**AMIR MOHAMMED ABU\_AL\_AISH**

Associate Professor, Communications Engineering Department

Faculty of Engineering, Al-Hussein bin Talal University

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Google scholar: <https://scholar.google.com/citations?hl=en&user=7Y6omLEAAAAJ>

**EDUCATION**

**Ph.D. Degree in Measurement and Instrumentation Engineering**

University Science of Malaysia, Pinang, Malaysia, 2012, **QS World University Ranking :146**

Thesis titles “Development Of Some Applications Of Capacitive And Fiber Optic Sensors In The Field Of Instrumentation**”**

**M.Sc. Degree in Electronic System Design Engineering**

University Science of Malaysia, Pinang, Malaysia 2006.

Thesis Title: " Development of a low cost intelligent capacitive mass measuring System"

**B.Sc. Degree in Electronic Engineering**

Yarmouk University, Irbid, Jordan 2003

**EXPERIENCE**

**AL-HUSSEIN BIN TALAL UNIVERSITY, JORDAN Feb 2013 to present**

**Department Head -** Sep 2015 to Sep 2016

Electrical Engineering Department - Faculty of Engineering

 Communication Engineering Department - Faculty of Engineering

**JORDAN TELECOMMUNICATION COMPANY (JTC), Jordan May 2003 – May 2005**

 **COURSES TAUGHT AT THE AL-HUSSEIN BIN TALAL UNIVERSITY:**

0508211: Electrical Circuits (1)

0508212: Electrical Circuits (2)

0508311: Electrical Circuit Lab

0505324: Analog Communications

0505261: Electronic Devices (1)

0505361: Electronic Devices (2)

0505341: Instrumentation and Measurements Lab

0505340: Instrumentation and Measurements

0505364: Digital Electronics

0505363: Electronics Lab

0511233: Microprocessors and Assembly Language

0505462: Communication Electronics

0505463: Communication Electronics lab

 **RESEARCH SKILLS**

Measurement and instrumentation

Sensors Technology: Optical, Fiber optics, Capacitive, Wireless sensors.

Environments Monitoring: Landslides, Floods, Earthquakes, Pollution.

Embedded Microprocessor and Computer

**RESEARCH INTERESTS**

Advanced Micro Sensors and AI Integration for Environmental and Industrial Applications:

 My research focuses on the design, development, and integration of innovative micro sensors for environmental monitoring and industrial applications. Leveraging cutting-edge materials and technologies such as MEMS, nanomaterials, and flexible electronics, I aim to create compact, energy-efficient, and highly sensitive sensors. By integrating these sensors with artificial intelligence (AI), I enable real-time data processing, anomaly detection, and predictive analytics. This work has applications in air and water quality monitoring, climate change tracking, and industrial IoT systems for predictive maintenance and process optimization.

**PRIZES AND AWARDS**

* Fellowship for Ph.D research, University Science of Malaysia, 2008.
* Research grant, developing landslide monitoring system, MOSTI, 2007.
* Research grant, developing of capacitive mass sensor, USM, 2006.

