Curriculum-Vitae

PERSONAL DETAILS

Name	: Dr. Sunil Panwar
Date of Birth	: 01.01.1966
Father' s Name	: Late Sh. Jagdish Singh
Gender	: Male
Nationality	: Indian
Permanent address	: Q-47, Shivalik Nagar, Haridwar-249403
Mobile No.	: 7300761238
E- mail	: dr.sunilpanwar66@gmail.com

PROFESSIONAL AND EDUCATIONAL QUALIFICATIONS

- **Ph.D.** degree from University of Roorkee, Roorkee on the topic of "*Electronic & Magnetic properties of Heavy fermions & Mixed – Valence Systems"* in **1993**.
- **M.Sc.** degree with specialization in Electronics from Meerut University, Meerut in **1986**.
- **B.Sc.** degree with Physics, Chemistry & Mathematics from Meerut University, Meerut in **1984**.
- **Intermediate** from UP Board, Allahabad in **1982**.
- **High School** from UP Board, Allahabad in **1980**.

Membership of Academic Bodies

- Life Member of Indian Science Congress Association, Calcutta, India.
- Member of Board of studies
- Member of Academic Counselling

Teaching Experience: 31 years (Date of joining in FET: 06.11.2000 as Sr. Lecturer)

- Presently working as Associate Professor, Department of Applied Science, Faculty of Engineering & Technology, Gurukula Kangri (Deemed to be University), Haridwar since Nov., 2008.
- Presently working as Head, Department of Applied Science during 2023-26.
- Previously worked as Head, Department of Applied Science during 2017-20.
- Previously worked as Dean, Faculty of Engineering & Technology, Gurukula Kangri (Deemed to be University), Haridwar during 2022-23.
- Previously worked as Dean, Faculty of Engineering & Technology, Gurukula Kangri (Deemed to be University), Haridwar during 2016-19.

- Previously worked as a Senior Lecturer & Head, Department of Applied Physics, Anuradha Engineering College, Chikhli, Buldana (M.S.) during 1994 -2000.

Research Experience: 31 Years

Field of Research: Condensed Matter Physics (Theory)

Ph.D. Produced: 01 as Co- Guide

Research Publications in International Journals: 33

International Conferences attended and papers presented: 17

National Conferences attended and papers presented: **38**

Research Projects Completed (UGC and CSIR): 01 UGC Major Research Project of Rs. 8.12 Lacs

Distinctions: Invited as Visiting Scientist for two months (1994-95) at Condensed Matter Theory Group, University of Roorkee, Roorkee.

Editorial Boards of Journals: Associate Editor, International Journal of Scientific Research & Growth (IJSRG) (ISSN: 2456-1363)

Departments Founded/ Established

(1) Department of Applied Physics, Anuradha Engineering College, Chikhli, Buldana (M.S.)

(2) Deptt. of Applied Physics, FET, GKV, HWR

DETAILS OF RESEARCH PUBLICATIONS & ACADEMIC CONTRIBUTATIONS:

A. Paper Published in Journals

(2010-2025)

1. **Sunil Panwar**, Vijay Kumar, Amit Chaudhary and Ishwar Singh "A variational theory of zero field electrical resistivity of colossal mangnetoresistive manganites ($Re_{1-x}\ A_x\ MnO_3$), **Modern Physics Letters (B) 28 (24)** (**2014**) 1450182.
2. **Sunil Panwar**, Vijay Kumar, Amit Chaudhary, Rajendra Kumar and Ishwar Singh, "Theoretical study of magnetotransport properties of colossal magnetoresistive manganites ($Re_{1-x}\ A_xMnO_3$): A Variational Treatment", **Solid State Communications 223** (**2015**) 32-36.
3. Amit Chaudhary, **Sunil Panwar**, Vijay Kumar, Rajendra Kumar and Ishwar Singh **"**Theoretical study of magnetic susceptibility of colossal magnetoresistive manganites ($Re_{1-x}\ A_x\ MnO_3$): A Variational Treatment, International Journal of Advance Research in Science & Engineering **(IJARSE) 4(05) (2015**) 53-59.ISSN-2319-8354(E).

