

NAVNEET KAUR, Ph.D.
Assistant Professor
Baba Farid Group of Institutions, Bathinda, India

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Qualifications Profile

- Currently serving as an Assistant Professor in the subject of Physics at Baba Farid Group of Institutions, India.
- Five years of experience working as a teaching associate in the area of Physics and Materials Science.
- Worked on the dissertation titled “Effect of magnetic anisotropy and particle size distribution on the magnetization of antiferromagnetic nanoparticles” in Ph.D.
- Experience in the synthesis of magnetic nanoparticles and their magnetization analysis.
- Proficient in data analysis using origin software and programming languages, operated and handled instrument: vibrating sample magnetometer.
- Mentored major projects of M. Sc. (physics) students.
- Interested to work but not limited to: on the properties of layered transition metal hydroxides, layered double hydroxides, magnetic nanoparticles and nanoparticles for biomedicine applications.
- Familiar with programming languages such as C, C++, Python, FORTRAN 77, and HTML.
- Presented the research work at various conferences and attended several workshops, schools, and webinars.
- Good communication, interpersonal skills, quantitative and analytical skills, problem-solving skills, proactive, and accustomed to working in a team for organisational success.

Education

- B.Sc. (General) with Physics, Computer applications and Mathematics, MCM DAV college for women, Chandigarh, India. (%age : 73.05) 2008-2011
- M.Sc. in Physics, Punjabi University, Patiala, India. (%age : 74.75) 2011-2013
- B. Ed. in Teaching Educational Subjects, Malwa Institute of Education, Deon, Bathinda, India. (%age: 78.90) 2013-2014
- Ph.D. in Physics and Materials Science, Thapar Institute of Engineering and Technology, Patiala, India. (CGPA: 9.3) 2014-2020

Awards

- Award of honour for outstanding contribution towards Baba Farid Group of Institutions for the year 2021.
- InSc young researcher award 2021.
- Dr. Sarvepalli Radhakrishnan best researcher award 2021.

Editorial Board member of following Journals

- International Journal of Basic and Applied Sciences (InSc publisher)
- Journal of Advanced Materials Science and Engineering (Scivision publishers)
- American Journal of Nanoresearch and Applications (Science publishing group)

Membership

- Lifetime member of Institute of Scholars (unit of SDPL).

- Lifetime member of MathTech Thinking Foundation.

Book Chapter

- Navneet Kaur, Chapter Title: "Transmission Electron Microscopy: A Powerful and Novel Scientific Technique with Nanoscale Resolution for Characterization of Materials", Chapter-9, Book Title: Microscopic Techniques for the Non-Expert, Publisher: Springer Nature, 978-3-030-99541-6, 508519_1_En, 2022.

List of Publications

- Navneet Kaur and S. D. Tiwari, "Evidence for spin-glass freezing in NiO nanoparticles by critical dynamic scaling", J. Supercond. Nov. Magn. **34**, 1545 (2021).
- Navneet Kaur and S. D. Tiwari, "Role of wide particle size distribution on magnetization", Appl. Phys. A **126**, 349 (2020).
- Navneet Kaur and S. D. Tiwari, "Estimation of magnetic anisotropy constant of magnetic nanoparticles", AIP Conference Proceedings 2265, 030528 (2020).
- Navneet Kaur and S. D. Tiwari, "Thermal decomposition of ferritin core", Appl. Phys. A **125**, 805 (2019).
- Navneet Kaur and S. D. Tiwari, "Role of particle size distribution and magnetic anisotropy on magnetization of antiferromagnetic nanoparticles", J. Phys. Chem. Solids **123**, 279 (2018).

Faculty Development Programme

- One week faculty development programme on computing with MATLAB and Latex software: Indispensable tools for researchers by MathTech Thinking Foundation on 5th-11th January, 2022.

Work Experience

Employer: Baba Farid Group of Institutions, Bathinda, India

Duration: April 2021- present

Role: Assistant Professor

Responsibilities:

- Taught various subjects such as Semiconductor Physics (BPHYS1-101), Electromagnetism (BPHYS2-101), Waves and optics and Introduction to quantum mechanics (BPHYS3-101), Mechanics and mechanics of solids (BPHYS4-101).
- Making an effective contribution to teaching and learning in the discipline of physics, modelling teamwork, and flexibility to ensure the pedagogical and commercial success of the Faculty and organization.
- Contributing to curriculum, resource, program and subject design, development, management and review as required to ensure that learning and teaching in the Faculty and across disciplines reflect best practice and a command of the field.
- Preparing high-quality subject delivery and learning support materials using any web-based platforms, electronic library information systems and other teaching and learning systems developed for use in the Institute.
- Conducting lectures, tutorials, workshops, practical classes, demonstrations, field excursions, and other appropriate learning activities as required.

- Providing a continuing high level of personal commitment and achievement in, a particular scholarly area and as a result, generating high-level research outcomes.
- Participating in research projects and research teams (where appropriate).
- A significant aspect of promotion, marketing, admissions of students, and recruitment activities.
- Developing, mentoring, and providing feedback to junior researchers.

Employer: Thapar Institute of Engineering and Technology, Patiala, India

Duration: July 2015 – June 2020

Role: Teaching Associate

Responsibilities:

- Subjects taught are Physics (UPH004), Materials Science (UES012).
- Took tutorials and lab practicals along with the involvement in project design with students in the subjects of physics and materials science.
- Provide informative presentations and assignments to students regarding different areas of subjects and ensure that all students fully comprehend all aspects.
- Assess students progress throughout the term and evaluated the process about teaching/tutorials design.
- Responsible for ensuring that all students fully understand the course curriculum.
- Worked closely with other teachers to ensure every topic was covered, provided support to students who required extra guidance, organized group discussions, and mentored various students.

