

Fahad Alhuwaishel

Mobile Phone: +965-99122544

E-mail: fm.alhuwaishel@paaet.edu.kw, eng.fm@live.com



EDUCATION

Texas A&M University (2018 - 2021), College Station-TX, U.S

PhD. Electrical Engineering

Concentration: Advanced Power Electronics, Renewable Energy, Battery storage systems, & Smart Grid, power electronics cyber security

Texas A&M University (2013-2015), College Station-TX, U.S

M.Sc. of Electrical Engineering

Concentration: Power Electronics, Power system in aircrafts and UAV's, Rectifiers and Inverters, & Switching power supplies

Kuwait University (2005-2010), Kuwait City, Kuwait

BSc of Electrical Engineering

Concentration: Energy conversion, Signal Processing, Modern Physics, Electronics

WORK EXPERIENCE

Public Authority for Applied Education and Training (PAAET), Shuikh - Kuwait

Assistant Professor- College of Technological Studies

August 2015 – Until now

- Assistant Lecturer in electrical engineering department in college of technological studies at
- Lecturing in Electrical Circuits and Fundamental, power electronics, machinery, Renewable Energy and Storage Systems
- Field training course instructor in several companies such as MEW, Ahliea Switchgears and AL-Nisf Electrical
- Assistant Lecturer at PAAET basic education college focusing on electronics and instrumentation courses
- Leader – member in several PAAET department teams e.g., research team, academic team etc.,
- Participated in ABET accreditation in electrical engineering technology programs in CTS (PAAET) as a field training consultant in 2017
- Chair of ABET Committee in Electrical Engineering Technology Department & Member in ABET CTS College Committee in (Since 2021- Until today)
- Earned a strength point in **ABET** accreditation report for field training course
- Proposed a new renewable energy program in college of technological studies
- Achieved a **fund award** for about **20k\$** from **PAAET** for a project focused in active filters for unmanned aircrafts applications under Grant number **TS-16-13**
- Achieved a **fund award** for about **10k\$** from **PAAET** for a project focused in Electric Vehicle Fast charger under Grant number **TS-22-02**
- Involved in a **fund award of** amount of **4.4 million Dollars** from Department of Energy (**DOE**) in **USA** under Grant Number DE-EE0009031 for a project targeting cyber security in PV inverter systems.

EQUATE Petrochemical Company , Shuiba - Kuwait

Analyzer Engineer- Technology Improvement Department

December 2011-July 2013

- Familiarized with five Shuaiba Equate Petrochemical plants
- Practiced daily checks on installed electronic analyzers and gas detectors
- Design analyzer instrument for gas quantity, characteristics, and quality of the plants' streams.
- Supervise real life data feeding and involved in decision making processes regarding plants turn around and emergency shutdowns.
- Propose new mechanisms and tools for safe, reliable, and efficient petrochemical production.
- Control and measure the utilities' plant's streams.
- Proposed new technical techniques to ensure receiving precise measurements and save costs of operations and power.

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Hyundai Engineering Company, Seoul, South Korea

Electrical Engineer – Power Plants Engineering Group (Intern)

September 2010-March 2011

- Familiarized with thermal power plants architecture and design
- Involved in tender reviewing and evaluation for future power plants in Indonesia, India and Iraq
- Involved in design Thermal power plant In Qudus, Iraq

SHLUMBERGER, Ahmadi, Kuwait

Wireline Engineer Trainee

April 2011 - July 2011

- Familiarize with oil service providers and types
- Involved in wire line tools maintenance and inspection
- Involved in on-filed well inspection and mentoring

