

**Name: Dr. Adel Younis****Rank: Associate Professor - Mechanical Engineering****Personal Information**

Nationality:	Canadian
AU Joining Date:	04 Sep 2016
E-Mail Address:	a.younis@au.edu.kw

Professional Information

Education:	Qualification: Doctorate Major: Mechanical engineering College/University: University of Victoria, Canada Year: 2009/2010 Qualification: Masters Major: Mechanical and Manufacturing Engineering College/University: University of Tripoli and Advanced Center of Technology, Libya Year: 1999/2000 Qualification: Bachelor's Major: Aeronautical engineering College/University: University of Tripoli, Libya Year: 1995/1996
Specialization:	- Computational intelligence - Engineering design - Multidisciplinary Design Optimization - Applied and computational engineering Mechanics - Energy harvesting - Mechatronics - Advanced Manufacturing
Current Academic Position:	Associate Professor - Mechanical Engineering

Current Professional Positions:	Consultant and Professional Engineer (P. Eng.)
Previous Administrative Position Held:	- Project manager - Served as the Chair of the Admission and Registration Committee. - Served as the Chair of the Graduation and Records Office. - Served as a Member of the Examination and Records Committee
Previous Academic Positions Held:	- Postdoctoral Research Fellow, School of Mechatronics, Simon Fraser University, Vancouver, Canada - Postdoctoral Research Fellow, Mechanical Engineering Department, University of Victoria, BC, Canada - Sessional Lecturer, Mechanical Engineering Department, University of Victoria, BC, Canada - Teaching Assistant Consultant, Learning and Teaching Center, University of Victoria, British Columbia, Canada - Teaching Assistant, Mechanical Engineering Department, University of Victoria, BC, Canada - Lab Instructor at the School of Mechatronic Systems Engineering at Simon Fraser University, Vancouver, Canada - Lecturer, High Institute for Preparing Trainers, Tripoli, Libya
Fellowships And Honors:	- Best paper presentation award, 7th Int. Conf. on Advances on Clean Energy (ICACER 2022) Barcelona, Spain. - Chair and Conference Technical Committee 7th Int. Conf. on Advances on Clean Energy (ICACER 2022) Barcelona, Spain. - Best capstone design graduation project, "RF Controlled Robotic Vehicle with Metal Detection," 11th Engineering graduation projects exhibition (2019), Kuwait. - Best capstone design graduation project, "Plant Irrigation Water Sprinkler Robot," 10th Engineering graduation projects exhibition (2018), Kuwait - 2nd place in KOC competition for a capstone graduation project, 2018, Kuwait - 2nd place in Maker Faire competition for a capstone graduation project (2019), Kuwait - Nominated for Andy Farquharson Award for Excellence in Graduate Studies Teaching, University of Victoria, Victoria, British Columbia, Canada, September 2009 - Best Teaching Assistant award for the academic year 2008 in the Department of Mechanical Engineering, University of Victoria, British Columbia, Canada, April 2009
Teaching Experience:	- Associate Professor - Mechanical Engineering, Australian University, Kuwait - Assistant Professor - Mechanical Engineering, Australian University, Kuwait - Sessional lecturer, Mechanical Engineering Department, University of Victoria, Victoria, BC, Canada - Teaching Assistant, Mechanical Engineering Department, University of Victoria, Victoria, BC, Canada - Lab Instructor at the School of Mechatronic Systems Engineering at Simon Fraser University, Vancouver, Canada

