

# Curriculum Vitae



**Name: Zakaria Al-Omari, Ph.D.**

## **Personal Data:**

Marital status: Married with 3 children  
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[alomari\\_zakaria@yahoo.com](mailto:alomari_zakaria@yahoo.com)

## **Current Position:**

Associate Professor / Renewable Energy Engineering Department -Faculty of Engineering, Isra University since September 2019.

## **Education:**

1993-1998 Ph.D. in Electrical Engineering/Power Vinnytsia State University, Ukraine  
1985-1991 Master's in Electrical Engineering/Power Vinnytsia State Polytechnic Institute, Ukraine

## **Areas of Interest:**

### **Teaching**

- Engineering Analysis
- Linear Algebra
- Numerical Analysis
- Electromagnetics
- Electrical Circuit Analysis (1)
- Electrical Circuit Analysis (2)
- Electrical Machines
- Power Electronics
- Electrical Power Systems
- Electrical drives
- Design of Lighting and Electrical Installations
- Special Topics in Electrical Engineering.
- Transmission and Distribution Systems
- **Green Buildings**
- **Wind Energy Systems**
- **Energy Economics and Efficiency**

- **Energy Production Technology**
- **Introduction to Renewable Energy**
- **Renewable Energy Management**

### **Research**

- Optimization of Power Systems
- Energy saving
- Renewable energy

### **Work Experience:**

Dr. Al-Omari has been a Registered Charter Engineer in Electrical Engineering at the Jordan Engineers Association since 1992.

### **Academic**

- Head of Renewable Energy Engineering Department, Isra University from August 2020 to August 2023.
- Associate Professor, Department of Renewable Energy Engineering, Isra University, Jordan (September 2019 – Till now).
- Associate Professor, Department of Electrical Engineering, Al-Ahliyya Amman University, Jordan (March 2016 – August 2019).
- Head of Department of Electronics and Communications Engineering – Al-Ahliyya Amman University, Jordan (September 2018 – Until now).
- Head of Department of Electrical Engineering – Al-Ahliyya Amman University, Jordan (October 2013 – February 2016).
- Head of Department of Electronics and Communications Engineering – Al-Ahliyya Amman University, Amman- Jordan (October 2013 – February 2016).
- Head of Department of Electronics and Communications Engineering – Al-Ahliyya Amman University, Amman- Jordan (October 2010 – October 2012).
- Assistant Professor, Department of Electrical Engineering, Al-Ahliyya Amman University, Jordan (September 2001 – March 2016). Besides research and teaching, tasks include preparing technical specifications for tenders and equipment purchased for laboratories, participating in organizing study plans, and requiring personnel to run different divisions in the department.

### **Non-Academic**

- Maintenance and Development Engineer, Salbashian Company, Jordan (September 1991 May 1992). Worked in Electrical equipment and systems installation and maintenance.

- Electrical Site Engineer at Marriot Hotel (April 1998 – January 2001). The job included supervision of the installation of a standby generator, switchgear, and 4 transformers substation

### **Recent Activities**

- Member of the Energy Committee, Jordan Engineering Association.
- Member of the IEEE Committee, Jordan Engineering Association.
- Referee and Reviewer of many national and international scientific journals.

### **Professional Training**

- Al-Ahliyya Amman University, Amman, three days' short courses on "E-Learning, and distance learning Systems", 2002.
- British Council, Amman, two-day short course on the employment of new graduates, 2013.
- Al-Ahliyya Amman University, Amman, "Design Courses and Assessing Learning for Critical Thinking" December 3-6, 2018.

## **PUBLICATIONS:**

### **Refereed Journals**

- A1.** Moawiah, Alnsour, Zakaria Al-Omari, and Rawashdeh Taiseer. "Shaping Tomorrow's Community Requires Right Decisions to be Made Today Through Investment in Sustainable Infrastructure: An International Review." *Evergreen* **11.3** (2024): 1508-1529.
- A2.** Walid Emar, Zakaria Al-Omari, Taiseer Rawashdeh, "Slip-Ring Induction Motor Torque and Current Ripple Minimization Using Bang-Bang Current Control," *EVERGREEN Joint Journal of Novel Carbon Resource Sciences & Green Asia Strategy*, Vol. 10, No. 2, pp. 971-984 (2023).
- A3.** Al-Omari, Zakaria, and Walid Emar. "Modeling and simulation of a stand-alone wind turbine supplying an inductive load through a long cable." *International Journal of Power Electronics and Drive Systems* **13.3** (2022): 1654.  
<http://doi.org/10.11591/ijpeds.v13.i3.pp1654-1665>
- A4.** Abu-Attieh, Sameera, Zakaria Al-Omari, and Walid Emar. "Management and development of a residential energy storage system: A case study Jordan." *Journal of Applied Engineering Science* **20.3** (2022): 778-787.
- A5.** Al-Ghriybah, Mohanad, Zakaria Al-Omari, et al. "The Study of Aerodynamics and Productivity of the Savonius Rotor with Supplementary Blades." *International Journal of Renewable Energy Research*, **12**, 2 (2022).
- A6.** Mohamad Waleed AlShaar, Zakaria Al-Omari, Walid Emar, Moawiah Alnsour, Ghaida Abu-Rumman, "Application of PV-Thermal Array for Pumping Irrigation Water as an Alternative to PV in Ghor Al-Safi, Jordan: A case study," *Evergreen* **9**, 4 (2023): 1140-1150.

