Faculty Details proforma for DU Web-site

Title	Professor	First Name	**VINAY**	Last Name	**GUPTA**	Photograph
Designation		**PROFESSOR**				
Address		**Department of Physics and Astrophysics, North Campus, University of Delhi, Delhi-110007**				
Phone No Office		**+91-11-27667725 Extn. 1331, +91-11-27666427**				
Residence						
Mobile		**09811563101**				
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Educational Qualifications

Degree	Institution	Year
Ph.D. Physics	**University of Delhi**	**1995**
B.Ed.	**M. D. University**	**1990**
M.Sc. Physics	**University of Delhi**	**1989**
B.Sc. (Honours) Physics	**University of Delhi**	**1987**

Career Profile

Organisation / Institution	Designation	Duration	Role
Dept. of Physics & Astrophysics, University of Delhi	**Professor**	**17 Dec. 2009 – till date**	**Teaching & Research**
Dept. of Physics & Astrophysics, University of Delhi	**Associate Professor/ Reader**	**02 Dec. 2003 – 17 Dec. 2009**	**Teaching & Research**
Dept. of Physics, Univ. of Puerto Rico, San Juan, USA	**Visiting Fellow**	**3 June 2010-28 June 2010**	**Research**
Australian National University, Canberra, Australia	**Visiting Fellow**	**28 July 2008-10 August 2008**	**Research**
Dept. of Physics, University of Puerto Rico, Puerto Rico, USA	**BOYSCAST Fellow**	**15 May 2003 – 14 Nov. 2003**	**Research**
Deen Dayal Upadhyaya College (Univ. of Delhi), Karampura, New Delhi-110015	**Lecturer/ Reader**	**25April 1995 – 02 Dec. 2003**	**Teaching & Research**
Deen Dayal Upadhyaya College (Univ. of Delhi), Karampura, New Delhi-110015	**Lecturer (Ad-hoc)**	**09 Sept. 1993 – 25 April 1995 (In breaks)**	**Teaching & Research**
Dept. of Physics & Astrophysics, University of Delhi	**S.R.F./J.R.F. (CSIR)**	**01 April 1990 – 31 July 1994**	**Research**

Administrative Assignments

Administrative Experience: About 18 Years

Organisation / Institution	Designation	Duration	Role
University of Delhi	**Dean Examinations**	**28 May 2016 – till date (2Y-1M)**	**Administration**

M.Tech. Nuclear Science & Technology Program, Department of Physics and Astrophysics, University of Delhi	**Coordinator**	**1 Oct. 2008 – 30 June 2016 (7Y-9M)**	**Administration and Teaching**
Delhi University Students Union (DUSU)	**Treasurer**	**12 June 2006 -25 Aug 2010 (4Y-2M)**	**Administration**
Deen Dayal Upadhyaya College (University of Delhi), Karampura, New Delhi-110015	**Bursar**	**01 April 2000 – 02 Dec. 2003 (3Y-8M)**	**Administration**
Department of Physics and Electronics, D.D.U. College (University of Delhi), Karampura, New Delhi-110015	**Teacher-in-charge**	**01 April 2000 – 31 March 2002 (2Y)**	**Administration and Teaching**
IGNOU study center of 2000 MBA students at D.D.U. College (University of Delhi), New Delhi-110015	**Assistant Coordinator**	**01 Oct. 1997 – 31 Dec. 1999 (2Y-3M)**	**Administration**

Areas of Interest / Specialization

Specialization: Electronics materials and devices (Condensed Matter – Experimental)

Research interests include Semiconductor oxides and Surface acoustic wave (SAW) sensors for gas/chemical /radiations/bio-molecules, Amperiometric biosensors, Surface Plasmon Resonance (SPR) technique for dielectric studies and sensing applications, Micro-fluidics, Nanostructured materials, Piezoelectric and Multiferroic thin films/ceramics for energy harvesting applications, Pressure sensors, RF and microwave resonators, photonic devices, Non-linear optical studies, SAW devices, MEMS transducers and Micro-heaters, Molecular Simulations and device modeling.

Subjects Taught

Total Teaching Experience: More than 24 years and 05 Months

2003-present: (M.Sc. Physics)
Theory – Electromagnetic Theory (Core), Electronics (Core), Solid State Physics (Core), Advanced Electronics-I and II (Special Papers); Physics at Nanoscale-I (Special Paper)
Practical– Solid State physics (M.Sc. Prev.), Electronics (M.Sc. Final)
2008-2017: M.Tech. Nanoscience & Nanotechnology(NSNT), Theory – Electronics, Nanosensors and Nanoelectronics
2010-2014: M.Tech. Nuclear Science & Technology(NST), Practical – Plasma Physics laboratory-I and II.
2000-2004: MCA-DU, Practical – Microprocessor, Digital and interface laboratory
1993-2003: B.Sc. Physics and B.Sc. Electronics, Theory – Physics of Materials, Electronic devices, Linear & Digital Circuits, Network analysis, Optics, Mechanics, Microprocessor, computer fundamentals, Solid State Physics, Numerical analysis, Instrumentation, Strength of Materials, etc.

Time table of the subjects taught during the current semester

S.No.	Subject	Days	Time	Classroom
1	**Advanced Electronics-I (Sem-3)**	**Monday, Tuesday, Wednesday, Thursday**	**8.00 to 9.00 am**	**Lecture Hall-L**
2	**Advanced Electronics Lab-I (Sem-3)**	**Monday, Tuesday**	**1.30 to 5.30 pm**	**Final Year Electronics Laboratory**
4	**Advanced Electronics Lab-II (Sem-4)**	**Tuesday, Wednesday**	**1.30 to 5.30 pm**	**Final Year Electronics Laboratory**

Research Guidance

Total Research Experience: About 23 Years and 02 Months (After Ph.D. in May 1995)

Research Guidance:

1. ***Supervision of awarded Doctoral Thesis:* 18**
2. ***Supervision of Doctoral Thesis, under progress: 09***
3. ***Mentor to Post-Doctoral Fellows: 14 (completed). 04 pursuing.***

Publications Profile

Total Number of Publication: 415 (305-International Refereed Journals + 110-International Conference Proc.)

h-index = 38 (Scopus); 42 (Google scholar), i10-index = 164, Cumulative citations > 7500, Cumulative impact factor > 850, Average citations/ paper: > 24; Average impact factor/ paper: > 2.75

Technology Breakthrough:

- **Technology transfer** on complete know-how about the developed equipment "Table-top Surface Plasmon Resonance (SPR) set up" to an industry "Optiregion, Ashok Vihar, Delhi-110052" for its commercialization on 17-02-2015.
- **Indian Patent** (provisionally filed on Feb 2018): Electric field assisted low power consuming conducto-metric gas sensor (Patent Application No.: 20181106329). Inventors: Vinay Gupta, Monika Tomar, Anjali Sharma, Avneet Singh.
- **Indian Patent:** A Sensitive, Selective and Rapid Fuel Gas Sensor (Patent Application No.: 201711011941) Inventors: Vinay Gupta, Monika Tomar, Anjali Sharma, Avneet Singh, Parivesh Chugh, Jaivinder Singh, Bharthy Subramanian
- **Indian Patent:** Multi-States Nonvolatile Opto-Ferroelectric Memory (Patent Application No.: 201611001338, filed on 14 Jan 2016, and Docket No. 1386 and CBR No. 859). Inventors: Ashok Kumar, Hitesh Borkar, Vaibhav Rao, Monika Tomar, Vinay Gupta
- **USA Patent (20170206952A1, 2017/1/13):** Multi-States Nonvolatile Opto-Ferroelectric Memory Material and Process for preparing the same thereof. Inventors: Ashok Kumar, Hitesh Borkar, Vaibhav Rao, Monika Tomar, Vinay Gupta (US Patent App. 15/406, 236, 2017/7/20)
- **Integrated piezoelectric ZnO film** with MEMS structure of CEERI, Pilani for acoustic sensor. Devices have been installed by VSSC (ISRO) in PSLV flights (C9-onward)