4. **Sunil Panwar**, Vijay Kumar, Amit Chaudhary and Rajendra Kumar **"**Zero field magnetic susceptibility of colossal mangetites ($Re_{1-x}A_xMnO_3$)" Journal of Indian Institute for Engineering, Management and Science **(JIIEMS), Vol. 3, Issue 1**, November **2015**, ISSN-2347- 6184.
5. Amit Chaudhary, Vijay Kumar, **Sunil Panwar**, Rajendra Kumar and Ishwar Singh "Theoretical study of zero field thermoelectric power in colossal magnetoresistive manganites ($Re_{1-x}A_xMnO_3$); A Variational Treatment"**, Asian Journal of Physics, 24 No. 11 (2015**) 1575-1582, p-ISSN : 0971-3093**.**
6. **Sunil Panwar**, Vijay kumar and Ishwar Singh "Magneto thermal properties of hole doped CMR manganites ($Re_{1-x}A_xMnO_3$): A Variational Treatment", **ESSENCE-International Journal for Environmental Rehabilitation and Conservation,** Vol **VI No. 2(2015**)189-193, ISSN : 0975-6272.
7. **Sunil Panwar**, Vijay Kumar, Ishwar Singh, "A variation theory of Hall effect of Anderson lattice model: Application to colossal magnetoresistance manganites ($Re_{1-x}A_xMnO_3$)," **Solid State Communications 266 (2017**) 51-54.
8. **Sunil Panwar** and Vijay Kumar, "Assessment of Variation in Zero Field Hall Constant of Colossal Magnetoresistive Manganites ($Re_{1-x}A_xMnO_3$)". ESSENCE- **International Journal for Environmental Rehabilitation and Conservation**, Vol **VIII (2) (2017**) 103-107.
9. **Sunil Panwar**, Ishwar Singh, A variational theory of magnetic field dependent thermoelectric power of Anderson lattice model: An application to colossal magnetoresistive manganites ($Re_{1-x}A_xMnO_3$). Journal of Applied Physics, **AIP Conference Proceedings**, Volume **2115**, 030421(**2019**). https://doi.org/10.1063/1.5113260
10. S. Panwar and I. Singh, "Zero field Electronic Specific Heat of Anderson Lattice Model: An Application to colossal magnetoresistive manganites ($Re_{1-x}A_xMnO_3$)**"ESSENCE- International Jr. for Environmental Rehabilitation and Conservation,** Vol **XI(2**) (2020) pp 16-22.
11. **Sunil Panwar** and Ishwar Singh "A variational theory of zero field electronic specific heat in colossal magnetoresistive manganites ($Re_{1-x}A_xMnO_3$) " Journal of Applied Physics, **AIP Conference Proceedings**, Volume 2369 (1) ,020106 **(2021). (IF 2.546).**
12. **S. Panwar,"** Effect of Magnetic Field On Thermodynamic Properties of Anderson Lattice Model: An Application to Colossal Magnetoresistive Manganites ($Re_{1-x}Ax\ MnO_3$)

"Proceedings of the DAE Solid State Physics Symposium- Dec. 15-19.2021, **Solid State Physics (India) Vol. 55,822 (2021).** ISBN No: 81-8372-085-4.

13. **S. Panwar** "Effect of Magnetic Field On Transport Properties of Colossal Magneto resistive Manganites (Re_{1-X} A $_X$ MnO_3)" Virtual International Conference on Emerging Trends in Applied Sciences (ETAS) Proceeding Book, **Nov.,2022**, pp 199-204.ISBN: 978-81-956057-0-5 (E-copy).
14. **S. Panwar** and Rahul Saini, "Relative cooling power of Anderson lattice model: An application to colossal magnetoresistive manganites (Re1-x A x Mn O3)" communicated to Nature Springer **2025**.

