




Faculty Details proforma for DU Web-site

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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					
Email	vgupta@physics.du.ac.in , drvguptavinay@gmail.com					
Web-Page	emdl.physics.du.ac.in					
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		25 April 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 19 Years						
Organisation / Institution		Designation		Duration	Role	
University of Delhi		Dean Examinations		28 May 2016 – till date (3Y-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, Amperometric 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, GaN based photonic devices, Non-linear optical studies, SAW devices, MEMS transducers and Micro-heaters, Molecular Simulations and device modelling.

Subjects Taught

Total Teaching Experience: More than 25 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-II (Sem-4)	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 24 Years and 02 Months (After Ph.D. in May 1995)

Research Guidance:

1. *Supervision of awarded Doctoral Thesis: 20 + 02 (waiting for defence)*
2. *Supervision of Doctoral Thesis, under progress: 09*
3. *Mentor to Post-Doctoral Fellows: 18 (completed). 04 pursuing.*

Publications Profile

Total Number of Publication: 484 (343-International Refereed Journals + 141-International/National Conf. Proc.)

h-index = 41 (Scopus); 46 (Google scholar), i10-index = 197, Cumulative citations > 8700, Cumulative impact factor > 970, Average citations/paper: > 25; Average impact factor/paper: > 2.8

Technology Breakthrough:

- **Indian Patent** (Applied on 30 March 2019): A novel cost effective method of fabrication of inverted Light Emitting Diodes. Inventors: Vinay Gupta, Monika Tomar, Subash Pai & Sheetal Dewan. (Application No. 201911012925)
- **Indian Patent** (Applied on 27 Feb 2019): A novel highly sensitive and reliable LRSPR biosensor for detecting uric acid and fabrication thereof, Inventors: Vinay Gupta, Monika Tomar, Ayushi Paliwal & Surbhi Jain. (Application No. 201911006783)
- **Indian Patent** (Applied on 27 Feb 2019): Electric field assisted low power consuming conducto-metric gas sensor, Inventors: Vinay Gupta, Monika Tomar, Anjali Sharma, and Avneet Singh. (Application No. 201811006329)
- **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** (Published on 08/03/2019): 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)

E-content Activities (Coordinator/Content Writer/Reviewer)

Year of Activity	Title	Funding Agency/ Publisher	Co-Investigator/Co- Content writers
2014-2017	Principal Investigator for “e-PG Pathshala” to create e-content of “Material Science” for Post Graduate (MHRD Projects under National Mission on Education through ICT) (https://epgp.inflibnet.ac.in/ahl.php?csrno=831)	UGC (MHRD)/ INFLEBNET	Prof. R.P. Tandon
2014-2017	Principal Investigator for “e-PG Pathshala” to create e-content of “Physics” for Post Graduate (MHRD Projects under National Mission on Education through ICT) (https://epgp.inflibnet.ac.in/ahl.php?csrno=28)	UGC (MHRD)	Prof. R.P. Tandon

2017-2018	Paper Coordinator and e-content writer for paper of “Physics” under e-PG Pathshala of UGC with title “Electronics (paper-07) (Number of Modules: 32)	INFLEBNET	Dr. Ayushi Paliwal
2017-2018	Paper Coordinator and e-content writer for paper of “Material Science” under e-PG Pathshala of UGC with title “Measurements and Instrumentation (Paper-04) (Total Number of Modules: 30)	INFLEBNET	Dr. Manjula, Dr. Varun Vyas, Dr. Kajal Jindal
2017-2018	Paper Coordinator and e-content writer for paper of “Material Science” under e-PG Pathshala of UGC with title “Thin film science and technology” (Total Number of Modules: 30)	INFLEBNET	Dr. Anjali Sharma, Dr. Kajal Jindal, Dr. Savita Sharma
2018	Reviewed 30 modules of e-contents of Discipline “Material Science” under e-PG Pathshala of UGC for Paper with title “Semiconductor and Materials (Paper-09)”	INFLEBNET	Content writer: Dr. Monika Tomar, Dr. Ayushi Paliwal
2018	Reviewed 30 modules of e-contents of Discipline “Material Science” under e-PG Pathshala of UGC for Paper with title “Nanoscience & Nanotechnology-II”	INFLEBNET	Content writer: Prof. Anchal Srivastava

