

MONDAY, NOVEMBER 02, 2015

07:30-18:00 Registration

09:15-10:30 MO1: Plenary Session - Radar and Microwave Technologies, Salon A + B + C

09:20 Unique Multi Mission Radar in Iron Dome System

Israel Oznovich

Elta Systems Ltd., Ashdod, Israel

09:55 GaN Technology and Applications

Frank Traut

RF and Microwave Technology, MACOM Technology, USA

10:30-11:00 Coffee Break, Foyer

11:00-11:45 MO2A: Plenary Opening Session, Salon A + B + C

Welcome Address:

Shmuel Auster, Conference Chair

Amir Boag, Technical Program Committee Chair

Doug Zuckerman, ComSoc

George Ponchak, IEEE MTTs

Andrew Gibson, EUMW 2016 Chair

Guy Sene, Keysight Technologies

11:45-12:50 MO2B: Plenary Session - Defense Challenges and Green Communication, Salon A + B + C

11:45 Green Radio Communication Technologies for 5G and Beyond

Hanna Bogucka

Poznan University of Technology, Poznan, Poland

12:20 The Techno Challenges of Maritime Information Warfare

Dale F. Reding

National Defence, Ottawa, Canada

12:50-14:20 Lunch, Foyer

14:20-16:10 MO3A: Power Amplifiers and Device Modeling, Salon A

Chair: Avram Bar-Cohen

14:20 Microwave and Millimeter Wave Power Amplifiers: Technology, Applications, Benchmarks, and Future Trends

James J. Komiak

BAE Systems, Nashua, United States

- 14:50 Design Aspects and Performance of Cost-efficient Packaged Power Amplifiers**
Alexandre Bessemoulin, Jabra Tarazi, Peter Evans, Simon J. Mahon
 MACOM, North Sydney, Australia
- 15:10 Examples of High-speed Harmonic Load Pull Investigations of High-Efficiency GaN Power Transistors**
Mauro Marchetti¹, Thomas Maier², Vincenzo Carruba², Stephan Maroldt², Markus Mušer²,
 Ruediger Quay²
¹Anteverta-mw B.V., Delft, Netherlands
²Fraunhofer Institute of Applied Solid-State Physics (IAF), Freiburg, Germany
- 15:30 A 2-19 GHz, High-Gain MMIC PA on an Advanced GaN Process**
Raj Santhakumar, Tuong Nguyen
 Qorvo, Texas, USA
- 15:50 High Efficiency Doherty Power Amplifier Design using Enhanced Poly-Harmonic Distortion Model**
 Christophe Maziere, Damien Gapillout, Alain Xiong, **Tony Gasseling**
 Amcad Engineering, Limoges, France

14:20-16:10 MO3B: Antennas I, Salon B

Chair: Reuven Shavit

- 14:20 Wide-angle Scanning Optical Linear Phased Array**
Zeev Iluz¹, Amir Boag²
¹CST AG, Darmstadt, Germany
²Tel Aviv University, Tel Aviv, Israel
- 14:40 Design of a High Gain Open Waveguide Antenna Combined With an Active Frequency Selective Surface**
Vladimir Vulfin, Reuven Shavit
 Ben Gurion University of the Negev, Beer Sheva, Israel
- 15:00 Efficient EM CAD and Optimization of Antennas and Arrays by Hybrid Methods**
Fritz Arndt
 University of Bremen, MIG - Microwave Innovation Group, Bremen, Germany
- 15:20 Material Induced Changes of Antenna Performance in Vehicular Applications**
Gerald Artner, Robert Langwieser, Christoph Mecklenbräuer
 Vienna University of Technology, Vienna, Austria
- 15:40 Novel Microwave Antennas Based on Magnetostatic-Mode Ferrite Resonators**
 Eugene O. Kamenetskii, **Maksim Berezin**, Reuven Shavit
 Ben Gurion University of the Negev, Beer Sheva, Israel

14:20-16:10 MO3C: Radar Signal Processing, Salon C

Chair: Igal Bilik

- 14:20 Invariant Polarimetric Parameters for Signal Processing in Weather Radar**

Anna N. Rudyakova, Rustem B. Sinitsyn, **Felix J. Yanovsky**
National Aviation University, Kiev, Ukraine

14:40 Increased Ambiguity Resolution in Digital Radio Frequency Receivers

John C. Rice, Robert F. Mills, Jesse Peterson, Michael A. Temple
Air Force Institute of Technology, Wright-Patterson AFB, United States

15:00 Radar MTI 3-Pulse Canceller Design for Slow Targets

Nadav Levanon, Itzik Cohen
Tel Aviv University, Tel Aviv, Israel

15:20 ISAR Imaging of Multiple Targets Based on Sparse Representations

Xiao Dong, **Yunhua Zhang**, Xiang Gu, Wenshuai Zhai
Center for Space Science and Applied Research, Chinese Academy of Sciences, Beijing, China

15:40 SAR imagery by RotoSAR

Massimiliano Pieraccini, Federico Papi, Silvestro Rocchio
University of Florence, Firenze, Italy

14:20-16:10 MO3H: Networking Technologies: Synchronization, Interference Mitigation and Spectrum Utilization, Royal H

Chair: Arie Reichman

14:20 Evolution of Space Architecture and Technologies for Ultra Broadband Communications

Massimo Comparini
Italian Space Technology Platform, Rome, Italy

14:50 Distributed Network Synchronization

Arie Reichman, Miri Priesler, Shahaf Israel Wayer
Ruppin Academic Center, Emek Hefer, Israel

15:10 Synchronization for NC-OFDM-Based Cognitive Radio, Robust Against Narrowband Primary User

Pawel Kryszkiewicz, **Hanna Bogucka**
Poznan University of Technology, Poznan, Poland

15:30 Radio Frequency Interference Cancellation in Wireless Communication Systems

Solon Jose Spiegel¹, Lior Blanka², Haim Kupershmidt², Haim Ben Sinour², Yaki Abecasis², Adi Levi², Moshe Haiut²
¹Rio Systems, Givat Shmuel, Israel
²DSPG, Herzliya, Israel

15:50 Heterogeneous Spectrum Bands Aggregation Prototype with Cognitive Radio Capabilities

Emmanouil Antonopoulos^{1,2}, Fotis Plessas^{1,2}, Fotis Foukalas^{1,2}, **Ioannis Zografopoulos**^{1,2}
¹Athena Research and Innovation Center, Patras, Greece
²University of Thessaly, Volos, Greece

14:20-16:10 MO3I: Defense and UAS Applications – Invited Session, Royal I

Chair: Larry Chasteen

14:20 The U.S. Ballistic Missile Defense System

Larry Chasteen

University of Texas at Dallas, Dallas, United States

15:10 Challenges in Air Defense and Early Warning Radar Systems

Vicky Alman, Moshe Dehokerker, Moshe Chiprut

Elta Systems Ltd., Ashdod, Israel

16:10-16:30 Coffee Break, Foyer

16:30-18:20 MO4A: Passive Circuits and Components, Salon A

Chair: Solon Spiegel

16:30 High-Q Tunable Filters for Wireless Base Station Applications

Raafat R. Mansour

University of Waterloo, Waterloo, Canada

17:00 Transformers with Incorporated Filtering Capabilities Exploiting Signal-Interference Principles

