Program of

The 2025, 42nd National Radio Science Conference (NRSC'2025)

Organized by

Academy of Scientific Research and Technology
National Radio Science Committee (NRSC)

and

Arab Academy for Science,
Technology and Maritime Transport,
Heliopolis Campus, Cairo, Egypt

May 6th – May 8th, 2025, Cairo, Egypt

Program of

The 2025, 42nd National Radio Science Conference (NRSC'2025)

May 6th – May 8th , 2025, Cairo, Egypt

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Prof. Hadia El-Hennawy

2025, 42nd National Radio Science Conference (NRSC'2025), Program,
May 6th – May 8th, 2025, Cairo, Egypt.

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The 2025, 42nd National Radio Science Conference (NRSC'2025)

Under the Auspices of

Prof. Mohamed Ayman Ashour
Minister of Higher Education and Scientific Research

Prof. Gina El Feky
President of Academy of Scientific Research and Technology

Prof. Ismail Abdel Ghafar Ismail Farag
President of the Arab Academy for Science, Technology and Maritime Transport (AASTMT)

Conference Chair

Prof. Said E. El-Khamy, Life Fellow IEEE

Alexandria University, President of Egyptian NRSC

Conference Co-Chair: ***Prof. Alaa Abdel Bary,*** *AASTMT*

Conference Vice-Chair: ***Prof. Khaled Shehata,*** *AASTMT*

Technical Program Chair: ***Prof. Hadia El Hennawy,*** *Ain Shams Univ*
Prof. Mohamed Aly Aboul-Daha, *AAST*

Conference Secretary General: ***Prof. Hesham El-Badawy,*** *MCIT*

Conference Publications Chair: ***Prof. Rowayda Sadek,*** *Helwan Univ.*

May 6th – May 8th, 2025, Cairo, Egypt.

Honored Egyptian Pioneers of Radio Science in NRSC'2025

On the NRSC 2025, the National Radio Science Committee in Egypt has the pleasure of acknowledging the contributions of the following three Egyptian pioneers:

Prof. Ismail Abdel Ghaffar Ismail Farag,	***Arab Academy of Science and Technology***
Prof. Ali Hassan Ali Mustafa,	***Menoufia University***
Prof. Wagdy Refaat Anis,	***Ain Shams University***

The short biographies of the honored scientists are shown on the next pages.

Prof. Ismail Abdel Ghafar Ismail

Prof. Ismail Abdel Ghafar Ismail was born on 15 June 1955. He received his B.Sc. an honored Bachelor degree of Electrical Engineering (Computer Department) from the Military Technical College (MTC) in 1978 then received a master's degree in 1982 from Cairo university starting his career as an assistant lecturer at the Computer Department of the Military Technical College (MTC) then he received the Ph.D. in Electrical Engineering in 1989 from George Washington University, USA.

According to the decision of the General Assembly of the League of Arab States, His Excellency Prof. Dr. Ismail Abdel Ghafar Ismail took office as the President of the Arab Academy for Science, Technology and Maritime Transport (AASTMT) on 25th Oct,2011. Throughout his career life, he has occupied several positions where and specialized in Computer Engineering, starting his career in the Military Technical College (MTC) from 1989 till now as a member of the teaching staff at the Computer Department, where all the positions were held in the Military Technical College. In 1992, His job progression allowed him to be the Head of the Planning Educational Affairs department then the Head of the Advanced Technologies Group in 1997. As in 2001, he was appointed to be the Head of the Planning department of Research Affairs then the Head of Chair of Electrical Engineering branch in 2003. In 2005, he became the Vice Dean for the Postgraduates & Research, then the Vice Dean for Educational Affairs in 2006 who is Responsible for MTC educational Plan. For his scientific and professional efficiency, In January 2007 he became MTC vice Dean for two years, then MTC Commandant, Dean in January 2009 until he was selected to be the president of the Arab Academy for Science, Technology and Maritime Transport (AASTMT).

