




Shivaji College Faculty Details Proforma

Title	Dr.	First Name	NIDHI	Last Name	TYAGI	Photograph
Designation	Assistant Professor					
Address	Department Of Physics, Shivaji College University Of Delhi, New Delhi					
Office Phone No.	011-25116644					
Residence						
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Educational Qualifications						
Degree	University/Institute				Year	
Ph.D.	University of Delhi				2016	
PG	C.C.S. University				2003	
UG	M.J.P. Rohilkhand University				2001	
Any Other Qualification	Qualified CSIR-UGC NET-JRF				2010	
	Qualified JEST with 97 Percentile				2010	
	Qualified GATE with 98 Percentile				2010	
Career Profile						
<p>“To strive for excellence with a passion of teaching & shoulder the responsibilities to increase breadth of knowledge among the students and committed to provide them an excited environment by following a structured and well formulated teaching methodology”.</p> <p>Worked as permanent Physics Faculty (PGT) in SBVM School Hapur from 2003 to 2009.</p> <p>Working as Assistant Professor in Shivaji College since August 2016</p>						

Administrative Assignments

- Head of Department of Physics, SBVM School during 2005-2009.
- Time Table In charge, SBVM School during 2006-2009.
- Head of Science Centre in SBVM School.
- Teaching Assistance in IIT Kanpur from July 2011 to April 2012.
- Member of College Magazine, Shivaji College for 2016-2017.
- Member of Website Committee at Shivaji College.
- Member of Vidya Vistar Scheme.
- Coordinator of IIRS-ISRO Outreach Programme.

Areas of Interest/Specialisation

Crystal growth and its Characterizations, Structural Crystallography, Nanomaterials, Single Crystal, Ferroelectrics Crystal, Piezoelectricity, Crystal Optics, Crystallization

Subjects Taught

Electricity and Magnetism, Mechanics, Element of Modern Physics, Thermal Physics and Statistical Mechanics, Wave and Optics, Solid State Physics, Basic Instrumentation Skills, Electrical Circuits and Network Skill,

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

1. Bagged various National, State & Regional level award for proven expertise guidance in undertaking Projects such as “ New Discovery in Accident Safety Device”, “ Water Storage” and “Bio-Fuel” etc.
2. CSIR-NEIST, Johrat Project “Frequency-Magnitude relations and Hazard Estimation”.
3. Minor Project entitled “Synthesis and characterization of multifunctional ZnO nanoparticles for biomedical, piezoelectric and ferroelectric applications”

Publications Profile (Research Papers/Books)

- Evidence of sustained ferroelectricity in glycine sodium nitrate single Crystal, **Nidhi Tyagi** , Nidhi Sinha , Binay Kumar, **Current Applied Physics** 14 (2014) 156-160.
- Pyroelectric properties and conduction mechanism in solution grown glycine sodium nitrate single crystal , **Nidhi Tyagi** , Nidhi Sinha, Harsh Yadav, Binay Kumar, **Physica B** 462 (2015)18–24.
- “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 and Binay Kuma, **CrystEngComm** 17 (2015) 5757–5767.

- “Enhancement of optical, dielectric and piezoelectric properties in crystal violet dye doped benzophenone crystal grown by Czochralski technique” Harsh Yadav, Nidhi Sinha, **Nidhi Tyagi**, Binay Kumar, **Crystal Growth and Design** 15 (2015) 4908–4917.
- “Growth, crystal structure, Hirshfeld surface, dielectric and mechanical properties of a new organic single crystal: ‘Bisglycine’squarate” **Nidhi Tyagi**, Nidhi Sinha, Harsh Yadav and Binay Kumar, **RSC Adv.** 6 (2016) 24565–24576.
- “Evidence of ferroelectricity in highly efficient L-histidinium dihydrogen arsenate orthoarsenic acid single crystal: A study of structural, dielectric, and mechanical properties” **Nidhi Tyagi**, Nidhi Sinha, Harsh Yadav, Binay Kumar, **Acta crystallography Section B** 72 (2016) 593–601.
- Synthesis and characterization of ZnO nanorods for liquid crystal-based patch antenna, S.K. Yadav, A.V. Singh, Harsh Yadav, **Nidhi Tyagi**, **International Journal of Electronics Engineering** 10 (2018) 932-937.
- “Development of new L- Serine Squarate single crystal: Growth, structure, Hirshfeld surface analysis with enrichment ratio of atomic contacts” **Nidhi Tyagi**, Harsh Yadav, Abid Hussain Binay Kumar, **Journal of Molecular Structure** 1224 (2021) 129190.

