



## Faculty Details Performa Web-site

Title	Mr.	First Name	ASHISH	Last Name	TYAGI	Photograph
Designation	ASSISTANT PROFESSOR					
Address	82, B. D. ESTATE, TIMARPUR, DELHI-110054.					
Phone No Office	27206533, 27206722, 27207533, 27202278					
Email	ashishtyagi@gmail.com					
<b>Educational Qualifications</b>						
Degree	College/Department				Year	
B. Sc. (H) Physics	University of Delhi				1998	
M. Sc. Physics	University of Delhi				2000	
M. Tech (Applied Optics)	IIT, Delhi				2002	
Ph. D.	University of Delhi				Pursuing	
<b>Career Profile</b>						
SHEET ENCLOSED (ANNEXURE 1)						
<b>Current Assignment</b>						
Member, Sports Committee, Swami Shraddhanand College						
<b>Administrative Assignments Held</b>						
<ul style="list-style-type: none"> <li>• Counsellor, IGNOU Classes in Physics (Theory &amp; Practicals) (2010-15)</li> <li>• Teacher-in-charge (2011-12), Department of Physics, Swami Shraddhanand College.</li> <li>• Superintendent, Semester/Annual Practical Examination (2011-12).</li> <li>• Counsellor of Physics Courses (PHE-1, 2, 4, 5, 6, 9, 10, 11, 13, 14, 15, 16, BPHL-103, PHE-8L, PHE-12L) at study centre-0729 (Swami Shraddhanand College) of IGNOU</li> <li>• Member, College Timetable Committee (2015-18), Swami Shraddhanand College.</li> <li>• Member, Committee of Courses and Studies for Hons., Post-Graduate and Research Studies (2015-17), Department of Physics and Astrophysics, University of Delhi.</li> <li>• Member, Combined Moderation Committee to moderate the Question Paper of Undergraduate Physics Courses (2015-17), Department of Physics and Astrophysics, University of Delhi.</li> <li>• Supervisor of evaluation of EVS paper copies w. e. f. May 23, 2015 to June 03, 2015.</li> <li>• Member of Committee constituted for the commemoration of birth Anniversary of Swami Vivekananda on Jan. 12, 2016.</li> </ul>						

- “Deputy Co-ordinator”, in DU Pre-Entrance Summer School 2017 & 2018 organized by University of Delhi.
- Member, Teaching Post Committee (2016-17), Swami Shraddhanand College.
- Member, Library Committee (2017-18), Swami Shraddhanand College.
- Teacher-in-charge (2018-19), Department of Physics, Swami Shraddhanand College.
- Superintendent, Semester Practical Examination (2018-19).
- Convener, Physics Hons. and Physical Science Admissions.

#### Areas of Interest / Specialization

- a) Solid State Physics & Superconductivity (during M. Sc.)
- b) Optics (during M. Tech.)

#### Subjects Taught

- Mathematical Physics
- Advanced Mathematical Physics
- Classical Dynamics
- Quantum Mechanics
- Statistical Physics
- Electricity, Magnetism & EMT
- Solid State Physics
- Electromagnetic Theory

#### Research Guidance

#### Publications Profile

- “Controlling rotational dynamics and alignment of molecule by infrared laser pulse”, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 102 (2013), 120-127.
- “Dynamics of orientation of adsorbed polar molecules in static electric and laser field”, *Molecular Physics*, 112 No. 12 (2013) 1651-1658.
- “Pulse train induced rotational excitation and orientation of a polar molecule”, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 129 (2014), 193 – 200.
- “Adsorbed molecules in external fields: Effect of confining potential”, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 169 (2016), 238-245.
- “Effect of aligning pulse train on the orientation and alignment of a molecule in presence of orienting pulse”, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 173 (2017), 13-18.
- “Field-free molecular orientation by delayed elliptically polarised laser pulses”, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 188 (2018), 268-275.
- “Rotational Excitation of Diatomic Molecule: Time Dependent Study”, *Acta Physica*

Polonica, A, 133, 5 (2018), 1266-1273.

- “Thermal behaviour of hindered rotor in static electric and laser field”, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 240 (2020) 118538.