Prof. Ali Hassan Ali Mustafa was born in Alexandria, Egypt on November 11, 1943. He received his bachelor's degree in Electrical Engineering (Communications Department) from the Faculty of Engineering, Alexandria University, 1965. Two years of postgraduate studies in Electrical Communications at Helwan University, Egypt (1969-1971). Master's degree in Electrical and Electronic Engineering from the University of Birmingham, England, 1977. Ph.D in Electrical and Electronic Engineering from the University of Birmingham, England, 1979.

His academic history began as Assistant Lecturer at the Higher Institute of Electronics (now the Faculty of Electronic Engineering) in Menoufia from November 1965. Dedicated to preliminary master's studies at the Faculty of Engineering and Technology in Helwan from 1969-1971, then returned to the previous position. Joined the Armed Forces from August 1972 till September 1973, then returned to the previous position. Government scholarship member studying in Birmingham University, England from October 1974 till November 1979. Lecturer in the Electrical Communications Department from December 31, 1979. Member of a scientific mission provided by the British Council from September 1, 1984, till March 17, 1985. Assistant Professor in the Electrical Communications Department on July 26, 1986. Seconded to Mota University in Jordan to work as a full-time lecturer from September 1, 1986, until July 31, 1991. Special scientific mission member for research in Acoustic Engineering at the University of Bath, England, from October 1995 until January 1996. Professor in the Electrical Communications Department since October 14, 1999, up till now. Subjects taught at the undergraduate level: Electrical Engineering, Electronics Engineering, Communications Engineering, Acoustic Engineering, Theory of Fields and Waves, Fiber Optic Communications, and Specialized Laboratories. Subjects taught at the postgraduate level: Satellite Communications, Remote Sensing, Advanced Communication Circuits, Supervision of graduation projects for diplomas. Scientific institutions: he was assigned to teach at: Arab Academy for Science and Technology, Faculty of Engineering, Tanta University, Faculty of Engineering, Mansoura University, Faculty of Engineering, Zagazig University, Higher Institute of Engineering and Technology in Obour. Participated in many national and international conferences, as well as specialized scientific journals with various research contributions, and supervised Master's and PhD theses in the Faculty of Electronic Engineering, Menoufia University, and the Faculty of Engineering, Alexandria University. Currently he is an Emeritus professor, Department of electronics and Electrical Communications, Faculty of Electronic Engineering, Menoufia University, Egypt.

Egyptian Pioneer NRSC'2025

Prof. Wagdy Refaat Anis,

Wagdy Refaat Anis was born in Cairo (Egypt) on 4, April 1951. He received his B.Sc. and M.Sc. in Electrical Engineering from Ain Shams University in June 1973, and August 1977, respectively. He obtained his PhD degree which was concerning about Design of Photovoltaic Solar Energy Systems in tropical areas from Catholic University of Louvain, Louvain, Belgium, Feb., 1985

He joined the Teaching Staff at the Department of Electronics and Elec. Communications Engineering (EECE) in Ain Shams University, where he has several occupations and Experience:

- Head of Electronics and Communication Engineering, Faculty of Engineering, Ain Shams Univ.
- Profound Experience in the field of Design of Photovoltaic solar energy systems with SOLAREX company.
- Professor of Electronics in the Department of Electronics and Communication Engineering, faculty of engineering, Ain Shams Univ. Title awarded by the supreme council of universities Cairo, Jan, 1996.
- Assoc. Professor in Electronics and Communication engineering, title awarded by the supreme council of universities, Cairo, September 1990.
- He supervised Post Graduate and Research Activities: for 50 PhD & MSc Thesis
- He has authored Books:
  - Electronic Circuits, Analysis and Design, Dar Hakim, Cairo, Egypt, 2000.
  - Engineering Economics, Dar Hakim, Cairo, Egypt, 2010
  - Signals and Systems, Dar Hakim, Cairo, Egypt, 2008.
  - Project Management, Dar Hakim, Cairo, Egypt, 2006.
- He has published (as an author or co-author) 60 papers published in referred local and international journals and conferences.
- Other Socio Academic Activities:
  - Social and medical activities concerning people who need help.
- Current Position: Emeritus professor, Electronics and Communication Dept., Faculty of Engineering, Ain Shams Univ.

