

**Professional Address**

Electronics and Communications Engineering Department,  
Arab Academy for Science, Technology and Maritime Transport,  
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**Personal Address**

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**Mohamed Abaza**  
**(Electronics and Communications Engineer)**  
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**Personal Data**

**Date of Birth:** 1-10-1987

**Nationality:** Egyptian

**Marital Status:** Married

**Education**

**October 2012 - December 2015: Ph.D. in Digital Communications, l'Université de Bretagne Occidentale, Brest, France.**

Thesis title: Cooperative MIMO Techniques for Outdoor Optical Wireless Communication Systems.

Supervisors:

Prof. Ali Mansour, ENSTA Bretagne, Brest, France.

Dr. Raed Mesleh, German Jordanian University, Jordan.

**Grade: Tres Honorable**

**October 2009 – March 2012: Master of Science, Electronics and Communications Engineering, Arab Academy for Science, Technology & Maritime Transport (AAST), Cairo, Egypt.**

Thesis title: Performance Analysis of Free-Space Optical Communication Systems in Turbulent Channels.

Supervisor: Prof. Moustafa Hussien, AAST, Egypt.

**Grade Point Average (GPA): 4.00/4.00**

**September 2004 – July 2009: Bachelor of Science, Electronics and Communications Engineering, AAST, Cairo, Egypt.**  
**Excellent with Honor, GPA 3.89/4.00 (4<sup>th</sup> in class)**

## Language

- Arabic: Mother Tongue
- English: Fluent
- French: Fair

## Computer Skills

- Microsoft Office and Latex.
- Maple and MATLAB/Simulink.
- Pspice

## Research Interests

- Multiple-input multiple-output systems
- Relay-assisted cooperative communications
- Optical wireless communications

## Publications

### Books

- [1] **M. Abaza**, N. Azzam, and M. Aly, Free-Space Optical Communication Systems in Turbulent Channels, Lambert Academic Publishing, Saarbrucken, Germany, 2012.

### Journals

- [1] A. Mansour, R. Mesleh, and **M. Abaza**, "New Challenges in Wireless & Free Space Optical Communications" **Optics and Lasers in Engineering**, vol. 89, pp. 95–108, Feb. 2017.
- [2] **M. Abaza**, R. Mesleh, A. Mansour, and E.-H. M. Aggoune, "Performance analysis of space shift keying over negative exponential and log-normal FSO channels," **Chinese Optics Letters**, vol. 13, no. 5, May 2015.
- [3] **M. Abaza**, R. Mesleh, A. Mansour, and E.-H. M. Aggoune, "Performance Analysis of MISO Multi-Hop FSO Links Over Log-Normal Channels with Fog and Beam Divergence Attenuations," **Elsevier Optics Communications**, vol. 334, pp. 247–252, Jan. 2015.
- [4] **M. Abaza**, R. Mesleh, A. Mansour, and E.-H. M. Aggoune, "Diversity techniques for a free-space optical communication system in correlated log-normal channels," **SPIE Optical Engineering**, vol. 53, no. 1, pp. 1–6, Jan. 2014.

- [5] A. Tamam, M. Ben-Esmael, **M. Abaza**, “Current feedback op-amp utilizes new current cell to enhance the CMRR”, **Journal of Circuits, Systems and Computers**, vol. 21, no. 5, May, 2012.
- [6] **M. Abaza** and K. Kiasaleh, “Erratum to Performance of APD-Based, PPM Free-Space Optical Communication Systems in Atmospheric Turbulence”, **IEEE Transactions on Communications**, vol. 59, no. 9, pp. 2638-2639, September 2011.
- [7] N. Mohammed, **M. Abaza**, and M. Aly, “Improved Performance of M-ary PPM in Different Free-space Optical Channels due to Reed Solomon Code Using APD”, **International Journal of Scientific & Engineering Research**, vol. 2, no. 4, pp. 82-85, April 2011.

### Conferences

- [1] **M. Abaza**, R. Mesleh, A. Mansour, and E.-H. M. Aggoune, “Relay selection for full-duplex FSO relays over turbulent channels,” **in Proceedings of 16th IEEE International Symposium On Signal Processing and Information Technology**, Limassol, Cyprus, Dec. 12–14, 2016, pp. 103–108.
- [2] **M. Abaza**, R. Mesleh, A. Mansour, and E.-H. M. Aggoune, “The performance of space shift keying for free-space optical communications over turbulent channels,” **in Proceedings of SPIE OPTO**, San Francisco, USA, Feb. 7–12, 2015.
- [3] **M. Abaza**, R. Mesleh, A. Mansour, and E.-H. M. Aggoune, “Spatial diversity for FSO communication systems over atmospheric turbulence channels,” **in Proceedings of IEEE Wireless Communications and Networking Conference**, WCNC’14, Istanbul, Turkey, Apr. 6–9, 2014.
- [4] **M. Abaza**, R. Mesleh, A. Mansour, and E.-H. M. Aggoune, “Spatial diversity and multi hop in FSO communication over turbulence channels,” **in Proceeding of 2nd Symposium on Wireless Sensor and Cellular Networks**, WSCN’13, Jeddah, Saudi Arabia, Dec. 13–16, 2013.
- [5] **M. Abaza**, R. Mesleh, A. Mansour, and A. Alfalou, “MIMO techniques for high data rate free space optical communication system in log-normal channel”, **in Proceeding of the international conference on Technological Advances in**

**Electrical, Electronics and Computer Engineering**, TAECE, pages 1-5, Konya, Turkey, May 9-11, 2013.

- [6] **M. Abaza**, N. Mohammed, and M. Aly, “BER Performance of M-ary PPM Free-Space Optical Communications with Channel Fading”, in **Proceeding of the 8th international Conference on High Capacity Optical Networks & Enabling Technologies**, HONET 2011, Riyadh, Saudi Arabia, December 2011, pp. 111–115.