(2000-2010)

1. **S. Panwar**, P. Dua & I. Singh," Electrical Resistivity and Hall Constant of Anderson Lattice with Finite f-Band Width", **Solid State Physics (India), 45C**, Dec. **2002**.
2. **S. Panwar**, P. Dua & I. Singh, "Role of Inter-Site Hybrid Interaction in Metallic Ferromagnetism" **Solid State Physics (India), 45C**, Dec. **2002**.
3. **S. Panwar**, P. Dua & I. Singh, "Role of Exchange and Pair-Hopping Interactions on Hole-Superconductivity" **Solid State Physics (India), 45C**, Dec. **2002**.
4. **S. Panwar** & I. Singh, "Anomalous Electrical Resistivity and Hall Constant of Anderson Lattice with Finite f-Band Width", **Indian J. Phys. 76A (6),** 557 (**2002**).
5. **S. Panwar**, P. Dua & I. Singh "Anomalous Hall Constant of Heavy Fermion System", **Indian Journal of Pure and Applied Physics**, **41** ,389 (**2003**).
6. S**. Panwar**, P. Dua & I. Singh "A Variational Study of Anderson Lattice for Heavy Fermions superconductivity" **Solid State Physics (India) 46**, 607 (**2003**).
7. **S. Panwar**, P. Dua & I. Singh "Itinerant Ferromagnetism in Doubly Degenerate Hubbard Model", **Solid State Physics (India) 46**, 811-12 (**2003**).
8. **S. Panwar**, P. Dua & I. Singh "A Variational Study of Superconducting Correlations within Periodic Anderson Model", **Physica B**, **359 - 361, 816 (2005).**
9. **S. Panwar**, P. Dua & I. Singh, "Role of Inter-Site Hybrid interactions in itinerant Ferromagnetism" **Indian Jr. of Pure and App. Phys**, **44 (9),** 677-684, (**2006**)
10. **S. Panwar**, P. Dua & I. Singh,"A Variational Study of Periodic Anderson Model with Superconducting Correlations", **Journal of Physics and Chemistry of Solids, 67(1-3),** 103-107, (**2006**).

(1990-2000)

1. **S. Panwar** & I. Singh, "A Variational Theory of the Ground State of Anderson Lattice" **Solid state Communs**, **72**, 711 (1989).

2. **S. Panwar** & I. Singh, "Magnetic Susceptibility of Heavy Fermions and Mixed-Valence Systems", **Phys. St. Sol.(b) 168**, 583 (1991).
3. **S. Panwar** & I. Singh, "Electronic Specific Heat of Heavy Fermions Systems" **Solid state Communs**, **85**, 239 (1993).
4. **S. Panwar** & I. Singh, "Magnetic- Non Magnetic Ground State of Mixed- Valence and Heavy Fermions Systems" **Phys. St. Sol. (b) 175**, 487 (1993).
5. **S. Panwar** & I. Singh, "Electronic Specific Heat and Thermoelectric Power of an **Anderson Lattice with Finite f-Band Width" Phys. Rev. B50**, 2110 (1994).
6. **S. Panwar** & I. Singh, "Transport Properties of Heavy Fermions and Mixed – Valence Systems", **Physica, B205**, 253(1995)
7. **S. Panwar** & I. Singh, "Magnetic Susceptibility and Electronic Specific Heat of Anderson Lattice with Finite f-Band Width" **J. Appl. Phys., 76**, 6223 (1994).
8. **S. Panwar** & I. Singh, "Electrical Resistivity and Thermoelectric Power of Heavy Fermions and Mixed- Valence Systems." **J. Appl. Phys., 76**, 6220 (1994).
9. **S. Panwar** & I. Singh, "Magnetic Susceptibility of Anderson Lattice with Finite f- Band Width", **Phys. St. Sol. (b) 190**, 307 (1995).
10. **S. Panwar** & I. Singh, "Theory of the Hall Effect in Heavy Fermions Compounds" **Solid St. Communs., 98**, 83 (1996).

