

# Mohammad RA

Subjects: **Engineering, Electrical & Electronic**

Contributor: Mohammad Raja Ismail AL-SOEIDAT

Renewable

## Basic Information

 Mohammad RA	<b>Birth</b> : Unknown <b>Location</b> : <b>Title</b> : Unknown <b>Affiliation</b> : Unknown <b>Honor</b> : Unknown
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## 1. Brief Introduction

Dr. Mohammad Raja Ismail Al-Soeidat (born 1990 in Petra, Jordan) is a Jordanian electrical engineer, researcher, and academic leader. He specializes in renewable energy systems, power electronics, energy conversion, smart grids, electric vehicles, and energy storage systems. He currently serves as **Assistant Professor** and **Director of Engineering Workshops** at Al-Hussein Bin Talal University, Ma'an, Jordan.

## 2. Story about Notable Contributions

Dr. Al-Soeidat's career spans industry and academia. He began as a **Radio Access Network Planning and Optimization Engineer** at Zain Jordan (2013–2014), and later contributed as an **Image Processing Engineer** in the USA and as a **Site Engineer** in Jordan. From 2017 to 2021, he was a **Senior Research Assistant** and lab tutor at the University of Technology Sydney (UTS), where he contributed to experimental and applied research in photovoltaic systems. In 2022, he joined Al-Hussein Bin Talal University, advancing from Lecturer to Assistant Professor and later serving as Director of Engineering Workshops. He has been recognized with several scholarships, awards, and community service honors, including participation as a speaker in **TEDx Ma'an** (2012).

## 3. Principal Publications/Works

### Selected Journal Publications:

- Khawaldeh, A., Al-Soeidat, M., Lu, D. D.-C., & Li, L. "Accurate, Fast and Power Efficient PV Emulator Based on Hybrid Passive and Active Circuits," *CPSS Transactions on Power Electronics and Applications*, 2022.
- Khawaldeh, A., Al-Soeidat, M., Farhangi, M., Lu, D. D.-C., & Li, L. "Efficiency Improvement Scheme for PV Emulator Based on a Physical Equivalent PV-Cell Model," *IEEE Access*, 2021.
- Cheng, M., Al-Soeidat, M., Lu, D. D.-C., & Agelidis, V. "Experimental Study of PV Strings Affected by Cracks," *IET The Journal of Engineering*, 2019.
- Al-Soeidat, M., Lu, D. D.-C., & Zhu, J. "An Analog BJT-Tuned Maximum Power Point Tracking Technique for PV Systems," *IEEE Transactions on Circuits and Systems II*, 2019.

### Selected Conference Publications:

- Al-Soeidat, M., Khawaldeh, H., Lu, D. D.-C., "Investigation of Photovoltaic Panel Degradation Affected by Dust in Jordan," *IEEE International Future Energy Electronics Conference (IFEEC)*, 2023.
- Salah, A., Shalby, M., & Al-Soeidat, M. R., "Design and Development of a Hybrid Electric Vehicle Charging Station in Jordan," *4th International Conference on Smart Grid and Renewable Energy (SGRE)*, 2024.
- Al-Soeidat, M., Khawaldeh, H., & Lu, D. D.-C., "A Novel High Step-Up Three-Port Bidirectional DC/DC Converter for PV-Battery Integrated System," *IEEE Applied Power Electronics Conference (APEC)*, 2020.

## 4. Implications for Sciences, Humanities, and Society

Dr. Al-Soeidat's research contributes to sustainable energy development, smart grid integration, and the advancement of electric vehicle infrastructure. His work enhances the reliability and efficiency of renewable energy technologies, offering both environmental and societal benefits by supporting energy sustainability in Jordan and internationally.

## 5. Education

- Ph.D., Electrical Engineering (Renewable Energy)**, University of Technology Sydney, Australia, 2016–2020.
- M.Eng., Electrical Engineering**, University of Sydney, Australia, 2015–2016.
- B.Eng., Communications Engineering**, Al-Hussein Bin Talal University, Jordan, 2008–2013, Grade: Excellent.

## 6. Academic and Professional Experience

- **Director of Engineering Workshops**, Al-Hussein Bin Talal University, 2023–Present.
- **Assistant Professor**, Al-Hussein Bin Talal University, 2023–Present.
- **Lecturer**, Al-Hussein Bin Talal University & Kent Institute Australia, 2022–2023.
- **Senior Research Assistant**, UTS, 2017–2021.
- **Radio Access Network Engineer**, Zain Jordan, 2013–2014.

#### **Awards and Scholarships:**

- Ph.D. and M.A. scholarships from Al-Hussein Bin Talal University.
- TEDx Ma'an participant, 2012.
- Multiple university honors and certificates of appreciation (2008–2013).

#### **Courses Taught:**

Power Electronics and Drives, Renewable Energy Systems, Communication and Technology, Engineering Mathematics, Engineering Workshops.

#### **Certifications:**

- People's Choice Poster Presentation Winner, UTS, 2019.
- FEIT Tutor Skills Course, 2018.
- ICDL, Ministry of Education, Petra, Jordan, 2010.

#### **Memberships:**

IEEE, IEEE Young Professionals, IEEE Industry Applications Society, IEEE Power Electronics Society, Jordanian Engineering Association (JEA).

#### **Community Service:**

Coordinator, Arab Child Forum; voluntary fundraising for poor families; community service with Zain Company.

#### **Languages:**

- Arabic (native)

- English (excellent)

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