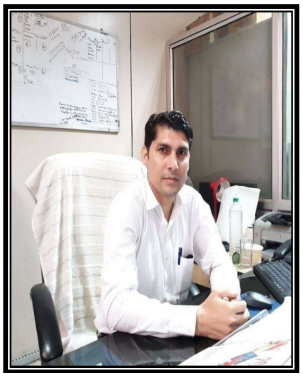
CURRICULUM VITAE

Dr. Javid Ali
Assistant Professor
Department of Physics
Jamia Millia Islamia, New Delhi

Curriculum Vitae



Name : **Dr. Javid Ali**

Present Position : **Assistant Professor**

Address : **Department of Physics, Jamia Millia Islamia**

New Delhi-110025

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Mobile No. : **09312977016**

Field of Specialization: **Material Science, Nanoscience & Nanotechnology**

ACADEMIC RECORD:

Examination	Board/ University	Div./Percentage
Ph.D	Jamia Millia Islamia University (New Delhi)	---
B.Ed.(Phys, Math's)	Jamia Millia Islamia University (New Delhi)	**1st**
M.Sc.(Physics)	CCS University, Meerut	**1st**
B.Sc.(P.C.M.)	CCS University, Meerut	**1st**
12th standard	U.P.Board	**1st**
10th standard	U.P.Board	**1st**

OTHER QUALIFICATION:

- **NET Qualified**-Conducted by **CSIR-UGC JOINT EXAMINATION**.
- One year certificate course in **Russian language** from Jamia Millia Islamia in 2015-16.

TECHNICAL EXPERTISE:

- Low Pressure Chemical Vapor Deposition System
- Plasma Enhance Chemical Vapor Deposition System
- Electron Cyclotron resonance Chemical Vapor Deposition System
- High Resolution Scanning Electron Microscope
- Scanning Electron Microscope
- High Resolution Transmission Electron Microscope

- High Resolution XRD
- Field Emission Measurement
- RF and DC sputtering
- Scanning Probe Microscope
- Thermal Chemical Vapor Deposition System
- Ball Mill
- Spin coating System
- I-V measurement

HONOURS/AWARDS/FELLOWSHIPS RECEIVED:

- Invited as Judge by **National Science Centre, Delhi**, for the evaluation of science projects/models in Northern India Science Fair (NISF 2015-16) organized by National Science Centre on 16th January, 2017.
- Received**Dr.Bhusan Gold MadelforBest Student of M.Sc. (PHYSICS) 2005**.
- Received **3rd** Prize in **University Level in** the event **PHYSICS QUIZ COMPTATION at D.A.V.College Saharanpur (U.P.)**.
- **SRF (Senior Research Fellowship)** In DIT Project cost of project 4 crore under **Prof.Mushahid Husain.**
- **JRF (Junior Research Fellowship)** In DRDO (Ministry of Defence) Project entitled "Growth of Multi-walled Carbon Nanotube Suitable for Devices Applications" Under **Prof.Mushahid Husain.(From Oct.01, 2007 to March 31, 2011)**
- Received **Ist Prize** in **Obstacle race** in sport day held on Faculty of Education Jamia Millia Islamia, New Delhi
- Various Prizes in academic field at school and college level.

DETAILS OF RESEARCH PROJECTS:

S.No.	Funding Agency	Duration		Status Completed/Ongoing
		From	To	
1	UGC, India	2017	2019	Completed

ADMINISTRATIVE RESPONSIBILITIES:

- Working committee member of IQAC, JMI
- Assistant Proctor, JMI (2024)
- Principal member of Sectional committee (AYUSH-4), Ministry of health and family welfare, Govt. Of India.
- Sultana Nahar Award for the best teacher- 2022
- **Asstt. Superintendent of UG Exam,** Faculty of Natural Science, JMI ,Since Nov 2022-2024 (Continue….

- **Warden** of FRK hostel, JMI (2022-2023).
- **Examination Incharge**, Department of Physics, Faculty of Natural Science, JMI.
- **Asstt. Superintendent of Exam,** M.Sc(Physics) Exam, Department of Physics, Faculty of Natural Science, sJMI, Since Nov 2018.
- **Asstt. Superintendent of Exam**, B.Voc. Solar Energy Exam, Physics Department, Faculty of Natural Science, JMI, Since May 2016.
- **Team manager** of Inter faculty tournament, Table Tennis (2016-17, 2017-18, 2018-19), Football (2023-24), Cricket (2024-25)

ACADEMIC WORK:

- Developed the NEP-2020, course structure and syllabi for B.Voc solar energy course.
- Developed the syllabi of the Courses "Instruments and Measurements" for B. Sc. Physics.
- Redesigned the syllabus of the Course "Digital Electronics" for B. Sc. (H/P/S).

