Curriculum Vitae

Dr. Jay Prakash Patel

Assistant Professor, Department of Physics
Sant Kavi Baba Baijnath Govt. P. G. College, Harakh, Barabanki (U.P.)
Mobile: +91-9506883488, Email: patelitbhu@gmail.com

Career Objective

Dedicated academician and researcher with over 15 years of teaching and research experience in Physics. Specialized in **Solid State Physics, Materials Science, and Crystallography (X-ray & Neutron Diffraction)**. Committed to excellence in undergraduate education, mentoring students, and contributing to institutional development through teaching, research, and administrative responsibilities.

Personal Information

- **Date of Birth:** 15th March 1980
- **Nationality:** Indian
- **Gender:** Male
- **Marital status:** Married to Dr. Kusum Verma
- **Category:** OBC
- **Father's Name:** Late Shri Ram Sewak Patel
- **Permanent Address:** Village Meghpur, Post-Purevon, District Jaunpur, Uttar Pradesh (India) – 222136

Educational Qualifications

Examination	Institution / Board	Year	Division	Subjects
High School	U.P. Board	1996	First	Hindi, English, Mathematics, Science, Biology, Social Science

Examination	Institution / Board	Year	Division	Subjects
Intermediate	U.P. Board	1998	First	Hindi, English, Physics, Chemistry, Mathematics
B.Sc.	Udai Pratap Autonomous College, Varanasi / V.B.S. Purvanchal University, Jaunpur	2001	First	Physics, Chemistry, Mathematics
M.Sc. (Physics)	Udai Pratap Autonomous College, Varanasi / V.B.S. Purvanchal University, Jaunpur	2003	First	Physics
Ph.D.	Indian Institute of Technology (IIT-BHU), Varanasi	2014	Awarded	Ferroic Phase Transitions in the Multiferroic (1-x)BiFeO3-xPb(Fe0.5Nb0.5)O3 Solid Solution System

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Professional Qualifications

- **CSIR/UGC-NET (Physical Sciences)** – Dec. 2004
- **UP-SLET (Physical Sciences)**-2004
- **CSIR/UGC-NET JRF (Physical Sciences)** – Dec. 2006

Professional Experience

- **Assistant Professor** (Physics), Sant Kavi Baba Baijnath Govt. P. G. College, Harakh, Barabanki U.P. **10th July 2021 – Present**
- **Assistant Professor** (Physics), Govt. P. G. College, Musafirkhana, Amethi, U.P. **25th March 2010 – 9th July 2021**

Total Teaching Experience:

- Undergraduate Classes: 15 years
- Postgraduate Classes: Nil

Research Experience (excluding Ph.D.): 15 years

Specialization:

- Solid State Physics
- Materials Science
- X-ray, Synchrotron and Neutron Diffraction Crystallography.

- Studies and analysis of Magnetic, Dielectric, Specific heat and Multiferroic properties of solids.

Instruments Handling:

(I) 18 kW Rotating Anode (Cu) based Rigaku (RINT/2000 PC Series) Powder diffractometer operating in from very low temperature to high temperature range.

(II) Novocontrol (Alpha-A) high performance frequency analyzer for dielectric analysis.

(III) Vibrating sample magnetometer (VSM-7410 Lakeshore) for magnetic measurements at Indian Institute of Technology Guwahati (IIIT-G) India.

(IV) Differential Scanning calorimetry Mettler DSC823^e for specific heat measurement.

(V) Radiant hysteresis loop tracer.

(VI) High energy ball mill Retsch GmbH & Rheinische, Germany.

(VII) Hydraulic pressure for making Pellets.

(VIII) High temperature furnaces for calcination and sintering samples.

(IX) Chemical synthesis by solid state reaction method.

Software handling for data analysis:

(I) FULLPROF software package for Rietveld refinement of X-ray, Synchrotron and Neutron powder diffraction data.

(II) SARAh software with FULLPROF package for refinement of Neutron powder diffraction data.

(III) ZView and Z-plot software for Impedance analysis.

(IV) Microsoft Origin and others software for data analysis.

Research Contributions

Publications: Several research papers published in International, National, and UGC-listed journals-

(i) Anar Singh, **Jay Prakash Patel** and Dhananjai Pandey "High Temperature Ferroic Phase Transitions and Evidence of Paraelectric Cubic Phase in the Multiferroic $0.8BiFeO_3$-$0.2BaTiO_3$" **Applied Physics Letters 95, 142909 (2009)**.

(ii) Jay Prakash Patel, Anar Singh and Dhananjai Pandey "Nature of Ferroelectric to Paraelectic Phase Transition in Multiferroic $0.8BiFeO_3$-$0.2Pb(Fe_{0.5}Nb_{0.5})O_3$ Ceramics" **Journal of Applied Physics 107, 104115, (2010).**

(iii) Jay Prakash Patel, Anatoliy Senyshyn, Hartmut Fuess and Dhananjai Pandey, "Evidence for Weak Ferromagnetism, Isostructural Phase Transition, and Linear Magnetoelectric Coupling in the Multiferroic $Bi_{0.8}Pb_{0.2}Fe_{0.9}Nb_{0.1}O_3$ Solid Solution", **Physical Review B 88, 104108 (2013).**

(iv) Ravindra Singh Solanki**, Jay Prakash Patel**, Chandana Rath, Pawan Kumar Kulriya, Devesh Kumar Avasthi and Dhananjai Pandey, "Swift Heavy Ion Irradiation Induced Structural Phase Transitions in $BaTiO_3$: An in-situ X-ray Diffraction Study" arXiv:1703.02262v1[cond-mat.matrl-sci].

