

Dr. Jasmeet Kaur

H.No.15840, Street No.1,
Guru Gobind Singh Nagar, Bathinda, India.

Email: jasmeetphy@live.com

Mobile: +91-9780789771



PROFESSIONAL SUMMARY

Excellent educator in Physics with more than seven years of teaching experience at undergraduate and postgraduate students. Detailed researcher with several published articles in international journals. Skilled in simplifying complex concepts and fostering analytical thinking among students. Effective communicator to both colleagues and students. Creative problem solver who always seeks new ways to approach research.

OBJECTIVES

To secure a challenging role in professional environment, utilizing my educational background, strong work ethic and willingness to take on new responsibilities to contribute to the success of the institute.

Education Qualification

Exam Passed	Year of Passing	Subjects Studied	Board/ University
10 th	2002	Eng., Math's, Science, S.S., Punjabi, Hindi	P.S.E.B
10+2 (Non-Medical)	2004	Physics, Chemistry, Mathematics, Punjabi., English	P.S.E.B
Graduation/Bachelor of Science (Non- Medical)	2007	Physics, Chemistry, Mathematics, English, Punjabi	Punjabi University, Patiala.
Bachelor of Education	2008	Science-Mathematics	Punjab University, Chandigarh
Post Graduation/ Master of Science (Hons.Physics)	2010	Physics*	Guru Nanak Dev University, Amritsar.
M.Phil. (Physics)	2011	Research methodology, Experimental techniques, Theoretical techniques	Guru Nanak Dev University, Amritsar
Ph.D. Physics	2018		Guru Nanak Dev University, Amritsar

*Course Study in M.Sc. (Hons.) Physics

Subjects studied: Mathematical Physics, Electronics, Classical Mechanics, Computational

Techniques, Electrodynamics, Quantum Mechanics, Condensed Matter Physics, Nuclear Physics, Statistical mechanics, Particle Physics, Atomic and Molecular Spectroscopy

ONLINE courses completed

- Completed the course on “**Introduction to Cloud Computing**” a course of study offered by an online learning initiative of IBM. (2022)
- Completed the course on “ **Marketing Innovative Products and Services** a course of study offered by USMx, an online learning initiative of University System of Maryland. (2022)
- Completed the course on “**Exploring Quantum Physics**” to learn quantum physics with emphasis on topics at the frontiers of research, and developing understanding through exercise.(2014)

WORK EXPERIENCE:

- Teaching experience as Assistant Professor Physics from 2 July, 2018 to 30 August 2025 (7 Years 5 months) at Baba Farid College, Deon, Bathinda.
- Teaching experience as AP Physics from 02 July 2012 to 28 Feb 2013 (8 Months) at Khalsa College, Amritsar
- 8 years 04 months of experience to teach B.Sc. Hons Physics, B.Sc. NM course and M.Sc. Physics course.
- Experience to perform practical in UG and PG labs.
- Experience to create live projects to enhance the knowledge of students.
- Acted as an activity coordinator, member of women development cell, member of Environment cell, member of Placement Cell, Examination coordinator
- Experience to mentor students of UG and PG classes to solve their problems,
- Experience of setting final University examinations for Punjabi university Patiala
- Assigned as an external examiner to conduct final Practical viva of PG students
- BOG member of Physics Committee of MRSPTU.
- Mentored students to achieve multiple first prizes, research recognitions, and top rankings in national and international competitions, conferences, and hackathons.
- Guided mentees in securing research presentation opportunities, awards, incubation support, and competitive grants for innovative projects.
- Fostered academic excellence and innovation, leading to **consistent student success in idea challenges, research conclaves, and technology-driven competitions.**
 - **Mentee Achievements (Under My Mentorship)**” section:
 - Mentee secured **First Prize** at *IEEE YESIST’12 2k26 Innovation Challenge (Prelims)* under Maker Fair Innovators, held at Chandigarh Group of Colleges (CGC), Landran, Mohali on 10 April 2026.
 - Mentee achieved **First Prize** in *Innovate 3.0, Inter college project based learning competition*, organized by Baba Farid College of Engineering and Technology on 06 April,2026.
 - Mentee achieved **Second Prize** in *Innovate 2.0 Inter college project based learning competition*, organized by School of business studies Baba Farid College of Engineering and Technology on 13 February 2026.

