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### Dr. Mohamed Mamdouh Mahmoud Ali

Previous First Name: Mohamed Previous Family Name: Ali Correspondence language: English Sex: Male Date of Birth: 12/31 Canadian Residency Status: Work Permit Applied for Permanent Residency?: Yes Country of Citizenship: Egypt

## **Contact Information**

The primary information is denoted by (\*)

#### Address

<u>Temporary</u> (\*) 855 RUE GALT VERDUN 309 Montreal Quebec H4G 3G3 Canada

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#### Email

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;



Protected when completed

# Dr. Mohamed Ali

# Language Skills

Language	Read	Write	Speak	Understand	Peer Review
Arabic	Yes	Yes	Yes	Yes	Yes
English	Yes	Yes	Yes	Yes	Yes

# Degrees

2016/1 - 2020/4	Doctorate, Electrical and Computer Engineering, Concordia University Degree Status: Completed Thesis Title: Millimeter-WaveComponents and Antennas for Spatial and Polarization Diversity using PRGW Technology
	Supervisors: Abdel Razik Sebak, 2016/1 - 2020/5
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Areas of Research: Microwaves and Hyperfrequencies
	Fields of Application: Communication and Information Technologies
2011/3 - 2013/9	Master's Thesis, Electrical Engineering, Assiut University Degree Status: Completed Thesis Title: Design of Compact Ultra-wide Band Microstrip Antennas of Dual and Triple band Notched
	Supervisors: Elsayed Esam Mohamed Khaled Mohamed, 2011/3 - 2013/9
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Areas of Research: Microwaves and Hyperfrequencies
	Fields of Application: Communication and Information Technologies
2005/9 - 2010/10	Bachelor's, Electronic and Communication Engineering, Assiut University Degree Status: Completed
	Supervisors: Usama Sayed Mohammed Sayed
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Fields of Application: Communication and Information Technologies

# Recognitions

2019/5 - 2019/6	Concordia University Conference and Exposition Award - 1,000 (Canadian dollar) Concordia University Prize / Award
	Concordia university award for graduate students to present at major scholarly conferences, or artistic exhibitions in a peer-reviewed or juried context
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Areas of Research: Microwaves and Hyperfrequencies
	Fields of Application: Communication and Information Technologies
2018/1 - 2018/3	Concordia Accelerator Award - 5,000 (Canadian dollar) Concordia University Prize / Award A competition in Concordia for the PhD students who completed all the PhD requirements
	except the thesis
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Areas of Research: Microwaves and Hyperfrequencies
	Fields of Application: Communication and Information Technologies
2017/5 - 2017/6	Concordia University Conference and Exposition Award - 1,000 (Canadian dollar) Concordia University Prize / Award Concordia university award for graduate students to present at major scholarly conferences, or artistic exhibitions in a peer-reviewed or juried context
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Areas of Research: Microwaves and Hyperfrequencies
	Fields of Application: Communication and Information Technologies
2016/5 - 2016/6	Concordia University Conference and Exposition Award - 1,000 (Canadian dollar) Concordia University Prize / Award Concordia university award for graduate students to present at major scholarly conferences, or artistic exhibitions in a peer-reviewed or juried context
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Areas of Research: Microwaves and Hyperfrequencies
	Fields of Application: Communication and Information Technologies
2016/1 - 2018/12	Concordia University Full Tuition Recruitment Award - 45,000 (Canadian dollar)
2010/1-2010/12	Concordia University Concordia University Prize / Award It is an award for the high ranking student to fully pay the tuition fees of the university
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Areas of Research: Microwaves and Hyperfrequencies
	Fields of Application: Communication and Information Technologies

2010/6 - 2010/7 Distinction with Honor degree (Egyptian pound)

Assiut University Honor

It is an award for student obtained Distinction degree in the five years of the bachelor

Research Disciplines: Electrical Engineering and Electronic Engineering

Areas of Research: Telecommunication Systems

Fields of Application: Communication and Information Technologies

### **User Profile**

Researcher Status: Researcher Research Career Start Date: 2011/03/03 Engaged in Clinical Research?: No

