

# **Hossam Gaber (Gabbar), PhD**

**Professor, Cross Appointed in the Faculty of Energy Systems and Nuclear Science, and Faculty of Engineering and Applied Sciences at University of Ontario Institute of Technology**

Oshawa, ON, CA

Distinguished international researcher forging new methods and technologies for smart energy grid engineering

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Exploration of clean energy technologies to support conservation strategies through green energy systems has gained global recognition as a means to a sustainable future in recent years. Director of UOIT's Energy Safety and Control Lab, Hossam A. Gaber, PhD, specializes in smart energy grid engineering with an emphasis on safety and control engineering in clean energy technology. A Professor, cross-appointed in the Faculty of Energy Systems and Nuclear Science and the Faculty of Engineering and Applied Science, Dr. Gaber's research focuses on the critical need to design and implement intelligent safety and control systems to enable high performance and reliable energy supply grids. Author of more than 210 publications including books, chapters and papers specializing in safety and control engineering for smart energy grid and interconnected micro energy grids, Dr. Gaber is a distinguished global energy systems researcher. He is leading plasma-based clean fusion energy research with national and international teams including Carleton University in Ottawa, and universities in China and Japan. Previously, Dr. Gaber was appointed a tenured Associate Professor in the Division of Industrial Innovation Services at Okayama University in Japan, and he served as a Research Associate with the Tokyo Institute of Technology, the Japan Chemical Innovative Institute, and the Egypt National Research Center, spanning a decade. He has led several large-scale national and international projects in Japan, the Middle East, and Canada. Inspired by some of academia's most brilliant minds to strengthen his theoretical foundation and follow a research path, Dr. Gaber completed his Bachelor of Science in Systems Engineering and Automatic Control at Alexandria University in Egypt in 1988, and completed Master's degree courses in this area before earning his Doctorate in Safety Engineering from the Division of Industrial Innovation Sciences at Okayama University in Japan in 2001. Dr. Gaber is a Fellow and Founding President of Canada's Reliability, Availability, Maintainability, and Safety Professionals Society (RAMSP). He is also a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE) for his contributions which include: Founding Chair of its SMC Hiroshima Chapter; Founding Chapter Chair of its Nuclear and Plasma Sciences Society, Toronto Section; and Technical Committee Founder and Chair of Intelligent Green Production Systems.

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Cleantech, Electrical Engineering, Energy, Nuclear, Plant Engineering and Operations, Research, Education/Learning

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Smart Energy Grids, Microgrids Planning, Protection and Control, Transportation Electrification and Infrastructure, Advanced Waste-to-Energy Technologies, Plasma Generation and Diagnostics, Safety Engineering, Process Systems Engineering of Energy and Nuclear Facilities, Smart Green Buildings, Risk-Based Energy Conservation, Fault Diagnosis and Real-Time Simulation

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Institute of Electrical and Electronics Engineers (IEEE), Professional Engineers Ontario

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**Resilient Micro Energy Grids with Gas-Power and Renewable Technologies**

The 2nd IEEE Conference on Power Engineering and Renewable Energy, ICPERE 2014

**Smart Energy Grid Engineering and Regional Implementation Plans**

International Atomic Energy Agency (IAEA) Meeting

## **Safety Design for Smart Energy Grids**

University Teknologi Malaysia

## **Advanced Fault Diagnosis and Condition Monitoring in Process Facilities**

The Second Workshop on Safety and Integrity Management of Operations in Harsh Environments

## **Advances in Safety and Control Engineering: Future Opportunities for NPP**

IAEA Technical Meeting on Advances in Non-Electric Applications of Nuclear Energy and on Efficiency Improvement at Nuclear Power Plants

## **Advances in Safety Engineering for Energy and Nuclear Facilities**

Invited Talk, Tsinghua University

## **Smart Energy Grids and Micro Grids with Energy Conservation Strategies**

2014 Nanjing Mayor International Consultative Conference

## **Building Micro Energy Grids with Gas-Power and Renewable Technologies**

New Energy Forum, Fuelling a Beautiful World of Cleanness and Sustainability

## **Building Energy Conservations and Micro Energy Grids**

World Congress of Energy Wise 2014, WEW

## **Symposium on Plasma and Nuclear Systems, Chair**

SPANS 2014 Workshop

## **Smart Micro Energy Grids with Gas-Power and Renewable Technologies, Plenary Talk and Conference Chair**

International Conference on Smart Energy Grid Engineering, SEGE 2014

## **Energy Conservation in Buildings: Integrated Approach with Smart Energy Grids**

Energy Conservation Opportunities in Buildings in Qatar, IEEE, SMC-IGPS

## **Energy Storage Solutions: Options to Improve Power Quality and Reliability, Panel Moderator**

Grid Resiliency Through Energy Storage in SW Ontario

## **Toward a Sustainable Community in Qatar**

Energy Conservation Opportunities in Buildings in Qatar, IEEE SMC-IGPS

## **Advances in Energy Conservations for Smart Green Buildings, Towards Smart and Sustainable Communities Workshop, Chair**

IEEE, Systems, Man and Cybernetics Society (SMC), Intelligent Green Production Systems (IGPS)

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## **Okayama University**

PhD A+ Process Systems & Safety Engineering, Department of Systems Engineering

**Alexandria University**

Master's Degree Courses Computer Science and Automatic Control

**Alexandria University**

BSc Computer Science and Automatic Control

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**Editor-in-Chief, International Journal of Systems Processing Engineering (IJPSE)**

Published quarterly, the IJPSE addresses new process systems engineering methods, trends and technologies and applications in plant, process and product lifecycles, including engineering design and operational activities and their interaction.

**Founder and General Chair, IEEE International Conference on Smart Energy Grid Engineering (SEGE) Conference**

Now in its 4th year, Dr. Gaber is the Founder and Chair of the IEEE SEGE Conference, aimed at providing an opportunity to discuss various engineering challenges of smart energy grid design and operation by focusing on advanced methods and practices for designing different components and their integration within the grid.

**Second Best Paper Award, Integrated Qualitative & Quantitative Fault Diagnosis**

Dr. Gaber co-authored and presented the paper; and received distinction at the 3rd International Workshop on Computational Intelligence & Applications, organized by the IEEE Systems, Man and Cybernetics Society (SMC) in Okayama, Japan.

**Senior Member, IEEE**

In January 2004, Dr. Gaber was appointed Senior Member of IEEE for his contributions to his field.

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