COURSES TAUGHT:

Undergraduate Courses:

- Digital Electronics
- Atomic and molecular Physics
- Measurements and Instrumentation
- Properties of Matter
- Solid State Physics
- Quantum Mechanics
- Lab. I, VI and III (Hons/Pass and subs.)

Postgraduate Courses:

- M.Sc. (Previous) Lab.
- M.Sc. (Sem-II) Lab.

RESEARCH GUIDANCE:

Ph.D Thesis awarded:

1. **Mohd Sarvar**

   Topic of Research: *Synthesis and characterization of CNTs and its Application for Electronic Devices.*

2. **Shafi ul Islam**

   Topic of research: *Synthesis and Characterization of Transition Metal Doped Compound Semiconductors for Optoelectronic device Applications.*

3. **Mohd. Sadiq**

   Topic of research: *Studies on Gel-polymer electrolytes for solid state supercapacitors.*

4. **Mohammad Moeen Hasan Raza**

   Topic of research: *Synthesis of carbon nanotubes and enhancement of their field emission properties.*

5. **Nagma Ansari**

   Topic of research: *Synthesis and characterization of carbon nanostructures for device applications*.

6. **Tahir Murtaza**

   Topic of research: *Synthesis, characterization and properties of composite multiferroics.*

Ph. D in progress:

7. **Zeeshan Khan**

   Topic of Research: *Study of non-linear optical properties of 2D layer materials for optical application.*

8. **Shah Masheerul Aalam**

   Topic of Research: *Effect of the decoration of nanoparticles on sensing properties of carbon nanotubes.*

9. **Nargis Fatima Khatoon**

   Topic of Research: *Synthesis and Study of Electrical and Optical Properties of V-VI Alloys and their Photovoltaic Applications*.

10. **Md. Amanullah Saifee**

    Topic of Research: *Study of carbon-based quantum dots and their application for optical devices.*

Project Guided at PG level:

2024

1. **Akib Ahmad Lone (2024)**

Thesis Title: Enhanced field emission properties of Fe_2O_3@Graohene on Cu foil.

2. **Yasir Ud Din (2024)**

Thesis Title: Study of field emission properties of Indium decorated carbon nanotubes.

3. **Nida Fatima Iqbal (2024)**

Thesis Title: Thin and flexible solid polymer electrolyte for Na^+ batteries.

4. **Bhisham Raj (2024)**

Thesis Title: The influence of CuO concentration on ternary metal oxide nanocomposite`s dc conductivity.

5. **Safwana (2024)**

Thesis Title: Synthesis and characterization of $Cu(OH)_2$ nanowires by simple chemical route.

6. **Sheeraz Khan (2024)**

Thesis Title: Eco-Friendly Synthesis and characterization of Zinc Oxide-doped Zirconium oxide Nanocomposite for super-capacitor applications using Neem leaf extract.

2023

1. Md. Taj Alam (2023)

Thesis Title: Study of field emission properties of bismuth decorated carbon nanotubes.

2. Rudra (2023)

Thesis Title: Studies of PVA-PEG polymer blend-based sodium bicarbonate salt electrolytes

2022

1. Zulkar Nain Khan (2022)

Thesis Title: Study of Carbon Nanotubes Grown On Three Different Catalysts Coated Substrate.

2. Ahmad Ali (2022)

Thesis Title: Studies on Electrochemical, Structural, and Optical Properties Of Biopolymer Film.

2021

1. Aadil Rashid Lone (2021)

Thesis Title: Optical and transport propertiesof semiconducting thin film.

2. Anies Ahmed (2021)

Thesis Title: Characterization of CZTs $\{Cu_2ZnSnS_4\}$ quantum dots.

3. Umar Farooq Dar (2021)

Thesis Title: Thermal and structural properties of $Se_{80}Te_{10}Cd_5Bi_5$Chalcogenide glassy alloy

2020

4. Faijan Beg (2020)

Thesis Title: Synthesis of Carbon Quantum Dots from Tomatoes

5. Abhishek Kumar Shrivastava (2020)

Thesis Title: Synthesis of graphene and reduced graphene oxide by LPCVD and Hummer's Method

6. Pooja Yadav

Thesis Title: Electrical and structural properties of polymer nanocomposites

2019

7. Vivek Kumar (2019)

Thesis Title: Study of Multi-walled carbon nanotubes grown on spin coated catalyst layer of transition metal.

