

# BELAL AHMED HAMIDA



- KULLIYAH OF ENGINEERING
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## ACADEMIC QUALIFICATION

- Engineering (Computer/Telecommunication)
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## TEACHING RESPONSIBILITIES

CIRCUIT ANALYSIS	2019/2020 2020/2021
ELECTRICAL ENGINEERING LAB	2016/2017 2017/2018 2018/2019 2019/2020 2020/2021
ELECTRONICS	2014/2015 2015/2016 2016/2017 2017/2018 2018/2019 2019/2020 2020/2021
ENGINEERING LAB II	2014/2015 2015/2016 2016/2017
FINAL YEAR PROJECT 1	2019/2020
FINAL YEAR PROJECT I	2019/2020
Final Year Project II	2020/2021
OPTICAL COMMUNICATIONS	2017/2018
PROGRAMMING FOR ENGINEERS	2015/2016 2016/2017 2017/2018
PROJECT I	2018/2019
PROJECT II	2020/2021

## RESEARCH PROJECTS

### In Progress

- |                       |   |
|-----------------------|---|
| <b>2016 - Present</b> | Modelling and Optimisation of Stepped Waveform Generation for Multilevel Inverters Topology Applications  |
| <b>2016 - Present</b> | Development, Testing and Field Evaluation of Physical Intrusion Detection Alarm-cum-Office/Home Automation System Utilizing Radio Frequency Signals Energy for Indoor Environment Use |

**2015 - Present** Proposing with Analysis a Multi-Level Inverter Using Optimized Pulse-Width-Modulation Approach with Reduced Harmonics and Switching Losses

**Completed**

**2016 - 2019** Modelling and Optimisation of Stepped Waveform Generation for Multilevel Inverters Topology Applications

**2016 - 2019** Development, Testing and Field Evaluation of Physical Intrusion Detection Alarm-cum-Office/Home Automation System Utilizing Radio Frequency Signals Energy for Indoor Environment Use

**2015 - 2017** Optimizing Dual-Loop Optical Microfiber Sensor Structure for Humidity Monitoring

**2015 - 2019** Proposing with Analysis a Multi-Level Inverter Using Optimized Pulse-Width-Modulation Approach with Reduced Harmonics and Switching Losses

**PUBLICATIONS**

**Article**

- 2020** [Design and dimensional analysis of interdigital sensor for blood glucose measurement through non-invasive method.](#) Journal of Advanced Manufacturing Technology , 14 (1) pp.1-9
- 2019** [Investigation of output power in ring CW fiber laser using graphene saturable absorber.](#) Bulletin of Electrical Engineering and Informatics , 8 (3) pp.1022-1027
- 2019** [A novel optimization harmonic elimination technique for cascaded multilevel inverter.](#) Bulletin of Electrical Engineering and Informatics , 8 (2) pp.405-413
- 2019** [Wideband and flat gain series erbium doped fiber amplifier using hybrid active fiber with backward pumping distribution technique.](#) Results in Physics , 13 pp.1-6
- 2018** [Comparison of selective harmonic elimination and SPWM techniques for unipolar inverters.](#) International Journal of Engineering & Technology , 7 (4) pp.6626-6630
- 2018** [Reduction of four-wave mixing in DWDM system using electro-optic phase modulator.](#) International Journal of Electrical and Computer Engineering (IJECE) , 8 (4) pp.2384-2389
- 2018** [Black phosphorus saturable absorber for pulse generation using Q-switched technique.](#) Indonesian Journal of Electrical Engineering and Computer Science , 11 (1) pp.36-40
- 2017** [Relative humidity sensing using a PMMA doped Agarose gel microfiber.](#) Journal of Lightwave Technology , 35 (18) pp.3940-3944
- 2017** [Q-switched erbium-doped fibre laser based on molybdenum disulfide and tungsten disulfide as saturable absorbers.](#) Ukrainian Journal of Physical Optics , 18 (1) pp.20-27
- 2017** [A systematic literature review on necessity, challenges, applications and attacks of watermarking relational database.](#) Journal of Telecommunication Electronic and Computer Engineering (JTEC) , 9 (1-3) pp.101-108

