers on semi-finite 1D asymmetric periodic structure of Si/Glass materials with defect of nematic liquid crystal for a sensor device" ***Material Research Express,*** 6, 066209, 2019.

21. Shivani Chaudhary, **Narinder Kumar,** Pawan Singh, Khem B. Thapa, Devesh Kumar, " Electro-optical parameters with adverse order of 10CB liquid crystal molecule under the influence of an external high electric field: A theoretical approach", ***Jordan journal of Physics*****, 14(1), 79-87, 2021.**

22. Gulam Abbas, Kijay Bahadur Singh**, Narinder Kumar**, Anamika Shukla, Devesh Kumar, Gajanan Pandey Efficient anticarcinogenic activity of α-Fe_2O_3 nanoparticles: In-vitro and computational study on human renal carcinoma cells HEK-293, **Materialstoday Communications**, 26, 2021, 102175.

Book Chapter

1. Pawan Singh, Krishan Pal, Khem B. Thapa, **Narinder Kumar**, Devesh Kumar, Embedded Liquid Crystal Defect with Graphene Layers in Asymmetric One-Dimensional Photonic Crystal as Sensor Application, ***1st Edition, Chapter 8, CRC Press***, 2019.

List of Conferences/Symposium/ Seminar/Webinar and Workshops

1. Attended the **National Conference** held on "Science for society: An interdisciplinary approach" during 31 Oct-02 Nov, 2015, organized by B. B. A University, (UP).
2. Poster presentation in the **International Conference** held on "Structure and Dynamics of Biomolecules" during January 27-28, 2017, organized by D. D. U Gorakhpur (UP).
3. Oral presentation in the **National Seminar** held on "Nano Science and Nano Biotechnology" during February 25-26, 2017, organized by D. A. V College Kanpur (UP). **(Best Poster award)**
4. Attended the one-week TEQIP-II, short term course held on "Laser and its Applications-LAP-2017" during 27-31st March 2017, organized by M. N. N. I. T., Allahabad (U.P).
5. Poster presentation in the **National Conference** held on "National conference on Liquid Crystal" on October 11-13, 2017, organized by I. I. S. E. R. Mohali (Chandigarh).
6. Poster presentation in the **National Symposium** held on "Multidimensional Aspect of Spectroscopy" during November 17-18, 2017, in D. D. U Gorakhpur (UP).
7. Attended the **National Seminar** held on "CSIR-National botanical research institute, Lucknow" during November 20, 2017, organized by S. J. N. P. G. College Lucknow (UP).

8. Oral presentation in the **International Conference** held on “Science and Tech. for sustainable future (NISC-2018)” during January 10-11, 2018, organized by B. B. A. U. Lucknow (U.P).

9. Poster presentation held on **National Science** Day during February 27-28, 2018, organized by B. B. A. U. Lucknow (UP).

10. Poster presentation in the **National Conference** held on “Soft Matter” organized by D. D. U Gorakhpur (UP), during March 27-28, 2018.

11. Attended Council of Science & Tech. in April 26, 2018 at Lucknow (U.P).

12. Oral presentation in the **International Conference** held on “Chemical Science: National and global perspective” during October 29-31, 2018, organized by Lucknow Christian college (U.P).

13. Poster presentation in the **National Symposium** held on "Advanced material Science" during December 7-8, organized by D. D. U., G. K. P, 2018 (U.P).

14. Poster presentation in the **National Conference** held on “Liquid crystal” organized by Allahabad University during December 19-21, 2018 (U.P).

15. Oral presentation in the **National Conference** held on “Advances in materials science (NCAMS-2019)” organized by Marwar Business School during February 21-22, 2019 (UP).

16. Oral presentation in the **National Conference** held on “Smart Materials, Devices, and sustainable tech. (SMDST-2019)” organized by M. M. M. University of tech. during March 15-16, 2018 (UP).

17. Poster presentation in **National Conference** held on “Innovation in applied science and engg. (NCIASE-2019)” organized by N.I.T Jalandhar during April 27-28, 2019 (P.B).

18. Attended **workshop** held on the "Application of Gaussian & gauss view software", during 18-19 July 2019 organized by Lucknow University, Lucknow (U.P).

19. Attended the **International Conference** held on “Ultrasonic and Material science for advanced technology” during November 16-18, 2019, organized by V. B. S. P. U, Jaunpur-222003 (U.P).

20. Attended a one day **webinar** on "Virtual Lab" conducted by F.E.T, M.J.P Rohilkhand University, Bareilly, held on 6th June 2020.

21. Poster presentation in the **International e-Conference** on Advanced Functional Materials and Optoelectronic Devices (ICAFMOD-2020) held during June 13-15, 2020, organized by Veer Bahadur Singh Purvanchal University, Jaunpur-222003, U. P., India.

22. Attended **National Webinar** on “Smart Materials for Future Applications” during 16th & 17th June, 2020, organized by Department of Physics, Faculty of Engineering & Computing Sciences, Teerthanker Mahaveer University Moradabad, Moradabad-244001, Uttar Pradesh, India.

23. Attended 1st **International e-Conference** on "Recent Advances in Physics & Materials Science-2020 (IC-RAPMS-2020)" held during 9-10 July, 2020, organized by Kurseong College, Darjeeling, West Bengal, India-734203.

24. Attended **International e-Conference** on "Recent trends in drug discovery and Development" held during 8-9 october, 2021, organized by Department of Chemistry, Delhi University, India.

25. Attended **National e-Webinar** on "Mitigating Global Warming and Climate Change: Need of Hydrogen Energy" held 18th September, 2021, organized by Department of Physics and Electronics, Hansraj College, Delhi University, India.

26. Attended **International e-Webinar** on "Approaches to synthesis element 120 and to probe the predicted island of stability" held 25th November 2021, organized by The ICFAI University, Himachal Pradesh, India.

Academic Qualification:

1. 12th passed from **HBSC Bhiwani** in year 2005.
2. 10th passed from **HBSC Bhiwani** in year 2002.

Technical Skills:

Specialization: Electronics

Computer Knowledge: Gaussian 09, Gauss View 05, Autodock, Mopac, Schrodinger, Chemcraft, Basics in Computer Application, Python, MS-Office, Linux. Molden

Projects Undertaken:

Electronics Project: ('Operational Amplifiers')

Platform: Hardware
Development Technologies: Electronics and Passive Devices
Duration : 6 Months
Team size 1

Description:

This project is about Electronics, Soldering of different parts, various active and Passive Devices and calculations.

Personal Skills:

1. Ability to work in team.
2. Think logically and analytically.
3. Confident about problem solving.
4. Optimistic approach and eager to learn new things.
5. Self motivated.

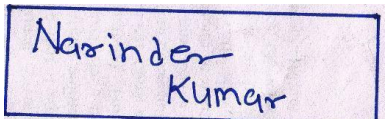
Personal Profile:

Father's Name **: Shri Krishan Lal**
Occupation **:** Teacher
Date of Birth **:** 15 April 1985
Permanent Address **:** S/o Shri Krishan lal, Vill. Garhi gosian,

P. O- Thana Chappar, Distt. Yamuna Nagar (HR)
Pin: 133103.

Hobbies & Activities **:** Traveling New Places, Meeting New Peoples, Biking and Acquiring Practical Knowledge.

Language Known **:** English, Hindi



Date: 26-01-2022 **(Narinder Kumar)**