

Professor Rami J. Oweis, PhD

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Experienced and passionate educator and researcher with extensive first-hand expertise in the establishment of quality academic programs as evidenced by being a pivotal and major player in the establishment and development of the Biomedical Engineering Department and the Institute of Nanotechnology at Jordan University of Science & Technology (JUST). Sound academic leadership including Dean of the institutional research and planning at the Canadian University Dubai, Assistant to the President for International Accreditations and World Universities Rankings, Director of the academic development and quality assurance centre, Director of the assessment and strategic planning office, BME department head chair at JUST. Extensively trained in academic and higher education quality as proved by leading the BME department at JUST to obtaining accreditation by the Engineering Accreditation Commission of ABET, Inc., managing all the files related to JUST advancement in QS rating from three stars to five and joining the top 500 universities in the 2018 THE University Rankings. Solid academic leadership skills as demonstrated in guiding high-performing senior students, MSc students, and research teams, in addition to the coordination and planning of classes and labs. Expertise in the development of research projects through which various grants were acquired as well as a reviewer of national and international entities, programs, and journals. Have been heavily engaged in many committees including the University Council, Engineering Faculty Council, Institute of Nanotechnology council, ABET Accreditation, Community Outreach, Alumni follow-up, students and career services, and Strategic Planning and quality assurance.

EDUCATION

Ph.D., Biomedical Engineering College of **1999**
Engineering

Slovak University of Technology (STU), Bratislava, Slovakia

Ph.D. Dissertation: *Investigation of an Inductorless Quartz Oscillator*

M.S., Biomedical Engineering College of **1996**
Engineering

Slovak University of Technology (STU), Bratislava, Slovakia Master's Report: Small Current-to-Frequency Converters

B.S. Biomedical Engineering **1994**

College of Engineering

Slovak University of Technology (STU), Bratislava, Slovakia.

WORK EXPERIENCE

Dean of IRP and Consultant for Operational and Institutional Excellence, Canadian University Dubai, August 2020 – August 2021.

Assistant to the President for International Accreditations and World Universities Ranking, JUST.

Director of the Assessment and Strategic Planning Department, JUST.

Director of the Academic Development and Quality Assurance Centre, JUST.

Professor, Biomedical Engineering Department, JUST, August 2012.

Chairperson of the Biomedical Engineering Department, JUST.

Associate Professor, Biomedical Engineering Department, **JUST.**

Assistant Professor, Biomedical Engineering Department, **JUST.**

Full-time Lecturer, Biomedical Engineering Department, **JUST.**

Biomedical Engineer

Cardiovascular Centre, University Children Hospital, Bratislava, Slovak Republic, 1994-1995.

Teaching Assistant

Radio-electronic Engineering Department, Slovak University of Technology, Bratislava, Slovak Republic, 1996-1999.

AWARDS AND SCHOLARSHIPS

- Scholarship for the B.S. Degree, Slovak University of Technology, MHE Bratislava, Slovak Republic, 1988-1994.
- Slovak University of Technology RA Scholarship, 1994-1999.
- USAID TATWEER Certificate of Appreciation for the Valuable Contribution to the Faculty-for-Factory National Program, Amman, 2007.

SCIENTIFIC MEETINGS AND CONFERENCES

- The first IEEE international Symposium on Signal Processing and Information Technology, 2001, Cairo, Egypt.
- Third Cairo International Biomedical Engineering Conference (CIBEC'06), December 2006, Cairo, Egypt.
- Jordanian International Biomedical Engineering Conference 2007.
- 5th International Forum on Engineering Education (IFEE2010), Engineering Education in the 21st Century-Quality, Globalization and Local Relevance. University of Sharjah.
- National Conference for the Development of Study Plans, Teaching and Learning, and Scientific Research, Ministry of higher education, Jordan, 2010.
- EUROFILLERS 2013 10th Anniversary Meeting August 25–29, 2013, Bratislava, Slovakia.

- Several QS World Universities Ranking Conferences and Events.