Research Interests: Microwave reciprocal/nonreciprocal design and analysis, high-power microwave systems, and antenna/antenna array design

Research Specialization Keywords: Antenna/ Antenna Feeding Structures, Beam Switching system, Electromagnetic wave, Microwave Components, Millimeter wave communication, Reciprocal and non reciprocal devices, Ridge Gap Waveguide

Disciplines Trained In: Electrical Engineering and Electronic Engineering

Research Disciplines: Electrical Engineering and Electronic Engineering

Areas of Research: Microwaves and Hyperfrequencies

Fields of Application: Communication and Information Technologies

Countries: Egypt, Canada

## Employment

2016/1 - 2020/5	Research Assistant Concordia University Full-time Research Assistant at faculty of electrical and computer engineering Concordia University. During this period, I was doing my research to resume my PhD thesis. This research was focused on the design and implementation of mmwave antenna and devices based on printed ridge gap waveguide.
	Research Disciplines: Electrical Engineering and Electronic Engineering
2019/9 - 2020/2	Microwave and Antenna Technician Trainer Concordia University Part-time Training of microwave and antenna technician to testing microwave component and antennas and using lab equipment including VNA and radiation pattern measurements
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Areas of Research: Microwaves and Hyperfrequencies
	Fields of Application: Communication and Information Technologies

2019/9 - 2019/12	Teaching Assistant Concordia University Part-time Assisted in teaching Microwave engineering and Antenna labs
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Areas of Research: Microwaves and Hyperfrequencies
	Fields of Application: Communication and Information Technologies
2018/1 - 2019/3	Research Engineer (Part-time Internship) Electrical Engineering, Scientific Microwave Corporation (SMC) Part-time
	Design and testing microwave component in defence, communication and space applications. This including the following tasks: Design reciprocal microwave components such as couplers, adapters and terminations. Design ferrite material based components junction circulators, differential phase shifters and duplexeres.
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Areas of Research: Microwaves and Hyperfrequencies
	Fields of Application: Communication and Information Technologies
2011/3 - 2015/12	Research and Teaching Assistant Electrical Engineering, Assiut University Full-time, Lecturer Tenure Status: Tenure, 2011/3 - Research and Teaching Assistant at Faculty of Engineering Assiut University. During this period, I was a teaching assistant in the following courses: 1- Digital Design Lab. 2- Electronic Design Lab. 3- Microwave Devices 4- Electromagnetic Field 5- Communication Lab. 6- Antenna and wave propagation. Besides the teaching assistant work, I was doing my research to resume my master thesis. This research was focused on the design of ultra wide band (UWB) printed antennas.
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Areas of Research: Wave Pollution (Noise, Microwaves, Electromagnetic Fields)

## Affiliations

The primary affiliation is denoted by (\*) (\*) 2016/1 - 2020/5 Research Assistant, Concordia University

## **Research Funding History**

Completed [n=2]			
2016/1 - 2019/12 Principal Applicant	Egyptian mission for PhD, Scholarship Clinical Research Project?: No		
	Funding Sources:		
	2016/1 - 2019/12	Egyptian Government Total Funding - 93,024 (Canadian dollar) Portion of Funding Received - 93,024 (Canadian dollar)	
	2016/5 - 2019/5	Concordia University Total Funding - 52,500 (Canadian dollar) Portion of Funding Received - 35,000 (Canadian dollar)	

#### Funding by Year:

2016/1 - 2019/12 Total Funding - 93,024 (Canadian dollar) Portion of Funding Received - 93,024 (Canadian dollar) Time Commitment: 70

Research Disciplines: Electrical Engineering and Electronic Engineering

Areas of Research: Microwaves and Hyperfrequencies

Fields of Application: Communication and Information Technologies

Principal Investigator : Sebak, Abdelrazik

2018/1 - 2019/3 NSERC PERSWADE Training Program, Scholarship Clinical Research Project?: No

Principal Applicant

Project Description: In this work, we are proposed the design and implementation of the mm-wave components required for the realization of beam switching enabling 5G communicationsystems. The first part is focused on the feeding structure, where practical mm-wave hybrid directional couplers are implemented based on PRGW technology. The second part is focused on the RF source protection systems, where mm-wave PRGW circulator and isolators are implemented. Another activity is to propose different designs for millimeter-wave antennas which suitable for specific applications. The final part is deployed the outcomes of the previous designed components informing an efficient beam switching system.

