Abdullah Yahia M AlFaify

Industrial Engineering Department, College of Engineering, King Saud University
P.O. Box 800 Riyadh 11421, Kingdom of Saudi Arabia
E-Mail: aalfaify@ksu.edu.sa,
Mobile: +966 503 111 386,
Web: https://fac.ksu.edu.sa/aalfaify

Profile

Dr. Abdullah Yahia AlFaify is an Associate Professor in the Industrial Engineering Department at King Saud University. He received his Ph.D. in Advanced Manufacturing Engineering/Additive Manufacturing in 2019 from the University of Sheffield/Advanced Manufacturing Research Centre (AMRC) with Boeing - UK. His research interests are in advanced manufacturing technologies and processes. He has a patent for improving the current Additive Manufacturing powder bed machines. He is also interested in product innovation, modelling and optimizing manufacturing systems.

Education

- 2019, Degree of Doctor of Philosophy in Advanced Manufacturing Engineering, AMRC, The University of Sheffield, UK, 2015-2019.
- 2013, Degree of Master of Applied Science in Mechanical Engineering, University of Ottawa, Canada, 2011-2013.
- 2004, Degree of Bachelor of Industrial Engineering Department, King Saud University, KSA, 2004.

Work Experience

- Vice Dean of the College of Engineering for Graduate Studies and Scientific Research
  From October 2021 to present
- Associate professor at the Industrial Engineering Department, King Saud University
  From 2023 to present
- Assistant professor at the Industrial Engineering Department, King Saud University
  From 2019 to 2023
- Lecturer at the Industrial Engineering Department, King Saud University
  From 2017 to 2019
- Teacher assistant at the Industrial Engineering Department, King Saud University
  From 2009 to 2017
- Engineer at Saudi Electricity Company
  From 2004 to 2009

Patents

1. Al - Ahmari, A. M., **Alfaify, A. Y. M.**, & Hamid, M. H. (2018). Patent No. US10065242B1. Retrieved from http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&p=1&u=/netahtml/PTO/srchnum.html&r=1&f=G&l=50&d=PALL&s1=10065242.PN.

Publications

1. Muhammad Rehan, Sarmad Ali Khan, Rakhshanda Naveed, Muhammad Usman, Saqib Anwar, **Abdullah Yahia AlFaify**, Catalin Iulian Pruncu, and Luciano Lamberti, (2023), "Experimental investigation of the influence of wire offset and composition on complex profile WEDM of Ti6Al4V using trim-pass strategy", The International Journal of Advanced Manufacturing Technology, 127, 1209–1224. https://doi.org/10.1007/s00170-023-11564-1

2. Nimel Sworna Ross, N. Srinivasan, M. Belsam Jeba Ananth, **Abdullah Yahia AlFaify**, Saqib Anwar, Munish Kumar Gupta, (2023), "Performance assessment of different cooling conditions in improving the machining and tribological characteristics of additively manufactured AlSi10Mg alloy", Tribology International, 186. https://doi.org/10.1016/j.triboint.2023.108631

3. Kashif Ishfaq, Muhammad Sana, Muhammad Umair Waseem, Saqib Anwar, **Abdullah Yahia AlFaify** & Abdul Wasy Zia, (2023), "Surface quality investigation in surfactant-based EDM of Inconel 617 using deep cryogenically treated electrodes", The International Journal of Advanced Manufacturing Technology, 127, 879. https://doi.org/10.1007/s00170-023-11588-7

4. Moath Alatefi, Abdulrahman M. Al-Ahmari, **Abdullah Yahia AlFaify**, and Mustafa Saleh, 2023. "A Framework for Multivariate Statistical Quality Monitoring of Additive Manufacturing: Fused Filament Fabrication Process" Processes 11, no. 4: 1216. https://doi.org/10.3390/pr11041216

5. Kashif Ishfaq, Muhammad Sana, Mudassar Rehman, Saqib Anwar, **Abdullah Yahia AlFaify**, and Abdul Wasy Zia, (2023), “Role of biodegradable dielectrics toward tool wear and dimensional accuracy in Cu-mixed die sinking EDM of Inconel 600 for sustainable machining” Journal of the Brazilian Society of Mechanical Sciences and Engineering, 45, 235. https://doi.org/10.1007/s40430-023-04126-9