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

Year of Publication	Title	Publisher	Co-Author
2018	Guest Editor, Integrated Ferroelectrics, Vol. 193-194(2018) having peer-reviewed articles from “International Symposium on Integrated functionalities (ISIF)-2017, Shangri La, Delhi	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, (2018) 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 Pattnaik, 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 (2017) pp.39-45 In book “Advances in Power Systems and Energy Management”, Edited by A. Garg, A. Bhoi, P. Sanjeevikumar, K. 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)	Springer, Singapore	Amruta Pattnaik, Shawet Mittal, B. Prasad, A.K. Bhoi.
2009	Guest Editor, J. Scientific Conference Proceedings, Vol.1, No.1, (2009) pp.1-92; Special issue of peer-reviewed articles from MNNA-2006, Delhi, India, ISSN <u>1937-6456</u>	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 Nanostructures: 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
2019	Fabrication of Micro-Cantilever and its theoretical validation for Energy Harvesting Applications	Microsystem Technologies, (2019) in Press. ISSN: 1432-1858	Reema Gupta, Lokesh Rana, Anjali Sharma, <u>Vinay Gupta</u> and Monika Tomar
2019	Influence of top metal electrode on electrical properties of pulsed laser deposited lead-free ferroelectrics $K_{0.35}Na_{0.65}NbO_3$ thin films	Materials Science in Semiconductor Processing, 103 (2019) 104618, ISSN: 1369-8001	Shweta Sharma, <u>Vinay Gupta</u> , Monika Tomar
2019	Multi-Component Framework Derived SiC Composite Paper to Support Efficient Thermal Transport and High EMI Shielding Performance	Composites Part B: Engineering, 176 (2019) 107123. ISSN: 1359-8368	Anisha Chaudhary, Satish Teotia, Rajeev Kumar, <u>Vinay Gupta</u> , Sanjay R. Dhakate and Saroj Kumari
2019	Multiferroic BFO/BTO multilayer structures based Magnetic field sensor	Physica B 571 (2019) 1-4. ISSN: 0921-4526	Savita Sharma, Ayushi Paliwal, Monika Tomar and <u>Vinay Gupta</u>
2019	Impact of plasma dynamics on Magneto Optic Kerr Effect (MOKE) in Mn doped BFO thin films	Physica B 571 (2019) 57-63. ISSN: 0921-4526	Ayushi Paliwal, Savita Sharma, Monika Tomar and <u>Vinay Gupta</u>
2019	Lightweight reduced graphene oxide-ZnO nanocomposite for enhanced dielectric loss and excellent electromagnetic interference shielding	Composites Part B: Engineering, 172 (2019) 234-42. ISSN: 1359-8368	A.K. Singh, A. Kumar, A. Srivastava, A.N. Yadav, K. Haldar, <u>V. Gupta</u> and K. Singh
2019	Rapid antibiotic susceptibility testing by resazurin using thin film platinum as a bio-electrode	Journal of Microbiological Methods, 162 (2019) 69-76. ISSN: 0167-7012	Priyanka Mishra, Divya Singh, K.P. Mishra, Gurpreet Kaur, Nidhi Dhull, Monika Tomar, <u>Vinay Gupta</u> , Bhuvnesh Kumar and Lilly Ganju
2019	Multifunctional behaviour of acceptor-cation substitution at higher doping concentration in PZT ceramics	Ceramics International 45 (2019) 12716-26. ISSN: 0272-8842	Nitu Kumari, S.Monga, Md. Arif, N. Sharma, A. Sanger, Arun Singh, P.M. Vilarinho, <u>Vinay Gupta</u> , K.Sreenivas, R.S. Katiyar and J.F. Scott
2019	Electro Optic (EO) effect in Proton Exchanged lithium niobate: Towards EO modulator	Applied Physics B 125 (2019) 115 ISSN: 0946-2171	Ayushi Paliwal, Anjali Sharma, Monika Tomar, Ruyan Guo, Amar

2019	Enhanced microwave absorption and suppressed reflection of polypyrrole-cobaltferrite-graphene nanocomposite in X-band	Journal of Alloys and Compound 797 (2019) 1190-97 ISSN: 0925-8388	Bhalla and <u>Vinay Gupta</u> Nisha Gill, Amit L. Sharma, <u>Vinay Gupta</u> , Monika Tomar, O.P. Pandey, D.P. Singh
2019	ZnO nanostructure-assisted growth of (0002)-oriented GaN thin films by Laser MBE	Journal of Photonics for Energy 9 (2019) 024001. ISSN: 1947-7988	Sheetal Dewan, Monika Tomar, A.K. Kapoor, Ram Pal Tandon and <u>Vinay Gupta</u>
2019	Highly sensitive and non-invasive electrochemical immunosensor for salivary cortisol detection	Sensors and Actuators B 293 (2019) 281-88, ISSN: 0925-4005	Nidhi Dhull, Gurpreet Kaur, <u>Vinay Gupta</u> and Monika Tomar
2019	Development of polyvinylidene fluoride-graphite composites as an alternate material for electromagnetic shielding applications	Materials Research Express 06 (2019) 075324. ISSN: 2053-1591	Krishna Halder, Monika Tomar, V. Sachdev and <u>Vinay Gupta</u>
2019	Gamma Irradiation Effect on Performance of β -Ga ₂ O ₃ Metal-Semiconductor-Metal Solar-Blind Photodetectors for Space Applications	ECS Journal of Solid State Science and Technology 8 (2019) Q3149-53. ISSN: 2162-8777	Bhera Tak, Manjari Garg, Ashish kumar, <u>Vinay Gupta</u> , and Rajendra Singh
2019	High temperature photocurrent mechanism of β -Ga ₂ O ₃ based metal-semiconductor-metal solar-blind photodetectors	Journal of Applied Physics , 125 (2019) 144501. ISSN: 0021-8979	B.R. Tak, Manjari Garg, Sheetal Dewan, Carlos G. Torres-Castanedo, Kuan-Hui Li, <u>Vinay Gupta</u> , Xiaohang Li and R. Singh
2019	Enhancement in thermoelectric properties due to Ag nanoparticles incorporated in Bi ₂ Te ₃ matrix	Beilstein Journal of Nanotechnology 10 (2019) 634-43. ISSN: 2190-4286	Srashti Gupta, Dinesh C. Agarwal, B.Sivaiah, S. Amrithpandian, K. Ashokan, Ajay Dhar, B.K. Panigrahi, D. K. Avasthi, <u>Vinay Gupta</u>
2019	Electromagnetic interference shielding effectiveness in 3D flower-like MoS ₂ -rGO/gadolinium-doped nanocomposites	Journal of Alloys and Compounds (2019) 861-72. ISSN: 0925-8388	Jitender Prasad, Ashwani Kumar Singh, K. K. Halder, <u>Vinay Gupta</u> and Kedar Singh
2019	In-situ and post deposition analysis of Laser MBE deposited GaN films at varying nitrogen gas flow	Vacuum 164 (2019) 72-76. ISSN: 0042-207X	Sheetal Dewan, Monika Tomar, R.P. Tandon and <u>Vinay Gupta</u>
2019	Insight into electronic, magnetic and optical properties of magnetically ordered Bi ₂ Fe ₄ O ₉	Journal of Magnetism and Magnetic Materials 475 (2019) 695-702. ISSN: 0304-8853	Shaan Ameer, Kajal Jindal, Monika Tomar, Pradip K. Jha and <u>Vinay Gupta</u>
2019	Higher permittivity of Ni-doped lead zirconate titanate, Pb[(Zr _{0.52} Ti _{0.48}) _(1-x) Ni _x]O ₃	Ceramics International 45 (2019) 4398-407. ISSN: 0272-8842	Nitu Kumari, S. Monga, Md. Arif, N. Sharma, Arun Singh, <u>Vinay Gupta</u> , P.M.Vilarinho, K. Sreenivas, R.S. Katiyar
2019	Enhanced electron transfer properties of NiO thin film for the efficient detection of urea	Materials Science and Engineering B 240 (2019) 147-55. ISSN: 0921-5107	Manisha Tyagi, Monika Tomar and <u>Vinay Gupta</u>

