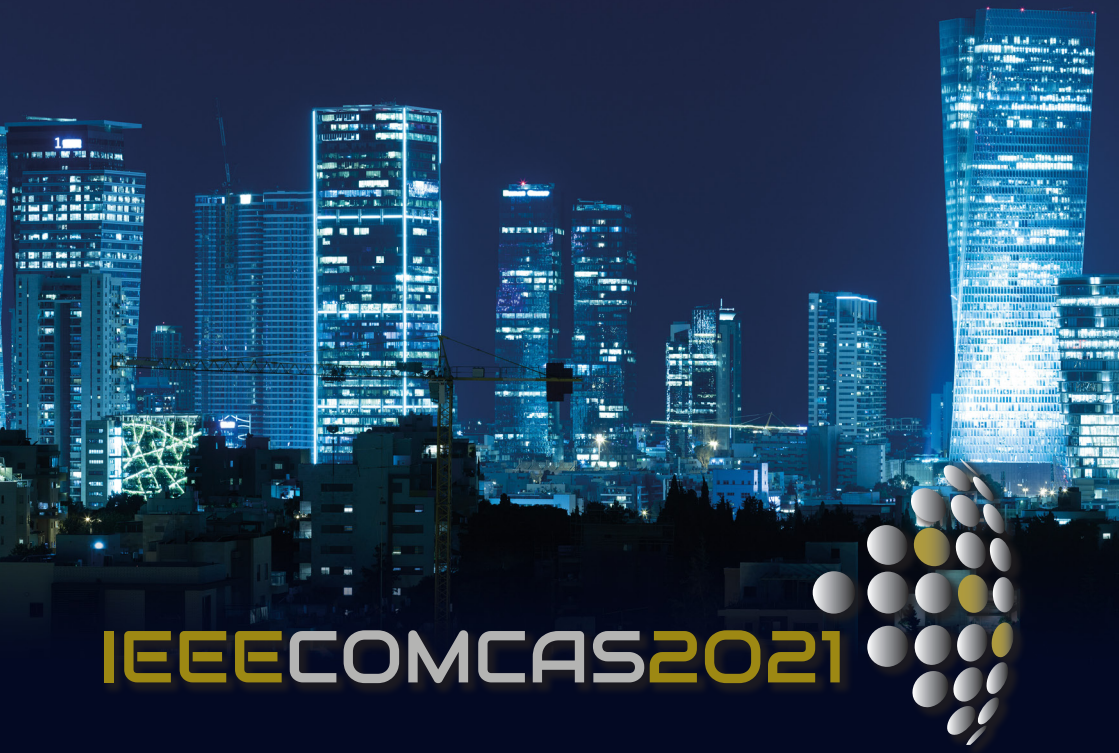

IEEECOMCAS2021

INTERNATIONAL CONFERENCE ON MICROWAVES, COMMUNICATIONS, ANTENNAS, BIOMEDICAL ENGINEERING & ELECTRONIC SYSTEMS

David Intercontinental Hotel
1-3 November 2021 | Tel Aviv, Israel

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Welcome to IEEE COMCAS 2021

IEEE COMCAS is recognized as one of the world's leading IEEE conferences in its field.

IEEE COMCAS 2021 is your opportunity to re-meet your Industry peers providing an advanced multidisciplinary forum for the exchange of ideas, research results, and industry experience in a range of key areas i.e., microwaves, communications and sensors, antennas, biomedical engineering, RF and microwave devices and circuits, thermal management and electronic packaging, signal processing and imaging, as well as radar, acoustics and microwave system engineering.

This event includes a technical program, industry exhibits, and guest presentations from global experts on current academic and industry advancements.

We welcome scientists, engineers, managers, and researchers from academia and industry to be part of this fascinating conference, to share knowledge and interact with leading companies and experts.