(v) Jay Prakash Patel, "Origin of Strong Dielectric Response in the Pseudo-Cubic BF-0.5PFN: An X-ray Powder Diffraction Study", International Journal of Innovative Research in Science, Engineering and Technology **(IJIRSET), 8(2), 1523 (2019).**

(vi) Jay Prakash Patel, Kusum Verma and Vijeta Singh, "Japanese Encephalitis (JE): A Curse for People Living in Uttar Pradesh, India" **Journal of Vaccines and Immunology, 7(1),036-040 (2021).**

(vii) Jay Prakash Patel, "Synthesis and Characterization of Insulating Bi0.8Pb0.2Nb0.1O3 (BF-0.2PFN) Multiferroic Material, **IJSDR 7(12), 889 (2022).**

(viii) Jay Prakash Patel, "X-ray Powder Diffraction Study on Bulk Cupric Oxide (CuO) below Room Temperature" **IJSDR, 7(2), 18(2022).**

Books/Chapters:

(I) One chapter in book "Multidisciplinary Physics Insights and Innovations". Chapter name is "**Fundamentals in Photovoltaic Cell Technology**". ISBN:978-93-6426-224-8.

Academic Development (RCs/OCs/Workshops)

(I) Participated in UGC sponsored Orientation Course at UGC academic staff college Banaras Hindu University Varanasi from Jan. 06 to Feb. 02, 2015 and Obtained grade A.

(II) Participated in UGC sponsored Refresher Course in "Research Methodology" at UGC Human Resource Development Centre, Deen Dayal Upadhyay Gorakhpur University, Gorakhpur from Aug. 27 to Sept. 16, 2016 and obtained grade A.

(III) Massive open online course (MOOCs) at SWAYAM portal on the topic "Academic Writing". Course was offered by HNB Garhwal University and completed with 80% score. Certificate issued on 18/06/2021.

(IV) Participated in UGC sponsored Refresher course in "Climate Change" at UGC human Resource Development Centre University of Allahabad, Allahabad from January 17, 2022 to January 30, 2022 and obtained Grade A+.

(V) Participated in UGC sponsored online Refresher Course in "Disaster Management (Interdisciplinary)" at UGC Human Resource Development Centre, Aligarh Muslim University, Aligarh from Dec. 5, 2023 to Dec. 18, 2023 and obtained grade A.

(VI) Participated in workshop on "Advanced Nanomaterials: Characterization and Applications" (WANCA-2015) Organized by Department of Physics, Banaras Hindu University Varanasi-221005 (India), November 02-05, 2015 under UGC Networking Programme.

(VII) Participated in 7 days Yoga Training Workshop on "Yoga for Health" from 15 June 2018 to 21 June 2018, Directed by Ministry of Youth Affairs Sports Govt. of India and UGC, New Delhi and Organized by National Service Scheme & P. G. Diploma in Naturopathy and Yoga, Mahatma Gandhi Kashi Vidyapith Varanasi.

Conferences/Seminar/Webinar:

(I) Poster presented in 45th National Seminar on Crystallography (NSC 45) July 09-12, 2017 Organized by Indian Institute of Technology (BHU) in association with Indian Crystallographic Association and National Committee of INSA for IUCr.

(II) Participated in National Conference on Exercise and Sport Science, Organized by Department of Physical Education and Yoga, Mahatma Gandhi Kashi Vidyapith, Varanasi UP India April 18-19,2016.

(III) Presented a paper on the topic "Spiral magnetic structure induced ferroelectricity in CuO" in National conference on Energy, Environment and its Impact on Society (NCEEIS-2017) Jan. 19-20, 2017, Organized by Faculty of Science, K. N. Govt. P. G. College, Gyanpur, Bhadohi, Sponsored by Department of Higher Education Govt. of Uttar Pradesh.

(IV) Participated in National Conference on Yoga and Well-being: Awareness, Benefits, Opportunity and Challenge in the Contemporary Society, Feb. 24-25, 2018, Organized by Government Girls Degree College DLW, Varanasi and sponsored by Department of Higher Education, Government of Uttar Pradesh.

(V) Paper presented in International Conference on Multifunctional Materials for Future Applications (ICMFA) 2015, Oct. 27-29, 2015, Organized by Department of Chemistry, IIT (BHU) Varanasi.

(VI) Participated in an International conference on "Scope of Quantum Technology in Natural Sciences" Organized by Department of Physics and IQAC Shri Lal Bahadur Shastri Degree College Gonda, 28 Feb. to 1 March 2025.

Administrative Responsibilities

Actively contributed to college administration in multiple capacities:

- **Coordinator** Admission Committee (B. Sc. Maths & M. Sc. Maths), **Coordinator Vocational course:** Diploma in computer application (**DCA**), Assistant Coordinator Scholarship Committee etc.
- **Nodal officer** Swayam Portal execution committee, **Nodal** officer Family I.D. (One Family one Identification scheme) etc.
- **Member:** IQAC Committee, Smarth Portal, U. G. C. Committee etc.
- Assistant Superintendent (AS) Examinations.

Other Academic Activities

- Invigilation, evaluation, and paper setting for university/college examinations.
- Member in student-related committees and cultural/sports activities.

Achievements & Recognition

- Contributed significantly to **undergraduate teaching** and **college development**.
- Research specialization in **multiferroic materials and phase transitions**, an emerging field with practical applications in material science.

References

Available upon request.

Declaration:
I hereby declare that all the information furnished above is true and correct to the best of my knowledge and belief.

Dr. Jay Prakash Patel
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