



Name: Dr. Fadi Al Khatib

Rank: Associate Professor

Title: Assistant to the President for Academic Affairs

Personal Information

Nationality: United States

AU Joining Date: 24 Aug 2014

E-Mail Address: f.alkhatib@au.edu.kw

Professional Information

Education:	- PhD, Mechanical Engineering, December 2013, University of Wisconsin-Milwaukee. Minor: Engineering Mechanics. - Master of Science, Engineering Mechanics, December 2004, University of Wisconsin-Milwaukee. - Bachelor of Science, Mechanical Engineering, June 2000, BirZiet University.
Specialization:	Engineering Mechanics and Design
Current Academic Position:	Associate Professor – Mechanical Engineering
Current Professional Positions:	- Fellow Member of Engineers Australia (FIEAust) - Chartered Engineers Australia in Mechanical Engineering (CPEng)
Previous Administrative Position Held:	- HOD of the Mechanical Engineering Department. Australian University (AU), August 2017 – December 2025. - Organizing committee member of CDIO 2021 Asian Regional Meeting – Kuwait. - Deputy Head of the Mechanical Engineering Department. Australian University (AU), August 2015 – May 2017.
Previous Academic Positions Held:	- 2013-2014: Adjunct Professor, Department of Mechanical Engineering, University of Wisconsin-Milwaukee, USA
Fellowships And Honors:	- Member of the American Society of Mechanical Engineers (ASME) - Member of Arab American Association of Engineers and Architects (AAAEA)

Teaching Experience:	- Associate Professor, Department of Mechanical Engineering, Australian University, August 2014 – Current. - Adjunct Professor, Department of Mechanical Engineering, University of Wisconsin-Milwaukee, Jan 2014 - May 2014. - Instructor, Department of Mechanical Engineering, University of Wisconsin-Milwaukee, Jan 2009 – Dec 2013. - Teaching Assistant, Department of mechanical Engineering, University of Wisconsin-Milwaukee, Jan 2004 – May 2005 - Through the years, below course have been taught: • Statics & Dynamics • Solid Mechanics • Engineering Design and Management Planning • Engineering Plant Design • Mechanical Engineering Workshop I • Introduction to Robotics • Machine Dynamics • Finite Element Method • 3D CAD.
Industrial And Technical Experience:	- Project Assistant, Harley Davidson, Milwaukee, WI, Jan. 2006 – December 2007.
Research Interest:	- Mechanical Design - Vibration - Optimization - Biomechanics - Mathematical Modeling & F.E.A Simulation
Research Grants:	- Associated factors between healing/tear connective tissues/menisci and knee joint osteoarthritis. (Fund: ACK: 1125 KD, 2018-2019). - A Computational framework for the load mediated cartilage damage. (Fund: ACK: 1125 KD, 2018-2019 & KFAS: 6898 KD 2020-2021). - Office Building Energy Savings by Solar Window Films for Reducing Cooling Loads in Summer of Kuwait. (Fund: KFAS: 7000 KD, 2019). - Biomechanical characteristics of the knee joint during gait: Association with pre-obesity and obesity. (Fund: ACK: 1125 KD, 2019-2020 & KFAS: 10800 KD, 2021-2023). - Knee mechanics sensitivity analysis following ACL reconstruction (Fund: ACK 1500 KD, 2021-2022).
Research and Publications including Journal and Books:	- Afif Gouissem, Fadi Alkhatib, Malek Adouni, “Investigating the influence of mineral content changes on mechanical properties through ligament insertion”, Frontiers in Aging, 2025. - M Adouni, F Alkhatib, R Hajji, TR Faisal, “Effects of overweight and obesity on lower limb walking characteristics from joint kinematics to muscle activations”, Gait & Posture, 113, 337-344.

