



Faculty Details (Prof(Dr.) Alka Garg

Title	DR	First Name	Alka	Last Name	Garg	Photograph
Designation	Professor					
Address (Office)	Gargi College, University of Delhi					
Contact No. (Mobile)	9811481110					
Email	alka.garg@gargi.du.ac.in					
EDUCATIONAL QUALIFICATIONS						
Degree	Institution				Year	
B.Sc(Physics)	Miranda House, University of Delhi				1987	
M.Sc(Physics)	Department of Physics and Astrophysics, University of Delhi				1989	
Ph.D(material Science)	Department of Physics and Astrophysics, University of Delhi				1997	
Post-Doc	Department of Physics and Astrophysics, University of Delhi				2013	
CAREER PROFILE						
<ul style="list-style-type: none"> • Completed Graduation BSc (Hons) Physics from Miranda House in the year 1987 and completed Masters in Physics with specialisation in electronics from Department of Physics and Astrophysics, University of Delhi in 1989. • I received my PhD degree from Department of Physics and Astrophysics, University of Delhi in 1997 under the supervision of Prof G. C. Trigunayat. My thesis topic was on “Role of Impurities in Polytype Growth of Lead Iodide Crystals Grown from Vapour Phase”. • I have been a recipient of JRF and SRF between 1990 and 1993 in the UGC Project “Study of Polytypism in superconducting Single crystals of $\text{Bi}_2\text{Sr}_2\text{CaCuO}_7$ and MX_2 layered Compounds • I cleared UGC's NET in 1989 and obtained 98 percentiles in Gate exam in the same year. • In the year 2013 during my study leave I had a chance to work at one of the reputed laboratories of Department of Physics and Astrophysics, University of Delhi from July 2013-June 2014 to pursue Post -doctoral research on the topic “Development of BiI_3 thin films having applications in Semiconductor Radiation detector” • I have been teaching Physics to undergraduates for over 32 years at Gargi College since 1993(Ad-hoc) and become permanent in 1995. • I am an active researcher and have supervised One Ph.D student, one MPhil student and four MSc students towards their Dissertations. One Ph.D student is registered and pursuing her research work. • Two UG students of Physics hons in Fourth year are pursuing research on material sciences in the academic session 2025-2026 • Published research papers in international journals of great repute. 						

- Presented research papers in International and national conferences funded by UGC, INSA and DST.
- Promoted Research based pedagogy in the classroom teaching for which I was trained at IISER Pune in the MHRD funded project by the experts from Sheffield University UK and qualified as trainer to promote RBPT in all over Indian universities. So, I had a chance to train and meet science teachers of UG and PG courses at Integral University, Lucknow, Punjabi university, Patiala, and UG science teachers at Khalsa College, and Gargi college DU

ADMINISTRATIVE ASSIGNMENTS

Administrative duties

1. Nodal Officer and convenor admission committee (for first time online admission) in 2020. Had the opportunity to set the benchmark for future online admission procedure.
2. Deputy Superintendent, Examinations, Nov-Dec, 2013
3. Physics Association Advisor, Dept of Physics, Done it 4 times, so far.
4. TIC, Department of Physics: 4 times
5. Member IQAC, Gargi college from April 2023 to April 2025.
6. Teacher representative of governing body of Gargi college (under 10) for two years
7. Care taker of NCC For two years

Student related Committees/ Societies:

1. Convenor, HUES: Fine Art Committee since 2015
2. Member, founding committee, Pathfinder 2006
3. Member, Avni: ECO Club since 2020
4. Course Coordinator for an Add-on Course on 'Photonics: Technology for Future' of duration one year for undergraduate students in the Academic Session 2006-2007.
5. Member of admission committee of physics department for 7 years
6. Convener of physics society for four years. (2002-03, 2003-04, 2007-08, 2008-09).
7. Convener of first inter college Physics festival "Quasar 2007" in the year 2007.
8. Organised IGNOU classes of Physics Practical for almost 10 years

9. During Teacher in charge tenure (2011-2012) Physics department released its First magazine "PHYSIKOS"
10. Convenor of Admission Grievance committee for admission in 2018-19, 2019-2020.
11. Member, prospectus committee for designing the prospectus of 2021-22, 2022-23, 2023-24, 2024-25
12. Organised IGNOU classes of physics practical for almost 10 years.