8. Robin Dahiya (2019)

Thesis Title: Study of Optical Properties of Reduced Graphene Oxide Decorated with MgO nanoparticles.

9. Ayush Jain (2019)

Thesis Title: Study on free standing polymer electrolyte thin film for electrochemical device applications.

10. Somya Jain (2019)

Thesis Title: Ploy(O-toluidine)/Single welled carbon nanotubes (pot/swcnts) polymer nanocomposites.

11. Mohd Sanu (2019)

Thesis Title: Metal oxide nanostructures ZnO/Cu-ZnO synthesis by Sol-Gel.

2018

12. Salman Zahid (2018)

Thesis Title: Synthesis of multiwalled carbon nanotubes and their electrical properties.

13. Sonika Kodan (2018)

Thesis Title: Synthesis and characterization of Zinc oxide nanocomposites by sol-gel process.

14. Abhishek Singh (2018)

Thesis Title: Synthesis of reduced graphene oxide and their characterization.

15. Vikash Singh (2018)

Thesis Title: Synthesis and electrical characterization of carbon nanotubes.

2017

16. Mushyada Khanam (2017)

Thesis Title: Synthesis and characterization of r-GO decorated with silver nanoparticles.

17. Menka Sharma (2017)

Thesis Title: Thin film growth of ZnO nanocomposites (ZnO/PVA)

18. Honey Mittal (2017)

Thesis Title: Synthesis and characterization of Se thin film.

19. Mohammad Moeen Hasan Raza (2017)

Thesis Title: Synthesis of carbon nanotubes by ECR-CVD and its structural study.

20. Zubair Aslam (2017)

Thesis Title: Dielectric and Electrical properties of amorphous Selenium.

MEMBERSHIPS:

- Society for Semiconductor Devices (SSD)
- Society for Material Chemistry (SMC)
- The Indian Science Congress Association (Life membership No. L19397)
- Semiconductor Society of India (SSI) Life member (No. SSI/JA/1709)
- Society for Nano-science and Nanotechnology

WORKSHOPS/CONFERENCES ORGANISED AS AN ORGANISING MEMBER:

- International Conference on Emerging Technologies Micro to Nano **(ETMN 2024), 22-23** Nov. 2024, Jamia Millia Islamia, New Delhi-110025, As Co-Treasurer.

- National Conference on Nanotechnology and Renewable Energy (**NCNRE-14**), April 28-29, 2014; Jamia Millia Islamia, New Delhi-110025
- International workshop on the Physics of Semiconductor Devices: **IWPSD 2009**, Dec 15-19 2009: Jamia Millia Islamia, New Delhi-110025.
- International workshop on the Physics of Semiconductor Devices: **IWPSD 2013**, Dec 15-19 2013: Amity University, Noida-125.
- National Conference on Nanomaterials: Synthesis, characterization and Applications (**NSCA-2015**), 14 March, 2015; Centre for Nanoscience and Nanotechnology, Jamia Millia Islamia, New Delhi-110025

REVIEWER OF THE INTERNATIONAL JOURNALS:

- Vacuum
- ACS Omega
- Materials Research Express
- Chemical Physics Letters
- Journal of Physics D: Applied Physics
- journal of Nano-Micro Letters
- Energy and Environment
- Surfaces and Interfaces
- Materials Today Proceeding
- Nanotechnology

INVITED TALK/ORAL PRESENTATION IN CONFERENCES:

- Invited talk in International Symposium on Semiconductor Materials and Devices (ISSMD-2024), University of Kashmir.
- Session Chaired in International Conference on Renewable Energy and Sustainable Technologies (July 04-06, 2024) at Jamia Millia Islamia, New Delhi.
- Invited talk in AFMD-2023, University of Delhi.
- Session Chaired and Invited talk in Third International Conference on Nanomaterials: Synthesis, Characterization and Applications (**ICN 2018**) on 11, 12 and 13 May 2018 at Mahatma Gandhi University, Kottayam, Kerala, India.
- Invited talk in Third International Conference on Nanomaterials: Synthesis, Characterization and Applications (ICN 2018) on 11, 12 and 13 May 2018 at Mahatma Gandhi University, Kottayam, Kerala, India.
- Oral presentation at International Conference on Advances in Nanotechnology (ICANAT) held on 6-8 Nov. 2008, MATS University, Raipur, Chhattisgarh, INDIA)