Roberto Gomez-Garcia¹, Raul Loeches-Sanchez¹, Dimitra Psychogiou², **Dimitrios Peroulis**²

¹*University of Alcalá, Alcalá de Henares, Spain*

²*Purdue University, West Lafayette, United States*

17:20 Design Method for Wideband Direct-Coupled Resonator Filters with Electric or Magnetic Couplings

Mateusz Zukocinski, Adam Abramowicz

Warsaw University of Technology, Warsaw, Poland

17:40 Linearized Electro-Optic Racetrack Modulator Based on Double Injection Method in Silicon

Roei Aviram Cohen, Ofer Amrani, Shlomo Ruschin

Tel Aviv University, Tel Aviv, Israel

18:00 A Continuously Tunable 95-138 MHz Bandpass Resonator with 40 dBm IIP₃

Kaiyuan Zeng, Dimitra Psychogiou, Wesley N. Allen, **Dimitrios Peroulis**

Purdue University, West Lafayette, United States

16:30-18:20 MO4B: Computational Methods I, Salon B

Chair: Vitaly Lomakin

16:30 Electromagnetic and Micromagnetic Solvers on GPUs

Vitaliy Lomakin¹, Ruinan Chang¹, Sidi Fu¹, Shaojing Li¹, Amir Boag²

¹*University of California, San Diego, USA*

²*Tel Aviv University, Tel Aviv, Israel*

17:00 Analysis of Scattering by Essentially Convex Bodies Using the Directive Source Integral Equation

Arkady Shershevsky, **Amir Boag**
Tel-Aviv University, Tel-Aviv, Israel

17:20 Emulation of Complex Optical Phenomena with Radio Waves

Pavel Ginzburg¹, Dmitry S. Filonov², Alexander S. Shalin¹, Pavel A. Belov¹
¹ITMO University, St. Petersburg, Russian Federation
²Tel Aviv University, Tel Aviv, Israel

17:40 Analysis of Convex PML Media

Kamalesh Karthik Sainath, Fernando Lisboa Teixeira
The Ohio State University, Columbus, OH, USA

18:00 Iterative Physical Optics (IPO) with Integral Evaluation of Self-Shadowing

Igor Gershenzon, Yaniv Brick, Amir Boag
Tel Aviv University, Tel Aviv, Israel

16:30-18:20 MO4C: Non-Intrusive Monitoring, Salon C

Chair: Itzik Klein

16:30 THz Upconversion Imaging System, Based on 1.55 μm Coherent Electro-Optical Sampling Method Using GaAs Crystal

Amir Abramovic, **Tamir Ilan**
Ariel University, Ariel, Israel

16:50 Microwave Holography for NDT of Dielectric Structures

Sergey I. Ivashov¹, Vladimir V. Razevig¹, Igor A. Vasiliev¹, Andrey V. Zhuravlev¹, Timothy D. Bechtel², Lorenzo Capineri³
¹Bauman Moscow State Technical University, Moscow, Russian Federation
²Franklin and Marshall College, Lancaster, United States
³University of Florence, Firenze, Italy

17:10 Applications of Compressed Sensing for Locating Harmonic Distortions in Power Systems

Yoash Levron, **Zeev Kustanovich**
Technion - Israel Institute of Technology, Haifa, Israel

17:30 Application of Compressed Sensing and Sparse Representations for State Estimation in Power Systems

Igal Rozenberg, Yoash Levron
Technion - Israel Institute of Technology, Haifa, Israel

16:30-18:20 MO4H: Communication Measurements, Implementations and Resource Allocation, Royal H

Chair: Jay Weitzen

- 16:30 Comparing RSRP,CQI, and SINR Measurements with Predictions for Coordinated and Uncoordinated LTE Small Cell Networks**
Jay A. Weitzen^{1,2}, Rachel Wakim², Erin Webster¹
¹University of Massachusetts Lowell, Lowell, United States
²Airvana, Chelmsford, United States
- 16:50 Scanner Based Drive Test LTE Capacity Measurements with MIMO Antennas Placed Inside the Vehicle**
James H. Schaffner¹, Hyok Jae Song¹, Arthur Bekaryan¹, Timothy Talty², Duane Carper², Eray Yasan²
¹HRL Laboratories, Malibu, United States
²General Motors, Warren, United States
- 17:10 Optimizing Frequency Modulation Band Channels for Terrestrial Radio Broadcasting: The Case of Uganda**
Paul Bogere, Roseline Nyongarwizi Akol, Julius Butime
Makerere University, Kampala, Uganda

16:30-18:20 MO4I: Embedded Electronic Systems and Sensors, Royal I

Chair: Reuven Shavit

- 16:30 A Novel Concept for RF-System-In-Package High Volume Production Measurements**
Ariel Rosenberg¹, Nadav Buadana¹, Amir Lin², Roni Livney¹
¹Rafael Advanced Defense Systems LTD., Haifa, Israel
²Israel Military Industries (IMI) LTD., Ramat Hasharon, Israel
- 16:50 Passive Time Domain Reflectometry Based Authentication for Controller Area Network Bus**
Moshe Laifenfeld
General Motors, Herzlia, Israel
- 17:10 Magnetic Controlled Navigating System for a Micro-robot Through the Blood Vessels**
Reuven Shavit, Ron Misgav
Ben-Gurion University of the Negev, Beer-Sheva, Israel
- 17:30 Multi-Level 20 Gbit/s PSSS Transmission Using a Linearity-Limited 240 GHz Wireless Frontend**
Tobias Messinger¹, Karthik KrishneGowda², Florian Boes¹, Dominik Meier¹, Andreas C. Wolf³, Axel Tessmann⁴, Rolf Kraemer², Ingmar Kallfass¹
¹University of Stuttgart, Stuttgart, Germany
²Brandenburg University of Technology Cottbus-Senftenberg, Cottbus, Germany
³Wireless GmbH, Teltow, Germany
⁴Fraunhofer Institute for Applied Solid State Physics, Freiburg, Germany
- 17:50 Biomedical Monitoring Using Electronic Capsule**
Shai Sayfan-Altman, Vladimir Vulfin
ANSYS, Holon, Israel

16:30-18:20 MO4J: When Switching Speed Is Important + Seminar: Advanced Frequency Synthesizers - Seminar, Royal J

Chair: Uri Yaniv

16:30 When Switching Speed is Important: Advanced Frequency Synthesizers

Uri Yaniv

FEI-Elcom Tech, Inc., USA

TUESDAY, NOVEMBER 03, 2015

08:00-17:00 Registration

09:00-10:50 TU1A: Computational Methods II, Salon A

Chair: Qing Liu

09:00 The Mixed Spectral Element Method for Overcoming the Low Frequency Breakdown Problem in Electromagnetics

Qing Huo Liu^{1,2}, Yuanguo Zhou¹, Na Liu

¹Xiamen University, Xiamen, China

²Department of Electrical and Computer Engineering, Duke University, USA

09:30 On the Accuracy of EM Simulations of Phased Arrays Modeled by Far-Field Sources