Co-Curricular Roles at The University Level: Curriculum Framework

1. Member of Committee of Courses of Department of physics and Astrophysics Delhi University for two years (undergraduate classes)
2. Designing of Curriculum of B.Sc.(H) Physics: Paper-(1) Linear and integrated circuits and Instruments and (2) Physics of materials/Solid State Physics, 1993-1995.
3. Setting up of Digital laboratory, Electronics and opto- electronics laboratory in Gargi College for all the three years. 1993-1995
4. Introduced electronics experiments using software PSPICE for the BSC(Hons) Physics III yr. Students (communication systems). Organized a workshop to acquaint students about the versatility of this software in 2017-18.
5. Member of Revision committee of electronics papers for UG Programme under CBCS-LOCF scheme 2019. Attended all the meetings and revised all the papers of electronics taught in UG courses.
6. Presently a member of the committee of Physics Department, University of Delhi to structure the Course of B.Sc (Hons) Physics as per the norms of NEP-2020 and have structured and designed the syllabus of Electronics and Solid State Papers for BSc Hons and Physical Science Students in 2022-23.

Organising Conferences/ Seminar/Workshops:

1. Member Of Local Organising Committee and Technical Program Committee Of NC-ATIC 2006 held at Department of Physics and Astrophysics, Delhi 110007.
2. Member of organizing committee of Seminar "Progress and Partnership through Physics" held at Gargi College.

3. Organised Physics Exhibition “Genesis to Modern” during interdiscipline Science festivals for Delhi School students(2002).
- 4 Member Of organizing committee of Summer School (2010) for Science students under star college scheme held at Gargi College.
5. Member of organizing committee of Summer School (2011) for science Students held at Gargi College.
- 6 Organized Seminar “Learning Physics and electronics by doing (2007) at Gargi College.
7. Regularly arranging summer workshop for science students of Gargi college till the date.
8. In July 2021 first time organised two -day summer workshop in online mode. Also presented a session on X- ray crystallography to students of university of Delhi.
9. Resource person and member of organising committee of Regional workshop : Research as Pedagogy a Science teacher education Program(Rap a step) for teachers of undergraduate science courses held from September 29 to October 1, 2016 at the Panjabi university, Patiala, Punjab supported by IISER Pune. A lecture on Research based pedagogical tools were delivered on first day of the workshop
10. Invited as an subject expert for Physics in the Regional STEM Workshop on Research Based Pedagogical tools held at HRDC, Integral University Lucknow from 23-25 October 2018. Workshop was funded by DBT, Govt of India and Organised By IISER Pune(Supported BY MHRD, Govt of India) and Integral University, Lucknow. Lecture cum demonstration was delivered in the workshop. Session with physics teachers from all over UP was taken independently. RBPT lessons were created for physics topics
10. Selected For RBPT Writer’s Workshop for STEM teachers held from 20 th to 23rd January 2019 at IISER Pune. The RBPT resources generated in this workshop will be widely shared with STEM College Teachers of all over India. Workshop was conducted by a team of expertise from CSE(Centre for Science Education),Sheffield Hallam University, UK and sponsored by DBT, Govt of India; British Council; MHRD, Govt of India; COESME, IISER pune.
11. Organised Two- day Summer Workshop at Physics Department ,Gargi college in July 2019 and took two sessions on X-ray diffraction: A versatile tool for structural determination. It was attended by students from science departments.
12. Convenor of Workshop “ Art Integration in Science and Mathematics” organised by fine art Society Hues on 3 April 2020.
13. Organised two days Workshop Two day workshop on analysis on crystals using computational Techniques in Online Mode from 18/07/2023-19/07/2023

AREAS OF INTEREST / SPECIALIZATION

1. Growth of Single Crystals using Solution, Vapour and Melt method. 2. Synthesis of thin films using thermal deposition and Spin Coating method. 3. Synthesis of Polymer-Composites of Bismuth tri-iodide using. 4. Characterisation of samples using XRD, UV, four probe method, PL and TRPL to understand about structural, optical and electrical properties of the MX₂ type of compounds. 5 Effect of dopants on various characteristics of radiation detector is also been studied. 6. Planning to work on Flexible radiation detectors which are of fundamental requirement in Medical Industry. 7. Have a collaborated project with IUAC and IGDTUW to work on effect of ion irradiation on polymer Composites

2. Synthesis and Applications of Bismuth Triiodide BiI₃ Semiconductors for High-Energy Radiation Detection. The research is centred on the synthesis and characterization of Bismuth Triiodide (BiI₃) semiconductor materials in various forms—specifically single crystals, thin films, and polymer composites. These materials are being explored for their potential in detecting high-energy radiations such as X-rays and gamma rays, which are crucial in medical imaging, security screening, and scientific instrumentation.