- Mentee actively contributed to *IUPAP ICPE 2025 Conference at IIT Ropar* through oral paper presentation and served as an Abstract Reviewer on 16-20th December, 2025.
- Mentee awarded **2nd Runner-Up** with a cash prize of ₹10,000 and incubation support at *Idea Phied 4.0, IISER Mohali* for presenting an innovative solution on stubble management (28 February 2026).
- Mentee won **First Prize** at *Physics Young Researcher Conclave 2026*, Guru Nanak College, Muktsar on 18-02-2026.
- Mentee's team ranked among **Top 10** in *Project Pulse 3.0 (SIH Internal Hackathon)* conducted on
- Mentee received **Proto X Grant of ₹50,000** from Baba Farid Group of Institutions (BFGI) for project development.
- Presented paper at National Conference

RESEARCH EXPERIENCE

- (a) **Project work in M.Sc.** on the topic “Nuclear Magnetic resonance in polymers”.
Supervisor: Dr. Lakhwant Singh, Guru Nanak Dev University, Department of Physics, Amritsar-143005, India.
- (b) **Project work in M.Phil.** on Effect of annealing and doping on Optical, Structural and Electrical properties of Polyaniline
Supervisor: Dr. Lakhwant Singh, Guru Nanak Dev University, Department of Physics, Amritsar-143005, India
- (c) **Research work in Ph.D. on topic:** Theoretical study of atomic properties of alkaline earth metal ions for various applications
Supervisor: Dr. Bindiya Arora, Guru Nanak Dev University, Department of Physics, Amritsar-143005, India

RESEARCH INTERESTS:

- Optical frequency standards
- Loading atoms in lattices: cooling and trapping schemes
- Calculation of atomic properties of alkaline earth metal ions.
- High-precision calculations of properties of monovalent systems, including energies, transition properties and polarizabilities
- High-performance computing for atomic-physics applications
- Materials science with a focus on nanomaterials, polymer science, and advanced functional materials.
- Special interest in the synthesis, characterization, and applications of nanoparticles in emerging technologies.
- Interest in sustainable and advanced materials, including polymer composites and nanostructured systems

SPECIAL AWARDS

- **Junior Research Fellow** (UGC BSR India), Guru Nanak Dev University, March 13, 2013 to March 13, 2015, Scale of pay – Rs. 16,000/- + HRA
- **Senior Research Fellow** (UGC BSR India), Guru Nanak Dev University, March 13, 2015 to till date, Scale of pay – Rs. 24,800/- + HRA
- **Receiver of Best Poster Presentation award** from PSC conference held at Baba Farid University, Faridkot, Punjab on Feb 2013.
- **Receiver of Best Poster Presentation award** from CAPS conference held at Khalsa College, Amritsar on March 2016.
- **Receiver of Best Poster Presentation award** from National conference on emerging scenario in basic and applied sciences for sustainable development held at DAV college, Bathinda on April 2018.
- **Receiver of prizes** in Youth Festival.
- **Receiver of Third prize** in Skill of teaching competition.