B. Paper presented in Conferences, Seminars & Symposia

INTERNATIONAL CONFERENCE

1. Participated and presented a paper entitled "Advanced Variational theory of CMR Rare Earth Manganites Doped with Alkaline Earth ($Re_{1-x}A_xMnO_3$) in International Conference on International Conference on Automation for Sustainable Future organized by Faculty of Engineering and Technology, GKDU, Haridwar (March 07-08, 2025).
2. Participated and presented a paper entitled "Relative cooling power of Anderson lattice model: An application to colossal magnetoresistive manganites (Re1-x A x Mn O3)" in International Conference on Physics and Chemistry of materials (ICPCM-2025) organized by Dept. of Physics, Graphic Era Deemed to be University, Dehradun (Feb 20-22, 2025)
3. Participated and presented a paper entitled "A Variational Theory of Magnetocaloric Properties of Anderson Lattice Model: An Application to Colossal Magnetoresistive Manganites ($Re_{1-x}A_xMnO_3$) in 2nd International Conference on

"Emerging Trends in STEM & Health-Agri Sciences for Sustainable Development Organized by MIET Kumaon Group of Institutions, Haldwani (Feb 24-25, 2025)

4. Participated and presented a paper entitled "Role of Magnetic field on Electronic Specific Heat of Anderson Lattice Model: An Application to Colossal Magnetoresistive Manganites (Re1-x A x MnO3) in 68thDAE Solid State Physics Symposium (DAE SSPS 2024) Organized by: Bhabha Atomic Research Centre, Mumbai Sponsored by: Board of Research in Nuclear Sciences (BRNS), Department of Atomic Energy, Government of India at DAE Convention Centre, Anushaktinagar, Mumbai, India, during December 18-22, 2024 .
5. Participated and presented a paper "Generation of electricity from havan and havan kund" in the International Conference on Veda Vijnana & Sanskriti Mahakumbha Organised by GKDU, Haridwar during 23-25 December, 2023.
6. Participated and presented a paper in International Conference on GREEN TECHNOLOGY: ISSUES & CHALLENGES Organized by The Indian Science Congress Association Haridwar Chapter in collaboration with *Centre for International Cooperation* Chaudhary Charan Singh University, MEERUT (September 22-24, 2022).

7. Participated and presented a paper in 65th DAE Solid State Physics Symposium, Dec 15-19, **2021**, Mumbai organized by BARC, Mumbai sponsored by BRNS, DAE, Government of India.
8. Participated and presented a paper in "Virtual International Conference on Emerging Trends in Applied Sciences (ETAS)" Jointly organized by Veer Narmad South Gujarat University, Surat, India and Vyatka State University, Kirov, Russia 28-29 October 2021.
9. **S. Panwar** attended and presented one research paper on "A variational theory of magnetic field dependent thermoelectric power of Anderson lattice model: An application to colossal magnetoresistive manganites "*at 63rd DAE Solid State Physics Symposium organized by Bhabha Atomic Research Centre, Mumbai at Guru Jambheshwar University of Science & Technology,* ***Hisar****, Haryana during December 18-22,* ***2018***.
10. **S. Panwar** and V. Kumar presented a paper on"A variational theory of zero field thermoelectric power of colossal magnetoresistive manganites ($Re_{1-x}\ A_x\ MnO_3$)" *at 102nd Indian Science Congress Association, University of Mumbai,* ***Mumbai*** *from 03-07 January,* ***2015***.
11. ***S.*** **Panwar**, J.K. Vats, M.A. Palafox and V.K. Rastogi presented a paper on "FTIR and FT-Raman spectra, vibrational assignments and other molecular properties of 2-amino-5-chlorobenzonitrile: a DFT study" *at the 5th International conference on*

*Perspectives in Vibrational Spectoscopy held during 08-12 July **2014** at Mascot Hotel, **Trivandrum**, **Kerala**, India.*