Books/Monographs/Chapters/Guest Editor (Authored/Edited)

Year of Publication	Title	Publisher	Co-Author
2018	**Guest Editor, Integrated Ferroelectrics, Vol. 193-194 (in press) having peer-reviewed** articles from "International Symposium on Integrated functionalities (ISIF)-2017	Taylor and Francis, UK	Dennis Meier, Alexei Gruverman, Ratnamala Chatterjee
2018	"Theoretical Analysis of the electrical and optical properties of ZnS", "Lecture notes in Electrical Engineering", Vol. 442, pp. 9-19, in Book "Advances in Systems, Control and Automation", Edited by Avinash Konkani, Rabindranath Bera and Samrat Paul. (DOI:10.1007/978-981-10-4762-6_2), (ISBN: online- 978-981-10-4762-6; print- 978-981-10-4761-9) (ISSN: online-1876-1119, print-1876-1100)	Springer, Singapore	Amruta Pattnaiak, Monika Tomar, P.K. Jha, A.K. Bhoi, Basudev Prasad
2017	"Design and Implementation of Two Level and Multilevel Inverter", "Lecture Notes in Electrical Engineering", V 436, pp.39-45 In book "Advances in Power Systems and Energy Management", Editted by A. Garg, A. Bhoi, P. Sanjeevikumar, K.	Springer, Singapore	Amruta Pattnaik, Shawet Mittal, B. Prasad, A.K. Bhoi.

	Kamani. DOI:10.1007/978-981-10-4394-9, (ISBN: online-978-981-10-4394-9; print-978-981-10-4393-2) (ISSN: online-1876-1119, print-1876-1100)		
2009	Guest Editor, J. Scientific Conference Proceedings, Vol.1, No.1, pp.1-92; Special issue of peer-reviewed articles from MNNA-2006, Delhi, India, ISSN 1937-6456 (Print)	American Scientific Publishers, USA	S.P. Singh. M. Terasawa, D. Marshal
2006	"Pulsed Laser Deposition of Zinc Oxide" chapter in a book "Zinc Oxide Bulk, Thin Films and Nano-structures: Processing and Applications", Editors : C. Jagadish and S.J. Pearton, Pages.85-174. ISBN eBook ISBN: 9780080464039, Hardcore ISBN: 9780080447223, Paperback ISBN: 9781483299679	Elsevier, UK.	K. Sreenivas
2004	"Ferroelectric and Dielectrics" pp. 430, ISBN: 81-7764-701-6	Allied Publication Delhi	R.P.Tandon,K.Sreenivas, C. Prakash, A.K. Arora

1. Publications in Last one Year

In Indexed/ Peer Reviewed Journals

Year of Publication	Title	Journal	Co-Author
2018	Refractive index sensor using long range surface plasmon resonance with prism coupler",	Plasmonics, (2018) in press	Ayushi Paliwal, Monika Tomar, Vinay Gupta
2018	Waveguide coupled surface plasmon resonance based Electro optic modulation in SBN thin films	Applied Surface Science, (2018), in press	Surbhi Gupta, Ayushi Paliwal, Vinay Gupta and Monika Tomar
2018	Weak Antilocalization and Quantum Oscillations of Surface States in Topologically Nontrivial DyPdBi (110) Half Heusler alloy	Scientific Reports, (2018), in press	Vishal Bhardwaj, S.P. Pal, L.K. Varga, M. Tomar, Vinay Gupta, Ratnamala Chatterjee
2018	Study of birefringence and electro-optic effect in SBN60 thin film	Ferroelectrics, (2018) in Press	S. Gupta, A. Paliwal, V. Gupta, M. Tomar
2018	Fabrication of ZnO/Si Lamb Wave Acoustic devices	Ferroelectrics, (2018) in Press	L. Rana, R. Gupta, A. Sharma, M. Tomar and V. Gupta,
2018	Radiation stability of CBD grown nanocrystalline CdS films against ion beam irradiation for solar cell applications	J. Material Science: Materials in Electronics, 29 (13) (2018) 11013-19	Nupur Saxena, Pragati Kumar, Vinay Gupta, Dinakar Kanjilal
2018	Lightweigh reduced graphene oxide-Fe_3O_4 nanoparticle composite in the quest for an excellent electromagnetic interference shielding material	Nanotechnology, 29 (2018) 245203	A.K. Singh, A.Kumar, K.K.Haldar, Vinay Gupta, Kedar Singh
2018	Surface plasmon resonance aided analysis of Quantum wells for photonic device applications	Materials and Design, 150 (2018) 94-103	Sheetal Dewan, A. Paliwal, M. Tomar, A.K. Kapoor, R.P. Tandon, Vinay Gupta
2018	Ion beam assisted fabrication of photoconduction and photosensitivity	Sensors and Actuators A, 279 (2018) 343-50	Pragati Kimar, Nupur Saxena, F. Singh and Vinay Gupta
2018	Development of MEMS based Lamb Wave Acoustic Devices	IEEE Transactions on Electron Devices, 65 (2018) 1523-28	Lokesh Rana, Reema Gupta, Anjali Sharma, M.Tomar,Vinay Gupta
2018	GaN-UV photodetector integrated with	J. Material Science:	S.K. Jain, Neha

	Asymmetric metal semiconductor metal structure for enhanced responsivity	Materials in Electronics, 29 (2018) 8958-63	Aggarwal, Shibin Krishna, R. Kumar, Sudhir Husale, Vinay Gupta, Govind Gupta
2018	Development of a microfluidic electrochemical biosensor: Prospect for point-of-care cholesterol monitoring	Sensors and Actuator B, 261 (2018) 460-66	Gurpreet Kaur, Monika Tomar and Vinay Gupta
2018	Highly sensitive Love wave acoustic biosensor for Uric Acid	Sensors and Actuator B, 261 (2018) 169-77	Lokesh Rana, Reema Gupta, Monika Tomar and Vinay Gupta
2018	Investigation of cobalt substituted M type Barium ferrite synthesized via co-precipitation method for Radar absorbing material in Ku band (12-18 GHz)	Ceramics International, 44 (2018) 6370-75	Kush Rana, P. Thakur, M. Tomar, V. Gupta, and A. Thakur
2018	Investigation of excess and deficiency of iron in $BiFeO_3$	Materials Chemistry and Physics, 204 (2018) 207-15	S. Chandel, P. Thakur, S.S. Thakur, A. Sharma, Jen-Hwa Hsu, Monika Tomar, Vinay Gupta, Atul Thakur,
2018	Tunable nanostructured columnar growth of SnO_2 for efficient detection of CO gas	Nanotechnology, 29 (6) (2018) 065502	Avneet Singh, Anjali Sharma, Monika Tomar, Vinay Gupta
2018	Near room temperature bismuth and lithium co-substituted $BaTiO_3$ relaxor ferroelectrics family	J. Alloys and Compounds, 737 (2018) 821-28.	Hitesh Borkar, V. Rao, M. Tomar, Vinay Gupta, Ashok Kumar
2018	Growth of KNN Thin Films for Non-Linear Optical Applications	Physica Status Solidi A: Applications and Materials Science, 215 (2018) 1700452(1-4)	Shweta Sharma, Reema Gupta, Vinay Gupta, Monika Tomar
2018	Growth of highly porous ZnO nanostructures for carbon monoxide gas sensing	Surface and Coatings Technology, 343 (2018) 49-56	Avneet Singh, Anjali Sharma, Monika Tomar, Vinay Gupta
2018	Fabrication of surface acoustic wave based wireless NO_2 gas sensor	Surface and Coatings Technology, 343 (2018) 89-92	L.Rana, Reema Gupta, R. Kshetrimayuum, M. Tomar, Vinay Gupta
2018	Giant enhancement in ferroelectric polarization under illumination	Materials Today Communications, 14 (2018) 116-23	H. Boarker, V. Rao, M. Tomar, Vinay Gupta, J.F. Scott and Ashok Kumar,
2018	Coupled mode surface plasmon resonance sensor: in situ detection of humidity with starch biofilm	Optical and Quantum Electronics, 50 (2018) 11	G.C. Yadav, Gaurav Sharma, V. Singh, M. Kumar, Neelam Srivastava, Sushil Kumar, Vinay Gupta
2018	Carbon material-nanoferrite composite for radiation shielding in microwave frequency	Integrated Ferroelectrics, 186 (2018) 40-48	Preeti Gairola, S.P. Gairola, S.K. Dhawan, R.P. Tandon, Vinay Gupta, L.P. Purohit, Sudesh Sharma
2018	Characterization of Lead Zirconium Titanate thin films based multifunctional energy harvesters	Thin Solid Films, 652 (2018) 39-42	Reema Gupta, Lokesh Rana, Monika Tomar, and Vinay Gupta
2018	Effect of non-magnetic Al^{3+} doping on structural, optical, electrical, dielectric and magnetic properties of $BiFeO_3$ ceramics	Ceramics International 44 (2018) 4711-18	S. Chandel, P. Thakur, S.S.Thakur, V. Kanwar, Monika Tomar, Vinay Gupta, Atul Thakur