PUBLICATIONS:

(A) Research papers in International Journals:

- Pankaj Kumar , **Jasmeet Kaur** “Role of nanotechnology in biomedical advances: a review of innovations and future directions, *Biologica Nyssana*. Vol 10.46793 July 2025
- Ankush Kumar, **Jasmeet Kaur** et al., Modelling climate-Ecosystem dynamics: A Mathematical biology approach to sustainability, *International journal of innovative research in technology* vol 7, issue5, 2025
- Prabhjot Singh, Sukhmander Singh, **Jasmeet Kaur**, Sonia Yogi & Bhavna Vidhani , “Preparation and Investigation of Transparent Conducting Aluminium-doped Zinc Oxide Films Prepared by Sol-gel Method for Sensor Application *Indian Journal of Pure & Applied Physics* Vol. 60, June 2022, pp. 529-538
- **Jasmeet Kaur**, Sukhjit Singh, Bindiya Arora, B. K. Sahoo, “Annexing magic and tune-out wavelengths to the clock transitions of the alkaline-earth-metal ions”, *Phys. Rev. A*, 95,042501 (2017). (I.F.= 3.140)
- Kiranpreet Kaur, **Jasmeet Kaur**, B. K. Sahoo and Bindiya Arora, “Dispersion coefficients for the interaction of Cs atom with different material media”, *Phys. Lett. A* 380, 3366 (2016). (I. F. =2.654)
DOI: :<https://doi.org/10.1103/PhysRevB.90.245405>

- **Jasmeet Kaur**, D. K. Nandy, Bindiya Arora and B. K. Sahoo, “Properties of alkali-metal atoms and alkaline-earth-metal ions for an accurate estimate of their long-range interactions, *Phys. Rev. A* 91, 012705 (2015). (I.F.= 3.140)
Web Link: <https://journals.aps.org/pr/abstract/10.1103/PhysRevA.91.012705>
Doi: <https://doi.org/10.1103/PhysRevA.91.012705>
- **Jasmeet Kaur**, Sukhjit Singh, Bindiya Arora, and B. K. Sahoo “Magic wavelengths in the alkaline-earth-metal ions”, *Phys. Rev. A* 92, 031402(R) (2015) (I.F.= 3.140)
Weblink:<https://journals.aps.org/pr/abstract/10.1103/PhysRevA.92.031402>
DOI: <https://doi.org/prb/abstract/10.1103/PhysRevB.90.245405>
- Kiranpreet Kaur, **Jasmeet Kaur**, and Bindiya Arora and B. K. Sahoo, “Emending thermal dispersion interactions of Li, Na, K, and Rb alkali-metal atoms with graphene in the Dirac model” *Phys. Rev. B* 90, 245405 (2014) (I.F.= 4.036)
Web Link: <https://journals.aps.org/prb/abstract/10.1103/PhysRevB.90.245405>
Doi: <https://doi.org/10.1103/PhysRevB.90.245405>

(B) Books and Book Chapters Published:

- Book chapter entitled “Thermal and mechanical properties of advanced ceramics” in Taylor and Francis group Publication entitled “Multifunctional and smart materials with ISBN no. 9781003634140 (2025)
- Book chapter entitled “Structure, Properties and Application of Metal Oxide”, Published in CRC press, in book titled “Metal oxides” Volume 1, Pages 3-21 on 08/12/2025. <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003531289-2/structure-properties-application-metal-oxide-pankaj-kumar-amanjot-kaur-rahul-puneet-kaur-jasmeet-kaur>
- Book chapter entitled “Small scale renewable energies and storage for microgrids” Published in IET book ‘Energy Management systems with microgridswith wind, PV and Battery storage. [https://digital-library.theiet.org/doi/book/10.1049/PBPO270E\(2025\)](https://digital-library.theiet.org/doi/book/10.1049/PBPO270E(2025))
- Book chapter entitled “Battery charge controller in wind turbine sysytm” Published in IET book ‘Energy Management systems with microgridswith wind, PV and Battery storage.[https://digital-library.theiet.org/doi/book/10.1049/PBPO270E\(2025\)](https://digital-library.theiet.org/doi/book/10.1049/PBPO270E(2025))
- Entitled “FABRICATION AND CHARACTERIZATION OF (Zn_{1-x}Al_xO) FILMS” by **Jasmeet Kaur**, Prabhjot Singh, Published in Notion Press publishing with ISBN number 9798889235804 (2023)
- Entitled “A review on conducting polymers: Synthesis, Characterization, and applications of conducting polymers” by **Jasmeet Kaur**, Prabhjot Singh, Published in Notion Press publishing with ISBN number 9798889519263 (2023).
- Entitled “Fabrication and optical characterization of Polyaniline” by **Jasmeet Kaur**, Prabhjot Singh, Published in Lambert Academic publishing with ISBN number 978-613-9-82716-9 (2018).

