

A passionate research student interested in energy harvesting materials, gas sensors, opto electronic material and devices, with a macroscopic goal of technology transfer through nanotechnology and knowledge.

Contact

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Technical Skills

Laboratory Experience

- Basics practices: foundry, electronics, gas sensing
- Synthesis methods: Wet chemical, hydrothermal, polymerization
- Characterization techniques: DLS, UV, TGA, BET, PSD
- Fabrication Technique: Spin Coating

MS-Office Suite

Word, PowerPoint, Excel

Coding Languages

Java, C, Python

Simulation & Graphing

ICECREM, SRIM, SIMNRA, Parratt-32, OriginPro, Image J

WORK EXPERIENCE

July, 2021 – Present

Management Trainee
Solugo Research, Faridabad, Haryana

- Planned and implemented team projects to accomplish objectives.
- Collaborated in professional team to solve workflow issues.
- Shouldered management responsibilities during absence of manager

Feb - June 2021

Summer Internship
Corporate R&D Centre, BPCL, Greater Noida

- Planned, modified, and executed research techniques, procedures, and tests.
- Researched various subjects that were related to project and presented information to appropriate stakeholders.

EDUCATION

Bachelor of Technology major Nanotechnology

- *Amity Institute of Nanotechnology, Amity University*
2017-2021, CGPA- 8.76 / 10

High School Diploma (CBSE)

- *Ganga International School, New Delhi*
2016-2016, 85% (Aggregate)

RESEARCH EXPERIENCE

Understanding the mechanism of sulfur reduction in the fluid catalytic cracking process in the presences of gasoline sulfur reduction catalyst

Dr. Chiranjeevi Thota, Corporate R & D Centre, Bharat Petroleum Corporation Limited, Greater Noida
Major project (February – June 2021)

- Involved in study and optimization of sulfur reduction reaction on tubular fixed bed reactor. Reviewed and documented material associated with the study.

Metal oxide nanoparticle synthesis for structural characterization and their potential application in gas sensing

Dr. Robin Kumar, Amity Institute of Nanotechnology
(May, 2018 – February 2021)

- Synthesized nanomaterial through wet chemical method for volatile gas sensing, examined the material for potential superhydrophobic nature of the material by drop analysis.

Synthesis of GQD's and their potential application in solar cell

Dr. Jagjiwan Mittal, Amity University
Summer Training, (October – December 2020)

- Synthesized reduced graphene oxide (RGO) by modified hummer's method, analyzed the material using UV VIS, DLS. Reviewed the application of GQD's in solar cell.

PUBLICATION

Kumar, R.; Jaiswal, M.; Kushwaha, N; Bansal, S.; Mazumder, N.; Mittal, J.

"Nanomaterial – Based gas sensors for agriculture sector", Springer Nature, 2021, ISBN 978-3-030-66165-6, page no. 51-80, <https://www.springer.com/gp/book/9783030661649>

ACHIEVEMENTS

- Headed team in Incube amity 2020 innovation competition and was among top 10 ideas.
- Headed football team comprising of 9 departments in Inter-Amity institutions sports meet (semi-finalist)
- Headed school football team at Inter-Zonal football competition (1st runners up)
- Received certificate of honor by Embassy of the Republic of Korea for reaching semi-finals of 1st Korean-India Friendship Quiz Competition 2016
- Received president gratitude for the contribution in Aaftab- charters day celebration of Rotaract club of Delhi Janak

EXTRACURRICULARS

Rotaract member for the year (2019-2020) at Rotaract Club of Delhi Janak

COURSE WORK

Advance Nanomaterials, Nanotechnology in Energy Systems, Micro Fluidic Devices, Nano Electronics, Thin Film Technology and MEMS, Low Dimensional Semiconductor: Fundamental, Physical Deposition and Modifications Techniques, Sensors and Nano sensors, Characterization Techniques for Nanomaterials – I, Methods of Synthesis of Nanomaterials, Quantum Mechanics in Nanotechnology, Fundamental of Device Fabrication Technology – I, Fundamentals of Semiconductors and Device Application

ADDITIONAL INFORMATION

- Hobbies – Playing games, Cooking
- Reading, writing, and working proficiency in English and Hindi, elementary proficiency in French language
- Attended Military Training Camp at Amity University, Manesar, Greater Noida.
- Attended short term course on Nanotechnology for Electronic and Photonic devices (NanoDev 2020) organized by Electronics and Communication Engineering Department, Punjab Engineering College, Chandigarh
- Attended two-day workshop organized on futuristic trend of nano-electronics, MEMS and NEMS by Centre for development of advanced computing, Mohali, 2018