2019	Fabrication and characterization of ZnO-TiO ₂ -PANI (ZTP) micro/nanoballs for the detection of flammable and toxic gases	J. Hazardous Materials 370 (2019) 126-37. ISSN:0304-3894	Rakesh H. Sonker, B.C. Yadav, Vinay Gupta and Monika Tomar
2019	Electrical properties of Strontium Barium Niobate (Sr _{0.6} Ba _{0.4} Nb ₂ O ₆) thin films deposited by Pulsed Laser Deposition technique	Vacuum 160 (2019) 434-39. ISSN: 0042-207X	Surbhi Gupta, A. Kumar, Vinay Gupta and Monika Tomar
2019	Dielectric and ferroelectric studies of KNN thin film grown by Pulsed Laser Deposition technique	Vacuum 160 (2019) 233-37, (IF: 2.51). ISSN: 0042-207X	Shweta Sharma, Ashok Kumar, Vinay Gupta and Monika Tomar
2019	Point defects induced work function modulation of β-Ga ₂ O ₃	Applied Surface Science 465 (2019) 973-78. ISSN: 0169-4332	B.R. Tak, S. Dewan, A. Goyal, Ravi Pathak, Vinay Gupta , A.K. Kapoor, S. Nagarajan, and R. Singh
2019	Pyrene appended bis-triazolyated 1,4-dihydropyridine as a selective fluorogenic sensor for Cu ²⁺	Dyes and Pigment 161 (2019) 162-71. ISSN: 0143-7208	Rakesh Kumar, R.Bawa, P.Gahlyan, M.Dalela, K. Jindal, P.K. Jha, M. Tomar and V. Gupta
2019	Structural and dielectric properties of PLD grown BST thin films	Vacuum 159 (2019) 69-75. ISSN: 0042-207X	Reema Gupta, Vinay Gupta and Monika Tomar
2019	Low resistivity of pulsed laser deposited Cd _x Zn _{1-x} O thin films	Ceramics International 45 (2019) 1900-08. ISSN: 0272-8842	Sugandha Sharma, Basant Saini, R. Kaur, Monika Tomar, Vinay Gupta and A. Kapoor
2019	Multifunctional CuO nanosheets for supercapacitor electrode material with enhanced photocatalytic activity	J. inorganic and organometallic materials 29 (2019) 1067-75. ISSN: 1574-144	Narender Budhiraja, Vinod Kumar, Monika Tomar, Vinay Gupta and S.K. Singh
2018	A theoretical and experimental formalism of electronic structure of BFO:Cr thin films and modulation of their electrical properties upon visible light illumination	J. Applied Physics 124 (2018) 155304. ISSN: 0021-8979	Shaan Ameer, Kajal Jindal, Monika Tomar, Ashok Kumar, Pradip Jha and Vinay Gupta
2018	Insight into the gas phase dissociation of CF ₃ CH ₂ I and its reactions with H and OH by first principles	Journal of Molecular Modeling 24 (2018) 315. ISSN:1610-2940	Shaan Ameer, Monika Tomar, Pradip K. Jha, and Vinay Gupta
2018	Structural, morphological and optical properties of BiFe _{0.99} Cr _{0.01} O ₃ thin films	Vacuum 158 (2018) 166-7. ISSN: 0042-207X	Shaan Ameer, Kajal Jindal, Savita Sharma, Pradip K. Jha, Monika Tomar and Vinay Gupta
2018	Detailed optical analysis of 100 MeV Ni ⁷⁺ ion irradiated WO ₃ thin films using Surface Plasmon resonance	Radiation Physics and Chemistry 153 (2018) 51-57. ISSN: 0969-806X	Savita Sharma, Ayushi Paliwal, Monika Tomar, Foreign Singh, N.K. Puri and Vinay Gupta
2018	Tunable blue-green emission from ZnS(Ag) nanostructures grown by Hydrothermal synthesis	Journal of Materials Research 33 (2018) 3963-70. ISSN: 0884-2914	Manjula Sharma, S. Sen, Jagannath Gupta, M. Ghosh, S. Pitale, Vinay Gupta and S.C. Gadkari
2018	Effect of metal contacts on a GaN/Sapphire-based MSM Ultraviolet Photodetector	Journal of Electronic Materials 47 (2018) 6086-90. ISSN: 0361-5235	S.K. Jain, S. Krishna, N. Aggarwal, R. Kumar, A. Gundimeda, S.C. Husale, Vinay Gupta ,

