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Dr. Asma Iqbal, PhD

Assistant Professor
Department of Chemical Engineering,
NIT Srinagar, India

RESEARCH INTEREST

- Distillation based separation processes
- Conceptual process flowsheet design
- Simulations of complex chemical processes
- Heat integration
- Process control

EMPLOYMENT/ EXPERIENCE

- **Assistant Professor,** Department of Chemical Engineering, NIT Srinagar, Kashmir (JK), India (March 2021 – present).
- **Post-doctoral Fellow,** Department of Chemical Engineering, IIT Kanpur, India (January 2020 – January 2021).
- **Teaching Assistant,** Department of Chemical Engineering, AMU, Aligarh (UP), India, (Aug 2011-July 2013 and August 2014 - August 2019).
- **Assistant Professor,** Department of Chemical Engineering, NIT Srinagar, Kashmir (JK), India (March 2014 –July 2014).
- **Assistant Professor,** Department of Food Technology, Islamic University of Science and Technology, Awantipora, Kashmir (JK), India (October 2010 – July 2011).

QUALIFICATIONS

PhD in Chemical Engineering
Aligarh Muslim University, Aligarh U.P. India. **2019**
Topic: "Enhanced Distillation Schemes for Separation of Azeotropic Mixtures"

M.Tech in Chemical Engineering
Aligarh Muslim University, Aligarh U.P. India. **2011-2013**
Academic performance: 84.54%

B.Tech in Chemical Engineering
NIT Srinagar. **2006-2010**
Academic performance: 85.89%

AWARDS

- Awarded **Certificate of Excellence** from the Universiti Teknologi Petronas, Malaysia for an outstanding contribution as a Reviewer.
- **Associate member** of International Society of Engineering Science and Technology, Coventry University, United Kingdom.
- Received **Best paper award** in an International conference organised by the KIET group of institutions in collaboration with Cranfield University, United Kingdom in 2019.
- Recipient of **Inspire Fellowship** for University toppers during PhD programme (INSPIRE Fellow).
- Awarded **Maulana Azad National Fellowship** (MANF) for meritorious students.
- Awarded **University Gold medal** for securing overall first position in M.Tech Chemical Engineering (2013).
- Awarded **Merit certificate** by National Institute of Technology, Srinagar for ranking 3rd in B.Tech in 2010.
- Recipient of **Muslim Minority scholarship for meritorious students** during B.Tech programme (2006-2010).
- **Qualified All India Engineering Entrance Examination** (AIEEE) in 2006.
- Awarded Honor of Distinction by School for **ranking top in Matriculation**.

JOURNAL PAPERS

1. **Asma Iqbal**, Muhammad Abdul Qyyum, Ojasvi, Abdul-Sattar Nizami, Syed Akhlaq Ahmad, and Moonyong Lee, "Energy-efficient and cost-effective alternative separation techniques for 2-methoxyethanol–toluene azeotropic mixture: Design and control studies," *Chemical Engineering and Processing - Process Intensification*, 2021 (Article in press). https://doi.org/10.1016/j.cep.2021.108376
2. **Asma Iqbal**, Syed Akhlaq Ahmad, Ojasvi, "Strategies for separating pressure sensitive binary azeotropes," *Journal of King Saud University-Engineering Sciences*, 2020 (Article in press).https://doi.org/10.1016/j.jksues.2020.08.001
3. **Asma Iqbal**, Syed Akhlaq Ahmad, "Heat integrated process design for pressure swing distillation columns," *Indian Journal of Chemical Technology*, vol. 26, pp. 449-453, 2019.
4. **Asma Iqbal**, Syed Akhlaq Ahmad, Ojasvi, "Design and Control of an energy-efficient alternative process for separation of Dichloromethane-Methanol binary azeotropic mixture," *Separation and Purification Technology*, vol. 219, pp. 137–149, 2019. https://doi.org/10.1016/j.seppur.2019.03.005
5. **Asma Iqbal**, Syed Akhlaq Ahmad, Ojasvi, "Appropriate selections of distillation column control variable to improve integrating material recycle response," *Journal of King Saud University-Engineering Sciences*, vol. 31, pp. 106–113, 2019. https://doi.org/10.1016/j.jksues.2018.08.001
6. **Asma Iqbal**, Syed Akhlaq Ahmad, Ojasvi, "Entrainer based economical design and plantwide control study for Tetrahydrofuran/Water separation process," *Chemical Engineering Research and Design*, vol. 130, pp. 274–283, 2018.https://doi.org/10.1016/j.cherd.2017.12.031
7. **Asma Iqbal**, Syed Akhlaq Ahmad, "Pressure swing distillation of azeotropic mixture – A simulation study," *Perspectives in Science*, vol. 8, pp. 4–6,2016.https://doi.org/10.1016/j.pisc.2016.01.001
8. **Asma Iqbal**, Syed Akhlaq Ahmad, "Overview of Enhanced Distillations," *International Journal of Advanced Research in Science and Engineering*, vol. 4(11), pp. 263–270, 2015.