Shmuel Auster
General Chair

Amir Boag
Technical Program Chair

LIST OF TOPICS

Communications and Sensors

Beyond 5G – Systems & Technologies
AI, Machine Learning, Deep Learning in Communications and Sensors
Big Data in Communication Networks
MIMO & Space-Time Coding Technologies
5G systems & Millimeter Wave Propagation
Cognitive Radio & Spectral Sharing
Communications Security
First Responder/Military Communications
Green Communication
Internet of Things
Long Range Low Power Networks
Micro/Pico/Femtocell Devices and Systems
Modulation & Signal Processing Technologies
On-Body and Short Range Communications
Radio over Fiber & Optical/Wireless Convergence
Sensor Networks and Technologies
Software-Defined Radio & Multiple Access

Antennas, Propagation, and Scattering

Antenna Theory and Design
Smart Antennas, Beamforming and MIMO
Wave Propagation and Channel Modeling
Wave Scattering and RCS
NanoEM, Plasmonics, and Applications
Metamaterials, FSS and EBG
EM Field Theory and Numerical Techniques
EM Interference & Compatibility, SI
Spectrum Management and Monitoring
ELF, RF, µWave, mmW and THz Measurements

Electronic Packaging & Thermal Management (P&TM)

P&TM of Electronics on Device and PCB Levels
Microelectronics P&TM on Chip Level
P&TM of RF Devices
P&TM of Photonics and Optics
P&TM of Medical Devices
Structural, Joining, and Coating Materials
Destructive and Non-Destructive Testing
Advanced Methods for Thermal Management
Numerical Modeling of Thermal Management
Reliability of Electronic Devices

Biomedical Engineering

Advances in MRI: Technology, Systems and Applications
Medical RF, MW & MMW Applications and Devices
Medical Imaging and Image Processing
Acousto-Optic Technologies
Novel Therapeautic Modalities
Biomedical Systems and Applications
Effects of RF and MW on Biological Tissues

RF/MW Devices and Circuits, RFICs

Solid-State Devices, RFICs
µWave, mmW and Sub-mmW Circuits/Technologies
Nano and THz Devices/Technologies
Microwave Photonics
Passive Components and Circuits
Filters and Multiplexers
Ferroelectrics, RF MEMS, MOEMS, and NEMS
Active Devices and Circuits
RF Power Amplifiers and Devices
Tunable and Reconfigurable Circuits/Systems
Analog/Digital/Mixed RF Circuits
Circuit Theory, Modeling and Applications
Interconnects, Packaging and MCM
CAD Techniques for Devices and Circuits
Emerging Technologies
Internet of Things Devices

Microwave Systems, Radar, Acoustics

Aeronautical and Space Applications
RFID Devices/Systems/Applications
Automotive/Transportation Radar & Communications
Environmentally Sensitive (“Green”) Design
UWB and Multispectral Technologies & Systems
Emerging System Architectures
Modelling Techniques for RF Systems
Radar Techniques, Systems and Applications
Sonar Systems and Applications
Wireless Power Transfer & Energy Harvesting
Terahertz Systems
AI, Machine Learning, Deep Learning in Microwave, Radar, and Acoustic Systems

Signal Processing (SP) and Imaging

Microwave Imaging and Tomography
Acoustic/Sonar Imaging and Techniques
Radar SP and Imaging, SAR, ATR
MIMO SP for Radar
Ground and Foliage Penetration Systems
Signal Acquisition and Sensor Management
DF, Emitter Location, Elint, Array Processing
Target Detection, Identification and Tracking
Data Fusion
Time Domain and UWB SP
AI, Machine Learning, Deep Learning in Signal and Image Processing

