

Name: Lyes KHEZZAR

Rank: Professor

Department: Mechanical Engineering

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Educational Profile:

- PhD, Mechanical Engineering, Imperial College London, UK
- DIC, Mechanical Engineering, Imperial College London, UK
- MSc, Thermofluids, UMIST-University of Manchester, UK
- BEng, Mechanical Engineering, University of Bradford, UK

Honors and Distinctions:

- Filtration Prize Award from the Process Division of the Institution of Mechanical Engineers, UK, Awarded August 2011. "A Prize for the best paper on filtration or allied subjects
- Certificate of Appreciation, Abu Dhabi Water and Electricity Company, 2002.
- Awarded Overseas Research Study Award for outstanding research potential by Committee of Vice- Chancellors and Principals, UK for three years, 1983-1986.
- Awarded a grant by United Kingdom Atomic Energy Research Establishment at Harwell for PhD Studies at Imperial College, 1983-1986.
- Prix de la Central Electricity & Generating Board for excellent results, Bradford University, UK, June 1982.
- First Class Honours Bachelor Degree, Bradford University
- Baccalauréat Technique-Mathématiques, mention Très-Bien, 1978, Prix d'excellence 1976, 1977, 1978

Scientific Activities & Membership of Scientific Societies:

- Fellow of the Institution of Mechanical Engineers (IMechE), UK
- Chartered Engineer, Engineering Council UK

List of Current Research Projects:

- Online Closed Loop Demulsifying Metering Device Targeting Upstream Oil Fields (Co-PI), 2020-2023, CIRA Project, Khalifa University, UAE
- Liquid Atomization of Sustainable Solar Fuels (Co-PI), 2022-2025, CIRA Project, Khalifa University, UAE

List of Journal Publications (Sample):

1. Horra S, Khezzar L & Nemouchi Z, 2022, On Dynamical and Thermal Behaviors of an Impinging Jet Involving a Chevron Nozzle, Thermophysics and Aeromechanics, 29 (5), 729-745, ISSN: 0869-8643
2. Adeyemi I, Kharoua N, Khezzar L, Meribout M & Alhammadi K, 2022, Review of Confined Swirling Flows and Bluff Body Impacts on Flow and Heat Transfer Characteristics, Chemical Engineering Research and Design, vol 187, 359-386, ISSN: 0263-8762
3. Tiwari VK, Meribout M, Khezzar L, Alhammadi K & Tarek M, 2022, Electrical tomography hardware systems for real time applications: A review, IEEE Access, 10.1109/ACCESS.2022.3203584, vol 10, 93933-93950, ISSN: 2169-3536

4. Adeyemi I, Meribout M, Khezzar L, Kharoua N, Alhammadi K, 2022, Numerical assessment of ultrasound supported coalescence of water droplets in crude oil, *Ultrasonics Sonochemistry*, 88 (2022) 106085, ISSN: 1350-4177
5. Adeyemi I, Meribout M, Khezzar L, Kharoua N, Alhammadi K, 2022) Effect of piezoelectric transducer material type on ultrasound assisted coalescence of water-in-oil emulsion, *Procedia Computer Science* 203, 264-271
6. Adeyemi I, Meribout M, Khezzar L, 2022, Recent developments, challenges and prospects of ultrasound-assisted oil technologies, *Ultrasonics Sonochemistry*, 82, 105902, ISSN: 1350-4177
7. Filali A, Khezzar L, Semmari H & Matar O, 2021, Application of Artificial Neural Network for Mixed Convection in a Square Lid-driven Cavity with Double Vertical or Horizontal Oriented Rectangular Blocks, *International Communications in Heat and Mass Transfer*, 129, 105644, ISSN: 0735-1933
8. Meribout M, Mekid S, Kharoua N & Khezzar L, 2021, Online Monitoring of Structural Materials Integrity in Process Industry for I4.0: A Focus on Material Loss through Erosion and Corrosion Sensing", *Measurement*, 109110, ISSN: 0263-2241
9. Song J, Kharoua N, Khezzar L, Alshehhi M, 2021, RANS calculations of 3D swirling flow in a short pipe, *Fluid Dynamics and Material Processing*, vol 17, n 2, 455-470, ISSN: 1555-256X
10. Kharoua N, Khezzar L, Nemouchi Z, 2020, LES Study of Contrasting Behaviour of Plane Impinging Jets for Heating and Cooling Applications, *International Communications in Heat and Mass Transfer* 118, 104833, ISSN: 0735-1933
11. Meribout M, Khezzar L, Azzi A and Ghendour, 2020, Leak detection systems in oil and gas fields: Present and future prospects, *Flow Measurement and Instrumentation*, 101772, 0955-5986
12. Meribout M, Azzi A and Ghendour, Kharoua N, Khezzar L, Alhosani E, 2020, Multiphase Flow Meters Targeting Oil and Gas Industries, *Measurement*, 165, 108111, ISSN: 0263-2241
13. Meribout M, Shehzad F, Kharoua N, Khezzar L, 2020, Gas-liquid Two-Phase Flow Measurement by Combining a Coriolis Flowmeter with a Flow Conditioner and Analytical Models, *Measurement*, Vol 163, 107826, ISSN: 0263-2241
14. Meribout M, Shehzad F, Kharoua N , L Khezzar L, 2020, An Ultrasonic-based Multiphase Flow Composition Meter, *Measurement*, vol 161, 107806, ISSN: 0263-2241
15. Tianxing Z, Alshehhi M, Khezzar L, Xia Y and Kharoua N, 2020, Experimental Investigation of Confined swirling Flow and its Interaction with a Bluff Body, *ASME Journal of Fluids Engineering*, 142, 011102, ISSN: 0098-2202
16. Y. Xia, L. Khezzar, Y. Hardalupas, M. S. Alshehhi (2019) Influence of Energy Exchange Between Air and Liquid Streams on Spray Characteristics and Atomization Efficiency of Water-Air Impinging Jets, *Atomization & Sprays*, 29(8):677-707, ISSN: 1044-5110

