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Work Experience

Sep, 2019 – Dec, 2019	**Assistant Professor** ECE Department, BMIET, Sonipat, Haryana, India
January, 2016 – June, 2017	**Assistant Professor** ECE Department, N. C. College of Engineering, Panipat, Haryana, India
August,2013 – August, 2015	**Assistant Professor**, ECE Department, BMIT, Jaipur, Rajasthan, India

Education

2020 – Nov, 2024	**Ph.D. (Thesis Submitted), National Institute of Technology, Kurukshetra** Thesis Title: *Computational Studies of MXene Structures for Optoelectronic and Energy Storage Applications* CGPA: *9.54*
2011 – 2013	**M.Tech. VLSI Design, Banasthali University, Rajasthan,India** Thesis Title: *Circuit Editing in VLSI by ION Beam Nanotechnology* Percentage: *71.63 %*
2007 – 2011	**B.Tech. Electronics and Communication Engineering, MDU, Rohtak, India** Major Project Title: *Automatic Toll Tax System* Percentage: *73.45 %* (***First class with Honours***)
2006	**12th Non-Medical, Haryana Board of School Education** Percentage: *80 %*

Research Publications

Journal Articles

1. **S. Saharan**, U. Ghanekar, and S. Meena, "V_2N Mxene for hydrogen storage: First-principles calculations," ***The Journal of Physical Chemistry C, ACS Publications***, 2024. DOI: https://doi.org/10.1021/acs.jpcc.3c07786.

2. **Saharan, Sunita**, U. Ghanekar, and S. Meena, "Layered $Ti_3C_2S_2$ mxene based high capacity cathode for zinc ion batteries," ***Communicated in Nanotechnology, RSC Publications***, vol. -, no. -, 2024.

3. **Saharan, Sunita**, U. Ghanekar, B. R. Shivankar, and S. Meena, "High-capacity V_2N mxene for multivalent ion batteries: An ab initio study," ***The Journal of Physical Chemistry C, ACS Publications***, vol. 128, no. 31, pp. 12 840–12 848, 2024. DOI: https://doi.org/10.1021/acs.jpcc.4c03063.

4. **S. Saharan**, U. Ghanekar, and S. Meena, "$Black Phosphorus/V_3C_2$ Mxene layered heterostructure as a sustainable cathode material for li-ion battery: An ab initio study," ***The Journal of Physical Chemistry C, ACS Publications***, no. 19, pp. 8905–8912, 2023. DOI: https://doi.org/10.1021/acs.jpcc.2c08801.

5. **S. Saharan**, U. Ghanekar, and S. Meena, "Theoretical investigation of the optical and electronic properties of surface engineered V_2N mxene," ***Physica Scripta, IOP***, no. 9, p. 095 521, 2023. DOI: https://doi.org/10.1088/1402-4896/aceebb.

6. V. Sharma, A. Kumar, **S. Saharan**, and S. Semwal, "Graphene/au/mip-coated d-shaped optical fiber–based spr sensor for ethanol detection," ***Plasmonics, Springer***, vol. 18, no. 5, pp. 1639–1649, 2023. DOI: https://doi.org/10.1007/s11468-023-01920-y.

7   **S. Saharan**, U. Ghanekar, and S. Meena, "Two-dimensional mxenes for energy storage: Computational and experimental approaches," ***ChemistrySelect, Wiley***, e202203288, 2022. 🔗 DOI: https://doi.org/10.1002/slct.202203288.

8   **Sunita**, U. Ghanekar, and S. Meena, "Heteroatom induced tailoring electronic and optical properties of V_3C_2 mxene through bandgap opening: A computational insight," ***Chemical Physics Letters, Elsevier***, vol. 799, p. 139 639, 2022. 🔗 DOI: https://doi.odoi={https://doi.org/10.1021/acs.jpcc.3c07786},rg/10.1016/j.cplett.2022.139639.

Skills

EDA Tools	🔖	Quantum wise Atomistic Tool Kit (ATK), S-Edit, T-SPICE and XILINX ISE 14.7
Coding	🔖	VHDL, Basics of Machine Learning, Basics of MATLAB
Misc.	🔖	Academic research, LaTeX typesetting and publishing

Interested Subjects

- 🔖 Digital Electronics
- 🔖 VLSI
- 🔖 Machine Learning
- 🔖 Basic Electronics

Interested Research Area

- 🔖 Computational study of 2D materials to enhance the performance of ion batteries using first-principles calculations
- 🔖 Computational study of 2D materials for Hydrogen storage using first-principles calculations
- 🔖 Computational study of 2D materials for photovoltaic applications using first-principles calculations

FDP's and Workshop Attended

- 🔖 **Invited Speaker** in Short-Term Course On **"Functional Hybrid Materials for Clean Energy & Healthcare Applications (SMART-NANO-2024)"** organized by department of ECE, NIT Kurukshetra during 22-26 July, 2024
- 🔖 Attended five days FDP on **"Atomistic & Quantum Computing and Simulation (QATK)"** organized by Electronics and ICT Academy, IIT Roorkee, 16 January, to 20 January, 2023
- 🔖 Attended five days FDP on **"Atomistic & Quantum Computing and Simulation (QATK)"** organized by Electronics and ICT Academy, IIT Roorkee, 16 January, to 20 January, 2023
- 🔖 Participated in the **"Two Days FDP on Hands on Session on Open Source VLSI Tools (Online)"**, organized by the School of Electronics Engineering VIT-AP University, Amaravati on 20 December to 21 December, 2022
- 🔖 Participated in the six days workshop on **"Research Opportunities in Semiconductor Materials and Devices (ROSMD-2022)"** during October 19-24, 2022 organized by the Department of ECE, SRM Institute of Science and Technology, Kattankulathur Campus
- 🔖 Participated in the Short Term Training Programme on **"Research Methodologies and Scientific Research Writing using LaTeX"** held from 12th to 16th March 2022 by NIT Kurukshetra
- 🔖 Participated as delegate in the two days workshop on **"Computer Science/I.T. in the light of NEP 2020 & Indian Knowledge Systems"** from 25-26 May, 2022 held at NIT Kurukshetra

Miscellaneous Experience

Awards and Achievements

2022 ▌ **"Prof. Subramanian S. Iyer Best Participant Award" and Prize Money of INR 2500/-**, in six day workshop on Research Opportunities in Semiconductor Materials and Devices

2019 ▌ **UGC-NET Qualified**- Percentile Score @ 99.4

Personal Details

Date of Birth	▌	25/12/1988
Language Proficiency	▌	English and Hindi
Permanent Address	▌	E-902, Sector-111, Lotus Homz, Gurugram, Haryana

References

Prof. Umesh Ghanekar
Contact No.- 7988563198
Professor, ECE Department
National Institute of Technology, Kurukshetra,
    ugnitk@nitkkr.ac.in

Prof. Brahmjit Singh
Contact No.- 9416473644
Professor, ECE Department, Regional Coordinator, Regional Academmic Centre for Space (A Joint Initiative of ISRO and NIT Kurukshetra) and Head, Siemens Centre of Excellence NIT Kurukshetra,
National Institute of Technology, Kurukshetra,
    brahmjit@nitkkr.ac.in

Dr. Shweta Meena
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Assistant Professor, ECE Department
National Institute of Technology, Kurukshetra,
    mail2shwetameena@nitkkr.ac.in

Declaration

I hereby declare that the information furnished above is true to best of my knowledge.

Sunita

Sunita

Place: Kurukshetra