Oral Presentation in International Conferences

- Navneet Kaur and S. D. Tiwari, “Thermal and Magnetization Characterization of Ferritin”, 6th Global Nanotechnology Congress and Expo, Dubai, UAE, June 2019.
- Navneet Kaur and S. D. Tiwari, “Magnetic Properties of Iron Storage Protein Ferritin”, ICN held at IIT Roorkee, Uttarakhand, India, Dec. 2017.

Poster Presentation in National and International Conferences

- Navneet Kaur and S. D. Tiwari, “Estimation of Magnetic Anisotropy Constant of Magnetic Nanoparticles”, 64th DAE Solid State Physics Symposium, Indian Institute of Technology, Jodhpur, India, Dec. 2019.
- Navneet Kaur and S. D. Tiwari, “Superparamagnetic Behavior of NiO Nanoparticles” 10th International Conference on Materials and Advance Technology, Singapore, June 2019.
- Navneet Kaur and S. D. Tiwari, “Size Dependence of Magnetic Anisotropy Constant in Antiferromagnetic Nanoparticle System”, International Conference on Advanced Materials, Kerala, India, June 2019.
- Navneet Kaur and S. D. Tiwari, “Influence of Magnetic Anisotropy on Magnetization of Magnetic Nanoparticles”, ICC held at Govt. Engineering College, Bikaner, India, Nov. 2017.
- Navneet Kaur and S. D. Tiwari, “Superparamagnetic Behaviour of Iron Storage Protein Ferritin”, ICONN held at SRM University, Chennai, India, August 2017.
- Participated in 2nd Conference on Microscopy in Materials Science (AMST-2016), Thapar Institute of Engineering & Technology, Patiala, India, Feb. 2016.

Schools and Workshops

- Virtual workshop on “Latex Scientific Documentation” by MathTech Thinking Foundation, India, January, 2022.
- Virtual workshop on "Material Characterization Techniques and Uses" by Chitkara University, India, July 2020.
- Virtual workshop on “Waste Material Management and Uses" by Chitkara University, India, July 2020.
- Virtual seminar and e-workshop on “Experimental Electronics” by Hans Raj Mahila Maha Vidyalaya, India, August 2020.
- One-day National Seminar on Recent Developments on Condensed Matter Physics (RD-CMP) by TEQIP-III at Punjab Engineering College, Chandigarh, India, Nov. 2019.
- MRS-Singapore Summer School on Magnetic and Spintronic Materials held at Nanyang Technical University Singapore, June 2019.
- Author workshop by Springer Nature and Nava Nalanda Library held at Thapar Institute of Engineering & Technology, Patiala, India, 2019.
- Attended a Summer school on magnetism held at Thapar Institute of Engineering and Technology, Patiala, India, July 2016.
- National Workshop on Advanced Techniques for Surface Characterization (NWATSC) held at Thapar Institute of Engineering and Technology, Patiala, India, Oct. 2015.

Webinars

- Webinar on “Paper Writing and Research Report on innovation” on 29th Dec., 2020 by Dept. of CSE with Institute Innovation Council, CIT, India.
- Virtual Refresher Course on “Material Characterization” from 3rd Oct.-1st Nov. 2020 by Indian Ceramic Society Karnataka Chapter and Dept. of Nanotechnology, VTU, Bangalore, India.
- Workshop on "Material Characterization Techniques and Uses" on 20-22th July 2020 by Chitkara University, India.
- Webinar on “Advances in Functional Composite Material” on 20-22th July 2020 by CREST, SSN College of Engineering, India.
- Workshop on “Waste Material Management and Uses" on 13-14th July 2020 by Chitkara University, India.
- Seminar and e-workshop on “Experimental Electronics” from 31st July to 1st August by Hans Raj Mahila Maha Vidyalaya, India.

Skills and achievements

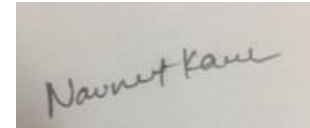
- Knowledge of FORTRAN 77 Programming, Windows Latest and XP, LINUX.
- Understanding of programming in Winedit for Latex files.
- Exposure to various programming languages such as Python, FORTRAN 77, HTML.
- Completed two months course on ‘C’ and ‘C++’ from Foresight Technical Education Centre, Bathinda.
- Ongoing Python Certification course for data science, Edureka.
- Completed Industrial training with project “DX-Ball Game” in C++ at Penseurs Tech. Solutions, Chandigarh.
- Selected for a DST-SERB travel grant (**File no. ITS/2019/005932**) and CSIR foreign travel grant (**Ref No. TG/11205/19-HRD**) for presenting research work in 8th International

Conference on Nano and Materials Science, University of Washington, Seattle, USA, Jan. 2019.

- Awarded the second position in subject “Computer Applications” in house examination in B. Sc. (1st year), MCM DAV College for Women, Chandigarh.
- Secured 2nd and 1st position in Science fair (2004-2005) at zonal and district level, respectively, and participated at state level Science fair, for a project entitled “Rain harvesting”.

Declaration

I hereby declare that all information given above is true to the best of my knowledge and belief.



Navneet Kaur