			and G. Gupta
2018	Demonstration of wide frequency bandwidth electro-optic response in SBN thin film waveguide	Optical Materials 85 (2018) 26-31. ISSN: 1873-1252	Surbhi Gupta, Ayushi Paliwal, Ruyan Guo, A. Bhalla, <u>Vinay Gupta</u> and Monika Tomar
2018	Study of optical properties of Ce and Mn doped BiFeO ₃ thin films using SPR technique for magnetic field sensing	Vacuum 158 (2018) 48-51. ISSN: 0042-207X	Ayushi Paliwal, Monika Tomar and <u>Vinay Gupta</u>
2018	Improving the quantum efficiency of the monocrystalline silicon solar cell using Erbium-doped Zinc Sulphide nanophosphor in downshift layer	Material Research Express 05 (2018) 095014. ISSN: 2053-1591	Amruta Pattnaik, Shivangi Jha, Monika Tomar, <u>Vinay Gupta</u> , B. Prasad and Som Mondal
2018	Effect of top metal contact on the ferroelectric photovoltaic response of BFO thin film capacitors	Vacuum 158 (2018) 117-20. ISSN: 0042-207X	Savita Sharma, Monika Tomar and <u>Vinay Gupta</u>
2018	Development of nanostructured Nickel oxide thin film matrix by rf sputtering technique for the realization of efficient bioelectrode	Vacuum 158 (2018) 68-74. ISSN: 0042-207X	Nidhi Dhull, Gurpreet Kaur, <u>Vinay Gupta</u> and Monika Tomar

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. "Enhancement of magnetic anisotropy of Fe₂Pb₂ with W substitution: ab-initio study", Jyoti Thakur, Priti Rani, Monika Tomar, Vinay Gupta and Manish K. Kashyap, **AIP conference Proceedings** 2093 (2019) 020012. DOI: 10.1063/1.5097081. Proceedings of National conference on Recent advances in Condensed Matter Physics.
2. "Enhancement in power conversion efficiency of multi-crystalline silicon solar cell by ZnS nano particles with PMMA", A. Pattnaik, Monika Tomar, S. Mondal, Vinay Gupta and B. Prasad, **Springer Proceedings in Physics**, 215 (2019) 399-405. Springer, Cham. Editors: R. Sharma and D. Rawal, The Physics of Semiconductor Devices. IWPSD 2017. ISBN:978-331997603-7.
3. "Effect of Oxygen Pressure on Growth of Cd_{0.05}Zn_{0.95}O Thin Films Using Pulsed Laser Deposition", S. Sharma, B. Saini, R. Kaur, V. Gupta, M. Tomar and A. Kapoor, **Springer Proceedings in Physics**, 215 (2019) 1059-64. Springer, Cham. Editors: R. Sharma and D. Rawal, The Physics of Semiconductor Devices. IWPSD 2017. DOI:10.1007/978-3-319-97604-4_162. ISBN:978-331997603-7.
4. "Effect of vacancies on structural and magnetic properties of BiFeO₃", Shaan Ameer, Kajal Jindal, Monika Tomar, Pradip K. Jha and Vinay Gupta, **Advanced Science, Engineering and Medicine**, 10 (2018) 741-44. Doi: 10.1166/asem.2018.2250, ISSN:2164-6627, Pub: Americal Scientific Publishers, USA, Special issue on Proceedings of International conference on nanoscience and nanotechnology (ICNN), September 22-24, 2017 held at Babasaheb Bhimrao Ambedkar University, Lucknow, India
5. "Effect of Pr³⁺ substitution on structural, dielectric, electrical and magnetic properties of BiFe_{0.80}Ti_{0.20}O₃ [Bi_{1-x}Pr_xFe_{0.80}Ti_{0.20}O₃], x= 0.05, 0.10, 0.15] ceramics", Prakash Chandra Sati, Mohit Sahni, Manoj Kumar, Manisha Arora, Puneet Negi, Monika Tomar, Vinay Gupta and Naresh Kumar, **Integrated Ferroelectrics** 193 (2018) 1-13, (IF: 0.37), ISSN: 1058-4587. DOI: 10.1080/10584587.2018.1514876. Proceedings of International Symposium on Integrated Functionalities (ISIF 2017), Shangri La, Delhi, India, 10-13 Dec. 2017.
6. "Facile synthesis of porous CuO Nanosheets as high performance NO₂ gas sensor", Narender Budhiraja, Sapna, Vinod Kumar, Monika Tomar, Vinay Gupta and S.K. Singh, **Integrated Ferroelectrics** 193 (2018) 59-65, (IF: 0.37), ISSN: 1058-4587. DOI: 10.1080/10584587.2018.1514884. Proceedings of International Symposium on Integrated Functionalities (ISIF 2017), Shangri La, Delhi, India, 10-13 Dec. 2017.

