

**Name: Dr. Kais Al-Abdullah****Rank: Assistant Professor - Electrical & Electronics Engineering**

Personal Information

Nationality:	Australian
AU Joining Date:	16 Apr 2023
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Professional Information

Education:	PhD (2020), Deakin University, Institute for Intelligent Systems Research and Innovation (IISRI), Vic/Australia. Dissertation: "Modelling and Optimization of Robotic Bone Drilling and Milling Processes". MSc (1999), University of Technology, Control and Systems Engineering Department. Baghdad/ Iraq. Thesis: "A Neural Controller Using Internal Model Control Strategy" BSc (1996), University of Technology, Control and Systems Engineering Department. Baghdad/Iraq.
Specialization:	Control and Systems - Emphasis on mechatronics systems and machine learning based control for medical applications
Current Academic Position:	Assistant Professor - Electrical & Electronics Engineering
Current Professional Positions:	NA
Previous Administrative Position Held:	NA
Previous Academic Positions Held:	Lecturer at Control and Systems Engineering Department, University of Technology, Baghdad/ Iraq.
Fellowships And Honors:	Member of Iraqi Engineers Union (IEU)

Teaching Experience:	(2021-2022) University of Technology, Baghdad / Iraq. Lecturer and Lab instructor, Department of Control and Systems Eng. (2019) Deakin University, Victoria / Australia Teaching Assistant - School of Engineering • Embedded System Design Project: interfacing different devices to microcontrollers, 3D printing, laser cutting, print circuit board (PCB) design. • Lab and Online lecturing (2010 – 2013) & (2003 – 2006) University of Technology, Baghdad / Iraq. Lecturer and Lab instructor, Department of Control and Systems Eng. • Teaching Control Systems and Instrumentations: covering mathematical modelling of control systems, control systems analysis and design (in time and frequency domains), with an introduction to nonlinear control systems. • Teaching Calculus for first year student • Developing quizzes, exams, homework, and coordinating grading • Coordinating labs: Control Systems Lab, Electronics Lab, Digital Principles Lab, Computer Control Lab, Process Control and Instrumentations Lab. • Supervising undergraduate research students (final year projects) in the following fields: Mechatronics System, Process Control and Instrumentations, machine learning, Image Processing, and Robotics (2006 – 2010) Emirates Aviation University, UAE / Dubai. Lecturer and Lab instructor. Teaching experience in Foundation, Diploma, Higher Diploma, and Undergraduate programs (collaboration programs of Emirates Aviation University with Coventry University, UK): • Teaching Control Systems and Instrumentations (for bachelor's degree in electrical and electronics students) covering mathematical modelling of physical systems, time response, and PID controllers. • Supervising and assessing final year projects (bachelor's degree in electrical and Electronics students) • Teaching the following subject (for a foundation, diploma, and higher diploma programs): Electrical and Electronics Fundamentals, Mathematics, Physics, Measurement Systems • Developing quizzes, exams, homework, assignments, and coordinating grading. • Coordinating and instructing Control Systems Lab (servomechanism trainers), Electrical and Electronics Lab and Physics
Industrial And Technical Experience:	(2000 - 2003) Field Engineer in AL MAZD Group for medical, engineering systems and technologies, Baghdad / Iraq. Installing and maintaining medical systems: ECG and Monitoring Systems, C-Arm X-Ray Systems, Ultrasound Systems, and Operation Rooms ceiling lights systems.

Research Interest:	• Medical Robotics • Microcontrollers Applications • Control and Measurement Systems • Machine Learning and Artificial Neural Networks • Modelling and Optimization of Dynamic Systems
Research Grants:	NA
Research and Publications including Journal and Books:	• Jond, A.Z., Pedrammehr, S., Al-Abdullah, K.I.A.L. and Pakzad, S., (2025). "Geometric design, mathematical modelling, and motion analysis of a novel 2T1R planar manipulator based on nested circular plates". IEEE Access. • Pedrammehr, S., Sajed, M., Al-Abdullah, K.I.A.L., Pakzad, S., Zare Jond, A., Chalak Qazani, M.R. and Ettefagh, M.M., (2024). "Experimental and Machine Learning Study on Friction Stir Surface Alloying in Al1050-Cu Alloy". Journal of Manufacturing and Materials Processing, 8(4), p.163. • Rajebi, S., Pedrammehr, S., Al-Abdullah, K.I.A.L., Asadi, H. and Lim, C.P., (2024). "An optimized microstrip antenna to generate intense localized heating at target sites for maximum effect". Discover Applied Sciences, 6(5), p.235. • Al-Abdullah, K. I., et al. (2019). "A model-based bone milling state identification method via force sensing for a robotic surgical system." The International Journal of Medical Robotics and Computer Assisted Surgery: e1989 • Al-Abdullah, K. I. A.-I., et al. (2018). "Force and temperature modelling of bone milling using artificial neural networks." Measurement 116: 25-37 • Abdul-lateef, K. I. (2012). "A low cost single-axis sun tracker system using pic microcontroller." Diyala Journal of Engineering Sciences 5(01): 65-78 • Ali, H. I., Kais I. A, and G. A. Mohammed (2006). "Multiple Model Controller Design for Electropneumatic Servo Actuator." Iraqi Journal of Computers, Communication and Control & Systems Engineering 6(1): 103-115 • Abdul Lateef, K. and K. Mirza (2000). "A Neural Controller Using IMC Strategy.", Engineering Journal of the University of Qatar, Vol. 13, 2000, pp.245-274
Paper Presentations at Professional Conferences:	• Al-Abdullah, K. I., et al. (2019). Optimization of the milling parameters of a robotic-based bone milling system. ICIT 2019: Proceedings of the IEEE International Conference on Industrial Technology, IEEE • Al-Abdullah, K. I., et al. (2019). An Investigation on robotic bone drilling experiments with thermal imaging. The 12th Pacific Symposium on Flow Visualization and Image Processing 19-22 November, 2019, Taiwan
College Service including committee Membership:	• (2012 - 2013) Member of Robotics and Automation Research Centre at Control and Systems Eng. Dep. UOT. Iraq • (2003 - 2005) Member of Examination Committees at the Control and Systems Eng. Dep., University of Technology
National Service:	NA
College Committees:	NA