

Dr. Naushad Khan

Assistant Professor (Contractual), Dept. Chem. Eng., HBTU Kanpur

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Area of Interest

Deep eutectic solvents, Ionic liquids, Adsorbents synthesis, Desulfurization and denitrogenation of liquid fuels, Energy & Fuels, Metal recovery from waste using solvent extraction process, CO₂ capture, Modeling & Simulation by ASPEN Hysys.

Education

Year	Degree/ Discipline	Institution/Board	Marks (%)
2024	Doctorate (Ph.D.) Chemical Engineering	Indian Institute of Technology Roorkee, Uttarakhand, India	Awarded on (July 27, 2024)
2017	Postgraduate (M.TECH) Chemical Engineering	Indian Institute of Technology Roorkee, Uttarakhand, India	83.53 % (7.853/10)
2015	Graduate (B.TECH) Chemical Engineering	Institute of Engineering & Technology Lucknow, Affiliated by AKTU, India	75.12 %
2011	Intermediate (Class XII)	Board of High School and Intermediate Education, UP, India	80.60 %
2009	Matriculate (Class X)	Board of High School and Intermediate Education, UP, India	72.50 %

Teaching and Project Experiences

Working as Assistant Professor (Contractual) in the Department of Chemical Engineering, HBTU Kanpur, Uttar Pradesh, India | August 13, 2026-till date.

Worked as Research Associate (Postdoctoral Fellow) in the Department of Chemical Engineering, IIT (ISM) Dhanbad, Jharkhand, India, “Critical mineral extraction using solvents” | November 10, 2025-August 10, 2026.

Worked as temporary faculty in the Department of Chemical Engineering, NIT Srinagar, J&K, India, Spring Semester | April 09-August 04, 2025.

Ph.D. thesis: Extractive desulfurization of liquid fuels using quaternary ammonium salts based deep eutectic solvents, Department of Chemical Engineering, IIT Roorkee, India | January 01, 2018-November. 29, 2023.

M.Tech. dissertation: Simulation of absorption column for acid gas (CO₂) removal from natural gas using amine using ASPEN HYSYS, Industrial Pollution Abatement Stream in Department of Chemical Engineering, IIT Roorkee, India | May 16, 2016 - June 12, 2017.

B.Tech. Project: Effluent treatment in petroleum refineries, Department of Chemical Engineering. I.E.T. Lucknow, India. | July 14, 2014 - May 15, 2015.

Research Publications

Papers in SCI (International) journals

1. Naushad Khan, Vimal Chandra Srivastava. Quaternary ammonium salts-based deep eutectic solvents: utilization in extractive desulfurization, *Energy & Fuels*, ACS-Publications 2021, 35, 12734-12745, **Q1**, <https://doi.org/10.1021/acs.energyfuels.1c01220>.
2. Naushad Khan, Vimal Chandra Srivastava. Extractive desulfurization using ethylene glycol and glycerol-based deep eutectic solvents: engineering aspects and intensification using ultrasound, *Chemical Engineering and Processing: Process Intensification*, 2022, 180, 108973, **Q1**. <https://doi.org/10.1016/j.cep.2022.108973>.
3. Naushad Khan, Vimal Chandra Srivastava. Engineering evaluation of extractive desulfurization using ethylene glycol-based deep eutectic solvents: kinetics and mass transfer study, *Energy & Fuels*, ACS-Publications, 2024, 38, 10072-10086, **Q1**, <https://doi.org/10.1021/acs.energyfuels.4c00781>.
4. Naushad Khan, Gade Khadar Venkata Rami Reddy, Sandeep Kumar Thaligari, Vimal Chandra Srivastava, Raj Kumar Singh, Anuj Rawat, Paritosh Mohanty. A simultaneous study on desulphurization and denitrogenation using acid-treated activated alumina: multi-component adsorption systems, *The Canadian Journal of Chemical Engineering*, 2024, 103, 385-395, **Q2**, <https://doi.org/10.1002/cjce.25392>.
5. Naushad Khan, Sanjay Gautam, Vimal Chandra Srivastava, Anuj Rawat, Paritosh Mohanty, Raj Kumar Singh, Kamal Kishore Pant. Kinetic modeling and mechanistic evaluation of oxidative-extractive desulfurization of actual diesel fuel using ionic liquids: Engineering aspects with parametric study, *Journal of Molecular Liquids*, 2024, 414, 126080, **Q1**, <https://doi.org/10.1016/j.molliq.2024.126080>.
6. Naushad Khan, Vimal Chandra Srivastava. Ethylene glycol based deep eutectic solvents with quaternary ammonium salts: solid-liquid equilibrium modeling and physico-thermo-chemical properties, *International Journal of Thermophysics*, Springer-Nature, 2026 (Under review).
7. Naushad Khan, Vimal Chandra Srivastava. A review on designer extractive deep eutectic solvents characteristics and study on sulfur removal from liquid fuels through distinct desulfurization technologies, *Molecular Liquids*, 2026. (To be submitted).
8. Naushad Khan, Veeramani Chidambaranathan, Vimal Chandra Srivastava. Modelling and simulation of acid gas (CO₂) removal from natural gas using amine: parametric study, *Fuel*, 2026. (To be submitted).