Branko L. Mrdakovic¹, Gregory Lukovsky², Moti Ben Harush², Nimrod Teneh², Branko M. Kolundzija³

¹WIPL-D, Belgrade, Yugoslavia

²Tel Aviv University, Tel Aviv, Israel

³University of Belgrade, Belgrade, Yugoslavia

09:50 Modeling and Simulation of Millimeter Wave Vacuum Electronic Devices at The Naval Research Laboratory

Alexander Vlasov¹, Baruch Levush¹, Igor Chernyavskiy¹, Simon Cooke¹, John Pasour¹, George Stantchev¹, Khanh Nguyen², Edward Wright², David Chernin³, John Petillo³, Thomas Antonsen³

¹Naval Research Laboratory, Washington, United States

²Beam Wave Research, Bethesda, United States

³Leidos Inc., Reston, United States

10:10 Photonic Nano-Antennas: Directive Emission and Quantum State Transformation

Gregory Slepyan, Amir Boag

Tel Aviv University, Tel Aviv, Israel

10:30 Optimal Antenna Synthesis Problem Solution Using the Method of Auxiliary Sources

Revaz S. Zaridze, Vasil A. Tabatadze, Ivan M. Petoev, Tornike Tchabukiani

Tbilisi State University, Tbilisi, Georgia

09:00-10:50 TU1B: Bio-Medical Applications- Invited Session, Salon B

Chair: Reuven Shavit

09:00 Nanocarriers as Emerging Platforms for Personalized Cancer Therapy

Dan Peer

Tel Aviv University, Tel Aviv, Israel

09:40 Convergence of Engineering/Physical Sciences and Biomedical Applications: Bringing the Best of Both Worlds

Larry Nagahara

National Cancer Institute (NCI), USA

10:20 Microwave Diagnostics for Ablation of the Liver

Ruth Rotman

Elta IAI, Ashdod, Israel

09:00-10:50 TU1C: Issues in Power Amplification and Management, Salon C

Chair: James J. Komiak

09:00 Near-Junction Microfluidic Thermal Management of RF Power Amplifiers

Avram Bar-Cohen, Joseph Maurer, Abirami Sivananthan

Defense Advanced Research Projects Agency, Arlington, United States

09:30 Modeling Parallel Amplifiers

Howard Hausman

L3-Narda-MITEQ, Hauppauge, NY, USA

09:50 VNA Based Load Pull Harmonic Measurement De-embedding Dedicated to Waveform Engineering

Tony Gasseling, Christophe Charbonniaud

Amcad Engineering, Limoges, France

10:10 Implications of Using kW-level GaN Transistors in Radar Systems

John Walker, Daniel Koyama, Apet Barsegyan

Integra Technologies Inc., El Segundo, United States

09:00-10:50 TU1H: Software and MIMO Techniques, Royal H

Chair: Stephen Weinstein

09:00 Synthesis of Ultra-Wideband Signals Receiver Algorithm Based on Markov Theory of Nonlinear Filtering

Renat Abdullin, Rostislav Sokolov

Ural Federal University, Yekaterinburg, Russian Federation

09:20 Enhanced Turbo Equalizer Using 2 Dimensional Iterative Soft Decision Interference Cancellation

Doron Shinbox, Dan Raphaeli

Tel Aviv University, Tel Aviv, Israel

09:40 Performance Gains from Directional Antennas in Full-Duplex Systems

Constantinos Psomas¹, Christodoulos Skouroumounis¹, **Ioannis Krikidis**¹, Antonis Kalis², Zenonas Theodosiou², Anastasis Kounoudes²

¹University of Cyprus, Nicosia, Cyprus

²SignalGeneriX Ltd, Limassol, Cyprus

10:00 A Novel Modulation Technique for Spectral Efficiency Enhancement of Ternary Precoded Continuous Phase Modulation

Dominik Rieth^{1,2}, Christoph Heller², Gerd Ascheid¹

¹RWTH Aachen University, Aachen, Germany

²Airbus Group, Munich, Germany

09:00-10:50 TU1I: Novel Packaging, RFID, and High Frequency Systems Concepts, Royal I

Chair: Raafat R. Mansour

09:00 Noise Reduction by Pixel Circuit Optimization in 4-T Pixel Structure Detectors Using Integrated Circuit Technologies

Johan Venter, Saurabh Sinha
University of Johannesburg, Johannesburg, South Africa

09:20 A 24 GHz RFID System-on-a-Chip with On-Chip Antenna, Compatible to ISO 18000-6C / EPC C1G2

Sascha Lischer, **Michael Heiss**, Matthias Landwehr, Wolf-Joachim Fischer
Fraunhofer IPMS, Dresden, Germany

09:40 An Industry-level Implementation of a Compact Microwave Diode Switch Matrix for Flexible Input Multiplexing of a Geo-stationary Satellite Payload

Alexander Ebert¹, Saqib Kaleem¹, Jens Mueller¹, Ralf Stephan¹, Dirk Stoepel¹, Tobias Kaesser², Willibald Konrath², Matthias A. Hein¹
¹*Technische Universität Ilmenau, Ilmenau, Germany*
²*Tesat Spacecom GmbH & Co. KG, Backnang, Germany*

10:00 Challenges in Designing Coils to Enable Wireless Powering in Electric Vehicles and Their EMC Safety Compliance

Shishir Shanker Punjala
Tata Consultancy Services, Hyderabad, India

09:00-10:50 TU1J: RF-Power GaN (LDMOS) and SiGe - Seminar, Royal J

Chair: Franz Dielacher

09:00 Introduction and Applications

Franz Dielacher
Infineon Technologies AG, Neubiberg, Germany

09:20 GaN Technology Overview

09:50 Industrial GaN and LDMOS Products

Bertil Skoglund
Infineon Technologies AG, Neubiberg, Germany

10:20 SiGe mm-Wave Products and Applications

Marco Piloni
Greenwave, Milan, Italy

10:50-11:10 Coffee Break, Foyer

11:10-13:00 TU2A: Antennas for Medical Applications, Salon A

Chair: Ali Yilmaz

- 11:10 Quantifying the Performance of UHF-Band Antennas near Humans Using Anatomical Body Models and a Fast Integral-Equation Method**
Ali E. Yilmaz, Jackson W. Massey
The University of Texas, Austin, TX, USA
- 11:40 Numerical Analysis of Time-Varied Radio Frequency Induced Heating on and near an Implant during Magnetic Resonance Imaging**
Mikhail Kozlov, Gregor Schaefers
MR:comp GmbH, Gelsenkirchen, Germany
- 12:00 Study of a Thin Applicator for Microwave Ablation of Liver Malignant Tumor**
Nikolay Tal, Dor Oz, Yehuda Leviatan
Technion - Israel Institute of Technology, Haifa, Israel
- 12:20 Robustness of 300MHz 8-Channel Dual-Row Transmit Arrays for MRI**
Mikhail Kozlov, Harald Moeller
Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 12:40 An Assessment of Radio Frequency Induced Heating of an Implant**
Mikhail Kozlov, Gregor Schaefers
MR:comp GmbH, Gelsenkirchen, Germany