12. S. Panwar, A. Chaudhary,V. Kumar and I. Singh **, "**Low temperature transport anomaly in colossal magnetoresistive magnetoresistive manganites ($Re_{1-x} A_x MnO_3$)"*accepted in the International Conference on Condensed Matter in Paris (CMD 25-JMC-14) organised by **Universite' Paris Descartes** (2014) from24-29 August,**2014**.*
13. **S. Panwar** attended and presented **two research papers** on "A variational theory of the ground state of manganites exhihibiting colossal magnetoresistance" & "Fourier transform Raman spectrum of Biomolecule: 2-Thiouracil" in the *International Conference on Green Technologies for Environmental Rehabilitation (GTER- **2012**) organized by Faculty of Engineering & Technology, Gurukula Kangri University, **Haridwar** from Feb. 11-12, **2012**.*
14. S. Panwar, **P. Dua** & I. Singh presented a paper on" A variational study of periodic Anderson model with superconducting correlations" in the *International conference on Spectroscopies in Noval Superconductors, **Sitges, Spain** during 11th- 16th July, **2004**.*
15. S. Panwar, **P. Dua** & I. Singh presented a paper on" Heavy fermion superconductivity within periodic anderson model *"at Euro- conference on Ab- initio many body theory for strongly correlated systems, the Abdus Salam ICTP, T**rieste, Italy** during 25th- 29th August, **2003**.*
16. **S. Panwar** & I. Singh presented **two papers** on "Electrical resistivity & thermoelectric power of heavy fermions & mixed- valence systems "& "Magnetic susceptibility & electronic specific heat of Anderson lattice with finite f- bandwidth" in 6th Joint MMM-Intermag Conference, **New Mexico(USA**) during June 20-23, **1994**.
17. **S. Panwar** & I. Singh presented a paper on "A variational treatment of the heavy fermions ground state of the periodic Anderson model "at *35th Annual Conference on Magnetism and magnetic materials, **San Diego, California (USA)** Nov. **1990**.*

NATIONAL CONFERENCE, SEMINARS, SYMPOSIA

1. **S. Panwar** attended and presented **a paper "**Findings of Science & Engineering in Vedic Era in National Conference on "Knowledge, Cultural Traditions and Practices of India" organised by Gurukula Kangri (Deemed to be University), Haridwar during March 29-31,2023.

2. **S. Panwar** attended and presented **a paper"** Effect of Magnetic field on Thermoelectric power of Anderson Lattice Model: An Application to Colossal Magnetoresistive Manganites (Re_{1-x} Ax MnO_3) in the National Conference on Physics and Chemistry of Materials (NCPCM 2023) March 16-18, 2023, organised by Department of Physics, Department of Electronics, Govt. Holker (Model Autonomous) Science College, Indore, India.
3. **S. Panwar** attended and presented **one research paper** in *National conference on Physics and Chemistry of Materials (NCPCM-2020) organized by Department of Physics, Govt. Holkar (Modal, Autonomous) Science college, Indore (MP) during Dec. 14-16,* ***2020****.*
4. **S. Panwar** attended and presented **two research papers** in *National conference on Rural Development, The Indian Science Congress Association (Haridwar Chapter) organized by Department of Chemistry and Department of Physics, Gurukul Kangri Vishwavidyalaya, Haridwar, during February 15-16,* ***2020****.*
5. **S. Panwar** attended and presented one research paper in DRDO sponsored *National Conference on Advanced Technologies and Environmental Safety (ATES-2019) organized by IFTM University, Muradabad during March 9-10,* ***2019****.*
6. **S. Panwar** and V. Kumar attended and presented one research paper "A variational study of Zero field Hall cnstant of colossal magnetoresistive manganites ($Re_{(1-x)}$ A_x MnO_3)" *on "Reaching the unreached through Science and Technology", in 8th Conference of The Indian Science Congress Association (Haridwar Chapter) organized by Department of Mathematics and Department of Computer Science, D. S. B. Campus, Kumaun University, Nainital during October 14-15,* ***2017****.*
7. **S. Panwar,** V. Kumar and A. Chaudhary presented a paper on "*Magneto thermal properties of hole doped CMR manganites* (Re_{1-x} A_xMnO_3)*: A variational treatment "at the National Conference on Science and Technology for Indigenous Development in India, Indian Science Congress Association: Haridwar Chapter, FET, GKV, Haridwar (Sep. 28-30* ***2015****).*
8. **S. Panwar**, V. Kumar, A. Chaudhary, R. Kumar and I. Singh presented a paper on "Effect of magnetic field on thermoelectric power of colossal magnetoresistive manganites (Re_{1-x} A_x MnO_3) *at the National Conference on Emerging Trends In Physics And Materials Science (ETPMS-2015) Organized by Chaudhary Devi Lal University, Sirsa, Haryana from 9-10, March,* ***2015****.*
9. **S. Panwar**, V. Kumar ,A. Chaudhary, R. Kumar and I. Singh presented a paper on "Magneto transport properties of colossal magnetoresistive manganites (Re_{1-x} A_x