ACTIVITIES, CONUSLTATIONS, AND TECHNICAL VISITS

- Founder of the Institute of Nanotechnology at JUST.
- Co-Founder of the Civil Society Development Centre at JUST.
- Member of the project entitled "The Excellence in Nanoscience Education for MENA Region (XNEM) supported by Tempus (€ 1.5 million).
- Member of the team responsible for the "Nanorobots" project funded by the Royal Hashemite Court (RHC) via the Royal initiative to support innovative projects (JD 3.5 million).
- Member of the JUST team of the 2nd, 3rd, 4th, and 5th cycles of Faculty-for-Factory National Program supervised by the Jordan Upgrading and Marketing Program (JUMP)- funded by the USAID.
- PI of research grant, Project title: Studying and Testing Implants Used in Orthopaedics.
- Co-PI of research grant, Project title: ZnO/Graphene Oxide nanocomposite as antibacterial sensor.
- Co-PI of research grant, Project title: Methotrexate loaded in photosensitive nanoparticles.
- Co-PI of research grant, Project title: Design and realization of a microviscometer for hematological and cardiovascular disease diagnosis
- Co-PI of research grant, Project title: Microfluidic platform for the detection and treatment monitoring of breast cancer.
- Co-PI of research grant, Project title: A Biomedical Nanoparticle Thromboelasto-sensor.
- Member of the college of engineering at JUST delegate in the visit to the Czech Technical University (CTU), Prague, Czech Republic, 2006.
- Evaluator for proposals submitted to the Scientific Research Support Fund, Ministry of higher education/Jordan.
- Attended a number of BME-related workshops over the last five years.
- Play a major and pivotal role in establishing the BME Department at JUST as well as leading the BME program for obtaining ABET accreditation.
- Managing all the files related to JUST advancement in QS rating from three stars to five and joining the top 500 league in the 2018 THE University Rankings.
- Reviewer for international journals such as, IEEE transaction on Biomedical Engineering, Annals of Biomedical Engineering, Signal Processing and Control, and Waste Management.

PUBLICATIONS

- Nid'a H. Alshraideh, Omar F. Ammar, Majed M. Masadeh, Karem H. Alzoubi, Mohamed G. Al-Fandi, **Rami J. Oweis**, Rawan H. Alsharedeh, Rama A. Alabed, Rawan H. Hayajneh. "Comparative Study of Antibacterial Activity of Different ZnO Nanoparticles, Nanoflowers, and Nanoflakes", accepted for publication in Current Nanoscience Journal, March 22, 2022.
- A. Al-Shami, **Rami Oweis**, M. Al-Fandi. "Developing an Electrochemical Immunosensor for Early Diagnosis of Hepatocellular Carcinoma", Sensor Review, Vol. 41 No. 2, pp. 125134, 2021. <https://doi.org/10.1108/SR-02-2020-00302021>.