11:10-13:00 TU2B: Signal Analysis and Fusion, Salon B

Chair: Nadav Levanon

- 11:10 Observability Conditions for Fusion of Asynchronous Measurements from Multiple Passive Sensors**
Itzik Klein¹, Yaakov Bar-Shalom¹, Yeshaya Lipman²
¹*University of Connecticut, Storrs, United States*
²*Rafael Advanced Defense Systems LTD., Haifa, Israel*
- 11:30 New Approach to Estimation of Parabolic Chirp Signal with Unknown Parameters**
Ilan Rusnak, Liat Peled-Eitan
Rafael Advanced Defense Systems LTD., Haifa, Israel
- 11:50 Interference-Nulling Time-Reversal Beamforming for mm-Wave Massive MIMO Systems**
Carlos A. Viteri-Mera², Fernando L. Teixeira¹, Kamalesh Sainath¹
¹*ElectroScience Laboratory, The Ohio State University, Columbus, United States*
²*Universidad de Narino, Pasto, Colombia*
- 12:10 Transient Signal Characterization using Multi-Lag Phase Space Analysis**
Angela Digulescu², Cindy Bernard¹, Elena Lungu², Ion Candel¹, Cornel Ioana¹, Gabriel Vasile¹
¹*Grenoble Institute of Technology, Grenoble, France*
²*Sigintec, Grenoble, France*

11:10-13:00 TU2C: Millimeter-Wave Circuits and Applications, Salon C

Chair: Aleksey Dyskin

- 11:10 A 300 GHz Multi-Stage Balanced Variable Gain Amplifier With Tandem-X Couplers**
Iulia Dan¹, Dominik Meier¹, Sandrine Wagner², Hermann Massler², Axel Tessmann², Arnulf Leuther², Ingmar Kallfass¹
¹University of Stuttgart, Stuttgart, Germany
²Fraunhofer, Freiburg, Germany
- 11:30 An On-Chip Active Frequency Multiplier-by-Seven (X-band to W-band) for Millimeter-Wave Signal Generation**
Firass Musbah Mustafa, Eliezer Halpern, Eran Socher
Tel Aviv University, Tel Aviv, Israel
- 11:50 A 93.9 - 102.5 GHz Colpitts VCO Utilizing Magnetic Coupling Band Switching in 65nm CMOS**
Samuel Jameson, Eran Socher
Tel Aviv University, Tel Aviv, Israel
- 12:10 95 GHz Down Converting Single Balanced Mixers in TSMC 65 nm Technology**
Jenia Elkind, Eran Socher
Tel Aviv University, Tel Aviv, Israel

11:10-13:00 TU2H: Software and MIMO Techniques, Royal H

Chair: Moshe Laifenfeld

- 11:10 An Introduction to Software Defined Radio for Microwave Engineers**
Jeffrey A. Pawlan
IEEE MTT Distinguished Lecturer, San Jose, United States
- 12:10 Multicast MIMO Enhancement for V2X over LTE**
Anatoly Khina, **Tal Filosof**, Moshe Laifenfeld
General Motors, Herzlia, Israel
- 12:30 Influence of Constructive Sampling Theory on the Front Ends and Back Ends of SDRs and CRs**
Yefim Poberezhskiy¹, Gennady Poberezhskiy²
¹Independent Consultant, San Diego, United States
²Raytheon, El Segundo, United States

11:10-13:00 TU2I: The Evolution and Future of Phased Array System Technologies and Applications, Royal I

Chair: Caleb Fulton

- 11:10 The Evolution to Modern Phased Array Architectures**
Jeffrey S. Herd
Lincon Lab, MIT, Lexington, MA, USA

- 11:40 Weather Measurements with Multi-mission Phased Array Radar, Challenges to meet Requirements**
Dusan S. Zrnic
National Oceanic and Atmospheric Administration, Norman, OK, USA
- 12:10 Digital Phased Arrays: Are They Worth the Cost?**
Benjamin R. Epstein
ISW LLC, Arlington, VA, USA
- 12:40 Tradeoffs in the Use of Cylindrical vs. Planar Arrays for Future Multifunction Radar Systems**
Caleb J. Fulton
The University of Oklahoma, Norman, OK, USA

11:10-13:00 TU2J: Solid State Sensors and Applications, Royal J

Chair: Kiki Ikossi

- 11:10 Perspectives of Sensing in Agriculture**
Vesna Crnojević-Bengin
University of Novi Sad, Novi Sad, Yugoslavia
- 11:40 Comprehensive Comparison of Integrated Temperature Sensors in CMOS-SOI Technology**
Maria Malits, Yael Nemirovsky
Technion - Israel Institute of Technology, Haifa, Israel
- 12:00 Self-Heating Effects in CMOS-SOI-NEMS Transistors for Uncooled Passive IR Sensors**
Alex Zviagintsev, Igor Brouk, Ilan Bloom, Yael Nemirovsky
Technion - Israel Institute of Technology, Haifa, Israel
- 12:20 Increase of Converter Efficiency by Process Suppression of Parasitic Bipolar**
Vitaly Zatkovetsky, Sharon Levin, Alexey Heiman, Sagy Levy, Shye Shapira
TowerJazz Semiconductor, Migdal HaEmeq, Israel
- 12:40 Integrated Readout for CMOS-SOI-MEMS Uncooled Infrared Security Sensor**
Yael Nemirovsky, Tomer Saraf, Igor Brouk, Sharon Bar-Lev, Aharon Unikovsky
Technion - Israel Institute of Technology, Haifa, Israel

13:00-14:20 Lunch, Foyer

14:20-16:20 TU3A: Electromagnetic Compatibility, Salon A

Chair: Reuven Ianconescu

- 14:20 EMI Shielding by Conducting Composites**
Satish Chandra Gupta¹, Anjali Anand Athawale², Sandhya Satish Gupta²
¹*Armament Research and Development Establishment, Pune, India*
²*Savitribai Phule Pune University, Pune, India*

- 14:40 Electromagnetic Compatibility in Nano-Electronics: Manifestation and Suppression of Quantum Crosstalk**
Gregory Slepyan¹, Amir Boag¹, Vladimir Mordachev², Evgeni Sinkevich², Sergei Maksimenko², Polina Kuzhir², Giovanni Miano³, Mikhail Portnoi⁴, Antonio Mafucci⁵
¹Tel Aviv University, Tel Aviv, Israel
²Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus
³University of Naples Federico II, Naples, Italy
⁴University of Exeter, Exeter, United Kingdom
⁵University of Cassino and Southern Lazio, Cassino, Italy
- 15:00 Simulation of Lossy Multiconductor Transmission Lines and Application of an Algorithm to Reduce Crosstalk**
Reuven Ianconescu¹, Vladimir Vulfin²
¹Shenkar College of Engineering and Design, Ramat Gan, Israel
²Ben Gurion University of the Negev, Beer Sheva, Israel
- 15:20 The Effects of Radiation Resistance on the Signal to Noise Limits of Magnetic Sensors and Communication Systems**
Yahav Morag, Yoash Levron
 Technion - Israel Institute of Technology, Haifa, Israel
- 15:40 The Ultraharmonic Nonlinear Parametric Zonal Systems on Thin Ferromagnetic Films and Prospects of their Application in Devices of Microwave and Terahertz Range**
Larisa Vladimirovna Cherckesova¹, Dmitriy Anatolievich Bezuglov¹, Nikolai Nikolaevich Prokopenko², Gennady Petrovich Sinyavsky³, Georgiy Nikolaevich Shalamov⁴
¹Russian Custom's Academy, Rostov-on-Don, Russian Federation
²Don State Technical University, Rostov-on-Don, Russian Federation
³Southern Federal University, Rostov-on-Don, Russian Federation
⁴Rostov-on-Don Scientific-Research Institute of Radio Communication, Rostov-on-Don, Russian Federation

