



# SONAL TRIPATHI

ASPIRING CHEMICAL ENGINEER



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## SUMMARY

Enthusiastic chemical engineer, Researcher , who is interested in solving major engineering problems of chemical industries. Resourceful , analytical and detail-driven with capabilities in resolving inefficient operational processes. Proficient in safe & smooth production operations , trained in process modelling and simulations.

## TECHNICAL SKILLS

Mass and Energy Balances

Unit Operations

Chemical Experimentation

DWSIM

Aspen Plus

Chemsep

MS Excel

Process Simulation Process

Process Design

Product Optimization

## POWER SKILLS

Inquisitively solves problems

Independent performer

Imaginative and empathetic

Positively analyses the work

## CERTIFICATES

**Aspen Plus simulation software**

| NPTEL by IIT | Jan'23

**Transport Phenomena**

| NPTEL by IIT Jan'23

**Programming in Python**

| NPTEL by IIT Nov'22

**Introduction to MS Excel**

| Coursera Apr'2021

## EXTRA CURRICULAR ACTIVITIES

Attenddd Workshop on Intellectual Property Rights Feb'23

Guest lecture on Computational Fluid Dynamics Feb'23

Webinar on "Hydro processing Technologies in Petroleum Refinery" Apr'22

Participated in an event on Public Speaking Skills Oct'22

## INTERNSHIP

**Bhabha Atomic Research Centre | Mumbai , Maharashtra**

Project Trainee|(ChEd)

June'23- Aug'23

- Learned about the importance of extraction of High value metals from nuclear waste.
- Reviewed, summarized the synthesis of DTBDB18C6 and DTBDCH18C6.
- Understood the operation of autoclave unit for hydrogenation.
- Developed the new method for purification of DTBDB18C6 using chromatographic principle.
- Optimized the purification process for higher yield and purity.

**National Fertilizers Limited |Panipat, Haryana**

Chemical Engg. Intern

June '22 -July'22

- Production of Fertilizers & Quality Control
- Learned about the non ideal behavior of various reactors and equipments.
- Understood the operation of the standard industrial equipments and worked with the experts in R&D for quality control.
- Provided hands-on assistance to chemical engineers on challenging projects. Monitor process in ammonia control room and report results to production manager

## PROJECTS

**Development of Purification Process**

June'23-Aug'23

- Prepared a column loaded with alumina for the purification purpose.
- Learned about studying the response of GCMS analysis as a peak.
- Compared the new developed process with the older filtration process.
- Conducted various experiments for optimization of process for better yield.

**Methanation Process Modelling and Simulation**

Jan'23-Mar'23

- Software Used: DWSIM
- Simulated methanation Process of ammonia production.
- Created material and energy balance table of input and output streams.

**Solar Energy Reactor**

June '22 -July'22

START-UP IDEA: SUNPOLIS

- Heating of thermic fluid to generate steam using solar energy.
- Utilization of solar energy to save other resources and minimizing the heat losses.
- Sustainable development in the sector of energy with the green and non carbon emission
- Discussed about the limitations of the idea and compared the profit from both resources.

## ACHIEVEMENT

- Presented a Review paper on "Preserving the Taste of Time" for Food Preservation in 13th international conference on science and innovative engineering.

May'2023

- Presented a research paper on "Methanation modelling and simulation using DWSIM" in Recent advances in Fundamental and applied sciences.

Mar'2023

## EDUCATION

**Bachelor of Technology in Chemical**

Apr '20 - Present

Lovely Professional University | Punjab, IN  
CGPA 8.22

**Intermediate**

Rajkiya Pratibha Vikas Vidhalaya| Delhi ,IN  
Percentage- 91.6%

Jun '19 - Mar '20

**High School**

Guru Nanak Girls Senior Secondary School |Delhi,IN  
Percentage- 92%

July'17- Feb'18