NRSC'2025 PROGRAM SUMMARY

Tuesday, May 6th, 2025

9:00 – 10:00	**Registration**
10:00 –11:00	**Opening Ceremony**
11:00 –12:00	**Keynote Speech KS-1** URSI—The Road from Electricity and Magnetism into Modern Radio Science **Prof. Ari Sihvola** Fellow IEEE, President of the International Union of Radio Science (URSI), Aalto University, Finland **Main Hall**
12:00-12:30	**Break**
12:30 –14:00	**Keynote Speech KS-2** Composite Materials for Antenna and Shielding Applications **Prof. A. Sebak,** Fellow IEEE, Professor and Tier I Concordia Research Chair, Associate Chair, Graduate Studies, ECE Dept, Concordia University, Canada **Main Hall**
14:00 –16:00	**Workshop I** Microwave Sensors for Cancer Detection and Monitoring **Coordinator: Prof. Dalia El-Sheikh** Badr Univ., Egypt **Main Hall**
16:00 –17:00	**LUNCH**

Wednesday, May 7th, 2025

9:00 –10:30	**Session_C1 Encryption and Secure Communications {Room A}**	**Session_B1 Recent Trends in Electromagnetic Waves {Room B}**	**Session_D1 Photonics and Quantum Devices and Processing {Main Hall}**
10:30 –11:30	**Keynote Speech KS-3** Rayleigh and Mie Scattering: Connection to Homogenization of Electromagnetic Media **Prof. Ari Sihvola** Fellow IEEE, President of the International Union of Radio Science (URSI), Aalto University, Finland **Main Hall**		
11:30-12:00	**BREAK**		
12:00 –14:00	Women In URSI: Radio Science Education: Challenges and Future WIRS Perspectives **Coordinator: Prof. Rowayda Sadek** Saxony Egypt University, Helwan University, Egypt **Main Hall**		

14:00 –15:30	**Session_C2** **5G/6G Communications Techniques** **{Room A}**	**Session_B2** **FDA, Holographic and Plasma Based Antenna Arrays** **{Room B}**	**Session_D2** **Electronic and Optical Devices** **{Main Hall}**
15:30 –17:00	**Session_C3** **Satellite & Radar Systems** **{Main Hall}**	**Session_B3** **Antenna Arrays for 5G/6G Communications** **{Room B}**	**Session_K1** **Biomedical Applications** **{Room A}**
17:00 –18:00	**LUNCH**		

Thursday, May 8th, 2025

9:00 –10:30	**Session_C4** **Detection and Image Classification** **{Room A}**	**Session_K2** **Biomedical Sensors** **{Room B}**	**Session_J-F 1** **Remote Sensing and Astronomy** **{Main Hall}**	**Students Activity** **Undergraduate Poster Session**
10:30 –12:00	**Workshop II** Graduate Students Activities **Coordinators:** **Prof. Saber Zainud-Deen,** Menufia Univ., Egypt **Prof. Salah Obayya,** Zewail City, Egypt **Main Hall**			
12:30-13:00	**Break**			
13:00 –14:30	**Keynote Speech KS-4** Antenna Systems, Other Engineering Electromagnetic Applications, and Opportunities for Networking and engagements in Research and Education Through Learned Societies **Prof. Yehia Anter,** Fellow IEEE, Canada Research Chair in Electromagnetic Engineering, IEEE AP-S Distinguished Lecturer, Professor, Former President of IEEE AP, Royal Military College of Canada & Queen's University Canada **Main Hall**			
14:30 –16:00	**Best Paper and Best Student Awards Closing Ceremony** **Main Hall**			
16:00 –17:00	**LUNCH**			