7. "Emergence of magnetism in silicene by introducing carbon atom as foreign atom in all possible ways", Jyoti Thakur, Monika Tomar, Vinay Gupta & Manish K. Kashyap. **Integrated Ferroelectrics** 194 (2018) 53-59, (IF: 0.37), ISSN: 1058-4587. DOI: 10.1080/10584587.2018.1514880. Proceedings of International Symposium on Integrated Functionalities (ISIF 2017), Shangri La, Delhi, India, 10-13 Dec. 2017.
8. "Optical study of ZnS nano sphere with varying amount of ethylenediamine for photovoltaic application", Amruta Pattnaik, Monika Tomar, Vinay Gupta, B. Prasad and Som Mondal, **Integrated Ferroelectrics** 194 (2018) 131-40, (IF: 0.37), ISSN: 1058-4587. DOI: 10.1080/10584587.2018.1514872. Proceedings of International Symposium on Integrated Functionalities (ISIF 2017), Shangri La, Delhi, India, 10-13 Dec. 2017
9. "MEMS based microheaters integrated gas sensors", Avneet Singh, Anjali Sharma, Nidhi Dhul, Anil Arora, Monika Tomar and Vinay Gupta, **Integrated Ferroelectrics** 193 (2018) 72-87, (IF: 0.37), ISSN: 1058-4587. DOI: 10.1080/10584587.2018.1514877. Proceedings of International Symposium on Integrated Functionalities (ISIF 2017), Shangri La, Delhi, India, 10-13 Dec. 2017.
10. "WO₃/BTO heterostructures based NO₂ sensor with enhanced response characteristics", Savita Sharma, Monika Tomar, Nitin K. Puri and Vinay Gupta, **Integrated Ferroelectrics** 193 (2018) 106-20. (IF: 0.37), ISSN: 1058-4587, DOI:10.1080/10584587.2018.1516069. Proceedings of International Symposium on Integrated Functionalities (ISIF 2017), Shangri La, Delhi, India, 10-13 Dec. 2017.
11. "Effect of Li Doping on the Electronic and Magnetic Properties of BiFeO₃ by First Principles", Shaan Ameer, Kajal Jindal, Monika Tomar, Pradip Jha and Vinay Gupta, **Integrated Ferroelectrics** 193 (2018) 123-28, (IF: 0.37), ISSN: 1058-4587. DOI: 10.1080/10584587.2018.15148. Proceedings of International Symposium on Integrated Functionalities (ISIF 2017), Shangri La, Delhi, India, 10-13 Dec. 2017.
12. "Study of electrical, dielectric and EMI shielding behaviour of copper metal, copper ferrite and PVDF composite", Krishna Halder, Rakesh Sonker, V.K. Sachdev, Monika Tomar and Vinay Gupta, **Integrated Ferroelectrics** 194 (2018) 78-85 (IF: 0.37), ISSN: 1058-4587. DOI: 10.1080/10584587.2018.1514879. Proceedings of International Symposium on Integrated Functionalities (ISIF 2017), Shangri La, Delhi, India, 10-13 Dec. 2017.
13. "Structural, Optical and photocatalytic properties of ZnO nanostructures", Narender Budhiraja, Sapna, Vinod Kumar, Monika Tomar, Vinay Gupta and S.K. Singh, **AIP Conference Proceedings** 2006 (2018) 030046. National Conference on recent advances in experimental & Theoretical Physics (RAETP-2018), Jammu, India, 17-18 April 2018. Doi:10.1063/1.5051302. ISSN 1551-7616(Citation: 0). Pub: AIP, USA
14. "Fabrication of ZnO/Si Lamb Wave Acoustic devices", Lokesh Rana, Reema Gupta, Anjali Sharma, Monika Tomar and Vinay Gupta, **Ferroelectrics** 535 (2018) 41-46 (IF: 0.55), Print ISSN: 0015-0193. Proceedings of 14th International Meeting on Ferroelectricity (IMF-14), Grand Hyatt, San Antonio, Texas, USA. 4-8 Sept. 2017
15. "XPS resolved surface states analysis of ZnO and Ni doped ZnO films for quantum well applications", Sheetal Dewan, Monika Tomar, A.K. Kapoor, R.P. Tandon and Vinay Gupta. **Ferroelectrics** 534 (2018) 199-205. DOI: 10.1080/00150193.2018.1473678, (IF: 0.55), Print ISSN: 0015-0193. Proceedings of 14th International Meeting on Ferroelectricity(IMF-14), Grand Hyatt, San Antonio, Texas, USA. 4-8Sept. 2017
16. "Study of birefringence and electro-optic effect in SBN60 thin film", Surbhi Gupta, Ayushi Paliwal, Vinay Gupta & Monika Tomar, **Ferroelectrics** 533 (2018) 35-42.DOI: 10.1080/00150193.2018.1470828, (IF: 0.55), Print ISSN: 0015-0193. Proceedings of 14th International Meeting on Ferroelectricity (IMF-14), Grand Hyatt, San Antonio, Texas, USA. 4-8 Sept. 2017