**PROFESSIONAL MEMBERSHIPS**

 Member of Jordan Engineers Association since 2003 to present

**PUBLICATIONS**

1. Alrashdan, Mohd, Mahmoud A. Alnaanah, **Amir Abu-Al-Aish**, & Mohammad Zayed Ahmed. (2023). Design of Disc Magnetic Brake Using Taguchi Method. International Review of Electrical Engineering (IREE), 18.4, 283-290.
2. Alrashdan, M. H., Alnaanah, M., Al-Qudah, Z., & **Abu-Al-Aish, A**. (2023). T-Shape MEMS PMPG design at low frequency range using Taguchi method. *Microsystem Technologies*, *29*(5), 745-754.
3. Salah, W. A., Zneid, B. A., **Abu\_Al\_Aish, A**., & Nofal, M. (2023). Development of Smart and Portable Controllable Syringe Pump System for Medical Applications. Journal of Engineering and Technological Sciences, 55(3), 300-312.
4. Alnaanah, M., Alsafasfeh, M., Aljaafreh, A., & A**bu-Al-Aish, A.** An Optimized Fragile Image Watermarking Method for Tamper Detection and Recovery Using SPIHT and Reed-Solomon Coding.Jordan Journal of Electrical Engineering · Oct 9, 2021
5. **Abu\_Al\_Aish, A**., Salah, W., Ahmed, M., Alrashdan, M., & AL-Sawalmeh, W (2021). Implementation of Contactless angular Speed Measurement Based on Photo Sensor. PRZEGLĄD ELEKTROTECHNICZNY 97 (3):80-84.
6. Ahmed MZ, Alrashdan MH, **Abu-Al-Aish A**, Majlis BY (2020) MEMS 3D-microtransformer fabrication on PCB using electrodeposition method. International Journal of Power Electronics 12 (3):317-331
7. **ABU\_AL\_AISH Amir**, H.S ALRASHDAN Mohd, ABU ZNEID Basem (2020) Design of Differential Cylindrical Capacitive Displacement Sensor. Journal of Electrical and Electronics Engineering 13 (1):5-8
8. Salah WA, Albreem MA, Alsayid B, Zneid BA, Alkhasawneh M, Al-Mofleh A, Sneineh AA, **Al-Aish AA** (2019) Electric vehicle technology impacts on energy. International Journal of Power Electronics and Drive Systems 10 (1):1
9. Alrashdan MH, Ahmed MZ, **Abu-Al-Aish A** (2017) Modeling and optimization of frequency tunable piezoelectric micro power generator. Micro and Nanosystems 9 (2):127-133
10. Althunibat S, **Abu-Al-Aish A**, Shehab WFA, Alsawalmeh WH (2016) Auction-based data gathering scheme for wireless sensor networks. IEEE Communications Letters 20 (6):1223-1226
11. Al-Shabaan G, Shehab WA, **Abu-Al-Aish A**, Al-Sawalmeh W (2016) Effects of dust grain size and density on the monocrystalline PV output power. International Journal of Applied 6 (1)
12. Salah WA, Ishak D, Zneid BA, **Abu\_Al\_Aish A**, Jadin MS, Sneineh AA (2015) Implementation of PWM control strategy for torque ripples reduction in brushless DC motors. Electrical Engineering 97 (3):239-250
13. Salah WA, Ishak D, **Abu\_Al\_Aish A**, Zneid BA, Sneineh AA (2014) Commutation Time Estimator for PM BLDC Motor Torque Signature Enhancement. Journal of Engineering Science and Technology 9 (6):789-799
14. Rehman M, Abdul Mujeebu M, Cheng Y, **Abu Al Aish A** (2012) A Microcontroller‐Based Measurement System for Human Response to Visual and Hearing Stimulations. Experimental Techniques 36 (6):5-12
15. Rehman M, Abu Hassan AH, **Amir Abu-Al-Aish** (2011) Remote measurement of speed using fiber optic technique. Journal of Optoelectronics and Advanced Materials 13 (9):1118
16. Rehman M, Loon CE, **Abu\_Al\_Aish A**, Arshad MR (2011) Remote measurement of liquid flow using turbine and fiber optic techniques. Mechanical systems and signal processing 25 (5):1661-1666
17. **ABU\_AL\_AISH A**, Rehman M, Arshad MR (2010) A remote fiber optic liquid level measuring system. Optoelectronics and Advanced Materials-Rapid Communications 4 (June 2010):799-802
18. **Abu\_Al\_Aish A**, Rehman M, Abdullah M, Hassan AA (2010) Microcontroller based capacitive mass measuring system. Measurement Science Review 10 (1):15-18
19. **Al Aish AA**, Rehman M Development of a low cost optical tilt sensor. In: 2009 4th International Conference on Autonomous Robots and Agents, 2009. IEEE, pp 290-293
20. **Abu-Al-Aish A,** Rehman M, Hassan AHA, Arshad MR (2009) Development of an intelligent capacitive mass sensor based on co-axial cylindrical capacitor. Sensors & Transducers 105 (6):1
21. **Abu-Al-Aish A**, Rehman M, Arshad MR, Abu Hassan AH, Ahmad F (2009) Remote measurement of tilt using fiber optic sensor. Journal of Optoelectronics and Advanced Materials 11 (11):1686
22. **Abu\_Al\_Aish A**, Rehman M (2009) Development of a capacitive mass measuring system. Sensors and Actuators A: Physical 151 (2):113-117
23. Rehman M, **Abu\_Al\_Aish A**, Koon LB A simple capacitive security card system. In: 2008 5th International Symposium on Mechatronics and Its Applications, 2008. IEEE, pp 1-4

**REFEREES**

* **Marwan M. Batiha**

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* **Muhammad Mokhzaini Azizan**

 **Assoc. Professor**

 Electrical & Electronic Engineering, Faculty Administration Committee 2023/2024,

 Power High Voltage and Energy (PHIVE)

Deputy Dean (Research & Innovation)

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