	- Lecturer, High Institute for Preparing Trainers, Tripoli, Libya - Instructional Skills Workshop (ISW), facilitator, Learning and Teaching Center, University of Victoria, Victoria, BC, Canada. - Presentation Skills Workshop (PSW), facilitator, the Learning and Teaching Center, University of Victoria, Victoria, BC, Canada - Teaching Assistant Fundamentals Certificate by the Teaching and Learning Center, University of Victoria, Victoria, BC, Canada, February 2010 - Supervised students' capstone and graduation projects. - Academic advisor for diploma and undergraduate students
Industrial And Technical Experience:	- Consultant and Project Engineer, Kawa Engineering Ltd, Vancouver, British Columbia, Canada - Well Testing Engineer, The EXPRO Group, Aberdeen, Scotland, UK, and Ajlaja, Libya - Certified Professional Engineer (P.Eng.) in the province of British Columbia, Canada - Design, reliability, quality control, and Inspection engineer for engineering firms in Canada and the USA
Research Interest:	- Engineering design - Applied and computational mechanics - Renewable energy and energy harvesting devices. - Multidisciplinary design optimization - Surrogate-based global optimization of complex, multi-physics systems. - Advanced manufacturing - Mechatronics
Research Grants:	- AU Research Grant, 2023 - AU Research Grant, 2022 - AU Research Grant, 2018 - MITACS Elevate (Industrial) Scholarship, Canada, April 2012 - General Motors (GMC) Scholarship, USA, December 2011 - National Resources Canada (NRCan) Scholarship for Post-Doctorate Studies, November 2010 - School of Graduate Studies, PhD Research Grant, University of Victoria, Canada - Libyan Ministry of Higher Education Graduate Studies Scholarship
Research and Publications including Journal and Books:	1. Altayeb Mahfouth, Adel Younis, Amir Hossein Birjandi, Curran Crawford, Eric L. Bibeau, Turbulence Characteristics Through the Water Column in an Open Channel for Hydrokinetic Turbine Deployment, <i>Energy</i>, 2025, 138330, ISSN 0360-5442, https://doi.org/10.1016/j.energy.2025.138330. 2. Younis A., and Dong Z., Adaptive Surrogate Assisted Multi-Objective Optimization Approach for Highly Nonlinear and Complex Engineering Design Problems, <i>Applied Soft Computing</i>, Volume 150, 2024, 111065, ISSN 1568-4946, https://doi.org/10.1016/j.asoc.2023.111065. 3. Younis A., Dong Z., ElBadawy M., AlAnazi A., Salem H., and AlAwadhi A. Design and Development of Bladeless Vibration-Based Piezoelectric Energy-Harvesting Wind Turbine. <i>Appl. Sci.</i> 2022, 12, 7769. 4. Younis A., and ElBadawy M. An adaptive sampling and weighted ensemble of surrogate models for high-dimensional global optimization problems, <i>Electronic Journal of Applied Statistical Analysis</i>, Vol. 15, Issue 02, June 2022, 399-420