MnO_3) *at the National Conference on Science & Technology for Human Development Organized by ISCA, Haridwar Chapter & Department of Ancient Indian History, Culture & Archaeology, Gurukula Kangri University, Haridwar from March 20-21,* ***2015***.

10. **S. Panwar** and V. Kumar presented a paper on , " Magnetic susceptibility of colossal magnetoresistive manganites ($Re_{1-x}\ A_x\ MnO_3$)" *at the National Conference on photonics and Materials science, Nov. 18-19,* ***2015*** *(NCPMS) in Guru Jambheswar University of Science & Technology, Hisar.*
11. **S. Panwar** and V. Kumar presented a paper on "Hall constant of colossal magnetoresistive manganites ($Re_{1-x}A_xMnO_3$)" at *the National Conference on Impact of Rapid Advancements in Management, Science and Technology (IRAMST - 2015), Rajshree Institute of Management & Technology,* ***Bareilly****, from 26-27 December,* ***2015***.
12. **S. Panwar** and A. Chaudhary presented **two papers** on "Magnetic susceptibility & Hall constant of colossal magnetoresistive manganites ($Re_{1-x}\ A_x\ MnO_3$) & "thermoelectric power of colossal magnetoresistive manganites ($Re_{1-x}\ A_x\ MnO_3$)" *in the National Symposium on "Innovations in Science & Technology for inclusive Development'', organized by Haridwar Chapter of the ISCA on Feb. 16,* ***2015***.
13. **S. Panwar**, V. Kumar, A. Chaudhary and R. Kumar presented **two papers** on "Thermoelectric power of colossal magnetoresistive manganites ($Re_{1-x}\ A_x\ MnO_3$)" *&***"** Magnetic susceptibility and Hall constant of colossal magnetoresistive manganites ($Re_{1-x}\ A_x\ MnO_3$)" *at the National Symposium on Innovation in Science and Technology for Inclusive Development, Indian Science Congress Association Chapter, GKV, Haridwar (2****014****).*
14. *A*. Chaudhary , **S. Panwar** , V. Kumar & R. Kumar presented a paper on "Electronic specific heat and thermoelectric power of colossal magnetoresistive manganites ($Re_{1-x}\ A_x\ MnO_3$) *" at the National Symposium on Innovation in Science and Technology for Inclusive Development , Indian Science Congress Association Chapter ,CCSU ,Meerut (****2014****)* .
15. V. Kumar, A. Chaudhary and **S. Panwar** presented **two papers** on "Electrical resistivity of colossal magnetoresistive manganites ($Re_{1-x}\ A_x\ MnO_3$)" & "A variational theory of transport properties of colossal presented a paper on

magnetoresistive manganites ($Re_{1-x}A_xMnO_3$) " *at the 2nd National Conference on Photonic & Materials Science, GJUS & T, Hisar (**2014**).*