List of Conference Papers:

1. Alsafadi I, Goharzadeh A, Meribout M, AlShehhi M, Khezzar L, 2023, Experimental study of interface stability in a two-phase swirl flow, UAEGSRC2023 Graduate Student Research Conference, Abu Dhabi, UAE
2. Adeyemi I, Meribout M, Khezzar L, Kharoua N & AlHammedi K, 2022, Influence of Constant Wave and Pulsatile Electric Field on Water Droplets Coalescence in Crude Oil Emulsions, *The International Conference on Electrical and Computing Technologies and Applications (ICECTA 2022)*, November 23 – 25, 2022. IEEE Xplore
3. Adeyemi I, Meribout M, Khezzar L, Kharoua N & AlHammedi K, 2022, Online Microwave Assisted Coalescence of Binary Water Drops in Crude Oil, *The International Conference on Electrical and Computing Technologies and Applications (ICECTA 2022)*, November 23 – 25, IEEE Xplore

4. Hernandez RG, Goharzadeh A, Meribout M, Khezzar L, 2021, Experimental Characterization of Two-Phase Swirl Flow Interacting With a Circular Bluff Body, ASME FEDSM2021, 10-12 August -65664 Technical Paper Publication 65664.
5. Hernandez RG, Goharzadeh A, Meribout M, Khezzar L, 2021, Flow structure of an annular gas-liquid swirling flow, UAEGSRC2021 Graduate Student Research Conference, 28 June 2021, Abu Dhabi, UAE
6. Filali A, Matar OK, Khezzar L, Semmari H, 2020, Artificial Neural Network for the prediction of heat transfer of mixed convection in lid-driven cavity with double vertical blocks, APS DFD 2020 conference 22-24 November in Chicago, USA
7. Almheiri A, Khezzar L, Alshehhi M, Salam A, Goharzadeh A, 2020, Stereo-PIV measurements of turbulent swirling flow inside a pipe, ASME FEDSM2020-20064, 12-16 July, Orlando, USA
8. Filali A, Khezzar L, Semmari H, 2020, Improved power for wind farm savonius rotors: Effect of blade shape and rotors position, ASME FEDSM2020-20071, 12-16 July, Orlando, USA
9. Filali A, Khezzar L, Matar O, Semmari H, 2019, Laminar mixed convection in square cavity with rotating cylinder mounted at different side walls" 5th International conference on Energy, Materials, Applied Energetics and Pollution, 22-24 October, Constantine Algeria
10. Xue F, Goharzadeh A, Khezzar L, 2019, Flow past a rough hemishpere mounted on a horizontal surface in a confined channel" HEFAT 2019 conference Dublin Ireland
11. Tianxing Z, Almheiri A, Khezzar L, Alshehhi M, Salam A, 2019, Experiments on turbulent air-water swirling flow in a pipe with a circular disk, AJKFLUIDS2019-4685, ASME-JSME-KSME, 2019 Joint Fluids Eng conference, San Fransisco CA.
12. Seo N, Kharoua N, Khezzar L, Alshehhi M, Meribout M, 2019, Multiphase flow simulation of in-line gas-liquid separator for multiphase metering, AJKFLUIDS2019-4685, ASME-JSME-KSME, 2019 Joint Fluids Eng conference, San Fransisco CA
13. Song J, Kharoua N, Khezzar L, Alshehhi M, 2018, RANS Modelling of a Swirling Flow Interacting With a Conical Bluff Body" FEDSM2018-83065, Montreal Canada, July 15-20
14. Kharoua N, Khezzar and Nemouchi Z, 2018, Effects of Forcing Frequency on Pulsating Impinging jet behaviour and The Boundary layer on the Target Curved Wall, FEDSM2018-833334, Montreal Canada, July 15-20

List of Current Doctoral Research Students Supervision:

N/A