(C) Patent Publication :

- Patent Entitled “Triple Doped Hematite Nanoparticles for Photocatalysis and seed germination” by Pankaj Kumar, **Jasmeet Kaur** et al., Application No.20251111318, Publication Date : 26/12/2025
- Patent Entitled “INTERACTIVE USER INTERFACE FOR CAREER PLANNING AND PREDICTION” by Mehar Chand, **Jasmeet Kaur**, Amanjot Kaur Application No.202411095843 A ,Publication Date : 27/12/2024
- Patent Entitled” FIRE ALARM AND AUTOMATIC ELECTRICITY CONTROLLING SYSTEM USING GSM” by Sahil Gupta, **Jasmeet Kaur**, Amandeep Kaur, Gurcharan Singh, Sukhdeep Kaur, Application no. 202311059362 A, Publication date: 06-Oct-2023

SEMINARS/CONFERENCES/WORKSHOP/FDP /Guest lecture

ATTENDED SYMPOSIUMS AND FACULTY DEVELOPMENT PROGRAMME:

- Invited as Resource Person for the webinar on topic of “The Physics of Super conductors” held on 26th April,2021 organized by Department of Physics, Govt. Rajindra College, Bathinda.
- **Attended Faculty Development Programme** organized by Anand international college of engineering, AICTE training and learning (ATAL) academy from 03/02/2025 to 08/02/2025
- Participation in **NEP Orientation and sensitization Programme** under Malaviya Mission teacher training programme of university Grants Commission by Central University of Rajasthan held from 08-17 September 2025.
- Participation in **Recent Trends in mathematical Modelling of Biological systems for sustainable development with hands on training using MATLAB** by Anand Institute of engineering technology jointly with Department of Science and Technology, Rajasthan from 26 May-31 May 2025.
- Participation in **one week international workshop on impact of generative AI in STEM : Redefining research and professional practices**, by Central University of Punjab, Malavia national institute of technology, Jaipur jointly with BFCET, Bathinda, MTTF, Fazilka Punjab from 16 -22 July 2025.
-
- Participation in **NEP Orientation and sensitization Programme** under Malaviya Mission teacher training programme of university Grants Commission by Punjabi University Patiala held from 18 July to 29 th July 2024.

