RESUME

Dr. JITENDER KUMAR
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Delhi , INDIA

Educational Summary:

Qualification	University/Institution	Year of Passing	Division/ Class/ Grade	Main Subjects
PhD.	University of Delhi	2012		Electronic Science
M.Sc. Electronics Science	University of Delhi	2006	FIRST	Electronic Science
B.Sc. (Hons.) Electronics	University of Delhi	2004	FIRST	Electronics

National Eligibility Test (NET) (UGC)

Qualified in : **Dec 2006** Roll No : **K177543** **Subject** : Electronic Science

Corporate life of the College (Responsibility)

- Member IQAC of the College (2023 till date)
- Teacher Incharge , Department of Instrumentation (2023 till date)
- Convener , CPC (Central Purchase committee (2020 till date)
- Liaison Officer of the College :
- NAAC Core Committee Member :
- Convener: SC/ST Cell (2021 till date)
- Convener Anti Discriminatory Cell (2022 till date)
- DBT Star College Departmental Coordinator (2021-22)
- Convener : Admission grievance subcommittee (SC/ST/EWS)
- Convener , Admission Committee (2018-2020)
- Convener: AMC (2014-15)
- B. Tech Project Coordinator (2016-17)
- Convener: CPC subcommittee Physical Sciences (2016-17)
- Teacher Incharge , Department of Electronics Sciences (2015-17)
- Teacher Incharge , Department of Instrumentation (2022 till date)

- ❖ Convener : Special Categories Admission Enabling committee (2013-2015,2016-2017)
- ❖ IGNOU Academic Councilor and Assistant Coordinator **(for optimum utilization of resources)**

Area of Interest (Research) :

Growth of semiconductor nanostructures and their applications in Industry

Research Project completed:

1. Project Title:"*Measurement of Optical Non-linearities in Wide Bandgap II-VI Semiconductor Quantum Dots Suitable for All-Optical Switching Devices*" (Funding:Department of Science & Technology (DST) sponsored project)
2. Development of wireless sensor for detection and real time monitoring of Microorganisms(DU Innovation Project) (2015-16)

Association with Professional bodies

Life Membership: The Indian Science Congress Association (L26741)Life

Membership: Semiconductor Society (INDIA) SSI (201503671)

Publication in Journals

[1] **Jitender Kumar** , A. Mittal , D. Madhwal , A. Kaur and S. Sharma " Impact of Global Climate Change on Society and Life Sustaining Resources" Mukt Shabd Journal (UGC Care Journal) , ISSN NO : 2347-3150 (**Jan 2025**) **Doi:10.0014.msj.2024.v14i1.0086781.262760**

[2] D. Madhwal, V Kumar, Shukla, **Jitender Kumar** , N Bhardwaj , V K Jain **"** Wearable electro-optical sensor for monitoring of nitrogen dioxide gas in environment" Sensors and Actuators A: Physical, Volume 379, 1 December **2024**, 115870, https://doi.org/10.1016/j.sna.2024.115870.

[3] A.Kaur , S Sharma , M K Tiwari , **Jitender Kumar** , Srijan and S Tadulkar "Performance Enhancement of IoT-based Automatic Face Mask Detector as Preventive Safety Measure for Air Pollution and Viral" International Journal for Research in Engineering Application & Management (UGC Listed Journals) IJREAM (**Dec , 2023),** ISSN: 2454-9150

[4] S. D. Sadhu , P. Meena , **Jitender Kumar** , J.Gupta "Preparation and characterization of polyaniline- and polythiophene-based copolymer and its nanocomposite " Polymer Composites" **2020,** Volume 41**,** page 4619-4630. (indexing Scopus, SCI, IF 3.531)

[5] **Jitender Kumar,** Ajay Kumar, Neeraj Kumar, Palak Banal, Rishi Kashyap, Sanjeev Kumar "LONG RANGE SPY ROBOT USING DTMF TECHNOLOGY" International Journal of Advanced research in Science and Engineering **(2017) http://ijarse.com/images/fullpdf/1493993006_IF2066ijarse.pdf** (UGC Care)