14:20-16:20 TU3B: Medical Imaging, Salon B

Chair: Ruth Rotman

- 14:20 Microwave Imaging and Microwave Induced Thermoacoustic Tomography**
Qing Huo Liu
 Duke University, Durham, NC, USA
- 15:00 Multiphysics Simulation for Medical Applications**
Zeev Iluz, Tilmann Wittig
 CST AG, Darmstadt, Germany
- 15:30 Electric Field in the Presence of Humans**
 Dragan I. Olcan, Miroslav J. Veljovic, **Branko M. Kolundzija**
 University of Belgrade, Belgrade, Yugoslavia
- 15:50 Xampling and Frequency Domain Processing in Wireless Ultrasound Imaging**
 Alon Eilam¹, Tanya Chernyakova¹, Samuel Londner¹, Armand Chocron¹, Arcady Kempinski², **Yonina C. Eldar**¹
¹Technion - Israel Institute of Technology, Haifa, Israel
²GE Healthcare, Tirat Hacarmel, Israel

Chair: Claudio Jacobson

14:20 Exploring Chemical and Biological Sensing in the THz area

Kiki Ikossi

Defense Threat Reduction Agency, VA, USA

14:50 Terahertz Detection in Si MOSFET based on Thermionic Emission

Jagannath B. Dayalu¹, Zeljko Ignjatovic¹, Mark F. Bocko¹, Craig W. McMurtry¹, Judith L. Pipher¹, Zoran Ninkov², J. Daniel Newman², Andrew P. Sacco³, Frank J. Ryan³, Kenny D. Fourspring³, Paul P.K. Lee³

¹University of Rochester, Rochester, United States

²Rochester Institute of Technology, Rochester, United States

³Exelis Geospatial Systems, Rochester, United States

15:10 Vertical Hot-Electron Graphene-Base Transistors as Resonant Plasmonic Terahertz Detectors

Maxim Ryzhii¹, Victor Ryzhii², Taiichi Otsuji², Michael Shur³

¹University of Aizu, Aizu-Wakamatsu, Japan

²Tohoku University, Sendai, Japan

³Rensselaer Polytechnic Institute, Troy, United States

15:30 Josephson Generation is Good for Pixel in the Array of Passive Imaging System

Alexander Denisov¹, Jing hui Qiu³, Shengchang Lan³, Ming He², Franscesco Soldovieri⁴

¹SRC "Icerberg", Kiev, Ukraine

²Nankai University, Tianjin, China

³Harbin Institute of Technology, Harbin, China

⁴Institute for Electromagnetic Sensing of the Environment National Research Council, Napoli, Italy

Chair: Ingmar Kallfass

14:20 MMIC Chipset for 300 GHz Indoor Wireless Communication

Ingmar Kallfass

University of Stuttgart, Stuttgart, Germany

14:50 Digital OFDM Transmitter Based on Multi-bit Delta Sigma Modulator

Zaijun Hua, Xiangning Fan, Li Tang

Southeast University, Nanjing, China

15:10 ACOUFIND: an Ad-Hoc Network Based Life Detector Acoustic System

Yoram Haddad¹, Menachem Friedman², Alex Blekhman²

¹Jerusalem College of Technology, Jerusalem, Israel

²Israel Defense Forces, Ramle, Israel

15:30 Timing Error Analysis of Flooded LDPC Decoders

Alexandru Amaricai¹, Valentin Savin³, Oana Boncalo¹, Nicoleta Cucu-Laurenciu², Joyan Chen², Sorin Cotofana²

¹Universitatea Politehnica Timisoara, Timisoara, Romania

²TU Delft, Delft, Netherlands

³CEA-Leti, Grenoble, France

15:50 Improving Calibration Accuracy for On-Wafer THz Applications

Ruben Zowada

Cascade Microtech Inc.

14:20-16:20 TU3I: Radar Systems and Demonstrations, Royal I

Chair: Nadav Levanon

14:20 Periodic and A-Periodic On-Off Coded Waveforms for Non-Coherent RADAR and LIDAR

Nadav Levanon

Tel Aviv University, Tel Aviv, Israel

15:00 Frequency Multiplexing Spatial Super-Resolved Sensing for RADAR Applications

Moshe Mizrahi¹, Eldad Holdengreber², Eli Farber², Zeev Zalevsky¹

¹*Bar-Ilan University, Ramat-Gan, Israel*

²*Ariel University, Ariel, Israel*

15:20 Millimeter-Wave Radar for Vital Signs Monitoring

Sergei Churkin¹, Lesya Anishchenko²

¹*Lobachevsky State University of Nizhni Novgorod, Nizhni Novgorod, Russian Federation*

²*Bauman Moscow State Technical University, Moscow, Russian Federation*

15:40 A Ka-Band High-Resolution Radar System and Ground Moving Target Imaging Experiment

Yunhua Zhang, Xiang Gu, Xiao Dong, Wenshuai Zhai, Xueyan Kang

Chinese Academy of Sciences, Beijing, China

16:20-18:00 TU4J: Interactive Forum (Poster Session + Happy Hour), Royal J

Chair: Amir Boag

P.1 Experimental Comparison of Multi-Static and Mono-Static Antenna Arrays for Subsurface Radar Imaging

Andrey V. Zhuravlev¹, Vladimir V. Razevig¹, Sergey I. Ivashov¹, Alexander S. Bugaev²

¹*Bauman Moscow State Technical University, Moscow, Russian Federation*

²*Moscow Institute of Physics and Technology, Dolgoprudny, Russian Federation*

P.2 Microwave Imaging of Moving Subjects by Combined Use of Video-tracker and Multi-static Radar

