



# Nida Fathima

Calicut, India

+91 8943684426

nidafathima@students.iisertirupati.ac.in

## Technical Skills

### Molecular Biology Techniques:

PCR

Transcription

Gel Electrophoresis (Agarose, Native PAGE, Denaturing PAGE, SDS PAGE)

DNA/RNA purification

### Nucleic Acid Analysis:

Aptamer design using NUPACK

### Fluorescence analysis:

Synergy H1 microplate reader

### UV-Melting techniques

### Spectroscopy & Particle Analysis:

Circular Dichroism (CD) Spectroscopy

Dynamic Light Scattering (DLS)

### Computational & Data Analysis:

Python programming

Data handling in Excel

### Presentation & Communication:

Strong scientific reporting and presentation skills

## Achievements

GATE Qualified (2025)

## Volunteering

National Service Scheme (2018 - 2023)

Bharat Scout & Guide (2010 - 2017)

## Languages

English - Fluent

Malayalam-Fluent

Hindi - Intermediate

Arabic - Intermediate

resume(pdf)

## Profile

Passionate researcher with experience at the intersection of chemistry and biology, with a growing interest in data analysis. Experienced in designing and characterizing RNA/DNA nanostructures for drug delivery and nanotechnology applications. Strong analytical, computational, and presentation skills, with expertise in Python programming and data handling.

## Research Experience

### MSc Thesis

"Engineering of Highly Stable RNA Nanomotifs for Nanotechnology Applications"

- Supervisor : Dr. Ashwani Sharma

Indian Institute of Science Education and Research, Tirupati

June 2022 - May 2023

- Designed a fluorescence-based method to compare the stability of different RNA three-way junctions (3WJs) used in RNA nanotechnology.

- Investigated the potential of RNA nanostructures in targeted drug delivery applications.

### Semester Project

"Construction of Stimuli-Specific DNA Nanostructures Using i-Motif Sequences"

- Supervisor : Dr. Ashwani Sharma

Indian Institute of Science Education and Research, Tirupati

Jan 2022 - Apr 2022

- Designed pH-responsive DNA nanostructures such as triangles, squares, and tetrahedrons using i-motif sequences.

## Education

### BS-MS Chemistry

Indian Institute of Science Education and Research, Tirupati

2018 - 2023

7.0 CGPA

## Contact Reference

- Dr. Ashwani Sharma, Assistant Professor, Department of Chemistry and Biology, IISER Tirupati, ✉ [a.sharma@labs.iisertirupati.ac.in](mailto:a.sharma@labs.iisertirupati.ac.in)
- Dr. Pankaj Kumar Koli, Assistant Professor, Department of Chemistry, IISER Tirupati, ✉ [pankaj@labs.iisertirupati.ac.in](mailto:pankaj@labs.iisertirupati.ac.in)

linkedin

github