REFERENCES:

Prof.M.Husain
Vice Chancellor
MJP Rohilkhand Uni. Bareilly, UP
&Former Director, Centre for Nanoscience and Nanotechnology, JMI, New Delhi-25

Dr. Harsh
Associate Director & Scientist G (Retd)
Solid State Physics Lab., Delhi &
Centre for Nan science and Nanotechnology, JMI

PAPER'S PUBLISHED/COMMUNICATED IN INTERNATIONAL JOURNALS:

2025

95. Synthesis and characterization of In-decorated CNTs on GaN substrates for enhanced electron feld emission Mohd Sarvar, Yasir Ud Din, Shah Masheerul Aalam, Javid Ali. *Mrs Advances,* https://doi.org/10.1557/s43580-025-01189-9.

94. Design and performance optimization of a lead-free Cs2AgBiBr6 perovskite solar cell with graphene quantum dot hole transport layer using SCAPS-1D and machine learning Md Amanullah Saifee , Md. Ali, Fareha Feroz Alam Khan, Abhishek Kumar Srivastava, Javid Ali, Mohd. Shahid Khan*, J Opt,* https://doi.org/10.1007/s12596-025-02539-4.

93. Carbon Nanotubes as Emerging Field Emitters: Infuencing Factors and Remedies Shama Parveen· Mohd Sarvar· Mohammad Zulfequar· Javid Ali. *Journal of Electronic Materials. 2025*

92. Graphene quantum dots as hole transport material in lead free perovskite solar cell: A SCAPS-1D numerical study. Md Amanullah Saifee1 , Fareha Feroz Alam Khan1 , Javid Ali1 , Mohammad Ajmal Khan1 , Mohd. Shahid Khan1. *Engineering Research Express. 2025.*

2024

91. Enhanced ammonia gas sensing properties in porous multiwalled carbon nanotubes decorated with metal nanoparticles: the impact of concentration of Mn. Shah Masheerul Aalam, Mohd Sarvar, Mohd Sadiq, Mohd Nadeem Bhat , Monika Tomar and Javid Ali. *Adv. Nat. Sci.: Nanosci. Nanotechnol*. 16 (2024) 015003 (11pp).

90. Investigation of thermal and electrical properties of Sn and Al incorporated Se–Te chalcogenide glasses for phase change memory applications Mohd Shoab , Zubair Aslam, Nargis Fatima Khatoon , Shabeena Saifi, Javid Ali, Firoz Khan, Sultan Alomairy, and Mohammad Zulfequar. J Mater Sci: Mater Electron (2024) 35:2269

89. Dynamic Performance Analysis of CNTFETs with Zinc Oxide Gate Dielectrics of Varying Thickness Mohd Sarvar, Shah Masheerul Aalam , Islam Uddin, Javid Ali. Energy & *Environment Advances*, 2024, Vol. 1, No. 1, 01-11.

88. Effect of Zn doping on structural, morphological, optical and electrical properties of Bi2Se3 material Nargis Fatima Khatoon, Afroz Khan, Zubair Aslam, Mohd. Shoab, **Javid Ali,** Mohammad Zulfequar. *NextMaterials*, 5(2024)100234

87. High performance chemiresistive carbon-nanotube ammonia gas sensor surface modified by tantalum oxide (Ta2O5) metal nanoparticles Shah Masheerul Aalam, Mohd Sarvar, Mohd Nadeem Bhat, Monika Tomar, **Javid Ali.** *MRS Advances*, 19 sep 2024.

86. An in-situ process for the growth of carbon nanotubes on the graphene f lakes for enhancing the electron field emission properties Mohammad Moeen Hasan Raza, **Javid Ali**, Mohd Sadiq, Firoz Khan. *Diamond & Related Materials*. 148 (2024) 111478.

85. One-pot preparation of Fe/Cu catalytic solution for the growth of carbon nanotubes for use in gas sensor and field emission devices" Mohd Sarvar, Mohammad Moeen Hasan Raza, Shah Masheerul Aalam, Mohd Sadiq, Mohammad Shahid Khan, and **Javid Ali**.

