

TALAL ALHARBI, Peng

Ass. Professor

PROFILE

It is my destiny that I always try my best to find the optimal way or the rarely the breakeven points (depends on the circumstances) in my line of work. I strive to apply not only the engineering concepts but also the simple logical concepts that are sometimes forgotten.

My research proposes algorithms and market designs towards an economical, reliable, and sustainable energy.

Interested in optimization and using that to find the optimal way to win weather in research, management, networking or just in life in general.

Dedicated, energetic, and resourceful professional Assistant Professor with a demonstrated experience of working in the higher education, industry, and energy business.

Passionate about promoting technological vitality and helping organizations to become technologically literate.

CONTACT

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EDUCATION

University of Waterloo, Waterloo, Ontario, Canada

2019 [PhD in Electrical Engineering.] [Energy Storage, Electrical Vehicles and Renewable Energy, Engineering Economics (Planning, Operation, Control)]

University of Waterloo, Waterloo, Ontario, Canada

2015 [MS in Electrical Engineering.] [Renewable Power & Energy and Engineering Economics (Operation).

Queens University, Kingston, Ontario, Canada

2014 [MS in Electrical Engineering/English certificate with Honor.]

Qassim University, Saudi Arabia

2010' [BSc in Electrical Engineering with Honor]

WORK EXPERIENCE

Chairman of Electrical Engineering Department, College of Engineering Qassim University,

2021–Present

Vice Chairman of Renewable Energy Program, College of Engineering Qassim University

2021–Present

Principal investigator (PI) for Electric vehicles battery and charging unit Standards, Saudi Standards, Metrology and Quality Organization (SASO)

2022–Present

Consultant, NS Consulting, Waterloo, Ontario, Canada [Electricity Market Management System (MMS)]

2022–Present

Consultant, Bareq Engineering Consultancy, Riyadh & Jeddah offices

2022–Present

Consultant, Suleiman Aljameeli Engineering Consultancy, Qassim offices

2021–Present

Qassim University, Professor (Assistant)

2020–Present

Board Member, Alhazm Club Ministry of, Sports, Member of Digital Transformation and Investment Units

2021–Present

Head of Electrical Engineering Advisory Board, Qassim University

2021–Present

Head of EE ABET & NCAAA Quality Assurance Task Force, Qassim University

2021–Present

Research Consultant, Waterloo Institute for Sustainable Energy [WISE], Waterloo, Ontario, Canada

2016– Present

Freelancer Consultant, [Electrical and Renewable energy, Optimization, Quality management, Engineering Economics, Energy Efficiency]

2015– Present



Consultant and Researcher to Natural Sciences and Engineering Research Council of Canada (NSERC) about Energy storage Technology (NESTNet) a fund of 5 million dollar.

2018–2020

Member of the Strategic Plan & Follow-Up Unit, Qassim University

2021–Present

Scientific Research & Innovation Unit, College of Engineering, Qassim University (Collaborated with a team of faculty, members to create the collage strategic plan)

2021–Present

Statistics and Information Unit, College of Engineering, Qassim University

2021–Present

University of Waterloo, Research Assistant and Lecturer

2014–2020

Queens University, Lecturer

2011–2014

PROFESSIONAL CERTIFICATION

NCAAA Academic Quality Practitioner, 2021.

NCAAA Academic Quality Practitioner, 2021.

Mostadam for residential building, AP [Ministry of housing 2021]

Saudi Engineering Council (SEC) – Professional Engineer.

Association of Energy Engineers (AEE) – Certified Energy Manger (pending)

Saudi Association for Energy Economics (SAEE)

Quality Ambassador, Saudi Standard, Metrology, Quality Organization (SASO)

Certified Arbitration Practitioner, Saudi Engineering Council.

AWARDS

Faculty of Engineering Award, University of Waterloo, Canada [3 times, 2020,2019,2018]

Qassim University Graduate Fellowship, [2011-2014,2015-2020]

Best Paper Award, Annual Canadian Electrical Power and Energy

Conference (EPEC) 2015 Conference at London, 2015. [First Saudi National to achieve it]

Excellence Student Award, Saudi Culture bureau in Canada [4 times]

3rd place Senior design Project, University wide SDP Award, Qassim University [2010]

Excellence Student Award, Qassim University [2010]

SOME INDUSTRY EXPERIENCE

ABB

Project manager assistant Engineer Intern, Riyadh [2009-2010]

Natural Sciences and Engineering Research Council of Canada [NSERC]

[2018-2020]

Research Intern in Toronto, Ontario, Canada and Montreal, Quebec, Canada

Freelancer consultant, [electrical and Renewable energy, Optimization]

2015– Present

PROFESSIONAL ENGAGEMENTS [PART TIME WORK EXPERIENCE]

REVIEWER FOR IEEE TRANSACTIONS ON POWER SYSTEMS [2017– Present]

