

Alaa Mohamed Ahmed Ali Hediya

M.Sc, Zagazig University, Zagazig, EGYPT.

Assistant Lecturer.

Department of Electronics and Communications Engineering,
Zagazig Higher Institute of Engineering and Technology, Zagazig, Egypt,
Telephone:002-0504955615, Cell: 002-01201573615, 002-01554438820
E-Mail: alaahediya@gmail.com.



Curriculum Vitae

Personal Details	
• Marital status	• Single
• Nationality	• Egyptian
• Languages	• Arabic, English
• Date of Birth	• 1994
Positions History	
<u>Sep. 2017 – Sep2022</u> Teaching Assistant and Lab Instructor Zagazig Higher Institute of Engineering and Technology, Zagazig, Egypt.	
<u>Sep. 2022 – Till Now</u> Assistant Lecturer and Lab Instructor Zagazig Higher Institute of Engineering and Technology, Zagazig, Egypt.	
Educational Qualifications	
<u>Doctor of Philosophy (Ph.D.)</u> <ul style="list-style-type: none">• Registered the Ph.D. topic: Analysis and Design of Microwave Imaging System with Deep Learning Algorithm for Breast Cancer Detection, 1/10/2023, Zagazig university, Egypt.• passed the Ph. D. advanced courses exam with GPA (3.9), 27/7/2023, Zagazig university, Egypt.• passed the Ph. D. basic courses exam with GPA (3.9), 18/2/2023, Zagazig university, Egypt.	
<u>Master of Science (M.Sc.), (22/8/2022)</u> <ul style="list-style-type: none">• Electronics and Communications Engineering, Zagazig University, Zagazig, Egypt.• Thesis Title: Design of high-efficiency low-SAR antenna for mobile communication.• Period: 2018-2022.• passed the M.Sc. basic courses exam with GPA (3.7), May 2018, Zagazig university, Egypt.	
<u>Bachelor of Science (B.Sc.), (May 2017)</u> <ul style="list-style-type: none">• Zagazig Higher Institute of engineering and technology, Communications and Electronics Engineering.• very good (B+), with GPA (3.6), and percentage (90%).• Period: 2012-2017.	

Graduation project

- Project Grade: excellent (A+), GPA (4).
- Project Title: Four-legged walking robot with multiple uses and android control.

Research

Research Interests:

- Design of High-Performance Multi-Antenna Applications
- Design of Intelligent RF Transceivers for 5G communications
- Characterization of Microwaves Devices, Circuits and Systems
- Microwave Imaging
- Applications Microwaves Engineering in Industrial and Medical Applications
- Computational Electromagnetics
- SAR Reduction Techniques
- Microwave scattering

Metrics:

(Based on **Google Scholar**)

- Total number of citations: **12**
- H-index: **3**

Google Scholar:

<https://scholar.google.com/citations?user=JQrnGtIAAAJ&hl=ar>

List of Publication

Journal Papers

- 1- Alaa M Hediya, Ahmed M Attiya, and Walid S. El-Deeb, "5G MIMO Antenna System Based on Patched Folded Antenna with EBG Substrate," Progress In Electromagnetics Research M - (PIER M), vol. 109, pp. 149-161, Mar. 2022.
- 2- Alaa M Hediya, Ahmed M Attiya, and Walid S. El-Deeb, "Reduction of Specific Absorption Rate: A Review Article," The Egyptian International Journal of Engineering Sciences and Technology, vol. 39, pp. 80-96, Jun. 2022.
- 3- Alaa M Hediya, Ahmed M Attiya, and Walid S. El-Deeb, "Multiple-Input Multiple-Output Antenna for Sub-Six GHz 5G Applications Using Coupled Folded Antenna with Defective Ground Surface " Progress In Electromagnetics Research C - (PIER C), vol. 114, pp. 13-29, Mar. 2021.

Conference Papers

- 1- Alaa Hediya, Ahmed M. Attiya, and Walid S. El-Deeb "New Design of High-Efficiency Low-SAR Coupled Folded Antenna for 5G Applications", Proceeding of IEEE 2020, International Japan-Africa Conference on Electronics, Communications and Computations (JAC-ECC), (Online Virtual Conference), Egypt, Dec. 14-15, 2020.

Training Courses

- **PV System Design** “At Egyptian Foundation for Renewable Energy Academy (EFRE green)”, from 30/07/2015 to 01/09/2015.
- **Classic Control Basic Applications** “At JELECOM, Zagazig university “from 16/08/2016 to 01/09/2016.
- **SolidWorks program** “At Harvest Education Center “from 08/02/2017 to 04/03/2017.
- **TOEFL Review Course, score 502**, from 14/10/2018 to 04/11/2018.
- **Learn the methods of scholarly writing and international publishing** “ At Communication and Information Technology Center, Zagazig University “, Oct 2018.
- **MICIT course** “At MKCLS International Certificate in Information Technology “, 20/01/2019.
- **Using international databases, managing and organizing scientific references, and avoiding citations**, “At Communication and Information Technology Center, Zagazig University “, 19-20/09/2019.
- **TOEFL Review Course, score 513** from 27/5/2023 to 17/06/2023.
- **Fundamentals of digital transformation**, “At Communication and Information Technology Center, Zagazig University “, from 22/7/2023 to 24/7/2023.
- **International publication of scientific research**, “At Communication and Information Technology Center, Zagazig University “, from 15/7/2023 to 17/7/2023.

