

CURRICULUM VITAE

Dr. Asif Rasool

Assistant Professor

Department of Applied Sciences

Maulana Mukhtar Ahmad Nadvi Technical Campus,
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Carrier objective:

To work hard for the achievement of organization objective under satisfying jobcontact, hence enhancing my skill and knowledge and ready to learn new things

Professional Experience

- **Assistant Professor** (Currently working since June-2022)

Department of Applied Sciences, Maulana Mukhtar Ahmad Nadvi Technical Campus (MMANTC), Malegaon, Maharashtra 423203 (**Approved from Pune University**).

College level Responsibilities

- Head of Department (Applied sciences)
- Institute IQAC member
- Cooridnator_Internal Academic Monitoring Committee (IAMC)
- Incharge NAAC Criteria-6
- Departmental Research Coordinator
- Member Research Committee
- Incharge Dean Training
- Incharge MMANTC Siemens Centre of Excellence

- **Research Analystist** (November 2021 to May-2022)

Department of Innovation Era University, Lucknow, 226003 (Uttar Pradesh), India

- **Lecturer of Physics** (April 2016 to December-2017)

Govt. Hr. Sec School Kastigarh Jammu and Kashmir, 182147 India

Educational Qualification

- **Doctor of Philosophy (Ph.D.) _Physics (Material Science)** (January 2018 -November 2022)
B.S. Abdur Rahman Crescent Institute of Science and Technology Chennai-600048 (NAAC A+)

Title of the Ph.D. Thesis: Realization of Multifunctional Devices Using Inorganic/Organic Hybrid Junctions for Ultraviolet (UV) Light Detection and Resistive Switching Memory Applications.

- **Master of Science (M.Sc.)-Physics** (June 2013 -July 2015)
D.S.B. Campus, KUMAUN UNIVERSITY, NAINITAL, Uttarakhand 263002

- **Bachelor of Science (B.Sc.)-Non-Medical**
Govt.Degree College Baderwah, University of Jammu, J&K,182202

(March 2010 -March 2013)

Research highlights

- Semiconductors and thin films technology
 - Fabrication and characterization of metal oxide thin films towards thememory application (Resistive switching)
 - Fabrication and characterization of optoelectronic devices such as
 - Ultraviolet (UV) –Visible Photodiodes/Photodetector.
 - Light Emitting Diodes (LEDs)/Solar cells
 - Fabrication of ZnO based ultraviolet (UV) photodiodes with higher responsivityand fast switching speed.
 - Fabrication of ZnO- based hybrid junction towards UV light detection andresistive switching memory applications.
 - Fabrication of resistive random-access memory (ReRAM, Memristor) devices using MoO₃ as a switching layer.
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Awards and Honours

- Junior Research Fellowship (JRF) award from 2019-2021 from BSACIST
- **Received best paper presentation award** at National conference onMaterial Science held at Loyola College, Chennai on 9th of jan-2020

Instruments handled / Laboratory Skills

- Spray Pyrolysis System
- RF Magnetron Sputtering coating system
- Spin coating
- UV-Visible spectroscopy
- Hall effect measurement Set-up
- Photoluminescence spectroscopy
- Current-voltage characteristics set-up (Agilent B2901A)

Languages Known:

- Hindi, English, Urdu, Kashmiri

List of Publications in Scopus indexed Journals

- **Asif Rasool**, R Amiruddin, MC Santhosh Kumar *Fabrication and characterization of resistive random-access memory (ReRAM) device using molybdenum trioxide (MoO_3) as a switching layer* **Superlattices and Microstructures** 147 (2020) 106682.
- **Asif Rasool**, R Amiruddin, S Kossar, MC Santhosh Kumar *Realization of In: ZnO/PEDOT: PSS based multifunctional device for ultraviolet (UV) light detection and resistive switching memory applications* **Journal of Applied Physics** 128 (2020) 044503.
- **Asif Rasool**, MC Santhosh Kumar, MH Mamat, C Gopalakrishnan, **R Amiruddin**, *Analysis on different detection mechanisms involved in ZnO-based photodetector and photodiodes*, **Journal of Materials Science: Materials in Electronics**, 31 (2020) 7100– 7113.
- **Asif Rasool**, R. Amiruddin, Shahnaz kossar, and M. C. Santhosh Kumar “*Multifunctional n- ZnO/MoO₃/PEDOT:PSS-based hybrid device for high-speed UV light detection and ReRAM applications*” **Journal of Materials Science: Materials in Electronics (2022): 1-11.**
- Shahnaz Kossar, R. Amiruddin, **Asif Rasool**, *Study on thickness-dependence characteristics of bismuth ferrite (BFO) for ultraviolet (UV) photodetector application* **Micro and Nano Systems Letters** 9 (2021) 1-10 (Scopus)
- S Kossar, R Amiruddin, **Asif Rasool**, NV Giridharan, D Dhayanithi, M.C.Santhosh Kumar *Ferroelectric polarization induced memristive behavior in bismuth ferrite ($BiFeO_3$) based memory devices* **Superlattices and Microstructures** 148 (2020) 106726.
- Shahnaz Kossar, R. Amiruddin, **Asif Rasool** “*Investigation on asymmetric resistive switching (RS) characteristics in n-ZnO/p-NiO heterojunction*” **Microelectronic Engineering** 254 (2022): 111669.
- Shahnaz Kossar, R. Amiruddin, **Asif Rasool**, M. C. Santhosh kumar, Nagamalleswari Katragadda, Pranab Mandal, Nafis Ahmed “*Study on ferroelectric polarization induced resistive switching characteristics of neodymium-doped bismuth ferrite thin films for random access memory applications*” **Current Applied Physics**, 39, pp.221-229.
- T.A Wani, G.Suresh, R. Masrour, K.M. Batoor, **Asif Rasool**, *A structural, morphological, optical and magnetic study of nickel-substituted zinc (Ni–Zn) ferrite*

nanoparticles synthesized via glycine assisted gel autocombustion synthesis route. Materials Chemistry and Physics, 307 (2023), p.128169.

- Naeem, S., Shaikh, A., **Rasool, A.** et al. “*Enhancing supercapacitor performance through electrodeposition of cobalt hydroxide thin film: structural analysis, morphological characterization, and investigation of electrochemical properties*” *Ionics* 30 (1), 399-405
- **Asif Rasool**, Shahnaz kossar and R. Amiruddin, “*Study on multifunctional resistive switching and UV light detection characteristics in p-PEDOT:PSS/i-BFO/n-ZnO hybrid structures*”, *Semiconductor Science and Technology* 39 (5), 055012

List of articles in Scopus indexed Journals (under review / submitted)

- Shahnaz Kossar, R. Amiruddin, **Asif Rasool**, and MC Santhosh Kumar “*Resistive switching characteristics in multilayered p-NiO/BFO/n-ZnO heterostructure*” **Micro and Nanostructure** (2024 Revision submitted- Elsevier)

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List of Book chapters accepted (Scopus indexed)

- **Asif Rasool**, Shahnaz Kossar, R. Amiruddin, Umar Rasool, Sajid Naeem, Bashir Ahmed, *Design of Biosensor with High Sensing Margin, Handbook of Emerging Materials for Semiconductor Industry.*
- Shahnaz Kossar, **Asif Rasool**, R. Amiruddin, Umar Rasool, Vishal Kumar, Kulsoom Koser, *Different Perovskite materials, properties and applications, Handbook of Emerging Materials for Semiconductor Industry.*
- **Asif Rasool**, Shahnaz Kossar, R. Amiruddin, **Different types of Thin film deposition techniques and application, Handbook of Emerging Materials for Semiconductor Industry.**
- **Asif Rasool**, Shahnaz Kossar, R. Amiruddin, Umar Rasool, **Heterojunction Tunnel Field-Effect Transistors (TFETs) and Applications, Handbook of Emerging Materials for Semiconductor Industry.**
- **Asif Rasool**, Shahnaz Kossar **Magnetic logic and Magnetic computing Spin based Devices, Handbook of Emerging Materials for Semiconductor Industry.**