PUBLICATIONS / PATENTS

- Mohammad Alhussan, Fahad Alhuwaishel and Prasad Enjeti, "A Single-Phase GaN Totem-Pole PFC with Active Power Decoupling" *IEEE Applied Power Electronics Conference and Exposition (APEC)*, Phoenix, AZ, USA, 2021
- N. A. Ahmed and F. M. Alhuwaishel, "Solar Powered Unmanned Aerial Vehicle With Active Output Filter Under Non-Linear Load Conditions," in *IEEE Access* (2021)
- F. Alhuwaishel and P. Enjeti, "A Transformer-less Hybrid PV Inverter with Integrated Battery Energy Storage" *2020 IEEE Applied Power Electronics Conference and Exposition (APEC)*, New Orleans, LA, USA, 2020 (newly accepted paper)
- F. Alhuwaishel, A. Allehyani, S. Al-Obaidi and P. Enjeti, "A Medium Voltage DC Collection Grid for Large Scale PV Power Plants with Interleaved Modular Multilevel Converter," in *IEEE Journal of Emerging and Selected Topics in Power Electronics*. (2019)
- F. Alhuwaishel and P. Enjeti, "A Single Stage Transformer-less Micro Inverter with Integrated Battery Storage System for Residential Applications," *2019 20th Workshop on Control and Modeling for Power Electronics (COMPEL)*, Toronto, ON, Canada, 2019
- F. Alhuwaishel, A. Allehyani, S. Al-Obaidi and P. Enjeti, "A New Medium Voltage DC Collection Grid for Large Scale PV Power Plants with SiC Devices," *2018 IEEE 19th Workshop on Control and Modeling for Power Electronics (COMPEL)*, Padua, 2018
- F. Alhuwaishel, N. A. Ahmed and P. Enjeti, "Active output filter under nonlinear load condition for solar powered unmanned aircraft system," *2017 IEEE 6th International Conference on Renewable Energy Research and Applications (ICRERA)*, San Diego, CA, 2017
- F. Alhuwaishel; A. S. Morsy; P. N. Enjeti, "A New Active Output Filter (AOF) for Variable Speed Constant Frequency (VSCF) Power System in Aerospace Applications," in *IEEE Transactions on Power Electronics*, 2017
- Analysis of Quasi-Z Source PFC Converter and its Comparison with Traditional Flyback / *IEEE 2017 International workshop on integrated power packaging (IWIPP)*, IEEE, 2017
- Tri-Port Active Bridge Power Flow and Switches' Losses Analysis under ZVS Series Resonance Operation for HEV Applications/ *(ICPEICES)*, *Power Electronics, Intelligent control and Energy Systems*. IEEE 2016
- Study and Comparison of PFC rectifiers: Quasi Z Source, Traditional Flyback (Poster) / *Qatar Foundation Annual Research Conference ARC* 2016
- The New Active Output Filter for Variable Speed Constant Frequency Aerospace Applications. Diss. 2015
- A New Active Output Filter (AOF) for Variable Speed Constant Frequency (VSCF) Power System in Aerospace Applications/ *2015 IEEE Energy Conversion Congress and Exposition (ECCE)*. IEEE, 2015
- Investigation of MPPT for PV applications by mathematical model/ *(EEEIC)*, *2015 IEEE 15th International Conference on*. IEEE, 2015
- Application of gyrator concept to control and operation of boost converter/ *(EEEIC)*, *2015 IEEE 15th International Conference on*. IEEE, 2015
- Fish Trap System/US Patent granted on 2014
- Medical Information Band/US Patent granted on 2013
- Electrical Generator Protection System/US Patent granted in 2009

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Publications Review Activity

- *Selected as a reviewer for IEEE Applied Power Electronics Conference “APEC 2022”.* (2022)
- *Committee member in publication group in Smart cities societies.* (2021)
- *Selected as a reviewer for IEEE Transaction of Transportation and Electrification.* (2020)
- *Selected as a reviewer for IEEE Journal of Emerging and Selected Topics in Power Electronics.* (2019)
- *Selected as a reviewer for IEEE Transaction of Industry Applications.* (2019)
- *Selected as publication reviewer at Global Humanitarian technology Conference for reviewing papers* (2014)

Innovation contests judge Activity

- *Selected as a judge in Raymond Idea Challenge in Texas A&M University* (2019)
- *Selected as a judge in Kuwait award for excellence and creativity in the field of science and technology* (2017)

Conference/Congress/Seminar Participations:

- IEEE Applied Power Electronics Conference “APEC 2020” (New Orleans – USA – 2020)
- 20th Workshop on Control and Modeling for Power Electronics “COMPEL” (Toronto – Canada – 2019)
- IEEE 19th Workshop on Control and Modeling for Power Electronics “COMPEL” (Padua- Italy- 2018)
- IEEE 6th International Conference on Renewable Energy Research and Applications “ICRERA” (San Diego- USA- 2017)
- IEEE 2017 International workshop on integrated power packaging (Delft – Netherlands – 2017)
- Power Electronics, Intelligent control and Energy Systems (Delhi – India – 2016)
- Qatar Foundation Annual Research Conference ARC’2016 (Doha – Qatar – 2016)
- IEEE Energy Conversion Congress & Expo (Montreal - Canada – 2015)
- Measuring Current with Negative Resistance Seminar (Texas A&M University – College Station – Texas – USA- December 2013)
- Engineering Vascular System Seminar (Texas A&M University – College Station – Texas – USA- December 2013)
- 5th IEEE GCC Conference and Exhibition (Kuwait – March 2009)
- International Invention Fair for the Middle East (November 2008)
- University’s Star Forum and Competition in the field of patents (Kuwait – October 2007)
- London International Youth Science Forum (London – UK – July 2006)
- ESI Conference (Santiago – Chile – July 2005)
- Taiwan International Science Fair (Taipei – Taiwan – January 2005)
- ESI Conference (Grenoble – France – July 2001)
- Alternative Energy Applications: Option or Necessity? (Kuwait – November 2009)
- Dubai GCC Youth Science Conference (Dubai – UAE – January 2009)
- Engineering Design Exhibition at Kuwait University (Kuwait – June 2009)
- Engineering Design Exhibition at Kuwait University (Kuwait – December 2009)
- Geneva International Invention Exhibition (Geneva – Switzerland – July 2010)
- International Invention Fair for the Middle East (November 2012)
- Power Cycle Instrumentation Seminar (Dubai - UAE - April 2013)
- Waveform Analytics to Enable Improved Reliability, Safety, & Condition Based Maintenance Seminar (Texas A&M University – College Station – Texas – USA- November 2013)

TECHNICAL TRAINING

- Power Cycle Instrumentation Training by SWAN (Dubai - UAE - April 2013)
- TDLS Training Conducted by Yokogawa Education Centre (Shiuba – Kuwait – November 2012)
- Maxum Operation Level 1 & 2 Conducted by Siemens Industry Inc.(Houston, Texas, USA – August 2012)
- Certified in Toyota Technical service Centre training (Alsayer Company – Kuwait – 2004)
- Certified in National-Panasonic Techniques service Centre training (Ardiya-Kuwait-September 2002)

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PRESTEGOUS CERTIFICATES

- Recognition letter from: His Highness the Emir of Kuwait Sheikh Sabah Al-Ahmad Al-Jabir Al Sabah to be the only Kuwaiti golden prize winner in the Geneva International Invention exhibition in Electrical Engineering Category granted on 2009
- Recognition letter from: His Highness the Crown Prince of Kuwait of Kuwait Sheikh Nawaf Al-Ahmad Al-Jaber Al-Sabah to be the only Kuwaiti golden prize winner in the Geneva International Invention exhibition in Electrical Engineering Category granted on 2009
- Recognition letter from: His Excellency Jassim Al-Kharafi the former speaker of the National Assembly of Kuwait (Majles Al-Ummah) to be the only Kuwaiti golden prize winner in the Geneva International Invention exhibition in Electrical Engineering Category granted on 2009

CERTIFICATES

- Certificate from PAAET for passing of Methods of Scientific Research course on April 2017
- Certificate from Kuwait Foundation for Advancement of Science for passing AAAS Developing Competitive Research Proposals course December 2016
- The European Business Competence License Course (The Chamber of Commerce & Industry – Kuwait – January to March 2012)
- Innovative thinking Course (EQUATE Petrochemicals – Kuwait – January 2013)
- Organization Structure & Work Ethics & Behavior Course (Kuwait Fund for Arab & Economic Development – Kuwait – August 2010)
- Report Writing Course (Kuwait Fund for Arab & Economic Development – Kuwait – July 2010)
- Health, Safety & Environment in engineering Projects Course (Kuwait Fund for Arab & Economic Development – Kuwait – August 2010)
- Negotiation Skills Course (Kuwait Fund for Arab & Economic Development – Kuwait – August 2010)
- Primavera Program Course (Kuwait Fund for Arab & Economic Development – Kuwait – September 2010)
- Teamwork & Team Building course (Kuwait Fund for Arab and Economic Development – Kuwait – June 2010)
- Communication & Presentation Skills course (Kuwait Fund for Arab & Economic Development – Kuwait – June 2010)
- Self & Time Management Course (Kuwait Fund for Arab & Economic Development – Kuwait – June 2010)
- Feasibility Study & Business Planning Course (Kuwait Fund for Arab & Economic Development – Kuwait – June 2010)
- Finance for non-Financials Course (Kuwait Fund for Arab & Economic Development – Kuwait- July 2010)
- Problem Solving & Decision Making Course (Kuwait Fund for Arab & Economic Development – Kuwait - July 2010)
- Value Engineering Course (Kuwait Fund for Arab & Economic Development – Kuwait – July 2010)
- ICDL Certificate of attendance and successfully passed all tests (Kuwait 2005)

