

DEEKSHA YADAV

Major: Chemical Engineering | Minor: Linguistic Theory & Cognitive Science

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EDUCATIONAL QUALIFICATIONS

Year	Degree/Certificate	Institute	CPI / %
2022	B.Tech. - M.Tech. (Dual)	Chemical Engineering, IIT Kanpur	BT: 9.0/10 MT:10/10
2016	Senior Secondary (XII) - CBSE	Guru Nanak Modern School, Kanpur	94.8%
2014	Secondary (X) - CBSE	Guru Nanak Modern School, Kanpur	10.0/10.0

INTERNATIONAL RESEARCH & PUBLICATION

Publication: "Sustainable antifouling nano-enabled polymeric membranes for effective desalination," **Molecular Systems Design & Engineering**, 2021

Paper on design & development of sustainable technologies in Desalination publishing in MSDE, a high-impact journal by **Royal Society of Chemistry**

Rice University, Texas, United States- Summer Research Intern

May'20-July'20

(Among 5 students selected for pursuing a fully-funded research internship at **William Marsh Rice University, United States**)

Sustainable Membrane Desalination and Water Treatment Technologies (**Prof. Qilin Li**, Rice University & **Prof. Raju Gupta**, IIT Kanpur)

Objective	● Conceptualize and investigate novel sustainable desalination technologies for minimizing water wastage and better performance
Approach	● Developed PVA-PDA modified nano-enabled PVDF membranes for Direct Contact Solar Membrane Distillation ● Characterized and studied the novel membranes using techniques like ATR, FTIR, XPS, FESEM, AFM, SEM, TEM , etc. ● Analyzed and compared water flux and anti-scaling/ fouling behaviour of developed membranes against conventional techniques
Impact	● Obtained 150% flux increment showing a trade-off between permeability and selectivity with a remarkable flux of 12 LMH ● Increased salt rejection to more than 90% and further continued the project as Master's Thesis for designing industrial applications

INTERNSHIPS

Saptkrishi Scientific Private Limited- Administrative Head

Aug'20-Jun'21

(Offered **Pre-Placement Offer (PPO)** for valuable and influential contribution to the firm)

- Worked closely with the CEO in clinching **more than 10 deals** with organizations like **Bill & Melinda Gates Foundation, Ernst & Young, ICICI Foundation, Cenergist, Arunachal Pradesh, Bihar, and Uttar Pradesh** state governments
- Led market research & operations on **3 new projects** of the firm; Recruited and managed **5 new people** in the BD & Marketing team

PepsiCo India- Quality Maintenance Project Trainee

Nov'18-Dec'18

- Underwent training in the **Quality Department** of the industry bottling more than **7 soft drink varieties**
- Performed comparative study of **Coagulation, RO filtration, and Softening** among the various treatment processes subsumed there
- **Result: Expected microbe reductions up to 90-99%** observed with chemical coagulation and flocculation

KEY ACADEMIC PROJECTS

SURGE, IIT Kanpur- Industrial project tied-up with Hindustan Petroleum Corporation Limited (HPCL, India)

May'19-July'19

(Received **Summer Undergraduate Research Grant for Excellence (SURGE) 2019** given to **top 60 students of India** amongst **2500 applicants**)

Development of Nanocatalysts for Hydrodesulfurization (HDS) Reaction (**Prof. Sri Sivakumar**, IIT Kanpur)

Objective	● To develop ultrasmall catalysts for the reaction aimed at reducing sulfur content in fuels due to environmental concerns
Strategy	● Developed and characterized the nanocatalyst NiW using techniques like GC, X-RD, X-RF, BET, TEM, and SEM ● Performed the HDS reaction for already developed catalysts like NiMo and CoMo for comparing the performance of novel catalyst
Impact	● Obtained conversion rates of more than 80% for sulfur amounts and prepared the catalyst to be used in future reactions

COMMUNITY WELFARE AND SERVICE

Asha Welfare Society (Registered NGO in Kanpur)- Volunteer

Jan'21-Present

- Conducted **menstrual hygiene awareness sessions** with free **sanitary napkin distribution** to **500 women** on International Women's Day
- Helped more than **100 unemployed rural women** in setting up & running their own small-scale sewing & jewellery-making businesses
- Conducted **vaccine awareness programs** in **7 villages** to break the myths and motivate people for vaccination against Covid-19

PRAYAS, IIT Kanpur: Taught **10 children** from underprivileged backgrounds to develop proficiency in spoken English through unconventional learning

BloodConnect: Worked in city team as a volunteer to organize **weekly blood donation camps** by collaborating with different organizations

Swaraj old age home: Conducted multiple visits & interactive sessions | **India Water Impact Summit 2020:** Volunteered in participation & management

Student Guide: Assisted **5 freshmen** students in easy transition to campus life | **Academic Mentor:** Took Institute level & personal remedial classes

POSITIONS OF RESPONSIBILITY

Manager, Media and Publicity (Antaragni'19, Inter-Collegiate Cultural Festival of IIT Kanpur)

Apr'19-Oct'19

Leadership	● Headed a three-tier team of 100 students responsible for publicity, content, and media associations of the festival ● Led proposals made to major media companies like The Times Group, Viacom18, and initiated deals for the benefit of both parties
Networking	● Ensured a pan India reach of the festival by organizing road trips in 15 cities with full-fledged media coverage ● Managed the endorsement and complete coverage of various events of Antaragni across different media platforms

Coordinator (Hindi Sahitya Sabha, IIT Kanpur)

Apr'19-Jun'20

Leadership	● Planned and conducted year-long activities of the 50-year-old club while recruiting & leading a three-tier team of 60 students ● Responsible for collaboration with Hindi Cell to garner a budget of INR 1.5 Lakh for setting up a club-specific book library
Initiatives	● Organized the first-ever Literature Festival of IIT Kanpur , graced with the presence of renowned artists like Waseem Barelvi ● Introduced Hindi Debating in the IITK campus on an official platform, conceptualized & conducted online events with a 20000+ reach

EXTRA-CURRICULAR ACTIVITIES

- **Cultural:** Winner of literary events in **Rendezvous'18**, IIT Delhi | Active contingent member of **Inter IIT Cultural Meets 2018 & 2019**
- Won **National Essay writing competition** organized by UNIC for India & Bhutan | Active participant in **RBI Quiz, Inter-School Quizzing & Chess** events
- **Technical:** Awarded **Youth Merit Award** by **Rotary Club of Kanpur South** | **Zonal topper**, National Science Olympiad organized by SOF
- **Managerial:** Managed departmental activities as Executive of **Chemineers Society** | **Senior Executive** of Events in Entrepreneurship Cell, IIT Kanpur