



# Miranda House

## UNIVERSITY OF DELHI

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**Name:** Ms. Sumana Devi

**Department:** Physics

**Current Designation:** Assistant Professor

**Email-id:** sumana.devi@mirandahouse.ac.in

### Academic Qualifications:

**M. Phil. (2008):** Physics, Department of Physics, Himachal Pradesh University, Summerhill Shimla (H.P.)

**M.Sc. (2005):** Physics with specialization in *Condensed Matter Physics*, Department of Physics, Himachal Pradesh University, Summerhill Shimla(H.P.)

**B.Sc. (2003):** B. Sc. (Non-Medical), P. G. College Dharamshala, Himachal Pradesh University, Kangra (H.P.).

### Research Degree:

**Ph. D. :** Pursuing since July, 2018 in Department of Physics and Astrophysics , University of Delhi, Delhi-110007

**Thesis Title:** Directional and thermal properties of hindered rotor in external fields

### Areas of Research Interests:

- Theoretical: Condensed Matter Physics, Atomic and Molecular Physics

**Total Teaching Experience:** 15 Years 6 months (till 21 January,2025)

Teaching at Miranda House since 21 July,2009 as Permanent Facult



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### List of Publications :

1. M. Gambhir, S. Devi, V. Prasad, *Microwave-assisted directional and thermal properties of surface-adsorbed diatomic molecule*, Chemical Physics 591 (2025) 112598.
2. M. Gambhir, B. Vidhani, S. Devi, V. Prasad, *Impact of asymmetry of Razavy-type coupled well system and static electric field on the time-dynamical studies of entanglement*, The European Physical Journal Plus, 138, 57(2023).
3. S. Devi and V. Prasad, *Dynamics of coupled rotors in external fields*, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 302, 122983(2023).
4. V. V. Nautiyal, S. Devi, A. Tyagi, B. Vidhani, A. Maan, V. Prasad, *Orientation and Alignment Dynamics of Polar Molecules by Shaped Laser Pulses*, Spectrochimica Acta Part A 240, 118538(2021).
5. S. Devi, A. Tyagi and V. Prasad, *Thermal Behaviour of the hindered rotor in static and laser field*, Spectrochimica Acta Part A 240, 118538 (2020).
6. S. Devi, , Bhavna Vidhani, V. Prasad, *Thermal Behaviour of the adsorbed molecule in external Fields*, AIP Conference Proceedings 1953, 140096 (2018).

### Administrative Responsibilities:

#### Department Committees:

- Member, Moderation Committee, Physics Department (2021-22)
- Website content development committee 2022-23
- Robotics Society, Physics Department

#### Staff Council Committees

- Member, M.H. Environment Society
- Member, Jigyasa Quiz Society
- Snapshot
- Extended Admission Committee, Physics Department, Academic Year: 2022-23, 2023-24
- PRO Admission committee, Physics Department, 2021-22
- Extended Admission Committee (For Physical Science Admissions ), 2015-2016



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- Extended Admission Committee (For Physical Science Admissions), 2014-2015
- Extended Admission Committee (For Physical Science Admissions in Computer Science Department) In June /July Academic year (AY)2012-13

### **Seminars/Workshops/Conferences Attended (reverse chronological order):**

1. “*Workshop on Atomic and Molecular Physics*” organised by Inter University Accelerator Centre, Delhi (14-15 September, 2023)
2. School on “*Various types of Plasma and their applications*” held during 25-26, October2023
3. “*Managing online Classes and Co-creating MOOCS 6.0*” from 05-19 July, 2021, Online two Week inter-disciplinary Refresher course (Faculty Development Program) organised by Teaching learning Centre, Ramanujan College, University of Delhi under the aegis of Ministry of Education, Pandit Madan Mohan Malaviya Mission on Teachers and Teaching .
4. “*Advanced Research Methodology*” from 20 August – 03 September, 2021, online two week interdisciplinary Refresher Course/ Faculty Development Program, organised by Teaching Learning Centre, Ramanujan College University of Delhi In collaboration with Eastern Karbi College Sarihajan Karbi Analog Systems under the aegis of Ministry of Education Pandit Madan Mohan Malviya National Mission on Teachers and Teaching .
5. “*Online two week refresher in Physics*” organized by Teaching organized by Teaching Learning Centre, Ramanujan College, University of Delhi in Collaboration with Department of Physics Harish Chandra Post Graduate College, Varanasi, Uttar Pradesh And Department of Physics, Hemvati Nandan Bahuguna Garhwal University, Srinagar, Garhwal, Uttarakhand under the aegis Ministry of Education Pandit Madan Mohan Malviya National Mission on Teachers and Teaching from 27 October,2021 – 10 November, 2021 .
6. International Webinar on “*Introduction to MATLAB*” organized by the Department of Mathematics, JSS Mahavidyapeetha, JSS Academy of Technical Education(JSSATE), Noida, on September 17, 2021.
7. Online 10-Days Faculty Development Program/ Short Training on “*Applied Data Science using Python Programming and Excel*” “from 17th June to 29th June,2020 Organized by Edux Labs (Esoir Buisness Solution LLP).