Research Papers in conferences

1. Naushad Khan, Vimal Chandra Srivastava. Kinetic evaluation of extractive desulfurization in model fuel using deep eutectic solvents (Paper 378). IKSAD Publications – 2022, *7th International ZEUGMA CONFERENCE ON SCIENTIFIC RESEARCH (IZCSR)*, Gaziantep, Turkey, January 21-23, 2022. https://books.google.co.in/books/about/Abstract_book.html?id=QccIzwEACAAJ&redir_esc=y.
2. Naushad Khan, Vimal Chandra Srivastava. Deep Eutectic Solvents Synthesis and its Utilization in Extractive Desulfurization (Page 20, ACES-2022-017), *National Conference on ACES-2022*, IISER Bhopal and UEC, Ujjain, M.P., India, March 25-26, 2022. https://conf.iiserb.ac.in/ACES2022/file/ACES-2022_Souvenir.pdf.

3. Naushad Khan, Vimal Chandra Srivastava. Extractive Desulfurization Using Deep Eutectic Solvents: Performance and Kinetics, [*International Conference on ChemTSF-2022*](#), Department of Chemical Engineering, IIT Roorkee, Uttarakhand, India, September 8-10, 2022.
4. Naushad Khan, Vimal Chandra Srivastava. Extractive desulfurization of liquid fuel using deep eutectic solvents, [*International Conference on ICECEES-2024*](#), Department of Chemical Engineering, IIT Roorkee, Uttarakhand, India. Feb., 15-17, 2024.
5. Naushad Khan, Zoya Fatma, Ejaz Ahmad, Sustainability approach towards ascorbic acid and choline chloride based deep eutectic solvents: Functional groups and thermal stability analysis, [*17th International Conference on Gas-Liquid and Gas-Liquid-Solid Reactor Engineering \(GLS-17\)*](#) December 12-15, 2026, Goa, India (Under review).

Awards / Scholarships / Academic Achievements

- Awarded certificate as volunteer for conducting the research Scholar day, 2022, Department of chemical engineering, IIT Roorkee.
- International Conferences/Festival/ National Conferences Proceedings Paper certificate award: 04.
- Awarded certificate for attending the research Scholar day-2022, Department of chemical engineering, IIT Roorkee.
- Five-year fellowship by MHRD Govt. of India to pursuing Ph.D. at IIT Roorkee, December 2017 to December 2022.
- Two-year fellowship by MHRD Govt. of India to pursuing Master of Technology (M. Tech) at IIT Roorkee, August 2015-May 2017.
- Awarded certificate for securing the position in U.P. Secondary Education, Bulandshahr, in 12th, Intermediate Examination-2011 and this award was given by District Inspector of Schools (DIOS).

Skills

Computer languages: Basic programming in C language

Software Packages: Microsoft office (MS office): word file, power point, excel worksheet, statistical analysis, Linear and Non-linear regression. Basic knowledge in ASPEN HYSYS, ASPEN PLUS, Gaussian, Quantum Espresso, Chem-Draw, MNOVA, High Score Xpert, Linseis software for TG-DT, and DSC analysis, etc.

Characterization and testing skills: GC-FID, GC-MS, UV-VIS Spectrophotometer, HPLC, FTIR, HNMR, TGA-DTA, DSC, TGA coupled with FTIR, Advanced Rheometer, Cyclic voltameter, Rotary evaporators, Ultrasound bath reactor, Advanced centrifuge, XPS, ED-XRF, XRD, ICP-OES, Pore size analyzer (BET surface area including single point, multiple point), etc.

Languages Known: English (Speak, Read, Write), Hindi (Speak, Read, Write).

Positions of Responsibility & Extra Curriculars

- Member of Lab Safety Scholar (LSS), Department of Chemical Engineering, IIT Roorkee, 2021-2022.

- Worked as a coordinator in the International Conference, ChemTSF-2022, organized by the Department of Chemical Engineering, IIT Roorkee, September 8-10, 2022.
- Worked as a teaching assistant for online certification course entitled “Biological Process Design for Wastewater Treatment” under National Programme on Technology Enhanced Learning (NPTEL), Funded by the MoE, Govt. of India, January-April, 2023.

Teaching Assistant (TA) Responsibility

S. No.	Subject	Subject Coordinator	Session
1.	Heat Transfer UG, Lab	Prof. Vimal Kumar	2018-19, Autumn Sem.
2.	Novel Separation techniques	Prof. P. P. Kundu	2018-19, Spring Sem.
3.	Mass Transfer operation	Prof. N.S.M Reddy	2019-20, Spring Sem.
4.	Properties of Polymer	Prof. V.C. Srivastava	2020-21, Spring Sem.
5.	Polymer Engineering Thermodynamics	Prof. Ashish Yadav	2021-22, Autumn sem.
6.	Pollution Control System	Prof. V.C. Srivastava	2021-22, Spring Sem.
7.	Biological Process Design for Wastewater Treatment	Prof. V.C. Srivastava	2022-23, Spring Sem. under NPTEL Programme.

Internships

- A workshop and training on Deep Eutectic Solvents for Environmental Remediation and Energy Storage through SPARC MHRD, Govt. of India | IIT Guwahati. July 29-30, 2020.
- A ten days faculty development Programme on “Green and Sustainable Technology for Next Generation” organized by Chemical Engg. and Electrical Engg. Department, SSNCE, Chennai, India, August 21-30, 2020.
- Four weeks of vocational summer training in Gas Authority of India Limited (GAIL) Pata Plant, Auraiya. The project undertaken was Gas Processing Unit Plant Study (GPU). May 28-June 28, 2014.

Personal details

Father name: Mr. Nasaruddin Khan

Date of birth: August 12, 1993

Marital status: Married

Present address: B2/12, Street no. 06, Rajiv Nagar, North-West Delhi, Delhi-110042, India.

Permanent address: H.N.03, Village-Kariyari, Post-Unchagaon, District-Bulandshahr, U.P. 203398, India.

References

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