NRSC'2025 Detailed Technical Program

Tuesday, May 6th, 2025

10:00 - 11:00

Opening Ceremony

OPENING CEREMONY

11:00 - 12:00

Keynote Speech KS-1

URSI—THE ROAD FROM ELECTRICITY AND MAGNETISM INTO MODERN RADIO SCIENCE

Prof. Ari Sihvola

Fellow IEEE, President of the International Union of Radio Science (URSI), Aalto University, Finland

Chair: Prof. Said El-Khamy
Co-Chair: Prof. Alaa Abel Barry

12:30 - 14:00

Keynote Speech KS-2

COMPOSITE MATERIALS FOR ANTENNA AND SHIELDING APPLICATIONS

Prof. A. Sebak

Fellow IEEE, Professor and Tier I Concordia Research Chair, Associate Chair, Graduate Studies, ECE Dept, Concordia University, Canada

Chair: Prof. Elsayed Mostafa
Co-Chair: Prof. Mohamed Hassan

12:30 - 14:00

Workshop I

MICROWAVE SENSORS FOR CANCER DETECTION AND MONITORING

Coordinators: Prof. Dalia El-Sheikh

Badr Univ., Egypt

Chair: Prof. Dalia El-Sheikh
Co-Chair: Prof. Salah Eissa

Wednesday, May 7th, 2025

9:00 - 10:30

Session_B1

RECENT TRENDS IN ELECTROMAGNETIC WAVES

Chair: Prof. Hadia Elhennawy
Co-Chair: Prof. Mohammed Abou Eldahab

INV1	**Fractal Antennas for Wireless Communications** *Prof. Saber H. Zainud-Deen*
B1	**Deep Learning: A New Era in Electromagnetics: (Review Article)** *Ahmed M. Attiya, Tarek Salam*
B2	**Multi-Layer Metal Only Orbital Angular Momentum (OAM) Reflectarray Electromagnetic Waves** *W. M. Hassan, A. M. Attiya*
B3	**Realization Of Linearly and Circularly Polarized Vortex Electromagnetic Waves by Three-Dimensional Structure** *Anas S. Zainud-Deen, Saber H. Zainud-Deen, Hend A. Malhat and Mona M. Badawy*

9:00 - 10:30

Session_C1

ENCRYPTION AND SECURE COMMUNICATIONS

Chair: Prof. Rowayda Sadek
Co-Chair: Prof. Safa Gasser

INV.2	**Simulator for Radioactive Source Detection and Localization WSN used in Nuclear Security** *Prof. Imbaby I. Mahmoud and Asmaa A. Abd El-Hamid*
C1	**Lightweight Sign Language Recognition through Tiny MobileNet and 3D Multi-Head Soft Attention Mechanism** *Shimaa S Younes, Hala Abdel-Galil, and Rowayda Sadek*
C2	**Design and FPGA Implementation of a New Customized AES for Sensitive Security Applications** *Ahmed H. Mahmoud, Nabil H. Shaker, Hanady H. Issa, and Khaled Shehata*
C3	**L2PIAS: Lightweight Privacy-Preserving Identity Authentication for Secure V2V Communication** *Islam Z. Ahmed, Yasser Hifny, and Rowayda Sadek*

9:00 - 10:30

Session_D1

PHOTONICS AND QUANTUM DEVICES AND PROCESSING

Chair: Prof. Mohammed Swellim
Co-Chair: Prof. Mohammed Abaza

INV.3	**Research Trends in Optical Communications at Niles, Cario University** *Prof. Jala Al-Azab*
D1	**Quantum Random Number Generation within Idle Time Windows of Quantum Key Distribution** *Salem F. Hegazy, Moamen Allam, Salah S. A. Obayya, Bahaa E. A. Saleh*
D2	**Enhanced Quantum Search Via Partial Diffusion and Entanglement with Linear Optics** *Ahmed S. El Fiky, Ahmed Younes, A. R. Abdulghany, Salah S. A. Obayya, Salem F. Hegazy*
D3	**Faint-Pulse Single-Photon Source Triggered by FPGA** *Mohamed Saleh, Salem F. Hegazy*

