

# Vikash Meghwal

✉ mevikash.iitk@gmail.com

📞 mevikash

🌐 mevikash

🌐 Website

📞 +91 902 473 6762



## Education

- 2019 – Present **BS-MS Dual Degree in Chemistry, Indian Institute of Technology (IIT) Kanpur**  
IIT Kanpur, Kalyanpur, Kanpur, Uttar Pradesh 208016.  
*Master of Science in Chemistry PG CPI - 8.2/10.0*  
*Bachelor of Science in Chemistry UG CPI - 7.0/10.0*
- 2017 – 2018 **Intermediate/+2, CBSE Precentage - 72.8%, Lawrence and Mayo Public School Ajmer**  
*Ajmer in Makarwali, Ajmer, Rajasthan 341512.*
- 2015 – 2016 **Matriculation, J&KBOSE - 82.8% or CGPA - 8.8/10.0, Bharti Public High School Bari Brahmana, Chak Ratnu, Jammu and Kashmir 181133.**








## SURGE Program (Summer Research Intern)

- May'23-July'23 **Supervisor: Prof. Pratik Sen, Biophysical Chemistry Research Group, Dept. of Chemistry, IIT Kanpur** *Lab Project* [🌐 Website](#)  
**Title:** Elucidation of the Structure and Dynamics of Synergistic Mixed Solvent Systems.  
**Learning Work:** This research project focuses on investigating the structure and dynamics of synergistic mixed solvent systems through distillation, NMR spectroscopy, and data analysis. Strong analytical skills, effective communication, and collaborative approach to research.  
**Skills:**  $^1\text{H}$  NMR · Vacuum Distillation · Absorption Spectroscopy · Emission · IGOR Pro · Origin (Software) · Python (Programming Language)


## Research Experience (Undergraduate Research Project)

- Jan-May'22 **Supervisor: Prof. Nagma Praveen Research Group, Chemical Biology (Bio-Nanoparticle Lab), Dept. of Chemistry, IIT Kanpur** *Lab Project* [🌐 Website](#)  
**Title:** Studying the SARS-CoV-2 fusion in detail using an opportunistic model for the fusing of the coronavirus membrane. Receptor binding and priming of the spike protein of SARS-CoV-2 for membrane fusion.  
**Future Work:** To create medicines for human consumption and vaccines to combat infections and disease. And use this knowledge to create nanoparticle medicines and enough adoptable vaccines.  
**Learning from lab:** Viruses and Binding fusion in SARS-MERS Covid.
- Jan'23-Present'23 **Supervisor: Prof. Pratik Sen, Biophysical Chemistry Research Group, Dept. of Chemistry, IIT Kanpur** *Lab Project* [🌐 Website](#)  
**Title:** Role of Hydrophobicity in Synergistic Solvation.  
**Learning from Lab Work:** Purification of Organic Solvent, NMR Technique, Vacuum Distillation, Use of Lab Equipment.

## Self-Project)

- Personal Website  Personal Website: Angular (a web framework), Electron Js, and web development tools were used.  [Link](#)
- Server and Client App  Using Android-studio, created a  Server and  Client application that enables the storage of data on the Google Fire-base Framework.
- Desktop Application  Using Electron Js, created a desktop application that assists students in managing academic data. Used HTML, CSS, and Java-script in the frontend and backend of the application.
- Android App, ChatBot  1. Using Flutter, created a bill-paying Calculator in the restaurant, which also facilitates in tipping. 2. Created a Telegram and WhatsApp Chatting bot on Replit.








## Course Project work

- 2021-22  **Supervisor: Prof. Anish Upadhyaya, IIT Kanpur**  
**Title:** Cantilever ToolBox  
**Learning Work:** *Dr. Anil Kumar Verma, LAB & COURSE in CHARGE Anish Upadhyaya, M.D. Dr. Amarendra K Singh is a tutor. We worked on the manufacturing process, as well as designing the structure and components of the ToolBox. We have 9 members in our team. I also created a 3D model of the box in the Fusion360 Designing Tool, and I finalised the cost of the manufacturing process with two other members. It was a group effort.*


## Research Interest

- Spectroscopy
- PhysicalChemistry
- ExperimentalStudies
- MolecularSimulation
- Programming

## Skills





- Languages  English, Hindi and Rajasthani.
- Programming Languages  C/C++, Fortran Programming, Python...
- Android Development  Android Studio, Flutter, Kotlin, and Postman API.
- Frameworks  Electron, React, Node.js, Angular.
- Developer Tools   $\LaTeX$ , Markdown, Html, css, Git, VS Code, Visual Studio, Sublime Text Editor, Jupiter Notebook, Colab.
- Operating System/ Terminal  Knowledge of Unix/Linux or Windows environments and APIs, CMD, Power Shell.
- Misc.  Fusion360, PowerPoint, Adobe Photoshop, MS-Word, Adobe Illustrator, Auto CAD, Overleaf, MongoDB, GNU Plot, Linux Shell, Avogadro, Orca.

## Position and Responsibilities

- 2021-22  **Council Secretary Exhibition** IIT Kanpur  
*Responsibility for Exhibition Planning and Execution*

## Position and Responsibilities (continued)

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- 2020-21  **Techkriti RoboGames Senior Executive** **IIT Kanpur**  
*Prepared a database of various colleges and contact them as well as convince them to Participate in the RoboGames RoboCaAD Manoeuvre using abstract calling.*
-  **Senior Secretary Chess Club** **IIT Kanpur**  
*Organizes Chess tournaments for the campus community. Conducted various events on Lichess*
- 2020-20  **Secretary | Ritambhara | Antaragni** **IIT Kanpur**  
*Prepared a database of various fashion giants and We contacted them and convince them to sponsor our event. Contacted various colleges and their fashion societies and increased the participation in the event.*
- 2019-20  **Volunteer | Ritambhara | Antaragni** **IIT Kanpur**  
*Assist the Senior Secretary in organizing an event while Antaragni, Pearl Academy Delhi, and other team members visit the campus. Volunteered for the Hospitality wing of Antaragni-IIT Kanpur's annual cultural fest, where more than 600 people need to stay.*