The primary application of this research is in the development of efficient, cost-effective, and scalable detectors for high-energy radiation. Such detectors are essential for applications in medical diagnostics (such as X-ray imaging), nuclear security, environmental monitoring, and astrophysics.

3. Physics/Physics Education: 1. Introduction of Innovative ICT tools for students to upgrade their learning. A research paper is published which talks about whether digital Technology is boon or a bane for students.

2. After systematic and rigorous training by teachers of Sheffield Hellel university, UK introduced RBPT (Research Based Pedagogical Tools) in classrooms to introduce a novel component of research to understand their discipline knowledge in a more effective way. This change in pedagogy helped the student to become active and life long learners.

3. Use of small duration Audio and Video clips in the class to break the monotony and silence in the class.

4. Experiential learning by analysing the google form circulated among students to understand the difficulties faced by students in performing Physics experiments in online

and offline (Physically present) mode . 5. Trying to analyse the impact of VAC papers (introduced in NEP-2020) on student's attitude towards gaining knowledge and disseminating the knowledge to the stake holders of our society like to Senior citizens, neighbours ,etc.

SUBJECT TAUGHT

RESEARCH GUIDANCE

PhD Supervision:

1. Supervised doctoral Thesis titled “ Photo-Response Dynamics and Charge Transportation studies of BiI₃ polymer composite for Direct X-ray Detection at Room Temperature under joint supervision at Department of Applied Sciences and Humanities at IGDTUW(Indira Gandhi Delhi Technical University for Women), Delhi-110006 awarded in 2023.(Name of Student- Ritu Chaudhari)
2. Supervising Doctoral Thesis of Bhawna(enrollment no- 22-BMU-7107) “ Synthesis of polymer composites to design radiation detector” -7107 under joint supervision at Baba Mastnath university, Asthal Bohar, Rohtak.

M.Sc (Dissertation):

1. Co-Supervised a M.Sc dissertation “ Growth and Characterization of thin films of Bismuth Triiodide submitted by Ritu Chaudhari to Banasthali University in Partial Fulfillment of the requirement for the MSc physics In June 2016
2. Co-supervised a M.Sc. dissertation “First Principle study of the double perovskites Cs₂ Ge Ni Cl₆ for spintronics applications submitted by Ms Divya to K.R. Mangalam university in Partial Fulfillment of the requirement for the MSc physics in June 2023.
3. Co-supervised a M.Sc. dissertation “First Principle study of the double perovskites Cs₂ Ge Co Cl₆ for spintronics applications” submitted by Ms Nikki Bharadwaj to K.R. Mangalam university in Partial Fulfillment of the requirement for the MSc physics in June 2023.

4. Mentored one student of Bsc (HONS)Microbiology towards a Research project" Radiation Detection for Medical imaging" in month long Nivedita summer School organised by Gargi college during summer vacations 2025.

student will continue to work in the coming semester too.

REFRESHER COURSE/ORIENTATION PROGRAMME/FACULTY DEVELOPMENT PROGRAMMES ATTENDED:

1. Attended orientation Courses OR-23 (4 weeks) at DU.
2. Attended Refresher course in Physics and Electronics(3weeks) at DU.
3. Attended UNESCO regional training workshop on “use of Electronic media in University Science teaching” organized By IGNOU
4. Attended Wiki educator Gargi Workshop on open educational sources.
5. Six days training for teachers on Expeyes at inter university accelerator at New Delhi.
6. Basic Training program in Nanoscience and Technology (Online)10 May 2021-12May 2021Supported by MHRD, Govt of India and conducted by Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore.
7. Attended and successfully completed one week FDP on “Open Source Tools For Research” organized by Teaching -learning centre, Ramanujan College(07 February 2022-13 February 2022), University of Delhi.
8. Successfully completed and obtained A grade in an Inter-disciplinary online two week refresher course/FDP on “Managing Online Classes And Co creating MOOCs 8.0” organized by Teaching Learning Centre, Ramanujan College, University of Delhi (4 September 2021-8 September 2021) Ministry of education Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching.
9. Completed one week FDP (Faculty Development Program) on “UG level Computational Physics practical Using Python Assam(online)4 January 2021-7 January 2021Organized by IQAC and Department of Physics, Birjhora Mahavidyalaya Bongaigaon, Assam, India.
10. FDP “Research Techniques in Science and Technology”Online (18 July 2022- 23 July 2022) K R Mangalam University in Collaboration with Gargi College, University of Delhi.
11. FDP “AI tools for e-content development and teaching-learning” (Online) in April organized by UGC-Malaviya Mission Teacher Training centre.
12. FDP “NEP 2020 orientation and sensitization programme” (online) in April 2024 under Malaviya Mission Teacher training Programme of UGC.
13. Attended one month long online workshop on Sanskrit speaking “Sanskrit sambhashana varg” organized by JNU new Delhi from 1 July-31 July 2021.
14. Attended FDP on Vedic sciences at Hansraj college from 7 July 2025 to 12 July 2025.

15 Attended 1st online hands on training on Rietveld refinement of X-ray diffraction in January 2024 organised by Centre for advanced computational studies.

16. Attended "Starting with R Studio" in June 2024 organised by commerce department of Gargi college.

PUBLICATIONS PROFILE

S. No.	Title of the Paper	Journal Name	Year	Volume No.	Page No.
1	Polytypism of Vapor grown PbI ₂ Crystals	Zeitschrift Fur Kristallographie-Crystalline materials	1995	202	212-214
2	Growth and Polytype Transformation of AgI- Doped and undoped PbI ₂ Crystals	Acta Crystallographica Section A	1996	A52	590-595
3	Van-Der Waals Epitaxial growth mechanism in Bi-Doped single crystals of lead Iodide	Ferroelectrics	2001	250:1	183-185
4	Synthesis and characterization of thin films of Bismuth Tri-iodide for semiconductor radiation detector	Hindawi: Conference papers in Science	2014	2014	1-3

5	Bismuth tri-iodide polystyrene composite for X-ray switching applications at room temperature	Radiation Physics and Chemistry	2021	186	109538
6	Polymer BiI ₃ -Composites For high performance, room temperature, Direct X-ray Detectors	MRS communications	2022	12	359-364
7	Investigations on low energy x-ray induced strong radiation - matter interaction phenomena in polymer-Bii ₃ hybrid materials for room temperature radiation detectors	Material Today: Proceedings	2023	67(3)	478-482
9	Learning Physics Practicals online during Covid -19: Challenges and opportunities	Journal of Emerging Technologies and innovative research	2023	10	146-156
10	Covid-19 Virus: Exploring the role of physics behind its structure and Transmission	International Journal of research and Analytical Reviews	2023	10	569-577

1 1	Synthesis and Characterisation of Single crystals of Cadmium iodide as Gamma ray radiation sensor	Indian Journal of Pure and applied physics	2 0 2 3	61	998-1000
1 2	Study of Optical Phonon of monolayered Ruddlesden-popper compounds $A_2ZrO_4(A=Sr,Ba)$	Journal of Inorganic and Organometallic Polymers and Materials	2 0 2 3		
1 3	A Review On emerging Materials with focus on Bi ₂ Te ₃ for room temperature semiconductor radiation detectors	Radiation Detection Technology and Methods	2 0 2 3		
1 4	Peroxide-cured Silicone rubber composites: Structural, Morphology and Xray Detector Performance	Journal of Condensed matter	2 0 2 5	3(0 2)	146-151
1 5	Impact of low dose of Gamma irradiation on thin films of Bismuth Triiodide	Applied radiation and Isotopes	2 0 2 5	21 6	1115 98
1 6	Lead -free halide double perovskites for sustainable	Chemical Physics Impact	2 0 2 4	9	1007 70

	environment applications				
17	Effect on surface and Functional Modifications in silicone rubber composites under high energy Ion irradiation	Journal of condensed matter	2025		65-69

E CHAPTERS/STUDY MATERIALS

1.RBPT based package “**Electronic** Detection of toxic fumes at rubbish dumps” in was published by IISER in Sept 2019. This package was created in collaboration with Physics professors from other universities (BITS Pilani, Sacred Heart college,Kochi) .

