

# CURRICULUM VITAE

## **Dr PREETI VERMA**

D/O Sh. Janak Raj Verma & Smt. Tripta Verma

R/O H. No. 258, Pacci Dakhi

Jammu (180001), J&K, India.

☎: +91-7508971215, +91-9906262162

**E-mail** : [preetiver.87513@jk.gov.in](mailto:preetiver.87513@jk.gov.in), [pvphys@gmail.com](mailto:pvphys@gmail.com)



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**Current Position:** : Assistant Professor, J& K Higher Education Department.

*Current posting:* Department of Physics,  
GGM Science College, Jammu (since 03.11.2023)

*Previous posting* Govt. GLDM Degree College, Hiranagar  
(03 May, 2021 - 02 Nov., 2023)

**Research Experience** : 10+ years (after PhD)

- Previous Employment:** :
1. *Guest Faculty*, Central University of Jammu  
(from 20.10.2020 to 30.04.2021)
  2. *Young Professional (Innovation)*  
University of Jammu Special Purpose Vehicle Foundation  
under RUSA  
(from 24.01.2020 to 31.03.2020)
  3. *Post Doc. Research Associate*,  
CSIR sponsored EMR-II Research Project,  
Dept. of Physics and Astro. sciences, Central University of Jammu  
(from 22.10.2018 to 21.01.2020)
  4. *Assistant professor*, Department of Physics,  
Lovely Professional University(LPU), Phagwara (Punjab) India  
(from 21.07.2016 to 30.11.2017)
  5. *Assistant professor in Physics*  
Yogananda College of Engineering and Technology, (YCET)  
Jammu, India  
(from 11.08.2014 to 05.11.2015)
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**FIP/Orientation course/ Refresher course/ FDP attended**

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1. **86<sup>th</sup> Guru Dakshta Faculty Induction Programme**  
organized by UGC-HRDC, University of Kashmir, w.e.f. 12<sup>th</sup> Oct., 2021 to 11<sup>th</sup> Nov. 2021 for a period of four weeks and successfully completed it by obtaining grade A+.
2. **One week online National Level Faculty Development Programme on “ Advanced Computational and Experimental Research in Physics-2022”**  
organized by Department of Physics, SRM Institute of Science and Technology, Chennai, from 20<sup>th</sup> June to 27<sup>th</sup> June 2022.
3. **UGC-Approved Short-term PROFESSIONAL DEVELOPMENT PROGRAMME on "Implementation of NEP2020 for University and College Teachers"**  
organised by IGNOU and held from September 09-17, 2022.
4. **FACULTY DEVELOPMENT PROGRAMME ON "DIGITAL CREATIVITY SKILLS"**  
organised by AICTE-Adobe in collaboration with School of Business Studies and FIDC Central University of Jammu on November 14, 2022.
5. **IP AWARENESS/ TRAINING PROGRAMME under NATIONAL INTELLECTUAL PROPERTY AWARENESS MISSION (NIPAM)**  
organised by Intellectual Property Office India on January 25, 2023
6. **4-week FACULTY INDUCTION/ ORIENTATION PROGRAMME for "Faculty in Universities/Colleges/ Institutes of Higher Education"**  
organised by Ramanujan college, University of Delhi from February 20 - March 21, 2023
7. **NATIONAL LEVEL WEBINAR on the theme 'THE LITTLE BANG- Recreating Microsecond Old Universe Matter in the Laboratory"**  
organised by Dept. of Physics GDC Kathua on May 30, 2022.

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**Online Courses (MOOCs)**

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**1. Learning Physics Through Simple Experiments**

Organized by Centre for continuing Education, Indian Institute of Technology, Kanpur from April 2 to June 10, 2020 under the guidance of Prof. H. C. Verma.

