

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.*

PROFESSIONAL SOCIETIES

International Association of Engineers **Jun 2024 – Present**

- Followed and studied journals including Engineering Letters and IAENG International Journal of Applied Mathematics, and conference proceedings.

Institution of Chemical Engineers **Dec 2023 – Present**

- Attended webinars on topics including sustainability in pharmaceutical utilities and transitioning to renewable energy.

American Institute of Chemical Engineers **Dec 2021 – Present**

- Took courses including An Introduction to Process Safety Hazards and Introduction to Process Safety to supplement bachelor's degree.

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.

TEST SCORES

Graduate Record Examinations **Sep 2024**

Appointment # 7632609242989418

Gurugram, HR

- Score: 339/340
- Verbal Reasoning: 169; Quantitative Reasoning: 170

Test of English as a Foreign Language **Jul 2024**

Appointment # 5183607240098155

Bangalore, KA

- Score: 117/120
- Reading: 30; Listening: 30; Speaking: 28; Writing: 29

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