16. V. Kumar, **S. Panwar** , A. Chaudhary and I. Singh presented a paper on "Zero field magnetic susceptibility of colossal magnetoresistive manganites ($Re_{1-x}\ A_x\ MnO_3$)" *at the National Conference on Recent Engineering Trends in Energy, Environment & Ecology (RETEEE - 2014), Rajshree Institute of Management & Technology, **Bareilly**, from 27-28 September, **2014**.*
17. A. Chaudhary, V. Kumar, **S. Panwar** & R. Kumar presented **two papers** on **"**Hall constant of colossal ($Re_{1-x}A_xMnO_3$)" & "A variational theory of zero field electronic & magnetic properties of colossal *magnetoresistive manganites* ($Re_{1-x}A_xMnO_3$)" *at the National Symposium on Ins* magnetoresistive manganites *trumentation (NSI-39), organized by Instrument Society of India, IISc, Banglore & Faculty ofEngineering & Technology, Gurukula Kangri University, Haridwar from 15-17 October, **2014**.*
18. A. Chaudhary, V. Kumar, **S. Panwar** and R. Kumar presented **two papers** on "Electronic specific heat of colossal magnetoresistive manganite ($Re_{1-x}\ A_x\ MnO_3$)" & Raman spectrum of the Bio-molecule Thiouracil: A DFT Approach" *at the National Conference on Emerging Trends in Engg. & Sciences (ETES) FET, GKV, Haridwar (**2013**).*
19. **S. Panwar** presented a paper on" Electronic specific heat and electrical resistivity of manganites exhibiting colossal magnetoresistance" in the *National Seminar on Progress in Electronics & Allied Sciences (PEAS-2012) during Nov. 3-4, **2012** organized by Faculty of Engineering & Technology, Gurukula Kangri University, Haridwar, INDIA.*
20. **S. Panwar** presented a paper on" A variational theory of manganites exhibiting colossal magnetoresistance" in the *National Seminar on Innovations and Applications in Engineering & Applied Sciences (IAEAS-2011) during 9th- 10th Nov. **2011** held on Faculty of Engineering & Technology, Gurukula Kangri University, Haridwar, INDIA.*
21. **S. Panwar** & I. Singh presented a paper on "A variational study of Anderson lattice for heavy fermions superconductivity" at *Solid State Physics (DAE) Symposium, **46 C**, Dec. **2003**.*
22. **S. Panwar** & I. Singh presented **three papers** on "Electrical resistivity and Hall constant of Anderson lattice with finite f- bandwidth & "Role of intersite hybrid interaction in metallic ferromagnetism" & "Role of exchange and pair- hopping

interactions on hole- superconductivity" at Solid State Physics (DAE) Symposium, **45 C**, Dec. 2**002**.

23. **S. Panwar** & I. Singh presented a paper on" A variational theory of Anderson lattice" at *Solid State Physics (DAE) Symposium, **31 C**, Dec. **1988***.
24. **S. Panwar** & I. Singh presented a paper on" A variational treatment of the heavy fermions ground state of the periodic Anderson model" at *Solid State Physics (DAE) Symposium, **32 C**, Dec. **1989***.
25. **S. Panwar** & I. Singh presented a paper on" A variational calculation of spin susceptibility & specific heat of an Anderson lattice" at *Solid State Physics (DAE) Symposium, **33 C**, Dec. **1990***.
26. **S. Panwar** & I. Singh presented a paper on "Electrical resistivity of heavy fermions systems" at *Solid State Physics (DAE) Symposium, **35 C**, Dec. **1992***.
27. **S. Panwar** & I. Singh presented a paper on "Electronic specific heat of Anderson lattice with finite f- bandwidth "at *Solid State Physics (DAE) Symposium**, 36 C**, Dec. **1993***.
28. S**. Panwar** & I. Singh presented **two papers** on "Quantum Monte Carlo study of one dimensional strongly correlated electron systems "& "Magnetic susceptibility and electronic specific heat of Anderson lattice with finite f- bandwidth" at *Solid State Physics (DAE) Symposium, **37 C**, Dec. **1994***.
29. S**. Panwar** & I. Singh presented a paper on "Anomalous Hall effect in heavy fermion systems" at *Solid State Physics (DAE) Symposium, **37 C**, Dec. **1994***.

