International Conference on Microwave and THz Technologies, Photonics and Wireless Communications

IRPhE' 2016

PROGRAM

May 4-6, 2016-Yerevan, Armenia

Organized by: Institute of Radiophysics and Electronics, National Academy of Sciences

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IRPhE' 2016 Main Topics:

- **Microwave devices, antennas, propagations and remote sensing**
- **THz technique, spectroscopy and applications**
- **Photonics**
- **Wireless communications and related information technologies**
- **Alternative semiconductor and dielectric materials, electronic devices**

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04 May, Wednesday

09-10	Registration	
10-12:30	**The *jubilee ceremony devoted to academician Radik Martirosyan (President of National Academy of Sciences)***	
12:30-14:00	**Welcome Reciption**	
14:00-14:30 **Keynote speech:**	**Opening of IRPhE'2016** **Radik M. Martirosyan** National Academy of Sciences, Armenia	Historical overview of Radiophysics (Microwave engineering) development in Armenia
Photonics (Ph) **Chairman: Prof. Shunri Oda**		
14.30 -15:00 **Plenary speech**	Andrea Melloni *Politecnico di Milano, Italy*	**Ph-1**: Control and calibration of photonics integrated circuits
15:00 -15:15	Aram Papoyan, S. Shmavonyan, A. Khanbekyan, M. Movsisyan, H. Azizbekyan *Institute for Physical Research*	**Ph-2**: Three-axis optical Hanle vector magnetometer
15:15 - 15:30	Hovik Baghdasaryan, M. Knyazyan, T.T. Hovhannisyan, M. Marciniak *National Polytechnic University of Armenia*	**Ph-3**: Conditions of single-frequency radiation from fiber laser with FBG mirrors: numerical analysis by the method of single expression
15:30 -16:00 **Invited**	Kiejin Lee, Shant Arakelyan, Hanju Lee, Sunghoon Jeon , Do-Suck Han, G. Berthiau, Arsen Babajanyan *Sogang University, Korea*	**Ph-4**: Microwave and Joule heating visualization by thermo-elastic sensor for carbon fibers composite material
16:00 - 16:15	Hovhannes Haroyan *Yerevan State University, Armenia*	**Ph-5:** Slot Nano-Antenna Integrated with Plasmonic Waveguide
16:15 -16:45	Vitaly Morarenko *Keysight Technologies, Russia*	**Ph-6:** Detecting of complex modulated optical signals and optical modulation analysis for gigabit and terabit transmission lines
16:45 -17:00	Tabassom Sedighi,P. D. Foote *Cranfield University,UK*	**Ph-7:** Bayesian network-based intermittent fault detection in photonic systems

05 May, Thursday

Wireless communications and related information technologies, (WL) **Chairman: Prof. Garik Markarian**		
09:30-10:00 **Plenary speech**	Garik Markarian, Stuart Grant, Denis Kolev *Lancaster University, UK*	**WL-1:** From quality of service to quality of life: How advances in wireless technologies found their way in modern healthcare
10:00-10:30 **Invited**	Maksim Sokovishin *Keysight Technologies, Russia*	**WL-2:** Defining a channel sounding measurement system for characterization of 5G air interfaces **WL-3:** WLAN at 60 GHz. signal creation and demodulation.
10:30-10:45	Hayk Manukyan, P. Sahu, D. Sehrawat, R. Ganeshe *Cobham Wireless, UK*	**WL-4:** Mobile wireless communications test and measurement technologies development toward 5G
10:45-11:00	Suren Eyramjyan *National Instruments, Armenia*	**WL-5:** National Instruments technologies in 5G research and prototyping
11:00-11:15	Gurgen Khachatrian *American University of Armenia*	**WL-6:** Security challenges of cloud computation
11:15-11:30	H.Haroyan, G.Harutyunyan, T. Harutyunyan, Sargis Sargsyan *YSU, "Antel Design" Armenia*	**WL-7:** Spectral efficiency improvement in nonlinear wireless systems
11:30-11:50	Karen Nikoghosyan, George Yeghoyan *Redinet CJSC, Armenia*	**WL-8:** Green communication for GSM Network **WL-9:** Renewable Hybrid Off-Grid Power Solution for GSM Network
11:50-13:00	Coffee break **Poster Session** **&** **Exhibition: Keysight Technologies & National Instruments**	
13:00-14:00	LUNCH	