84. Ion Beam-Induced modification in the optical properties of the bilayer of nano-structured amorphous selenium and multi-walled carbon Nanotubes: A study by 70 MeV Ni Ions Shabir Ahmad , Mandeep Singh, M. Zulfequar, **Javid Ali**. Ashokan Kandasami. *Materials Letters*, 371 (2024) 136878

83. Thermoelectric Response of Vacancy Order Double Perovskite K2 PtBr6 for Energy Harvesting Applications Mudasir Younis Sofi, Mohd Shahid Khan, **Javid Ali** and M. Ajmal Khan. *Advanced Functional Materials for Sustainable Environment*. ISBN: 978-93-81891-80-3

82. Ammonia Gas Sensing Characteristics of MWCNT and Bi-MWCNT Operating at Room Temperature Shah Masheerul Aalam, Mohd Sarvar, Mohd Sadiq, Md Taj Alam and **Javid Ali.** *Advanced Functional Materials for Sustainable Environment*. ISBN: 978-93-81891-80-3

81. Synthesis and Characterization of Cu-MOF (Copper-Metal Organic Framework) for Gas Sensor and Electron Emission Devices. Mohd Sarvar, Shah Masheerul Aalam, Mohd Sadiq, Mohd Shahid Khan and **Javid Ali.** *Advanced Functional Materials for Sustainable Environment.* ISBN: 978-93-81891-80-3

80. Tri-chalcogenides (Sb2S3/Bi2S3) solar cells with double electron transport layers: design and simulation Md Amanullah Saifee, Urosa Latief, **Javid Ali**, Mohd. Shahid Khan. *Discover Energy*, (2024) 4:4

79. Time-tuned ZnO(x)/MWCNTs hybrid cold cathodes for next-generation electron emission Mohd Sarvar1, Shah Masheerul Aalam, Suhail Khan, Mohd. Shahid Khan, and **Javid Ali.** *J Mater Sci: Mater Electron* (2024) 35:589

78. Exploring the lead-free halide C s 2MGaBr6 (M = Li, Na) double perovskites for sustainable energy applications Mudasir Younis Sofi , Mohd Shahid Khan , **Javid Ali** & M. Ajmal Khan. *Scientific Reports*. (2024) 14:5520.

77. Detection of insulation degradation by-products in transformer oil using ZnO coated IDC sensor. Shaheen Parveen, Obaidur Rahman, M. Ajmal Khan, **Javid Ali**, Shabana Mahfuz, Tarikul Islam, Shakeb A Khan. *INTERNATIONAL JOURNAL ON SMART SENSING AND INTELLIGENT SYSTEMS*. Vol. 17 (2024).

76. A Highly Sensitive Surface-Modified Porous Carbon Nanotube Based Sensor for Ammonia Gas Detection. Shah Masheerul Aalam, Mohd Sarvar, Mohd Sadiq, and **Javid Ali**. *ACS Omega* , 2024 *9* (4), 4486-4496.

2023

75. Color-Tunable Emission of ZnO/Ag2O/MnO2 Nanocomposite Phosphor for Solid-State Lighting Applications Shafi Ul Islam, Urosa Latief, **Javid Ali** and Mohd. Shahid Khan. *Nano,* December 29, 2023

74. Influence of the Decoration of Copper Metal Nanoparticles on the Structural and Electronic Properties of Carbon Nanotubes. SM Aalam, MMH Raza, M Sarvar, M Sadiq, MF Akram, **Javid Ali**. *International Conference on Nanotechnology: Opportunities and Challenges*

73. Highly conducting Al-doped zinc oxide electron transport layer for all-inorganic perovskite solar cells: An experimental and simulation study Firoz Khan, Fatima Rasheed, Syed Kashif Ali, Thamraa Alshahrani, Vakeel Ahmad, **Javid Ali**, Amir Al-Ahmed. *Optical Materials*, Volume 145, November 2023, 114486

72. Novel thermoelectric materials Ba2AlNbO6 for energy harvesting applications. Mudasir younis sofi, Mohd. Shahid khan, **Javid Ali**, M. Ajmal Khan. *Recent advances in nanotechnology, springer proceeding in materials 28.*

71. Influence of catalysts in the growth of CNTs for utilization in electronic devices application Mohd Sarvar, Shah Masheerul Aalam, Mohd Shahid Khan, **Javid Ali**. *MRS Advances.* Accepted: 23 September 2023