- NK Al-Nemrawi, J Marques, CJ Tavares, **RJ Oweis**, MG Al-Fandi. "Synthesis and characterization of photocatalytic polyurethane and poly (methyl methacrylate) microcapsules for the controlled release of methotrexate", *Drug development and industrial pharmacy* 44 (12), 2083-2088, 2018.
- Mohamed Ghazi Al-Fandi, Nid'a Hamdan Alshraiedeh, **Rami Joseph Oweis**, Rawan Hassan Hayajneh, Iman Riyadh Alhamdan, Rama Adel Alabed, Omar Farhan Al-Rawi. "Direct electrochemical bacterial sensor using ZnO nanorods disposable electrode", *Sensor Review*, Emerald Publishing Limited, 2018.
- E Abdulhay, **R Oweis**, A Mohammad, L Ahmad. "Investigation of a wavelet-based neural network learning algorithm applied to P300 based brain-computer interface", *Biomedical Research*, Allied Academies, 2017.
- Mohamed Al-Fandi, Nida Alshraiedeh, Rami **Oweis**, Hala Alshdaifat, Omamah Al-Mahaseneh, Khadijah Al-Tall, Rawan Alawneh., "Novel Selective Detection Method of Tumor Angiogenesis Factors Using Living Nano-Robots", *Sensors* 17 (7), MDI, 2017.
- E. Abdulhay, A Abdelhay, BA Albiss, **R Oweis**., "Non-Linear Modeling of the Dynamic Response of Single-Wall Carbon Nanotube SWNT Composites to NO₂ Gas in Air", *Materials Science Forum*, Vol. 886, pp. 91-96, 2017
- Husam Hamad, Mohammed T Simsim, Awad Al-Zaben, **Rami J Oweis**, Minimum bias metamodells in engineering system design, *International Journal of Engineering Systems Modelling and Simulation*, Vol.8, issue 3, 227-236, Inderscience Publishers (IEL), 2016.
- M Al-Fandi, **R Oweis**, B A Albiss, T AlZoubi, M-Ali Al-Akhras, H Qutaish, H Khwailah, S Al-Hattami, and E Al-Shawwa. A prototype Ultraviolet Light Sensor based on ZnO Nanoparticles/Graphene Oxide Nanocomposite Using Low Temperature Hydrothermal Method. *Materials Science and Engineering* 92 (2015) 012009.
- **Rami J. Oweis**, Remal Rihani, Afnan Alkhawaja. ANN-based EMG Classification for Myoelectric Control. *Int. J. of Medical Engineering and Informatics*, Vol. 38, No. 2, 2015.
- Enas W Abdulhay, **Rami J Oweis**, Asal M Alhaddad, Fadi N Sublaban, Mahmoud A Radwan, Hiyam M Almasaeed. Non-Invasive Fetal Heart Rate Monitoring Techniques: Review article. *Biomedical Science and Engineering*, Vol. 2, No. 3, 53-67, 2014.
- **Oweis, R. J.**, & Al-Tabbaa, B. O. QRS Detection and Heart Rate Variability Analysis: A Survey. *Biomedical Science and Engineering*, Vol. 2, No. 1, 13-34, 2014.
- Husam Hamad, Awad Al-Zaben, **Rami Owies**. Interpretability and variability of metamodel validation statistics in engineering system design optimization: a practical study. *Int. J. Simul. Multisci. Des. Optim.* 5, A05, 2014.
- **Rami J. Oweis**, Husam Hamad, and Muhammad Shammout. Heart sounds segmentation utilizing Teager energy operator. *Journal of Medical Imaging and Health Informatics*, Vol. 4, 1–12, 2014.
- **Rami J. Oweis**, Enas W. Abdulhay, Amer Khayal, Areen Awad. An Alternative Respiratory Sounds Classification System Utilizing Artificial Neural Networks. *Biomedical Journal*, Vol. 37 No. 4, July - August 2014.
- **Rami J. Oweis**, B. A. Albiss, M. I. Al-Widyan, M-Ali Al-Akhras, Hybrid zinc oxide nanorods/carbon nanotubes composite for nitrogen dioxide gas. *Journal of Electronic Materials*, published online, DOI 10.1007/s11664-014-3274-3, 2014.
- Ruba Khnouf, **Rami Oweis**, Borhan Albiss, and Shereen Haddad. Preparation of Polystyrene/ Single-Walled Carbon Nanotube Composite and its Characterization for

Biochemical Applications. *Journal of Nanoelectronics and Optoelectronics* 9.3 (2014): 427-431.