THz technique, spectroscopy and applications (I-session), (TH) **Chairman: Prof. Sergey Vainshtein**		
14:00-14:40 **Plenary speech**	Sergey Vainshtein *University of Oulu, Finland*	**TH-1:** From miniature, low-power-consumption sub-THz emitter based on collapsing domain phenomenon to mm-wave pulsed radars and transmission/reflection imagers with sub-ps time-of-flight precision.
14:40-14:55	Martin Ayvazyan *National Polytechnic University of Armenia*	**TH-2:** Waveguide junctions with various cross sections for the Teraherts range
14:55-15:10	M. Klos, R. Bartholdt, J. Klier, J.-F. Lampin, Garik Torosyan, R. Beigang *Institute for Physical Measurement Techniques, Germany*	**TH-3:** Photoconductive antennas based on low temperature grown GaAs on silicon substrates for broadband Terahertz generation and detection
15:10-15:40 **Invited**	Alexei O. Orlov, Gergo P. Szakmany, Gary H. Bernstein, and Wolfgang Porod *University of Notre Dame, USA*	**TH-4:** Integrated nanoscale thermoelectric converters of Infrared and Terahertz irradiation
15:40-15:55	Coffee Break	
THz technique, spectroscopy and applications (II-session) **Chairman: Prof. Seizi Nishizawa**		
15:55-16:25 **Invited**	Seizi Nishizawa, Eugene H. Morita, Takeshi Nagashima, Katsuko S. Furukawa, and Takashi Ushida *University of Fukui, Japan*	**TH-5:** Progressive THz spectrometric technologies applied for non-invasive evaluation of bio-medical tissues
16:25-16:40	Viataly Kalantaryan, R. Martirosyan, Yu. Babayan, H. Badalyan, S.Yayloyan *Yerevan State University, Armenia*	**TH-6:** What is the primary target of the action millimeter waves on biological objects?
16:40-16:55	Anahit Nikoghosyan, T. He, J.Shen, R.M. Martirosyan *Yerevan State University, Armenia*	**TH-7:** Dielectric anizotropy of human bone in spectral range 0.2 to 2.5 THz
16:55-17:10	Gevorg Abgaryan, Yu. H. Avetisyan, A. H. Makaryan, V. R. Tadevosyan *Yerevan State University, Armenia*	**TH-8:** Terahertz pulses generation via optical rectification in LiNbO3 crystal by step-wise phase mask

17:20-19:00

Sightseeing Tour

06 May, Friday

Alternative semiconductor materials, electronic devices, (EL) **Chairman: Prof. Alexei Orlov**		
09:30-10:00 **Plenary speech**	Shunri Oda *Tokyo Institute of Technology, Japan*	**EL-1:** Silicon quantum dots for future electronics and photonics
10:00-10:30 **Invited**	Gyorgy Csaba, Gary Bernstein, Sharon Hu, Michael Niemier, Alexei Orlov, Wolfgang Porod *University of Notre Dame, USA*	**EL-2:** Nanomagnet Logic
10:30-10:45	*Zhyrair Gevorkian, V. Gasparian, Yu. Lozovik* *IRPhE, Armenia*	**EL-3:** Large diffusion lengths of excitons in perovskite and TiO2 heterojunction
10:45-11:00	Levon Hovakimian *IRPhE, Armenia*	**EL-4:** On electron holographic phase imaging of threading dislocations
11:00-11:15	Arsen Babajanyan, Sul A Choi, Kyungchul Kim, Hanju Lee, Barry Friedman, Kiejin Lee *Yerevan State University, Armenia*	**EL-5:** Pre-annealing effects on a pentacene organic thin film transistor with a polymer dielectric interface
11:15-11:30	Ashkhen Yesayan, Stepan Petrosyan, Farzan Jazaeri, Jean-Michel Sallese *IRPhE, Armenia*	**EL-6:** The effect of interface traps on electrical characteristics of nanowires and nanowire junctionless FETs
11:30-11:45	Arcruni Margaryan, Stepan Petrosyan, Lenrik Matevosyan, Karapet Avjyan *IRPhE, Armenia*	**EL-7:** Two dimensional coordinate-sensitive photodetectors based on (p)InSb - (n)CdTe heterojunction
11:45-12:00	Stepan Petrosyan, Varsenik Khachatryan, A. Yesayan, Suren Nersesyan *Russian-Armenian University, Armenia*	**EL-8:** Influence of surface recombination on the open circuit voltage of the nanowire solar cells with radial p-n junction
12:00-13:00	LUNCH	
Microwave devices, antennas, propagations and remote sensing, (MT) **Chairman: Prof. Kiejin Lee**		
13:00-13:30 **Plenary speech**	Boris Kutuza *Institute* of Radio Engineering & Electronics. Moscow, Russia.	**MT-1:** Principles of Earth Microwave radiometry from space
13:30-13:45	Artashes Arakelyan,, A. Hambaryan, A.A.Arakelyan *ECOSERV Remote Observation Centre Co. Ltd., Armenia*	**MT-2:** A new approach in local and global anti-hail protection technique