Research Settings: Canada (Both)

#### **Funding Sources:**

2018/1 - 2019/3 Natural Sciences and Engineering Research Council of Canada (NSERC) PERSWAD Training Total Funding - 28,000 (Canadian dollar)

#### Funding by Year:

2018/1 - 2019/3	Total Funding - 28,000 (Canadian dollar)
	Portion of Funding Received - 28,000 (Canadian dollar)
	Time Commitment: 70

Research Disciplines: Electrical Engineering and Electronic Engineering

Areas of Research: Microwaves and Hyperfrequencies

Fields of Application: Communication and Information Technologies

Collaborator : Shams, Shouky:

Principal Investigator : Sebak, Abdelrazik

# **Courses Taught**

2013/01/01 - 2015/12/31	Lecturer, Electrical Engineering, Assiut University Course Title: Guided Waves and Antennas (A) Course Code: EE 324 Course Level: Undergraduate Academic Session: Winter Number of Students: 100 Number of Credits: 4 Lecture Hours Per Week: 12 Lab Hours Per Week: 3
2013/01/01 - 2015/12/31	Lecturer, Electrical Engineering, Assiut University Course Title: Electrical Testing(B) Course Code: EE 323 Course Level: Undergraduate Academic Session: Fall Number of Students: 100 Number of Credits: 4 Lecture Hours Per Week: 6 Lab Hours Per Week: 3
2013/01/01 - 2015/12/31	Lecturer, Electrical Engineering, Assiut University Course Title: Guided Waves and Antennas (B) Course Code: EE 324 Course Level: Undergraduate Number of Students: 100 Number of Credits: 4 Lecture Hours Per Week: 12 Lab Hours Per Week: 3
2011/01/01 - 2015/12/31	Lecturer, Electrical Engineering, Assiut University Course Title: Electrical Testing (A) Course Code: EE 323 Course Level: Undergraduate Academic Session: Winter Number of Students: 100 Number of Credits: 4 Lecture Hours Per Week: 6 Lab Hours Per Week: 3
2011/01/01 - 2015/12/31	Lecturer, Electrical Engineering, Assiut University Course Title: Electromagnetic Field Theory (2-A) Course Code: E221 Course Level: Undergraduate Academic Session: Winter Number of Students: 300 Number of Credits: 4 Lecture Hours Per Week: 12 Lab Hours Per Week: 3

2011/01/01 - 2015/12/31	Lecturer, Electrical Engineering, Assiut University Course Title: Digital Circuit Design Course Code: E228 Course Level: Undergraduate Academic Session: Fall Number of Students: 300 Number of Credits: 4 Lecture Hours Per Week: 12 Lab Hours Per Week: 3
2011/01/01 - 2015/12/31	Lecturer, Electrical Engineering, Assiut University Course Title: Electric Testing (B) Course Code: E224 Course Level: Undergraduate Academic Session: Fall Number of Students: 100 Number of Credits: 4 Lecture Hours Per Week: 12 Lab Hours Per Week: 3
2011/01/01 - 2015/12/31	Lecturer, Electrical Engineering, Assiut University Course Title: Electromagnetic Field Theory (2-B) Course Code: E221 Course Level: Undergraduate Academic Session: Fall Number of Students: 300 Number of Credits: 4 Lecture Hours Per Week: 12 Lab Hours Per Week: 3

# Student/Postdoctoral Supervision

## Bachelor's Honours [n=3]

2019/1 - 2019/7 Co-Supervisor	Mahmoud Ashraf El-Kholy (Completed) , German University Student Degree Start Date: 2015/9 Student Degree Received Date: 2020/5 Student Canadian Residency Status: Not Applicable Thesis/Project Title: Reconfigurable microwave components based on Ridge Gap waveguides Project Description: In this project the student performed a detailed analysis for building a reconfigurable RGW. The outcomes of this project will be submitted to EuCAP2021 Present Position: Engineer
	Other Supervisors: Principal Supervisor - Allam, Abdelmagid
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Areas of Research: Microwaves and Hyperfrequencies
	Fields of Application: Communication and Information Technologies

