




Shivaji College Faculty Details

Title	Dr.	First Name	Harsh	Last Name	Yadav	Photograph
Designation		Assistant Professor				
Address		RZ/B - 165, NIHAL VIHAR NANGLOI, NEW DELHI, DELHI Pin Code - 110041				
OfficePhone No.						
Residence						
Mobile		+91-8802273723				
Email		harshcive@gmail.com				
Web-Page		https://orcid.org/0000-0002-8600-2183				
Educational Qualifications						
Degree	University/Institute				Year	
Ph.D.	Crystal Lab, University of Delhi				2017	
M.Phil./M.Tech.						
PG	Indian Institute of Technology Delhi				2012	
UG	Rajdhani College, University of Delhi				2009	
Any Other Qualification						
Career Profile						
Assistant Professor: Department of Physics, Shivaji College, University of Delhi, August 2017 to till date.						
Administrative Assignments						
Areas of Interest/Specialisation						
Single Crystal Growth, Crystallography, Nanoscience, Liquid Crystal, Wireless Communication						

Subjects Taught

- Electricity & Magnetism
- Classical Dynamics

Innovation Project/Research Projects (Major Grants/Research Collaboration)

Publications Profile (*Research Papers/Books*)

Research Papers

- 1) “Enhancement of optical, piezoelectric, and mechanical properties in crystal violet dye-doped benzophenone crystals grown by Czochralski technique” **Harsh Yadav**, Nidhi Sinha, Nidhi Tyagi, Binay Kumar, *Cryst. Growth Des.*, 2015, 15, 4908-4917. (IF: 4.891)
- 2) “New geometrical modeling to study crystal morphology” **Harsh Yadav**, Nidhi Sinha, Binay Kumar, *Cryst. Growth Des.*, 2016, 16, 4559-4566. (IF: 4.891)
- 3) “Growth and characterization of piezoelectric benzil single crystals and its application in microstrip patch antenna” **Harsh Yadav**, Nidhi Sinha, Binay Kumar, *CrystEngComm*, 2014, 16, 10700-10710. (IF: 4.034)
- 4) “Modified low temperature Czochralski growth of xylenol orange doped benzophenone single crystal for fabricating dual band patch antenna” **Harsh Yadav**, Nidhi Sinha, Binay Kumar, *J. Cryst. Growth*, 2016, 450, 74-80. (IF: 1.481)
- 5) “Growth, structural and physical properties of diisopropylammonium bromide molecular single crystal” **Harsh Yadav**, Nidhi Sinha, Sahil Goel, Abid Hussain, Binay Kumar, *J. Appl. Cryst.*, 2016, 49, 2053-2062. (IF: 2.570) [“Published as Cover Page in Journal of Applied Crystallography”](#)
- 6) “Eu-doped ZnO nanoparticles for dielectric, ferroelectric and piezoelectric applications” **Harsh Yadav**, Nidhi Sinha, Sahil Goel, Binay Kumar, *J. Alloys Compd.*, 2016, 689, 333-341. (IF: 3.014)

- 7) "Growth and characterization of new semiorganic nonlinear optical and piezoelectric lithium sulfate monohydrate oxalate single crystals" **Harsh Yadav**, Nidhi Sinha, Binay Kumar, *Mater. Res. Bull.*, 2015, 64, 194-199. (IF: 2.435)
- 8) "Performance of crystal violet doped triglycine sulfate single crystals for optical and communication applications" Nidhi Sinha, Sonia Bhandari, **Harsh Yadav**, Geeta Ray, Sanjay Godara, Nidhi Tyagi, Jyoti Dalal, Sonu Kumar, Binay Kumar. *CrystEngComm*, 2015, 17, 5757-5767. (IF: 4.034)
- 9) "Structural, electrical, ferroelectric and mechanical properties with Hirshfeld surface analysis of novel NLO semiorganic sodium p-nitrophenolate dehydrate piezoelectric single crystal" Jyoti Dalal, Nidhi Sinha, **Harsh Yadav**, Binay Kumar, *RSC Adv.*, 2015, 5, 57735–57748. (IF: 3.840)
- 10) "Pyroelectric properties and conduction mechanism in solution grown glycine sodium nitrate single crystal" Nidhi Tyagi, Nidhi Sinha, **Harsh Yadav**, Binay Kumar, *Phys. B Condens. Matter.*, 2015, 462 18-24. (IF: 1.319)
- 11) "Enhancement in semiconducting and optical properties in CuCl₂ doped anthracene micro crystals" Nidhi Sinha, Geeta Ray, **Harsh Yadav**, Sanjay Godara, Binay Kumar, *Phys. B Condens. Matter.*, 2015, 470 15-20. (IF: 1.319)
- 12) "Growth, crystal structure, Hirshfeld surface, dielectric and mechanical properties of a new organic single crystal: 'Bis glycine' squarate", Nidhi Tyagi, Nidhi Sinha, **Harsh Yadav**, Binay Kumar, *RSC Adv.*, 2016, 6, 24565-24576. (IF: 3.840)
- 13) "Growth, structural, dielectric, ferroelectric and mechanical properties of L-prolinium tartrate single crystal" Sonu Kumar, Nidhi Sinha, **Harsh Yadav**, Binay Kumar, *J. Mater. Sci.*, 2016, 51, 7614-7623. (IF: 2.371)
- 14) "Growth, morphology, structure and characterization of L-histidinium dihydrogen arsenate orthoarsenic acid (LHAS) single crystal" Nidhi Tyagi, Nidhi Sinha, **Harsh Yadav**, Binay Kumar, *Acta Cryst. B*, 2016, B72, 593-601. (IF: 2.892)