- 2017** [Analysis of hardware architecture Markovian Chain Queuing model for wireless sensor networks.](#) International journal of future generation communication and networking , 10 (1) pp.211-232
- 2017** [An adiabatic silica taper based on two sequential tapering routines.](#) Journal of Optoelectronics and Advanced Materials , 19 (9-10) pp.567-574
- 2017** [Passively Q-switched erbium-doped fiber laser based on graphene oxide as saturable absorber.](#) Journal of Optical Communications , 37 pp.01-04
- 2016** [Flat-gain wide-band erbium doped fiber amplifier with hybrid gain medium.](#) Optik , 127 (5) pp.2481-2484
- 2016** [Survey on relational database watermarking techniques.](#) ARPN Journal of Engineering and Applied Sciences , 11 (1) pp.421-432
- 2016** [Optimizing tapered microfiber sensor design and simulation.](#) ARPN Journal of Engineering and Applied Sciences , 11 (1) pp.449-452
- 2016** [A zero-distortion fragile watermarking scheme to detect and localize malicious modifications in textual database relations.](#) Journal of Theoretical and Applied Information Technology , 84 (3) pp.404-413
- 2015** [Mode-locked 2 \$\mu\$ m fiber laser with a multi-walled carbon nanotube as a saturable absorber .](#) Chinese Optics Letters , 13 (3) pp.030602-1
- 2015** [Flat-gain wide-band erbium doped fiber amplifier by combining two difference doped fibers.](#) Journal of the European Optical Society , 10 pp.15015-1
- 2015** [On the issue of fly-back spikes in PWM operated single-phase transformer-less grid-tied inverter.](#) MAGNT Research Report , 3 (5) pp.1-5
- 2015** [Passively Q-switched fiber lasers using a multi-walled carbon nanotube polymer composite based saturable absorber.](#) Optik International Journal for Light and Electron Optics , 126 (21) pp.1950-2954
- 2014** [All-fibre dual-wavelength thulium-doped fibre laser based on spatial filtering effect.](#) Ukrainian Journal of Physical Optics , 15 (2) pp.79-83
- 2014** [All-fiber dual-wavelength fiber laser operating at 1950 nm region based on multimode interference effect.](#) Optoelectronics and Advanced Materials, Rapid Communications , 8 (11-12) pp.1035-1038
- 2013** [A q-switched thulium-doped fiber laser with a graphene thin film based saturable absorber.](#) Laser Physics , 23 (11) pp.1-5
- 2013** [A Q-Switched thulium-doped fiber laser with a graphene thin film-based saturable absorber.](#) Laser Physics (International Journal) , 23 (11) pp.1-5
- 2012** [Compact and wide-band bismuth-based erbium-doped fibre amplifier based on two-stage and double-pass approaches.](#) IET Optoelectronics , 6 (3) pp.127-130
- 2012** [Optical amplifier with flat-gain and wideband operation utilizing highly concentrated erbium-doped fibers.](#) Journal of Nonlinear Optical Physics and Materials , 21 (1)

- 2012 [Wideband and flat-gain amplifier based on high concentration erbium-doped fibres in parallel double-pass configuration.](#) Quantum Electronics , 42 (3) pp.241-243
- 2012 [Wideband and compact erbium-doped fiber amplifier using parallel double-pass configuration.](#) Microwave and Optical Technology Letters , 54 (3) pp.629-637
- 2011 [67 cm long bismuth-based erbium doped fiber amplifier with wideband operation.](#) Laser Physics Letters , 8 (11) pp.814-817
- 2011 [A novel wide-band dual function fiber amplifier.](#) International Journal of Physical Sciences , 6 (5) pp.1118-1126
- 2011 [Highly efficient short length Bismuth-based erbium-doped fiber amplifier.](#) Laser Physics (International Journal) , 21 (10) pp.1793-1796
- 2011 [Review of erbium-doped fiber amplifier.](#) International Journal of the Physical Sciences , 6 (20) pp.4674-4689