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**Research Work**

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<b>Field of Research Interest</b>	Nuclear Theory Physics (Low Energy)
<b>Ph.D.</b>	(Awarded in 2014)
<i>Title of Ph.D. Thesis</i>	<i>Microscopic Study of Nuclear Structure Properties of Some Deformed Nuclei in the A~70 Mass Region</i>
<b>M.Phil.</b>	(Awarded in 2011)

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*Title of M.Phil. Dissertation*                      *Study of Some Odd-Mass Selenium Isotopes in a Microscopic Framework*

**Research Publications**                              20 (For Details Kindly Refer Annexure - I)

**Presentations in**                                      09 (For Details Kindly Refer Annexure – II)

**Seminars/Conferences**

**Seminars/Conferences attended**              12 (For Details Kindly Refer Annexure – III)

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***Academic Qualifications***

<b>Degree</b>	<b>Year of Passing</b>	<b>University/Board</b>	<b>Grade/ Div.</b>	<b>% Marks</b>
M. Sc. ( <i>Physics</i> )	2009	University of Jammu	1 <sup>st</sup> Div.	70
B Sc. ( <i>Non-Medical</i> )	2007	University of Jammu	Distinction	75
XII <sup>th</sup>	2004	JKBOSE	Distinction	75
X <sup>th</sup>	2002	JKBOSE	Distinction	82

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***Extra co-curricular activity***

***NCC***

Major achievements as NCC cadet:

- 'B' & 'C' Certificates with 'A' grade in both
  - Youth Exchange Programme, YEP (Vietnam, Hongkong, Bangkok)
  - Republic Day Camp (2006), New Delhi
  - DG's & DDG's Commendation Card
  - Special National Integration Camp, Leh
  - Best Cadet (state), Best Commander, *etc.*
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***Computer Skills***

Operating System	WINDOWS, LINUX, UBUNTU
Languages	FORTRAN, C, C++
Packages	MS-Office & Power Point, Origin.

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***Other Achievements***

- Best Paper Award in 7<sup>th</sup> JK Science Congress organized by the University of Jammu in collaboration with J&K State Council for Science and Technology.
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***Personal Profile***

Date of Birth	13 <sup>th</sup> of May, 1987
Languages Known	English, Hindi, Punjabi, Dogri
Hobbies	Sketching

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**Declaration:**

I hereby declare that the above-mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars.

*Date: 15 February, 2023*

*Place: Jammu*

*Preeti Verma*

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- [1] Theoretical study of nuclear structure properties of positive parity states of odd mass  $^{103-117}\text{Ag}$  nuclei  
Manvi Rajput, Suram Singh, **Preeti Verma**, Veerta Rani, Arun Bharti, G.H. Bhat, J.A. Sheikh  
*Eur.Phys. J.A* (2022) **58** 146
- [2] Triaxial projected shell model study of  $\gamma$  -bands in even-even  $^{104-122}\text{Cd}$  nuclei  
Manvi Rajput, Suram Singh, **Preeti Verma**, Veerta Rani, Arun Bharti, G.H. Bhat, J.A. Sheikh  
*Nuclear Physics A* (2022) **1019**122383
- [3] Quasiparticle structure of low-lying yrast energy levels and  $\gamma\gamma$  -bands in  $^{164-174}\text{Hf}$  nuclei  
Veerta Rani, Suram Singh, Manvi Rajput, **Preeti Verma**, Arun Bharti, G.H. Bhat, J.A. Sheikh  
*Eur.Phys. J.A* (2021) **57** 274
- [4] Microscopic insight into the structure of negative parity yrast bands in  $^{99-117}\text{Pd}$  isotopes  
Manvi Rajput, **Preeti Verma**, Suram Singh, Veerta Rani, A. Bharti, G.H. Bhat, J.A. Sheikh  
*Nuclear Physics A* (2021) **1014** 122253
- [5] Systematic study of odd-mass  $^{151-161}\text{Pm}$  and  $^{154,156}\text{Pm}$  isotopes using projected shell model  
Veerta Rani, **Preeti Verma**, Suram Singh, Manvi Rajput, Arun Bharti, G. H. Bhat, J. A. Sheikh  
*Chinese Physics C* (2020) **44** 094107
- [6] Microscopic study of ground state bands in  $N = 45$  &  $46$  isotones in mass region  $A \sim 70-80$   
**Preeti Verma**, Suram Singh, Arun Bharti and S.K. Khosa  
*J. Phys. G: Nucl. Part. Phys.* (2020) **47** 045114
- [7] Theoretical Study of Signature-splitting and Signature-inversion in Doubly-odd Nuclei in  $A \sim 80$  Mass Region  
**Preeti Verma**, Suram Singh, Arun Bharti and S.K. Khosa  
*J. Phys.: Conf. Ser.* (2020) **1531** 012010
- [8] Projected shell model study of some odd-odd isotones  
**Preeti Verma**, Kuldeep Singh, Arun Bharti, and S.K. Khosa.  
*AIP Conf. Proc.* (2020) **2220** 140059
- [9] X-ray structure analysis of bis(O-amyldithiocarbonato)(bis(3,5-dimethylpyridine)nickel (II)  
Kuldeep Singh, **Preeti Verma**, Rajni Kant  
*AIP Conf. Proc.* (2020) **2220** 060013
- [10] Microscopic insight into the nuclear structure properties of odd-mass  $^{101-109}\text{Cd}$  isotopes  
**Preeti Verma**, Suram Singh, Arun Bharti, S.K. Khosa, G.H. Bhat and J.A. Sheikh  
*Nuclear Physics A* (2019) **986** 245-259