- 15) “Effect of crystal violet dye on the structural, optical, mechanical and piezoelectric properties of ADP single crystal” Sahil Goel, Nidhi Sinha, **Harsh Yadav**, Abid Hussain, Binay Kumar, *Mater. Res. Bull.*, 2016, 83, 77-87. (IF: 2.435)
- 16) “Synthesis of $0.64\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3-0.36\text{PbTiO}_3$ ceramic near Morphotropic Phase Boundary for high performance piezoelectric, ferroelectric and pyroelectric applications” Abid Hussain, Nidhi Sinha, Sonia Bhandari, **Harsh Yadav**, Binay Kumar, *J. As. Ceram. Soc.*, 2017, 4, 337-343.
- 17) “Copper-Catalyzed Aerobic Oxidative Coupling of *o*-Phenylenediamines with 2-Aryl/Heteroarylethylamines: Direct Access to Construct Quinoxalines” Kovuru Gopalaiah, Anupama Saini, Sankala Naga Chandrudu, Devarapalli Chenna Rao, **Harsh Yadav**, Binay Kumar, *Org. Biomol. Chem.*, 2017, 15, 2259-2268. (IF: 3.559)
- 18) “Growth, crystal structure, Hirshfeld surface, optical, piezoelectric, dielectric and mechanical properties of bis(L-asparaginium hydrogensquarate) single crystal” **Harsh Yadav**, Nidhi Sinha, Sahil Goel, Budhendra Singh, Igor Bdikin, Anupama Saini, Kovuru Gopalaiah, Binay Kumar, *Acta Cryst. B*, 2017, B73, 347-359. (IF: 2.892)
- 19) “Optical, piezoelectric and mechanical properties of xylenol orange doped ADP single crystal for NLO applications” Sahil Goel, Nidhi Sinha, **Harsh Yadav**, Abhilash J. Joseph, Abid Hussain, Binay Kumar, *Arab. J. Chem.*, 2017, Accepted Manuscript. DOI: <http://dx.doi.org/10.1016/j.arabjc.2017.03.003> (IF: 5.388)
- 20) “Experimental investigation on the structural, dielectric, ferroelectric and piezoelectric properties of La doped ZnO nanoparticles and their application in dye-sensitized solar cells” Sahil Goel, Nidhi Sinha, **Harsh Yadav**, Abhilash J. Joseph, Binay Kumar, *Phys. E Low-Dimensional Syst. Nanostructures*, 2017, 91, 72-81. (IF: 1.904)
- 21) “An insight into the synthesis, crystal structure, geometrical modelling of crystal morphology, Hirshfeld surface analysis and characterizations of N-(4-methylbenzyl)benzamide single crystal” Sahil Goel, **Harsh Yadav**, Nidhi Sinha,

Budhendra Singh, Igor Bdikin, Devarapalli Chenna Rao, Kovuru Gopalaiah, Binay Kumar, *J. Appl. Cryst.*, 2017, 50, 1498-1511. (IF: 2.617)

22) “Ferroelectric Gd-doped ZnO nanostructures: Enhanced dielectric, ferroelectric and piezoelectric properties” Sahil Goel, Nidhi Sinha, **Harsh Yadav**, Sanjay Godara, Abhilash J. Joseph, Binay Kumar, *Mater. Chem. Phys.*, 2017, 202, 56-64. (IF: 2.283)

23) “X-ray, dielectric, piezoelectric and optical analysis of a new NLO 8-hydroxyquinolinium hydrogen squarate crystal” Sahil Goel, **Harsh Yadav**, Nidhi Sinha, Budhendra Singh, Igor Bdikin, Binay Kumar, *Acta Cryst. B*, 2018, B74, 12-23. (IF: 2.032)

24) “Y-doped ZnO nanosheets: Gigantic piezoelectric response for an ultra-sensitive flexible piezoelectric nanogenerator” Nidhi Sinha, Sahil Goel, Abhilash J. Joseph, **Harsh Yadav**, Kriti Batra, Manoj Kumar Gupta, Binay Kumar, *Ceram. Int.*, 2018, 44, 8582-8590. (IF: 2.986)

25) “Glycine glutaric acid single crystal: Morphological, optical, dielectric and mechanical properties via nanoindentation” Sumit Bhukkal, Nidhi Sinha, **Harsh Yadav**, Sahil Goel, Budhendra Singh, Igor Bdikin, Binay Kumar, *Vacuum*, 2018, 154, 90-100. (IF: 1.553)

Book

- 1) “Liquid Crystal Based Patch Antenna: Tunable Patch antenna at 10 GHz frequency” **Harsh Yadav**, Afaque Karim, Aloka Sinha, *LAP LAMBERT Academic Publishing house*, Germany, 10/2013, ISBN: 978-3-659-466939.