S.No.	Title of Edited Book	Title of Chapter	Authorship*	Publisher (with city/ country) & Year of Publication	ISBN
1	Aperiodic 94: An International Conference on Aperiodic Crystals	Vapour Growth and Polytypism in Single Crystals of lead Iodide	One of two Authors	World Scientific Publishing Company 09/1995	98102208
2	Aperiodic '97	Polytypism in Doped Crystals of Lead Iodide	One of two Author	World Scientific Publishing Co.Pte Ltd. 12/1997	981-02-33X
3	Advanced Functional Materials and Devices Springer Proceedings in Materials, Vol 14, Springer Singapore	Optical Constants of BiI ₃ Polycrystalline thin films with potential applications in X-ray detectors and Photovoltaic cells	First author and corresponding author	Springer, Singapore 12/2021	978-981-15971-3
4	Advanced Functional Materials:	Carbon Based	One of author	Iterative International Publishers,	978-93-574669-0,

	Modelling and Processes for sustainability	Materials: A Comprehensive Exploration		Michigan, USA		
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PAPERS PRESENTED IN INTERNATIONAL/NATIONAL CONFERENCES/SEMINARS/SYMPOSIA

I have given talks, presentations, both in-person as well as in online mode as an **'invited speaker'** at various National and international forum including Colleges of University of Delhi. I have **Chaired 'Technical Sessions'** at various conferences and workshops too.

International Presentations (abroad):

1. "Growth of single crystals of Bi-Sr-Ca-Cu-o superconductor" in AsCa 92 (Asian association of Crystallographic Association) held at Singapore 1992.
2. "Vapour Growth and Poytypism in single crystals of PbI₂" in Aperiodic 94 held at Les Diablerets Switzerland 1994.
3. "Polytypism in doped single crystals of PbI₂" in XVIII IUCr and General Assembly held at Seattle USA. 1996.
4. "CdI₂ doped single crystals of lead iodide" in Aperiodic97 held at Alpe 'de Huez Grenoble France (1997).
5. Paper presented in Aperiodic 2000 held at Nijmegen, Amsterdam Holland.

National and International levels (in India)

1. "Synthesis and Characterisation of thin films of Bismuth Triiodide" in National Conference on Advances in Material Sciences for energy applications AMSEA 2014 held at University of Petroleum and energy Studies, Dehradun(January 2014)
2. "Structural optical and electrical properties of thin films of Bismuth Triiodide" in National Conference on Nanotechnology and Reneweble energy held at Jamia Millia Islamia New Delhi(April 2014).
3. Invited speaker or the presentation entitled " Effect of Gamma Irradiation on structural and optical properties of thin films of Bismuth Triiodide" in 2nd International Conference on Advances in smart materials and emerging technologies(ASTEM-2021),New Delhi

20 December 2021- 21 December 2021 Organised By IGDTUW(Indira Gandhi Delhi Technical university for Women.

4. Attended and presented paper “First Principle investigation of half metallicity in Double Perovskites with Cs₂ GeXCl₆(X=Cr, Mn) For spintronics applications” in national e-conference on Recent advances in engineering, technology and applied sciences-2023(RAETAS-2023) Maharana Pratap school of Pharmacy, Lucknow 5 September 2023 Society Towards Advancement of Rural education in association with Maharana Pratap School of Pharmacy, Lucknow.

5. Presented a research paper “Research Based Pedagogy for effective learning of Physics at undergraduate level: A seamless transition towards NEP” in the ICSSR sponsored International Seminar on “Technology for Environmental Sustainability, Socio-econominc Responsibility and Associated Entrepreneurial Opportunities in Society and Rural environment Sri Aurobindo College, University Of Delhi 16 March 2023-17 March 2023 Sponsored by ICSSR (Indian Council of Social Science research).

6. Presented paper in “1st international conference on Innovations and Future prospects of Advanced materials(IFPAM-2023) School of basic and applied sciences, KR Mangalam University, Haryana (23 March 2023-24 March 2023)chool of basic and applied sciences, KR Mangalam University and Centre for Nanoscience and Nanotechnology- National Autonomous university of Mexico.

