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MOHD DANISH KHAN



➤ Ready and keen for working predominantly in areas:

▪ Wastewater Treatment	▪ Sustainable Nanomaterials Synthesis
▪ Biomass Valorization	▪ CO ₂ Mineralization/Utilization

Academic Qualifications

- 2021 Doctor of Philosophy in Resources Recycling at University of Science and Technology, in campus “Korea Institute of Geoscience and Mineral Resources”, Daejeon, Republic of Korea. [99.44 % (4.45/4.5 GPA), Distinction].
“**Thesis Title:** Removal of Phosphorus from Wastewater using Nano-calcium Hydroxide and Aragonite Synthesized by Hydration or Carbonation of Waste Seashells”.
- 2016 Master of Science in Chemical Engineering, University of Nottingham, Nottingham, UK, 2015-16. [70.27% (4.0/4.0 GPA), Distinction].
“**Thesis Title:** Properties and Textures of Activated Caron Prepared from KOH Activation of Olive Cake”.
- 2015 Bachelor of Technology in Chemical Engineering, Aligarh Muslim University, Aligarh, India, 2011-15. [78.9% (9.0/10.0 C_{PI}), Distinction].
“**Thesis Title:** Techno-Economic Feasibility Report on Production of Dimethyl Carbonate From Oxidative Carbonylation of Methanol”.
- 2010 Senior Secondary School, Aligarh Muslim University, Aligarh, India. [65%].
- 2007 Secondary School Examination, CBSE, Aligarh, India. [78.2%].

Research Experience

- 2021 Currently (7th April 2021 ~ Present), working as a postdoctoral researcher at Carbon Mineralization Flagship Center, Korea Institute of Geoscience and Mineral Resources, Daejeon, South Korea.
- 2021 Parallel to PhD, (Sept 2017 ~ Feb 2021), working as a Researcher in Korea Institute of Geoscience and Mineral Resources, Daejeon, South Korea. Worked on wastewater treatment and CO₂ mineralization under project titled “Research and demonstration of carbonates production and high value added/ appropriate/package/engineering technology utilizing low concentration CO₂” funded by National Research Foundation, South Korea.
- 2017 Employed for 6 months as a Project Assistant in CSIR-Indian Institute of Petroleum, Dehradun, India. Worked on biomass valorization and activated carbon synthesis.

Published Papers

- **Khan, M.D.;** Shakya, S.; Vu, H.H.T.; Habte, L.; Ahn, J.W. Low concentrated phosphorus sorption in aqueous medium on aragonite synthesized by carbonation of seashells: Optimization, kinetics, and mechanism study. *J. Environ. Manag.* 280, 2021, 111652. [I.F = 6.8]
- **Khan, M.D.;** Chottitisupawong, T.; Vu, H.H.T.; Ahn, J.W.; Kim, G.M. Removal of phosphorus in aqueous

solution by nano-calcium hydroxide derived from waste bivalve seashell: Mechanistic insights. *ACS Omega* 5, 2020, 12290-12301. [I.F = 3.5]

- **Khan, M.D.**; Habte, L.; Shiferaw, N.; Farooq, A.; Lee, M.; Jung, S.; Ahn, J.W. Synthesis, Characterization and mechanism study of green aragonite crystals from waste biomaterials as calcium supplement. *Sustainability* 12, 2020, 5062. [I.F = 3.25]
- Vu, H.H.T.; **Khan, M.D.**; Tran, V.T.; Quang, D.V.; Dao, V.D.; Lee, S.; Ahn, J.W.; Jung, Seok-ho. Use of calcite mud from paper factories in phosphorus treatment. *Sustainability*, 12 (15), 2020, 5982. [I.F = 3.25]
- Habte, L.; Shiferaw, N.; **Khan, M.D.**; Thriveni, T.; Ahn, J.W. Sorption of Cd^{2+} and Pb^{2+} on aragonite synthesized from eggshell. *Sustainability* 12 (3), 2019, 1174. [I.F = 3.25]
- **Khan, M.D.**; Shakya, S.; Vu, H.H.T.; Lai, T.Q.; Ahn, J.W.; Nam, G. Water environment policy and climate change: A comparative study of India and South Korea. *Sustainability* 11 (12), 2019, 3284. [I.F = 3.25]
- **Khan, M.D.**; Vu, H.H.T.; Lai, T.Q.; Ahn, J.W. Aggravation of Human Diseases and Climate Change Nexus. *Int. J. Environ. Res. Public Health* 16, 2019, 2799. [I.F = 3.4]
- **Khan, M.D.**; Ahn, J.W.; Nam, G. Environmental benign synthesis, characterization and mechanism studies of green calcium hydroxide nano-plates derived from waste oyster shells. *J. Environ. Manag.* 223, 2018, 947-951. [I.F = 6.8]
- Vu, H.H.T.; **Khan, M.D.**; Chilakala, R.; Lai, T.Q.; Thenepalli, T.; Ahn J. W.; Kim, J. Utilization of lime mud waste from paper mills for efficient phosphorus removal. *Sustainability* 11 (6), 2019, 1524. [I.F = 3.25]
- Vu, H.H.T.; Shuai, Gu.; Thenepalli, T.; **Khan, M.D.**; Lai, T.Q.; Ahn, J.W. Sustainable treatment for sulfate and lead removal from battery wastewater. *Sustainability* 11 (13), 2019, 3497. [I.F = 3.25]
- **Khan, M.D.**; Ahn, J.W. Ion Exchange Processes: A potential approach for the removal of natural organic matter from water. *J. Energy Engg.* 27 (2), 2018, 70-80.
- **Khan, M.D.**; Lee, S.; Ahn, J.W. Consequences and remediation of climate change with focus on clean water and sanitation in India. *J. Energy Engg.* 27, 2018, 65-75.