13:45-14:00	Norayr Khachatryan, R. Ter-Antonyan *National Institute of Metrology, Armenia*	**MT-3:** The new dual-reflector axisymmetric antenna with circular generatrix the main reflector
14:00-14:15	Apet Barsegyan *Integra Technologies Inc., USA*	**MT-4:** 1.6-Kilowatt GaN-based L-band pallet Amplifier
14:15-14:30	M. Ivanyan, N. Khachatryan, E. Tagvoryan *National Institute of Metrology, Armenia*	**MT-5:** Features of radar cross-section determination using near-field measurements
14:30-14:45	A. Hakhoumian, N.G. Poghosyan, Tigran Zakaryan *IRPhE, Armenia*	**MT-6:** Estimation of Phase Noise Impact on MTI Performance in FM-CW Radars
14:45-15:00	A.Hakhoumian, T. Zakaryan, Eduard Sivolenko *IRPhE, Armenia*	**MT-7:** Pedestrian caused Doppler signal detection by bispectrum processing in Ku-Band coherent CW Radar
15:00-15:15	Edvard Rostomyan *IRPhE, Armenia*	**MT-8:** Dynamics of Buneman instability in plasma-filled devices for microwave generations
15:15-15-30	A. Margaryan, R. Ajvazyan, J. Annand, H. Elbakyan, L. Gevorgian, S. Zhamkochyan *Alikhanyan National Science Laboratory,*	**MT-9:** A radio frequency spiral scanning deflector for keV electrons
15:30-16:00	Discussion, Closing IRPhE' 2016	
19:00	Gala Dinner	

12:00-13:00, 05 May, Thursday

Poster Session	
A.S. Nikoghosyan,T. He, J.Shen, R.M. Martirosyan, M.Yu.Tunyan, A.V. Papikyan, A.A. Papikyan *YSU, Armenia*	**TH-9:** Optical properties of human bone and CERABONE® in the Terahertz range
A.S. Nikoghosyan, Sh. Arakelyan *YSU, Armenia*	**TH-10:** THz waves propagation in a LiNbO3 wedge antenna
D. Bagdasaryan, A. Hakhoumian, R. Martirosian, A. Makaryan, V. Tadevosyan, F. Nazari, A. Julfayan *IRPhE, Armenia*	**TH-11:** Ferromagnetic detector of infrared radiation

T. Abrahamyan, St. Sargsyan, A. Babajanyan, Kh.Nerkararyan *YSU, Armenia*	**PH-8:** Detection of resonant oscillations of the liquid surface by using a tapered fiber opto-mechanical sensor
S. Nerkararyan, A. Babajanyan, Kh. Nerkararyan, *YSU, Armenia*	**PH-9:** The resonant coupling of the quantum dots in the environment of metal nanoparticle at optical frequencies
R. V. Ter-Antonyan *National Institute of Metrology, Armenia* R. V. Ter-Antonyan *National Institute of Metrology, Armenia*	**MT-10:** On radio physical design of the Dual-Reflector Radio Telescope with a fixed main spherical reflector and a movable subreflector type Gregory **MT-11:** Practically Interesting Subreflector for the spherical reflector located under Caustic
G.Avetisyan *IRPhE, Armenia*	**MT-12:** Change of flux density characteristic of the radio source Cassiopeia A for the period 2008-2015 years
O. Mahmoodian, A. Hakhoumian, N. Pogosyan and V. Mckhitarian *IRPhE, Armenia*	**MT-13:** Conical Bessel beam radial line slot antenna
S. Petrosyan, A. Yesayan, S.Nersesyan and V.A. Khachatryan *IRPhE, Armenia*	**EL-9:** Capacitance of MOS structures based on inhomogeneously doped semiconductor nanowires and nanospheres
S. Petrosyan, S. Nersesyan, A.Yesayan and V.A. Khachatryan *IRPhE, Armenia*	**EL-10:** Critical radius of full depletion in semiconductor nanowires
L. Matevosyan, A. Kechiantz, K. Avjyan, E. Zaretskaya *IRPhE, Armenia*	**EL-11:** Preparation technology and optical properties of $CH_3NH_3PbI_{3-x}Cl_x$ perovskite thin films