5. **Younis A.**, and Dong Z. High-Fidelity Surrogate-Based Multi-Objective Optimization Algorithm. *Algorithms* 2022, 15, 279.
6. **Younis A.**, AlKhatib F., and Dong Z. Optimal Motorcycle Engine Mount Design Parameter Identification Using Robust Optimization Algorithms. *Algorithms* 2022, 15, 271.
7. **Younis A.**, Dong Z., Alkhatib F., ElBadawy M., and AlAnazi A. Development of Low-Speed Wind Energy Harvesting Device, *Energy Reports Journal*, Vol 8, 2022
8. Mahfouth A., **Younis A.**, and Crawford C., An Experimental Study of Fractal Generated-Turbulence Influence on Horizontal Axis Hydrokinetic Turbine Performance, *Energy*, submitted, September 2025
9. **Younis A.**, Williams T., Wang D., Dong Z., Crawford C., and Djilali N. Optimal Operation of a Self-Regulating Smart Distribution System with Wind Energy Integration and Demand Response, *Energy Solutions to Combat Global Warming*, Book Chapter, Springer International Publishing, Electronic ISBN: 978-3-319-26950-4
10. Misbah B., Balhasan S., **Younis A.**, Vaidyan K., and Otman M., Optimization of mud properties and flow rates for cutting transportation in directional wells, *Petroleum and Coal*, 2022; 64(2)
11. Saad A., **Younis A.**, and Dong Z., Radial Basis Surrogate Model Integrated to Evolutionary Algorithm for Solving Computation Intensive Black-Box Problems, *International Journal of Mechanical and Mechatronics Engineering*, 2016, Vol:10, No:4
12. Cheng G., **Younis A.**, Hajikolaei K., and Wang G. Trust Region-based MPS Method for Global Optimization of High Dimensional Design Problems, *Journal of Mechanical Design*, 2015, 137(2)
13. Safari A., **Younis A.**, Wang G., and Lemu H. A metamodel-assisted sampling approach to Aerodynamic Shape Optimization Problem, *Journal of Mechanical Science and Technology*, 29(5), (2015), 2013-2024
14. **Younis A.** and Dong Z. Global Optimization Using Mixed Surrogate and Space Elimination in Computation Intensive Designs, *International Journal for Computational Methods in Engineering Sciences and Mechanics*, Vol. 13, No.4, 2012, pp. 272-289
15. **Younis A.** and Dong Z. Trend, features, and Tests of Common and Recently Introduced Global Optimization Methods, *Journal of Engineering Optimization*, Vol. 42, No.8, 2010, pp. 691-718
16. **Younis A.** and Dong Z., Metamodeling and Search Using Space Exploration and Unimodal Region Elimination in Computation Intensive Design Optimization, *Journal of Engineering Optimization*, Vol. 42, No. 6, 2010, pp. 517-533
17. **Younis A.**, Xu R., and Dong Z. Approximated Unimodal Region Elimination Based Global Optimization Method for Engineering Design," *International Journal of Product Development*, Vol. 9, Nos. 1/2/3, 2009, pp.164-187.
18. **Younis A.**, Karakoc K., Dong Z., Park E., and Suleman A. Application of SEUMRE Global Optimization Algorithm in Automotive Magnetorheological Brake Design," *Structural and Multidisciplinary Optimization*, Volume 44, Issue 6 (2011), Page 761-772

	19. Younis A., Zhou L., and Dong Z. Application of the New SEUMRE Global Optimization Tool in High-Efficiency EV/PHEV/EREV Electric Mode Operations,” International Journal of Electric and Hybrid Vehicles, Vol. 3, No.2, 2011, pp. 176 - 190 20. Younis A. and Alalam M. Manufacturing of Spherical Supports of Heavy Commercial Vehicles Using Reverse Engineering Techniques,” Master Thesis, 2001, University of Tripoli, Tripoli, Libya
Paper Presentations at Professional Conferences:	1. Younis A. Innovative Safety and Mitigation Methodology to Repair Remote Mountainside Penstock of Hydroelectric Facility. 12thInt. HSSE and Loss Prevention Professional Development Conference & Exhibition, 7-8 May 2025, Crown Plaza, State of Kuwait 2. Younis A. Bladeless Wind Turbine Fatigue Investigation. CSME/CFD2024, a joint conference of the CSME and the CFD Society of Canada, May 26-29, 2024, University of Toronto, Toronto, Canada 3. Youni A., Artificial intelligence in Pipeline Integrity Management. 7th International Maintenance, Reliability and Asset Management Conference & Exhibition. MAINTCON 2024, October 13-17, 2024, Manama, Bahrain 4. Younis A., AI in Penstock Monitoring and Inspection. 3rd Annual MATRIC Maintenance and Reliability Technology Innovation Conference, Sept. 16-19, 2024, Jumeirah Messila Beach Hotel, Kuwait 5. Younis A., Bladeless Wind Turbine. Technological Innovations Conference & Exposition (TICE), Oct. 27th, 2022, Kuwait 6. Younis A., Mechanical Fatigue Analysis and Failure Prediction Model of Drill String and Drill Pipe," 6th Middle East Maintenance, Reliability, & Asset Management Conference and Exhibition, 27 - 30 November 2022, Bahrain. 7. Younis A. and Dong, Z., Operation optimization of smart distribution grid with wind energy integration using an advanced global optimization algorithm. 7th Int. Conf. on Advances of Clean Energy Research, April 20-22, 2022, Barcelona, Spain 8. Younis A., Dong, Z., Alkhatib F., ElBadawy M., AlAnazi A., Development of Low-Speed Wind Energy Harvesting Device. 7th Int. Conf. on Advances of Clean Energy Research, April 20-22, 2022, Barcelona, Spain 9. Younis A., ElBadawy M., and AlAnazi A., Design and Optimization of a Low Wind Speed Wind Energy Harvesting Device Based Vortex Vortex-Induced Vibrations. 1st Int. Conference on Environmental Science and Engineering for a Sustainable Development (EESD 2022), 9-10 March 2022, Sohar, Oman 10. Younis A., ElBadawy M., and Alkhatib F., Fatigue and stress investigation of wind energy harvesting device. 1st Int. Conference on Environmental Science and Engineering for a Sustainable Development (EESD 2022), 9-10 March 2022, Sohar, Oman 11. Younis A., Dong Z., and Alkhatib F., “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 12. Younis A., and Dong Z., “Adaptive Optimization Search Tool for Smart Distribution System in Smart Grid” 8th Global Conference on Global Warming (GCGW-2019), April 22-25, 2019, Doha, Qatar