Book Chapter

- **Khan, M.D.**; Ahn, J.W. Chapter titled “Environmental benign biochar technologies: Strategic utilization for CO_2 capture and wastewater treatment”, Ed. Jyothi, R.K., in book “Clean Coal Technologies”, published by Springer Nature, May 2021.

University Level Academic Projects

- 2016 (Research Paper) Comparison of Properties and Texture of Activated Jatropha Residue with Activated Hydro Char of Jatropha Residue. [University of Nottingham, Nottingham, UK].
- 2016 Techno-economic feasible design of Hydrogen Production Plant from Shale gas. [University of Nottingham, Nottingham, UK].
- 2016 Techno-economic feasible design of Hydrothermal Carbonization Plant with Wheat Residue as feed. [University of Nottingham, Nottingham, UK].
- 2015 Techno-economic feasible design of Dimethyl Carbonate Production Plant from Methanol & Lime. [Aligarh Muslim University, Aligarh, India].

Awards and Achievements

- 2021 Honored with “Excellence Award” for outstanding research achievements and scholarly work.
- 2019 Won UST Overseas Training Program and offered sponsorship by University of Science and Technology to do research training in University of Queensland, Australia.
- 2017 Awarded full scholarship (~ 1500 USD) by the University of Science and Technology for the

whole duration of PhD i.e. 2017 – 2021.

- 2016 Awarded 1st Prize for student design project judged to achieve highest standard in design practice. [University of Nottingham, Nottingham, UK].
- 2015 Awarded Merit Scholarship by Indian Institute of Chemical Engineers (NRC).
- 2014 Awarded merit scholarship by Indian Institute of Chemical Engineers (NRC).
- 2014 Awarded University Merit Financial Award [Aligarh Muslim University, Aligarh, India].

Conferences Attended

- Presented on topic “Effective Phosphorus Removal from Aqueous Medium by Nanoparticles Prepared from Waste Mussel Shells” in “**The 15th International Symposium on East Asian Resources Recycling Technology, EARTH 2019**”, 2019, Pyeongchang, Republic of Korea.
- Presented on topic “Arsenic and Fluoride contaminated groundwaters: Consequences and Remediation Techniques” in “**45th International Association of Hydrogeologists**”, 2018, Daejeon, Republic of Korea.
- Presented on topic “The Impact of Nano Titanium Electrode on Electrochemical Reduction of Nitrate in Ground Water” in the “**The 16th KOREA/JAPAN International Symposium**”, 2018, Seoul, Republic of Korea.
- Participated in the National workshop on “**Advances in Bio-process Engineering and Technology**”, 2014, Department of Chemical Engineering, Aligarh Muslim University, Aligarh, India.
- Participated in the national Symposium on “**Nanotechnology for Chemical Applications**”, 2013, Department of Chemical Engineering, Aligarh Muslim University, Aligarh, India.

Extracurricular Activities

- Secretary, Society of Aligarh Chemical Engineering Student (SACChES), for session 2014-15.
- Secretary of Organizing committee of workshop on “Disaster Management”, 2014, Department of Chemical Engineering, Aligarh Muslim University, Aligarh, India.
- Member of organizing committee of workshop on “Solid Waste Management”, Department of Chemical Engineering, Aligarh Muslim University, Aligarh, India.
- Executive member of “Ekta Talimi Society”, working for social uplift of poor by providing education (Usmania Primary School).

Key Skills

- HSC Chemistry and Medusa Thermodynamic and Kinetic Software
- MINITAB- A Regression and Statistical Software
- Proficient in MS Office
- Innovative and Leadership Quality
- Teamwork

Personal Details

Date of Birth : 4th March 1991
Nationality : Indian
Sex : Male
Languages : English, Hindi, Urdu, Korean
Marital Status : Married

➤ References available on request.