17. "Studies on the effect of integration of metal nanoclusters on the electrical and ferroelectric properties of barium titanate thin film", Savita Sharma, Monika Tomar, Ashok Kumar and Vinay Gupta, **Ferroelectrics** 533(2018) 43-48. DOI:10.1080/00150193.2018.1470829 (IF:0.55), Print ISSN:0015-0193. Proceedings of 14th International Meeting on Ferroelectricity (IMF-14), Grand Hyatt, San Antonio, Texas, USA. 4-8 Sept. 2017
18. "Growth of ternary Cd₅Zn_{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, ISSN 1551-7616, "2nd International Conference on Condensed Matter and Applied Physics (ICC-2017)", Bikaner, 24-25 Nov. 2017. (Citation: 0). Pub: AIP, USA
19. "Study of half-metallicity in BiMn_xFe_{1-x}O₃", Shaan Ameer, Kajal Jindal, Monika Tomar, P.K. Jha and Vinay Gupta, **AIP Conference Proceedings**, 1953 (2018) 110018. Doi: 10.1063/1.5033043, ISSN 1551-7616, "2nd International Conference on Condensed Matter and Applied Physics (ICC-2017)", Bikaner, 24-25 Nov. 2017, (Citation: 01). Pub: AIP, USA
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23. "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, **Materials Today: Proceedings**, 5 (7) (2018) 15348-53. Proceedings of the 10th National Conference on Solid State Chemistry and Allied Areas, DTU, Delhi. 1-3 July 2017, ISSN: 2214-7853, DOI: 10.1016/j.matpr.2018.05.016. (Citation: 0), Pub: S. Bland
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25. "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. Proceedings of DAE Solid State Physics Symposium 2017, Mumbai, India, Doi: 10.1063/1.5029062, ISSN 1551-7616, (Citation: 02), Pub: AIP, USA, Pub: AIP, USA
26. "Carbon material-nanoferrite composite for radiation shielding in microwave frequency", Preeti Gairola, S.P. Gairola, S.K. Dhawan, R.P. Tandon, Vinay Gupta, L.P. Purohit, Sudesh Sharma, **Integrated Ferroelectrics** 186 (2018) 40-48. DOI: 10.1080/10584587.2017.1369324. (IF: 0.37), ISSN: 1058-4587. Special issue on Proceedings of International conference on Technologically Advanced Materials (ICTAM-2016), 7-11 Nov.2016, Univ.of Delhi, India
27. "Tuning of structural and optical properties by sintering of multiferroic GdMnO₃ precursor", Puneet Negi, Gagan Dixit, H.M. Agrawal, Hemaunt Kumar, R.C. Srivastava, P.C. Sati, Vinay Gupta and K. Ashokan, **Ferroelectrics** 519 (1) (2017) 200-08, DOI: 10.1080/00150193.2017.1361261, (IF: 0.55), Print ISSN: 0015-0193. Special issue on Proceedings of the 10th Asian meeting on Ferroelectrics (AMF-10), 7-11 Nov.2016, University of Delhi, India.
28. "Coplanar waveguide resonator using PLZT thin film", Reema Gupta, Lokesh Rana, Anjali Sharma, A.P. Freundorfer, Michael Sayer, Monika Tomar and Vinay Gupta, **Ferroelectrics** 515 (1) (2017) 8-12, DOI: 10.1080/00150193.2017.1360096, (IF: 0.73), Print ISSN: 0015-0193. Special issue on selected papers from 13th European conference on Applications of Polar Dielectrics (ECPAD-13) (jointly organized with ISAF-2016 and workshop on PFM), Technical University of Darmstadt, Germany, 21-25 August 2016.
29. "Photovoltaic response of hydrothermally derived BFO ceramics", Savita Sharma, Nitin Puri and Vinay Gupta, **Emerging Materials Research** 06 (2017) 151-54 [UGC-Journal-SNo-10796] (IF: 0.31). DOI: 10.1680/jemmr.15.00065, ISSN 2046-0147. Special issue as Proc. of 9th National Conference on Solid State Chemistry and Allied Areas, held at Conference Centre, University of Delhi, India, 8-10 May 2015
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31. "Luminescence studies of laser MBE grown GaN on ZnO nanostructures", Sheetal Dewan, Monika Tomar, Ashok 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. SPIE Nanoengineering: Fabrication, Properties, Optics, and Devices XIV, 6-10 August 2017, San Diego, California, USA, ISBN: 9781510611658, ISSN: 1996-756X, (Citation: 0), Pub: SPIE
32. "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** 178 (2017) 261-65. Doi: 10.1007/978-3-319-29096-6.36. Proceedings of Recent Trends in Materials and Devices (ICRTMD 2015), Amity University, ISSN: 0930-8989, Pub: Springer Nature Switzerland AG