#### Conference Organization/ Presentations

- Served as local organizing committee member in 4<sup>th</sup> International Conference on “Current Developments in Atomic, Molecular, Optical & Nano Physics with Applications”, held at Conference Centre, University of Delhi from Mar. 11 – 14, 2015.
- Presented one paper in the invited talk titled: “Photo-excitation of weakly confined atoms in magnetic fields” and three posters titled “Optical properties of coupled delta doped nano-rods in magnetic fields”, “Orienting adsorbed molecules in static fields : Effect of confining potential”, and “Effect of orienting pulse on alignment of molecule due to pulse train” in the 4<sup>th</sup> International Conference on “Current Developments in Atomic, Molecular, Optical & Nano Physics with Applications (CDAMOP)”, held on March 11-14, 2015, organized by Department of Physics & Astrophysics, University of Delhi.
- Presented two papers in National Conference on Recent Advances in Materials and Field Theory (NCRAMFT-2K15) held on Dec. 28-29, 2015 organised by Bhagwan Parshuram Institute of Technology, Delhi.

#### Research Projects (Major Grants/Research Collaboration)

#### Awards and Distinctions

1. Qualified for Dr. Shyama Prasad Mukherjee fellowship (SPMF)
2. JRF awardee.
3. GATE Qualified
4. JEST Qualified
5. Got certificate of merit for securing first position in M.Sc. Physics in Ramjas College, University of Delhi.

#### Association With Professional Bodies

#### Editorial Experience

#### Reviewer

**Other Activities**

**SHEET ENCLOSED (ANNEXURE 2)**

## ANNEXURE 1 (CAREER PROFILE)

Name of the Institution	Only Ad- hoc/ Temporary/ Permanent	From	To	Total Experience (as on.....)		
				Year	Month	Days
Ramjas College	ad-hoc	25-11-2003	30-04-2004	00	05	06
SGTB Khalsa College	ad-hoc	29-07-2004	22-04-2006	01	08	16
Swami Shraddhanand College	permanent	17-07-2006	25-05-2010	03	10	09
Experience as on 25-05-2010				06	00	00
Swami Shraddhanand College	permanent	25-05-2010	24-05-2015	05	00	00
Experience as on 25-05-2015				11	00	00
Swami Shraddhanand College	permanent	25-05-2015	24-05-2018	03	00	00
Experience as on 25-05-2018				14	00	00
Total Teaching Experience as on 15-08-2021				17	03	20

## **ANNEXURE 2 (OTHER ACTIVITIES)**

### **I) Workshop/ Conference/ Symposium ATTENDED**

1. Participated in the Workshop on, “ Innovative Method of Teaching Physics”, held from Dec. 28, 2004 to Jan. 02, 2005 at the University of Delhi, organized by Indian Association of Physics Teachers (IAPT).
2. Participated in One Day College Level Program on the occasion National Science Day held at Nuclear Science Centre, New Delhi on Feb. 28, 2005.
3. Participated in One Day College Level Program on the occasion National Science Day held at Inter University Accelerator Science Centre, New Delhi on Feb. 28, 2006.
4. Participated in Workshop on “Experiments in Physics and Electronics”, held at Keshav Mahavidyalaya, University of Delhi from July 23 – 26, 2008.
5. Participated in Two-Days Workshop on “Quantum Mechanics: Theory and Applications”, held at Deen Dayal Upadhyaya College, University of Delhi during Nov. 21 – 22, 2008.
6. Participated in National Seminar, “Physics in Quest of alternate source of energy”, held at Motilal College, University of Delhi from Dec. 19 – 20, 2008.
7. Participated in International Conference on Electroceramics held at the Department of Physics & Astrophysics, University of Delhi, from Dec. 13-17, 2009.
8. Participated in the Second Workshop on “Quantum Mechanics : Theory and Applications”, held at Deen Dayal Upadhyaya College, University of Delhi during Oct. 22 – 23, 2010.
9. Participated in 3rd International Conference “Current Developments in Atomic, Molecular, Optical and Nano Physics with Applications”, held at the Department of Physics & Astrophysics, University of Delhi, from Dec. 14-16, 2011.
10. Participated in a National Seminar on “Electrical Energy : Safety and Conservation”, held at the Department of Physics, Swami Shraddhanand College, University of Delhi, from April 09-10, 2012.
11. Participated in International Conference on “Light-Cone Physics : Hadronic and Particle Physics”, held at Conference Centre, University of Delhi from Dec. 10 – 15, 2012.
12. Participated in a Collaborative Workshop for Undergraduate Physics Teachers: “Active Learning Integrating Hands on Experiments and Multimedia Resources”, organized by D. S. Kothari Centre for Research and Innovation in Science Education, Miranda House, University