- [11] Microscopic insight into low level systematics and negative-parity Yrast bands in odd-mass  $^{111-127}\text{Cd}$   
**Preeti Verma**, Suram Singh, Arun Bharti and S.K. Khosa.  
Eur. Phys. J. Plus (2019) **134** 520
- [12] Quasi-particle structure of proton-hole cobalt isotopes  
Anuradha Gupta, **Preeti Verma**, Suram Singh, Arun Bharti, S.K. Khosa, G.H. Bhat and J.A. Sheikh.  
Nuclear Physics A (2015) **941** 48-65
- [13] Analysis of the experimental level scheme of  $^{61}\text{Cu}$  using computational technique  
Anuradha Gupta, **Preeti Verma** and Arun Bharti  
AIP Conf. Proc. (2015) **1675** 020053(1)-020053(4)
- [14] Quantitative Analysis of Weak Intermolecular Interactions in Polymorphs of N-(3-chlorophenyl) benzamide.  
Kuldeep Singh and **Preeti Verma**  
Res. J Pharm Bio and Chem Sc (2015) **6** 495
- [15] Band structure of odd-mass lanthanum isotopes  
Deepti Sharma, **Preeti Verma**, Suram Singh, Arun Bharti and S.K. Khosa  
International Journal of Modern Physics E (2014) **23** 1450020(1)–1450020(26)
- [16] Theoretical perspective of nuclear structure of some neutron rich isotones  
Chetan Sharma, **Preeti Verma**, Suram Singh, Arun Bharti and S.K. Khosa  
AIP Conf. Proc. (2013) **1524** 97-100
- [17] Projected Shell Model study of quasiparticle structure of arsenic isotopes  
**Preeti Verma**, Chetan Sharma, Suram Singh, Arun Bharti, S.K. Khosa, G.H. Bhat and J.A. Sheikh.  
Nuclear Physics A (2013) **918** 1-24
- [18] Theoretical overview of back-bending in arsenic isotopes  
**Preeti Verma**, Chetan Sharma, Suram Singh, Arun Bharti and S.K. Khosa  
AIP Conf. Proc. (2013) **1524** 101-104
- [19] Microscopic insight into the structure of gallium isotopes  
**Preeti Verma**, Chetan Sharma, Suram Singh, Arun Bharti and S.K. Khosa  
Nuclear Physics A (2012) **884–885** 1-20
- [20] Microscopic analysis of band structures in odd mass  $^{79-89}\text{Y}$  isotopes  
Chetan Sharma, **Preeti Verma**, Suram Singh, Arun Bharti and S.K. Khosa.  
European Physical Journal A (2012) **48** 138(1)–138(14)
- [21] Theoretical investigation of positive parity band structure of Y and Nb isotopes  
Chetan Sharma, **Preeti Verma**, Suram Singh, Arun Bharti and S.K. Khosa  
International Journal of Modern Physics E (2012) **21** 1250081(1)-1250081(25)