33. "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. SPIE Nanoengineering: Fabrication, Properties, Optics, & Devices XIV, 6-10 Aug.2017, San Diego, California, USA, ISBN: 9781510611658, ISSN: 1996-756X, (Citation: 0). Pub: SPIE
34. “Pump probe studies in Ruby/gold thin film”, Satchi Kumari, Alika Khare, Reema Gupta and Vinay Gupta, **Proceedings of 2016 International Conference on Fibre Optics and Photonics**, paper W4C.5, Kanpur, India, 4-8, Dec. 2016, ISBN: 978-1-943580-22-4. DOI: 10.1364/PHOTONICS.2016.W4C.5, Pub: OSA Publishing, USA
 35. “Development of metal oxide thin films for self power generating integrated devices”, Anjali Sharma, Prashant Kumar Raghav, Reena Gupta, Monika Tomar and Vinay Gupta, **Proceedings of 2016 Joint IEEE International Symposium on the Applications of Ferroelectrics, European Conference on Application of Polar Dielectrics, and Piezoelectric Force Microscopy Workshop (ISAF/ECAPD/PFM)**, A.N.7578065, Pg:1-3. Darmstadt, Germany. 21-25 Aug. 2016, DOI: 10.1109/ISAF.2016.7578065. ISBN(Electron.): 978-1-5090-1871-0, (Citation: 0). Pub: IEEE
 36. “SAW field and Acousto-optical interaction in ZnO/AlN/Sapphire structure”, Lokesh Rana, Vinay Gupta, Namrata Dewan Soni and Monika Tomar, **Proceedings of 2016 Joint IEEE International Symposium on the Applications of Ferroelectrics, European Conference on Application of Polar Dielectrics, and Piezoelectric Force Microscopy Workshop (ISAF/ECAPD/PFM)**, A.N. 7578095, Pages: 1-4, Darmstadt, Germany. 21-25 Aug. 2016. DOI: 10.1109/ISAF.2016.7578095. ISBN(Electronic): 978-1-5090-1871-0, (Citation: 0). Pub: IEEE
 37. “Study of ferroelectric SBN thin films for electro-optic applications”. Surbhi Gupta, Ayushi Paliwal, Vinay Gupta, and Monika Tomar, **Proceedings of 2016 Joint IEEE International Symposium on the Applications of Ferroelectrics, European Conference on Application of Polar Dielectrics, and Piezoelectric Force Microscopy Workshop (ISAF/ECAPD/PFM)**, A.N. 7578098, Pages: 1-3. Darmstadt, Germany. 21-25 Aug. 2016, DOI: 10.1109/ISAF.2016.7578098. ISBN(Electronic): 978-1-5090-1871-0, (Citation: 0), Pub: IEEE
 38. “Prominent photovoltaic response in multiferroic BFO/BTO heterostructures”, Savita Sharma, Nitin K. Puri, Vinay Gupta and Monika Tomar, **Proceedings of 2016 Joint IEEE International Symposium on the Applications of Ferroelectrics, European Conference on Application of Polar Dielectrics, and Piezoelectric Force Microscopy Workshop (ISAF/ECAPD/PFM)**, A.N. 7578092, Pages: 1-4. Darmstadt, Germany. 21-25 Aug. 2016, DOI: 10.1109/ISAF.2016.7578092. ISBN(Electronic): 978-1-5090-1871-0 (Citation: 0)
 39. “Low temperature operated NiO-SnO₂ heterostructured SO₂ gas Sensor”, Punit Tyagi, Anjali Sharma, Monika Tomar and Vinay Gupta, **AIP conference proceedings**, 1724 (2016) 20077. doi: 10.1063/1.4945197. Contributory papers presented in 2nd International Conference on Emerging Technologies: Micro to Nano 2015 (ETMN-2015). ISSN: 0094-243X, E-ISSN 1551-7616, (Citation: 0)
 40. “Long range surface plasmon resonance (LRSPR) based highly sensitive refractive index sensor using Kretschmann prism coupling arrangement”, Ayushi Paliwal, Anjali Sharma, Monika Tomar and Vinay Gupta, **AIP conference proceedings**, 1724 (2016) 020132.1-5. doi: 10.1063/1.4945252. ISSN: 0094-243X, E-ISSN 1551-7616, Contributory papers presented in 2nd International Conference on Emerging Technologies: Micro to Nano 2015 (ETMN-2015). (Citation: 02)
 41. “Enhanced dielectric properties of multilayered BiFeO₃/BaTiO₃ capacitors deposited by pulsed laser deposition”, Savita Sharma, Monika Tomar, Ashok Kumar, Nitin K Puri and and Vinay Gupta, **AIP conference proceedings**, 1724 (2016) 020098.1-7. doi: 10.1063/1.4945218. ISSN: 0094-243X, E-ISSN: 1551-7616, Contributory papers presented in 2nd International Conference on Emerging Technologies: Micro to Nano 2015 (ETMN-2015). (Citation: 01)
 42. “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**, 1731 (2016) 050152. doi: 10.1063/1.4947806, ISSN: 0094-243X, E-ISSN: 1551-7616, ISBN: 978-0-7354-1378-8. (Citation: 0), DAE Solid State Physics Symposium 2015, Uttar Pradesh, India, 21-25 Dec.2015. Pub: AIP. USA

