




DEPARTMENT OF PHYSICS
DYAL SINGH COLLEGE, UNIVERSITY OF DELHI
FACULTY DETAIL



Title	Mr.	First Name	Arvind	Last Name	Kumar	Photograph
Designation	Assistant Professor					
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Web-Page						
Educational Qualifications						
Degree		Institution			Year	
Ph. D. (Pursuing)		University of Delhi, Delhi			-	
M. Tech. (Applied Optics)		Indian Institute of Technology (IIT), Delhi			2009	
B. Ed.		Galgotia College of Engineering & Technology, Greater Noida			2006	
M.Sc. Physics (Electronics)		Hansraj College, University of Delhi			2004	
B. Sc. (Hons.) Physics		Hansraj College, University of Delhi			2002	
Intermediate (10+2)		U. P. Board			1998	
High School (10 th)		U. P. Board			1996	
Career Profile						
CSIR-UGC National Eligibility Test (NET):						
<ul style="list-style-type: none"> ➤ NET for Lectureship, JUNE-2006. ➤ Junior Research fellowship (JRF) DEC-2006. ➤ Got Shyama Prasad Mukherjee (SPM) Fellowship call for being in top 20% awardees in CSIR-UGC (NET) Examination. 						
Graduate Aptitude Test in Engineering (GATE) -2007: I have qualified GATE with All India Rank-32						
Merit Certificate: First Position in Sikandrabad Division (U. P.) in Intermediate.						
Merit Certificate: First Position in Noida in High School Examination.						
Administrative Assignments (From 1st July 2018 onwards)						
<ul style="list-style-type: none"> ➤ Deputy Superintendent Practical Exams (December-2022), Physics Department, Ramjas College, University of Delhi during 2022-2023. ➤ Co-Convener Time-Table Committee (Staff Council), Physics Department, Ramjas College, University of Delhi during 2022-2023 						

- **Co-Convener, Placement Cell (Staff Council)**, Ramjas College, University of Delhi during 2019-2022.
- **Member of Purchase Committee**, Physics Department, Ramjas College, University of Delhi during 2021-2022
- **Member of Extra- Curricular Activities (ECA) Committee (Staff Council)**, Ramjas College, University of Delhi during 2018-19.
- **Member of Financial Assistance Committee (Staff Council)**, Ramjas College, University of Delhi during 2018-19.
- **Staff Advisor of Fine Arts and Dramatics Society (Staff Council)**, Ramjas College, University of Delhi during 2018-19.
- **Member of Time- Table Committee** of Department of Physics, Ramjas College, University of Delhi during 2014-2019.
- **Set-up of Optics lab** for undergraduate students at Shaheed Rajguru College, University of Delhi.
- **Appointment for Paper-Setting** of university exams and **External and Internal examiner** to conduct practical exams by University of Delhi.
- Organized various workshops and seminars for students at undergraduate level
- **M. Tech. Representative (Apr, 2008 - present)**: As a member of House Working Committee, I am actively involved in management of hostel.
- **Member of the Nucleus Committee T&P (July, 2008 - present)**: I am member of the Nucleus committee (Physics Dept.) of training and placement cell (T&P), IIT Delhi.
- **Member of Awards Committee (July, 2007 - Apr, 2008)**: I was member of this committee (Shivalik Hostel, IIT Delhi) which decides the awardees on the basis of their performance in the respective field during the session.
- **Member of Physics Society (Hansraj College, D.U.)**: I was actively involved in organizing Annual festival of Physics society of Hansraj College (D.U.) in 2001.

Areas of Interest / Specialization

Photonics, Materials Science and Electronics

Subjects Taught

- Mathematical Physics-I
- Digital System and Applications
- Network Analysis
- Power Electronics
- Elements of Modern Physics
- Waves and Optics
- Quantum Mechanics
- Classical Dynamics
- Wave propagation and Antenna
- Electromagnetic Theory
- Microprocessor
- Physics of Devices
- Advanced Mathematical Physics-I
- Numerical Analysis
- Mechanics
- Thermal Physics
- Applied Optics (SEC)
- Electricity and Magnetism
- Mathematical Physics-II

Research Guidance

Presently, I am involved in teaching and research actively. I have supervised many B.Sc. (Hons.) Physics students for their dissertation work. (Dissertations for undergraduate students under DSE courses)