Andrey V. Zhuravlev, Vladimir V. Razevig, Sergey I. Ivashov

Bauman Moscow State Technical University, Moscow, Russian Federation

P.3 A Software-Defined Radio Approach for Locating Electric Arcs

Cornel Ioana², Mirel Ciprian Paun¹, Ion Candel², Razvan Tamas³, Ion Marghescu¹

¹*University Politehnica of Bucharest, Bucharest, Romania*

²*GIPSA-Lab, Grenoble Institute of Technology, Grenoble, France*

³*Maritime University of Constanta, Constanta, Romania*

P.4 Source Degeneration as Series-Series Feedback

Aleksey Dyskin¹, Ingmar Kallfass²

¹*Technion - Israel Institute of Technology, Haifa, Israel*

²*University of Stuttgart, Stuttgart, Germany*

- P.5 260 GHz Laser-Driven Semiconductor Switches with Performance Rate Up to Nanosecond**
Maxim L. Kulygin, Gregory G. Denisov, Ksenia Vlasova, Evgeny Novikov, Shmuel Salaetdinov, Nikolay Andreev, Alexander Tsvetkov, Serguei Shubin, Mikhail Khozin, Dmitry Sobolev
Institute of Applied Physics, Nizhny Novgorod, Russian Federation
- P.6 An Oxide Failure Reliability Model for Shallow Trench Isolation Based LDMOS Devices**
Johnatan Avraham Kantarovsky, Shye Shapira
Migdal HaEmek, Migdal HaEmek, Israel
- P.7 A Quick Tool for Assessing Mechanical Stresses in Adhesives between Chip & Substrate**
Yehuda Kantor, Moshe Merzer, Lior Rodes
Rafael Advanced Defense Systems LTD., Haifa, Israel
- P.8 Solution of Solitary Current Inductor's "Cutoff Frequency Problem" for EHF Applications**
Nikolay Nikolaevich Prokopenko, **Vladimir Georgievich Sapogin**, Lyudmila Konstantinovna Sapogina
Southern Federal University, Taganrog, Russian Federation
- P.9 Broadband GaAs MMIC Frequency Doublers with Improved Harmonic Suppression**
Nikolai Drobotun
Micran Research & Production Company, Tomsk, Russian Federation
- P.10 Modelling of A Novel Microstrip Ring Resonator For Wireless Applications**
Seyi Stephen Olokede¹, **Peter Olufemi Alao**¹, Yazeed M Qasaymeh², Kang Chia Choo³
¹*Olabisi Onabanjo University, Ibofun, Nigeria*
²*University of Majmaah, Almajmaah, Saudi Arabia*
³*University of Science, Nibong Tebal, Malaysia*
- P.11 A Novel Method of Design of Miniaturized Microstrip Microwave Devices Using Filters**
Yuriy Evgenyevich Mitelman, Denis Alexandrovich Letavin, Victor Alekseevich Chechetkin, **Renat R. Abdullin**
Ural Federal University, Yekaterinburg, Russian Federation
- P.12 Multiband Receiver for Gb/s Communication at mm-Wave Frequencies**
Ronny Sananes, Eran Socher
Tel Aviv University, Tel Aviv, Israel
- P.13 RFID Tags with Double Rectangular Spiral Antennae, System Stability Optimization under Delayed Electromagnetic Interferences and Parasitic Effects**
Ofer Aluf
University of Adelaide, Adelaide, Australia
- P.14 Signal Processing in the Microwave Front-End Radiolink for Logging-While-Drilling through the Borehole Pipes**
Oleg V. Stukach, Diego Caratelli
TPU, Tomsk, Russian Federation
- P.15 Experimental Simulation of Multi-Static Radar with a Pair of Separated Movable Antennas**
Andrey V. Zhuravlev, Vladimir V. Razevig, Sergey I. Ivashov
Bauman Moscow State Technical University, Moscow, Russian Federation

- P.16 Comparison of 4 GHz and 14 GHz SFCW Radars in Measuring of Small Laboratory Animals Vital Signs**
Lesya Anishchenko, Ekatherina Gaysina
Bauman Moscow State Technical University, Moscow, Russian Federation
- P.17 Empirical Mode Decomposition Algorithm for Bio-Radar Data Analysis**
Lesya Anishchenko
Bauman Moscow State Technical University, Moscow, Russian Federation
- P.18 Parametric Study of the Cylindrical Microstrip Antenna**
Jarosa Bugaj, Marian Wnuk, Marek Bugaj
Military University of Technology, Warsaw, Poland
- P.19 Asymptotic Technique for Electromagnetic Scattering by Perfectly Conducting Bodies of Revolution**
Georgios D. Kolezas, Grigorios P. Zouros, John A. Roumeliotis
National Technical University of Athens, Athens, Greece
- P.20 Design and Fabrication of the Bosma Stripline Circulator in LTCC Technology**
Pero Krivic¹, Holger Arthaber¹, Goran Radosavljevic¹, Slobodan Birgermajer², Norbert Cselyuszka²
¹*Vienna University of Technology, Vienna, Austria*
²*University of Novi Sad, Novi Sad, Yugoslavia*
- P.21 Microwave Electronic CAD Modeling of Microwave-Band Optoelectronic Oscillator Based on Long Wavelength VCSEL**
Mikhail Belkin¹, Yuri N. Tyschuk²
¹*Moscow State University of Information Technologies, Radio-Engineering, and Electronics (MIREA), Moscow, Russian Federation*
²*Sevastopol State University (SevSU), Sevastopol, Russian Federation*
- P.22 Multiple Solutions in Power Flow Systems**
Shaby Barel, Yoash Levron
Technion - Israel Institute of Technology, Haifa, Israel
- P.23 Multipath Powerline Communications Channel (PLC) Modelling**
Dmitriy Pokamestov, Renat Abenov, Andrei Geltser
Tomsk State University of Control Systems and Radio-electronics, Tomsk, Russian Federation
- P.24 Study of Radiation Characteristics of Prolate or Oblate Spheroidal Antennas Using Shape Perturbation Method**
Georgios D. Kolezas, Grigorios P. Zouros, John A. Roumeliotis
National Technical University of Athens, Athens, Greece
- P.25 Investigation of Nonlinear Processes in Distributed Parametrical Zonal Systems of Microwave and Terahertz Diapasons as a part of Composite Environments**
Larisa Vladimirovna Cherckesova², Dmitriy Anatolievich Bezuglov¹, Nikolai Nikolaevich Prokopenko², Gennady Petrovich Sinyavsky³, Georgiy Nikolaevich Shalamov⁴
¹*Russian Custom's Academy, Rostov-on-Don, Russian Federation*
²*Don State Technical University, Rostov-on-Don, Russian Federation*
³*Southern Federal University, Rostov-on-Don, Russian Federation*
⁴*Rostov-on-Don Scientific-Research Institute of Radio Communication, Rostov-on-Don, Russian Federation*