10:30 - 11:30

Keynote Speech KS-3

RAYLEIGH AND MIE SCATTERING:
CONNECTION TO HOMOGENIZATION OF ELECTROMAGNETIC MEDIA

Prof. Ari Sihvola
Fellow IEEE, President of the International Union of Radio Science (URSI),
Aalto University, Finland

Chair: Prof. Yasser Galal
Co-Chair: Prof. Salah Obayya

12:00 - 14:00

WIRS Session

WOMEN IN URSI: RADIO SCIENCE EDUCATION: CHALLENGES AND FUTURE WIRS PERSPECTIVES

Prof. Rowayda Sadek
Saxony Egypt University, Helwan University, Egypt

Chair: Prof. Hadia El Hennawy
Co-Chair: Prof. Rowayda Sadek
Panelist: Prof. Noha Elamary- Prof. Hanady Essa- Prof. Safa Gasser- Prof. Iman Besher

14:00 - 15:30

Session_C2

5G/6G COMMUNICATIONS TECHNIQUES

Chair: Prof. Hesham El-Badawy
Co-Chair: Prof. Hussien Elattar

C4 **Machine Learning Cell Throughput Prediction to Enhance Handover Processes: A Hyperparameter-Tuned Approach within the ORAN Framework**
Ali W. Nassar, Hesham ALy, Hesham M. ElBadawy

C5 **Performance Enhancement for B5G/6G Networks Through the Deployment of IRS Adaptive Group Number Index Modulation**
Mariam El-Hussien, Bassant Abdelhamid, Hesham Elbadawy, Hadia El-Hennawy, and Mehaseb Ahmed

C6 **A MIMO Antenna Design with Modified π-Shaped Moonopoles for sub 6GHz Cellular Communications**
Naser Ojaroudi Parchin, Ahmed S.I. Amar, Sherif A. Khaleel, Mohamed S. Soliman, Ming Shen

14:00 - 15:30

Session_B2

FDA, HOLOGRAPHIC AND PLASMA BASED ANTENNA ARRAYS

Chair: Prof. Saber Zainud Deen
Co-Chair: Associated Prof. Sherif Eldiasty

B4 **Reconfigurable Plasma-Based Planar Array for Generating OAM Radio Waves in The Time Domain**
Shaymaa. M. Gaber, Sarah. Elgiddawy, Ahmed A. Ibrahim, Saber Zainud Deen, Hend A. Malhat, Hesham F.A. Hamed, Hadeer El-Hemaily

B5 **Plasma-Based Circularily Polarized Holographic Surface**

Ghidaa T. Ahmed, Saber H. Zainud-Deen, Hend A. Malhat and Mona M. Badawy

B6 **Reconfigurable Holographic Transmit Reflect Array with OAM Vortex Wave**

Nagwa A. Shabayek, Saber H. Zainud-Deen, Hend A. Malhat, Nermeen A. Eltersy and Mona M. Badawy

B7 **Time Modulated Frequency Diverse Array Using Fractal Antenna**

Doaa M. Azzam, Saber H. Zainud-Deen, Hend A. Malhat and Mona M. Badawy

14:00 - 15:30

Session_D2

ELECTRONIC AND OPTICAL DEVICES

Chair: Prof. Khaled Shehata
Co-Chair: Prof. Ahmed Madian

INV.4 **Advanced Microwave Devices for Sustainable Development**

Prof. Ayman Al-Tager

D4 **Design Of 2D Periodic Ge-Based Structure for Crosstalk Mitigation in High-Density Silicon Photonics**

Nayira M. Elgammal, Mahmoud A. Gaafar, Mohamed Farhat O. Hameed, M.M. Elkholy, S.S.A. Obayya, and B.M. Younis