2019/1 - 2019/7 Co-Supervisor	Mohamed Yasser (Completed), German University Student Degree Start Date: 2013/9 Student Degree Received Date: 2019/6 Student Canadian Residency Status: Not Applicable Thesis/Project Title: Hybrid coupler design based on Ridge gap waveguide Technology Project Description: The project is focused on the design of ultra wide band hybrid coupler based on RGW technology. The student managed to obtain very wide band design compared to all published couplers in the literature. This design is published in the APMC 2019 conference "an international conference in the field of antennas and microwave components" Present Position: Engineer
	Other Supervisors: Principal Supervisor - Allam, Abdelmagid
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Areas of Research: Microwaves and Hyperfrequencies
	Fields of Application: Communication and Information Technologies
2013/1 - 2013/7 Academic Advisor	Andrew Mamdouh (Completed) , Assiut University Student Degree Start Date: 2008/9 Student Degree Received Date: 2013/7 Student Canadian Residency Status: Not Applicable Thesis/Project Title: Design and implementation of reconfigurable quad-band microstrip antenna for MIMO wireless communication applications Project Description: The project is focused on the design and implementation of reconfigurable quad-band microstrip antenna for MIMO wireless communication applications. The student managed to design A quad band planar microstrip-line-fed printed circuit board (PCB) antenna. This design is published in the 31st National Radio Science Conference (NRSC). Present Position: Engineer
	Other Supervisors: Principal Supervisor - Haraz, Osama
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Areas of Research: Microwaves and Hyperfrequencies
	Fields of Application: Communication and Information Technologies

#### Master's Thesis [n=1]

Master's Thesis [n="	1
2018/1 - 2019/4 Academic Advisor	Syed M. Sifat (In Progress), Concordia University Degree Name: Doctorate Student Degree Start Date: 2017/1 Student Degree Expected Date: 2019/5 Student Canadian Residency Status: Study Permit Thesis/Project Title: 30 GHz Broadband Bow-tie Printed Ridge Gap Waveguide Antennas Project Description: In this project a groove-based wideband bow-tie slot antenna array is designed at 30 GHz based on printed ridge gap waveguide technology (PRGW). Then, the proposed high gain element is deployed to build up a 1 bow-tie slot antenna array loaded with three-layer groove antenna. The proposed antenna array is fabricated and measured, where a high gain and wide bandwidth are achieved. Present Position: Student, Concordia University Student Country of Citizenship: Bangladesh Other Supervisors: Co-Supervisor - Shams, Shoukry; Principal Supervisor - Sebak, Abdelrazik Research Disciplines: Electrical Engineering and Electronic Engineering Areas of Research: Microwaves and Hyperfrequencies Fields of Application: Communication and Information Technologies
Doctorate [n=3] 2020/7 Academic Advisor	Haitham (In Progress) , Minya university Degree Name: Doctorate Student Degree Start Date: 2019/4 Student Degree Expected Date: 2022/9 Student Canadian Residency Status: Not Applicable Thesis/Project Title: Circularly polarized antennas in 5G communication systems Present Position: Student, Minya university in Egypt Other Supervisors: Co-Supervisor - Shams, Shoukry; Principal Supervisor - Allam, Abdelmagid