2017	An impedimetric response study for the efficient detection of breast cancer specific biomarker CA 15-3 using tin oxide thin film based immunoelectrode	Analytical Methods, 9 (46) (2017) 6549-59	Kashima Arora, Monika Tomar and Vinay Gupta
2017	Coplanar waveguide resonator using PLZT thin film	Ferroelectrics, 515 (1) (2017) 8-12	Reema Gupta, L. Rana, Anjali Sharma, A.P. Freundorfer, M. Sayer, M.Tomar, Vinay Gupta
2017	A simple paper based microfluidic electrochemical biosensor for point-of-care cholesterol diagnostics	Physica Status Solidi (a), 214 (2017) 1700468(1-5)	Gurpreet Kaur, Monika Tomar and Vinay Gupta
2017	Investigation of structural, optical, dielectric and magnetic studies on Mn substituted $BiFeO_3$ multiferroics	Ceramics International, 43 (2017) 13750-58	Shilpi Chandel, Preeti Thakur, Monika Tomar, Vinay Gupta, Atul Thakur
2017	ZnO/ST-Quartz SAW Resonator: An efficient NO2 gas sensor	Sensors and Actuator B, 252 (2017) 840-845	Lokesh Rana, Reema Gupta, Monika Tomar and Vinay Gupta
2017	A contrivance based on electrochemical integration of graphene oxide nanoparticles /nickel nanoparticles for bilirubin biosensing	Biochemical Engineering Journal, 125 (2017) 238-245	R. Rawal, N. Chauhan, Monika Tomar and Vinay Gupta
2017	Carbon monoxide (CO) optical gas sensor based on ZnO thin films	Sensors & Actuators B, 250 (2017)679-685	Ayushi Paliwal, Anjali Sharma, Monika Tomar, Vinay Gupta
2017	Zn doping induced conductivity transformation in NiO films for realization of p-n homo junction diode	**J**. Applied Physics, 121.21 (2017) 215307	Sheetal Dewan, Monika Tomar, R P Tandon, Vinay Gupta
2017	An electrochemical DNA biosensor based on Ni doped ZnO thin film for meningitis detection	J. Electroanalytical Chemistry, 792 (2017) 8-14	Manvi Tak, Vinay Gupta and Monika Tomar
2017	SnO_2 thin film sensor having NiO catalyst for detection of SO_2 gas with improved response characteristics	Sensors and Acuator B, 248 (2017) 998-1005	Punit Tyagi, Anjali Sharma, Monika Tomar, Vinay Gupta
2017	Target swapping in PLD: An efficient approach for CdS/SiO2 and CdS(Ag 1%)/SiO2 nanocomposite thin films with enhanced Luminescent properties	J. Luminescence, 186 (2007) 62-67	Nupur Saxena, Pragati Kumar & Vinay Gupta
2017	Plasmonic assisted two wave mixing phenomenon for energy transfer in ferroelectric PZT film	Optical Materials, 66 (2017) 442-446	Reema Gupta, Satchi Kumari, Monika Tomar, Vinay Gupta
2017	A comparative study of RGO-SnO_2 and MWCNT-SnO_2 nanocomposites based SO2 gas sensors	Sensors and Actuator B, 248 (2017) 980-986	Punit Tyagi, A.Sharma, Monika Tomar and Vinay Gupta
2017	Reduced Graphene Oxide-SnO_2 nanocomposite thin film based CNG/PNG sensor	Sensors and Actuator B, 245 (2017) 590-98	Avneet Singh, Anjali Sharma, Monika Tomar, Vinay Gupta
2017	Surface functionalization of epitaxial graphene on SiC by ion irradiation for gas sensing application	Applied Surface Science 403 (2017) 707-16	P.D.Kaushik,I.G.Ivanov, PC.Lin,G.Kaur,J.Eriksson, G.B.V.S. Lakshmi, D.K. Avasthi, Vinay Gupta, A.Aziz, A.M. Siddiqui, M.Syväjärvi, G.R.Yazdi
2017	Custom designed metal anchored SnO_2 sensor for H_2 detection	International Journal of Hydrogen Energy 42.7 (2017)4597-4609	Md. Shahabuddin, Ahmad Umar, Monika Tomar, Vinay Gupta

2017	Effect of Zr substitution on structural, magnetic, and optical properties of $Bi_{0.9}Dy_{0.1}Fe_{1-x}Zr_xO_3$ multiferroic ceramics prepared by rapid liquid phase sintering method	Ceramics International 43 (2017) 4904-09	Prakash Chandra Sati, Manisha Arora, Manoj Kumar, Monika Tomar, Vinay Gupta
2017	Nanostructured NiO based reagentless biosensor for total cholesterol and low density lipoprotein detection	Analytical and Bioanalytical Chemistry 409 (2017) 1995-2005	Gurpreet Kaur, Monika Tomar and Vinay Gupta
2017	Effect of manganese doping on conduction in olivine $LiFePO_4$	Journal of Materials Science, 28.7 (2017) 5192-5199	R. Gupta, Shibu Saha, Monika Tomar, V.K. Sachdev, Vinay Gupta
2017	Distinct detection of liquor ammonia by ZnO/SAW sensor: Study of complete sensing mechanism	Sensors and Actuator B, 238 (2017) 83-90	V.B.Raj, H. Singh, A.T. Nimal, M.U. Sharma, M.Tomar, Vinay Gupta
2017	Influence of 100MeV Au+8 ion on photovoltaic response of $BiFeO_3/BaTiO_3$ multilayer structures	Materials and Design, 114 (2017) 345-54	S. Sharma, M. Tomar, Ashok Kumar, F. Singh, N.K.Puri, Vinay Gupta
2017	Effect of Pr substitution on structural, magnetic, and optical properties of $Bi_{1-x}Pr_xFe_{0.80}Ti_{0.20}O_3$ multiferroic ceramic	J. Materials Science, 28 (2017) 1011-14	P.C. Sati, M. Arora, Manoj Kumar, Monika Tomar, Vinay Gupta
2017	A novel low-powered uric acid biosensor based on arrayed pn junction heterostructures of ZnO thin film and CuO microclusters	Sensors and Actuators B, 253 (2017) 566-75	Kajal Jindal, Monika Tomar, Vinay Gupta
2017	Performance of magnetoelectric PZT/Ni multiferroic system for energy harvesting application	Smart Materials and Structures, 26 (2017) 035002	Reema Gupta, Monika Tomar, Ashok Kumar and Vinay Gupta
2017	Experimental evidence of electronic polarization in a family of photo-ferroelectrics	RSC Advances 7 (2017) 12842-12855	H.Borkar, V.Rao, M. Tomar, Vinay Gupta, J. F. Scott, Ashok Kumar

