



# Dr. Amru Masoud Alqurashi

Assistant Professor

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## Personal Data

Nationality: | Saudi

Year of Birth | 1985

Department | Mechanical and Energy Engineering Department

Official IAU Email: aalqurashi@iau.edu.sa

Mobile No. | 0500322221

## Language Proficiency

| Language | Read | Write | Speak |
|----------|------|-------|-------|
| Arabic   | ✓    | ✓     | ✓     |
| English  | ✓    | ✓     | ✓     |

## Academic Qualifications

| Date      | Academic Degree   | Place of Issue               | Address              |
|-----------|---|------------------------------|----------------------|
| 2014-2017 | Ph.D-Electrical Engineering   | George Washington University | Washington DC, USA   |
| 2012-2014 | M.S., Electrical Engineering on Electrical Power and Energy (GPA: 3.88/4) Excellent | George Washington University | Washington DC, USA   |
| 2003-2008 | B.S., Electrical Engineering (GPA: 3.58/4) Excellent                                | Umm Al-Qura University       | Makkah, Saudi Arabia |



### PhD Research Title:

|     |  |
|-----|--|
| PhD | Model Predictive Control Approach to Two-Stage Stochastic Power System Optimization Problems |
|-----|--|

### Professional Record:

| Job Rank                     | Place and Address of Work    |   |     | Date                |
|------------------------------|------------------------------|---|-----|---------------------|
| Consultant                   | SDAIA                        | Saudi Authority for Data and Artificial Intelligence                      | KSA | Jan. 2021 Present   |
| Assistant Professor          | IAU                          | College of Engineering  | KSA | Aug. 2019-Present   |
| Instructor                   | Mawhiba                      | King Abdulaziz & His Companions Foundations For Giftedness and creativity | KSA | Summer 2020         |
| Assistant Professor          | Taif University              | College of Engineering  | KSA | Sep 2017 - Aug 2019 |
| Grader                       | George Washington University | School of Engineering and Applied Science                                 | USA | Jan 2017 - May 2017 |
| Lecturer                     | Taif University              | College of Engineering  | KSA | Dec. 2014-Sep 2017  |
| Teaching Assistant, Engineer | Taif University              | College of Engineering  | KSA | Jan. 2010-Dec. 2014 |
| Engineer                     | Marafiq                      | Power and water utility company for the cities of Jubail and Yanbu        | KSA | Sep 2008 - May 2009 |
| Trainee                      | AL-Zahri Company             | AL-Zahri Company under government supervision.                            | KSA | Summer 2007         |
| Trainee                      | SEC                          | Saudi Electricity Company   | KSA | Summer 2006         |

### Scientific Achievements

#### Published Refereed Scientific Researches

| # | Name of Investigator(s)                 | Research Title   | Publisher and Date of Publication             |
|---|---|--|---|
| 1 | A. Alqurashi, A. H Etemadi, A. Khodaei, | Treatment of uncertainty for next generation power systems                                   | Electric Power Systems Research Journal, 2016 |
| 2 | A. Alqurashi                            | Model Predictive Control Approach to Two-Stage Stochastic Power System Optimization Problems | Dissertation, 2017.                           |
| 3 | A. Alqurashi, A. H Etemadi, A. Khodaei, | Model Predictive Control to Two-Stage Stochastic   | control engineering practice Journal,2017.    |



|   |   |  |  |
|---|---|--|--|
|   |   | Dynamic Economic Dispatch Problem  |  |
| 4 | <b>A. Alqurashi</b>   | Economic and Environmental Impacts of Distributed Energy Resources   | Journal of Clean Energy Technologies, Accepted   |
| 5 | <b>A. Alqurashi</b>   | The State of the Art in Model Predictive Control application for Demand Side Energy Management   | Journal of Sustainable Development of Energy, Water and Environment Systems, Submitted |
| 6 | Nasir Harir, Muhammad Saleem, <b>Amru Alqurashi</b> , Fahad Al-Amri | Development, Testing, and Performance Evaluation of a Low-Cost Pressure-Control Respirator Device for Treatment of Early Symptoms of COVID-19 Patients | Advance in Mechanical Engineering Journal, Submitted                                   |
| 7 | A.Babqi1, B.Alamri, Y.Alharbi, <b>A. Alqurashi</b> , Nasim Ullah,   | A Virtual Inertia Based Predictive Control for Stability Improvement of Small Scale Multiple DGs Microgrids  | Energies Journal, Submitted.   |
| 8 | Nasir Harir, <b>A. Alqurashi</b>                                    | A Comprehensive Comparison Between Fixed and Tracking PV Panels in Saudi Arabia  | Energies Journal, in progress.   |

### Contribution to Scientific Conferences and Symposia

| # | Conference Title   | Place and Date of the Conference      | Extent of Contribution |
|---|--|---------------------------------------|------------------------|
| 1 | The 8th International Conference on Control, Mechatronics and Automation | Moscow, Russia on November 6-8, 2020. | Presentation           |

### Membership of Scientific and Professional Societies and Organizations

- Reviewer for IEEE Access Journal
- Reviewer for International Journal of Electrical Power and Energy.
- Reviewer for Conference on Control, Mechatronics and Automation.
- Instructor at King Abdulaziz & His Companions Foundations for Giftedness and creativity (Mawhiba)