2019/1 - 2020/5 Academic Advisor	Elham (In Progress) , Baghernia Degree Name: Doctorate Student Degree Start Date: 2017/9 Student Degree Expected Date: 2020/12 Student Canadian Residency Status: Study Permit Thesis/Project Title: Slot Spiral Cavity Backed Antenna Array Fed by Printed Gap Waveguid Project Description: In this project, a low profile and wide band circularly polarized slot spiral antenna array excited by a printed gap waveguide (PGW) feeding network has been done. A new technique to excite the slot spiral antenna has been proposed. The sequential feeding is implemented by PGW technology which results in high efficiency of the array structure. A prototype of the proposed antenna was fabricated and measured to evaluate the antenna performance, where a wide impedance and axial ratio bandwidth with high gain is achieved. The outcome of this project is submitted to IEEE Antenna and Propagation Transaction. Present Position: Student, Concordia University
	Other Supervisors: Principal Supervisor - Sebak, Abdelrazik
	Research Disciplines: Electrical Engineering and Electronic Engineering
	Areas of Research: Microwaves and Hyperfrequencies
	Fields of Application: Communication and Information Technologies
2017/1 - 2018/1 Academic Advisor	Eslam Afifi (In Progress) , Concordia University Degree Name: Doctorate Student Degree Start Date: 2017/9 Student Degree Expected Date: 2020/12 Student Canadian Residency Status: Study Permit Thesis/Project Title: Analysis and Design of a Wideband CoaxialTransition to Metal and PrintedRidge Gap Waveguide Project Description: In this project, a wideband coaxial to ridge gap transition is proposed and implemented. The transition has a compact size, wide bandwidth, and simple structure. It can be used to excite ridge gap waveguides implemented by the printed circuit board or computer numerical control (CNC) technologies. The outcomes of this project is published in IEEE Access. Present Position: Student, Concordia University Student Country of Citizenship: Egypt Other Supervisors: Principal Supervisor - Sebak, Abdelrazik Research Disciplines: Electrical Engineering and Electronic Engineering Areas of Research: Microwaves and Hyperfrequencies Fields of Application: Communication and Information Technologies

## **Journal Review Activities**

2020/5	Reviewer,IEEE Access Number of Works Reviewed / Refereed: 2
2018/11 - 2019/1	Reviwer,IEEE Microwave and Wireless Components Letters Number of Works Reviewed / Refereed: 1

## **Event Participation**

2020/5 - 2020/5	Presenter, The 2020 IEEE AP-S Symposium on Antennas and Propagation, Conference Present a paper on the design of hybrid coupler based on PRGW technology.
2018/10 - 2018/10	Participant, STARaCom Industry Networking, Workshop Presenting poster and attending lectures which includs: 1-Research opportunities: National Research Council and Defence Research and Development Canada. 2- Fellowships 3-McGill Representative
2018/8 - 2018/8	Presenter, 18th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM), Conference Presenting research papers
2017/12 - 2017/12	Participant, STARaCom launch, Workshop Presenting poster and attending workshops which includs: 1- Low-Latency Communication and Deploying Internet in Developing Countries 2-Enabling Technologies for Sustainable Smart City Networks 3-The IEEE Green ICT Initiative 4-STARaCom for graduate students
2017/11 - 2017/11	Particicpant, Third IEEE Research Boost "Give Your Research an Industrial Edge", Conference Presenting a paper on the design of printed ridge gap waveguide beam switching components
2017/8 - 2017/8	Presenter, XXXII International Union of Radio Science General Assembly and Scientific Symposium, Conference Present a paper on the design of 5G directive antennas
2017/7 - 2017/7	Presenter, IEEE International Symposium on Antennas and Propagation (USNC/URSI) National Radio Science Meeting,, Conference Present a paper on the design of mmWave antenna
2016/7 - 2016/7	Presenter, 17th International Symposium on Antenna Technology and Applied Electromagnetic, Conference Presenting research papers
2013/8 - 2013/8	Presenter, Progress In Electromagnetic Research Symposium, PIERS 2013, Conference Present a paper on the design of UWB antenna

## **Presentations**

- (2018). Reconfigurable Guiding Structure Based on Printed Ridge Gap Waveguide Technology. 2018 1. 18th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM), Ontario, Canada Main Audience: Researcher Invited?: No, Keynote?: No, Competitive?: No
- 2. (2017). 4x 2-slot element for 30-GHz planar array antenna realized using SIW cavity and fed by microstrip line line-ridge gap waveguide. 2017 IEEE International Symposium on Antennas and Propagation & USNC/ URSI National Radio Science Meeting, California, United States Main Audience: Researcher Invited?: No, Keynote?: No, Competitive?: No

 (2016). Design of a dual-band printed slot antenna with utilizing a band rejection element for the 5G wireless applications. 2016 IEEE International Symposium on Antennas and Propagation (APSURSI), Puerto Rico, Main Audience: Researcher

