

Curriculum Vitae
Fadi T. Jaber
B.Eng. (Hons), M.Sc., Ph.D, M.I.E.E.E

Personal Details

Postal Address: Qatar University, College of Engineering, Doha, P.O. Box 2713, Qatar

Telephone Number (office): (+974)44034227

Email Address: fjaber@qu.edu.qa

Nationality: Greek

Education

- Oct 2004-Feb 2009:** University of Surrey, Guildford, UK
PhD in Biomedical Engineering
Thesis title: Action potential recording and processing from geometrically defined in-vitro neural networks
- Oct 2002-Sep 2003:** University of Surrey, Guildford, UK
MSc in Medical Physics
Thesis title: Developments in room temperature CCD Autoradiography
- Oct 1997-July 2000:** University of Kent, Canterbury, UK.
BEng in Electronic Engineering with Medical Electronics with Honours

Work Experience

- Sep 2011–Present:** Qatar University, Doha, Qatar
Department of Electrical Engineering
Position: Assistant Professor
- Sep 2009–Aug 2011:** Al-Ahliyya Amman University, Jordan
Department of Biomedical Engineering
Position: Assistant Professor
- Feb 2004–Sep 2004:** Jordan University of Science & Technology, Jordan
Department of Biomedical Engineering
Position: Lecturer
- Sep 2000–Mar 2002:** Greek Army, Greece
Telecommunications Division
Position: Radio Systems Engineer

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Skills

Computing Skills:

- **Applications:** Microsoft Office, Eagle, Multisim, TINA, Maxwell, Internet Explorer, Mozilla Firefox, Corel Draw, Paint Shop Pro
- **Programming languages:** LabVIEW, Matlab, Visual Basic, VHDL, C, Cobol
- **Operating systems:** Windows XP, Windows Vista

Technical Skills:

- Cell culture
- Photolithographic techniques
- Instrument design and implementation
- Dielectrophoresis
- Electronic circuit design and simulation
- PCB design and implementation
- Soldering
- Testing & repairing to component level

Linguistic Skills: Fluent in English, Greek and Arabic

Memberships

- IEEE Member

Professional Activities

- Senior editor of IEEE Transactions on NanoBioscience

Recent Publications

- S. Alshorman, F. Jaber and F. Bensaali, "A Remote Oxygen Saturation and Heart Rate Monitoring System," The International Conference in Emergency Medicine and Public Health, Qatar, January 2016
- Xiaojun Zhai, Fadi Jaber, Faycal Bensaali, Arti Mishra, "Hardware Acceleration of a Dielectrophoresis System for Achieving a Single-Neuron-Per-Electrode Arrangement in Microelectrode Arrays," International Journal of Simulation Systems, Science & Technology, vol. 16(3), pp. 4.1-4.7, 2015
- S. Alshorman, F. T. Jaber, and F. Bensaali, "A Wireless Oxygen Saturation and Heart Rate Monitoring and Alarming System Based on the Qatar Early Warning Scoring System," in 2015 International Conference on Computational Science and Computational Intelligence, Las Vegas, USA, pp. 787-790, 2015
- Xiaojun Zhai, Fadi Jaber, Faycal Bensaali, Arti Mishra, "Hardware Acceleration of an Image Processing System for Dielectrophoretic Loading of Single Neurons inside Micro-Wells of Microelectrode Arrays," 17th UKSIM-AMSS International Conference on Modelling and Simulation, pp. 571-576, 2015
- Arti Mishra, Fadi T. Jaber, Mohieddine Benammar, "Planar Microelectrode Array Technology for Neural Activity Recording," 1st IEEE EMBS International Student Conference (ISC), Malaysia, 2014

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- Fadi T. Jaber and Awni B. Al-Jayyousi, "A Phantom for Cadaverless Evaluation of Targeting Systems for Distal Locking of Intramedullary Nails," 2nd Middle East Conference on Biomedical Engineering (MECBME), pp. 115-118, 2014
- Fadi T. Jaber, Fatima H. Labeed, Michael P. Hughes, "A dielectrophoresis and image processing based system for loading single-neurons per micro-well in planar microelectrode arrays," Proceedings of the 8th International Workshop on Systems, Signal Processing and their Applications (WOSSPA), pp.180-184, 2013
- Fadi T. Jaber, Fatima H. Labeed, Michael P. Hughes, "Action potential recording from dielectrophoretically positioned neurons inside micro-wells of a planar microelectrode array," *Journal of Neuroscience Methods*, vol. 182, pp.225-235, 2009

Research Funding

2013 Qatar National Research Fund (QNRF): National Priorities Research Program (NPRP)

Research title: Identification of Time-Varying Human Ankle Dynamics and the Robust Robotic Control of Active Ankle Orthoses

Amount: \$1,029,702

2013 Qatar University: University Grant

Research title: Electrophysiological studies of geometrically-defined in-vitro neural networks

Amount: \$41,195

2012 Qatar National Research Fund (QNRF): Undergraduate Research Experience Program (UREP)

Research title: Magnetic sensor system for distal hole locking of intramedullary nails

Amount: \$29,720

2012 Qatar University: Start-up Grant

Research title: Development of a Biomedical Instrumentation Research Laboratory

Amount: \$13,730

2010 World Health Organisation (WHO): Graduation project grant

Research title: PC-Based Self-Test Audiometer

Amount: \$200

Research Interests

- **Microengineering:** Microfabrication of micro-electrodes and micro-structures for Lab-on-a-chip applications (neural network electrophysiology, dielectrophoretic separation/manipulation)

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- **Neuroengineering:** AC electrokinesis of neural cells for micro-electrode interfacing, neural cell network electrophysiology, isolation of neural cells from tissue, neural network culturing
- **Biomedical signal acquisition and processing**
- **Medical physics**
- **Neuro-robotics:** Neural signal recording and processing for controlling robotic parts
- **Medical instrumentation**