12. **Younis A.**, Dong Z., and Alkhatib F., "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
13. **Younis A.**, AlSalahi D., AlKhudher A., AlBaijan H., AlFailakawi E., and Ahmed M., "Plant Irrigation Water Sprinkler Robot" 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
14. Cheng G. H., **Younis A.**, Hajikolaie K., and Wang G. G., "Improved Trust Region Based MPS Method for High-Dimensional Expensive Black-Box Problems" ASME 2013 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, Volume 3B: 39th Design Automation Conference, Portland, Oregon, USA, August 4-7, 2013
15. **Younis A.**, Cheng G., Wang G., and Dong Z., 2013 "Development of a Common Platform for Testing Metamodel-Based Design Optimization Methods," Proceedings of the ASME 2013 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference IDETC/CIE 2013, August 4-7, 2013, Portland, Oregon, USA
16. **Younis A.**, Safari A., Wang G., and Dong Z., 2013 "Shape Optimization of Typical Heavy-duty Gas Turbine Compressor Airfoil Using Metamodel-Based Algorithm," 10th World Congress on Structural and Multidisciplinary Optimization, May 19 -24, 2013, Orlando, Florida, USA
17. **Younis A.**, William T., Wang D., Dong Z., Crawford C., and Djilali N., 2012, "Optimization of a Self-Regulating Smart Distribution Grid" 11th International Conference on Sustainable Energy Technologies (SET-2012), September 2-5, Vancouver, Canada
18. **Younis A.**, and Dong Z., 2012, "Metamodel Multi-Objective Optimization Tool for Mechatronic System Design" In Proc. of the 8th IEEE/ASME International Conference on Mechatronic and Embedded Systems, July 8-10, 2012, Suzhou, China
19. **Younis A.**, and Dong Z., 2011, "Performance Comparison of Evolutionary and Surrogate-Based Global Optimization Algorithms," In Proc. of CANCAM 23rd Conference, June 5-9, 2011, Vancouver, British Columbia, Canada.
20. **Younis A.**, and Dong Z., 2010, "Adaptive Approximation Model Based Multiobjective Optimization in Complex Multidisciplinary Design Systems," In Proc. of Canadian Society of Mechanical Engineers CSME Forum 2010 Conference, June 7-9, 2010, Victoria, British Columbia, Canada.
21. **Younis A.**, Zhou L., and Dong Z., 2010, "Application of the New SEUMRE Global Optimization Tool in High-Efficiency EV/PHEV/EREV Electric Mode Operations," in Proc. of ASME International Mechanical Engineering Congress & Exposition (IMECE), November 12-18, 2010, Vancouver, British Columbia, Canada.
22. **Younis A.**, Karakoc K., Dong Z., Park E., and Suleman A., 2010, "Optimal Design Parameters for an Automotive Magnetorheological Brake System,"