Conference Organization/ Presentations (in the last three years)

Organization of Conferences/Workshops (in last 03 Years)

- **Conference Chair, International Symposium on Integrated Functionalities (ISIF-2017), 10-14 December 2017, Shangri La Eros, Delhi**
- **Technical Program Chair, Asian Meetings on Ferroelectrics (AMF-2016), 7-11 Nov. 2016, Conference Center, University of Delhi. Delhi-110007**

***a) Research papers published in Refereed/Peer Reviewed Conference Proceedings* (Last 03 Years)**

1. "Growth of ternary $Cd_xZn_{1-x}O$ thin films in oxygen ambient using pulsed laser deposition", S. Sharma, B. Sharma, R. Kaur, Vinay Gupta, Monika Tomar and A. Kapoor, AIP Conference Proceedings, 1953 (2018) 100059. Doi: 10.1063/1.5032995
2. "Study of half-metallicity in $BiMn_xFe_{1-x}O_3$", Shaan Ameer, Kajal Jindal, Monika Tomar, P.K. Jha and Vinay Gupta, AIP Conference Proceedings, 1953 (2018) 110018. Doi: 10.1063/1.5033043
3. "High frequency Coplanar Microwave Resonator using ferroelectric thin film for Wireless Communication Applications", Reema Gupta, Lokesh Rana, Anjali Sharma, A.P. Freundorfer, Michael Sayer, Monika Tomar, and Vinay Gupta, Proceedings Materials Today, 5 (7) (2018) 15395-98. Proceedings of the 10th National Conference on Solid State Chemistry and Allied Areas (ISCAS-2017), 1-3 July, 2017, DTU, Delhi
4. "Laser Molecular Beam Epitaxy (LMBE) Technique grown GaN p-n junction", Sheetal Dewan, Monika Tomar, R.P. Tandon and Vinay Gupta, Proceedings Materials Today, 5 (7) (2018) 15361-65. Proceedings of the 10th National Conference on Solid State Chemistry and Allied Areas, 1-3 July, 2017, DTU, Delhi
5. "Novel designs of SAW devices for highly sensitive chemical sensors", Lokesh Rana, Reema Gupta, Anjali Sharma, Vinay Gupta and Monika Tomar, Proceedings Materials Today, 5 (7) (2018) 15371-75. Proceedings of the 10th

National Conference on Solid State Chemistry and Allied Areas, 1-3 July, 2017, DTU, Delhi

6. "To study the effect of MWCNT incorporated into PVDF-Graphite composites for EMI shielding applications", Krishna Kamal Halder, Monika Tomar, V.K.Sachdev and Vinay Gupta, Proceedings Materials Today, 5 (7) (2018) 15348-53. Proceedings of the 10th National Conference on Solid State Chemistry and Allied Areas, 1-3 July, 2017, DTU, Delhi
7. "Observation of high magnetocrystalline anisotropy on Co doping in rare earth free Fe_2P magnetic material", Jyoti Thakur, Om Pal Singh, Monika Tomar, Vinay Gupta and Manish K. Kashyap, AIP Conference Proceedings, 1942 (2018) 140014. Doi: 10.1063/1.5029145
8. "Structural and dielectric properties of $Cu_{2-x}Nd_xO$ nanostructures", Narender Budhiraja, Sapna, Monika Tomar, Vinay Gupta and S.K. Singh, AIP Conference Proceedings, 1942 (2018) 120022. Doi: 10.1063/1.5029062
9. "Luminescence studies of laser MBE grown GaN on ZnO nanostructures", Sheetal Dewan, Monika Tomar, A.K. Kapoor, R.P. Tandon, and Vinay Gupta, Proceedings of SPIE- The international society for Optical Engineering, 10354 (2017) 103540V. Doi: 10.1117/12.2272549
10. "Effect of substrate on Surface Plasmon Resonance of PLD grown silver nanoparticles", Poonam Shokeen, Amit Jain, Avinashi Kapoor, and Vinay Gupta, Springer proceedings in Physics (Recent Trends in Materials and Devices), 178 (2017) 261-65. Doi: 10.1007/978-3-319-29096-6.36
11. "Surface plasmon resonance based electro-optic measurement of SBN thin films", Surbhi Gupta, Ayushi Paliwal, Vinay Gupta and Monika Tomar, Proceedings of SPIE- The international society for Optical Engineering, 10354 (2017) 103540S. Doi: 10.1117/12.2273155
12. "Pump probe studies in Ruby/gold thin film", Satchi Kumari, Alika Khare, Reema Gupta and Vinay Gupta, OSA Publishing, Conference proceeding, International Conference on Fibre Optics and Photonics, 2016, Kanpur, 4-8, December 2016, ISBN: 978-1-943580-22-4
13. "Development of metal oxide thin films for self power generating integrated devices", Anjali Sharma, Prashant Kumar Raghav, Reena Gupta, Monika Tomar and Vinay Gupta, Proc. of joint IEEE international symposium on the applications of ferroelectrics, European conference on application of polar dielectrics, and Piezoelctric force microscopy workshop (ISAF/ECAPD/PFM) 2016, A.N. 7578065, Pages: 1-3. DOI: 10.1109/ISAF. 2016.7578065.
14. "SAW field and Acousto-optical interaction in ZnO/AlN/Sapphire structure", Lokesh Rana, Vinay Gupta, Namrata Dewan Soni and Monika Tomar, Proc. of joint IEEE international symposium on the applications of ferroelectrics, European conference on application of polar dielectrics, and Piezoelctric force microscopy workshop (ISAF/ECAPD/PFM) 2016, A.N. 7578095, Pages: 1-4. DOI: 10.1109/ISAF.2016.7578095.
15. "Study of ferroelectric SBN thin films for electro-optic applications". Surbhi Gupta, Ayushi Paliwal, Vinay Gupta, and Monika Tomar, Proc. of joint IEEE international symposium on the applications of ferroelectrics, European conference on application of polar dielectrics, and Piezoelctric force microscopy workshop (ISAF/ECAPD/PFM) 2016, A.N. 7578098, Pages: 1-3. DOI: 10.1109/ISAF.2016.7578098.
16. "Prominent photovoltaic response in multiferroic BFO?BTO heterostructures", Savita Sharma, Nitin K. Puri, Vinay Gupta and Monika Tomar, Proc. of joint IEEE international symposium on the applications of ferroelectrics ,European conference on application of polar dielectrics, and Piezoelctric force microscopy workshop (ISAF/ECAPD/PFM) 2016, A.N. 7578092, Pages: 1-4. DOI: 10.1109/ISAF.2016.7578092.
17. "Low temperature operated NiO-SnO2 heterostructured SO2 gas Sensor", Punit Tyagi, Anjali Sharma, Monika Tomar & Vinay Gupta, AIP conference proceedings, Vol.1724, page 20077.1-8 (2016). doi: 10.1063/1.4945197
18. "Enhanced dielecric properties of multilayered BiFe)3/BaTiO3 capacitors deposited by pulsed laser deposition", Savita Sharma, Monika Tomar, Nitin K Puri and and Vinay Gupta, AIP conference proceedings, Vol.1724, page 020098.1-7 (2016). doi: 10.1063/1.4945218
19. "Long range surface plasmon resonance (LRSPR) based highly sensitive refractive index sensor using Krestschmann prism coupling arrangement", Ayushi Paliwal, Anjali Sharma, Monika Tomar and Vinay Gupta, AIP conference proceedings, Vol.1724, page 020132.1-5 (2016). doi: 10.1063/1.4945252
20. "Structural and magnetic properties of Ni-Zn doped BaM nanocomposite via citrate precursor", Kush Rana, Preeti Thakur, Monika Tomar, Vinay Gupta and Atul Thakur, AIP conference proceedings, Vol.1731, page 050152 (2016). doi: 10.1063/1.4947806
21. "Optical tuning of electrical properties of PZT thin film deposited on STO", Reema Gupta, Monika Tomar and Vinay Gupta, Proc. SPIE Vol. 9667 page. 966703 (November 6, 2015), International Workshop on Thin Films for Electronics, Electro-Optics, Energy, and Sensors, Suzhou, China. doi:10.1117/12.2199851
22. "Nanostructured zinc oxide thin film for application to surface Plasmon resonance based cholesterol biosensor", Gurpreet Kau, Monika Tomar and Vinay Gupta, Proc. SPIE Vol. 9667 page. 966706 (November 6, 2015),