KEYNOTE SPEAKERS

Dr. Mark E. Davis
IEEE AESS President-Elect
MEDAVIS Consulting
USA

Prof. Yael Hanein
Tel Aviv University
Israel

Prof. Goutam Chattopadhyay
California Institute of Technology
USA

Prof. Gerhard P. Fettweis
TU Dresden, 5G Lab
Germany

Massimo Claudio Comparini
Thales Alenia Space
Italy

Prof. Stefano Maci
University of Siena
Italy
IEEE APS President-Elect

INVITED SPEAKERS

Prof. Vadim Issakov
Braunschweig University
of Technology
Germany

Prof. Dmitri Mogilevtsev
Institute of PhysicsNational
Academy of Sciences
Belarus

Prof. Paolo Rocca
ELEDIA Research Center
University of Trento
Italy

Prof. Ludger Klinkenbusch
Kiel Universit
Germany

Prof. François Rivet
University of Bordeaux,
France

Prof. Vladimir I. Okhmatovski
University of Manitoba,
Canada

Dr. Nicola Anselmi
ELEDIA Research Center
University of Trento
Italy

Prof. Giacomo Oliveri
ELEDIA Research Center
University of Trento
Italy

Dr. Lorenzo Poli
ELEDIA Research Center
University of Trento
Italy

Prof. Balasubramaniam Shanker
Michigan State University
USA

Prof. Christine Letrou
Télécom SudParis
France

Prof. Andrii Chumak
University of Vienna
Austria

Partial list, for the full list of speakers, visit the conference website

INVITED SPEAKERS

Prof. Vladimir Belotelov
Russian Quantum Center
and Moscow State University
Russia

Prof. Constantin (Konstantin) R. Simovski
Aalto University
Finland

Dr. Corentin Coulais
University of Amsterdam
The Netherlands

Dr. Victor Pacheco Peña
Newcastle University
UK

Prof. Michael R. Haberman
University of Texas
USA

Prof. Massimo Ruzzene
University of Colorado Boulder
USA

Prof. Vincenzo Vitelli
University of Chicago
USA

Dr. Anton Souslov
University of Bath
UK

Dr. Mikhail Shalaginov
MIT
USA

Prof. Yan-Feng Wang
Tianjin University
China

Prof. Romain Fleury
EPFL
Switzerland

Prof. Andrea Massa
ELEDIA Research Center
University of Trento
Italy

PROGRAM AT A GLANCE

MONDAY, NOVEMBER 1, 2021

Hall	Grand Ballroom
09:20	**Plenary Session** **NASA Technologies to Find Life Beyond Earth and Answers to Other Science Questions** Goutam Chattopadhyay (NASA-JPL/Caltech, USA)
09:55	**Plenary Session** **Evolution of Space On-Board Technologies in the global geospatial and connectivity era** Massimo Comparini (E-GEOS, Italy)
10:30	Coffee Break & Visit the Exhibition
11:00	**Plenary Opening Session** **Welcome Address**
11:30	**Plenary Session** **Addressing 6G Energy Efficiency with a Gearbox-PHY** Gerhard P. Fettweis (Technische Universität Dresden, Germany)
12:05	**Plenary Session** **Electrophysiology Meets Printed Electronics: The Beginning of a Beautiful Friendship** Yael Hanein (Tel-Aviv University, Israel)
12:40	Lunch & Visit the Exhibition

Hall	Grand A	Grand B	Grand C	Royal H	Royal I	Royal J	Room 3	Room 4	Room 5
14:00	CS1: Network Routing and Performance	WIE: Women in Engineering	MSR1: Microwave Systems & Radar 1	AP1: Antennas & Radoms	UWA1: Special Session: Underwater Acoustics 1	BM: Biomedical Engineering	CP: Special Session: Computational Photonics: Theory and Applications		CT1: Commercial Track 1
15:50	Coffee Break & Visit the Exhibition								
16:10	CS2: Communications for Societal Needs	YP: Young Professionals	MSR2: Microwave Systems & Radar 2	AM1: Special Session: Active Metamaterials 1	UWA2: Special Session: Underwater Acoustics 2	BEM: Bio-electromagnetism	ERF: Emerging and novel RF technologies: From computational techniques to devices, circuits and modules		CT2: Commercial Track 2