- of Delhi held on Oct. 07-08, 2013.
13. Served as local organizing committee member in 4<sup>th</sup> International Conference on “Current Developments in Atomic, Molecular, Optical & Nano Physics with Applications”, held at Conference Centre, University of Delhi from Mar. 11 – 14, 2015.
  14. Presented one paper in the invited talk titled: “Photo-excitation of weakly confined atoms in magnetic fields” and three posters titled “Optical properties of coupled delta doped nano-rods in magnetic fields”, “Orienting adsorbed molecules in static fields : Effect of confining potential”, and “Effect of orienting pulse on alignment of molecule due to pulse train” in the 4<sup>th</sup> International Conference on “Current Developments in Atomic, Molecular, Optical & Nano Physics with Applications (CDAMOP)”, held on March 11-14, 2015, organized by Department of Physics & Astrophysics, University of Delhi.
  15. Participated in the DBT-sponsored workshop on “Integrating ICT in Teaching and Learning”, held on Dec. 11-18, 2015 at Department of Physics & Electronics, Hansraj College, University of Delhi.
  16. Participated and presented two papers in National Conference on Recent Advances in Materials and Field Theory (NCRAMFT-2K15) held on Dec. 28-29, 2015 organised by Bhagwan Parshuram Institute of Technology, Delhi.
  17. Participated in a seminar on “Recent Trends in Technical Terminology in Science”, organized by Commission for Scientific and Technical Terminology, Ministry of Human Resource Development (Department of Higher Education), held on Feb. 16-17, 2016 at Sri Aurobindo College, University of Delhi.
  18. Participated in the DBT-sponsored Faculty Development Programme on “Embedded Systems and Synthesis of Nanomaterials”, held on Jan. 06-07, 2017 at Department of Physics & Electronics, Hansraj College, University of Delhi.
  19. Participated in National Workshop organized by Shyam Lal College, on “Nanotechnology : Emerging Frontiers and Applications”, held on Jan. 30-31, 2017.
  20. Participated in a seminar on “Technical Terminology & Science Teaching”, organized by Commission for Scientific & Technical Terminology, Ministry of Human Resource Development (Department of Higher Education), held on Feb. 22-23, 2017 at Zakir Husain Delhi College, University of Delhi.
  21. Participated in DBT sponsored Faculty Development Workshop, “Introduction to Scilab”, organized by Department of Physics & Electronics, Hansraj College, University of Delhi, held