**Seminars/ Symposium/ Conference attended****14**

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- [1] 3<sup>rd</sup> North Zone Students Research Convention- ANVESHAN-2010  
*held at University of Jammu during Jun. 04 – 05, 2010*
- [2] One day conference on “Semiconductor Nanomaterials and Devices SND-2010”  
*held on March 25, 2010 at University of Jammu, Jammu*
- [3] XXXIX National Seminar on Crystallography  
*held at University of Jammu, Jammu during Oct. 25-27, 2010*
- [4] DAE Symposium on Nuclear Physics  
*held at Birla Institute of Technology & Science, Pilani (Rajasthan) from Dec. 20-24, 2010.*
- [5] 7th JK Science Congress (JKSC-11) Science & Technology : Inspiring Innovation  
*held at University of Jammu from Oct. 13 – 15, 2011*
- [6] DAE Symposium on Nuclear Physics  
*held at Andhara University (Visakhapatnam) from Dec. 26-30, 2011*
- [7] One Day Acquaintance Programme on Accelerator based Research  
*held at Shri Mata Vaishno Devi University (Jammu) from Jun. 14, 2012*
- [8] International Conference on Recent Trends in Nuclear Physics-2012  
*held at Chitkara University(H.P.) from Nov. 19 – 21, 2012*
- [9] International DAE Symposium on Nuclear Physics  
*held at Bhabha Atomic Research Centre (Mumbai) from Dec. 02-06, 2013*
- [10] 101<sup>st</sup> Indian Science Congress - 2014  
*organized by the University of Jammu & The Indian Science Congress Association, Kolkata and held at University of Jammu from Feb. 3 – 7, 2014*
- [11] International Conference on Recent Advances in Fundamental and Applied Sciences (RAFAS) 2016  
*held at Lovely Professional University from Nov. 25 – 26, 2016*
- [12] 106<sup>st</sup> Indian Science Congress - 2018  
*organized by the Lovely professional University & The Indian Science Congress Association, Kolkata and held at Lovely Professional University from Jan. 3 – 7, 2019.*
- [13] 3<sup>rd</sup> International Conference on Condensed Matter and Applied Physics  
*held at Engineering College Bikaner, Rajasthan from Oct.14 – 15, 2019.*
- [14] 2<sup>nd</sup> International Conference on Recent Advances in Fundamental and Applied Sciences (RAFAS)-2019  
*organized by the Lovely professional University, Phagwara from Jan. 3 – 7, 2019.*
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- [1] Band structure of neutron-deficient odd-mass selenium isotopes  
**Preeti Verma**, Suram Singh, Arun Bharti and S. K. Khosa  
*Proc. of 7<sup>th</sup> J&K Science Congress held at University of Jammu, Oct. 13-15, 2011*
- [2] Study of high-spin states in  $N = 39$  and  $N = 41$  isotones  
Chetan Sharma, Neha Gupta, **Preeti Verma**, Arun Bharti and S.K. Khosa  
*Proc. of the DAE Symposium on Nucl. Phys. Vol.56 (2011) 366*  
[Presented in DAE Symposium held at Andhra University, Visakhapatnam during Dec. 26-30, 2011].
- [3] Theoretical analysis of structure of even-even  $^{130-136}\text{Ba}$  Nuclei  
**Preeti Verma**, Chetan Sharma, Suram Singh and Arun Bharti  
*Proc. of the DAE Symposium on Nucl. Phys. Vol.57 (2012) 320*  
[Presented in DAE Symposium held at University of Delhi, Delhi during Dec. 3-7, 2012].
- [4] Projected shell model study of even-even  $^{90-100}\text{Ru}$  isotopes  
Arvind Bhat, Arun Bharti, Ramesh Bhat, **Preeti Verma** and S.K. Khosa  
*Proc. of the DAE Symposium on Nucl. Phys. Vol.57 (2012) 242*  
[Presented in DAE Symposium held at University of Delhi, Delhi during Dec. 3-7, 2012].
- [5] Theoretical investigation of positive-parity bands in some doubly-odd  $N=45$  isotones  
**Preeti Verma** and Arun Bharti  
*Proc. of the DAE Symposium on Nucl. Phys. Vol.58 (2013) 104*  
[Presented in International DAE Symposium held at BARC, Mumbai during Dec. 2-6, 2013].
- [6] Cranking study of deformation systematics of some doubly-even barium isotopes,  
AnuRadha Gupta, **Preeti Verma**, Arun Bharti  
*Proc. of the DAE Symposium on Nucl. Phys. Vol.58 (2013) 106*  
[Presented in International DAE Symposium held at BARC, Mumbai during Dec. 2-6, 2013].
- [7] Projected shell model study of  $^{129}\text{Ba}$   
**Preeti Verma**, *et al.*  
*Indian Science congress-2014.*
- [8] Structural Analysis of  $^{57,59}\text{Co}$   
AnuRadha Gupta, **Preeti Verma**, Arun Bharti  
*Proc. of the DAE Symposium on Nucl. Phys. Vol.59 (2014) 230*
- [9] Projected Shell Model Study of Some Odd-Odd Isotones  
**Preeti Verma** and S. K. Khosa  
*Indian Science congress-2018*
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### **Events Organised**