Conference Proceeding

- 1) “Design and Simulation of LC Based Patch Antenna @ 20 GHz frequency” Afaque Karim, **Harsh Yadav** and Shakeb Ahmad, *AIP 1620*, 2014, 15.
- 2) “Tunable Nano Dispersed LC Based Patch Antenna” Afaque Karim, **Harsh Yadav** and Shakeb Ahmad, *AIP 1665*, 2015, 060005.
- 3) “LC Nano composites Based Patch Antenna @ 12 GHz frequency” Afaque Karim, **Harsh Yadav**, Shakebul Hasan and Shakeb Ahmad, *AIP 1731*, 2016, 060002.

Conference/Seminar/Faculty Development Programme/Workshop

- 1) *“Growth and Characterization of Nonlinear Glycine Zinc Acetate Single Crystals”* XVII National seminar on Crystal Growth, 2013, Anna University, Chennai.
- 2) Advance Futuristic Underwater Sensors, Solid State Physics Laboratory, DRDO, March 16-20, 2015, Delhi.
- 3) *“Design and Simulation of LC Based Patch Antenna @ 20 GHz Frequency”*, International Conference on Light, 19-21 March 2014, NIT Calicut, India.
- 4) *“Study on Dielectric Properties of Nano Dispersed Liquid Crystal”* International Conference on Nanoscience and Nanotechnology, March 8-10, 2014, A.M.U, Aligarh.
- 5) Workshop on Advance Materials for Future Energy Requirements, University of Delhi, 2013, Delhi.
- 6) IUCr Workshop on X-ray diffraction systems and related applications organized by PANalytical, 2014.
- 7) Workshop on Information Literacy & Competency organized by Delhi University Library system, University of Delhi, 2013, Delhi.
- 8) *“Unidirectional growth of pure and CV doped benzophenone crystal by Modified CZ technique”*, XVII National seminar on Crystal Growth, 2016, BARC, Mumbai.
- 9) *“Simulation and fabrication of TGS crystal based patch antenna for wireless communication and energy harvesting”* Device Presentation, XVII National seminar on Crystal Growth, 2016, BARC, Mumbai.
- 10) *“Simulation and fabrication of piezoelectric single crystal based patch antenna for wireless communication and energy harvesting”* Poster Presentation, International Conference on Technologically Advanced Materials & Asian Meeting on Ferroelectricity, November 7-11, 2016, University of Delhi, Delhi.
- 11) *“Rigaku thin film application workshop”* November 18, 2016, Delhi.
- 12) *“Materials and Devices using Soft Matter: Current Status and Outlook”* November 21, 2016, DAAD Research Seminar, University of Delhi, Delhi.
- 13) *“Introduction to Scilab”* DBT sponsored Faculty Development Workshop, September 22-23, 2017, Hansraj College, University of Delhi.
- 14) *“Applied Physics & Embebed System Design”* Faculty Development Programmme, December 14-15, 2017, Rajdhani College, University of Delhi.
- 15) *“9th INUP Familiarization Workshop on Nanofabrication Technologies”* May 23-25, 2018,

IIT Bombay, Mumbai.

- 16) "NCPRE Familiarization Workshop on Photovoltaics" May 25, 2018, IIT Bombay, Mumbai.

Research Guidance (Supervision of Doctoral Thesis/Dissertations)

Awards and Distinctions

- **Best Oral Presentation Award in 20th National Seminar on Crystal Growth (XX NSCGA-2016)** organized by Technical Physics Division, BARC, Mumbai, 19-21 January, 2016.
- **Best Paper Award in International Conference on Light**, 19-21 March 2014, NIT Calicut, India.
- **First Prize in Paper Presentation on Topic "Wireless Power Transmission"** by Physics & Electronics Society of Rajdhani College, University of Delhi, 11 February, 2009.
- **Freeship Scholarship** by Indian Institute of Technology, Delhi.

Memberships

Other Academic Activities

Organizing Committee Member in

- National Conference on Current & Future Perspectives in Nanotechnology "Nanoworld – 2018", April 12-13, 2018.
- Workshop "Spectrum-2018, February 12, 2018, Departement of Physics, Shivaji College.

Cultural/Extracurricular Activities



Signature of Faculty Member