

Aditya H Iyer

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EDUCATION

Birla Institute of Technology and Science, Pilani

Dec 2021 – Present

Bachelor of Engineering in Chemical Engineering, Minor in Physics

Pilani, RJ

- CGPA: 8.11/10
- Relevant Coursework: Biological Chemistry; Biophysical Chemistry; Biophysics; Computational Physics; General Biology; Statistical Mechanics

EXPERIENCE

Undergraduate Teaching Assistant

Aug 2024 – Present

Birla Institute of Technology and Science, Pilani

Pilani, RJ

- Assisted the instructor-in-charge of the course Engineering Chemistry with course-related duties as required.
- Prepared questions based on the course content for use in classroom discussions and tutorial sections of the course.

Visiting Student

May 2024 – July 2024

Raman Research Institute

Bangalore, KA

- Studied and calibrated radiometer antennas for optimal efficiency in detecting the global 21-cm hydrogen signal.
- Developed and operated Python code to filter extraneous radio signals and isolate weak extraterrestrial microwave backgrounds from radiometer data.

Research Intern

May 2023 – July 2023

Indira Gandhi Centre for Atomic Research

Kalpakkam, TN

- Designed laboratory set-ups for the isolation of stable radiocarbon- and tritium-containing compounds through various active and passive sampling methods.
- Operated radiation measurement machinery including liquid scintillation counters and alpha-ray counters to determine the radiation exposure from atmospheric radiocarbon.

RESEARCH PROJECTS

Carbon Dioxide Sequestration by Amine-Based Solvent Mixtures

Jan 2024 – May 2024

Department of Chemistry, BITS Pilani

Pilani, RJ

- Designed processes for carbon dioxide absorption by various solvent mixtures on Aspen Plus and Aspen HYSYS, to study the synergistic effects of amine-based solvents in flue gas clean-up.
- Optimised process parameters for maximal gas capture and performed exergetic analyses on successful flowsheets.

Marine Oil Spill Simulation and Weathering Analysis

Aug 2023 – Dec 2023

Department of Chemical Engineering, BITS Pilani

Pilani, RJ

- Developed simulation models incorporating data collected from meteorological stations (ECMWF and HYCOM) to model wind and wave currents off the Indian coast and simulate oceanological behaviour.
- Modelled oil spillages at various locations with the WebGNOME software suite to develop a time-averaged environmental risk indication map for the selected region. Paper based on this project currently under review.

Classification of Terrestrial Contaminant Transport Models

Aug 2023 – Dec 2023

Department of Chemical Engineering, BITS Pilani

Pilani, RJ

- Studied the theoretical bases for fluid transport models; and conducted an extensive literature review on mathematical models for petroleum contaminants and surfactant systems in soil and porous media.
- Formed a unique classification system for NAPL transport models based on the physical quantities balanced, transport concepts involved, and solution methods used. Paper based on this project currently under review.

PUBLICATIONS

- Iyer, A. H., Kuthe, S., Chattopadhyay, P.. An Assessment of Oil Spill Trajectories for the Gulf of Mannar, India, Through Mixed Eulerian-Lagrangian Modelling. *Under review. Available at SSRN: ssrn.com/abstract=4923210*
- Iyer, A. H., Roy, B., Chattopadhyay, P.. The Transport and Fate of Petroleum Contaminants and Surfactant Systems in Contaminated Soil Subsurface: A Review. *Under review.*

EXTRACURRICULAR ACTIVITIES

English Language Activities Society

May 2023 – Present

- Prepared, organised, and hosted several quizzes. Won several quizzes on topics including geography, literature, and general. Awarded the title of Brain of BITS, 2024.

English Press Club

Jul 2022 – Present

Editor-in-Chief

Jun 2023 – Jun 2024

- Was responsible for the oversight and publication of periodicals that reached all resident students and visitors on campus. Served as a member of the Editorial Board for the academic year 2023–24.

Department of Lights

Apr 2022 – Present

Co-ordinator

May 2023 – May 2024

- Handled illumination and visual effects for all events at the main auditorium of BITS Pilani. Worked towards successfully automating a previously manually functional system, reducing transition delays.

BITS Pilani Volleyball Team

Mar 2022 – Mar 2023

- Played as an outside hitter for the volleyball team. Participated in several tournaments, and placed second in the BITS Open Sports Meet, 2022.

PROFESSIONAL SOCIETIES

International Association of Engineers

Jun 2024 – Present

IAENG Member

Jun 2024 – Present

Institution of Chemical Engineers

Dec 2023 – Present

Student Member

Dec 2023 – Present

American Institute of Chemical Engineers

Dec 2021 – Present

Student Member

Dec 2021 – Present

TECHNICAL SKILLS

Technical Software: Aspen HYSYS, Aspen Plus, AutoCAD, Avogadro, Overleaf, WebGNOME

Non-Technical Software: Canva, Figma, MS Excel, MS PowerPoint, MS Word, Zotero

Languages: C, Java, LaTeX, MATLAB, Markdown, Python

MISCELLANEOUS

Proficient Languages: English, Hindi, Tamil

Hobbies and Interests: Astronomy, English Literature, Quizzing, Science, Volleyball, Writing