70. An enhanced field emission for display devices arises from the assembling of ZnO@MOF/MWCNTs. Mohd Sarvar, Shah Masheerul Aalam, Mohd Shahid Khan, **Javid Ali.** *Inorganic Chemistry Communications*, Volume 157, November 2023, 111229

69. Long wavelength emissive ZnO/CQDs phosphor with high color purity and its application in sensitive detection of cadmium (II). Shafi Ul Islam, Urosa Latief, **Javid Ali,** Mohd. Shahid Khan. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, Volume 304, 5 January 2024, 123292

68. "Ecofriendly blue emissive ZnO-graphene nanocomposite and its application as superior catalytic reduction of Methyl Orange and Congo Red". Shafi Ul Islam, Urosa Latief, Iftkhar Ahmad, Javid Ali1, A. K. Hafiz, M. Ajmal Khan, Mohd. Shahid Khan. *Journal of Sol-Gel Science and Technology*.

67. The effect of CuO concentration on the dc conductivity of ternary metal oxide nanocomposites. I Uddin, M Sarvar, F Khan, H Howari, Z H Khan and J Ali. *Indian J Phys* (2023)

66. High electrochemical performance of rGO-CNTs composites as an electrode material for supercapacitor applications. Mohd Sadiq, M. Ajmal Khan, Mohd Sarvar, Mohammad Moeen Hasan Raza, Shah Masheerul Aalam, Mohammad Zulfequar, Javid Ali.*Hybrid Advances* 3 (2023) 100051

65. Sol-gel synthesis of ZrFeO3 nanoparticles and study of optical nonlinearity and multiferroicity of its nanocrystalline thin films. Imran Ahmad Salmani, Mohd. Shahid Khan, Javid Ali, Aurangzeb Khurram Hafiz, Mohd. Mehkoom, S M Afzal , Mohd. Saleem Khan.*Journal of Sol-Gel Science and Technology*

64. Crystallization kinetics and investigation of electrical properties of indium-incorporated $Se_{80}Te_{15-x}Sb_5In_x$ (x=0, 5, 10) quaternary chalcogenide glasses. Mohd Shoab, Zubair

Aslam, Javid Ali, And Mohammad Zulfequar.*Journal of material science: material in Electronics* (2023)34:1399

63. Growth of MWCNTs with composite catalyst: synergisticenhancement of field emission and gas sensing properties at room temperature. Mohd Sarvar · Mohd Yaseen lone. Shah Masheerul Aalam ·Md Faiz Akram · Islam Uddin · Mohammad Shahid Khan Javid Ali.*J Nanoparticle Res*. (2023) 25:149

62. Third order optical non linearity and multiferroicity of nanoparticle thin films of iso-Rare earth Y^{3+} ion substituted $BiFeO_3$. Imran Ahmad Salmani, Mohammad Shahid Khan, Javid Ali, Aurangzeb Khurram Hafiz, Mohd Mehkoom, S.M Afzal, Mohd Saleem Khan. *Physica B: Condensed Matter*.655 (2023) 414750.

61. Improved performance of biopolymer composite electrolyte based cellulose acetate/ Zinc oxide filler for supercapacitor. Mohd Sadiq, M. Ajmal Khan, Mohammad Moeen Hasan Raza, Mohammad Zulfequar, and Javid Ali*. *Energy and Environment*. (1-23) 2023.

60. Investigation of electrical conductivity AC/DC and dielectric property of Se80Te15-xCd5Bix (x=0,5,10) quaternary chalcogenide glasses. Mohd Shoab, Zubair Aslam, Javid Ali, Mohammad Zulfequar.*Journal of material science: material in electronics*. (2023) 34:681

59. The effect of Ar + N_2 plasma power-based attachment of metal nano particles on electron field emission properties of carbon nanotubes. Mohammed Moeen Hasan Raza, Mohd. Sadiq, Shah Masheerul Aalam, MohammadZulfequar; Samina Husain; **Javid Ali**. *Journal of physics and chemistry of solids.* 178 (2023) 111309

58. High field emission stability of decorated CNTs for electron emission devices. Mohd sarvar, Shah Masheerul Aalam, Mohammad Moeen Hasan Raza, Mohammad Shahid Khan, and **Javid Ali**.*Journal of material science: material in electronics*.