- **Asif Rasool et al, Metal Deposition, Handbook of Emerging Materials for Semiconductor Industry.**
- Vishal Kumar, Shahnaz Kossar, **Asif Rasool**, R. Amiruddin, Umar Rasool, **Parallel computation of artificial intelligence and its applications in semiconductor industry, Handbook of Emerging Materials for Semiconductor Industry.**
- **Asif Rasool**, Shahnaz Kossar, **Synthesis, Properties, and Applications of Graphene and 2D Semiconductor, Handbook of Emerging Materials for Semiconductor Industry.**
- **K. Srinivasa Rao, Asif Rasool, Thin Film Analysis after Oxidation, Handbook of Emerging Materials for Semiconductor Industry.**
- **Asif Rasool**, Shahnaz Kossar, Spin based magnetic devices with spintronics, Negative Capacitance Field Effect Transistors.
- Synthesis of semiconductor materials (thin film/thick film/bulk) using Chemical/Physical Technique

Paper Presentations in National/International Conferences

- **Asif Rasool**, R. Amiruddin, “Realization of Highly Conducting Indium Doped ZnO Thin Films by Spray Pyrolysis” presented at 7th National Conference on Hierarchically Structured Materials (NCHSM)- 2019 held organized by SRM Institute of Science and Technology, Ramapuram Campus, Chennai – 600 089, Tamil Nadu during 22nd and 23rd February 2019.
- **Asif Rasool**, R. Amiruddin “Fabrication and characterization of ultraviolet (UV) photodetectors using Molybdenum trioxide” presented at International Conference on Materials Engineering & Characterization (ICMECh19)-2019, Department of Mechanical Engineering, Adhi College of Engineering and Technology, Chennai, Tamil Nadu 631605, during 9th and 10th May 2019.
- **Asif Rasool**, R. Amiruddin “Effect of substrate temperature in fabrication of ZnO-based UV photodetector” presented at National Conference on New-Generation Materials for Energy Applications organized by B.S Abdur Rahman Crescent Institute of Science and Technology, Vandalur, Chennai held during 21st and 22nd October 2019.
- **Asif Rasool**, R. Amiruddin “Investigation on ZnO based UV photodetector and Indium doped ZnO based hybrid UV photodiode” presented at National conference on Material Science held at Loyola College, Chennai on 9th January, 2020 (**Received Best Oral Presentation award**)

- **Asif Rasool, R. Amiruddin** “Investigation on photoresponse characteristics of ZnO-based photodiodes and passivation effect of PEDOT:PSS layers” presented at 6th International Conference on Nanoscience and Nanotechnology (ICONN-2021) held at SRM Institute of Science and Technology, Kattankulathur, Tamil Nadu 603203 during February 1-3, 2021.

Workshops/Seminars/National/International Conferences attended.

- Seminar attended on “**How to write Research Proposal**” at B.S. Abdur Rahman Crescent Institute of Science & Technology held during 21.02.2018.
- Three Day Workshop on “**Writing Quality Research Article, Project proposal and Patents**” at B.S. ABDUR RAHMAN CRESCENT INSTITUTE OF SCIENCE & TECHNOLOGY held during 20.07.2018 to 22.07.2018.
- Oxford Instrument Workshop: **Bringing the Nano world Together** held at IIT Bombay during 28 November, 2018.
- Workshop on **Nanofabrication Technologies** held at IIT Bombay during 29 November, 2018.
- National Centre for **Photovoltaic Research and Education (NCPRE) familiarization Workshop on Photovoltaics** held at IIT Bombay during Dec 01, 2018.
- Short term courses on Thin film growth: **Fundamental and real-time growth demonstration (TFG- 18) held at CSIR-National Physical Laboratory New Delhi** during 18-20 December, 2018.
- National level Seminar attended on "**Research Potential in Solar Energy and Storage Technologies**" organized by Department of Electrical and Electronics Engineering B.S. Abdur Rahman Crescent Institute of Science and Technology held on 11th march-2020.
- Participated in International Seminar on Frontiers in chemistry -2020 organized by the Department of Chemistry B.S. Abdur Rahman Institute of Science and Technology Chennai on 7th Jan-2020.
- Webinar on “**Assessment and Evaluation in outcome Based Education**” organized by G.T.N. Arts college, Dindigul on 11-05-2020.
- Webinar on “**Research ethics**” organized by B.S. ABDUR RAHMAN CRESCENT INSTITUTE OF SCIENCE & TECHNOLOGY on 07-05-2020.