### Awards

- Listed in Marquis Who's Who in the world 2012 and 2014.
- PhD project is funded by Sensor Networks and Cellular Systems (SNCS) Research Center, Tabuk University, Tabuk, Kingdom of Saudi Arabia 2012.
- AAST award for publishing in high ranked journals (2012 & 2017).
- Final Project Participation with Students: Design and Implementation of an Encryption Algorithm for SDR on an FPGA. (Selected by Information Technology Industry Development Agency (ITIDA) to be funded) (2010).
- AAST Master Degree tuition award (2009).

### Posters

- a. **M. Abaza**, R. Mesleh and A. Mansour. Cooperative MIMO techniques for Indoor and Outdoor Wireless Optical Communication Systems. Telecom Bretagne, Brest, France, Jul. 4, 2013.
- b. **M. Abaza**, R. Mesleh, A. Mansour, and A. Alfalou. Free-Space Optical Communication Systems in Turbulent Channels. In Proceeding of WSCN, Tabuk, KSA, Dec. 15-18, 2012.

## Teaching Experience

➤ **(January 2016 – Present) Assistant Professor: Electronics and Communications Engineering, AAST, Giza, Egypt.**

I. Teaching Courses Expertise (undergraduate courses)

- Optical Communications
- Measurement & Instrumentations
- Electronic Materials
- Introduction to Communication Systems
- Statistical Communication Theory
- Introduction to Digital Communications
- Advanced Communication Systems
- Signals and Systems

II. Teaching Courses Expertise (postgraduate courses)

- Optical Communications

III. Projects

- Free-Space Optical Communications Hardware Demonstrator
- Smart Museum Using Visible Light Communications
- Vehicle to Vehicle Optical Communications

IV. Quality Assurance Committee Expertise

- Apply and Confirm ABET Standards
- Apply and Confirm Supreme Council of Egyptian Universities Standards
- Apply and Confirm Strategic Plan of my University

V. Student Academic Advisor

VI. Development of Department Labs

VII. Head of Website Development of the Campus

VIII. Head of Schedule Committee of the College

IX. Faculty Mobility

- Laboratoire IPCMS, Université de Strasbourg, Strasbourg, France (27-11-2017 to 1-12-2017).

➤ **(September 2009 – December 2012) Teaching Assistant and Research Assistant: Electronics and Communications Engineering, AAST, Cairo, Egypt.**

I. Teaching Courses Expertise

- Signals and Systems (lab)
- Device 2 (lab)
- Electronics (lab)
- Introduction to Digital Communications (lab)
- Analog Signal Processing (lab)

- Advanced Communications Systems (tutorial + lab)
- Optical Communications (tutorial)

## II. Quality Assurance Committee Expertise

- Apply and Confirm ISO Standards
- Apply and Confirm ABET Standards
- Apply and Confirm IET Standards

## III. Projects

- **December 2011 – July 2013:** Design and Implementation of AM Transmitter and Receiver works at 50 MHz.
- **November 2013 – June 2014:** Design and Simulation of Weather Effect for Free Space Optical Communications in lab.

## IV. Student Academic Advisor

### **Research Experience**

- **(December 2012 – August 2015) Research Assistant: Sensor Networks and Cellular Systems (SNCS) Research Center, University of Tabuk, Kingdom of Saudi Arabia.**
  - Organization Committee of the symposium of WSCN 2012, Tabuk, KSA from 15-18 December 2012.
  - Organization and technical Committee of the WSCN 2013, Jeddah, KSA from 13-16 December 2013.
  - Member of visible light communication research group.

### **Reviewer**

He is serving as a reviewer for IEEE, SPIE, OSA, Elsevier and Hindawi Communication Society's journals. He is also a reviewer for many IEEE conferences. He has participated as an external reviewer for the regular competition of national fund for scientific and technological development (FONDECYT) of the Chilean national commission for scientific and technological research (CONICYT) of 2015.

### **Google Scholar**

<https://scholar.google.com/citations?user=MNfgt0YAAAAJ&hl=en>

### **Membership**

- Student Member, IEEE (USA). ID: 90528174
- Student Member, OSA (USA). ID: 1020277
- Egyptian Engineering Syndicate Member. ID: 79/07298

## References

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2. **Prof. el-Hadi Aggoune**  
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3. **Dr. Raed Mesleh**  
*Vice Dean, School of Electrical Engineering and Information Technology  
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4. **Prof. Moustafa Aly**  
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5. **Prof. Said E. El-Khamy, Life Fellow IEEE**  
*Dept. of Electrical Engineering, Faculty of Engineering, Alexandria University.  
Chairman, National Communications & Radio Science Committee,  
Chairman, IEEE Egypt/Alexandria Subsection  
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