2022

57. Enhancement of Electrochemical Stability Window and Electrical Properties of CNT-Based PV−PEG Polymer Blend Composites. Mohd Sadiq, M. Ajmal Khan, Mohammad Moeen Hasan Raza, Shah Masheerul Aalam, Mohammad Zulfequar, and Javid Ali*.
https://doi.org/10.1021/acsomega.2c04933, *ACS Omega*,October 28, 2022

56. Growth temperature influence on the electron field emission properties of carbon nanotube field emitters. Mohammad Moeen Hasan Raza; Mohd Sadiq; Shah Masheerul Aalam; Mohd sarvar; Mohammad Zulfequar; Samina Husain;**Javid Ali.** *Journal of materials research* (communicated).

55. Influence of power dependent Argon gas plasma effect on the electron field emission properties of carbon nanotubes field emitters. Mohammad Moeen Hasan Raza, Mohammad Zulfiquar, Samina Husain, and **Javid Ali.**(communicated)

54. Synergistic enhancement of field emission and gas sensing properties at room temperature by MWCNTs growth with (iron/ aluminum) composite catalysts. Mohd

Sarvar, Mohd yaseen lone, Mohammed Moeen Hasan Raza, Shah Masheerul Aalam, Firoz Khan, M. Ajmal Khan, M. Zulfiquar, Mohammad Shahid Khan, and**Javid Ali.**(Communicated).

53. Study of sodium ion conducting blend polymer composite electrolytes based on carbon nanotubes (CNTs) for improving structural, thermal, electrical and electrochemical properties: Electrochemical device applications. (Communicated).

52. Synergistic effect of Field Emission properties on Growth of CNTs by One-pot preparation of various Concentrations Composite Catalyst. Mohd sarvar, Mohammad Moeen Hasan Raza, Shah Masheerul Aalam, Mohd Sadiq, Mohammad Shahid Khan, Mohammad Zulfequar and **Javid Ali**.*Journal:Nano* ,**https://doi.org/10.1142/S1793292022500369**(2022) Published.

51. Investigating the electron field emission properties of silver nanoparticles decorated carbon nanotubes based cold-cathode field emitters via post plasma treatment. Mohammad Moeen Hasan Raza; Shah Masheerul Aalam; Mohd Sadiq; Mohd Sarvar; Mohammad Zulfequar; Samina Husain; **Javid Ali**,*Journal of Materials Science: Materials in Electronics (JMSE*) **.**Vol: 33, 7191-7211, published. DOI: **https://doi.org/10.1007/s10854-022-07900-y.**

50. Highly performance of the sodium-ion conducting flexible polymer blend composite electrolytes for double-layer capacitors (EDLCs) supercapacitor. Mohd Sadiq; Shweta Tanwar, Mohammad Moeen Hasan Raza ; Shah Masheerul Aalam; Mohd Sarvar,Mohammad Zulfequar;A. L. Sharma.; **Javid Ali.***journal of Energy Storage*. Pages 16, DOI: https://doi.org/10.1002/est2.345.2022, Published.

49. Time-dependent resonating plasma treatment of carbon nanotubes for enhancing the electron field emission properties Mohammad Moeen Hasan Raza1 , Shah Masheerul Aalam1 , Mohd Sadiq1,3, Mohd Sarvar1 , Mohammad Zulfequar1 , Samina Husain2 , and **Javid Ali.***J Materials Sci: Materials in Electronics*. Vol:33, 1211-1227 (2020) DOI: https://doi.org/10.1007/s10854-021-07413-0. Published

48. Facile Synthesis of Highly Flexible Sodium Ion Conducting Polyvinyl alcohol (PVA)-Polyethylene glycol (PEG) Blend incorporating Reduced graphene-oxide (rGO) Composites for Electrochemical Device Application. Mohd Sadiq, Mohammad Moeen Hasan Raza, Mohammad Zulfequar, **Javid Ali,** *Journal of Polymer Research*. Vol: 29, P (1-23), 2022. Published.

