

Fahad Mesfer Alqahtani

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Biography

Fahad Alqahtani is an Associate Professor at the Industrial Engineering Department, College of Engineering, King Saud University. He received his PhD and MS degrees from West Virginia University (USA) and his BSc from King Saud University, Saudi Arabia.

His research interests include occupational safety and health, system safety, health and safety in construction, industrial hygiene, and human factors engineering. Fahad has been a member of the Saudi Council of Engineers since November 2016.

Educations:

- B.S., Industrial Engineering Department, King Saud University, KSA (2010)
- M.S., Industrial and Management Systems Engineering Department, West Virginia University, United States of America (2016)
Thesis Title: “Analysis of the Potential of Renewable Energy Development in Saudi Arabia”.
- Ph.D., Industrial and Management Systems Engineering Department, West Virginia University, United States of America (2020)
Dissertation Title: “Performance Study of Five Different Cabin Air Filters in the Laboratory and On-Road Drive.”

Work Experiences and Memberships:

- Industrial Engineer at Alfano Company, Saudi Arabia (2010 – 2011)
- Instructor at the Department of Industrial Engineering, King Saud University, Saudi Arabia (2011 – 2020)
- Assistant Professor at the Department of Industrial Engineering, King Saud University, Saudi Arabia (2021 – 2025)
- Associate Professor at the Department of Industrial Engineering, King Saud University, Saudi Arabia (2025 – Present)
- A Consultant at Northern Border University for establishing a bachelor's degree program in Occupational Health and Safety (2021-2023)
- Worked with the Public Health Authority on a Project to Evaluate the Indoor Air Quality of Some Malls in Riyadh (2023).
- General Supervisor of Student Activities and Student Clubs at the College of Engineering, King Saud University (2023 – Present)
- Coordinate the Executive Committee at the Industrial Engineering Department at KSU.
- A member of the Industrial Engineering Department Council (2021-present)

- A member of the Promotion and Appointing Committee at the Industrial Engineering Department at KSU.
- A member of the Quality Unit at the Industrial Engineering Department at KSU.
- A member the American Industrial Hygiene Association (AIHA) (2021-Present).
- Chairman of the Industrial Engineering Department at King Saud University (2024 – Present)

Training Courses:

- Training for “Hazardous Materials Transportation Security”, Morgantown, West Virginia, 2017.
- OSHA 7500 training “Introduction to Safety and Health Management,” Morgantown, West Virginia, 2018.
- Project Management Professional (PMP) Training Course, Riyadh, Saudi Arabia, 2024.

Research Interests:

- Occupational Safety and Health.
- Advanced Safety Engineering.
- Industrial Hygiene.
- Human Factors Engineering.
- Design and Analysis of Experiments.

Selected Publications:

- **Alqahtani, F.**, Sabeti, H., & Jaridi, M. (2017). *Analysis of the Potential of Solar Energy Development in Saudi Arabia*. Journal of Engineering Research and Application ISSN:2248-9622, Vol. 7, Issue 5, (Part -1) May 2017, pp.01-15
- Zafar, T.; Kamal, K.; Mathavan, S.; Hussain, G.; Alkahtani, M.; **Alqahtani, F.M.**; Aboudaif, M.K. *A Hybrid Approach for Noise Reduction in Acoustic Signal of Machining Process Using Neural Networks and ARMA Model*. Sensors 2021, 21, 8023.
- Noman, M. A., **Alqahtani, F. M.**, Al-Harkan, I., Alabdulkarim, S. A., & Alasim, F. (2023). *A New Integrated Risk-Assessment Model for Minimizing Human-Machine Error Consequences in a Preventive Maintenance System*. IEEE Access, 11, 25253–25265.
- Haider, S. M. A., Ratlamwala, T. A. H., Kamal, K., **Alqahtani, F.**, Alkahtani, M., Mohammad, E., & Alatefi, M. (2023, February 6). *Energy and Exergy Analysis of a Geothermal Sourced Multigeneration System for Sustainable City*. Energies, 16(4), 1616.
- Bhatti, U., Aamir, H., Kamal, K., Ratlamwala, T. A. H., **Alqahtani, F.**, Alkahtani, M., Mohammad, E., & Alatefi, M. (2023, March 20). *Clean Energy Based Multigeneration System for Sustainable Cities: Thermodynamic, and Stability Analyses*. Membranes, 13(3), 358.
- Alessa, F. M., Alhaag, M. H., Al-harkan, I. M., Ramadan, M. Z., & **Alqahtani, F. M.** (2023, September 6). *A Neurophysiological Evaluation of Cognitive Load during Augmented Reality Interactions in Various Industrial Maintenance and Assembly Tasks*. Sensors, 23(18), 7698.