7. Invited talk in Virtual National Seminar on Advanced materials and Characterisation-2022 online (26 August 2022-27 August 2022)Department of Physics ,Govt. Nagarjuna P.G. college of Sciences, Raipur: Govt. Pt, Shyamacharan Shukla College, Dharsiwa; Govt Rajeev lochan PG College, Rajim.

8. Attended and presented paper in National Workshop on Material Design and processing School of Physical Sciences, Jawaharlal Nehru University, New Delhi(8 May2023 -10 may 2023) Jointly organized bySchool of Physical Sciences, Jawaharlal Nehru University, New Delhi and IAPT(Indian Association of physics Teachers).

9. Participated and co-author the paper presented in National Conference on Solid State Nuclear Track Detectors and their applications Ramjas College, University of Delhi. 30 January 2021 Ramjas College and Department of Physics and astrophysics, University of Delhi

10. Attended and presented research paper in International Multidimensional conference on “Revisiting Well- being: Perspectives, Challenges, and the Road ahead” under the aegis of DU Centenary Celebration Gargi College, University of Delhi (1 February 2023 -2 February 2023) Sponsored by ICSSR.

11. Attended and presented research paper in National Seminar on New Trends in Nanotechnology and Applications NTNA- 2018 held at ARSD college, University of Delhi.

12. Presented an Invited talk on Solid State Physics in 11-week course on “learning physics with conceptual and problem-based approach” on 21 September 2020 organised By NASI.

13. Presented an Invited talk on Superconductivity in 11-week course on “learning physics with conceptual and problem- based approach “on 26 Th September 2020 organised by NASI.

CONFERENCE/SEMINARS/SYMPOSIA/WEBINARS/PRESENTATIONS/ORGANIZATION

1. Member Of Local Organising Committee and Technical Program Committee Of NC-ATIC 2006 held at Department of Physics and Astrophysics, Delhi 110007.

2. Member of organizing committee of Seminar” Progress and Partnership through Physics” held at Gargi College.

3. Organised Physics Exhibition “Genesis to Modern” during interdiscipline Science festivals for Delhi School students(2002).

4. Member Of organizing committee of Summer School (2010) for Science students under star college scheme held at Gargi College.

5. Member of organizing committee of Summer School(2011) for science Students held at Gargi College.

6. Organised Seminar “Learning Physics and electronics By doing (2007) at Gargi College.

7. Regularly arranging summer workshop for science students of Gargi college till the date.

8. In July 2021 first time organised two -day summer workshop in online mode. Also presented a session on X- ray crystallography to students of university of Delhi.

9. Resource person and member of organising committee of Regional workshop : Research as Pedagogy a Science teacher education Program(Rap a step) for teachers of undergraduate science courses held from September 29 to October 1, 2016 at the Panjabi university, Patiala, Punjab supported by IISER Pune. A lecture on Research based pedagogical tools were delivered on first day of the workshop

10. Invited as an subject expert for Physics in the Regional STEM Workshop on Research Based Pedagogical tools held at HRDC, Integral University Lucknow from 23-25 October 2018. Workshop was funded by DBT, Govt of India and Organised By IISER Pune(Supported BY MHRD, Govt of India) and Integral University, Lucknow. Lecture cum demonstration was delivered in the workshop. Session with physics teachers from all over UP was taken independently. RBPT lessons were created for physics topics

10. Selected For RBPT Writer’s Workshop for STEM teachers held from 20 th to 23rd January 2019 at IISER Pune. The RBPT resources generated in this workshop will be widely shared with STEM College Teachers of all over India. Workshop was conducted by a team of expertise from

CSE(Centre for Science Education),Sheffield Hallam University, UK and sponsored by DBT, Govt of India; British Council; MHRD, Govt of India; COESME,IISER pune.

11. Organized Two- day Summer Workshop at Physics Department ,Gargi college in July 2019 and took two sessions on X-ray diffraction: A versatile tool for structural determination. It was attended by students from science departments.

12. Convenor of Workshop “ Art Integration in Science and Mathematics” organised by fine art Society Hues on 3 April 2020.

