

# Piyush Kumar Kumawat

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## Objective

### M.Tech by Research, Chemical Engineering

Indian Institute of Technology Patna  
Bihta, Patna, Bihar

January 2020-ongoing  
Marks : 8.71 (CGPA)

### Bachelor of Engineering, Chemical Engineering

Thapar Institute of Engineering and Technology (TIET)  
Patiala, Punjab, India

Graduated, July 2018  
Marks : 6.95 (CGPA)

### Senior Secondary (Class XII)

STEP by STEP High School  
Jaipur, Rajasthan

Passed, July 2013  
Marks : 73.4 (Percentage)

### Higher Secondary (Class X)

SVM Public School  
Jaipur, Rajasthan

Passed, July 2011  
Marks : 7.0 (CGPA)

## Experiences

### Indian Institute of Technology, Patna

#### Junior Research Fellow

#### *Process System and Engineering Lab, Department of Chemical and Biochemical Engineering (July 2019-Present)*

Supervisor- Dr. Nitin Dutt Chaturvedi, Assistant Professor and Head, Dept. of Chemical and Biochemical Engineering, IIT-Patna

Project – Planning of industries to minimize carbon emission and energy consumption

Grant- DST-SERB, India

Working on a DST-SERB sponsored project as a JRF to optimize real life problem related to carbon emission, energy consumption, production cost and to plan production of industries to meet the forecasted demand

### Essar Oil Ltd.

Jamnagar, Gujarat

Trainee (July 2017 - December 2017)

Project - Improvement in pre-heat temperature of coke drums at Delayed Coker Unit

A heat exchanger was designed using HTRI xchanger suite and kern method to improve pre heat temperature at Delayed Coker Unit (DCU) plant by simulation and observing plant. In this study it was found that the plant is working fully automatically with advance technologies being already used here at Delayed Coker Unit (DCU), however some modifications can be still done to increase productivity and also make the operation even safer and autonomous. Outcomes of project suggested some changes that can be done along with the cost of implementing the same and how it would profit the company in the long run.

### Shree Cement Ltd.

Beawar, Rajasthan

Summer Intern (June 2016 - July 2016)

Worked as summer intern in the quality maintenance department of industry, learned and analyzed the production of cement and maintaining their quality.

## Achievements

- Cleared GATE (Graduate Academic Test in Engineering)-2019, Chemical Engineering.
- Academic Scholarship 2014-15 for holding the second position in the batch on the basis of JEE score, TIET, Patiala.
- Cleared Joint Entrance Exam-Mains, ranked in the top 2% of more than 1.5 million aspirants across India in 2014.

## Technical Skills

- GAMS, Machine Learning, Python
- Familiar with UV-Spectrophotometer, NMR, FTIR and other equipment used for collecting, compiling, and interpreting research data.
- Preparing and presenting reports on the progress of research for technical and non-technical audiences.
- Staying current with professional publications.
- Collaborating with the cross-functional research team.

## Publications

Kumawat PK, Chaturvedi ND (2020) **Robust resource targeting in continuous and batch process**. Clean Technologies and Environmental Policy. (Accepted: In Press)

Kumawat PK, Chaturvedi ND (2020) **Robust targeting of resource requirement in a continuous water network**. Chemical Engineering Transactions 81:1003–1008. <https://doi.org/10.3303/CET2081168>

Rathi N, Kushwaha JP, Singh N, Rajani N, Kumawat PK (2020) **Adsorptive interaction of ortho-phenylenediamine with commercial activated carbon in presence of Indole and vice versa: synergistic/antagonistic evaluation**. Environment, Development and Sustainability 23:2172–2189. <https://doi.org/10.1007/s10668-020-00668-3>

Kaur P, Rajani N, Kumawat PK, et al (2018) **Performance and mechanism of dye extraction from aqueous solution using synthesized deep eutectic solvents**. Colloids and Surfaces A: Physicochemical and Engineering Aspects 539:85–91. <https://doi.org/10.1016/j.colsurfa.2017.12.013>

## International Conferences

Piyush Kumar Kumawat, Nitin Dutt Chaturvedi. **Robust targeting of resource requirement in a continuous water network**, 23rd Conference of Process Integration, Modeling and Optimization for Energy Saving and Pollution Reduction (PRES- 2020) 17-21 August 2020, Xi'an, China.

## Extra-Curricular Activities

- Vice-proctor – Hostel J, TIET (Aug 2016 – Dec 2016)
- Finance Head – Hostel J, TIET (Jan 2016 – May 2016)
- Vice Head maintenance – Hostel J, TIET (Aug 2015 – Dec 2015)
- Core Member – Saturnalia 2k15
- Overall Event Coordinator – Yatharth Society

## Languages

- Hindi
- English

## Personal Information

Fathers Name: Mr. Hemant Kumar  
Date of Birth: September 24, 1995  
Gender: Male

Marital Status: Single  
Nationality: Indian