Teaching Experience

➤ Supervision

- **Graduation projects at Zagazig Higher Institute of Engineering and Technology, Egypt.**
- Design and Implementation of Multiband Microstrip Patch Antenna, 2023.
- Arduino Radar Model using Ultrasonic Sensor for Detection and Ranging, 2022.
- Design and Implementation High Efficiency Cube Sat Antenna, 2021.

➤ Teaching the following courses for the Undergraduate students:

- **at Zagazig Higher Institute of Engineering and Technology, Egypt from (Sept. 2017 till Now).**
- 1- Electronic Devices ECE122
- 2- Electromagnetic Fields ECE125
- 3- Electric Circuit ECE121
- 4- Digital electronics ECE221
- 5- Communication system ECE322
- 6- Information Theory ECE333
- 7- Electromagnetic Waves ECE323
- 8- Electronic Measurement ECE329

- 9- Signal Analysis ECE324
- 10- Electronic Circuits ECE327
- 11- Antennas and Wave propagations ECE423
- 12- Optical Communication System ECE425
- 13- Mobile Communication ECE433
- 14- Communication Network ECE328

➤ Teaching the following Lab courses for the Undergraduate students:

○ at Zagazig Higher Institute of Engineering and Technology, Egypt with the following duties:

- 1- Antennas and Wave propagations Lab (4th year course)
- 2- Design Antennas using CST STUDIO SUITE (Simulated experiments, 4th year course)
- 3- Microwave Devices (3rd year course)
- 4- Programming Impeded system (Arduino, Matlap) (Simulated experiments Lab, 3rd year course)
- 5- Electronic Lab (3rd year course)
- 6- Electronic Lab (2nd year course)
- 7- Programming Impeded system (Code Blocks), (Simulated experiments, Preparatory year course)

Honors and Awards

First rank among B.Sc. students of Electronics and Communication Engineering Dept. Zagazig Higher Institute of Engineering and Technology, Egypt. 2017.

First rank among 1st ,2nd and 3rd5 students of Electronics and Communication Engineering Dept. Zagazig Higher Institute of Engineering and Technology, Egypt. 2014,2015 and 2016.

The ideal student among students of Electronics and Communication Engineering Dept. Zagazig Higher Institute of Engineering and Technology, Egypt 2014.

First rank among Preparatory year students of Zagazig Higher Institute of Engineering and Technology, Egypt. 2013.

Special Skills

IT Skills

Skill	Proficiency level
Microsoft Office	Excellent
Programming with C++	Very Good
Programming with Arduino	Very Good
Matlab Programming	Very Good
Computer Networking	Very Good
Online meeting (Zoom, and google meet)	Excellent
Making teaching videos	Excellent

RF Design Tools

Skill	Proficiency level
CST STUDIO SUITE	Excellent
OrCAD Capture CIS	Excellent
Arduino	Excellent
Proteus	Excellent
COMSOL	Excellent
Code Blocks	Good
SolidWorks	Good
Agilent - ADS	Good
Ansoft - HFSS	Good
L_EDIT	Good

Instrumentations and Measurements

Skill	Proficiency level
High Speed Oscilloscopes	Excellent
Spectrum Analyzer	Good
Antenna training kit (Sciencetech 22621)	Excellent
Microwave Transition Analyzer (MAT)	Good
Modulation circuits training kits	Excellent
Digital multimeter	Excellent
Fabricated Antennas and Measured Antenna parameters	Excellent

Seminars and Presentations

- 1- Microstrip Antennas (Definitions, Parameters, Geometry, Feeding Mechanisms, Method of analysis) as a Ph. D. courses class degrees Zagazig university, Egypt, 2018.
- 2- “New Design of High-Efficiency Low-SAR Coupled Folded Antenna for 5G Applications”, International Japan-Africa Conference on Electronics, Communications and Computations (JAC-ECC), (Online Virtual Conference), Egypt, 14-15/12/2020.
- 3- Design of high-efficiency low-SAR antenna for mobile communication seminar as a Partial Fulfillment of the Requirements for the Degree of Master of Science in Electronics and Communications Engineering, Zagazig university, 4/6/2022.
- 4- Building Objects in the Yee Grid with MATLAB Simulations as a Ph. D. courses class degrees, Zagazig university, Egypt, 2023.

Master's thesis supervisors

Dr. Walid Saber El-Deeb

PhD University of Calgary, AB, Canada,
Associate Professor,
Department of Electronics and Communications Engineering,
Faculty of Engineering, Zagazig University, Zagazig, Egypt,
Telephone:002-055232422, Cell: 002-01120004074,
E-Mail: wseldeeb@ucalgary.ca.

Dr. Ahmed Mohamed Attia

PhD Cairo University, Egypt,
Professor,
Department Microwave Engineering,
Electronic Research Institute, Cairo, Egypt,
Cell: 002-01140993190
E-Mail: attiya@eri.sci.eg