- Participated in **International e-Conference on “Recent Trends in Advancement of Mathematical and Physical Sciences”** held on May 22-23, 2020 organized by Deva Nagri College, Meerut.
- Participated in a webinar on **A Journey towards Wave Mechanics**, an online event organized by Department of Physics, B.S. Abdur Rahman Crescent Institute of Science and Technology, Chennai- 600048, Tamil Nadu, India held on 12th June 2020.
- Participated in National Webinar on International Webinar on **“Recent Trends in Materials Science” organized** by the Department of Physics, B.S. Abdur Rahman Crescent Institute of Science and Technology, Chennai - 600 048, Tamilnadu, India held on 18th June, 2020.
- National Webinar attended on **Sensor Materials and its Applications** organized by the Department of Physics, B.S. Abdur Rahman Crescent Institute of Science and Technology, Chennai - 600 048, Tamilnadu, India held on 26th July 2020.
- Participated in webinar on **“Recent Trends in qualitative Research”** held on 26 Nov.2020 organized by VIT Chennai.
- Participated in **“International Virtual Conference on Advanced Materials for Energy and Environmental Applications (ICAMEEA -2020)”** Sponsored by Tamil Nadu State Council for Science and Technology Organized by Department of Chemistry, BIST Bharath Institute of Higher Education and Research Chennai–600073, Tamil Nadu, India Dec 03-04,2020
- Participated in **“International Conference on Advance Materials Science and Graphene Nano Technology”** during 25-26 of March, 2021 at The Manchester University, UK
- Participated in **“Industry Institute Interaction Webinar On Optical and Electrical Modelling Software for Semiconductor Devices (OEMSSD 2020)”** organized by Department of Chemistry, Bharathiar University, Coimbatore 641046 on 15th December 2020.
- Participated in National level webinar on **"EMERGING MATERIALS FOR SOLAR ENERGY CONVERSION” organized** by department of physics Sethu Institute ofTechnology on 12.01.2021.
- Participated in the online two-day workshop on **“Nano Materials & Devices: Physics and Applications”** organized by the Centre for Nano-Electronics & VLSI Design (CNVD) and School of Electronics Engineering (SENSE) at Vellore Institute of Technology (VIT)-Chennai during **March 11 & 12, 2021**

- Participated in “Two Weeks International Workshop on Emerging Trends in the field of Science and Technology” organised by the Department of Physics, Sathyabama Institute of Science and Technology, Chennai, through Zoom Video Communications from 16 to 28 August 2021.
- Attended the “Symposium on Recent Advances in Smart Sensors” organized by Department of Physics, SRM Institute of Science and Technology, Ramapuram Campus, Chennai – 600089, Tamil Nadu on 26th August 2021.
- Participated in the **Distinguish Lecture on “2D Magnetic TMDs for Spintronics and Quantum Sensing”** Organized by IEEE Sensors Council Student Chapter Indian Institute of Technology Indore March 10-11, 2023
- Participated in the **Distinguish Lecture on “2D Magnetic TMDs for Spintronics and Quantum Sensing”** Organized by IEEE Sensors Council Student Chapter Indian Institute of Technology, Indore June 22, 2023.

Personnel Details

Name	:	Asif Rasool
Father’s name	:	Gh. Rasool
Gender	:	Male
Marriage status	:	Unmarried (single)
Children	:	-NA-
Date of Birth	:	23/03/1992
Nationality	:	Indian
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Declaration:

I hereby declare that all the above-furnished details are correct to the best of my knowledge and belief.

yours faithfully
Dr. Asif Rasool

1) Dr. R. Amiruddin

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3) Dr. M.H. Mamat

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