Invited?: No, Keynote?: No, Competitive?: No

- (2016). Broadband printed slot antenna for the fifth generation (5G) mobile and wireless communications. 2016 17th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM), Montreal, Canada Main Audience: Researcher Invited?: No, Keynote?: No, Competitive?: No
- (2016). Dual band (28/38 GHz) CPW slot directive antenna for future 5G cellular applications. 2016 IEEE International Symposium on Antennas and Propagation (APSURSI), Puerto Rico, Main Audience: Researcher Invited?: No, Keynote?: No, Competitive?: No
- (2016). Design of compact millimeter wave massive MIMO dual-band (28/38 GHz) antenna array for future 5G communication systems. 2016 17th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM), Montreal, Canada Main Audience: Researcher Invited?: No, Keynote?: No, Competitive?: No
- (2016). Broadband printed slot antenna for the fifth generation (5G) mobile and wireless communications. 2016 17th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM), Montreal, Canada Main Audience: Researcher Invited?: No, Keynote?: No, Competitive?: No
- (2016). Compact UWB high gain fermi taper slot antenna for future 5G communication systems. 2016 17th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM), Montreal, Canada Main Audience: Researcher

Invited?: No, Keynote?: No, Competitive?: No

- (2013). A Microstrip-fed Printed Slot Antenna for 3G/Bluetooth/WiMAX and UWB Applications with 3.6 GHz Band Rejection. Progress In Electromagnetics Research Symposium, Stockholm, Sweden Main Audience: Researcher Invited?: No, Keynote?: No, Competitive?: No
- (2013). A Proximity-fed Elliptical-shaped Aperture UWB Antenna with Triple Band-rejection Property. Progress In Electromagnetics Research Symposium, Stockholm, Sweden Main Audience: Researcher Invited?: No, Keynote?: No, Competitive?: No
- (2013). Curve-fitting Formulas for Fast Determination of Frequency Band-notched Response of UWB Antennas. Progress In Electromagnetics Research Symposium, Stockholm, Sweden Main Audience: Researcher Invited?: No, Keynote?: No, Competitive?: No

## **Publications**

#### Journal Articles

- Mohamed Mamdouh M. Ali,Mahmoud Elsaadany, Shoukry I. Shams,Abdelrazik Sebak, Ghyslain Gagnon.On the Design of Broadband Rectangular Waveguide Pressure Windows. IEEE Transactions on Microwave Theory and Techniques. First Listed Author Accepted, 2020, Refereed?: Yes, Open Access?: No Number of Contributors: 5 Contribution Percentage: 71-80
- Mahmoud Elsaadany, Shoukry I. Shams, Mohamed Mamdouh M. Ali, Abdelrazik Sebak, and Walaa Hamouda. (2020). Full band Compact Power Arm Subsystem with High Directive Sample. IEEE Access. Co-Author Accepted, IEEE, Refereed?: Yes, Open Access?: Yes Number of Contributors: 5 Contribution Percentage: 31-40
- Mohamed Mamdouh M. Ali, Islam Afifi, Abdel-Razik Sebak. (2020). A Dual Polarized Magneto-Electric Dipole Antenna Based on Printed Ridge Gap Waveguide Technology. IEEE Transactions on Antennas and Propagation. : 1-1. First Listed Author Published, IEEE, Refereed?: Yes, Open Access?: No Number of Contributors: 3 Contribution Percentage: 61-70
- Syed M. Sifat , Mohamed Mamdouh M. Ali And Shoukry I. Shams, And Abdel-Razik Sebak. (2019). High Gain Bow-tie Slot Antenna Array Loaded with Grooves based on Printed Ridge Gap Waveguide Technology. IEEE Access. 7: 36177-36185. Co-Author Published, IEEE, Refereed?: Yes, Open Access?: Yes, Synthesis?: Yes Number of Contributors: 4 Contribution Percentage: 31-40
- Mohamed Mamdouh M. Ali and Abdelrazik Sebak. (2019). Printed RGW Circularly Polarized Differential Feeding Antenna Array for 5G Communications. IEEE Transactions on Antennas and Propagation. 67(5): 3151-3160.
  First Listed Author Published, IEEE, Refereed?: Yes, Open Access?: No, Synthesis?: Yes Number of Contributors: 2 Contribution Percentage: 61-70
- Mohamed Mamdouh Mahmoud Ali , Shoukry I. Shams , and Abdelrazik Sebak. (2019). Ultra-wideband printed ridge gap waveguide hybrid directional coupler for millimetre wave applications. IET Microwaves, Antennas and Propagation. 13(8): 1181-1187. First Listed Author Published, IET, Refereed?: Yes, Open Access?: No, Synthesis?: Yes Number of Contributors: 3 Contribution Percentage: 51-60

