

# Nikita Sahu

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## EDUCATION

### Katholieke Universiteit Leuven

*Erasmus Masters in Nanoscience and Nanotechnology*

Leuven, Belgium

Sept. 2022 – Aug. 2024 (expected)

### Birla Institute of Technology and Science, Pilani

Bachelor of Engineering in Chemical Engineering

CGPA: 8.96/10; Rank: 6/72

Goa, India

Aug. 2018 – Dec. 2021

(Graduated one semester early)

## RESEARCH PROJECTS

### Metabolomics Study on Therapeutic Biomarkers

*Guided by Prof. Pramod Wangikar, IIT Bombay*

Worked on Metabolomics Data Analysis and website design for Clarity Bio Systems India Pvt. Ltd.

January 2022 – August 2021

### Effect of mutation in peptides on their interactions with proteins

*Guided by Prof. Raviprasad Aduri, BITS Pilani K K Birla Goa Campus*

Studied the effect of mutation in a peptide on its interaction with a protein using molecular docking and molecular dynamics simulations using GROMACS

January 2022 – June 2022

### Graphene Based Drug Delivery Systems

*Guided by Prof. Sutapa Roy Ramanan, BITS Pilani K K Birla Goa Campus*

Designing a graphene based nano vehicle assembly for targeted and efficient drug delivery.

August 2021 – December 2021

### Recent advancements in Life Cycle Assessment

*Guided by Prof. Sampatrao Daggu Manjare, BITS Pilani K K Birla Goa Campus*

Understanding the advancements done in field of Life Cycle Assessment and Life Cycle Engineering and coming up with new models to integrate the pillars of sustainability and costing into the methods.

January 2021 – August 2021

### Synthesis of Helical Nanofibers via Non-covalent interactions

*Guided by Prof. Sutapa Roy Ramanan, BITS Pilani K K Birla Goa Campus*

The impact of non-covalent interactions was examined along with the influence of enantiomeric dopants in the fabrication of polymeric nano-helices and their applications in sensing.

July 2020 – December 2020

### Material Modeling and Simulation of CNT Reinforced Polymer

*As a summer research intern at Dhio Research Institute Pvt.Ltd.*

Molecular dynamics simulations were carried out by embedding single wall CNT (5,5) into acrylate based polymer while imposing periodic conditions in NPT ensemble using the COGNAC modeller on J-OCTA.

May 2020 – July 2020

(Certificate)

## TEACHING EXPERIENCE

### Undergraduate Teaching Assistant, BITS Goa

- Kinetics and Reactor Design
- Material Science and Engineering
- Chemical Engineering Thermodynamics

August 2021 - December 2021

January 2021 - May 2021

August 2020 - December 2020

## LEADERSHIP AND ON CAMPUS ACTIVITIES

### Research and Collaboration Head, Alumni Relations Cell

Led a team of 70+ students, Member of BITS Echo editorial team, Content head

May 2020-July 2021

### Event Manager, Organising Committee, BITSAA Global Meet

Managed the event with 1000+ dignitaries and 60+ events

January 17-19 2020

### Mentor, Peer Mentorship Program

Guided seven freshers through academic and extra curriculars in their first year.

August 2019- August 2020

(Certificate)

### Performer, Mime Club

Performed in front of 3000 people during college fests

August 2018- August 2019

## RELEVANT COURSEWORK AND SKILLS

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**Relevant Courses:** Nanostructured Biomacromolecules\*, Physical Chemistry of Biosystems\*, Supramolecular Chemistry, Polymer Chemistry, Bio and Chemical Sensors, Healthcare Technologies, Nanobiotechnology, Introduction to Nanoscience, Engineering Chemistry, Material Science and Engineering

**Lab Courses:** Biology, Chemistry, Physics, Heat Transfer, Engineering Chemistry, Separation Processes, Kinetics and Reactor Design, Process Control, CFD, Fluid Mechanics

**Languages:** Python, C, MATLAB

**Software:** ASPENPlus, J-OCTA, AutoCad, COMSOLMultiPhysics, MS-DIAL, GROMACS

**Seminars and Workshops:** Computational Structure based Screening and Explicit Molecular Dynamics

**Specialisations (Online):** Fundamentals of Immunology (Rice University); Cancer Biology (John Hopkins University); Drug Development Product Management (UCSD)

**MOOC:** Introduction to Molecular Spectroscopy (University of Manchester); Nanotechnology: A Maker's Course Materials Data Sciences and Informatics (Georgia Institute of Technology); Psychological First Aid (John Hopkins University) Python for Everybody - Basics, Data Structures, Accessing Web Data (University of Michigan);

## SCHOLARSHIP AND VOLUNTEERING

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- **Erasmus Mundus Category A Scholarship** (2022-2024)  
Full funding to carry out Masters studies including contribution to student participation costs, travel, installation and monthly allowance
- **Hindustan Times Scholarship** (2014)  
One of the 150 students chosen from over 27,000 applicants and 250+ schools across Mumbai, Pune and Chandigarh to be rewarded with a scholarship.
- **Jaganath Cancer Aid Foundation** (June-July 19)  
Engaged in the cancer awareness campaign and educated the family members of the patient at the shelter homes