BOOK CHAPTERS

1. **Asma Iqbal** and Syed Akhlaq Ahmad, "Energy saving technique for separation of a fuel additive" In: B. S. Sikarwar et al. (eds.), Advances in Fluid and Thermal Engineering, Lecture Notes in Mechanical Engineering, Springer Nature, Singapore, 2021, pp. 1-7, ISBN: 978-981-16-0158-3. https://doi.org/10.1007/978-981-16-0159-0_46.
2. **Asma Iqbal** and Syed Akhlaq Ahmad, "Modeling and Simulation of a Distillation Column to Separate an Automotive Fuel". In: Muzammil M., Chandra A., Kankar P.K., Kumar H. (eds), Recent Advances in Mechanical Engineering. Lecture Notes in Mechanical Engineering. Springer, Singapore, 2021,pp. 93-98, ISBN: 978-981-15-8703-0.https://doi.org/10.1007/978-981-15-8704-7_10.
3. Uzma Iqbal, **Asma Iqbal** and Siddharth Bhardwaj, "Fabrication and Tribological Behavior of Copper Plain Bearing Lubricated with Biodegradable Oil". In: Muzammil M., Chandra A., Kankar P.K., Kumar H. (eds), Recent Advances in Mechanical Engineering. Lecture Notes in Mechanical Engineering. Springer, Singapore, 2021, pp. 107-111, ISBN: 978-981-15-8703-0. https://doi.org/10.1007/978-981-15-8704-7_12.
4. Uzma Iqbal, Siddharth Bhardwaj, and **Asma Iqbal**, "Ergonomic assessment among workers engaged in Pashmina embroidery work in Kashmir, India," *Ergonomics for Improved Productivity, Design Science and Innovation*, Springer Nature Singapore Pte Ltd. 2021. https://doi.org/10.1007/978-981-15-9054-2_112.
5. **Asma Iqbal** and Syed Akhlaq Ahmad, "Dynamics and Control of Thermally Heat-Integrated Systems," in *Advances in Fluid and Thermal Engineering*, Singapore: Springer Nature, 2019, pp. 773–779. ISBN: 978-981-13-6415-0.https://doi.org/10.1007/978-981-13-6416-7_72.

PUBLISHED PROCEEDINGS

1. **Asma Iqbal**, Syed AkhlaqAhmad, "Comparative analysis of separation techniques for Methylal-Methanol azeotropic mixture," Conference Proceedings of *International Conference on Sustainable Materials and Energy Technologies*, Coventry University, United Kingdom, 2020.
2. **Asma Iqbal**, Syed AkhlaqAhmad, "Process Control Studies for Treatment of Industrial Effluents," *AIP Conference Proceedings*, 2200, 020028, 2019.https://doi.org/10.1063/1.5141198
3. **Asma Iqbal,** Syed Akhlaq Ahmad, **"**Non –linear dynamic studies in Distillation columns: A Case study of industrial effluent," *IOP Conf. Series: Materials Science and Engineering*,577, 012109, 2019.doi:10.1088/1757-899X/577/1/012109
4. **Asma Iqbal**, Syed AkhlaqAhmad, "Heat transfer studies for the design and optimisation of a distillation column to separate an automotive fuel,"*IOP Conf. Series: Journal of Physics: Conf. Series*, 1240,012092,2019. doi:10.1088/1742-6596/1240/1/012092
5. **Asma Iqbal,** Syed Akhlaq Ahmad, **"**Separating Iso-Propanol-Toluene mixture by Azeotropic Distillation," *AIP Conference Proceedings*, 1953, 030016, 2018. doi: 10.1063/1.5032351
6. **Asma Iqbal,** Syed Akhlaq Ahmad, **"**Pressure Swing Distillation for Tetrahydrofuran-Water Separation: A Novel Technique," Conference Proceedings of *India International Science Festival (IISF -2015)* held at IIT Delhi, 2015.