D5 **Diamond-Shaped Nanowires Solar Cell for Light Absorption Enhancement**

R. El-Bashar, A. Eissa, Mohamed Farhat O. Hameed, Hamdy Abdelhamid, S. S. A. Obayya

15:30 - 17:00

Session_C3

SATELLITE & RADAR SYSTEMS

Chair: Prof. Said El-Khamy
Co-Chair: Prof. Yehia Mehaseb

INV.5 **Ship Detection and Identification: An Overview**

Prof. Mohamed Aly Aboul-Dahab

C7 **MFM-SAT: A Dynamic Authenticated Encryption Suite for Satellite Communication Security**

Ahmed M. Rayan, Ahmed A. Abdel-Hafez, Hanady H. Issa, Khaled A. Shehata

C8 **Enhancing Maneuvering Target Tracking with a Proposed Dual Parameterized Extended Kalman Filter in the IMM Framework**

Essam El-Sherbiny, Hazem Kamel and Ahmed Youssef

15:30 - 17:00

Session_B3

ANTENNA ARRAYS FOR 5G/6G COMMUNICATIONS

Chair: Prof. Mahmoud Abdallah
Co-Chair: Associated Prof. Karim Hamouda

B8 **Planar Antenna Array with Double-Ring Patch Resonators for 6G/THz Wireless Systems**

Haleh Jahanbakhsh Basherlou, Naser Ojaroudi Parchin, Ahmed S.I. Amar, Sherif A. khaleel, Mohamed S. Soliman, and Ming Shen

B9 **A Compact Phased Array Smartphone Antenna with SWB Resonators for MM-Wave 5G/6G Networks**

Naser Ojaroudi Parchin, Ahmed S.I. Amar, Ahmed Samy Saadeldin, Shaimaa Mohassieb, and Ming Shen

B10 **Eight-Element MIMO Antenna with CLOSELY SPACED Loop Resonators for THz and 6G Systems**

Naser Ojaroudi Parchin, Ahmed S.I. Amar, Sherif A. khaleel, Mohamed S. Soliman, Ming Shen

B11 **Dual Band Modified Textile Loaded Monopole Antenna with Bi-Direction Radiation Scheme**

Farah R. Kareem, Hamza M. Ahmed, Toka A. Zaghloul, Mohamed K. Mohamed, Mahmoud A. Abdalla

15:30 - 17:00

Session_K1

BIOMEDICAL APPLICATIONS

Chair: Prof. Imbaby I. Mahmoud
Co-Chair: Prof. Mohammed El Mahalawy

K1 **Enhanced Noise Removal Tool for ECG Signals Using Deep Learning Techniques**

Mahmoud A. Abdelfattah, Belal A. Mohamed, Omar M. Fahmy

K2 **Investigation Of Amyotrophic Lateral Sclerosis Using Bioinformatics Tools**

Shimaa M. Elmakki, Marwa M. A. Hadhoud, Vidan F. Ghoneim

K3 **Surface Plasmon Resonance Detection of *Staphylococcus Aureus* Pathogen**

Sara Mohamed ,Ahmed Kreta ,Karim El-Seherawy ,Mostafa Hassan ,Baraah Hasanin, Heba Refaa ,Shaimaa F. Ahmed, Ahmed Moustafa ,Mohamed A. Swillam

Thursday, May 8th, 2025

9:00 - 10:30

Session_C4

DETECTION AND IMAGE CLASSIFICATION

Chair: Prof. Walid Fakhr
Co-Chair: Prof. Omar Mamdouh

C9 **Speech Emotion Recognition: Leveraging LSTM and Change Point Detection for Continuous Emotion Detection**
Sama A. Yousef, Nada A. Ismail, and Moustafa Elshafei

C10 **Fine-Tuning Transformers for Accurate Music Emotion Recognition**
Alaa A. Khalifa, Khaled O Abdulghani, Rowayda A. Sadek, and Marwa M.A. Elfattah