#### **Conference or Workshop Item**

- 2020 [Investigation of Q-switched and mode-locked erbium-doped fiber laser using graphene oxide-saturable absorber.](#) In: **14th IEEE Malaysia International Conference on Communication, MICC 2019; Selangor; Malaysia**
- 2018 [Effect of duty cycle on THD for multilevel inverter based on selective harmonic elimination technique.](#) In: **2018 7th International Conference on Computer Communication Engineering (ICCCE2018)**
- 2018 [The effect of different coupling in ring CW fiber laser using graphene saturable absorber.](#) In: **7th International Conference on Computer and Communication Engineering (ICCCE) 2018**
- 2017 [Fabricate optical microfiber by using flame brushing technique and coated with polymer polyaniline for sensing application.](#) In: **International Technical Postgraduate Conference**
- 2017 [Black phosphorus saturable absorber for Q-switched technique pulse generation.](#) In: **4th IEEE International Conference on Smart Instrumentation, Measurement and Applications (ICSIMA) 2017**
- 2017 [A comparative study between SPWM and SHE-PWM modulation techniques for DC-AC inverters.](#) In: **IEEE 3rd International Conference on Engineering, Technologies and Social Sciences 2017 (ICETSS-2017)**
- 2017 [Selective harmonics elimination technique in single phase unipolar H-bridge inverter.](#) In: **14th Student Conference on Research and Development, IEEE (SCOReD2016)**
- 2017 [Phased array antenna metamaterial based design operating in millimeter wave for 5G mobile networks.](#) In: **14th Student Conference on Research and Development, IEEE (SCOReD2016)**
- 2016 [Modulation optimization effect on total harmonic distortion of single phase H-bridge inverter based selective harmonics E limination technique.](#) In: **6th International Conference on Computer and Communication Engineering (ICCCE 2016)**

- 2016 [Effect of modulation index of pulse width modulation inverter on total harmonic distortion for sinusoidal.](#) In: **International Conference on Intelligent Systems Engineering**
- 2016 [Effect of modulation index of pulse width modulation inverter on total harmonic distortion for sinusoidal.](#) In: **"International Conference on Intelligent Systems Engineering, ICISE 2016"**
- 2014 [Multi premises network based on spectral amplitude coding optical CDMA systems.](#) In: **The 16th International Conference on Advanced Communication Technology (ICACT 2014)**
- 2013 [All-fiber graphene passively q-switched nanosecond thulium doped fiber laser at 1900 nm.](#) In: **2013 IEEE International Conference on Smart Instrumentation, Measurement and Applications, ICSIMA 2013**
- 2013 [Broadband services to the end users.](#) In: **AES 2013, 2nd Advanced Electromagnetics Symposium**
- 2013 [Multi premises network based on coding technique.](#) In: **11th Malaysia International Conference on Communications, MICC 2013**
- 2012 [Flat-gain single-stage amplifier using high concentration erbium doped fibers in single-pass and double-pass configurations.](#) In: **2012 The International Symposium on Photonics and Optoelectronics (SOPO 2012)**
- 2012 [Wideband and flat-gain amplifier using high concentration Erbium doped fibers in series double-pass configuration.](#) In: **2012 International Conference on Computer and Communication Engineering, ICCCE 2012**
- 2010 [Theoretical analysis of triple-pass erbium-doped fiber amplifier.](#) In: **International Conference on Computer and Communication Engineering, ICCCE'10**
- 2010 [A computer based simulator for Erbium-Doped Fiber Amplifier.](#) In: **International Conference on Computer and Communication Engineering**

**Book  
Book Section**