International Workshop on Thin Films for Electronics, Electro-Optics, Energy, and Sensors, Suzhou, China. doi:10.1117/12.2199850.

23. "Effect of rapid thermal annealing temperature on the dispersion of Si nanocrystals in SiO2 matrix", Nupur Saxena, Pragati Kumar and Vinay Gupta, AIP conference proceedings, Vol.1661, page 080026 (2015)
24. "Influence of Ag doping concentration on structural and optical properties of CdS thin film", Pragati Kumar, Nupur Saxena, Avinash Agarwal and Vinay Gupta, AIP conference proceedings, Vol.1661, page 080017. (2015)
25. "Multiferroic $BiFeO_3/BaTiO_3$ thin films fabricated by Chemical solution deposition technique", S. Sharma, M.Tomar, N.K. Puri and V. Gupta, Mater. Res. Soc. Symp. Proc., Vol 1805, (2015).
26. "Enhanced response of SnO_2 basewd thin film sensors towards methane gas due to the collective efforts of catalytic activity and photo-activation phenomenanon" Divya Haridas and Vinay Gupta, IOP Conference series: Materials science and Engineering. 73 (2015) 012025. DOI: 10.1088/1757-899X/73/1/012025.

b) Invited talks (Last 03 years)

- Invited Talk, National conference on current and future prespectives in Nanotechnology (Nanoworld-2018", Separtment of Physics, Shivaji college (Univ. of Delhi), Raja Garden, 12-13 April 2018.
- Invited Talk, National workshop, 24 March 2018, Central University of Jammu.
- Invited Talk as Mentor in DST INSPIRE Internship program-2017, Deshbandhu College, 18-20 Dec. 2017
- Invited Talk, 11th Symposium Frontier in Biomedical research, Dr. B.R. Ambedkar Center for biomedical research, University Conference Hall, University of Delhi, 19-21 Feb 2018.
- Invited Lecture at Faculty development programme, Atma Ram Sanatan Dharma College, University of Delhi on 10th November 2017
- Plenary Talk at International Conference on Nanoscience and Nanotechnology (ICNN- 2017), held at BBAU, Lucknow, India from September 22 to 24, 2017
- Invited Talk at 14th International Meeting on Ferroelectrics (IMF-2017), 4-8 Sept. 2017, San Antonio, USA
- Inaugural Talk on "Multifunctional materials for MEMS/Microelectronic devices", in 01 week Faculty development program on Recent trends in Engg Physics, Jaypee Institute of Info.Tech.,Noida, 12-18 July 2017
- Invited Talk on "Energy harvesting using multifunctional thin films", 10th National Conference on Solid State Chemistry and Allied Areas, ISCAS 2017, Delhi Technical University, 1st July to 3rd July, 2017.
- Invited Talk on Multifunctional nanomaterial for environmental monitoring and health care, Orientation Program for University and college teachers at the Centre for Professional Development in Higher education (CPDHE), UGC-HRDC, University of Delhi, 31st may to 28th June 2017.
- Invite Talk on "Piezoelectric and ferroelectric materials for energy harvesting", 03 day FDP on Functional Nanomaterials: Emerging Trends & Applications, Amity University, UP, Sector-125, Noida on 21st June 2017
- Invited Talk, Faculty development program, Maharaja Agresen Institute of Tehnology, Delhi, 12 June 2017.
- Chief Guest and Invited Lecture, One day development program for non-teaching Staff, KM College, Delhi Univesity, 31-03-2017
- Invited Talk, Nano India-2017 conference, IIT Delhi, 15-16 March 2017.
- Chief Guest, Validectory Function, DST sponsored National Seminar entitled "A Paradigm Shift towards Empowerment of Women" at Kalindi college, 4 Feb 2017.
- Invited Talk, Training and orientation programme on Academic Administration for college SO/AO, CPDHE, Delhi University, 2 Feb 2017
- Chief Guest, Training programme, AO and higher administrative officials, Ramanujan College, 1 Feb 2017.
- Invited Inaugural Talk, Physics Society Function, Shyam Lal college, University of Delhi, 19 Jan 2017.
- Invited Talk and hands on sesión on Nanomaterials, 2 days faculty development workshop on embedded systems and synthesis of nano-materials, Hansraj College, 6 Jan 2017.
- Invited Talk, "Functional Materials for Energy Harvesting devices", National conference on Nanomaterials, organized by Shyamlal College at Department of Chemistry, University of Delhi. December 2016
- Invited Talk, "Reserach to Devices: Challenges and Concerns", CEP on "Devices under harsh environment", DIPAS, 16 November 2016
- Invited Talk, "Biosensors", Central University of Haryana, Haryana, 07 October 2016.
- Invited Talk, Inspire Programme, DST sponsored INSPIRE programme, SRM University,Kundli, Haryana, 20 July 2016
- Invited Talk, "Processing techniques for thin films and nanostructures", Workshop on Techniques of Material proceesing, Central Unniversity of Haryana, 27-29 April 2016.