Publications Profile

Total number of publications: 04

- **“Anisotropic excitonic absorption in SbI₃ films: Theory and experiment”, Arvind Kumar, Pradeep Kumar, Agnikumar G. Vedeshwar, Materials Letters 343 (2023) 134359.**
- **“First principle calculation of structural, electronic, optical, elastic and thermodynamic properties of group IIA metal iodides: Structure-property correlation” Pradeep Kumar, Arvind Kumar, Tanuj Dhawan, Agnikumar G. Vedeshwar, Journal of Physics and Chemistry of Solids 175 (2023) 111195.**
- **“Optical properties of InI₃: Density functional theory calculations and experimental results” Ashish Kumar Sharma, Pradeep Kumar, Arvind Kumar, Kim Jungbog, Agnikumar G. Vedeshwar, Solid State Communications 358 (2022) 115014.**

- **“Correlation of cation-anion radii ratio with physical and electronic properties of scintillator materials barium dihalides (BaX₂, X = F, Cl, Br, I): DFT calculations and experimental results”, Pradeep Kumar, Arvind Kumar, Agnikumar G. Vedeshwar, Solid State Communications 371 (2023) 115281.**

Conference Organization/ Presentations (From 1st July 2018 onwards)

- **Paper presentation: “Ab initio study of structural, electronic and thermodynamic properties of tungsten disulfide WS₂ under pressure”, at International Conference on Advanced Materials for Emerging Technologies (ICAMET) during May 4-6, 2023 at Department of Physics, Netaji Subhas University of Technology, New Delhi-110078.**
- **Poster presentation: “First Principles Calculations of Structural, Electronic and Optical Properties of SbI₃” at International conference (ICNOC-2022) on Nanotechnology: Opportunities and Challenges during November 28-30, 2022 at Jamia Millia Islamia University, New Delhi, India.**
- **Paper presentation: “Investigation of temperature and pressure dependent thermodynamic properties of Magnesium iodide (MgI₂) based on first principle calculations” at Second International conference (ASMET-2021) on advances in smart materials & emerging technologies during December 20-21, 2021 at Indira Gandhi Delhi Technical University for Women (IGDTUW), Kashmere Gate, Delhi, India.**
- **Participated and member of the local organizing committee at 21st national conference (SSNTDs-21) on Solid state nuclear track detectors and their applications during January 29-31, 2021 at University of Delhi, Delhi, India**
- **Participated at International conference (ASMET-2020) on advances in smart materials & emerging technologies during January 23-24, 2020 at Indira Gandhi Delhi Technical University for Women (IGDTUW), Kashmere Gate, Delhi, India**

Research Projects (Major Grants/Research Collaboration) (From 1st July 2018 onwards)

Awards and Distinctions (From 1st July 2018 onwards)

Association With Professional Bodies

- **Member of Project REALM: Resources for Enhancing Active Learning with Multimedia.**

- **Resource Person:** DU Pre-Entrance summer school-2018 (01-06-2018 to 16-06-2018), University of Delhi, for imparting training to UG students in the discipline of Physics organized by Institute of Life Long Learning, University of Delhi.
- **Resource Person:** DU Pre-Entrance summer school-2017 (07-06-2017 to 22-06-2017), University of Delhi, for imparting training to UG students in the discipline of Physics organized by Institute of Life Long Learning, University of Delhi.

Other Activities like MOOCs/ Patents etc. (From 1st July 2018 onwards)

FACULTY DEVELOPMENT PROGRAMS AND WORKSHOPS:

S. No.	Name of Course attended	Sponsoring Institution	Duration	
			From	To
1.	Interdisciplinary Faculty Development Programme on “Applications of AI-Machine Learning and Soft Computing Techniques”	Kalindi College in collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi	29 th January’2022	to 3 rd February’2022
2.	One week Faculty Development Programme on Materials Characterization: Experimental and Theoretical Aspects	Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi	20 th September’2021	to 24 th September’2021
3.	One day “ National workshop on Advanced Excel for teaching and research: Data Management and Data Analysis”	Guru Angad Dev Teaching Learning Centre of MHRD, SGTB Khalsa College, University of Delhi	23 rd March’2019	
4.	One day “ National workshop on Pedagogy and ICT tools for assessment”	Guru Angad Dev Teaching Learning Centre of MHRD, SGTB Khalsa College, University of Delhi	18 th October’2018	



Signature of Faculty Member