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1. **Poster making competition on the theme: “Contribution of Eminent Physicists”**  
in order to acknowledge the contribution of the Eminent Physicists made to the society, a poster making competition was held in the Department of Physics on 29<sup>th</sup> July, 2022.
2. **“Let’s Celebrate Physics”**  
as a tribute to the People’s President Bharat Ratna Dr. APJ Abdul Kalam on his 7<sup>th</sup> death anniversary on 27<sup>th</sup> July, 2022.
3. **“Science Exhibition”**  
A “College-level Science Exhibition” on the topic “Green Earth and Sustainable Development” is organised by the college on 16<sup>th</sup> of July, 2022 which was sponsored by J&K Science, Technology & Innovation Council (JKSTIC), DST. Played a significant role as a member of organizing team as well as moderator of the event in the successful organisation of the event. Also designed the brochure, banner, poster and certificates.
4. **“Popular Lecture on “Chandrayaan Mission”**  
A popular lecture on the theme "Indian Space Mission“ was organised to enlighten the undergraduate students and develop their interest in the Indian Space Programme. The resource person for the event was Dr. Suresh Sharma, Assistant Professor (Physics), GDC (Boys), Kathua.
5. **Quiz Competition on the occasion of “Earth Day”**  
An online quiz competition was organised by the Department of Physics on 22<sup>nd</sup> April, 2022 on the occasion of World Earth Day. The theme was “Invest in Our Planet” and about 70 students participated in the competition.
6. **“The International Day of Women and Girls in Science”**  
organised an intra-college quiz competition on 11<sup>th</sup> Feb. 2022 in order to promote the gender equality and women’s empowerment in Science, Technology, Engineering and Mathematics (STEM). About one hundred students from different institutions of the UT of J&K including Govt. GLDM Degree College Hiranagar, GDC Kathua, GDC Billawar, GDC Udhampur (Boys), and the University of Jammu, participated in the quiz that was conducted through online mode.
7. **"National Energy Conservation Day"**  
organized a webinar on the occasion of National Energy Conservation Day under the aegis of "Azadi ka Amrit Mahotsav". Webinar was based on the themes "Energy Efficient India" and "Cleaner Planet". The resource person

on the occasion was Dr. Ajit Kumar Sharma, Associate Professor, Deptt. of Chemical Engineering and Physical Science, Lovely Professional University, Punjab.