47. Highly selective NH3 chemiresistive sensor using pristine and functionalized Single-wall Carbon Nanotubes/Polyaniline composite. Nagma Ansari; Mohd Yaseen Lone; **Javid Ali**; Mushahid Husain. Corresponding Author: Dr. Samina Husain. *Journal: Polymer*.{Communicated}

46. Fabrication of VA-SWCNT-ZnO Hybrid Nanostructures for the High-Performance Gas Sensors and Field Emission Devices. Nagma Ansari; Samina Husain**; Javid Ali**; Avshish Kumar; Mohammad Zulfequar; Ravi Chand Singh; Mushahid Husain:

Corresponding Author Dr. mohd yaseen lone. *Journal: Sensors and Actuators B: Chemical*. .{Communicated}

45. Structural, Optical and Luminescent characteristics of Zinc Oxide modified by reduced Graphene Oxide and Graphene. Shafi Ul Islam, Urosa Latief**,** **Javid Ali**, A. K. Hafiz, Mohd. Shahid Khan. *Journal of Physics and Chemistry of Solids*. {Communicated}

2021

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- International Workshop on Recent Trend on Materials and Devices (ICRTMD-2015), December 15-17, 2013, Amity University, Noida, UP.
- 18th International Workshop on the Physics of Semiconductor Devices (IWPSD), December 10-13, 2013, Amity University, Noida, UP.

- One day seminar on "Progress in Physics of Materials and Theoretical Physics" on 3rd February 2012, Jamia Millia Islamia, New Delhi.
- XVIth International Workshop on Physics of Semiconductor Devices (IWPSD-2011), 19-22 December 2011, IIT Kanpur.
- ISSMD-2011, 28-30 January 2011, The M.S.University of Baroda, Vadodara, India
- 15th International Workshop on the Physics of Semiconductor Devices (IWPSD), December 16-20, 2009, Jamia Millia Islamia, New Delhi, India.
- National Seminar on Condensed Matter, High Energy and Nuclear Physics, 23-24 March , 2009, Jamia Millia Islamia New Delhi.
- Natural Science InfoFest NSIF-08, March 4-6, 2008, Faculty of Natural Sciences, Jamia Millia Islamia, New Delhi-110025.
- Non Equilibrium Phenomena in Condensed Matter, 21-23 February 2008, Indian National Science Academy, Bahadur Shah Zafar Marg, New Delhi-110002
- Seminar on Development in Materials, High Energy and Nuclear Physics, February 20-21, 2008, Jamia Millia Islamia, New Delhi-110025.
- National Seminar on Nano Materials & Devices, January 30, 2008, Jamia Millia Islamia, New Delhi-110025.
- 14th International Workshop on the Physics of Semiconductor Devices, December 16-20, 2007, IIT/TIFR, Mumbai, India.
- Sixth Abdus Salam Memorial Lecture 2007-08 by Prof. Douglas D. Osheroff (Noble Laureate), Stanford University, Stanford, California, U.S.A. on "How Advances in Science are Made" 24th November 2007 at Jamia Millia Islamia, New Delhi-110025.

A BRIEF SUMMARY OF MY RESEARCH WORK:

Synthesis and characterization of carbon nanotubes and Graphene:

Carbon nanotube (CNT) can be considered wrapping of graphite layer into seamless carbon cylinder. Carbon nanotube composed of single such cylinder is known as single-wall nanotubes (SWNTs). When concentric cylinders are arranged, the CNT is called multi-wall nanotubes (MWNTs). The diameter of such CNT's ranges from less than a micron to 3 micron for SWNT and upto few tens of microns in case of MWNT's. There is no limit on the length of CNT's and it can be few hundreds of micron in length. Depending upon the wrapping or folding angle, nanotubes can be metallic or semiconducting. Modeling of CNT's indicates that the band gap of semi-conducting nanotubes decreases with increasing diameter. These

predictions have been verified in recent scanning spectroscopy experiments. In 1991, MWNTs were discovered by Iijima in the carbonaous stalagmite-like deposit, which was left on an electrode during the synthesis fullerene soot produced by a carbon arc. Carbon nanotubes are a new form of carbon with unique electrical and mechanical properties. These useful properties make CNTs a sort of excellent material that may be used in many fields. But at present use of CNTs in various emerging applications is at nascent stage and main discouraging factor is cost of pure CNT's. Hence we investigate production of CNTs on a large scale to reduce the synthesis costs of CNTs.

- The research work has been summarised as below:
- Growth of uniformly distributed multi-walled carbon nanotubes by low pressure chemical vapor deposition (LPCVD) and their characterizations.
- Growth of CNTs on different substrates.
- Growth of CNTs using different catalyst like Fe, Co, Ni, $CrSi_2$.
- Growth of CNTs using different catalyst deposition methods.
- Enhancement of field emission properties of carbon nanotubes by electron cyclotron resonance (ECR) plasma treatment.

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