[6] A. Kaur, I. Singh, **J. Kumar**, C.Bhatnagar, S. K.r Dixit , P. K. Bhatnagar, P. C. Mathur, J. A. Covas and M. C. Paiva "Enhancement in the performance of MWCNT:PMMA composite thin film ethanol sensor through appropriate nanotube functionalization" Material science in semiconductor processing**, 2015**, Volume 31, Page 166-174. (indexing Scopus, SCI, IF 4.1)

[7] T.S.Prajapati, S. Jha, S. Jain, T. Dhewa, **J. Kumar**, A. Kumar "Essence , Trends and Proposed

Design for Microbial Sensing" ,International Journal for Scientific research and development",October **2015**, page 30-33 https://www.ijsrd.com/C_Article.php?manuscript=NCILP008

[8] I.Singh, S.madan, A. Kaur, **Jitender Kumar**, P. K. Bhatnagar , P.C.Mathur and S S Islam "Study of relaxation dynamics of photogenerated excitons in $CuInS_2$ quantum dots" MRS Communication **,2014,** Volume 4, Page 1-5**.** (indexing Scopus, SCIE, IF 2.935)

[9] A Kaur,I Singh, **Jitender Kumar**, D Madhwal, P K Bhatnagra ,P C Mathur , A C Bernardo and M C Paiva "An Environment Friendly Highly Sensitive Ethanol Vapor Sensor Based on Polymethylethacrylate: Functionalized-Multiwalled Carbon Nanotubes Composite" Advance science and engineering medicine **, 2013**, Volume 5, page 1062- 1066 .

[10] **Jitender Kumar**,S. Madan, D. Madhwal, I. Singh, P. K. Bhatnagar , P.C.Mathur and S S Islam "Characterization of Quantum Dots of $CdSe_xS_{1-x}$ using XRD, UV-Vis absorption and Raman Spectroscopy measurements" International Journal of Nanosciences**,** ***2012****, Volume 11,* 1250015. (indexing Scopus, IF 0.8)

[11] S K Dixit, S Madan, D Madhwal, **Jitender Kumar**, I Singh, C S Bhatia, P K Bhatnagar and P C Mathur. **"**Bulk Hetrojunction formation with induced concentration gradient from a bilayer structure of P3HT:CdSe/ZnS Quantum Dots using Inter-Diffusion Process for developing high efficiency stable solar cell " Organic electronics, **2012**, Volume 13, 533. (indexing Scopus, IF 3.2)

[12] S Madan**, Jitender Kumar**, D.Madhwal, I.Singh,. P K Bharnagar and P C Mathur"Colour Tuning and Enhanced performance of MEH-PPV based Polymer light Emitting Diodes by using CdSe/ZnS uncapped quantum Dots as dopants" Journal of nanophotonics , **2011**, Volume 5, 053518. (indexing Scopus, SCIE, IF 1.5)

[13] D. Madhwal, I. Singh**, Jitender Kumar**, P.K. Bhatnagar and P.C. Mathur" Increasing the luminous efficiency of a MEH-PPV based PLED using salmon DNA and single walled carbon Nanotube" Journal of luminescence**, 2011,** Volume 131, page 1264-1266.(indexing Scopus, IF 3.6)

[14] I. Singh, D. Madhwal, **Jitender Kumar**, S. Rait, C. Bhatnagar, I. Kaur, L.M. Bharadwaj, P.K. Bhatnagar and P.C. Mathur. "Effect of thermal annealing on the efficiency of P3HT:PCBM bulk heterojunction solar cells" Journal of Nanophotonics, **2011**, Volume **5**, 053504. (indexing Scopus, SCIE, IF 1.5)

[15] R B Gupta**, Jitender Kumar**, D Madhwal, I Singh, I Kaur, L M Bhardwaj, S Nagpal, P K Bhatnagar and P C Mathur. "Improvement in the luminoue efficiency of MEH-PPV Based light emitting diodes using zinc oxide nanorodes grown by the electrochemical technique on ITO substract" Physica Scripta , **2011**, Volume **84**, 015705. (indexing Scopus, SCI, IF 2.9)