- Mohamed Mamdouh Mahmoud Ali , Shoukry I. Shams , Abdelrazik Sebak. (2018). Low Loss and Ultra Flat Rectangular Waveguide Harmonic Coupler. IEEE Access. 6: 38736--38744.
  First Listed Author Published, IEEE, Refereed?: Yes, Open Access?: Yes, Synthesis?: Yes Number of Contributors: 3 Contribution Percentage: 51-60
- Mohamed Mamdouh M. Ali , and Abdel-Razik Sebak. (2018). 2-D Scanning Magnetoelectric Dipole Antenna Array Fed by RGW Butler Matrix. IEEE Transactions on Antennas and Propagation. 66(11): 6313--6321. First Listed Author Published, IEEE, Refereed?: Yes, Open Access?: No, Synthesis?: Yes Number of Contributors: 2 Contribution Percentage: 61-70
- Islam Afifi, Mohamed Mamdouh M. Ali , And Abdel-Razik Sebak. (2018). Analysis and Design of a Wideband Coaxial Transition to Metal and Printed Ridge Gap Waveguide. IEEE Access. 6: 70698--70706. Co-Author Published, IEEE, Refereed?: Yes, Open Access?: Yes, Synthesis?: Yes Number of Contributors: 3 Contribution Percentage: 41-50
- Mohamed Mamdouh M. Ali , Shoukry I. Shams, And Abdel-Razik Sebak. (2018). Printed Ridge Gap Waveguide 3-dB Coupler: Analysis and Design Procedure. IEEE Access. 6: 8501-8509. First Listed Author Published, IEEE, Refereed?: Yes, Open Access?: Yes, Synthesis?: Yes Number of Contributors: 3 Contribution Percentage: 51-60
- Mohamed Mamdouh M. Ali ,Shoukry I. Shams , Abdelrazik Sebak, and Ahmed A. Kishk. (2018). Rectangular Waveguide Cross-Guide Couplers: Accurate Model for Full-Band Operation. IEEE Microwave and Wireless Components Letters. 28(7): 561-563,. First Listed Author Published, IEEE, Refereed?: Yes, Open Access?: No, Synthesis?: Yes Number of Contributors: 4 Contribution Percentage: 61-70
- Mohamed Mamdouh M. Ali and Abdel-Razik Sebak. (2018). Compact Printed Ridge Gap Waveguide Crossover for Future 5G Wireless Communication System. IEEE Microwave and Wireless Components Letters. 28(7): 549-551. First Listed Author Published, IEEE, Refereed?: Yes, Open Access?: No Number of Contributors: 2
- Mohammed Akbari, Mohamed Mamdouh M. Ali, Mohammadmahdi Farahani , Abdel-Razik Sebak and Tayeb A. Denidni. (2017). Spatially mutual coupling reduction between CP-MIMO antennas using FSS superstrate. Electronics Letters. 53(8): 516--518. Co-Author Published, IET Digital Library, Refereed?: Yes, Open Access?: No, Synthesis?: Yes Contribution Percentage: 41-50