REVIEWER FOR IEEE TRANSACTIONS ON SMART GRID [2018– Present]

REVIEWER FOR IEEE TRANSACTIONS ON SUSTAINABLE ENERGY [2020– Present]

REVIEWER FOR APPLIED ENERGY [2015– Present]

REVIEWER FOR IET GENERATION, TRANSMISSION & DISTRIBUTION [2019– Present]

REVIEWER FOR PES GM, CDC, IFAC, EPSR, EPEC [2015– Present]

SOME INVITED TALKS

Use of renewable energy & electric vehicle for home energy management systems, 2022 Ministry of Energy, Riyadh, Gulf Cooperation Council
The importance of Energy Efficiency, Qassim University & Saudi Energy Efficiency Center (SEEC) 2022

Energy Storage: The Evolving Business Model, 2020, Waterloo, Canada
Planning And Operation of Isolated Microgrids Based On Repurposed Electric Vehicle Batteries, Ryerson University, Toronto, Canada, 2020
Batteries in Electricity Markets: Economic Planning and Operation, Toronto, Canada, 2019

A Stochastic Energy Management System for Isolated Microgrids, Portland, Oregon, USA Oct 2018.

Energy Management and Smart Charging of PEVs in Isolated Microgrids, London, Canada, 2015

And More

SOME TEACHING EXPERIENCE

Taught graduate and undergraduate course in university of Waterloo, Ontario, Canada & Qassim University, Qassim Saudi Arabia [2011- present]

Deliver and participated in workshops for different conferences and symposiums in Canada [2016- present]

Participate in summer school for engineers to provide hands-on experience for optimization in electrical engineering topics (GAMS)

Ece6607pd	Operation Of Restructured Power Systems
Ece467	Power Systems Analysis, Operations And Markets
Ece493	Power System Operation & Markets
Ece390	Engineering Design, Economics, And Impact On Society
Ece 768	Power Quality
Ece 7687pd	Selected Topics In Electric Power Quality
Ece 661	Hvdc And Facts
Ece 6610pd	Power Electronics Converters: Design And Applications
Ece 140	Linear Circuits
Ece 462	Electric Distribution Systems
Ece 463	Design And Applications Of Power Electronic Converters
Ee 318	Fundamentals Of Electric Circuits
Ee 340	Fundamentals Of Power System
Gene 123	Electrical Circuits And Instrumentation
Me 269	Electromechanical Devices And Power Processing
Mte 420	Power Electronics And Motor Drives
Me 753	Solar Energy

Workshop course – energy management in isolated microgrid

Workshop course – energy management and energy efficiency for suitable building

Power system operations and optimizations

Operation of restructured power systems

Power system management and electricity markets

AREAS OF INTEREST

1. Power Systems:
 - Power system Operation, Economics and Planning
 - Electricity Markets
 - Ancillary Services Management and Pricing
 - Distribution Systems- operations, planning
 - Renewable Energy- economics, penetration into distribution systems
 - Demand Side Management, Demand Response, Smart Loads and Smart Grids, Electric Vehicles in Distribution Systems
2. Energy Systems:
 - Global energy models, scenario analysis, long-term planning
 - Energy-environment linkages, sustainable development

SUPERVISOR MASTER AND PHD THESIS TEACHING EXPERIENCE

AMER ASSLMAN, SAUDI ELECTRICITY COMPANY

Enhancing the Stability of Rafha Electric Grid by the Utilization of Energy Storage Systems and Renewable energy (PV as an example)

VOLUNTEER EXPERIENCE

Qassim University

Contributed to mentor and guide new engineering students [2008-2010]

Queen's University

Saudi Student Association Club in Kingston, Canada [2011-2013]

Queen's English Language School [2012-2013]

Saudi Student Association Club in Waterloo, Canada [2013-2020]

Waterloo Warriors - the athletic teams in Waterloo, Canada [2016-2020]

Electrical & Computer Engineering Graduate Student Association ECE GSA [2017-2020]

City of Waterloo | Summer Soccer in Tri-Cities (Waterloo-Cambridge-Waterloo) [2016-2017]

PROJECTS

Consultant, NS Consulting, Waterloo, Ontario, Canada [Electricity Market Management System (MMS) **2021-2023**

Procurement of Energy, Primary Regulation, and Secondary Regulation Reserves in Battery Energy Storage Systems Integrated Real-Time Electricity Markets, Using Saudi electricity grid

QASSIM UNIVERSITY,

Electricity market frameworks for the integration of energy storage systems such electric vehicles battery and demand response mechanisms into electricity markets towards the realization of a smart electricity grid, Saudi Arabia as a Case study. **2022-2023**

Principal investigator (PI) for Electric vehicles battery and charging unit Standards, Saudi Standards, Metrology and Quality Organization (SASO)
2022-2023
