

Brief Curriculum Vitae

Name: Prof. P.K. Ahluwalia

Professor of Physics (Retd.)

Himachal Pradesh University, Shimla, India

President (Currently)

Indian Association of Physics Teachers (2022-2027)

Permanent Address: 451 B, Lane 17, Sector 4, New Shimla, Shimla 171009 (India)

Positions Held:

1. Professor of Physics
2. Coordinator UGC Special Assistance Programme , Physics Department, H.P. University
3. Coordinator Department of Science and Technology (DST) FIST Programme
4. Member Himachal Pradesh State Higher Education Council
5. Member Advisory Committee H.P. Private University Education Regulatory Commission.
6. Member Advisory Committee H.P. Public Service Commission.
7. Chairperson and Member Library Advisory Committee, Himachal Pradesh University, Shimla
8. Co-ordinator, UGC Nodal Centre for Computer Applications in Physics, Mathematics and Commerce
9. Currently consultant IQAC Bahra University
10. Dean, Faculty of Physical Sciences (2011-2013)
11. Dean, Planning & Teachers' Matters (2011-2014)
12. Director (Internal Quality Assurance Cell)(2011-2014)
13. Director University Institute of Information Technology (2000-2008)
14. Co-Ordinator Nodal Centre for Computer Applications (1995-2005)
15. Chairperson Department of Physics H.P. University
14. Chairperson Board of Studies in Physics (UG and PG)
15. Member Academic Council, Himachal Pradesh University

Teaching:

Since 1980.

Taught at St. Bede's College (1980-1987).

Since February, 1987, in Department of Physics, Himachal Pradesh University.

Retired in June 2015.

Adjunct faculty taught courses on Advanced Statistical Mechanics and Advanced Quantum Mechanics at UGC Inter University Accelerator Centre, New Delhi from 2015-17 and at IIIT Vadodara from July 2020-22

Research Areas:

1. Condensed Matter Physics
 - Dilute Magnetic Alloys
 - Chemisorption
 - Liquid Metals and Alloys
 - Low Dimensional Electron Gas
 - Quantum Dots
 - Computational Material Science (Low Dimensional Novel Systems: Graphene, silicene, Germanene and transition metal dichalcogenides. (A very active area currently)

2. Physics Education Research

- Epistemological study of the beliefs attitudes and Expectations of Physics Learners
- Development of Concept Inventories in Physics (Statistical Mechanics)
- Physics Pedagogy through IT tools

Guided 18 Ph.D. students, Guided 34 M.Phil. Dissertations

Books: Three on Computational Physics and related areas

Edited publications: 2

Research and other facilities created:

1. Nodal Centre for Computer Applications
2. High Performance Computing facility of 128 cores for electronic structure calculations using DFT
3. Upgraded research and teaching facilities under FIST and UGC SAP
4. Introduced Computational physics as a subject in UG and PG courses and organized a series of refresher course in collaboration with UGC HPU Academic Staff College

Research Publications in Peer Reviewed Journals & International Conferences:

More than 120 in high impact factor peer reviewed journals. More

than 3496 research citations, h index 28 and i10 index 64

(https://scholar.google.com/citations?hl=en&user=S6N_g80AAAAJ) in international journals. h-index 23 i10-index 47

Awards:

1. Awarded Commonwealth Academic Fellowship at University of Edinburgh, UK (1997-98)
2. Best Teacher & Academic Administrator Award by H.P. University for the year 2012.
3. Awarded Environment Leadership Award 2017 in Individual Capacity by Department of Science and Technology, Govt. of Himachal Pradesh Shimla.

Visits Abroad:

United Kingdom, France, Switzerland, Turkey, Thailand

Initiatives on the Campus:

- i. Initiated **University Institute of Information Technology** (Now known as University Institute of Technology) and remained its Director from 2000-2008.
- ii. Implemented Campus Wide Optical Fibre Network in HPU Campus (Wired for 1028 IO's)
- iii. As part of FIST established High Performance Computing Laboratory for research in condensed matter research
- iv. Did data base design for the computerization of HPU Examination Wing as a live project with B.Tech.(IT) students
- v. As Director(IQAC)
 - Implemented Student Charter
 - Designed & implemented Teachers Evaluation

Proforma

- Initiated **biggest Academic Reform in the H.P. University through Choice Based Credit System under RUSA in 2013.**
 - Implemented Online Examination Form for RUSA at UG level.
 - Initiated SWOT on the Campus
 - University Coordinator for RUSA
 - Initiated creation of citation index of faculty members on Googlescholar and Researchgate
 - Achieved ranking for HP University to be among the top 25 Universities of the country as per Nilsen- India Today Survey
 - These efforts resulted in NAAC grade A for the University in its third cycle of accreditation an improvement of grade from 2.5 to 3.21 a jump of two steps from earlier B grade.
- vi. As Dean Planning
- Developed 12th five year proposal for funding by UGC
 - Initiated proposal for having 50 KW captive solar power project on HPU campus (Installed)
 - Initiated proposal for establishing Community Radio of HPU
 - Prepared DPR for Computerisation of the University worth 3.69 crores (granted by HP Govt.)
 - Prepared proposal of HPU for RUSA Funding worth Rs. 250 Cr. (Funds have started coming)
 - Initiated digitisation of HP University library, in advanced stage of implementation

Other Interests:

- a) Science Popularization
- b) Radio feature writing
- c) Development of Spoken Tutorials
- d) Community service Editor [SAGES Chronicles](#)
- e) Developed e-resources for Statistical Mechanics of the M.Sc. Courses for [UGC ePGPathshala project.](#)
- f) Sketching and drawing, currently working on project Quantum Doodles, as part of International Year of Quantum Science of Technology 2025, which are planned to be used for awareness programs on 100 years of Quantum Mechanics under the auspices of Indian Association of Physics Teachers.

Membership of Professional Bodies:

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- Member Indian Association of Physics Teachers, currently National President (IAPT) (2022-2027)
- Member Indian Physics Association (IPA), Currently on the Executive
- Member Indian Science Congress Association
- President Himachal Physical Society
- Former General Secretary Vigyan Bharti (HP Chapter)
- President Indian Association of Physics Teachers 2022-27 (www.indapt.org.in)

Seminars Conferences organized: 15 in various areas of Physics, IT, Quality Assurance, library science and Community Service. **Since Indian Association of Physics Teachers is Cohost of International Conference on Physics Education 2025 (ICPE2025)** an International Union of Pure and Applied Physics supported conference under C14 group of Physics Education of IUPAP, I am one of the Co-conveners of this conference to be held in IIT Ropar (INDIA) from 16-20 December, 2025.

(P.K. Ahluwalia)

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