Rajeev Kumar | **Eche17039**
Chemical Engineering | **Male**
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OBJECTIVE

Seeking an opportunity in a challenging environment where I can deliver my best with my technical knowledge and functional expertise and to enhance my skills.
INTERESTS: Modelling and simulations, Heat Pipes, Process Control, Aspen plus

EXAMINATION	University	Institute	Year	CPI/%
Graduation	RGIPT	Rajiv Gandhi Institute of Petroleum Technology	2021	7.36
Intermediate/+2	CBSE	Holy Cross School	2017	88.8%
Matriculation	CBSE	The Pentecostal Assembly School	2015	9.6/10

INTERNSHIP /ACADEMIC PROJECTS

Internships

A comparative thermodynamic study of different reforming processes using aspen plus simulations
Guide: Prof Shishir Sinha | HOD Chemical Engineering Department | IIT Roorkee

- The thermodynamic data relating to reforming were obtained via Aspen plus, using Peng Robinson equation of state.
- Multi-criteria decision making (MCDM) techniques were used to determine the optimal operating conditions for network of reactions
- The aim of this project was to develop a clear and comprehensive methodology to consider various compositions of biogas, combinations of reactions, and process conditions in order to make recommendations for optimizing the operating conditions of mixed reforming of methane/biogas.

Industrial project training on 150tpd double absorption double conversion Sulphuric acid plant
Guide: Mr. Sanjay Panda | AGM Coke oven and by-product plant | BSL, Bokaro

- The manufacture of sulphuric acid was based on double conversion double absorption (DCDA) process.
- The main step consisted of burning of elemental sulphur more than air to form sulphur dioxide, conversion of sulphur dioxide to sulphur trioxide.
- Finally reacting sulphur trioxide with water to form sulphuric acid solution containing 98-99% H_2SO_4.

Projects Undertaken

Using multi-criteria and thermodynamic analysis to optimize process parameters for mixed reforming of biogas

- Aim was to develop a novel and comprehensive methodology for identifying the optimal thermodynamic operating conditions for biogas reforming using ASPEN plus simulations and MCDM techniques

To Determine average heat transfer coefficient in pipe flow
Guide: Dr. Milan Kumar |Chemical Engineering | RGIPT

- Average heat transfer coefficient was determined using C++ Language. Visualization of various variables was done utilizing different condition and equation Proposed in literature for heat transfer coefficient.

Gas Hydrate Production
Guide: Dr. Umaprasana Ojha| Chemical Engineering | RGIPT

- Proposed a mechanism for CH4-CO2 exchange to get the trapped methane gas rom gas hydrate

Sociological Research on "To Assess the Attitude of the subject towards the person with a disability".
Guide: Dr. Anirban Mukherjee | RGIPT

- Collected data based on a standard questionnaire from more than 100 people of Urban and Rural areas for analysis and hypothesis testing. Exploratory Data Analysis on data collected consisting of R square Relation graphs, Mann-Witney Test and Z-test for validating the hypothesis

Obstacle avoiding robot

- Built an autonomous obstacle avoiding robot based on Arduino microcontroller and ultrasonic finder sensors

AWARDS AND ACHIEVEMENTS

- Paper got selected for oral presentation at 15th annual session of Students Chemical Engineering Congress (SCHEMCON-2019)
- Ranked in **Top 2%** in IIT-JEE 2017
- Secured a rank of **816** in KVPY in 2015-16

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TECHNICAL SKILLS

- **Programming Languages:** C++/C
- **Software**: Aspen Plus, Aspen HYSYS, AutoCAD, Excel
- **Electronics:** Arduino

POSITION OF RESPONSIBILITY

- Treasurer at **American Institute of Chemical Engineers (AICHE)** Student Chapter. [Jul'19-Aug'20]
- Member of hostel affairs committee at RGIPT. [Jul'19-Aug'20]
- Hostel maintenance secretary at RGIPT. [Jul'19-Aug'20]
- Club Convener at E-cell, S&T committee, RGIPT. [July'18-june'19]
- Worked as head in Project of Science and Technology(S&T). [Dec'18-jan'19]
- Volunteer at Gyan Arpan social club.

WORKSHOPS AND CONFERENCES

- Industrial trip to Indian Oil Corporation Limited Panipat Refinery
- Attended workshop on **Computational Fluid Dynamics** in winter school 2019.
- Attended workshop on **Internet of Things** in winter school 2018