- EH Bani-Hani, **F Al-Khatib**, M El Haj Assad, M Alshabi, "Optimization of adiabatic flame temperature of natural gas combustion under different conditions", Environmental Progress & Sustainable Energy, 43 (3), e14356.
- I. Zabalawi, H. Kordahji, H. Salti, **F. Alkhatib**, "Hands-On E-Learning and Distance Education in Engineering: Wishful Thinking or a Practical Reality?" Higher Education in the Arab World: E-Learning and Distance Education, Springer Nature Switzerland, 2023, Book Chapter.
- Malek Adouni, **Fadi Alkhatib**, Afif Gouissem, Tanvir Faisal, "Knee joint biomechanics and cartilage damage prediction during landing: A hybrid MD-FE-musculoskeletal modeling", PLOS ONE, Vol. 18 (8), 2023.
- Narjes Firouzkouhi, Abbas Amini, **Fadi Alkhatib**, Ahmed Bani-Mustafa, Chun Cheng, Bijan Davvaz, "Global e-Commerce (GeC) theory by intuitionistic fuzzy Γ -submodule", Engineering Application of Artificial Intelligence, Vol. 123, 2023.
- Narjes Firouzkouhi, Abbas Amini, Marziyeh Nazari, **Fadi Alkhatib**, Hashem Bordbar, Chun Cheng, Bijan Davvaz, Maria Rashidi, "Advanced artificial intelligence system by intuitionistic fuzzy -subring for automotive robotic manufacturing", Artificial Intelligence Review, pp. 1-26, 2023.
- Adel Younis, **Fadi Alkhatib** and Zuomin Dong, "Optimal Motorcycle Engine Mount Design Parameter Identification Using Robust Optimization Algorithms", Algorithms, Vol. 15 (8), pp. 271, 2022.
- Wisam K Hussam, Hayder J Salem, Adel M Redha, Ali M Khlefat, **Fadi AlKhatib**, "Experimental and numerical investigation on a hybrid solar chimney-photovoltaic system for power generation in Kuwait", Energy Conversion and Management, Vol. 15, 2022.
- A Gouissem, R Mbarki, **F AlKhatib**, M Adouni, "Multiscale Characterization of Type I Collagen Fibril Stress–Strain Behavior under Tensile Load: Analytical vs. MD Approaches", Bioengineering, Vol. 9 (193), 2022.
- M Adouni, A Gouissem, **F AlKhatib**, A Eilaghi, "Biomechanics of the anterior cruciate ligament under simulated molecular degradation", Vol. 3, pp. 22-38, 2022.
- **AlKhatib F.**, Gouissem A., Mbarki R., Adouni M. "Biomechanical Characteristics of the Knee Joint during Gait in Obese Versus Normal Subjects", Int. J. Environ. Res. Public Health, Vol. 19 (2), p 989, 2022.
- **Fadi AlKhatib**, Afif Gouissem, Armin Eilaghi, Malek Adouni, "The Effect of Enzymatic Crosslink Degradation on the Mechanics of the Anterior Cruciate Ligament: A Hybrid Multi-Domain Model", Applied Sciences, Vol. 11 (18), p 8580, 2021.

- Malek Adouni, Raouf Mbarki, **Fadi Alkhatib**, Armin Eilaghi, "Multiscale modeling of knee ligament biomechanics", International Journal for Numerical Methods in Biomedical Engineering, Vol. 37 (1), 2021.
- Wisam Hussam, Hayder Salem, Adel Redha, Ali M Khlefat, **Fadi Alkhatib**, Performance Evaluation of a Hybrid Solar Chimney-Photovoltaic System for Power Generation in Kuwait, Available at SSRN 3919712.
- Mahdi Ashtian Malayer Ahmad Sedaghat, Mohammad Sabati, **Fadi Alkhatib**, Sayed Amir Abbas Oloomi, Farhad Sabri, Hayder Salem, Waqar Jan Zafar, "Climate change and thermo-solar patterns of office buildings with/without window films in extreme hot-arid climate of Kuwait", Solar Energy, Vol. 217, pp. 354-374, 2021.
- A Sedaghat, SA Abbas Oloomi, MA Malayer, **F Alkhatib**, "Effects of Window Films in Thermo-Solar Properties of Office Buildings in Hot-Arid Climates", Frontiers in Energy Research, p 173, 2021.
- Ehab Bani-Hani, **F Alkhatib**, A Sedaghat, A Alkhazzam, F Al-Dousari, O Al-Saad, An Experimental Study on Producing a Sustainable Diesel-like Fuel from Waste Engine Oil, Renewable Energy Research and Application, Vol. 1 (2), pp. 143-150, 2020.
- Ahmad Sedaghat, **Fadi Alkhatib**, Negar Mostafaeopoir, "Prediction of COVID-19 Dynamics in Kuwait using SIRD Model" Integrative Journal of Medical Sciences 7 (170), 2020.
- Ahmad Sedaghat, **Fadi Alkhatib**, Seyed Amir Abbas Oloomi, Farhad Sabri, Hayder Salem, Mohammad Sabati, Waqar Jan Zafar, Mahdi Ashtian Malayer, Amirhossein Negahi, Experimental study on the performance of solar window films in office buildings in Kuwait, Journal of Nanoparticle Research 22 (4), 2020.
- Ahmad Sedaghat, **Fadi Alkhatib**, Armin Eilaghi, Arash Mehdizadeh, Leila Borvayeh, Ali Mostafaeipour, Arash Hassanzadeh, Mehdi Jahangiri, Optimization of capacity factors based on rated wind speeds of wind turbines, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, 2020.
- Adel Younis, Zuomin Dong and **Fadi Alkahtib**, "Grey Wolf Optimizer for Automotive Brake-By-Wire (MRB) System Design" Proceedings of The Joint Canadian Society for Mechanical Engineering and CFD Society of Canada International Congress 2019, CSME-CFDSC Congress 2019, June 2-5, 2019, London, ON, Canada.
- Ahmad Sedaghat, **Fadi Alkhatib**, Armin Eilaghi, Mohamad Sabati, Laila Borvayeh and Ali Mostafaeipour, "A New Strategy for Wind Turbine Selection Using Optimization Based on Rated Wind Speed", Energy Procedia, Vol. 160, pp.582-589, 2019.

