Meyhar Dudeja

dudejame@msu.edu | LinkedIn: www.linkedin.com/in/meyhar

EDUCATION

Michigan State University May 2026
College of Natural Science, Honors College
East Lansing, Michigan
GPA – 3.925

GRANTS & SCHOLARSHIPS

GSI Helmholtz Centre for Heavy Ion Research – Stipend and Travel	July 2025 – September 2025
Michigan State University – Honors College Travel Grant for Research in Germany	May 2025
Lyman Briggs College - For Project Diophantine Triple	Spring 2023
Michigan State University - International Student Tuition Scholarship	August 2022 - Present

CONFERENCES & WORKSHOPS

- **GSI Summer Student Presentation 2025** – GSI Helmholtz Centre for Heavy Ion Research – Presented "Simulation Studies on UniCell Setup"
- **MCAW 2023 – Midwest Cold Atoms Workshop** – *University of Chicago* – Presented "Progress towards Single Atom Microscope".
- **Mid-SURE 2023 – Mid-Michigan Symposium for Undergraduate Research Experiences** – *Michigan State University* – Presented EDM3 as "Using Radioactive Molecules to Study the Origin Of Visible Universe".
- **UURAF 2023** – **University Undergraduate Research Arts and Forum –** *Michigan State University* – Presented "Some Remarks on Diophantine Triples".
- **Isotopes in Motion Workshop 2024 –** *FRIB - Michigan State University* – Volunteered in this workshop about communicating FRIB research and nuclear physics to high school students.

ACADEMIC EXPERIENCE

Summer Research Student July 2025 – September 2025
GSI Helmholtz Centre for Heavy Ion Research, Germany

Advisor - Dr. Jochen C. Ballof, Staff Scientist, Superheavy Element Chemistry group, GSI

- Project – Simulation studies on the UniCell Setup
  - Ran SIMION simulation studies on the UniCell setup, which is a novel gas stopping cell to reduce the extraction time of superheavy elements to study chemical properties
  - The UniCell ion funnel had shorted electrode plates, the simulations done were to find an alternative way to fix these shorts without mechanical repair.
  - Successfully developed a method to have high efficiency without requiring mechanical repair to the funnel.

Researcher October 2024 – February 2025

Karmanos Cancer Center(KCC), Wayne State University,

Advisor - Dr. Ramesh Boggula, Senior Medical Physicist, KCC & Assistant Professor, Department of Oncology, Wayne State University.

- Project – Make/Acquire a Compton Camera to test its application in Medical Physics
  - Researched on compton camera to image gamma rays from a patient who has been administered a nuclear medicine like Pluvicto that contains Lu-177.
  - This led to KCC acquiring a compton camera from M3D imaging.

Student Research Assistant I October 2022 – December 2024

Facility for Rare Isotope Beams (FRIB), MSU

Spinlab Group - PI - Dr. Jaideep T Singh, Associate Professor of Physics, FRIB, Michigan State University

- EDM3 - Electric Dipole Measurements using Molecules within a Matrix
  - Assembled ion transport instrument with the postdoc (Dr. Jochen Ballof) and grad students on the group; used vacuum chambers and ion funnels to construct the instrument; successful vacuum creation at desired pressures, learned the skills of vacuum operation.
  - Built electrical connection breakout boxes using solder, triax cables and multipin connectors, resulting in reduced noise in measuring pico-amp currents.

- SAM - Single Atom Microscope
  - Built the Blackout Enclosure and did other modifications to the existing setup mechanical design skills; used 80-20 aluminium profiles and modified them by either cutting or filing them, leading to a reduction of the optical background of photon counts.
  - Did sharpness of image, theoretical calculations using Zemax OpticStudio and did analysis using python, made graphs using matplotlib.

Researcher September 2022 - Present

Lyman Briggs College, MSU, East Lansing, Michigan

Project Diophantine Triple- Advised by Dr. Aklilu Zeleke, Ph.D. Mathematics, Professor of Mathematics and Statistics, Michigan State University

- Official Title- Asymptotic Behavior of Numerical Sequences and Polynomials Generated by Recurrence Relations.
- Number theory research being done under the guidance of Prof. Zeleke.
- Created a Python program that generates arrays and then filters out the ones that fits the conditions of being a Diophantine triple; found multiple recurrence relations and now in phase of publishing a paper for results written in Latex.

Researcher August 2020 - August 2021

UCSB, Santa Barbara, CA | (remote) Delhi, India

Project BabyPIC (Particle in cell code)

- Project that simulates particles in form of Finite Phase Fluid Elements (FPFEs) with defined charges in influence of electric and magnetic fields using Leapfrog Integration.
- Worked on this project theoretically, tested the simulations, and analyzed the results.

COLLEGIATE EXPERIENCE

Service Center Representative October 2024 - Present

Michigan State University, East Lansing, MI

- This job is about communicating with residents of dormitories and helping them with packages keys, access cards etc. Also, assist any visitors like parents etc.
- Organizational skills are extremely important in this job as you are managing a desk that services keys, packages and mail.

ACTIVITIES & CERTIFICATIONS

LBC Dean's List for Academic Excellence (GPA > 3.5)	December 2022, May 2023, December 2023, May 2024, December 2024, May 2025,
Founder, Core Team Head, VIS Scientia Society (largest and most active in VIS community)	October 2020 – July 2022
Won AP Scholar Award (Average Score 3+ in 3 or more AP exams)	July 2021
Completed Citi Asia Pacific Investment Banking Virtual Reality Intern Experience	May 2021
Completed Goldman Sachs Engineering Virtual Program	November 2020
Completed JPMorgan Chase & Co. Software Engineering Virtual Experience	October 2020 – November 2020
Participated in Harvard Model United Nations, India – Represented the Federated States of Micronesia, in UN Security Council.	August 2020
Completed Trinity College London – Graded Examination in Spoken English Grade 3 CEFR- A 2.1 With Distinction	December 2016

SKILLS

- Proficient in Java, Python
- Git, NumPy, Machine Learning
- Scientific Software- Altium (circuit maker)
- Software- Inkscape, IntelliJ, SIMION, COMSOL