Dr. Amer A. Alsaraira

Assistant Professor
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Academic Qualifications

2004 - 2009	PhD in Biomedical Engineering, Monash University, Australia. "An Investigation of Soft Tissue Deformation Using Finite Element Modeling for a Virtual Reality Based Endoscopic Surgical Simulator."
2003	Master of Biomedical Engineering, Monash University, Australia.
1996 - 2001	Bachelor of Electrical Engineering, Mu'tah University, Jordan.

Academic Employment – Teaching

2022 – present	Assistance professor Biomedical Engineering Department, German Jordanian University (GJU), Jordan
2019 – 2022	Assistance professor Department of Electrical Engineering, American University of Middle East (AUM), Kuwait
2009 – 2019	Assistance professor Department of Biomedical Engineering, Hashemite university, Jordan
2006 – 2008	Tutor Department of Electrical and Computer Systems Engineering, Monash University, Australia
2006, 2009	Lab Demonstrator Department of Electrical and Computer Systems Engineering, Monash University, Australia

Employment History

2007-2008	Facilitator in teaching development program - Centre for the advancement of learning and teaching (CALT), Monash University.
2001-2002	Network Engineer - In Lafarge Company / Cement Division, Jordan.

Scholarships

2008 - 2009	Doctoral Completion Scholarship, Monash University
2007 - 2008	Monash University Departmental Scholarship, Monash University
2003 - 2006	Hashemite University Scholarship, Hashemite University, Jordan
1996 - 2001	Jordanian government Scholarship, Jordan

Courses Taught:

American University of Middle East (AUM):

- Linear Circuit Analysis I
- Introduction to Electronic Analysis and Design
- Semiconductor Devices
- Electrical and Computer Engineering Sophomore Seminar
- Transforming Ideas to Innovation I

Hashemite University:

- Modeling and Simulation of Biomedical systems
- Biomedical signals and systems analysis
- Biomedical Instrumentation I
- Biomedical Instrumentation I Lab
- Biomedical Instrumentation II
- Biomedical Instrumentation II Lab
- Electronics I
- Bioelectronics
- Clinical Engineering
- Biomedical Transducer Lab
- Applied mathematics
- Fundamental of electrical circuits
- Ethics and communication skills
- E-health

Administrative experience

• ABET accreditation committee	• Organize and guide quality assurance practices and accreditation efforts related to ABET at the department of biomedical engineering in particular and the college of engineering in general.
• Curriculum committee	Continuously monitor the content and quality of courses being taught in the biomedical engineering department and make recommendations for changes or improvements to the program when needed.
• Employment, promotion and scientific research committee	• Receive and evaluate employment applications then Recommend the acceptance/rejection of candidates. • Receive and evaluate academic promotion packets, then recommend appropriate course of action. • Receive and evaluate research proposals then recommend appropriate course of action.
• Senior Design coordinator	• Supervise and manage distribution of funds to senior design students. • Manage senior design projects in cooperation with project supervisors. • Define standards and metrics to be followed. • Make sure projects comply with the highest standards. • Project evaluation in coordination with advisers.
• Department of biomedical engineering representative	• Represent the department of biomedical engineering in the college of engineering council.

Software skills

- Professional knowledge of ABAQUS, ANSYS, Multisim, Pspice and MATLAB
- Sound knowledge of word, Excel, PowerPoint, Computer Hardware and network.

Research interests

- Modeling and simulation of biomedical systems.
- Biomedical signals and systems analysis and processing.
- Wireless communication

Publications

- Zahra Ghanem, Amer Alsaraira, Luae Al-Tarawneh and Omar A.Saraereh. Comparative Analysis of ML-Schemes in OWC Systems, International Journal of Electrical Engineering and Technology (IJEET). 12(8). 2021, pp. 115-132.
- Saraereh, O.A.; Alsaraira, A.; Khan, I.; Uthansakul, P. Performance Evaluation of UAV-Enabled LoRa Networks for Disaster Management Applications. *Sensors* 2020, *20*, 2396.
- Saraereh, O.A.; Alsaraira, A.; Khan, I.; Choi, B.J. A Hybrid Energy Harvesting Design for On-Body Internet-of-Things (IoT) Networks. *Sensors* 2020, *20*, 407.
- Saraereh, O.A.; Alsaraira, A.; Khan, I.; Uthansakul, P. An Efficient Resource Allocation Algorithm for OFDM-Based NOMA in 5G Systems. *Electronics* 2019, *8*, 1399.
- Saraereh, Omar A., and Amer A. Al Saraira. "Piezoelectric Driven Antenna System for Health Monitoring Gadgets." International Journal of Engineering and Technology (IJET), Vol 8 No 5. 2016
- Omar A. Saraereh, Amer A. Al Saraira, Qais H. Alsafasfeh, Aodeh Arfoa." Bio-Inspired Algorithms Applied on Microstrip Patch Antennas: a Review." International Journal on Communications Antenna and Propagation (I.Re.C.A.P.), Vol. 6, N. 6. December 2016.
- Almomani T.D et al., " Influence of erythrocyte shape on platelet scattering towards vessel wall" int.J. of Biomedical Engineering and Technology, 2016. 21(3): pp 264-278.
- A. Alsaraira, I. Brown, R. McColl, F. Lim. Instrument-tissue segment interaction using finite element modeling. In Engineering in Medicine and Biology Society, 2007. EMBS 2007. 29th Annual international conference of the IEEE, 2007, pp. 2760-2763.
- A. Alsaraira, I. Brown, R. McColl, F. Lim. 2006, Challenges associated with tissue cutting in a surgical training simulator. Engineering & the Physical Sciences in Medicine EPSM, Noosa, Queensland, Australia.
- McColl R., Brown I., Seligman C., Lim F., Alsaraira A., "Haptic Rendering for Laparoscopic Surgery Simulation & Related Studies," Encyclopaedia of Healthcare Information Systems, IDEA Group Inc., USA, June, 2008.
- Lim F., Brown I., McColl R., Seligman C., Alsaraira A., "Hysteroscopic Simulator for Training and Educational Purposes," 28th Annual International Conference of the Engineering in Medicine and Biology Society, New York, 2006, pp. 1513-1516.
- McColl R., Brown I., Seligman C., Lim F., Alsaraira A., "Haptic Rendering & Perception Studies for Laparoscopic Surgery Simulation," 28th Annual International Conference of the Engineering in Medicine and Biology Society, New York, 2006, pp. 833-836.
- Lim F., Brown I., McColl R., Seligman C., Alsaraira A., "A Visual and Haptic-Rendering Model for Hysteroscopic Procedures," Engineering & the Physical Sciences in Medicine 29th Annual Conference, Adelaide, Australia, 2005 pp. 87-91.
- McColl R., Brown I., Seligman C., Lim F., Alsaraira A., "Haptic Rendering for VR Laparoscopic Surgery Simulation," Engineering & the Physical Sciences in Medicine 29th Annual Conference, Adelaide, Australia, 2005, pp. 81-86.