- P.26 Plasmon Propagation on Lossy Dielectric Split Ring Resonator, DSRR, Chain over Quasi-Metallic Substrates: Investigation and Simulations in Terahertz Range**
Luiz Carlos Kretly¹, Mijail Sabrera¹, Silvio Ernesto Barbin²
¹*University of Campinas, Campinas, Brazil*
²*University of Sao Paulo, Sao Paulo, Brazil*
- P.27 Tannin-Based Carbon Foams in Microwave Frequency Range: Toward Fully Carbon Photonic Crystal**
Dzmitry Bychanok¹, Artyom Plyushch¹, Polina Kuzhir¹, Jan Macutkevici², Maxime Letellier³, Andrzej Szczurek³, Vanessa Fierro³, Alain Celzard³
¹*Research Institute for Nuclear Problems BSU, Minsk, Belarus*
²*Vilnius University, Vilnius, Lithuania*
³*Institut Jean Lamour - Université de Lorraine, ENSTIB, Epinal, France*
- P.28 Real Time Detection and Recognition of Micro-Poisons in Aqueous Solutions and Atmosphere using Perfect Absorber Metamaterial in Millimeter Wavelength Regime**
David Rotshild, Amir Abramovich, Meir Ochana, Alexander Shulzinger, Yossi Azoulay
Ariel University, Ariel, Israel
- P.29 GPU Accelerated Multilevel Fast Physical Optics Algorithm for Radiation from Non-Planar Apertures**
Matan Adam Milo, Barak Galanti, Amir Boag
Tel Aviv University, Tel Aviv, Israel
- P.30 Cortical Potential Imaging (CPI) for Electromagnetic Monitoring and Stimulation Tools**
Dror Haor, Reuven Shavit, Amir Geva
Ben-Gurion University of the Negev, Beer-Sheva, Israel
- P.31 A Broadband Test Fixture for Characterizing Circuits Mounted inside TO-8 Package**
Wojciech Wiatr¹, Bartosz Laczynski², Jozef Piotrowski², Leszek J. Opalski¹, Mateusz Kryszicki¹
¹*Warsaw University of Technology, Warszawa, Poland*
²*VIGO System S.A., Ozarow Mazowiecki, Poland*
- P.32 Laboratory Anywhere, A Flipped Laboratory Paradigm for Teaching ECE Laboratories**
Jay A. Weitzen, Erin Webster
University of Massachusetts Lowell, Lowell, MA, USA
- P.33 Unidirectional AMC Reflector backed L-band Annular Slot Antenna**
Saugata Dutta¹, Kush Agarwal²
¹*Nanyang Technological University, Singapore, Singapore*
²*National University of Singapore, Singapore, Singapore*

WEDNESDAY, NOVEMBER 04, 2015

08:00-13:00 Registration

09:00-10:50 WE1H: Introduction to The World of Analog-to-Digital Conversion, Room 3

Chair: Shraga Kraus

09:00 Introduction to The World of Analog-to-Digital Conversion

Shraga Kraus

Haifa Research Laboratory, IBM Research, Haifa, Israel

09:00-10:50 WE1I: RFIC, Room 4

Chair: Emanuel Cohen

09:00 A Wideband Transconductance Enhancement CMOS LNA with Multiple Feedback Technique

Chih-Wen Lu¹, Jian-Shou Chen¹, Ping-Yeh Yin¹, Chin Hsia²

¹*National Tsing Hua University, Hsinchu, Taiwan*

²*National Central University of Technology, Jhongli District, Taoyuan City, Taiwan*

09:20 Zero-IF Second Harmonic SiGe Mixer with DC Offset Cancellation

Umut Guvenc¹, Osman Palamutcuogullari², Siddik B. Yarman³

¹*The Scientific and Technological Research Council of Turkey (TUBITAK), Kocaeli, Turkey*

²*Istanbul Technical University, Istanbul, Turkey*

³*Istanbul University, Istanbul, Turkey*

09:40 RF Variable Gain Amplifier with Linear Control and Automatic Matching in 28 nm CMOS

Elena Sobotta, Robert Wolf, Niko Joram, Frank Ellinger

TU Dresden, Dresden, Germany

10:00 Design of a Broadband VCO for WSN Applications

Xiangning Fan, Li Tang, Xiaoming Si, Zaijun Hua

Southeast University, Nanjing, China

10:20 Fully Integrated LDMOS Class AB Power Amplifiers

Eran Socher², **Amity Wolfman¹**, Avraham Sayag¹, Sharon Levin²

¹*Rafael Advanced Defense Systems LTD., Haifa, Israel*

²*Tel Aviv University, Tel Aviv, Israel*

10:40 A Wideband 100-130GHz Direct Conversion High Efficiency Transmitter in 28nm CMOS

Yuval Dafna¹, Emanuel Cohen², Eran Socher³

¹*Intel Corporation, Haifa, Israel*

²*Technion - Israel Institute of Technology, Haifa, Israel*

³*Tel Aviv University, Tel Aviv, Israel*

09:00-10:50 WE1J: The Future of Wireless Communications in the Twenty First Century, Room 5

Chair: Irving Kalet

09:00 WiGig and Next Generation 60 GHz

Gal Basson

Qualcomm, Haifa, Israel

09:20 Information Theoretic Considerations for Cloud Radio Access Networks

Shlomo Shamai

Technion - Israel Institute of Technology, Haifa, Israel

09:40 The Software-Defined Network and its Potential for 5G

Stephen Weinstein

Communication Theory and Technology Consulting, New York, NY, USA

10:00 Multipath Fingerprinting: Exploiting Multipath for Accurate Indoor Localization

Matti Wax

Consultant, Israel

10:20 The Future of Communication Satellites in GEO

David Zusiman

Effective Space Solutions, Givatayim, Israel

10:40 The Future of Wireless Communications-Summary

Irving Kalet

Azrieli Academic College of Engineering and Columbia University, New York, NY, USA

10:50-11:10 Coffee Break, Foyer

11:10-13:00 WE2H: Wave Propagation Models, Room 3

Chair: Yosi Pinhasi

11:10 Comparison of Deterministic, Empirical and Physical Propagation Models in Urban Environments

Eran Greenberg, Edmund Klodzh

Rafael Advanced Defense Systems LTD., Haifa, Israel

11:30 Polarization Properties of the Indoor Radio Channel

Ingo Gaspard

University of Applied Sciences Darmstadt, Darmstadt, Germany

11:50 Low Cross Polarization Wideband Antenna Element Based on a Cavity Slot

Ely Z. Levine², Iy Mem Ayele¹, **Yood Nun Tafara**¹, Haim S. Matzner¹

¹HIT - Holon Institute Technology, Holon, Israel

²Afeka College of Engineering, Tel Aviv, Israel

12:10 Dual Polarized Omni Directional Antenna Array

Ely Z. Levine², Igor G. Ivanov¹, Haim S. Matzner¹

HIT - Holon Institute Technology, Holon, Israel

²*Afeka College of Engineering, Tel Aviv, Israel*

12:30 Design of Magnetic Transmitters with Efficient Reactive Power Utilization for Inductive Communication and Wireless Power Transfer

Nikolay Tal, Yoash Levron

Technion - Israel Institute of Technology, Haifa, Israel

11:10-13:00 WE2I: Device Modeling and Solid State Technologies, Room 4

Chair: Fujiang Lin

11:10 Large-Signal Modeling of GaN Devices with Emphasis on Trapping Effect and Simulation Validation

Lin Fujiang, Mehdi Khan, Lei Li

University of Science and Technology of China (USTC), Hefei, Anhui, China

11:40 Pure-Play GaN Foundry Technology for 50V Applications

Wei Chou Wang, Che Kai Lin, Fan Hsiu Huang, Jih Han Du, Sheng Wen Peng, Tung Yao Chou, Jya Shian Wu, Richard Kuo, Clement Huang, Walter Anthony Wohlmuth, Chih Wen Huang, Shinichiro Takatani, **Wen-Kai Wang**

Win Semiconductor, Tao-Yuan, Taiwan

12:00 Design, Fabrication and Electrical Characterization of a Low-Cost and Solvent-Free Graphene Electronic Device

Antonio Maffucci¹, Federico Micciulla², Antonino E. Cataldo³, Giovanni Miano⁴, Stefano Bellucci²