- **Alqahtani, F.M.**; Noman, M.A.; Alabdulkarim, S.A.; Alharkan, I.; Alhaag, M.H.; Alessa, F.M. *A New Model for Determining Factors Affecting Human Errors in Manual Assembly Processes Using Fuzzy Delphi and DEMATEL Methods*. *Symmetry* 2023, 15, 1967.
- Wu, X.; Li, W.; Rizwan, M.; Khalid, Q.S.; Alkahtani, M.; **Alqahtani, F.M.** *Cell Formation and Intra-Cell Optimal Machine Location in CMS: A Novel Genetic Algorithm (GA) Based on Machine Encoding*. *Appl. Sci.* 2023, 13, 12323.
- Ahmed, I.; Alkahtani, M.; Khalid, Q.S.; and **Alqahtani, F.M.**, 2024, *Improved Commodity Supply Chain Performance through AI and Computer Vision Techniques*, *IEEE Access*, Vol. 12, pp. 24116–24132.
- **Alqahtani, F.M.**; Abas, M.; Alkahtani, M.; Hayat, M.; and Farrukh, A., 2024b, *Enhancing Sustainable Safety Practices in Construction: Insights from Cultural and Socio-Economic Analysis*, *Sustainability*, Vol. 16, No. 12, p. 5103.
- Shamsul, S.; Ali, M. a. H.; Abdul-Rashid, S.H.; Ghaleb, A.M.; and **Alqahtani, F.M.**, 2024b, *Development of a Novel Noise Reduction Algorithm for Smart Checkout RFID System in Retail Stores*, *Computers, Materials & Continua/Computers, Materials & Continua (Print)*, Vol. 80, No. 1, pp. 1277–1304.
- **Alqahtani, F. M.**, Saleh, M., Abdelgawad, A. E., Almuheidib, I. A., & Alessa, F. (2025). Towards sustainable manufacturing: Particle emissions in milling Post-Processing of 3D-Printed titanium alloy. *Machines*, 13(11),1051. <https://doi.org/10.3390/machines13111051>
- Sharma, S., Kalsi, S., Singh, J., Singh, I., Kumar, R., Ambati, V. K., Kumar, R., **Alqahtani, F. M.**, & Pandey, S. (2025). Impact of vibration on human body ergonomics: Analyzing the influence of mass, cushion materials, and backrest angles using FEM. *Work*, 83(2), 460–479. <https://doi.org/10.1177/10519815251367226>
- **Alqahtani, F.**, Hashmi, I. A., Ahmad, I., Ahmed, I., & Alkahtani, M. (2025). The development of Artificial Intelligence-Based Optimal Route Selection Framework for rescue services process management. *ijietap.com*. <https://doi.org/10.23055/ijietap.2025.32.4.10479>
- **Alqahtani, F. M.**, Alqahtani, N. S., Algarni, F. S., Almuheidib, I. A., Alessa, F., & Noman, M. A. (2024). Development of an educational program for occupational health and safety in Saudi Arabia. *Journal of Engineering Research*, 13(2), 551–560. <https://doi.org/10.1016/j.jer.2024.04.018>

Conferences:

- **Alqahtani, F.**, & Jaridi, M. Analysis of the Potential of Solar Energy Development in Saudi Arabia. 3rd International Conference and Exhibition on Industrial Engineering in Dubai, UAE (2016).
- The Saudi International Conference for Industrial Safety and Loss Prevention, Riyadh, Saudi Arabia (3 - 6 October 2021).
- Mohammed A. Noman, and **Fahad M. Alqahtani**, Applications of Industry 4.0 Technology for Monitoring of Human Errors Using Internet of Things. The 11th International Conference on Industrial Engineering and Applications in Hiroshima, Japan (2024).