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8. One week FDP on “ *Higher Education Road Ahead Developing Next Generation Leaders* ” organized by Department of Commerce and IQAC Venkateswara College, University of Delhi in collaboration with Pandit Madan Mohan Malviya National Mission on Teachers and Teaching(PMMMMNMTT), Teaching Learning Centre, Ramanujan College University of Delhi from 25 November , 2020 – 1 December, 2020.
9. One week FDP on “ *Digital Pedagogy to Enhance Teaching and Learning Experience* ” from 15 December, 2020 to 21 December, 2020 organized by Guru Agand Dev Teaching Learning Centre , A Centre of MOE under PMMMMNMTT.
10. “ *Science Conclave: Research on the Frontiers* ” from 10 January to 12 January, 2018 organized by D S Kothari Centre for Research and Innovation in Science, Miranda House.
11. *National Conference on Technological Empowerment of Women* at Vigyan Bhavan, New Delhi on March 8-9, 2018, organized by The National Academy of Sciences, India.
12. *National Conference on Recent Advances in Material and Field Theory* sponsored by Guru Gobind Singh Inderprastha University and Organized by Bhagwan Parshuram Institute of Technology, Delhi from December 28-29, 2015.
13. Lecture on “ *MOM (Mars Orbiter Motion)- from M to M* ” By Dr. Ajey Lele, Research Fellow at IDSA(Institute of Defence Studies and Analysis) , 29 October, 2014 organized by Vidyut Physics Society (Department of Physics)
14. Inaugural Talk (To celebrate International Year of Light), titled “ *Seeing the Light: J. C. Bose and Table Top Experimental Science* ”, By Dr. Rajarshi Roy (Institute of Physical Science and Technology and department of Physics, University of Maryland, College Park, U. S.A.), 23 February, 2015 , D S Kothari Centre for Research and Innovation in Science Education in Collaboration with Vidyut, Physics Society, Miranda House, University of Delhi .
15. *Orientation Program OR-72* organized by Centre for Professional Development in Higher Education (CPDHE), University of Delhi from 17 December 2012 to 14 January, 2013
16. International conference and workshop on *Nanostructured Ceramics and other Nanomaterials* organized by from 3-6 March, 2012.
17. Workshop on “ *Methodology of Teaching Science and Mathematics to Students with Vision Impairment* ” organized by Centre for Professional Development in Higher Education (CPDHE), University of Delhi on 18-19 July, 2013.



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18. Mentor, *Inspire Internship Program, 2010*, 12 -16 July,2010, DSKC, Miranda House, Delhi, India.
19. Mentor, *Inspire Internship Programme,2011* ,11-15 July, 2011, DSKC Miranda House, University of Delhi.
20. Mentor, *Inspire Internship Program,2012*, 16-20 July ,2012 DSKC, Miranda House

### Poster / Oral Presentations

- Poster Presentation at 2<sup>nd</sup> International Conference on Condensed Matter and Applied Physics held at Govt. Engineering College, Bikaner on November 24-25,2017.
  - Poster presentation at International conference on Physics, Society and Technology (ICPST)-2019 organized by Deshbandhu College, University of Delhi on January 17-19, 2019.
  - Oral Presentation on “*Thermal behaviour of the hindered rotor in external static electric and laser field*” in International Conference on Recent Advances in Functional Materials (RAFM-2022) from March 14-16, 2022, organized by Department of Physics, ARSD College, University of Delhi, India.
  - Oral Presentation on “*Rotational Dynamics of the coupled rotors in pulsed electromagnetic field*” International Conference on Frontiers in Physics, Materials Science and Nanotechnology (FPMSN-2022) , organized by Department of Physics, CDL University, Sirsa-125055, Haryana, India from March 25-26, 2022.
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