¹*University of Cassino and Southern Lazio, Cassino, Italy*

²*National Institute of Nuclear Physics, Frascati, Italy*

³*University of Palermo, Palermo, Italy*

⁴*University of Naples, Naples, Italy*

12:20 SOI Technology for Front End Applications

Zohar Shaked¹, Paul Hurwitz², Kurt Moen², Roda Kanawati², Samir Chaudhry², Marco Racanelli²

¹*TowerJazz Semiconductor, Migdal HaEmeq, Israel*

²*TowerJazz Semiconductor, Newport Beach, United States*

12:40 Thermal Characteristics of Diamond Film Coatings for GaN HEMT Devices

Raoul Guggenheim¹, Lior Rodes¹, Alon Hoffman²

¹*Rafael Advanced Defense Systems LTD., Haifa, Israel*

²*Technion - Israel Institute of Technology, Haifa, Israel*

11:10-13:00 WE2J: RF Transceivers Challenges in the Driven Data Era - Panel, Room 5

11:10 RF Transceivers Challenges in the Driven Data Era

Emanuel Cohen

Technion - Israel Institute of Technology, Haifa, Israel

13:00-14:20 Lunch, Foyer

Chair: Yehuda Leviatan

14:20 Shared Aperture Dual Band Microstrip Array

Ely Z. Levine², Benny M. Maly², Haim S. Matzner¹

¹HIT - Holon Institute Technology, Holon, Israel

²Afeka College of Engineering, Tel Aviv, Israel

14:40 Performance Calculation of Leaky-Wave Antenna Based on Substrate Integrated Waveguide with Transverse Slots

Renat Abdullin, Sergey Shabunin

Ural Federal University, Yekaterinburg, Russian Federation

15:00 Slot Optimization for Multiband Microstrip Antennas Using Artificial Neural Networks

Erdem Demircioglu¹, Ahmet Fazil Yagli¹, Senol Gulgonul¹, Hasan Huseyin Ertok¹, Taha Imeci²

¹Turksat AS, Golbasi, Turkey

²Istanbul Commerce University, Eminonu, Turkey

15:20 A Dual Polarized Cavity-Backed Aperture Antenna for 5G mmW MIMO Applications

Yao-Wen Hsu, Shih-Ting Liu, Yi-Cheng Lin

Graduate Institute of Communication Engineering, Taipei, Taiwan

15:40 Square Loop Slots loaded Substrate Integrated Waveguide Horn Antenna

Amit Vinubhai Patel, Alpseh D. Vala, Neetirajsinh J. Chhasatia, Keyur K. Mahant, Riddhi Goswami

Charotar University of Science and technology, Anand, India

16:00 Reflection and Refraction by an Anisotropic Metamaterial Slab

Nezahat Gunenc Tuncel¹, A. Hamit Serbest²

¹Osmaniye Korkut Ata University, Osmaniye, Turkey

²Cukurova University, Adana, Turkey

Chair: Ingmar Kallfass

14:20 CMOS Phase Frequency Detector and Charge Pump for Multi-Standard Frequency Synthesizer

Li Tang, Xiangning Fan, Zaijun Hua

Southeast University, Nanjing, China

14:40 Charge Pump Architecture with Reduced Medium and High Frequency Noise

Jakob Vovnoboy, Run Levinger, Danny Elad

IBM, Haifa, Israel

15:00 A 16-nm FinFET 16-GHz Differential LC-VCO

Ioannis Zographopoulos, Fotis Plessas, Emmanouil Antonopoulos, Fotis Foukalas

University of Thessaly, Volos, Greece

15:20 Experimental Demonstration of High-Speed Logic Gates of OR, AND, XOR and NOR in Optical Domain based on a Single I/Q Modulator and Direct Detection

Xianfeng Tang, Lu Sun, Donghe Zhao, Yiqiao Feng, Xiaoguang Zhang, Lixia Xi, Wenbo Zhang

Beijing University of Posts and Telecommunications, Beijing, China

15:40 RF-DAC Challenges for mm-Wave Transmitter in CMOS Process

Tomer Ben Oz¹, Emanuel Cohen², Eran Socher³

¹Intel Corporation, Haifa, Israel

²Technion - Israel Institute of Technology, Haifa, Israel

³Tel Aviv University, Tel Aviv, Israel

14:20-17:00 WE3J: Amateur Radio Communications, Related Software and Computer Networks in Education - Workshop, Room 5

14:20 Amateur Radio Communications, Related Software and Computer Networks in Education
Miroslav Skoric

*Indian Institute of Information Technology and Management - Kerala Technopark Campus,
Trivandrum, Kerala, India*

MONDAY, NOVEMBER 02, 2015

14:20-16:10 MO3J: Future of Wireless from SDR to 5G/mmWave - National Instruments, Royal J

14:20 New Opportunities and Challenges in mmWave for 5G

Jin Bains

National Instruments

14:45 Software Designed System Approach for Radar System-Life-Cycle

Raffaele Fiengo

National Instruments

15:10 Visual System Simulator Optimizes Software Defined Radio (SDR) Performance

Benny Haddad

AWR Group, Israel

15:35 New Technologies for Software Defined Radio Applications

Tim Fountain

National Instruments

TUESDAY, NOVEMBER 03, 2015

14:20-16:20 Innovative techniques and tools to overcome advance design and measurement challenges – Workshop - Keysight Technologies , Room 4

14:20 Active-Device Characterization in Pulsed operation using modern Vector Network Analyzer

Ishai Brudni

Keysight Technologies

14:50 New emExtraction flow for Virtuoso using ADS Momentum partition

Haim Spiegel

Keysight Technologies

15:20 Transmission Line Theory and Advanced Measurements in the Field

Lior Peretz

Keysight Technologies

15:50 PAM-4 Design Challenges and the Implications of Test

Dov Yancu

Keysight Technologies

MONDAY, NOVEMBER 02, 2015

- 14:30 **Improved Thermal Performances for RF Power Devices using Plastic Packages**
Laurent Gauthier
Freescale
- 15:00 **3D EM / Circuit Simulation Interoperability for MMIC, RFIC and RF PCB Design Flows**
Shai Sayfan-Altman
ANSYS
- 15:30 **Reflectionless Filters: An Introduction to Design Features and Applications**
Aharon Sagiv
Mini-Circuits
- 16:00 **Connectors to Antennas to Waveguide: User-configurable and Parameterized 3D EM Model Libraries**
Tabish Khan
AWR Group, NI
- 16:30 **Multi-channel Phase Coherent Measurement Systems**
Raffaele Fiengo
National Instruments
- 17:00 **A Flexible Testbed for 5G Waveform Generation and Analysis**
Allison Douglas
Keysight Technologies

TUESDAY, NOVEMBER 03, 2015

- 11:00 **The Coffee Can Radar Optimized in NI AWR Design Environment**
Benny Haddad
AWR Group, NI
- 11:30 **Introducing HFSS Component Model Libraries to Support Enterprise-level Product Development and the IoT Design Chain**
Shai Sayfan-Altman
ANSYS
- 12:00 **Combining Full-wave and Asymptotic Solvers**
Zeev Iluz
CST AG
- 12:30 **Design Techniques and Challenges for Millimeter-Wave Product Design**
Tim Fountain
National Instruments