- A7.** Al-Adwan, Waseem, Moawiah Alnsour, and Zakaria Al-Omari. "Managing of Change Orders in Public Construction Projects: A Framework for Governmental Projects in Jordan." *Journal of Economics, Management and Trade* 28.5 (2022): 36-53.  
<https://doi.org/10.5109/6625725>
- A8.** Wesam Alamri, Walid Emar, Zakaria Al-Omari, Moawiah Alnsour, "Maintenance Management Practices in Electricity Industry in Arab World: Case Study in Jordan," *Journal of Engineering Research and Reports*, Vol. 22, No. 6, pp. 30-42, 2022.
- A9.** Walid Emar, Zakaria Anas Al-Omari, Sami Alharbi, "Analysis of inventory management of slow-moving spare parts by using ABC techniques and EOQ model-a case study," *Indonesian Journal of Electrical Engineering and Computer Science*, Vol. 23, No. 2, pp. 1159-1169, 2021, DOI: 10.11591/ijeecs.v23.i2.pp1159-1169.
- A10.** Walid Emar, Zayed Huneiti, and Zakaria Al-Omari, "Induction motor current ripple minimisation with PV based SEPIC-cascaded inverter," *International Journal of Modelling, Identification, and Control*, Vol. 35, No. 2, pp. 151-165, 2021.
- A11.** Walid Emar, **Zakaria Al-Omari**, Omar A. Saraereh Optimization of Cúk Voltage Regulator Parameters for Better Performance and Better Efficiency, (*IJACSA*) *International Journal of Advanced Computer Science and Applications*, Vol. 10, No. 11, 2019, pp. 169-175.
- A12.** Ali Hamzeh, **Zakaria Al-Omari**, "Improved model for investigating transient stability in multimachine power systems", *Indonesian Journal of Electrical Engineering and Computer Science*. Vol. 13, No. 1, January 2019, pp. 368-376.
- A13.** A. Hamzeh, Sadeq A. Hamed, Zakaria Al-Omari, "Wind Generation Impact on Symmetrical Fault Level at Grid Buses", *International Journal of Electrical and Computer Engineering*. Volume 8, Number 5, 2018.
- A14.** A. Hamzeh, S. Hamed, **Z. Al-Omari**, A. Sandouk, G. Aldahim, "First-Year Performance of a PV Plant in Jordan Compared to PV Plants in the Region", *International Journal of Renewable Energy research*. Vol: 5, No: 4, pp. 983 – 990, 12/2015.
- A15.** **Al-Omari Zakaria**, Hamzeh, A, Sadeq A. Hamed, Sandouk, A., Aldahim, G A, "Mathematical Model for Minimizing Add-On Operational Cost in Electrical Power Systems Using Design of Experiments Approach", *International Journal of Electrical and Computer Engineering*. Volume 5, Number 5, 2015.
- A16.** **Zakaria Al-Omari**. "Influence of Control Modes of Grid-connected Solar Photovoltaic Generation on Grid Power Flow". *Engineering* Vol: 6, No:13, pp. 983 – 990, 2014.
- A1.** F. Elkarmi, N. Abu Shikhah, **Zakaria Al-Omari**, F. Alkhatib. "A Novel Methodology for Project Assessment and Evaluation". *Journal of Service Science and Management* Vol:4, No:3, 2011
- A2.** **Al-Omari, Z.**, and J. Abdallah. "Modeling Additional Operational Costs Incurred Due to Absent of the Optimal Correction in Electrical Systems." *Journal of applied sciences* 8.23 (2008): 4422-4427.
- A17.** Salam A. Najim, **Zakaria Al Oumari**, Samir M. Said. "On the Application of Artificial Neural Network in Analyzing and Studying Daily Loads of Jordan Power System Plant". *International journal, Computer Science and Information Systems*. Vol:5, No:1, June 2008

- A18.** Al-Omari Z., Ostopchuk J., Evaluation of electric networks subsystems interaction by means of factorial experiment design. / *Visnik VPI*. 1997. № 2.
- A19.** Lehnuk P, Al-Omari Z. "The approximation of the implicitly expressed criteria of systems optimality by posynomial" / *Visnik VPI*. 1994. № 5.
- A20.** Lehnuk P, Ostopchuk J., Al-Omari Z. "Evaluation of regulating devices interaction at the optimal control of electric networks mode" *Visnik VPI*. 1994. № 2.