	- Ehab Bani-Hani, Ammar Al Shalabi, Fadi Alkhatib, Armin Eilaghi, Ahmad Sedaghat, Factors Affecting the Team Formation and Work in Project Based Learning (PBL) for Multidisciplinary Engineering Subjects, Journal of Problem Based Learning in Higher Education 6 (2), 2018. - Alkhatib F, Rahman A and Mahamid M. Assessment of Potential Fracture of the Femur's Nick during Fall for Different Bone Densities. SM J Biomed Eng., 4(1): 1027, 2018. - Fadi Alkhatib, Anoop K. Dhingra, "Vibration Analysis, Shape and Design of Motorcycle Mounting System Subjected to Shaking Forces", International Journal of Engineering Sciences and Research Technology, Vol. 5, issue 10, 2016, pp. 698-713. - Fadi Alkhatib, Anoop K. Dhingra, "Dynamic Analysis and Design of Motorcycle Mounting System Subjected to Road Loads", International Journal of Mechanical Engineering and Applications, Vol. 4, No. 5, 2016, pp. 166-175. - Bani-Hani E., Alkhatib F., and Khanafer K., "Analysis of Variants within Different Models of Diesel Oil Volatilization Process using various Soil Materials", Special Topics and Reviews in Porous Media, 2015.
Paper Presentations at Professional Conferences:	- Hassan Salti, Hania El-Kanj, Mohammed Abdul-Niby, Suad Alradwan, Fadi Alkhatib, ASSESSING SUSTAINABILITY IN KUWAIT'S HIGHER EDUCATION INSTITUTIONS' ENGINEERING CURRICULA, Proceedings of the 21st International CDIO Conference, 2025. - Adel Younis, Mohamed Elbadawy Fadi Alkhatib, "Bladeless Wind turbine fatigue Investigation" Proceedings of the Canadian Society for Mechanical Engineering International Congress, Toronto, Ontario, Canada, May 26-29, 2024. - Malek Adouni, Afif Gouisseem, Fadi Alkhatib, Armin Eilaghi, "Effect of collagen molecular degradation on the biomechanics of the anterior cruciate ligament", Orthopedic research Society (ORS) annual meeting, Tampa, Florida, USA, 4-8 February, 2022. - Fadi Alkhatib, Malek Adouni, Afif Gouisseem, "Multiscale Synthesis of Anterior Cruciate Ligament Stresses: from Molecular Dynamics to Continuum Mechanics, 2nd International Symposium on Automation, Information and Computing (ISAIC), Beijing, China, 3-6 December, 2021. - Hassan Salti, Fadi Alkhatib at el, Engineering Education: Institutionalization, Internationalization and Graduate Attributes, Proceedings of the 15th International CDIO Conference, Aarhus University, Aarhus, Denmark, 2019.

	- M. Alameen, M. Abdul-Niby, M. Omar, F. Alkhatib, H. Salti, A. Salhia, I. Zabalawi, "Experiential Learning and Its Impact on Graduate Attributes and Employability," World Engineers Convention (WEC), Melbourne, Australia, 20-22 November, 2019. - Ahmad Sedaghat, Fadi Alkhatib, Armin Eilaghi, Mohamad Sabati, Leila Barakeh, Ali Mostafaeipour, "A new strategy for wind turbine selection using optimization based on rated wind speed" Energy Procedia, Vol 160, PP. 582-589, 2019. - L. Borvayeh, R. Mbarki, F. Alkhatib, A. Sedaghat, A. Hassanzadeh, J. Jamali, A. Mostafaeipour, A new capacity factor based on rated wind speed for optimal selection of wind turbines, ISERD-2018 - 334th International Conference on Science and Innovative Engineering (ICSIE) Abu Dhabi, UAE 2nd-3rd March, 2018. - Malik Adouni Raouf Mbarki, Fadi Alkhatib, "Multiscale Syntheses of Knee Collateral Ligament Stresses: Aggregate Mechanics as a Function of Molecular Properties", Vol. 12 (8), pp. 388-398, 2018. - Ehab Bani-Hani, Fadi Alkhatib, Ammar Al Shalabi. "Team Formation Challenges in Project Based Learning (PBL) Multidisciplinary Teamwork". Proceedings of Project Based Learning (PBL) Symposium – Preparing Students for the Workplace, Australian College of Kuwait, Mishref, Kuwait, 13th March, 2016. - Naser Ali, Mohamed Sebzali, Altaf Safar, Fadi Alkhatib, "A Feasibility Study of Using Waste Cooking Oil as a Form of Energy in Kuwait", SMART2015, ACK, Kuwait, 22-25 November 2015. - Alkhatib F., Dhingra A. K., "Shape Optimization of Engine Mounts for Enhanced Vibration Isolation", ASME 2013 International Mechanical Engineering Congress & Exposition.
College Service including committee Membership:	- Member of the School of Engineering Council - Chair of the Validation & Moderation Committee - Chair of the Mechanical Engineering Department Council - Chair of the CT Committee - Chair Curriculum Committee - Member of the Research & Faculty Development Committee
National Service:	- Collaborations with KFAS
College Committees:	- CDIO 2021 Asian Regional Meeting Organizing committee - College of Engineering PBL Committee - College of Engineering Appointment and Promotion committee - College of Engineering Audit and Accreditation committee