C11 **DVCS-VIT: Disaster Victim Classification System Using Vision Transformer**
Youssef Shawky Othman, Mohamed Abo Rezka, Ehab Kamel Abousaif, Yasmine N. M. Saleh

C12 **Real-Time UAV Detection Using an Enhanced YOLOv8 Model**
Ahmed F. Serageld ,Hussein A. Elsayed ,Lamiaa Abdel-Hamid

9:00 - 10:30

Session_K2

BIOMEDICAL APPLICATIONS

Chair: Prof. Elsayed Mostafa
Co-Chair: Prof. Amr Bayoumi

K4 **A Single Wavelength LED Photoplethysmography Used for Non-Invasive Glucose Monitoring**
Abdelkareem Fouda, Mohamed El-Banna, Hossam Eldin Abdo

K5 **PIFA Sensor For Blood Clotting Detection**
George Habib, Mustafa Sakr, Angie R. Eldamak, Dalia Elsheakh

K6 **Bat-Shaped Antenna Array for Biomedical Microwave Imaging**
Sherine Ismail Abd El-Rahman, Hany Zamel, Ahmed Attiya

K7 **An All-Fabric Wideband Circularly Polarized Antenna for Low SAR Wearable Applications**
Mohamed El Atrash, Salma Abdellrhman, Duria Khalil, Mahmoud Abdalla

9:00 - 10:30

Session_F-J

REMOTE SENSING AND ASTRONOMY

Chair: Prof. Hanady Eissa
Co-Chair: Dr. Mohamed Darwish

J-1 **High Angular Resolution Observations of the 6.7 GHz Methanol Maser Toward IRAS 18440-0148**
Mohamed S. Darwish, Anita M. S. Richards, And T. Csengeri

F-1 **A Compact Phased Array Dipole Antenna Design For 2THz 6G Communications**
Naser Ojaroudi Parchin, Ahmed S.I. Amar, Sherif A. Khaleel, Mohamed S. Soliman, Ming Shen

F-2 **Analysis And Design of a New Capacitive-Loaded LCRLH Transmission Line for Stop-Band Control**
Ahmed F. Daw1, Rawda M. Torky, Mohamed H. Kanaber, Mahmoud A. Abdalla

F-3 **MACR: Machine-Assisted Coverage Estimation for Radio Planning in Mobile Networks Using a Pre-Trained Approach**
Omar M. Morgan, Kareem A. Elozeiri, Abdulrahman A. Morsy, Mariam M. Neanaii, Mohamed H. Saleh, Mahmoud Abdelaziz

10:30 - 12:30

Workshop II

GRADUATE STUDENTS' ACTIVITIES

Coordinators: Prof. Saber Zainud-Deen, Prof. Salah Obayya
Menoufia Univ., Zewail City, Egypt

Chair: Prof. Saber Zainud-Deen, Prof. Salah Obayya
Co-Chair: Prof. Sherif Fadel

WP1 **Optoelectronic Characterization of Si Hexagonal Nanowires with Cylindri Hole Defects**
Awad Khaled, Mohamed Farhat O. Hameed, Nihal F. F. Areed and Salah S. A. Obayya

WP2 **Numerical modelling of all-perovskite tandem solar cell using SILVACO TCA**
Ahmed M. Fathi Salem, R. El-Bashar, Sanaa M. EL-Rabaie, Hamdy Abdelhamid, Mohar Farhat O. Hameed, and Salah S. A. Obayya

WP3 **Analysis and Design of frequency Diverse Array Antennas**
Doaa M. Azam, Hend A. Malhat, Mona Magdi, and Saber H. Zain El-Deen

WP4 **Efficient Communication of Medical Data in Industrial Internet of Things a Cybersecurity Application**
Fatma Khallaf, El-Sayed El-Rabaie, and Walid El-Shafai

WP5 **Real-time Detection Models for Surrounded Environmental Objects in Highly Automated Vehicles and Inland Vessels**
Ahmad Goudah