### Conference Proceedings and Presentations

- C1.** Nour Khlaifat, Nasim Alnuman, Zakaria Al-Omari, "Attitudes and Perspectives for Installing EV Charging Station: A Case Study at Isra University, Jordan," *October 2024*
- C2.** *2024 22nd International Conference on Research and Education in Mechatronics (REM)*
- C3.** Al-Omari, Zakaria, Nour Khlaifat, and Ahmed Banimustafa. "Genetic Algorithm for Optimizing Blade Shape of Horizontally-Oriented Wind Turbine at Ras-Munif, Jordan." *2023 International Conference on Machine Learning and Cybernetics (ICMLC)*. IEEE, 2023.
- C4.** BaniMustafa, Ahmed, and Zakaria Al-Omari. "Trends of Electricity Consumption in Jordan." *2022 International Engineering Conference on Electrical, Energy, and Artificial Intelligence (EICEEAI)*. IEEE, 2022.
- C5.** Khlaifat, Nour, and Zakaria Al-Omari. "Statistical Wind Energy Potential Assessment in Ras Munif, Jordan." *2022 International Engineering Conference on Electrical, Energy, and Artificial Intelligence (EICEEAI)*. IEEE, 2022.
- C6.** Ali Hamzeh, Zakaria Al-Omari, Sadeq Hamed, "Design and construction of a small Standalone Wind Turbine using Scrap materials", World Renewable Energy Congress – 18 & Exhibition, London – UK, Kingston University, 30 July to 3 August 2018.
- C7.** A. Hamzeh, G. Aldahim, Sadeq A. Hamed, **Zakaria Al-Omari**, "Integration Impact of CMS and CMMS on Operation & Maintenance of Electrical Power Plants", 15th International Operation & Maintenance Conference 2017.
- C8.** Ali Hamzeh, Zakaria Alomari, Grid Impact of Full Interface Converter Wind Generation on Balanced Fault Response, Global Conference on Renewables and Energy Efficiency for Desert Regions GCREEDER Amman, Jordan, 10–12 September 2013.
- C9.** Z. A. Al-Omari, F. Q. Balasmeh, Combined Neutral Mode Operation of Distribution Network Voltage 11-33 KV OF Jordan, 37th International Universities Power Engineering Conference, Staffordshire University, UK, 9-11 September 2002.

### Book Chapters

- B1.** Hamzeh, A., Hamed, S., Al-Omari, Z. (2020). Design and Construction of a Small Stand-Alone Wind Turbine Using Scrap Materials. In: Sayigh, A. (eds) *Renewable Energy and Sustainable Buildings*. Innovative Renewable Energy. Springer, Cham. [https://doi.org/10.1007/978-3-030-18488-9\\_29](https://doi.org/10.1007/978-3-030-18488-9_29).
- B2.** Hamzeh, A., Hamid, S., Sandouk, A., Al-Omari, Z., Aldahim, G. (2017). First-Year Performance of a PV Plant in Jordan Compared to PV Plants in the Region. In: Sayigh, A.

(eds) Mediterranean Green Buildings & Renewable Energy. Springer, Cham.  
[https://doi.org/10.1007/978-3-319-30746-6\\_61](https://doi.org/10.1007/978-3-319-30746-6_61).