- Invited Talk, "Semiconductor thin films and nanostructure for UV photodetectors and Biosensors", National conference on Semiconductor Materials and Devices, IIT Jodhpur, 4-6 March 2016-03-06
- Invited Talk, "Thin fims and multilayer structures of multiferroics for energy harvesting applications", Internatioal conference on Materials Science and Technology", Conference Center, University of Delhi, Delhi, 1-4 March 2016.
- Invited Talk and Session Chair, Conference on Microscopy of Materials during 2nd Annual General Meeting of Academy of Microscope Science & Technology (AMST), 26 Feb 2016, Thapar University, Patiala.
- Invited Talks at various colleges of Delhi University (Hindu, Kirori Mal, Daulat Ram, SSN , etc.)
- Invited Talk, Electronic Deparment, Kurukshetra University, 25 Feb 2016
- Key Note Talk, Workshop on "Advance Techniques in Mathematics, Physics & Computer Sciences (WATMPCS-16), 18th Feb 2016, SRM University, Modi Nagar
- Key Note address, "The World of Physics", in the Enrichment Programme - Fundamentals of Physics for teachers of classes VI- X, the DPS Society's- HRD Centre, February 2016.
- Invited Talk, Inspire Science Camp, sponsored by DST, at Rajdhani College, 2 Feb 2016
- Invited Talk, One day lecture series, Physics Department, Motilal Nehru College, 29th Jan 2016
- Invited Talk and Session Chair, "A table top Surface Plasmon Resonance (SPR) technique to probe the optical property of unknown materials and optical sensors", International conference on Advances in Light Technologies and Spectroscopy of Materials (ICALTSM -2016), Lucknow University, 18 January 2016
- Invited Talk, "Low Frequency Raman Spectra of Semiconducting Nanoparticles and Ferroelectric Superlattices", Inside Raman 2015, sponsored by Renishaw IISER Chandigarh, 10 Dec 2015
- Invited Talk,Inspire Internship programme(Science Camp) sponsor by DST,Deshbandhu College,15 Dec 2015
- Invited Talk, "Multiferroic thin films and multilayer structures for energy harvesting applications", National conference on Emerging Trends in Science & Engineering Research (ETSER-2015), NIT, Manipur, 3 Dec. 2015
- Invited Talk, "Prism coupling based Surface Plasmon Resonance (SPR) technique: A tool to probe optical property of unknown materials and optical sensors", 3rd National Conference on Photonics and Materials Science, 18 November 2015, Guru Jambheshwar University of Science & Technology, Hisar
- Invited Talk, Central University of Haryana, Mahendergarh, Haryana, 17 Nov. 2015
- Invited Talk, 1st Refresher Course in Physics, UGC-Human Resource Development Centre, Jawaharlal Nehru University, 12 October 2015
- Invited Talk, "International Conference on Emerging Technologies: Micro to Nano-2015 (ETMN-2015)", 24 Oct. 2015, Manipal University, Jaipur.
- Chief Guest, Hindi Diwas, Defence Institute of Physiology & Allied Sciences (DRDO), Delhi, 14 Sept. 2015.
- Key Note address, "The World of Physics", in the Enrichment Programme - Fundamentals of Physics for teachers of classes VI- X, the DPS Society's- HRD Centre, 9 September 2015.
- Invited Talk, "Neisseria Meningitidis Detection using Surface Plasmon Resonance based Microfluidic Biosensor", Indo-UK Workshop on "Micro & Nano Fluidics for Health and Diagnostics"(*fluidics*HD), CEERI, Pilani, 27-28 August 2015.
- Invited talk, CEP on "Physical Vapour deposition technique",Solidstate Physics Lab(DRDO),Delhi,4 Aug.2015
- Invited Talk on "Surface Plasmon Resonance : A versatile tool for optical property and sensor application", Faculty Development Program on Nanomaterials and Its Applications,Department of Biotechnology, 13th July 2015 at Jaypee Institute of Information Technology(JIIT), Noida
- Invited Talk, "Multiferroic thin film & multilayer structure for energy harvesting applications", International workshop on Thin-films for Electronics, Electro-optics, Energy and Sensors, Suzhou, China, 4-6 July 2015
- Invited Talk, Development of Underwater Sensing Materials, Acoustic Sensors & its Characterization, during CEP on "Advanced Futuristic Under-Water Sensors" at Solidstate Physics Lab (DRDO), 18 March 2015.
- Invited Talh, Surface Plasmon Resonance (SPR) technique for dielectric studies of materials (solid, liquid or gases) and optical sensors, Ch. Devi Lal University, Sirsa, Haryana, 9 March 2015
- Invited talk, "Surface Plasmon Resonance (SPR) technique: A versatile tool for dielectric properties of materials (Solid, Liquido or gases) and optical Sensors", National conference on Microscopy & Advances in Material Scinces, Dept. of Physics, University of Jammu, 2-4 March 2015
- Key Note address, Development of Multifunctional nanomaterial for sensing applications, Bhubneshwar, Orissa, Feb. 2015
- Invited Talk, Development of multifunctional materials for electronic devices, 3rd International Symposium on Semiconductor Materials & Devices(ISSMD-3), Crystal Growth Centre, Anna Univ,, Chennnai,3 Feb, 2015

Research Projects (Major Grants/Research Collaboration)

Major Grants as Principal Investigator:

Sponsoring Agency	Title of the projects	Tenure	Status
DRDO	Optimization of TiOx film and patterning of the polymer (PI-2610) as sacrificial layer for pixel fabrication	March 2018-19	Ongoing
DRDO	Feasibility study for fabrication of Air bridges by gold electroplating	July 2017- Jan 2019	Ongoing
DST (Min. of S&T)	Development of thin film Surface Acoustic Wave device as a platform for the sensing applications	Nov.2014-2019	Ongoing
DeitY (Min. IT&Comn.)	Demonstration of GaN LED by PLD	Feb.2014-Sept.18	Ongoing
DRDO (Min of Def.)	Molecular Modelling of Halons alternatives	April 2015-Oct.2017	Completed
UGC (MHRD)	e-PG Pathshala for preparation of content for Material Science subject for M.Sc.	Nov. 2014-July 17	Completed
UGC (MHRD)	e-Pathshala for preparation of content for Physics subject for M.Sc.	Feb 2014-July 17	Completed
DST (Min. of S&T)	Validation and improvement of indigenously developed table-top Surface Plasmon Resonance (SPR) system	March 2015-17	Completed
GAIL (Min. of Coal)	Development of metal oxide thin film based low cost sensor	Sept. 2013-2015	Completed
ISRO (Min. of Space)	Development of Platinum based Micro Heaters /Micro Evaporation Sources for Space Applications	Nov. 2014-Oct.15	Completed
DST (Min. of S&T)	Indigenous development of table top surface Plasmon resonance set-up	Oct. 2011-2013	Completed
ADA (NPMASS)	Growth and characterization of composite matrices of SnO_2 thin film and nano catalysts for automotive gas sensors	Dec.2010-2013	Completed
DeitY (Min. IT&Comn.)	Development of low-cost real-time monitoring system for harmful gases (Ph-1)	March 2010 -2013	Completed
DeitY (Min. IT & Comn.)	Development of low-cost real-time monitoring system for harmful gases (Ph-2)	May 2011-2013	Completed
DRDO	Multilayer metallization and PLG for advanced MEMS devices	Dec.2011-March2013	Completed
DST (PURSE)	Development of multifunctional metal oxide thin films for wave-guiding and optoelectronic device applications	June 2009-2013	Completed
UGC (Min. of HRD)	Development of pulsed laser deposited CeO_2 thin films for mediator-less glucose biosensor	May 2009-2012	Completed
DST (Min. of S&T)	Development of Magnetron source for Plasma assisted growth of metal oxide thin films for sensor application	March 2009 -2012	Completed
DST (Min. of S&T)	Development of prototype of SAW sensor for NO_x gas	Aug. 2009-2012	Completed
NRB (DRDO)	Design & Development of Functional Materials for Surface Acoustic Wave device Structures	Dec. 2009-2011	Completed
DRDO (Min.of Def.)	Development of oriented Lithium Niobate films by sputtering for Electro-optic applications	April 2005 -2008	Completed
DRDO (LASTEC)	Feasibility of growing SiC films through RF Sputtering/PLD technique for Laser mirrors	Oct. 2005 -2008	Completed
DST (Min. of S&T)	Development of thin film ultra-violet photodetector	May 2005 -2008	Completed

Collaborations (Academic):

- **Prof. Amar Bhalla, University of Texas at Sanantanio, USA**
- **Prof. Ruyan Guo, University of Texas at Sanantanio, USA**
- **Prof. R.S. Katiyar, University of Puerto Rico, PR 00931-3343, USA**
- **Dr. Shashank Priya, Virginia Tech, USA**
- **Prof. Michael Sayer, Queen`s University, Kingston, Canada**
- **Prof. A.P. Freundorfer, Queen`s University, Kingston, Kanada**
- **Prof. Sung Ho Lee, Korea Institute of Technology, Korea**
- **Dr. Ajay Agarwal, MEMs Division, CEERI (CSIR), Pilani**
- **Dr. R.P. Singh, CFEES (DRDO), Delhi**
- **Dr. Ashok Kapoor, Solid state Physics laboratory (DRDO), Delhi**
- **Dr. Ashok Kumar, National Physical Laboratory (CSIR), Delhi**