INTERNATIONAL CONFERENCES

1. **Asma Iqbal**, Syed Akhlaq Ahmad, "Separation of a cleaner alternative fuel" *in International Conference on Advances in Chemical and Petrochemical Engineering (ACAPE 2020)*, AMU, Aligarh, February 2020.

2. **Asma Iqbal**, Syed Akhlaq Ahmad, "An advanced separation technique for 2-methylpyridine-water azeotropic mixture" *in 72nd Annual Session of Indian Institute of Chemical Engineers, CHEMCON–2019*, IIT Delhi, December 2019.
3. **Asma Iqbal**, Syed AkhlaqAhmad, "Solvent selection in Extractive and Azeotropic distillation processes" *in National Conference on Emerging Trends in Chemical Sciences*, AMU, Aligarh, February 2019.
4. **Asma Iqbal**, Syed Akhlaq Ahmad, "Methylal as an energy fuel in industries" *in 2nd International Conference on Chemistry, Industry and Environment (ICCIE 2019)*, AMU, Aligarh, February 2019.
5. **Asma Iqbal**, Syed AkhlaqAhmad, "Separation of Methylal-Methanol azeotropic mixture: Design and Control studies" *in CHEMCON - 2018, Indian Institute of Chemical Engineers (IIChE)*, Jalandhar, December 2018.
6. **Asma Iqbal,** Syed Akhlaq Ahmad, **"**Separation methods for treatment of hazardous effluents discharged from industries," *in An International Conference on Sustainable Water Resources-Innovations and Impacts (TECHNOSCAPE 2018),* VIT, Vellore, September 2018.
7. **Asma Iqbal,** Syed Akhlaq Ahmad, **"**Benefits of Pressure swing distillation over Extractive distillation for THF-Water azeotropic mixture separation-Economic analysis and plantwide control" *in International Conference on Advances in Science & Technology (ICAST 2018),* SKIT, Jaipur, May 2018.
8. **Asma Iqbal,** Syed Akhlaq Ahmad, "Emerging Technologies for Separation of Azeotropic Mixtures: A Review," in *13th Session of Jammu & Kashmir Science Congress Emerging Technologies and Human Society: Applications and Constraints (JKSC),* University of Kashmir, Srinagar, April 2018.
9. **Asma Iqbal,** Syed Akhlaq Ahmad, **"**Membrane Processes: Status and Potential" *in National Conference on Emerging Trends in Chemical Sciences*, AMU, Aligarh, February 2018.
10. Uzma Iqbal, Siddharth Bhardwaj and **Asma Iqbal**, "Ergonomic Assessment among Workers Engaged in Pashmina Embroidery Work in Kashmir, India," in *15thHWWE2017 International Ergonomics Conference,*Aligarh Muslim University, Aligarh, December 2017.
11. **Asma Iqbal,** Syed Akhlaq Ahmad, **"**Bioethanol separation process- a green energy technique" *in India International Science Festival (IISF -2016),* NPL, New Delhi, December 2016.
12. **Asma Iqbal,** Syed Akhlaq Ahmad, **"**Simulation Studies of Extractive Distillation Process for the Separation of Acetone-Chloroform Mixture," *in International Conference on Separation Technologies in Chemical, Biochemical, Petroleum and Environmental Engineering (TECHNOSCAPE 2016)*VIT, Vellore, October 2016.
13. **Asma Iqbal,** Syed Akhlaq Ahmad, **"**Simulation of Azeotropic Distillation Processes for Separating Close Boiling Mixtures" *in A National Conference on Inter & Intra Disciplinary Blend of Chemical Engineering (CHEMIX 2016),* Visvesvaraya National Institute of Technology, Nagpur, April 2016.
14. **Asma Iqbal,** Syed Akhlaq Ahmad, **"**Pervaporation: A Membrane Separation Technique" *in International Conference on Recent Advances in Chemical Sciences,* AMU, Aligarh, March 2016.
15. **Asma Iqbal,** Syed Akhlaq Ahmad, **"**Simulation of Azeotropic Distillation for Acetone-N-Heptane Separation" *in National Research Scholars' Conclave on Innovation and Recent Trends in Science and Technology(IRTST -2015),* NIT, Srinagar, November 2015.
16. **Asma Iqbal,** Syed Akhlaq Ahmad, **"**Concept of Heat Integration in Distillation Columns" *in National Conference on Hydrocarbon, Energy and Environment (HEEcon - 2015),* AMU, Aligarh, April2015.