- In Proc. of Canadian Society of Mechanical Engineers CSME Forum 2010 Conference, June 7-9, 2010, Victoria, British Columbia, Canada.
23. Karakoc K., **Younis A.**, Park E., and Suleman A., 2010, "Numerical Evaluation of an Automotive Magnetorheological Brake Design Using Particle Swarm Optimization Method," In Proc. of CSME Forum 2010 Conference, June 7-9, 2010, Victoria, British Columbia, Canada.
 24. **Younis A.** and Dong Z., "Global Optimization Using Mixed Surrogate Models for Computation Intensive Designs," in Proc. of 2nd International Symposium on Computational Mechanics (ISCM II), 12th International Conference on Enhancement and Promotion of Computational Methods in Engineering and Science (EPMESC XII), November 30– December 3, 2009, Hong Kong– Macau.
 25. **Younis A.**, Gu J., Dong Z., and Li G., "Trends, Features, and Tests of Common and Recently Introduced Global Optimization Methods," In Proc. of 12th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, 10 - 12 September 2008, Victoria, British Columbia, Canada.
 26. Zhou L., **Younis A.**, Dong Z., and Wishart J., "Optimization of Control Strategy and Key Components of a Two-mode Hybrid Vehicle," In Proc. of 12th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference 10 - 12 September 2008, Victoria, British Columbia, Canada.
 27. **Younis A.**, Xu R., and Dong Z., "Approximated Unimodal Region Elimination Based Global Optimization Method for Engineering Design," In Proc. of ASME 2007 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference IDET/CIE 2007 September 4-7, 2007, Las Vegas, Nevada, USA.
 28. **Younis A.**, Saad A., Nazari M., Crawford C., Djilali N., and Dong Z., "Improved Optimization Search Tool for Self-regulating Smart Distribution System with Wind Energy Integration" International Conference on Renewable Energy and Resources, July 24-25, 2017, Vancouver, Canada
 29. Saad A., **Younis A.**, Dong Z., "Kriging-Bat design optimization algorithm for floating offshore wind turbine support structures" International Conference on Renewable Energy and Resources, July 24-25, 2017, Vancouver, Canada
 30. Saad A., **Younis A.**, Dong Z., "Radial Basis Surrogate Model Integrated to Evolutionary Algorithm for Solving Computation Intensive Black-Box Problems" ICRTT 2016: 18th International Conference on Remote Therapy and Telerehabilitation, April 19-20, 2016, Istanbul, Turkey
 31. Korpan C., **Younis A.**, Teaching Assistant Consultants (TACs): Departmental TA Mentors who help TAs navigate their new role. In Proc. of Navigating Your PATH Conference, June 21-22, 2010, Toronto, Ontario, Canada
 32. **Younis A.**, Teaching Assistant Consultants: New experience in Canadian Universities, STLHE 2010 Creative Teaching and Learning, Exploring, Shaping, Knowing. In Proc. of STLHE 30th Annual Conference, June 23-26, 2010, Toronto, Ontario, Canada
 33. **Younis A.**, Technology in University Teaching: Techniques and Strategies, Spring Teaching Assistant Conference, Jan. 14, 2010, Victoria, Canada
 34. **Younis A.**, Enhancing Your Design and Presentation Skills for URS Research Fair, March 2011, Victoria, BC. Canada

	35. Younis A., What International TAs Should Expect that First Day of Class, Fall Teaching Assistant Conference, June 2011, Victoria, BC, Canada 36. Younis A., Feedback from Students: How to Get it Fast and Early in the Semester to Help You with Your Role as TA, Spring Teaching Assistant Conference, January 2011, Victoria, Canada
College Service, including committee Membership:	- Departmental promotions committee - Validation and Moderation Committee. - Curriculum Committee - Student Appeal and Complaint Committee - Auditing and QM Committee - Supervised capstone senior graduation projects - Invited international guest speakers to present seminars for COE. - Represented AU in local technical competitions and participated in local events for KIPIC, KOC, and Toyota - Graduation exhibition coordinator (ME)
National Service:	NA
College Committees:	- Mechanical engineering department committee representative in the 10th engineering graduation projects exhibition - Curriculum Committee