- on Sept. 22-23, 2017.
22. Participated in Faculty Development Program on, “Applied Physics and Embedded Systems Design”, organized by Department of Physics & Electronics, Rajdhani College, University of Delhi, held on Dec. 14-15, 2017.
  23. Attended Physics Exposure Camp under Olympiad Programme from Dec. 03-07, 2018 at Homi Bhabha Centre for Science Education (TIFR), Mumbai.
  24. Participated in One Day National Seminar on “Draft New Education Policy, 2019”, held on Aug. 10, 2019 organized by Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi.
  25. Participated in Workshop on “Quantum Mechanics and its Applications”, on Sept. 24, 2019 organized by Physics Department, Daulat Ram College, University of Delhi and The National Academy of Sciences, India-Delhi Chapter.
  26. Participated in the NIUS Teacher Development Workshop on “Thermal Physics & Statistical Mechanics”, held from Dec. 10-13, 2019 at Homi Bhabha Centre for Science Education (TIFR), Mumbai.
  27. Participated in the International Conference on “Atomic, Molecular, Optical and Nano Physics with Applications (CAMNP-2019)”, held at Delhi Technological University, Delhi during Dec. 18-20, 2019.
  28. Participated in Three Days Faculty Development Programme on “Fundamentals of Intellectual Property Rights”, from Jan 23-25, 2020 organized by Department of Botany and IQAC in collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi.
  29. Participated in National Seminar on “Laser and Fiber Optics (NSLDFO-2020)”, held on Jan. 07, 2020 organized by Department of Electronics and Department of Physics, Shaheed Rajguru College of Applied Sciences for Women, University of Delhi.
  30. Participated in National Level Webinar on “NAAC assessment and accreditation”, organized by Kishinchand Chellaram College, Mumbai under the aegis of UGC-PARAMARSH Scheme, held from April 21-25, 2020.
  31. Participated in One Day Webinar on “Teachers and Technology: The Road Ahead”, held on Apr. 25, 2020 organized by Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi.
  32. Participated in One Day Webinar on “Leadership Role in Uncertain Times”, held on Apr. 30, 2020 organized by Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi.
  33. Participated in Three Days Webinar on “Stress Management during Covid-19 Phase”, from May 01-03, 2020 organized by Mahatma Hansraj Faculty Development Centre, Hansraj College,

University of Delhi.

34. Participated in the one-day Webinar on “Strengthening the Immune System with Naturopathy”, held on May 06, 2020 organized by Department of Botany and IQAC, Hansraj College, University of Delhi.
35. Participated in Three Day Webinar on “Covid 19 : Challenges and Road Ahead”, from May 07- 09, 2020 organized by Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi.
36. Participated in Webinar on “What is Light : Evolution of Quantum Theory”, organized by Department of Physics, Kalindi College, University of Delhi, held on May 12, 2020.
37. Participated in National Webinar on “Science, Society and Exponential Change: Reimagining the Future ”, organized by Department of Physics, Kalindi College, University of Delhi, held on May 13, 2020.
38. Participated in Two Day Webinar on “Myths and truths of fitness and corrective exercises for various body deformities”, on May 12-13, 2020 organized by Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi.
39. Participated in National Webinar on “Emerging out a Winner in Lockdown”, organized by Department of Physics, Kalindi College, University of Delhi, held on May 14, 2020.
40. Participated in the National Webinar on “Preventative healthcare diagnostic platforms based on Micro-Nanotechnologies”, organized by Department of Science, Lady Irwin College, University of Delhi, held on May 30, 2020.
41. Participated in the Webinar on “Healthcare Advancement in COVID-19”, held on June 08, 2020 organized by Jagannath University, Jaipur.
42. Participated in National Webinar on “Stress Management for Work-Life Balance” organized by Department of Commerce, Mata Sundri College for Women, University of Delhi on June 14, 2020.
43. Participated in Online Lecture jointly organized by Indian Association of Physics Teachers Regional Council (Delhi & Haryana) and Delhi State Science Teachers' Forum on “Light and Einstein”, by Prof. Ajoy Ghatak on June 20, 2020.
44. Participated in Webinar on “Stress Management During Covid-19”, held on June 26, 2020 under IQAC, Jagannath University, Jaipur.
45. Participated in Online Lecture jointly organized by Indian Association of Physics Teachers Regional Council (Delhi & Haryana) and Delhi State Science Teachers' Forum on Wave “Wave Optics - I, Interference and Diffraction”, by Prof. Rajaram Nityananda on June 27, 2020.
46. Participated in the International webinar on “Emerging Trends in Physics and its Applications in Agriculture”, held on June 29, 2020, organized by Department of Physics, College of Basic Sciences and Humanities, CCS Haryana Agricultural University, Hisar, Haryana, India.