6. Mustafa Saleh, Saqib Anwar, Abdulrahman M Al-Ahmari, and **Abdullah Yahia AlFaify**, (2023), "Prediction of Mechanical Properties for Carbon fiber/PLA Composite Lattice Structures Using Mathematical and ANFIS Models" Polymers 15, no. 7: 1720. https://doi.org/10.3390/polym15071720

7. Mustafa Saleh, Saqib Anwar, Abdulrahman M. Al-Ahmari, and **Abdullah AlFaify**, (2022), "Compression Performance and Failure Analysis of 3D-Printed Carbon Fiber/PLA Composite TPMS Lattice Structures", Polymers 14, no. 21: 4595. https://doi.org/10.3390/polym14214595

8. Muhammad Umar Farooq, Saqib Anwar, M. Saravana Kumar, **Abdullah AlFaify**, Muhammad Asad Ali, Raman Kumar, and Rodolfo Haber, (2022), "A Novel Flushing Mechanism to Minimize Roughness and Dimensional Errors during Wire Electric Discharge Machining of Complex Profiles on Inconel 718", Materials 15, no. 20: 7330. https://doi.org/10.3390/ma15207330

9. Asadullah Dawood, Shazia Bashir, Naveed Ahmed, Asma Hayat, **Abdullah Yahia AlFaify**, Syed Muhammad Abouzar Sarfraz, Shahab Ahmed Abbasi, and Ateekh Ur Rehman, (2022), "Surface Structuring and Thin Film Coating through Additive Concept Using Laser Induced Plasma of Mg Alloy: A Comparison between the Presence and Absence of Transverse Magnetic Field (TMF)", Coatings 12, no. 9: 1316. https://doi.org/10.3390/coatings12091316

10. Sarmad Ali Khan, Muhammad Faizan Ameer, Ghulam Moeen Uddin, Muhammad Asad Ali, Saqib Anwar, Muhammad Umar Farooq & **Abdullah Alfaify**, (2022), "An in-depth analysis of tool wear mechanisms and surface integrity during high-speed hard turning of AISI D2 steel via novel inserts", The International Journal of Advanced Manufacturing Technology, https://doi.org/10.1007/s00170-022-10151-0

11. Muhammad Harris, Hammad Mohsin, Johan Potgieter, Khalid Mohmood Arif, Saqib Anwar, **Abdullah AlFaify**, and Muhammad Umar Farooq, (2022), "Hybrid deposition additive manufacturing: novel volume distribution, thermo-mechanical characterization, and image analysis", Journal of the Brazilian Society of Mechanical Sciences and Engineering, 44, 432. https://doi.org/10.1007/s40430-022-03731-4

12. Madiha Rafaqat, Nadeem Ahmad Mufti, Naveed Ahmed, Ateekh Ur Rehman, **Abdullah Yahia AlFaify**, Muhammad Umar Farooq, and Mustafa Saleh. (2022), "Hole-Making in D2-Grade Steel Tool by Electric-Discharge Machining through Non-Conventional Electrodes", Processes, 10, no. 8: 1553. https://doi.org/10.3390/pr10081553

13. Faisal Hafeez, Naveed Ahmed, Muhammad Asad Ali, **Abdullah Yahia AlFaify**, and Ateekh Ur Rehman, (2022), "A comprehensive efficiency evaluation of conventional and ablation sand casting on the example of the AlSi7Mg alloy impeller". The International Journal of Advanced Manufacturing Technology, 121, 3653–3672. https://doi.org/10.1007/s00170-022-09538-w

14. Kashif Ishfaq, Muhammad Asad Ali, Saqib Anwar, **Abdullah AlFaify**, and Abdul Wasy Zia, (2022), "Analyzing micromachining errors in EDM of Inconel 600 using various biodegradable dielectrics", Journal of the Brazilian Society of Mechanical Sciences and Engineering, 44, 249. https://doi.org/10.1007/s40430-022-03560-5