[16] S. Madan, **Jitender Kumar**, I. Singh, D. Madhwal, P. K. Bhatnagar and P.C.Mathur "Effect of cadmium Vacancies on the optical properties of chemically prepared CdS Quantum Dots" Physica Scripta, **2010**, Volume 82 **,** 045702. . (indexing Scopus, SCI, IF 2.9)

[17] **Jitender Kumar,** A. Verma, P. K. Pandey, P. K. Bhatnagar, P. C. Mathur, M. Bhatnagar, W. Liu and S.H.Tang "Two-Photon absorption in Quantum Dots of CdS_xSe_{1-x} using open aperture

Z- scan and Femto-second laser" NANO, **2009**, Volume 4, page 23-29. (indexing Scopus, SCIE, IF 1.2)

[18] **Jitender Kumar,** A. Verma, P. K. Pandey, P. K. Bhatnagar, P. C. Mathur, W. Liu and S.H.Tang "Study of optical absorption and Photoluminescence of Quantum Dots of CdS formed in Borosilicate Glass matrix" Physica Scripta**, 2009,** Vol 79, 065601. (indexing Scopus, SCI, IF 2.9)

[19] **Jitender Kumar,** A. Verma, P. K. Pandey, P. K. Bhatnagar, P. C. Mathur, M. Bhatnagar, W. Liu and S.H.Tang" Compositional Effect on the Optical Absorption and Photoluminescence of CdS_XSe_{1-X}Quantum Dots Embedded in Borosilicate Glasses"International Journal of Nanosciences**, 2009,** Volume 8, 403. (indexing Scopus, IF 0.8)

[20] A. Verma, P. K. Pandey, S. Nagpal, P. K. Bhatnagar P. C. Mathur and **Jitender Kumar** "Development of Low Size Dispersion, High Volume Fraction and Strong Quantum confine CdS_xSe_{1-x} Quantum Dots Embedded in Borosilicate Glass Matrix and Study of their Optical Properties, Advanced materials Research, **2008**, Volume 31, Page 161- 163 (indexing UGC Care)

[21] A.Verma, P. K. Pandey, **Jitender Kumar**, S. Nagpal, P. K. Bhatnagar and P. C. Mathur "Growth Dynamics of II-VI Compound Semiconductor Quantum Dots Embedded in Borosilicate Glass Matrix" International Journal of Nanoscience , **2008**, volume 7 , no 2& 3 page 1-10(indexing Scopus, IF 0.8).

Conference Papers

[1] **Jitender Kumar**, A.Mittal, D. Madhwal, A.Kaur, A.Mishra, R. Sisodia, D. P. Solanki "Disease risk prediction in Healthcare sector by Machine Learning " Amity Institute for Advanced Research and Studies (Materials & Devices) & Amity Institute of Nanotechnology, Amity University Uttar Pradesh, Noida, U.P., INDIA 18-20 Sept **2024.**

[2] D. Madhwal, P. Shukla, V.Kumar, **Jitender Kumar**, N. Bhardwaj and V. K. Jain "Electro-Optical sensing of Toxic Gases in Environment " International conference on Semiconductor Technology Materials to chips (ICST-2024) , Amity Institute for Advanced Research and Studies (Materials & Devices) & Amity Institute of Nanotechnology, Amity University Uttar Pradesh, Noida, U.P., INDIA 18-20 Sept **2024**

[3] S. Jyoti Dey, A. Kaur , Jitender Kumar "Lamp Black Nano -Coated Efficient Solar Heat Absorber" International Conference on current trends in Chemical Sciences for sustainable Living" **4-5 April 2024** , Shyam Lal College , University of Delhi

[4] **Jitender Kumar** "Effect of Global Climate Change on Society and future need" World Environment submit 2022 (oral presentation) at Auditorium V.P. Chest Institute , University of Delhi , North campus from 15-16 Oct **2022**.