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HONORS / AWARDS

- Honored to be selected to represent Kuwait in the field of invention in expo Dubai 2021
- Co-author in best presentation award in APEC 2021 Conference for A paper titled “A Single-Phase GaN Totem-Pole PFC with Active Power Decoupling”
- Participated in COVID HERO prize given to Dr.Enjeti’s Power Quality Lab for preparing an online lab platform for Power electronics class in Texas A&M University
- Recognition from PAAET for Participating in ABET accreditation and achieving three strength points comments with no observation comments
- Recognition from PAAET for publishing a Q1 type journal
- Selected as a committee member for Kuwait award for excellence and creativity in the field of science and technology on 2017
- Texas A&M golden key honor student
- Texas A&M golden key honor student Golden key society member
- Texas A&M honor society member
- Reached the top 40 finals in Raymond Idea Challenge competition that is organized by Mays Business school in Texas A&M University in two consecutive years (2014 and 2015)
- Honorary M.Sc. scholarship from Public Authority of Advices Education on 2013
- Honorary Golden Medal from Kuwait Foundation for Advanced Sciences 3rd prize in IIFME Exhibition for my project Medical Info Watch and Silver Medal in my project Fish Trap System on 2012
- Golden Medal in the Field of Electrical Inventions in Geneva International Science Exhibition a Full Show case for U.S Patent Portable Electric Generator- Geneva, Switzerland on 2009
- First Prize in the field of Inventions and the Second Prize in the field of Research in G.C.C. Youth Science Conference developing a control system and interface for the Portable Electric Generator- Dubai/UAE on 2009
- Third Award in Taiwan International Youth Science Fair for Developing Special Design of Portable Electrical Generator- Taiwan on 2009
- Second Prize in University’s Star Competition in the field of patents in Kuwait University for Designing Generator Prototype in a showcase competition-Kuwait on 2007

SKILLS

- Programs: All Microsoft Office Applications: (Advanced), MATLAB (Intermediate), Lab View (Intermediate), Visual Basic (Intermediate), Assembly (Intermediate), PSIM (Advanced), PLECS (Advanced), PSPICE (Intermediate), Altium designer (Intermediate), Hardware-In-The-Loop Software
- Project Management

Languages:

- Fluent in English and Arabic

REFERENCES

- **Dr.Prasad Enjeti**- “Previously” Associate Dean for Undergraduate Programs-Texas A&M University – College Station – Texas-USA. E-mail: enjeti@tamu.edu Mobile: 9792048573
- **Eng.Bala Elamran** – Vice President Operations at Alkout Industrial Projects (Previously: Process Automation & Analyzer Team Leader at Equate Petrochemical Company –Shuiba –Kuwait – Email : Suguna.elamran@gmail.com Mobile: +96599685326
- **Dr.Abdurahman Alothman** - Cultural Counselor / Director of Kuwait Cultural Office in Ireland. E-mail: ak.alothman@paaet.edu.kw
- **Dr. Ayman AL-Zayed** – Professor at Kuwait University - Email : ayman.alzayed@ku.edu.kw
- **Mohamad F. AlHajri** – Associate Professor (Previously Electrical Engineering department head) at college of technological studies- Kuwait – Email : mf.alhajri@paaet.edu.kw
- **Dr. Bader AlAjmi** – Associate Professor & Currently Electrical Engineering department head at college of technological studies- Kuwait – Email : bn.altaweel@paaet.edu.kw