15. Nagumothu Kishore Babu, Mahesh Kumar Talari, Prakash Srirangam, **Abdullah Yahia AlFaify**, and Ateekh Ur Rehman, (2022), "Characterization of Microstructure, Weld Heat Input, and Mechanical Properties of Mg–Al–Zn Alloy GTA Weldments" Applied Sciences, 12, no. 9: 4417. https://doi.org/10.3390/app12094417

16. Kashif Ishfaq, Muhammad Asad Ali, Saqib Anwar, Muhammad Harris, **Abdullah AlFaify**, and Abdul Wasy Zia, (2022), “EDM of Ti6Al4V under nano-graphene mixed dielectric: a detailed roughness analysis”, International Journal of Advanced Manufacturing Technology, 120, 7375–7388. https://doi.org/10.1007/s00170-022-09207-y

17. Kashif Ishfaq, Muhammad Asad, Muhammad Harris, **Abdullah Alfaify**, Saqib Anwar, Luciano Lamberti, and Maria Luminita Scutaru. (2022), "EDM of Ti-6Al-4V under Nano-Graphene Mixed Dielectric: A Detailed Investigation on Axial and Radial Dimensional Overcuts", Nanomaterials, 12, no. 3: 432. https://doi.org/10.3390/nano12030432

18. Abdulmajeed Dabwan, Saqib Anwar, Ali M. Al-Samhan, Mustafa M. Nasr and **Abdullah AlFaify**, (2022), “On the influence of heat treatment in suppressing the layer orientation effect in finishing of electron beam melted Ti6Al4V”, The International Journal of Advanced Manufacturing Technology, 118, 3035–3048. https://doi.org/10.1007/s00170-021-07995-3

19. Aqib Mashood Khan, Saqib Anwar, **Abdullah AlFaify**, Muhammad Jamil, Shubham Sharma, Muhammad Umar Farooq, Waqas Khaliq & Asif Iqbal, (2022), “Comparison of machinability and economic aspects in turning of Haynes-25 alloy under novel hybrid cryogenic-LN oils-on-water approach”, International Journal of Advanced Manufacturing Technology, 120, 427–445 (2022). https://doi.org/10.1007/s00170-022-08815-y

20. **Abdullah Y AlFaify**, (2021), “On the Effect of Layer Thickness and Cutting Orientation of Laser Powder Bed Fused Ti6Al4V Parts during Wire Electric Discharge Machining”, Proceedings of the International Conference on Industrial Engineering and Operations Management, pp. 2365–2374.

21. Kashif Ishfaq, Sadaf Zahoor, Sarmad Ali Khan, Mudassar Rehman, **Abdullah AlFaify**, Saqib Anwar, (2021) “Minimizing the corner errors (top and bottom) at optimized cutting rate and surface finish during WEDM of Al6061”, Engineering Science and Technology, an International Journal, 24 (4), 1027-1041, https://doi.org/10.1016/j.jestch.2021.01.008

22. Abdulmajeed Dabwan, Saqib Anwar, Ali M. Al-Samhan, **Abdullah AlFaify**, and Mustafa M. Nasr (2021), "Investigations on the Effect of Layers’ Thickness and Orientations in the Machining of Additively Manufactured Stainless Steel 316L", Materials, 14, no. 7: 1797. https://doi.org/10.3390/ma14071797

23. Nimel Sworna Ross K, Manimaran G, Saqib Anwar, M. Azizur Rahman, Mehmet Erdi Korkmaz, Munish Kumar Gupta, **Abdullah AlFaify**, and Mozammel Mia. (2020) “Investigation of surface modification and tool wear on milling Nimonic 80A under hybrid lubrication”. *Tribology International*, https://doi.org/10.1016/j.triboint.2020.106762

24. Rahman, M. Azizur, Md Shahnewaz Bhuiyan, Sourav Sharma, Mohammad Saeed Kamal, M.M. Musabbir Imtiaz, **Abdullah AlFaify**, Navneet Khanna, Shubham Sharma, Munish Kumar Gupta, Saqib Anwar and Mozammel Mia. (2021) 'Influence of Feed Rate Response (FRR) on Chip Formation in Micro and Macro Machining of Al Alloy', Metals, 11 (1), 159. https://doi.org/10.3390/met11010159