13:00 - 14:30

Keynote Speech KS-4

ANTENNA SYSTEMS, OTHER ENGINEERING ELECTROMAGNETIC APPLICATIONS, AND OPPORTUNITIES FOR NETWORKING AND ENGAGEMENTS IN RESEARCH AND EDUCATION THROUGH LEARNED SOCIETIES

Prof. Yehia Anter
Fellow IEEE, Canada Research Chair in Electromagnetic Engineering, IEEE AP-S Distinguished Lecturer, Professor, Former President of IEEE AP,
Royal Military College of Canada & Queen's University Canada

Chair: Prof. Mohammed Abu Eldahab
Co-Chair: Prof. Saber Zainud-Deen

9:00-14:00

Session PS

Chair: Prof. Imbaby I. Mahmoud & Prof. Daila El-Sheikh,
Co-Chair: Prof. Omar Mamdouh & Prof. Noha Elamary & Associate Prof. Mohamed Shehata

POSTERS

I- UNDERGRADUATE POSTERS

P1 **Hexapod Robot for Environmental and Safety Applications (HRES)**
Abdallah Ahmed, Heba Helmy, Kareem Alaa, Maha Yasser, Marwan Mohamed, and Youssef Mohamed
Supervised By: Prof. Hesham El-Badawy,
Arab Academy for Science, Technology & Maritime Transport (Smart Village Campus)

P2 **Implementing Open RAN**
Mariam Rami, Mariam Ehab, Salma Waleed, Michael Nagy, Jorge Garges, and Amr Abdelrahman
Supervised By: Prof. Hesham El-Badawy,
Arab Academy for Science, Technology & Maritime Transport (Smart Village Campus)

P3 **Microwave Imaging for Spotting Bone Fracture**
Nouran Haggag, and Habiba Omar,
Supervised By: Prof. Dalia Elsheakh, Dr. Micheal Ibrahim,
Badr University in Cairo (BUC)

P4 **Microwave Imaging for Bone Fracture Detection**
Amr ElArabawy, Omar Sabry, Kerollos Abd ElAzim, and Pola Gad
Supervised By: Prof. Angie Reda Eldamak, Prof. Dalia Elsheakh, Dr Micheal Ibrahim
Ain Shams University (ASU)

P5 **DAS-Based LTE Enhancement in Dense Buildings: Implementation & Insights**
Mennatullah Mohamed, Yara Hassan, Sama Hassam, Mohamed Khedr, Salma El Sayed, Marten Wafik Roshdy, Peter Edward, and Michael Mina
Supervised By: Prof. Mohamed Amr Mokhtar
Alexandria University

P6 **Driving Monitoring System**
Ahmed Basiouny, Ahmed Abdelbaqy, Mohamed Ayman, Mohamed Fahmy, and Mohamed Ahmed
Supervised By: Dr. Sara Farid
Modern Academy for Engineering and Technology

II- POSTGRADUATE POSTERS

PG1 **Tunable Plasmonic Graphene Terahertz Metasurfaces for Sensing Applications**
Maira Khafagy
Supervised By: Supervised By: Prof. Mohamed A. Swillam
American University in Cairo (AUC)

PG2 **Photodegradation of Escherichia Coli Pathogen Using Cheap Handheld UV-A Laser**
Sara Mohamed, Heba Refaa, and Shaimaa Ahmed
Supervised By: Supervised By: Prof. Mohamed A. Swillam Prof. Ahmed Moustafa, Dr. Christen Tharwat, Dr.Amany Khalifa,
American University in Cairo (AUC), Cairo University

PG3 **Machine Learning Based-Photonic Integrated Spectrometer**
Passant Hesham, Abdelrahman Nasser, and Thomas J. Mickail
Supervised By: Supervised By: Prof. Mohamed A. Swillam
American University in Cairo (AUC),

14:30-16:00

Closing Ceremony

BEST PAPER AND BEST STUDENT PAPER AWARDS
"CLOSING CEREMONY"