## **MEMBERSHIP IN PROFESSIONAL SOCIETIES:**

### **• Jordan Engineers Association**

#### **Experience Record of Zakaria Al-Omari**

|                                    |   |
|------------------------------------|---|
| <b>August 2020 Till Now</b>        | Head of Renewable Energy Engineering Department, Isra University, Jordan.   |
| <b>September</b>                   | Head of Department of Electrical Engineering – Al-Ahliyya Amman   |
| <b>2018–May 2019</b>               | University, Jordan  |
| <b>2013-2019</b>                   | ABET committee, Al-Ahliyya Amman University   |
| <b>2013-2019</b>                   | Quality Assurance Committee, Al-Ahliyya Amman University  |
| <b>2019</b>                        | عضو لجنة تحكيم مشاريع التخرج لطلاب الهندسة/نقابة المهندسين  |
| <b>15-18 April 2019</b>            | Attending the "6th Jordanian International Electrical & Electronics Engineering Conference", JIEEEEC, Amman – Jordan                                    |
| <b>6/3/216–Till now</b>            | Associate Professor in the Department of electrical engineering, Faculty of Engineering, <a href="#">Al-Ahliyya Amman University</a>                    |
| <b>2016</b>                        | عضو اللجنة التحضيرية لمؤتمر الهندسة الكهربائية والالكترونية الدولي العاشر   |
| <b>2016</b>                        | عضو لجنة تحكيم مشاريع التخرج لطلاب الهندسة/نقابة المهندسين  |
| <b>10/2012–2/2016</b>              | Head of Department of Electronics and Communications Engineering – Al-Ahliyya Amman University, Amman- Jordan   |
| <b>10/2012-2/2016</b>              | Head of Department of Electrical Engineering – Al-Ahliyya Amman University, Jordan  |
| <b>1/9/2012–10/3/2016</b>          | Assistant Professor in the Department of Electrical Engineering, Faculty of Engineering, <a href="#">Al-Ahliyya Amman University</a>                    |
| <b>2011/2012</b>                   | Establishment of the Department of Electrical Engineering at Al-Ahliyya Amman University  |
| <b>October 2013–February 2016</b>  | Head of Department of Electrical Engineering – Al-Ahliyya Amman University, Jordan.   |
| <b>October 2013–February 2016</b>  | Head of Department of Electronics and Communications Engineering – Al-Ahliyya Amman University, Amman- Jordan.  |
| <b>16-18 April 2013.</b>           | Attending the "8th Jordanian International Electrical & Electronics Engineering Conference", (JIEEEEC 2013)   |
| <b>15th April 2013</b>             | Attending the JIEEEEC 2013, Workshop, Landmark, Amman, Jordan   |
| <b>October 2010 – October 2012</b> | Head of Department of Electronics and Communications Engineering – Al-Ahliyya Amman University, Amman- Jordan   |
| <b>1/9/2002–30/8/2012</b>          | Assistant Professor in the Department of Electronics and Communication Engineering, Faculty of Engineering, <a href="#">Al-Ahliyya Amman University</a> |

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|----------------------------------|---|
| <b>18-22 September 2006</b>      | Attending the Global Conference on Renewable Energy Approaches for DEsert Regions [GCREADER] Le Royal Hotel Amman, Jordan,  |
| <b>14 – 16/3/2006</b>            | Attending the "6th Jordanian International Electrical & Electronics Engineering Conference", JIEEEEC, Amman – Jordan  |
| <b>1/9/2001–<br/>30/8/2002</b>   | Assistant Professor in the <a href="#">Faculty of Engineering, Al – Aliyya Amman University</a>   |
| <b>September 2002,</b>           | Attending and participating in the "37th International Universities Power Engineering Conference, Staffordshire University, Stafford, UK.   |
| <b>21-23/11/2000</b>             | Attending<br>" ندوة المواءمة بين البحث العلمي الجامعي ومشاريع القطاعات الانتاجية في العالم العربي "   |
|                                  | "   |
| <b>18/1/2001 –<br/>15/8/2001</b> | Lecturer in the <a href="#">Faculty of Engineering, Al-Aliyya Amman University</a>  |
| <b>2/4/1998–<br/>16/1/2001</b>   | Electrical Site Engineer at Marriott Hotel. The job included supervision of the installation of a standby generator, switchgear, and 4 transformers substation  |
| <b>1/9/1991–<br/>11/5/1992</b>   | An electrical engineer in the Customs Department – Jordan.  |
| <b>21/12/1992–<br/>6/1/1998</b>  | Graduate student in the <a href="#">Department of Electrical Station and Substation – Faculty of Energy Engineering, Vinnytsia State University, Ukraine</a> to obtain a Ph.D. degree in Electrical Engineering/Power Systems.  |
| <b>8/9/1984–<br/>19/6/1991</b>   | Scholarship to the <a href="#">Faculty of Engineering Energy/Department of Electrical Station and Substation</a> in the Vinnytsia State Polytechnic Institute – USSR to obtain a master's degree in electrical engineering at the expense of the Ministry of Jordanian Education. |

### Referees:

1. Prof. Dr. Sadeq Hamed
2. Prof. Dr. Abbas Kattoush
3. Prof. Dr. Ahmed Nserat
4. Dr Abdullah Al-Zyoud