25. Aqib Mashood Khan, Saqib Anwar, Munish Kumar Gupta, **Abdullah AlFaify**, Saqib Hasnain, Muhammad Jamil, Mozammel Mia, and Danil Yurievich Pimenov. (2020) "Energy-Based Novel Quantifiable Sustainability Value Assessment Method for Machining Processes," *Energies*, vol. 13, no. 22, 2020. https://doi.org/10.3390/en13226144

26. S. R. Hassan, I. Ahmad, S. Ahmad, **Abdullah AlFaify**, and M. Shafiq, (2020) "Remote Pain Monitoring Using Fog Computing for e-Healthcare: An Efficient Architecture," *Sensors*, vol. 20, no. 21. https://doi.org/10.3390/s20226574

27. **AlFaify, A.**; Saleh, M.; Abdullah, F.M.; Al-Ahmari, A.M. (2020) "Design for Additive Manufacturing: A Systematic Review." *Sustainability*, 12(19), 7936. https://doi.org/10.3390/su12197936

28. **AlFaify, A. Y.**, Hughes, J., & Ridgway, K. (2019) "Controlling the Porosity of 316L Stainless Steel Parts Manufactured via the Powder Bed Fusion Process". *Rapid Prototyping Journal*, 25(1), 162–175. https://doi.org/10.1108/RPJ-11-2017-0226

29. **AlFaify, A. Y.**, Hughes, J., & Ridgway, K. (2018) "Critical evaluation of the pulsed selective laser melting process when fabricating Ti64 parts using a range of particle size distributions". *Additive Manufacturing*, 19, 197–204. https://doi.org/10.1016/j.addma.2017.12.003

30. Mohammad, A., Al-Ahmari, A. M., **AlFaify, A.**, & Mohammed, M. K. (2017) "Effect of melt parameters on density and surface roughness in electron beam melting of gamma titanium aluminide alloy." *Rapid Prototyping Journal*, 23(3), 474–485. https://doi.org/10.1108/RPJ-12-2014-0187

31. Al-Ahmari, A., Ashfaq, M., **AlFaify, A.**, Abdo, B., Alomar, A., & Dawud, A. (2016) "Predicting surface quality of γ-TiAl produced by additive manufacturing process using response surface method." *Journal of Mechanical Science and Technology*, 30(1), 345–352. https://doi.org/10.1007/s12206-015-1239-y

Training Courses/ seminars Conducted

- *"Additive Manufacturing Technologies (3DPrinitng)"* seminar in King Abdulaziz City for Science and Technology (KACST), Dec 2019

- *"The Effect of Changing Particle Size Distribution and Layer Thickness on the Density of Parts Manufactured Using the Laser Powder Bed Fusion Process*" seminar at Industrial Engineering council meeting at the College of Engineering, KSU, May 2019.

Memberships and other experiences

- A **member** of the College of Engineering Council (2020-present)

- A **member** of the Advanced Manufacturing Institute (AMI) at KSU Council (2022-present)

- A **member** of the scientific committee of the first GCC Engineering Symposium arranged (https://gccengineering.org/).

- A **member** of the committee preparing the strategic plan for the College of Engineering.

- A **member** of the Industrial Engineering Department council (2019-present)

- A **member** of the scientific committee of the IR4.0 Conference arranged by Shaqra University. (2019-2020)

- A **reviewer** in journals related to Additive Manufacturing.

- A **member** of the Industrial Engineering Chapter council (2020 – present)

- The **Coordinator** of Quality and Academic Accreditation Unit at the Industrial Engineering Department at KSU (both ABET and NCAAA) (2019-2022)

- The **representative** the Industrial Engineering department at Quality and Academic Accreditation at the College of Engineering (2019-2022)

- A **member** of the Scientific Committee at the Industrial Engineering department.

- A **member** Student Counseling Committee at the Industrial Engineering department.

- A **member** Promotion and appointing Committee at the Industrial Engineering department.