Conference/Seminar/Faculty Development Programme/Workshop

- District level National Children’s Science Congress Uttar Pradesh program, supported by DST, Govt. of India, Ghaziabad in 2004.
- State level National children’s science congress Uttar Pradesh program, supported by DST, Govt. of India, Saharanpur in 20-21 November, 2004.
- Uttar Pradesh State level Teacher’s Workshop organized by “The National Academy of Science”, Allahabad in 2005.
- “Partners in Learning Teacher” Training Program (Microsoft) Conducted from 9 May 2005 to 19 May 2005.
- Workshop on “Innovative Physics Teaching” in Vishwa bhart public school, Noida in 2006.
- Seminar in “Appreciating Physics in Everyday life” - A Nationwide Campaign to popularize Physics, supported by DST, Govt. of India, SSV Degree College, Hapur in 14-16 September 2006.
- District level Teachers Orientation Workshop for National Children’s Science Congress (NCSC) on “Biodiversity”, supported by DST, Govt. of India and Council of Science and Technology in 2006.
- Workshop on “Aao Mil Jhul Ke Science Jaane Aur Apnaye” Organized by Ministry of Science and Technology, Govt. of India in 2007

- **Oral presentation** on “Dielectric, piezoelectric, ferroelectric and pyroelectric properties of nonlinear optical Glycine Sodium Nitrate single crystals”, XVII National seminar in Crystal Growth 2013 in Chennai.
- Workshop on “Information Literacy and Competency”, Delhi University Library system, University of Delhi, 2013, Delhi.
- Workshop on “Research Metrics” organized by Research Council and University of Delhi in 2015.
- National Conference on NenoTechnology, Delhi University in Jan 2017.
- Faculty Development Program of “Introduction to Scilab” - 22-23 September 2017 at Hans Raj College, University of Delhi.
- **Oral presentation** on “Multifunctional single crystal growth, morphology and Hirshfeld surface analysis of L-histidinium tetrafluoroborate for piezoelectric and optical applications” 6th International Symposium on Integrated Functionalities ISIF 2017 in 10-13 December 2017.
- Faculty Development Program on “Applied Physics & Embedded System Design”, 14th - 15th Dec 2017 at Department of Physics and Electronics Rajdhani College.
- 9th INUP Familiarization Workshop on Nanofabrication Technologies” May 23-25, 2018 IIT Bombay, Mumbai.
- “NCPRE Familiarization Workshop on Photovoltaics” May 25, 2018, IIT Bombay, Mumbai
- International E-Summit on “Entrepreneurship Development through Ecotourism in Northeast India” from February 14-15, 2019 at Shivaji College.
- **Poster Presentation** on “Synthesis of multifunctional Rare Earth doped ZnO nanoparticles for green energy harvesting and biomedical applications” in International Seminar on “Science, Environment and Spirituality (ISSES 2019)” held at Shivaji College (University of Delhi) on September 13, 2019.
- **Oral presentation** on “Growth of semi-organic single crystal of l-argininium phosphate for piezoelectric, optical and communication applications” in International Conference on Advances in Smart Materials & Emerging Technologies” ASMET-2020 held at Indira Gandhi Delhi Technical University for Women (IGDTUW), Delhi, on January 23-24, 2020
- **Poster presentation** on topic “Multifunctional single crystal growth, Hirshfeld topology analysis of L-Histidinium tetrafluoro borate for piezoelectric and communication applications” in 2nd National Conference on “New Trends in Nanotechnology & Applications” NTNA-2020 held at Atma Ram Sanatan Dharma College, University of Delhi, on February 6-7, 2020.
- Completed “Indian Summer School On Crystal Growth” in association with Indian Association for Crystal Growth (IACG), Chennai during 14-23 May 2020

- Faculty Development Program on “Physics on Material” organized by Department of Physics, JAIN (Deemed-To-Be-University), Karnataka from 28-30th May 2020.
- International Virtual Seminar on "Emerging Technologies in Energy Conversion and Storage" organized by Sathyabama Institute of Science and Technology, Chennai during 1 & 2 June, 2020.
- International Conference on "People, Environment, Science and Pandemic" organized by Bhagini Nivedita College, University of Delhi from 5-7th June, 2020.
- Faculty Development Program on "Advanced Materials and Characterization" conducted by Dept. of Physics, School of Sciences, NIT Andhra Pradesh, from 15-19 June 2020.
- International Webinar on Engineered Nanostructures for Therapeutic and Biomedical Applications, organised by RPS Degree College, Haryana on July 3, 2020.
- Faculty Development Program on “Advanced Computational and Experimental Research in Physics” organized by Dept. of Physics, SRM IST, Ramapuram Campus, Chennai from 27 July 20 to 8 August 20.
- “Science Leadership Workshop” Organized by Central University of Panjab, Bathinda from 22 June to 28th June 2020.
- CSIR Summer Research Training Program 2020 during June to August 2020 coordinated by CSIR-NEIST, Jharkhand.
- Rigaku School for Practical Crystallography, USA from July 6th-17th 2020.
- National Webinar-I entitled "Impact Centric Research: Funding Opportunities and Challenges in Framing Successful Research Proposal" organised by Shivaji College, University of Delhi on July 11, 2020.
- Short term course on “Current Trends of Condensed Matter Physics” organized by Dept. of Physics, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar from 25 -29 September 2020.
- Short term course on “Nanomaterials for Clean Energy and Environment Applications”, organised by Dr. Mahalingam College of Engineering and Technology Anna University, Chennai from November 2-7, 2020.
- National Workshop on Challenges of Teaching Physics Laboratory Course in Online Mode, organised by Kalindi College, University of Delhi, from January 23-25, 2021.
- “20th International Workshop on Computational Physics and Materials Science: Total Energy and Force Methods” organized by Abdus Salam International Centre of Theoretical Physics, Italy from 23 - 25 Feb 2021.
- Workshop on “Programming and Software tools for UG courses” organized by Department of Physics and Electronics, Rajdhani College, University of Delhi from 19th – 21st March 2021.
- Webinar on “Emerging Trends in Contemporary Physics” organized by Department of Physics, Deshbandhu College, University of Delhi on 30th & 31st March, 2021.