17. **Asma Iqbal,** Syed Akhlaq Ahmad, **"**Modeling and Simulation of Pressure Swing Distillation Column" *in CHEMCON - 2014,* Indian Institute of Chemical Engineers (IIChE), Chandigarh, December2014.
18. **Asma Iqbal,** Syed Akhlaq Ahmad, **"**Bioremediation of Dal Lake Pollution" *in CHEMCON - 2014,* Indian Institute of Chemical Engineers (IIChE), Chandigarh, December2014.

WORKSHOPS/ SEMINARS ATTENDED

- Participated in one day online workshop on "Quality Research and Scholarly Publications using Scopus and Mendeley" held on 19th May 2020 by Aligarh Muslim University, Aligarh.
- Participated in a webinar on "Exploring Web of Science, End Note X9, Journal citation report and Incites for promoting excellence in research" held on 5th June 2020 by Islamic University of Science and Technology, Awantipora.
- Participated in one day IEEE seminar on "How to write a good research paper" held on 23rd October 2019 at Z. H. College of Engineering and Technology, Aligarh Muslim University, Aligarh.
- Participated in the one day National workshop on "Modelling and simulation in Chemical Engineering and Allied fields" held on October 27, 2018 at Z. H. College of Engineering and Technology, Aligarh Muslim University, Aligarh.
- Participated in the one day International Seminar on "Managing Research with Effective Outcome" held on August 06, 2018 at Z. H. College of Engineering and Technology, Aligarh Muslim University, Aligarh.
- Participated in the one day workshop on "Technical Manuscript Preparation with LaTex" held on April 21, 2018 at Z. H. College of Engineering and Technology, Aligarh Muslim University, Aligarh.
- Participated in the one day workshop on "Mendeley" held on January 28, 2018 at Z. H. College of Engineering and Technology, Aligarh Muslim University, Aligarh.
- Participated in the one day workshop on "Introduction to data Science using Statistica" held on March 6, 2017 at Z. H. College of Engineering and Technology, Aligarh Muslim University, Aligarh.
- Participated in a four day workshop on "Challenges to Materials in Oil Exploration" held on February 14-17, 2017 at Z. H. College of Engineering and Technology, Aligarh Muslim University, Aligarh.
- Participated in the one day workshop on "Author Workshop on How to write and Publish Scholarly Articles" held on November 3, 2016 at Aligarh Muslim University, Aligarh.
- Participated in the one day workshop on "Introduction to Molecular Modelling using WINGAMESS" held on April 29, 2015 at Z. H. College of Engineering and Technology, Aligarh Muslim University, Aligarh.
- Participated in the one day workshop on "Advances in Bioprocess Engineering and Technology" held on October 13, 2014 at Z. H. College of Engineering and Technology, Aligarh Muslim University, Aligarh.
- Participated in the one day National Symposium on "Nanotechnology for Chemical Applications" held on February 27, 2013 at Z. H. College of Engineering and Technology, Aligarh Muslim University, Aligarh.

- Participated in a two day workshop on "Process Modeling and Simulation" held on March 23- 24, 2013 at Department of Chemical Engineering Z. H College of Engineering and Technology, Aligarh Muslim University, Aligarh.

REVIEWER

1. Chemical Engineering Communications, Taylor & Francis.
2. Energy Sources, Part A Recovery, Utilization, and Environmental Effects, Taylor & Francis.

ADMINISTRATIVE EXPERIENCE

- Organising member of International Conference on Advances in Chemical and Petrochemical Engineering at AMU, Aligarh.
- Resident Warden at Bibi Fatima Hall, AMU, Aligarh.
- Senior Food for 3 years at Bibi Fatima Hall, AMU, Aligarh.
- Swach Bharat Abhiyan Secretary at Bibi Fatima Hall, AMU, Aligarh.

SOCIETY MEMBERSHIP

- International Society of Engineering Science and Technology, Coventry, UK. (Since November 2018)