## Teaching Activities

### Undergraduate (at Imam Abdulrahman Bin Faisal university)

| # | Course/Rotation Title           | No./Code | Extent of Contribution<br>(no. of lectures/Tutorials. Or<br>labs, Clinics) |
|---|---------------------------------|----------|--|
| 1 | Energy Markets                  | ENRG 506 | lectures   |
| 2 | Solar Power System Design       | ENRG 557 | lectures   |
| 3 | Electric Circuits               | ENG 331  | lectures   |
| 4 | Energy and Environment          | ENRG 412 | lectures   |
| 5 | Control System                  | ENRG 405 | lectures   |
| 6 | Renewable Energy                | ENRG 403 | lectures   |
| 7 | Project Management and Schedule | ENRG 505 | lectures   |
| 8 | Workshop Practice               | ENRG 307 | lectures   |

### Undergraduate (at Taif university)

| # | Course/Rotation Title                | No./Code | Extent of Contribution<br>(no. of lectures/Tutorials. Or<br>labs, Clinics) |
|---|--------------------------------------|----------|--|
| 1 | Basic of Electrical Circuit          | 8032101  | lectures   |
| 2 | Electric Circuit 1                   | 8032201  | lectures   |
| 3 | Introduction to computer programming | 802201   | lectures   |
| 4 | Electromechanical Energy Conversion  | 8033201  | lectures   |
| 5 | Electrical Power System 1            | 8034101  | lectures   |
| 6 | Renewable Energy                     | 8035201  | lectures   |
| 8 | Electrical Installations             | 8034201  | lectures   |
| 9 | Digital Logic Design                 | 8033102  | lectures   |

### Postgraduate (at George Washington University)

| # | Course/Rotation Title | Extent of Contribution<br>(no. of lectures/Tutorials. Or labs, Clinics) |
|---|-----------------------|---|
| 1 | Power Electronics     | Grader  |
| 2 | Control System        | Grader  |



## Administrative Responsibilities, Committee and Community Service

### Administrative Responsibilities

| # | From     | To        | Position  | Organization                                      |
|---|----------|-----------|---|---|
| 1 | Aug 2020 | Till date | Chair of the Software committee   | Mechanical and Energy Engineering Department, IAU |
| 2 | Jan 2020 | Till date | Assisting in evaluation of potential applicants interested in joining the department and arranging their interviews | Mechanical and Energy Engineering Department, IAU |
| 3 | Oct 2019 | Mar 2020  | Chair of the committee on invitation for the 3rd Solar and Wind Energy Symposium                                    | Mechanical and Energy Engineering Department, IAU |
| 4 | 2019     | 2019      | A team member of organizing students site visit to ACWA power plant   | Mechanical and Energy Engineering Department, IAU |

### Committee Membership

| # | From     | To        | Position  | Organization                                      |
|---|----------|-----------|---|---|
| 1 | Oct 2020 | Till date | Member at Summer training committee in CoE  | College of Engineering, IAU                       |
| 2 | Jan 2020 | Till date | Member at Summer training committee in the department                                 | Mechanical and Energy Engineering Department, IAU |
| 3 | Jan      | Till date | Member at Master program committee  | Mechanical and Energy Engineering Department, IAU |
| 4 | Jan 2020 | Till date | Member at Directed research project committee   | Mechanical and Energy Engineering Department, IAU |
| 5 | Jan 2020 | Till date | Member at Evaluation of final Year design project committee                           | Mechanical and Energy Engineering Department, IAU |
| 6 | 2019     | 2019      | Member at Preparation Committee for the Visit of HE Minister of Education to CoE, IAU | College of Engineering, IAU                       |
| 7 | Sep 2019 | Sep 2020  | Team member of installing solar PV system at the parking lots project at IAU          | Mechanical and Energy Engineering Department, IAU |
| 8 | Oct 2017 | May 2019  | senior design project committee   | Taif University                                   |
| 9 | Oct 2017 | May 2019  | Preparation Committee for ABET accreditation  | Taif University                                   |



## Certifications

| # | Course   |
|---|--|
| 1 | Instrumentation and Process Control.                         |
| 2 | Electrical Safety and Application.                           |
| 3 | UPS and Battery Chargers.                                    |
| 4 | Generator Operation and Maintenance.                         |
| 5 | Time Management.   |
| 6 | Control Loops and Logic Diagram.                             |
| 7 | International Computer Driving License holder (ICDL).        |
| 8 | Language Academy at ELS, Berkeley, CA.                       |
| 9 | Language Academy at University of Southern, Los Angeles, CA. |

## Engineering Software Programs

| # | Program   |
|---|---|
| 1 | Matlab.   |
| 2 | General Algebraic Modeling System (GAMS).                       |
| 3 | Power System Computer Aided Design (PSCAD).                     |
| 4 | Simulation Program with Integrated Circuit Emphasis (SPICE).    |
| 5 | Thinkercad.   |
| 6 | Circuitverse.   |
| 7 | PV System Photovoltaic software (PVsyst).                       |
| 8 | HelioScope.   |
| 9 | Distributed Energy Resources Customer Adoption Model (DER-CAM). |

## Platform for Online Teaching

| # | Platform       |
|---|----------------|
| 1 | Blackboard     |
| 2 | QuestionMark   |
| 3 | Zoom           |
| 4 | Classera       |
| 5 | WiziQ          |
| 6 | Microsoft team |
| 7 | Webex          |

Last Update 1/1/2021