Collaborations (Industrial interaction):

- **SITAR, Bangalore**
- **M/s Optiregion, Wazirpur, New Delhi-110052**
- **M/s ARL Technologies, New Delhi**

Awards and Distinctions

- **ISCAS Silver Medal-2017 conferred by Indian Association of Solid State Chemists and Allied Scientists in the 10th Biennial National conference of ISCAS held at Delhi Technological University, Delhi, 1-3 July 2017.**
- **Member, Think Tank, "Digital India-from Education to Jobs" A roundtable to draw the technology road-map from education to jobs conducted jointly by CyberMedia Insights & IIT Delhi, at IIT Delhi, 28 Feb. 2018.**
- **Expert Member (2014), Expert Committee of UGC for framing the syllabus for undergraduate courses of Physics under Choice based Credit System (CBCS).**
- **Member, Research Council (2015-18), Solid State Physics Laboratory, DRDO**
- **Member (2013-16), Expert Advisory Group (EAG) for Sensor and Allied Instrumentation of IDP of DST**
- **Member (2014-17), Scientific Advisory Committee, Inter-University Acceleration Centre (IUAC), Delhi**
- **Principal Investigator (2014-17): UGC Project "e-PG Pathshala" to create e-content of both "Material Science" & "Physics" for Post graduate (MHRD project under National Mission on Education through ICT)**
- **Vice Chairman (2015-17), Semiconductor Society of India (SSI).**
- **Vice-chairman, IEEE Electron Device Society Delhi Chapter (2013-2017)**
- **MRSI Medal Lecture (2012), 23rd AGM of Material Research Society of India, Patiala, 12-15 Feb. 2012**
- **Recipient of BOYSCAST Fellowship (2003) of DST, Govt. of India for research abroad.**
- **Senior member of the Institute of Electrical and Electronics Engineer (IEEE), USA.**
- **Recipient of Young Scientist Project (1995) from DST, Govt. of India**

Association With Professional Bodies

Editing

- **Guest Editor, Integrated Ferroelectrics, Special issue of peer-reviewed selected articles from International symposium on Integrated Functionalities (ISIF-2017), Dec.2017, Shangri La, Delhi.**
- **Senior Editor (2013-14), Associate Editor (2012-13) and Member (since 2011-14) of the Editorial Board),**

Chemical Sensors, Simplex academic Publishers

- **Guest Editor, Journal Scientific Conference Proceeding, Vol.1, No.1 (2009), pp.92; Special issue of peer-reviewed selected articles from conference MNNA 2006, Delhi.**
- **Member (2012-18), International advisory board, Journal "Energy Harvesting & Systems", Pub.: De Gruyter, USA**

Reviewing

Reviewed number of manuscripts for publication in several international Journals including: Advanced Materials, Nano scale, Applied Physics Letters, Biosensors and Bioelectronics, Sensors and Actuators B, J. Alloys and Compounds, J. Applied Physics, Physica B, Analytica Chemica Acta, Applied Surface Science, J. Crystal Growth, Thin Solid Films, Sensors, Analyst, RSC Advances, etc.

Steering and Advisory committee of conferences

- **Member, Steering committee under Nanotechnology sectional committee MTD 33 of Bureau of Indian Standards to make arrangement for hosting the meeting of ISO/TC 229 Nanotechnology at New Delhi during 3-7 November 2014**
- **Member Steering committee, National Conference on "Electron Microscopy and Allied Fields" and XXXV Annual Meeting of Electron Microscope Society of India (EMSI), 7-11 July 2014**
- **Member: National organizing committee, 7th International Conference on the Physics of Dusty Plasma, Indian Habitate Centre, Delhi, March 4-7, 2014**
- **Member, Steering committee of 17th International Workshop on The Physics of Semiconductor Devices (IWPSD), 2013, Amity University.**
- **Member, Organizing Committe, International conference on quantum effects in solids of today (I-ConQuEST), 20-23 Dec. 2010 National Physical laboratory, Delhi**
- **Member, National Advisory Committee, International conference on nanostructured ceramics & other nanomaterials (ICNCN-2012), Dept. of Physics & Astrophysics, Delhi Univ., 13-16 March 2012**
- **Member, Steering committee of 16th International Workshop on The Physics of Semiconductor Devices (IWPSD), 2011, Jamia Millia Islamia University.**
- **Member, Advisory committee, Workshop on "Experiments on Physics & Electronics", organized by ILLL, Delhi University, at Keshav Mahavidhyalaya for college teachers (22-26 July 2008)**
- **Member, Steering committee, National Conference on "Electron Microscopy and Allied Fields" and XXIX Annual Meeting of Electron Microscope Society of India (EMSI) during November 26-28, 2007**
- **Organizing committee chair, Indo-Australia symposium on "Multifunctional Nano-materials, Nano-structures & Applications-MNNA 2007", Convention Hall, Vice regal lodge, Unive.of Delhi, Dec.19-21, 2007**

Committees and Boards

- **Member (2015-18), Research Council, Solid State Physics Laboratory, DRDO, Delhi**
- **Member (2014-18), Scientific Advisory Committee of Inter-University Acceleration Centre, Delhi**
- **Member (2015-17), Board of Studies, School of Applied Physics, Delhi Technological Univ., Delhi**
- **Member (2013-2015), Steering committee of DST on Sensor Hub, CGCRI (CSIR Lab), Kolkata**
- **Member (2014-15), Expert committee of UGC for Travel grant assistance to college teachers to attend International conferences abroad**
- **Member (2015-2018), Board of Research Studies, Dept. of Physics, Central University of Haryana.**
- **Member (2018-21), School Board, School of Physical & Mathematical Sciences,Central Univ.of Haryana**
- **Member of the accelerator Users committee of IUAC, Delhi (2014-16)**
- **Member, Board of Studies, Department of Physics, Lindoys University, Faridabad, (2014-16)**
- **Member of Board of Studies (2014), Amity Institute of Renewable & Alternative Energy, Amity University,**

Noida

- **Area Advisory Member (2014-15), Amity Institute of Applied Sciences, Amity Univ., Noida**
- **Member Advisory Committee (2014-16), Advanced Instrumentation Research Facility, Jawaharlal Nehru University, Delhi**
- **Member, Board of Research Studies, School of Physics & Materials, Thapar Univ. Patiala (2012-13)**
- **Member (2014-15), Research council, SRM University, Haryana**
- **Expert member (Feb. 2010-11), Research and recognition committee in Physics, Faculty of Science, SGB Amravati University, Amrawati, M.S.**

Memberships and Office Bearer in Academic Societies

- **Senior Member of Institute of Electrical and Electronics Engineers (IEEE), USA**
- **Member of Optical Society of America, USA (2008 – till date)**
- **Life Member, Semiconductor Society (India)**
- **Life Member, Materials Research Soc. of India (MRSI)**
- **Life Member, Plasma Society of India**
- **Life Member, Electron Microscopy society of India**
- **Life Member, Indian Physics Teachers Association**
- **Regular Fellow (F1041), Optical Society of India (Nov. 2011).**
- **Vice-chairman (2015-17), Semiconductor Society of India**
- **Vice-chairman (2013-15) and Member, Executive committee (2007-08), Delhi chapter of "IEEE Electron Devices Society"**
- **Member Executive committee (2010-14) Delhi Chapter, Materials Research Society of India**

Other Activities

Public Service:

- **Chairmen, DRDO project committee**
- **Member of DST committee (2013-16), Expert Advisory Group (EAG) for Sensor and Allied Instrumentation of IDP**
- **Expert Member for Physics, Expert committee of UGC for framing the syllabus along with schedule for Undergraduate courses under choice based credit system (CBCS)**
- **UGC expert (2012-17), DSA program at Sardar Vallabh Bhai Patel University, Vidhya Nagar, Gujrat**

University Service:

- **Dean Examinations (May 2016 – till date)**
- **Member, Central NAAC preparation committee (2018), University of Delhi**
- **Coordinator (Oct.2008- June 2016): M. Tech. program in Nuclear Science & Technology, Department of Physics and Astrophysics, University of Delhi**
- **Convenor (2013), Curriculum development committee, 4-year undergraduate program (FYUP) of Physics, University of Delhi (2013)**
- **VC Nominee, Departmental Research Committee, Dept. of Electronics, Delhi University (2010-14)**
- **Program coordinator in Physics, 2-months Training program for the faculty of Kabul University at University of Delhi (2013) under World Band funded Indo-Kabul project.**
- **Treasurer (June 2006 – Aug. 2010), Delhi University Students Union (DUSU)**
- **Coordinator (2007-09; 2010-13, 2014-16), Sub-committee of Committee of Courses (CoC), Dept. of Physics & Astrophysics for B.Sc. Physics, Delhi University to appoint examiners for Theory/Practical examinations.**
- **Member (2004-05, 2007-08, 2010-11, 2015-16), Executive committee, Department of Physics and Astrophysics, Delhi University**

- **Nodal Officer, NAAC Committee (2015-17),** Dept. of Physics and Astrophysics, Delhi University
- **Nodal Officer** for Admission (2012-16), Department of Physics and Astrophysics, Delhi University
- **Member, Advisory Committee, DBT funded Star College Programme, Hansraj College (2015-16)**
- **Organize training programmes for students of M.Tech. NST at INMAS, BARC, IGCAR, DTU, etc.**
- **Inquiry officer in respect of office attendant of the University (July 2012, 2017).**
- **Member (2009-11), Finance committee, M.Tech. course in Nanoscience & Nanotechnology, Univ.of Delhi**
- **Member, Advisory committee and Monitoring committee, DUSU election (2007-2010)**
- **Convenor/Member in various departmental committees such as Time-table committee, Library committee, Workshop committee, Admission committee, TPSC-visitor`s program committee, Space committee, Writen-off committee, Examination committee, Clearance committee for retired faculty, User committee for experimental facility, etc.**
- **Convenor (2018), Committee to improve/modify the CBCS syllabus of B.Sc.(Hons) Physics, B.Sc. Physical science (Physics) and B.Sc. Applied Physical Science (Electronics)**
- **Convenor (Feb. 2011), Committee to improve/modify the semester based syllabus of B.Sc.(Hons) Physics, B.Sc. Applied/Physical science**
- **Presiding Officer (2013), DUCC election of the Faculty of Science, Delhi University held on Oct.2013**
- **Coordinator, refresher course in Physics and Electronics of CPDHE, Dept. of Physics & Astrophysics, for University science teachers, Delhi University, 9 March to 30 March 2010.**
- **Coordinator, Three week structured Workshop at DRDO Laboratories [INMAS (June 2008, June 2009), and SPL (June 2009)], Delhi for undergraduate students of University of Delhi**
- **Coordinator/in-charge of refresher course: "Computer Application in Physical Science" for undergraduate science teachers at CPDHE, Delhi University, 17 Feb. to 9 March 2006**
- **Convener/Member of organizing committee of XI-XV annual QUEST (1996-2006), CSEC (Delhi University)**
- **Member, Governing Body of Daulat Ram College, University of Delhi (2010-2013)**
- **Member, Governing Body of Deen Dayal Upadhyaya College, Univ. of Delhi (2001-2002; 2010-2012)**
- **Member, Technical committee (2006-08), Delhi University for purchase of high end instruments for USIC**
- **Member, Technical committee (2006-08), Delhi University for purchase of teaching instruments for upgradation of science laboratories of undergraduate colleges.**
- **Convenor (2004), Curriculum development committee for B.Sc. Physical/Applied Science, Delhi Univ.**
- **Member(2004),Curriculum development committee, Interdisciplinary papers, B.Sc.Applied Physical Science**

Consulting Activities:

- **Member, Management committee, Delhi Jain Sr. Sec. School, Palam, New Delhi (1991- 2017)**
- **Member, Management committee, Jinwani Bharti Sr. Sec. School, Dwarka, N. Delhi (1997-2017)**
- **Member (2013-14), Technical Evaluation Committee for design consultancy Services for setting up Clean rooms & related infrastructure for advanced facility for Nano-electronics at CEERI (CSIR), Pilani.**
- **External Expert, Syllabus for M.Sc. Physics (2013-14), YMCA university of Science & Tech., Faridabad.**
- **Member (May 2010), Course design committee for Condensed Matter Physics, IGNOU, New Delhi.**

Other Activities:

- **Expert Member in Selection Committees, for Appointment of various posts including Director Generals, Scientist E and F, Professors, Assist. Professors, etc. in different Universities, IITs, Institutes, Ministries, etc.**
- **Examiner of Ph.D. thesis of several students of various universities including NIT Singapore, IISc-B`lore, Univ. of Hyderabad, Jamia Millia Islamia, IIT Kharagpur, IIT Delhi, IIT Bombay, IIT Roorkee, Lucknow University, Shimla University, HNB University-U.P., BHU, BITS Pilani, Allahabad Univ., JNU, GGIP Univ., CCS University, Pune University, National physical laboratory, Punjab University, MDU University, etc.**
- **Organized an Exhibition-"Bharat Gatha" on the occasion of 50th Years of celebration of India Independence at DDU College (Univ. of Delhi), 24-26 Sept. 1997 and received appreciation from College Governing body.**

Foreign Academic Visits:

UK	Visiting Fellow & delivered invited Talk at Department of Physics, **University of Lancaster**, UK, 28 Feb to 5 March 2018
China	Delivered Invited talk at International workshop on Thin-films for Electronics, Electro-optics, Energy and Sensors, Suzhou, China, 4-6 July 2015
Thailand	Delivered Invited talk at INMAM workshop & attended AMF meeting, Pattaya, Thailand, 8-13 Dec.2012
Australia	Visiting Fellow, **Australian National University**, Canberra (July-Aug 2008). Also Chaired, one Technical Session, International Conference on Materials & devices (IUMRS-ICEM 2008),28 July-10 Aug 2008, Sydney
Taiwan	Visited **Center for Nanotechnology**, Chung Yuan Christian Univ., Chung-Li, Taiwan and delivered invited talk (Oct 2007)
U.S.A.	Delivered invited Talk at IMF-2017 (Sept-2017), San Ontanio, USA. Visiting Fellow, University of Central Florida (18-22 August 2015), Univ. of Puerto Rico, San Juan (3-28 June 2010); **BOYSCAST Fellow**, University of Puerto Rico, USA (May-Nov.2003). Participated in Gordon Research Conference, New London, NH.
France	Visited University of Paris, Ecole Polytechnique, CNRS-ENSCPB - Université Bordeaux, University of Josept Fourier from Sept. 2009 and Nov. 2010 and delivered invited talks at Bordeaux & UJF. Delivered invited talk at Institute D'Orsay, Lab. Detude de Materiaux en Films Minces, Orsay (Sept 1998)
Switzerland	Attended 03 conferences (IEEE ISAF-XI, ECPAD-IV and Electroceramics-VI) in August 1998 at Montreux and visited Swiss Federal Institute of Technology, E.P.F. Laboratory at Laussane.

Signature of Faculty Member