

Ahmed Hamidalddin

Lecturer of Electrical Engineering
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EDUCATION

- **MSc in Electrical Engineering** **2009 – 2011**
 USC Viterbi School of Engineering, University of Southern California
- **BSc in Electrical Engineering** **2002 – 2007**
 College of Engineering and Physics, King Fahd University of Petroleum and Minerals

CURRENT POSITION

Lecturer of Electrical Engineering **August 2019 – Current**
 College of Engineering – Alfaisal University, Riyadh, Saudi Arabia

TEACHING EXPERIENCE

- | | |
|--|---|
| - EE 420: Power Electronics | - EE 420 L: Power Electronics Lab |
| - EE 413: Digital Communications | - EE 413 L: Digital Communication Lab |
| - EE 307: Computer Architecture | - EE 307 L: Computer Architecture Lab |
| - EE 304: Microelectronics | - EE 305 L: Computer Networks Lab |
| - EE 303: Introduction to Electronics | - EE 304 L: Microelectronics Lab |
| - EE 209: Applied Electromagnetics | - EE 303 L: Introduction to Electronics Lab |
| - EE 207: Foundations of Electrical Eng. | - EE 302 L: Communication Theory Lab |
| - EE 440 L: Machine Learning Lab | - EE 210 L: Digital Logic Lab |

RESEARCH EXPERIENCE

- **Robotic Work and Exercise Environment (Co-investigator)** **2022 – 2023**
 Designing a social robotic system to motivate posture improvement and physical movement or meditation in an office environment.
 Recipient of the Internal Research Grant, amount of 50,000SR.
- **Mixed Reality Applications for Dyslexia (Co-investigator)** **2021 – 2022**
 Designing mixed reality applications providing screening for specific learning difficulties (SpLDs) with a specific focus on Dyslexia in the Arabic language.
 Recipient of the Internal Research Grant, amount of 50,000SR.

SERVICE & COMMUNITY OUTREACH

Supervisor, Advisor, Counselor and Manager:

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|---|-------------|
| - Manager, EE Design and Innovation Laboratory | since 2019 |
| - Coordinator, EE program capstone | 2021 – 2022 |
| - Capstone project supervisor: 'Processing EEG-based BCI Signals' | 2021 – 2022 |
| - Counselor, the Alfaisal University IEEE Student Chapter | since 2021 |
| - Advisor, Electrical Engineering class of 2024 | since 2020 |
| - Reviewer, Boeing Student Competition | since 2020 |
| - Judge, Annual Research Day | since 2020 |

Committees Memberships:

- Quality Assurance and Accreditation Committee since 2021
- Internship Committee: coordinator for EE since 2021
- Laboratories & Facilities Committee 2020 – 2021
- Capstone Committee 2019 – 2021
- Library & Professional Development Committee 2020 – 2021
- Scheduling Committee since 2021
- ABET accreditation contributor, recognized by University President 2019 – 2021

PREVIOUS EXPERIENCE**Research Engineer****2007 – 2019**

King Abdulaziz City for Science and Technology (KACST), Riyadh, Saudi Arabia

- Design of experiments for solid state and electronic nano-structure devices.
- Operation and management of fabrication and characterization equipment and tools.
- Research project management and administration.
- Publication, and other scientific communication.
- Highlighted projects include:
 - o Photoacoustic Spectroscopy Using III-V Lasers for gas detection, in collaboration with MIT 2007 – 2009
 - o UV LEDs and Laser Converters, in collaboration with the Belarus National Academy of Sciences 2012 – 2014
 - o High efficacy LED Lighting Using Gallium Nitride, in collaboration with UCSB 2014 – 2017

PUBLICATIONS

1. Lutsenko, E.V., A.G. Voinilovich, N.V. Rzhetskii, V.N. Pavlovskii, G.P. Yablonskii, S.V. Sorokin, S.V. Gronin, I.V. Sedova, Petr S. Kop'ev, Sergei V. Ivanov, M. Alanzi, A. Hamidalddin, and A. Alyamani. **"Optically Pumped Quantum-dot Cd(Zn)Se/ZnSe Laser and Microchip Converter for Yellow—green Spectral Region."** *Quantum Electronics* 43.5 (2013): 418-22.
2. Lutsenko, E.V., M.V. Rzhetskii, V.N. Pavlovskii, G.P. Yablonskii, M. Alanzi, A. Hamidalddin, A. Alyamani, C. Mauder, H. Kalisch, B. Reuters, M. Heuken, A. Vescan, G. Naresh-Kumar, and C. Trager-Cowan. **"Optical and Structural Properties of GaN Epitaxial Layers on LiAlO₂ Substrates and Their Correlation with Basal-plane Stacking Faults."** *Journal of Crystal Growth* 434 (2016): 62-66.

PATENT

1. Evgenii Lutsenko, Aliaksei Vainilovich, Viacheslav Pavlovskii, Gennadii Yablonskii, Ahmed Alyamani, Salman A Alfihed, Ahmed Alabbas Hamidalddin, Sergey Ivanov, Irina Sedova, Sergei Sorokin, and Sergei Gronin, **"Laser Converter for Emitting a Green Laser"** *US Patent no. US9042419 B1*, May 26, 2015.

SKILLS AND INTERESTS

- Design and fabrication of nanostructures, including semiconductor and solid-state devices and systems, such as microelectronics, photonics (lasers and LEDs), and energy conversion devices.
- Complex fabrication techniques, including thin film deposition methods:
 - o Physical deposition: Pulsed Laser Dep. (PLD), Molecular Beam Epi. (MBE).
 - o Chemical deposition: Chemical Vapor Deposition (CVD).
- Clean room processing, including photolithography, etching, oxidation, spin coating, and packaging.
- Characterization methods, including XRD, SEM, AFM, and profilometer, and other electronic and optical techniques.
- Spectroscopy, including electromagnetic (absorption, emission) and acoustic.
- Computing and development environments, programming languages, and CAD applications, including MATLAB, Mathematica, LABVIEW, Python, Java, SPICE..
- Design of experiments, data science, modeling with machine learning, and statistical and data analysis.
- Scholarly writing for publications, presentations, and reports.
- Academic instruction, mentoring, advisory and assessment.
- Course and laboratory preparation and development.
- Academic compliance, accreditation, development, and leadership.
- Laboratory development: initiation, operation, and continuous improvement.

CERTIFICATES

- **Artificial Intelligence Analyst - Mastery Award Badge** by IBM Skills Academy
- **LABVIEW Intermediate I & II, and Data Acquisition Using NI-DAQmx** by NI
- **Project Management Professional (PMP)** by PMI
- **Lean Six Sigma Green Belt (CL6SGB)** by AIQM, accredited by ASCB(E)
- **Training of Trainers**, accredited by TVTC