- **Attended One week Faculty development Program: Scientific computing essential with MATLAB** held from 24th -28th June 2024 organized Math Tech thinking foundation, India and Anand international college of engineering Jaipur.
- **Participated in REFRESHER COURSE in Physics** organized by UGC, Human Resource Development Centre, Punjabi university, Patiala from Oct 27-Nov 9, 2022.
- **Attended Faculty Development Programme** on “Essential AI Tools and Software for Academic Excellence” from 04 December 2023 to 08 December 2023 organized by Baba Farid College, Bathinda.
- **Attended Faculty Development Programme** on “Unlocking creativity and efficiency: Harnessing Artificial Intelligence in Research Paper and Content creation” from 18 September 2023 to 26 September 2023 organized by Department of Physical and Mathematical Sciences Baba Farid College, Bathinda
- **Attended Faculty Development Programme** on “Research methodology and data analysis” from 09 August 2023 to 19 August 2023 organized by Seshadripuram Academy of Business studies, Bengaluru.
- **Attended Faculty Development Programme** on “Advanced materials for technological applications on new materials in emerging field” organized by Sathyabama institute of science and technology on 24 March - 4 April 2023.
- **Attended 7 day Faculty development programme** on topic “Empowering faculty for implementing National education Policy 2020 organized by Faculty of Sciences, Baba Farid College from 3-12 Oct 2022.
- **Attended 7 day Faculty development programme** on topic “Modern strategies in Physics research: Ensuring sustainable development (MSPRES D) organized by Department of Physics, Faculty of Sciences, SGT University from 28 June -3 July 2022.
- **Attended Faculty Development Programme** on the topic “DATA ANALYSIS WITH STATISTICAL PACKAGE FOR THE SOCIAL SCIENCES” SESHADRIPURAM ACADEMY OF BUSINESS STUDIES held from April 27, 2022 to May 06, 2022.
- **Attended International symposium on Advanced research in Physics** organized by department of Physics Bangalore University in association with ISRO chairman Sir M. Visvesvaraya on 27-31 July 2020.
- **Attended Faculty Development Programme** on “Applications on new materials in emerging field” organized by Sathyabama institute of science and technology Chennai on 24-30, June 2020.

- **Attended 5-day Multidisciplinary international Faculty Development Program** on “Perspectives of Human health and environment” organized by Science Forum Scientia SJR college for women Karnataka on 3rd-7th August 2020.

ATTENDED SEMINARS, WORKSHOPS AND CONFERENCES:

- **Participation in workshop: Impact of generative AI in STEM : Redefining Research and professional practices**, held from 16th -22nd July 2025 organized by Central university of Punjab, Bathinda, Math Tech thinking foundation, India and Baba Farid College, Bathinda.
- **Participation in workshop:** Recent trends in mathematical modelling of biological systems for sustainable development with hands on training in MATLAB from held from 26st -31th May 2025 organized at Anand International college of Engineering Jaipur.
- **Participation in Bio-statistics workshop:** From basics to advanced techniques held from 21st -30th August 2024 organized Math Tech thinking foundation, India and Baba Farid College, Bathinda.
- **Attended workshop on** Importance of Intellectual property Rights in advanced research organized by Department of Chemistry, Baba Farid College , Bathinda on 3-16 Nov, 2022
- **Attended workshop on Artificial intelligence and machine learning** organized by Department of Mathematics, Baba Farid college , Bathinda on 15-21 Nov, 2022
- **Attended International Conference Attended national webinar** on “Conducting research through open source softwares ” organized by Sri K. Putaswamy First grade college Mysore on 27 August 2020.
- **Attended national webinar** on “Dielectric materials and their characterization studies in microwave frequency region ” organized by Vignan’s institute of management and technology for women, Telangana on 14 August 2020.
- **Attended national webinar** on “Liquid crystal and nano materials for Display technology” organized by Vignan’s institute of management and technology for women, Hyderabad on 08 August 2020.
- **Attended One week national workshop** on “Materials technology advancement in current scenario-MTACS2020” organized by Sathyabama institute of science and technology Chennai on 4-7 July 2020.
- **Attended national webinar** on “Plasma Science and its applications” organized by University Institute of technology on 29 July 2020.
- **Attended national workshop** on “Advances in material science and radionuclide technique measurements and effects” at Baba Farid College, Deon, Bathinda on 20-21 March 2018.
- **Participated in UGC-SAP sponsored Seminar** on “Recent Advances in Materials Science” held at Guru Nanak Dev University, Amritsar on 28th February, 2017.
- **Participated in the UGC sponsored Seminar** on "Novel Experiments in Physics Pedagogy" organized by the Department of Physics, Guru Nanak Dev University, Amritsar on 19th March 2016.