- Nadeem Ashrafa,Osama Mohamed Haraza,Mohamed Mamdouh M. Ali,Mohamed Ahmad Ashrafa,Saleh Abdullah,Saleh Alshebil. (2016). Optimized Broadband and Dual-Band Printed Slot Antennas for the Future 5G Mobile Networks. AEÜ-International Journal of Electronics and Communications. 70(3): 257-264. Co-Author Published, Refereed?: Yes, Open Access?: Yes Number of Contributors: 5 Contribution Percentage: 21-30
- 15. Mohamed Mamdouh M. ALi and A. A. Saad and Elsayed Esam M. Khaled. (2014). Implementation and justification of a triple frequency-notched UWB proximity-fed antenna with shunt stubs. Microwave and Optical Technology Letters. 56(3): 646--654. First Listed Author Published, Refereed?: Yes, Open Access?: No, Synthesis?: Yes Number of Contributors: 3 Contribution Percentage: 51-60
- A. A. Saad and Ali, Mohamed Mamdouh M and Elsayed Esam M. Khaled. (2013). Prediction formulas for a notched frequency response of a printed ultra-wideband antenna loaded with notching resonators. The Journal of Engineering. 2013(12): 83--85. Co-Author Published, IET, Refereed?: Yes, Open Access?: No, Synthesis?: Yes Contribution Percentage: 41-50
- Mohamed Mamdouh M. Ali, Ayman Ayd R. Saad, and Elsayed Esam M. Khaled. (2013). A Design of Miniaturized Ultrawideband Printed Slot Antenna with 3.5/5.5 GHz Dual Band-Notched Characteristics: Analysis and Implementation. Progress In Electromagnetic Research B. 52: 37-56. First Listed Author Published, Refereed?: Yes, Open Access?: Yes Number of Contributors: 3 Contribution Percentage: 61-70
- Ayman Ayd R. Saad, Mohamed Mamdouh M. Ali and Elsayed Esam M. Khaled. (2013). An Integrated 3G/ Bluetooth and UWB Antenna with Frequency Band-Notched Feature. Journal of Electromagnetic Waves and Applications. 27(18): 2430-2441. Co-Author Published, Refereed?: Yes, Open Access?: Yes Contribution Percentage: 61-70

#### Thesis/Dissertation

1. Millimeter-Wave Components and Antennas for Spatial and Polarization Diversity using PRGW Technology. (2020). Concordia University. Doctorate.

Number of Pages: 164 Supervisor: Abdelrazik Sebak

Contribution Percentage: 91-100

Description / Contribution Value: The main purpose of this thesis is to design mmWave components, antenna subsystemsand utilize both in beam switching systems. The major mmWave components addressedin this thesis are hybrid coupler, crossover, and differential power divider where the hostguiding structure is the PRGW. In addition, various designs for differential feeding PRGWantennas and antenna arrays are presented featuring wide bandwidth and high gain immWave band. Moreover, the integration of both the proposed components and thefeatured antennas is introduced. This can be considered as a significant step towardthe requirements fulfillment of today's advanced communication systems enabling bothspace and polarization diversity. The proposed components are designed to meet thefuture everincreasing consumer experience and technical requirements such as low loss, compact size, and low-cost fabrication.

2. Design of Compact Ultra-wide Band Microstrip Antennas of Dual and Triple band Notched. (2013). Assiut University. Master's Thesis.

Number of Pages: 173 Supervisor: Elsayed Essam M. Khaled

Contribution Percentage: 81-90

Description / Contribution Value: This thesis focuses on a band-notched UWB printed slot antenna design and analysis. Studies have been performed covering the aspects of UWB fundamentals and antenna theory. Extensive investigations were carried out on three different designs of UWB printed slot antennas having frequency band-notched properties. Moreover, a SPICE-compatible circuit modeling of any of the proposed antenna is obtained and verified through the use of the modified rational function modeling technical.

#### **Supervised Student Publications**

1. Elham Baghernia

2x2 Slot Spiral Cavity Backed Antenna Array Fed by Printed Gap Waveguide. IEEE Transactions on Antennas and Propagation. (2020). Submitted, IEEE, Student Contribution (%): 60 Contribution Percentage: 21-30

2. Mohamed Yasser Soliman

Ridge Gap Waveguide Wideband Hybrid Directional Coupler for Ka-Band Applications. 2020 7th International Conference on Electrical and Electronics Engineering (ICEEE). (2020). Published, IEEE, Student Contribution (%): 75 Contribution Percentage: 71-80

3. Syed M. Sifat

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