- **Oweis, R. J.**, Hamdi, N., Ghazali, A., & Lwissy, K. A Comparison Study on Machine Learning Algorithms Utilized in P300-based BCI. *J Health Med Informat*, 4(126), 2, 2013.
- **Oweis, R. J.**, As' ad, H., Aldarawsheh, A., Al-Khdeirat, R., & Lwissy, K.. A PC-aided optical foetal heart rate detection system. *Journal of medical engineering & technology*, 38(1), 23-31, 2013.
- Fraiwan, L. A., Lweesy, K., **Oweis, R.**, Qablan, H. A., & Hasanat, M. Medical waste management practices in southern Jordan. *International Journal of Environment and Waste Management*, 11(3), 255-266, 2013.
- Hamdi, N., **Oweis, R.**, Zraiq, H. A., & Sammour, D. A. An Intelligent Healthcare Management System: A New Approach in Work-order Prioritization for Medical Equipment Maintenance Requests. *Journal of medical systems*, 36(2), 557-567, 2012.
- **Oweis, R. J.**, & Abdulhay, E. W. Seizure classification in EEG signals utilizing Hilbert-Huang transform. *Biomed. Eng. Online*, 10, 38, 2011.
- Al-Widyan, M. I., **Oweis, R. J.**, Abu-Qdais, H., Al-Muhtaseb, M., & Hamasha, S. Composition and energy content of dental solid waste. *Resources, Conservation and Recycling*, 55(2), 155-160, 2010.
- **Rami Oweis**, Naser Hamdi, and Fahmi Abu Al-Rub. Assessment of Capstone Graduation Projects in Relation to ABET and Program Outcomes. *Proceedings of the 5th International Forum on Engineering Education (IFEE2010), Engineering Education in the 21st Century-Quality, Globalization and Local Relevance*. University of Sharjah, 2010.
- Naser Hamdi, Fahmi Abu Al-Rub, and **Rami Oweis**. Incorporating Contemporary Issues in BME Curricula. *Proceedings of the 5th International Forum on Engineering Education (IFEE2010), Engineering Education in the 21st Century-Quality, Globalization and Local Relevance*. University of Sharjah, 2010.
- Fahmi Abu Al-Rub, **Rami Oweis**, Naser Hamdi. Program Stakeholders Perception of ABET, *Proceedings of the 5th International Forum on Engineering Education (IFEE2010), Engineering Education in the 21st Century-Quality, Globalization and Local Relevance*. University of Sharjah, 2010.
- **Rami Oweis**. The JUST Experience in reviewing study plans, teaching, learning, and student assessment under the framework of ABET. Presented in the National Conference for the Development of Study Plans, Teaching and Learning, and Scientific Research, Ministry of higher education, Jordan, 2010.
- B. A. Albiss, M. Gharaibeh, I. M. Obaidat, N. Al-Rawashdeh, **R. Oweis**, N. Hamdi, M. K. Hasan Qaseer. Magnetotransport and structural properties of superconducting BPSCCO thick film on MgO substrate. *Physica Status Solidi (a)*, Vol. 205, No. 8, Pages 1851- 1854, 2008.
- **Rami Oweis**, Alaa Barhoum. PIC microcontroller-Based RF Wireless ECG Monitoring System. *Journal of Medical Engineering & Technology*, Vol. 31, No. 7, 2007.
- **Rami J. Oweis**, A. Al-Gharaibeh,, M. Al Hafi, and N. Qumsieh. Microcontroller-based peak expiratory flowmeter. *Jordanian International Biomedical Engineering Conference 2007*, November 2007, Amman, Jordan.
- **Rami Oweis**, Lily Hijazi. A Computer-aided ECG Diagnostic Tool. *Computer Methods and Programs in Biomedicine*, Volume 81, Issue 3, Pages 279-284, 2006. **ELSEVIER**.

- **Rami Oweis**, Alaa Barhoum. Simulation results of a wireless ECG-derived respiration Device. Third Cairo International Biomedical Engineering Conference (CIBEC'06), December 2006, Cairo, Egypt.
- **Rami Oweis**, Muna Sunna'. A Combined Neuro-Fuzzy Approach for Classifying Image Pixels in Medical Applications. **Journal of Electrical Engineering, Slovak Center of IEE**, Vol. 56, No. 5-6, 146-150, 2005.
- **Rami Oweis**, Mohamad Al-Widyan, Ohood Al-limoon. Medical Waste Management in Jordan: A study at the King Hussein Medical Center. **Waste Management**, 25 (2005) 622-625, Science @ Direct, **ELSEVIER**.
- Pucik, J., **Oweis R.** CT Image Reconstruction Approaches Applied to Time-Frequency Representation of Signals. **EURASIP JASP** special issue on Advances in Modality-Oriented Medical Image Processing, volume 2003, No. 5, April 2003, p.p. 422-429.
- **Oweis, R.**, Al-Otum, H. Intraframe Image Coding Using a Modified LBG Algorithm. **The first IEEE international Symposium** on Signal Processing and Information Technology, 2001, Cairo, Egypt.
- Al-Otum, H., **Oweis, R.** Image Vector Quantization for Interframe Coding Applications. **The first IEEE international Symposium** on Signal Processing and Information Technology, 2001, Cairo, Egypt.

BOOK CHAPTERS

- Hung, Y. T., Wang, L. K., & Shamma, N. K. (Eds.). (2012). Handbook of Environment and Waste Management: Air and Water Pollution Control (Vol. 1). World Scientific. Chapter 23 section 5.
- Ondracek, O., Oweis, R., Simor, S., Farhat, M. "Signals and Systems, Practice. University Script". ES STU FEI Bratislava, second Edition 20.

AFFILIATIONS

- IEEE
- Jordan Engineers Association.