- **Attended international workshop** on Optical Quantum Information (IWOQI) at Jaypee institute, Noida, India, 1-2 September 2013.
- **Attended National Symposium** on “Solid State Nuclear Track Detectors and their Applications” (SSNTD-16) in November 9-11, 2009 held at Guru Nanak Dev University Amritsar.
- **Attended Conference** on “Recent Trends in Material Science” held at D.A.V. College, Amritsar.

ORAL/POSTER PRESENTATIONS:

- **Oral presentation** entitled “Game theory for sustainable future” presented at National conference on mathematical biology and ecology at Poornima college of engineering and technology, Jaipur 27-29th Nov, 2025
- **Oral presentation** entitled “Additive manufacturing in focus” presented at International conference on additive manufacturing, emergent materials and processing techniques, Rayat Bahra institute of Engineering and nano technology, 20th-21th Feb, 2025
- **Presentation entitled** “Study of dispersion coefficients for interaction between alkali metal atoms and alkaline metal ions”. KEEIADCON.22 held at Govt. Rajindra College, Bathinda on 22-23 April 2022.
- **Best Poster Presentation award** entitled “Relativistic all order calculations of polarizabilities and life time of Rb atom”, 16th PSC 2013, Baba Farid University, Faridkot, Punjab, Feb 2013.
- **Best Poster Presentation award** entitled “Dispersion Coefficients For The Interaction Of Sodium Atom With Dielectric Surfaces”, CAPS 2016 held at Khalsa College, Amritsar, Feb 2016.
- **Poster presentation** entitled “Long range interactions between alkali atoms and alkaline earth metal ions”, NCAMP-XX, Trivandrum, Kerala, Dec 2014.
- **Poster presentation** entitled “Magic wavelength for ns-np_j transitions in Ca⁺ and Sr⁺ ions” EFPAS 2015, PRL Ahmedabad, India, May 2015
- **Poster presentation** entitled “Magic wavelength for ns-nd_j transitions in alkaline earth metal ions”, presented at Frontiers in light matter interactions (FILMI 2016), IIT ROPAR, March 2016.
- **Oral presentation** entitled “Precision calculations of atomic properties: from Quantum computation to atomic clocks” presented at 20th PSC 2017, IET Bhaddal Technical Campus, 8th-9th Feb, 2017
- **Oral presentation** entitled “Atomic Polarizabilities and their applications” presented at 3rd national conference on Current advances in Physical Sciences (CAPS 2017), Khalsa College Amritsar, 31st March, 2017
- **Poster presentation** entitled “Study of long range atom-ion interactions” at 4th national conference on Current Advances in Physical Sciences (CAPS-2018) held at Department of Physics, Khalsa College, Amritsar on 22nd March, 2018 .
- **Best Poster Presentation award** entitled “Locating magic wavelengths ns-np_j and ns-nd_j transitions of Ca⁺ ion” at National conference on emerging scenario in basic

and applied sciences for sustainable development held at DAV college, Bathinda on 5th April , 2018.

- **Oral presentation entitled** “Interaction of alkali metal atoms with various surfaces”, presented at International conference on science and technology : Trends and Challenges (ICSTTC-2018) on 16-17 April 2018 organized by Physics Department, Gujranwala Guru Nanak Khalsa College, Ludhiana.

SKILLS

Computer Skills

- Operating Systems: MS DOS, Windows98, NT, 2000, XP, Vista, Windows Seven and Linux Packages
- Programming Languages: Fortran77/90, C/C++
- Software packages: MAT lab, Mathematica, MS Office, Latex, xmgrace, gnuplot, origin

Languages

- Fluent in English, Punjabi and Hindi

PERSONAL TRAITS

Possess good computers and communication skills, enthusiastic to learn newer technologies on process implementation and dedication to the duty with high sense of loyalty and sincerity, maintaining good interpersonal relationships, ability to work under any conditions with positive outlook.

DECLARATION: I, undersigned, certify that to the best of knowledge and belief, these data correctly describe my qualification and experience.

PLACE: Bathinda

JASMEET KAUR