b) Invited talks (Last 03 years)

- Invited Talk, “National conference on Smart Energy Resources and Sustainable Engineering”, Swami Shradhanand College, 28-29 March 2019.
- Invited Talk, National conference on recent trends and advancements in chemical sciences”, Conference center, University of Delhi, 29-31 March 2019
- Invited Talk at International conference on Advanced Materials (ICAM-2019), Centre for Nanoscience & Nanotechnology, Jamia Millia Islamia, New Delhi, 06-07 March 2019.
- Invited Talk, Science Day celebration, Hansraj College, 28 Feb 2019
- Invited Talk, First Indian Materials conclave and 30th annual general meeting of MRSI, IISc, Bangalore, 12-15 February 2019.

- Invited (key-note) Talk, “International Conference on Physics, Society and Technology (ICPST)”, Conference Centre, University of Delhi (DB College), 17-19 January 2019.
- Invited Talk, Dr. Savita Datta Memorial Lecturer, Maitrey College (Univ. of Delhi), 28 September 2018.
- Invited Talk, National Seminar on "New Trends in Nanotechnology and applications" (NTNA-2018), Atma Ram Sanatan Dharma College (University of Delhi), 27 September 2018.
- Key Note speaker, Workshop on skill development to build a clean India, Deshbandhu College (Univ. of Delhi) in collaboration with CSIR, Oil and Natural Gas Corporation Ltd., New Delhi, 7-8 June 2018,
- Invited Talk, National conference on current and future prespectives in Nanotechnology (Nanoworld-2018)", Department of Physics, Shivaji college (Univ. of Delhi), Raja Garden, 12-13 April 2018.
- Invited Talk, International workshop on soft Materials & Devices, 21-25 March 2018, Central Univ.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
- Technical session chair and Plenary Talk at International Conference on Nanoscience and Nanotechnology (ICNN-2017), Babasaheb Bhimrao Ambedkar University, Lucknow, India from September 22 to 24, 2017
- Invited Talk, 14th International Meeting on Ferroelectrics(IMF-2017), 4-8 Sept.2017, San Antonio,Texas, 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
- Technical session chair and Invited Talk on “Energy harvesting using multifunctional thin films”, 10th National Conference on Solid State Chemistry and Allied Areas(ISCAS 2017), Delhi Technical University, 1-3 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, Validictory Talk, 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, “Research 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, Haryana, 20 July 2016
- Invited Talk, “Processing techniques for thin films and nanostructures”, Workshop on Techniques of Materiel proceesing, Central Unniversity of Haryana, 27-29 April 2016.
- Invited Talk, “Semiconductor thin films and nanostructure for UV photodetectors and Biosensors”, at Nation conference on Semiconductor Materials and Devices, IIT Jodhpur, 4-6 March 2016
- Invited Talk, at Astitva, DR College, 2 March 2016.
- Invited Talk, “Thin fims & multilayer structures of multiferroics for energy harvesting applications”, Internatic conference on Materials Science & Technology”, Conference Center, Univ. of Delhi, Delhi, 1-4 March 2016.
- Invited Talk, 2nd Conference on Microscopy of Materials (AMST-2016), 25-27 Feb 2016, Thapar Univ., Patiala.
- Invited Talk, Electronic Science Department, Kurukshetra University, Haryana, 25 Feb 2016
- Key Note Talk, National workshop on “Advance Techniques in Mathematics, Physics & Computer Sciences, 18th F 2016, SRM University, Ghaziabad, U.P.

- Key Note address, “Alternate Sources of Energy”, in the Enrichment Programme - Fundamentals of Physics for teachers of classes VI- X, the DPS Society’s- HRD Centre, 15 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 properties of unknown materials and optical sensors”, International conference on Advances in Light Technologies and Spectroscopy of Materials (ICALTSM -2016), University of Lucknow, 16-18 January 2016

Research Projects (Major Grants/Research Collaboration)

Major Grants as Principal Investigator:

Sponsoring Agency	Title of the projects	Tenure	Status
DRDO	Fabrication of Lamb Wave Devices on SiO ₂ /Si Membrane for strategic applications	March 2019-2022	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
DRDO	Optimization of TiO _x film and patterning of the polymer (PI-2610) as sacrificial layer for pixel fabrication	March 2018-2019	Ongoing
DRDO	Feasibility study for fabrication of Air bridges by gold electroplating	July 2017- 2019	Completed
DeitY (Min. IT&Comm.)	Demonstration of GaN LED by PLD	Feb.2014-Sept.18	Completed
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&Comm.)	Development of low-cost real-time monitoring system for harmful gases (Ph-1)	March 2010 -2013	Completed
DeitY (Min. IT & Comm.)	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.	Development of prototype of SAW sensor for NO _x gas	Aug. 2009-2012	Completed

of S&T)			
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
- Dr. Ajay Agarwal, MEMs Division, CEERI (CSIR), Pilani
- Prof. Rajinder Singh, IIT Delhi, Delhi
- Dr. Sunil Arora, Panjab University, Chandigarh
- Dr. R.P. Singh, CFEES (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.
- 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 (2015-19), 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, Vol. 193-194 (2018), 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, National Advisory Committee, XXth International Workshop on The Physics of Semiconductor Devices (IWPSD-2019), 2013, jointly by S. N. Bose National Centre for Basic Sciences, Kolkata and Indian Institute of Technology, Kharagpur, 17-20 Dec. 2019**
- **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 Committee, 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 ILL, 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

- **Coordinator (2018-23), Centre for Advanced Studies (CAS-I), Dept. of Physics & Astrophysics, Univ. of Delhi**
- **Member (2018-22), Technical Review & Advisory committee(TRAC) for DeitY project “Nanoelectronics Network for research & Applications” implemented by IISc, IITs (Bombay, Madras, Delhi, Kharagpur) in area of “Energy & Environment”**
- **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
- Expert Member (13-6-2019 to 12-6-2021), Post Graduate board of studies and Research in Physics, Ch. Devlal University, Sirsa, Haryana
- Member (2018-21), School Board, School of Physical & Mathematical Sciences, Central University of Haryana
- 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, Amravati, 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)
- Convenor, Steering committee for Undergraduate Course (LOCF-CBCS) Revision of Physics, Department of Physics & Astrophysics, University of Delhi (2019)
- 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 Bank 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 forUSIC
- 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-ENSCP - 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 Lausanne.

Signature of Faculty Member

- You are also requested to also give your complete resume as a DOC or PDF file to be attached as a link on your faculty page.