PROGRAM AT A GLANCE

TUESDAY, NOVEMBER 2, 2021

Hall	Grand A	Grand B	Grand C	Royal H	Royal I	Royal J	Room 3	Room 4	Room 5
09:00	CS3: Evolving Communications and Sensing Technologies	CMOS: Special Session: Millimeter-wave CMOS Circuits for Wideband Communication and Imaging Applications	CEM1: Special Session: Advanced Methods in Computational Electromagnetics 1	AMTA: AMTA Session on Antenna Measurements and RCS	EWT: Special Session: Electromagnetic Wave Theory	UWBR: Tutorial: Ultra Wide Band Surveillance Radar	SCI1: Short Course: Inverse Scattering and EM Imaging - Theory, Techniques, and Applications		AP3: Electromagnetic Compatibility
10:50	Coffee Break & Visit the Exhibition								
11:10	CS4: Communication Theory, Software and Techniques	RF1: Advances in RFIC and MMIC	CEM2: Special Session: Advanced Methods in Computational Electromagnetics 2	AP4: Electromagnetic Propagation	AM2: Special Session: Active Metamaterials 2	AP2: Antenna Theory and Design	SCI2: Short Course: Inverse Scattering and EM Imaging - Theory, Techniques, and Applications 2		SP1: Signal Processing & Imaging 1
13:00	Lunch & Visit the Exhibition								
14:20	CS5: Future of Wireless Communications	RF2: Passive Elements and Interconnects	AP6: Numerical and computational methods in EM	QA1: Special Session: Quantum Antennas and Photonic Quantum Sensing 1	AM3: Special Session: Active Metamaterials 3		SCI3: Short Course: Inverse Scattering and EM Imaging - Theory, Techniques, and Applications 3		SP2: Signal Processing & Imaging 2
16:20	**Interactive Forum (Poster Session + Happy Hour)**								

WEDNESDAY, NOVEMBER 3, 2021

Hall	Royal H	Royal I	Royal J	Room 3	Room 4	Room 5
09:00	RF3: Solid State Emerging Technologies and Techniques	AP5: Metamaterials, Metasurfaces	CM1: CELEMON 1	SCA1: Short Course: Array Antenna Synthesis - Theory, Techniques, and Applications 1	QA2: Special Session: Quantum Antennas and Photonic Quantum Sensing 2	EPS1: Electronic Packaging & Thermal Management 1
10:50	Coffee Break					
11:10	W5G: Workshop: Advances in Full Duplex and FDD Integrated Systems for 5G Radios	SM1: Special Session: Scattering Management with Metamaterials and High index Composites 1	CM2: CELEMON 2	SCA2: Short Course: Array Antenna Synthesis - Theory, Techniques, and Applications 2	CSW1: Special Session: Coupling of Spin Waves with Microwave and Optical Radiation 1	EPS2: Electronic Packaging & Thermal Management 2
13:00	Lunch					
Hall	Royal H	Royal I	Royal J	Room 3	Room 4	Room 5
14:20		SM2: Special Session: Scattering Management with Metamaterials and High index Composites 2	CM3: CELEMON 3	SCA3: Short Course: Array Antenna Synthesis - Theory, Techniques, and Applications 3	CSW2: Special Session: Coupling of Spin Waves with Microwave and Optical Radiation 2	EPS3: Electronic Packaging & Thermal Management 3
16:10	Short Break					

Hall	Royal H	Royal I	Royal J
16:20	**Plenary Session** **A Technical Confluence of UWB Radar and Communications in a Congested RF Environment** Mark E. Davis (Medavis Consulting, USA)		
16:55	**Plenary Session** **A new generation of metasurface antennas** Stefano Maci (University of Siena, Italy)		
17:30	**Awards Ceremony & Closing**		