- **Oral presentation** on paper entitled “Multifunctional Single Crystal Growth, Morphology, Hirshfeld Topology Analysis, Enrichment Ratio And Energy Framework Of Piezoelectric L-Histidinium Tetrafluoro Borate Single Crystal” in the 2nd International Symposium on “MODELING OF CRYSTAL GROWTH PROCESSES AND DEVICES”, during 5-8, July 2021 organized by SSN Research Centre, SSN Institutions, Kalavakkam, Chennai.
- International Workshop on Emerging Trends in the field of Science and Technology” organised by the Department of Physics, Sathyabama Institute of Science and Technology, Chennai, from 16 to 28 August 2021.
- National Level Webinar entitled 'Art of Academic Writing: A systematic approach' organised by Research & Innovation Cell, Shivaji College (University of Delhi), New Delhi, India on September 4, 2021.

Research Guidance (*Supervision of Doctoral Thesis/Dissertations*)

- As a Group Guider for preparing “Experience letter” on Project “Water Conservation, Collection and Storage” in National Children’s Science Congress in 2004
- Project Investigator of Minor Project entitled “Synthesis and characterization of multifunctional ZnO nanoparticles for biomedical, piezoelectric and ferroelectric applications” sanctioned by Research cell, Shivaji College, University of Delhi

Awards and Distinctions

- Award of Senior Research Fellowship (SRF), University Grant Commission.
- Award of Junior Research Fellowship (JRF), University Grant Commission.
- Got Best oral presentation award in XVII National seminar in Crystal Growth- 2013 in Chennai.
- Awarded by Honable Dr. Murli Manohar Joshi, Former Minister of HRD, Govt. of India, for science project.
- Best Poster Presentation award in 2nd National Conference on “New Trends in Nanotechnology & Applications” NTNA-2020 held at Atma Ram Sanatan Dharma College, University of Delhi, on February 6-7, 2020.
- Qualified the Rigaku School for Practical Crystallography, USA test with honors on 24th July, 2020
- Got Highest grade in three months CSIR Summer Research Training Program 2020.
- Project Investigator of Minor Project entitled “Synthesis and characterization of multifunctional ZnO nanoparticles for biomedical, piezoelectric and ferroelectric applications” 2020-2021.
- Got Best oral presentation award in the 2nd International Symposium on “Modeling of crystal growth processes and devices” (MCGPD 2021)

Memberships

Other Academic Activities

- Convener of Science Exhibition program on District level
- National Cyber Olympiad In-charge in 2007.
- Organized various science events like Quiz, debate etc.
- Resource person of DST Inspire Camp, Shivaji College in 2016.
- Organising member of educational trip to Vigyan Samagam at National Science Centre, Delhi, on February 18, 2020.
- Organising member of educational trip to Solid State Physics Laboratory, Defense Research and Development Organization on February 27, 2020.

Organizing Committee Member

- Physics Workshop “Pratibimb” in Shivaji College Delhi University in 2016.
- Lecture “Semiconductor Opto-Electronic Devices : A Perspective” by Prof. M. R. Shenoy, IIT Delhi, Shivaji College in Oct 2017.
- The Annual Departmental Festival INVENIO-2017.
- Physics Workshop “Spectrum” in Shivaji College Delhi University in 12th February 2018.
- National Conference on Current & Future Perspectives in Nanotechnology “Nanoworld – 2018”, April 12-13, 2018.
- The Annual Departmental Festival INVENIO-2018.
- Physics Society Event INVENIO on September 30, 2019, at Shivaji College.
- International Webinar on Recent trends in Material Sciences, Organised by Department of Physics, Shivaji College, on October 10, 2020.
- International Webinar on Era of Optical clocks, Organised by Department of Physics, Shivaji College, on December 4, 2020.
- 4day capacity building on “Research Methodology” under aegis of Vidya Vistar Scheme from August 26-29, 2021.
- Webinar on “Role of IQAC in Accreditation Framework of NAAC” on September 21, 2021.

Cultural/ Extracurricular Activities

- First position in Akhil Bhartiya Gyan Pariksha (Prathma and Uttama both) organized by Sanskrit Bhawan, Kurukshetra.
- Participated in State level Scout guide camp.
- Participated in District level Cultural Competitions.



Signature of Faculty Member