13.RBPT(Research based pedagogical tool) workshop was also organized at Gargi College and Sri Teg Bahadur Khalsa College of Delhi University to acquaint the STEM teachers about five R’s associated with RBPT and encouraged them to undertake this study in the classrooms. RBPT is now part of my regular teaching

WORKSHOP/TRAINING PROGRAMME ATTENDED

1.Attended and Presented a Poster “Research Based Learning: A boon or a bane Discover?” at STEM Teacher Training Workshop to Develop Research Pedagogical Tools” from 10-12 March,2016 at Indian Institute of Science Education and Research (IISER) Pune under the aegis of DBT and Newton Bhabha Fund U.K. (level 1 workshop) funded by DBT and MHRD.

2.Selected to attend level 2 workshop on Research based pedagogical Tools from 6 to 8 December 2017 at INSA Delhi. After attending this participant is eligible to contribute towards RBPT workshops as an organizer and trainer.

3. Selected For RBPT Writer’s Workshop for STEM teachers held from 20 - 23rd January 2019 at IISER Pune. The RBPT resources generated in this workshop were widely shared with STEM College Teachers of all over India. Workshop was conducted by a team of expertise from CSE (Centre for Science Education), Sheffield Hallam University, UK and sponsored by DBT, Govt of India; British Council; MHRD, Govt of India; COESME,IISER Pune.

4..Research based pedagogical Tool(RBPT) and Problem based learning(PBL) were part of student – teacher learning process in the class since I was trained by professors from Sheffield Hallam university UK under the aegis of COESME,IISER Pune supported by MHRD and DBT since 2016.

5.Attended Training session on Turnitin feedback studio with AI functionality at Delhi University Computer Centre on 18 Feb 2026.

RESEARCH PROJECTS (MAJOR GRANTS/RESEARCH COLLABORATION)

1. Awarded Innovation Project (GC-102) titled “To Devise Cost Effective set up for Identification, Characterization and Separation of Cells” Instituted by Research Council, Delhi University in 2013.

2. Awarded a project “Designing and Study of light weight portable Polymer based Bismuth Tri-iodide composite radiation Detector for Medical Applications” by IUAC, New Delhi in 2022

AWARDS AND DISTINCTIONS

1. Awarded “ Best Performing lecturer” By NCT Delhi Government in 2020.

2. Awarded Letter of appreciation by Research Development Cell Of Gargi College for publishing research papers in Scopus index journals in the academic year 2023-24.

3. Awarded Letter of appreciation by Research Development Cell Of Gargi College for publishing research papers in Scopus index journals in the academic year 2024-25.

4. Awarded Ecological Education Environment Congress on 21 November 2024.

5. Awarded Zero Waste Campus Award in 46th foundation of Indian Institute of Ecology and Environment, New Delhi on 5th June 2025.

ASSOCIATION WITH PROFESSIONAL BODIES

1. Member of Indian Crystallographic Association(ICA)

2. Member of IAPT(Indian Association of Physics Teachers)

3. Member National Sports council of India(NSCI)

OTHER ACTIVITIES

1. Attended Workshop 1st workshop on density functional theory Modelling of materials Centre for

advanced computational studies, New Delhi from 17/08/2023-23/08/2023.

2. Attended Conference National Conference and sensitization Program on Empowering the Golden Years: A Comprehensive Dialogue on elderly issues organised by Ananda- The wellbeing centre , Gargi College, University of Delhi from 20/03/2024-21/03/2024. Hues Fine art society collaborated to arrange poster competition to sensitise gargi students towards elderly issues.

3. Participated in workshop MS Excel organised by Department of Commerce Gargi college and RDC from 20/01/2024-21/01/2024.

4. Participated in Workshop on Advances in Optics and Metamaterials(WAOM-2024) Jaypee institute of

Information Technology Noida(JPIIT) Social Service grant, SERB-DST from 23/02/2024-24/02/2024.

5. Attended memorial lecture organised by Adi Drishya Division at Indira Gandhi National Centre for Arts (

IGNCA) on “ Rock Art Of Bihar” on 3rd April 2025. Students Of Fine Art Society” Hues” exhibited their art

work based on Madhubani Ar

6. Attended and presented a research paper" Ahilaya bai holker: adunik yug me nari sashaktikaran ki ek prerna- dayak vayaktitav at medhavani sindhu srijan, Delhi prant on 11 April 2025.