SHORT COURSES & TUTORIALS

Communications and Sensors track

Special Session: Cyber Security for Underwater Communication – Roee Diamant

Workshop: Commercial Microwave Links for Environmental Monitoring (CELENMON) – Hagit Messer-Yaron

Special Session: Future of Communications Panel Session - Irv Kalet

Antennas, Propagation, and Scattering track

Special Session: Scattering Management with Metamaterials and High-index Composites – Pavel Ginzburg

Special Session: Advanced Methods in Computational Electromagnetics – Yaniv Brick

Special Session: Electromagnetic Wave Theory – Yakir Hadad

Special Session: Quantum Antennas and Photonic Quantum Sensing - Gregory Slepyan & Dmitri Mogilevtsev

Special Session: Computational Photonics: Theory and Applications - Grigorios Zouros & Nikolaos Tsitsas

Special Session: Coupling of Spin Waves with Microwave and Optical Radiation - Grigorios Zouros & Evangelos Almpanis

Special Session: Spectrum Control (management & monitoring) and EMF Exposure - Haim Mazar

AMTA session on Antenna Measurements and RCS – Lars Foged

Special Session: Nonlinear Guided Wave Propagation – Boris Malomed

Biomedical Engineering track

Special Session: Bio-electromagnetism – Yarden Mazor & Emily Porter

RF/MW Devices and Circuits, RFIC track

Special Session: Millimeter-wave CMOS Circuits for Wideband Communication and Imaging Applications – Eran Socher

Special Session: Emerging and novel RF technologies: From computational techniques to devices, circuits and modules – John Papapolymerou

Microwave Systems, Radar, Acoustics track

Special Session: Active Metamaterials and Metasurfaces - Lea Beilkin

Special Session: Automotive Radar - Joseph Tabrikian & Igal Bilik

Special Session: Underwater Acoustics – Roi Blumberg

Venue

The conference will take place at the David Intercontinental Hotel Tel-Aviv

Language

The official language of the Conference is English.

Registration

קטגוריה	תשלום מ 14.09.2021
שלושה ימים	
משתתף	₪ 1,990
חברי IEEE, לשכת המהנדסים, אילטם ומרצים	₪ 1,750
סטודנטים*	₪ 1,145
יומיים	
משתתף	₪ 1,600
חברי IEEE, לשכת המהנדסים, אילטם ומרצים	₪ 1,420
סטודנטים*	₪ 825
יום אחד	
משתתף	₪ 1,300
חברי IEEE, לשכת המהנדסים, אילטם ומרצים	₪ 1,150
סטודנטים*	₪ 700
סטודנטים מוזל**	₪ 405
רישום לסדנה CELLENMON של אוני' תל אביב	₪ 360

דמי הרשמה (כולל מע"מ)

* מיועד לסטודנטים לתואר ראשון או שני, בכפוף לאישור המזכירות בה הוא/היא לומד/ת במערכת מלאה. כמו כן מיועד לסטודנטים דוקטורנטים לתואר שלישי מאוניברסיטאות המחקר (תל אביב, טכניון, בן גוריון, ירושלים, ויצמן, חיפה או אריאל) המאושרות על ידי המל"ג ובכפוף להצגת תעודת מילגאי.

Covid Safe Event

Green Pass reviews for participants according to the updated guidelines expected to be published and applied starting October 3, including a QR code for Green Pass holders

- Only Green pass holders will be employed onsite - Ortra, hotel team, and all subcontractors
- Rapid (Antigen) Diagnostic Testing for COVID-19 for participants who cannot display a green pass
- Increasing conference and halls spaces - 2021 IEEE COMCAS expect to host about 600 people in a spacious venue that can easily accommodate over 2000 people, including spacious seating in each hall
- Food & beverages will be served according to guidelines and beyond
- Registration will include scattered self-registration stations and self-printed tags
- Extensive signage will be onsite to remind participants of distancing and regulations

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Conference Secretariat

ORTRA MEETING POINT

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