Orientation/ Refresher/ Faculty development programme/Workshop/ Short term course attended:

Orientation/ Refresher Course attended

1. Orientation Course, UGC-ASC, Feb 10 to March 10 ,2004, Aligarh Muslim University, Aligarh, UP.
2. Refresher Course, UGC- ASC, March 11-31, 2008, H P University, Shimla (HP).
3. Refresher Course, UGC- ASC, Nov.27 to Dec.17, 2008, University of Hyderabad, Hyderabad (AP).

Workshop/ Faculty Development Programme attended

1. Key note address on National workshop on Science & Technology: Future Prospective, June 15-16,2009 organized by Nagaji Institute of Technology & Management, Sitholi, Gwalior (M.P.).

2. Workshop on Advances in Physics & Role of Experiments in Physics Teaching, Department of Physics, GKDU, Haridwar on 05 Nov., 2011.
3. Workshop on Scientific Computing Theory and Practices, Oct. 8-13, 2012 organized by FET, GKV, Haridwar.
4. Workshop on The Physics and Mathematics of the Universe, March 11-12, 2013 organized by Department of Physics & Mathematics, GKV, Haridwar.
5. Participated as chairperson of technical session in workshop on Synthesis & Characterization of Nanocomposites and User Acquaintance Programme by the Inter University Accelerator Centre, New Delhi, 17 Oct.,2022.
6. Participated and chaired as Director of one week National Workshop " Data Analysis Using Advanced Mathematical Tools (DAUAMT-23) organised by the Department of Applied Science, FET during May 13-18,2023.

QIP/Short Term Course attended

1. MHRD sponsored Short term Programme on "*Soft Computing",* March 27-31, 2006 organized by NITTTR, Chandigarh at FET, GKV, Haridwar
2. MHRD sponsored Short term Programme on "*Development of Multimedia Learning materials",* May 26-29, 2008 organized by NITTTR, Chandigarh at FET, GKV, Haridwar
3. MHRD sponsored Short term Programme on *"Advances in Soft Computing and its Applications",* July 14-25, 2008 organized by NITTTR, Chandigarh at FET, GKV, Haridwar
4. MHRD sponsored Short term Programme on "*Advanced Antenna Engineering through Experimentation",* Feb 09-20, 2008 organized by NITTTR, Chandigarh at FET, GKV, Haridwar
5. FDP on Teaching and soft skills, Oct. 3-4,2018 organized by FET, GKV, Haridwar.
6. Worked as **Webinar Chair** in the **National Webinar** on "How Engineers Can Contribute in Fight Against Covid 19 Pandemic" organised by FET, GKV, Haridwar on July o6, 2020.

Extra-Curricular Activity

1. Managing Editor of Faculty Quarterly News Letter *"Nabhag".*
2. Observer for conducting JEE- Mains -2013 by CBSE Board, Delhi.
3. Observer for conducting AIEEE -2009,2010,2011& 2012 by CBSE Board, Delhi.

4. Observer for conducting Central Teacher's Eligibility Test- 2011 by CBSE Board, Delhi.
5. Worked as Webinar Chair in the National Webinar on "How Engineers Can Contribute in Fight Against Covid 19 Pandemic" organised by FET, GKV, Haridwar on July o6,2020.
6. Presently working as President, NDLI club, FET, GKV, Haridwar.
7. Worked as Webinar Chair in the National Webinar on "NDLI User Awareness Session" organised by FET, GKV, Haridwar on July 28, 2021.
8. Worked as Webinar Chair in the National Webinar on "Second NDLI User Awareness Session" organised by FET, GKV, Haridwar on Sept. 25, 2021.
9. Worked as Mentor of FET Admission Brochure (2022-23) Committee for composing and designing Admission Brochure.

Declaration

I hereby declare that all the statements made herein are true to the best of my knowledge and belief.

(Dr. Sunil Panwar)