47. Participated in the Webinar on “Boosting Up Your Emotional Immunity”, held on July 03, 2020 under IQAC, Jagannath University, Jaipur.
48. Participated in a One Day National Webinar on “Opportunities and Challenges of a Paradigm Shift-from Offline to Online Teaching Learning”, organized by Pragati College, Raipur, held on July 04, 2020.
49. Attended Three Days National Online Experimental Workshop Simulation in Physics (NEWSP-2020) organized by Indian Association of Physics Teachers-Asian Physics Olympiad Cell (IAPT-APhO Cell) from July 10-12, 2020.
50. Participated in Online Lecture jointly organized by Indian Association of Physics Teachers Regional Council (Delhi & Haryana) and Delhi State Science Teachers' Forum on Wave “Wave Optics - II, Polarisation”, by Prof. Rajaram Nityananda on July 11, 2020.
51. Participated in the National webinar organized by the Department of Physics, SJR College for Women, Bengaluru, Karnataka on “Thermoelectric Nanomaterials for Green Energy Applications” held on July 15, 2020.
52. Participated in Online Lecture jointly organized by Indian Association of Physics Teachers Regional Council (Delhi & Haryana) and Delhi State Science Teachers' Forum on “Electrostatics-I”, by Prof. H. S. Mani on July 18, 2020.
53. Attended International Webinar on “Frontiers in Experimental Physics (IWFEP-2020)”, organized by the Department of Physics, Farook College (Autonomous), Kerala on Aug 05-06, 2020.
54. Participated in Online Lecture jointly organized by Indian Association of Physics Teachers Regional Council (Delhi & Haryana) and Delhi State Science Teachers' Forum on “Surprises in Elementary Physics: Examples from Mechanics, Optics and Thermodynamics”, by Prof. Vijay A. Singh on Aug. 6, 2020.
55. Participated in Three Days Online National Workshop on “Challenges of Teaching Physics Laboratory Courses in Online Mode”, organized by the Department of Physics under the aegis of IQAC, Kalindi College, in association with Department of Physics and Astrophysics, University of Delhi and the National Academy of Sciences India (NASI), Delhi Chapter on Jan 23-25, 2021.
56. Participated in Webinar on “Emerging trends in Contemporary Physics”, organized by the Department of Physics, Deshbandhu College, University of Delhi held on Jan 30 & 31, 2021.
57. Participated in Online Lecture jointly organized by Indian Association of Physics Teachers Regional Council (Delhi & Haryana) on, “Hidden Symmetries in Planetary motion”, by Prof. Venkataraman Balakrishnan on July 10, 2021.

## **II) REFRESHER COURSE / ORIENTATION COURSE / FDP COMPLETED**

1. Attended and completed successfully Orientation Course (OR-59) from CPDHE, University of Delhi, in Feb. 28, 2009 to Mar. 30, 2009.
2. Attended and completed successfully UGC Sponsored 3-Week Refresher Course in Physics from Academic Staff College, Himachal Pradesh University, Shimla from Oct. 23, 2009 to Nov. 12, 2009.
3. Attended and completed successfully Refresher Course in Physics and Electronics from CPDHE, University of Delhi from Sept. 20, 2012 to Oct. 11, 2012.
4. Attended and completed successfully Refresher Course in Physics from CPDHE, University of Delhi from Oct. 13 – Nov. 03, 2016.
5. Attended and completed successfully one week Faculty Development Programme on “Emerging trends in Research Methodology” from Oct 07-12, 2019 organized by Mata Sundri College, University of Delhi in collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi.
6. Attended and completed successfully One week Faculty Development Programme (Online) on “Moving Towards New Normal with Effective Online Teaching” organized by Kalindi College, University of Delhi in collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi from Dec. 01-07, 2020.
7. Attended and completed successfully One week Faculty Development Programme (Online) on “E-content Generation and Managing Online Teaching” organized by Sri Aurobindo College (E), University of Delhi, in collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi from Dec. 11-17, 2020.
8. Attended and completed successfully One week Faculty Development Programme (Online) on “Research Methodology and Data Analysis” organized by Faculty Development Centre, M. D. University, Rohtak, Haryana from Dec. 19-24, 2020.

## **III) SPECIAL LECTURES**

1. Resource Person, “DU-Pre-entrance summer school-2018”, ILLL, University of Delhi.
2. Resource Person, “DU-Pre-entrance summer school-2017”, ILLL, University of Delhi.

## **IV) Published a Book entitled, "Seven Years Solved Papers (2014-2020) (DU Entrance M. Sc. Physics)", New India Book Agency (2021), ISBN: 978-81949758-3-0**