[5] **Jitender kumar**, s. Madan, I. Singh, A. Kaur, P K Bhatnagar and P C mathur, "*Effect of confinement on electronic structure and electron phonon interaction in CdSSe Quantum dots*" IWPSD 2013, **10-13 Dec, 2013**, Amity University.

[6] A Kaur, **Jitender Kumar**, I Singh, D Madhwal, A Kumari, N Prasad, P K Bhatnagra and P C Mathur "*Nanostructure Graphene and chemically functionalized multiwalled carbon nanotube based gas sensors"***Indo-Canadian Symposium on Nano science and technology Feb 20-22, 2013**.

[7] A. Kumari, N. Prasad, **Jitender Kumar**, D Madhwal, P K Bhatnagar and P C Mathur *"To study the effect of annealing on the optical properties of graphene oxide"* **IWPSD** Nagpur **2011.**

[8] S K Dixit, D madhwal, **Jitender Kumar**, I Singh , P K Bhatnagar and P C Mathur *"Fabrication and characterisation of P3HT-PCBM Quantum dot based solar cell*"**IWPSD** Nagpur **2011.**

[9] **Jitender Kumar**, A. Verma, P. K. Pandey, P. K. Bhatnagar, P. C. Mathur, W. Liu and S.H. Tang "Below Gap Absorption and Photoluminescence due to Trap Centers Generated at the Interface of CdS Quantum Dots Embedded in Borosilicate Glasses" **"The Asian Conference on Solid State Ionics"** (**ACSSI-2008,** 9th - 13th June) Coimbatore (page 887-894)

[10] Jitender Kumar, I.P. Singh, J. Singh, S. S. Singh, C. Bhatnagar and V. K. Jain "Development of Low Cost Carbon Nanotube Based Alcohol Sensor" **ICMAT 2009 Symposium H.**

[11] P. C. Mathur, P. K. Bhatnagar, **Jitender Kumar,** A. Verma, P. K. Pandey, W. Liu and S.H. Tang "Optical Absorption, Photoluminescence and Third Order Two-Photon Nonlinear Absorption Coefficient Studies in Quantum Dots of CdS_xSe_{1-x} Grown in Borosilicate Glass Matrix" **ICMAT 2009 symposium O**

[12] A. Verma, P. K. Pandey, S. Nagpal P. K. Bhatnagar P. C. Mathur and **Jitender Kumar** "Development of Low Size Dispersion, High Volume Fraction and Strong Quantum confined CdS_xSe_{1-x} Quantum Dots Embedded in Borosilicate Glass Matrix and Study of their optical Properties" ICMAT **2007**, Singapore.

[13] S. Madan, **Jitender Kumar**, I. Singh, D. Madhwal, P. K. Bhatnagar and P.C.Mathur, International Conference on Nanosensors and Technology (**ICNST -2010**), Chandigarh, India, Oct 28-30.

[14] S. Madan, **Jitender Kumar**, I. Singh, D. Madhwal, P. K. Bhatnagar and P.C.Mathur, synthesis and characterization of II-VI compound semiconductor quantum dots for enhancing the electroluminiscence of polymer based light emitting diodes, **ICMAT 2011,**Symposium EE**.**

[15] P.C.Mathur, P. K. Bhatnagar, S. Madan, I. Singh, **Jitender Kumar**, and S.K.Dixit "Fourth Generation Green Hybrid Conducting Polymer-Quantum Dot-Single Walled Carbon Nanotube Solar Cells of High Efficiency and Stability" 17th Asian Symposium on Ecotechnology (**ASET-2010**), 11-13th Nov Unajuki, **Japan**.

BOOK Chapter

A. Kaur, **Jitender Kumar** and Avtar Singh " Recent advances in carbon nanotubes-based sensors" page 254-257, **CRC Press** Book Name : Low power designs in Nano devices and Circuits for Emerging Applications **(2024)**