

XIV KHARKIV YOUNG SCIENTISTS CONFERENCE ON
Radiophysics, Electronics, Photonics and Biophysics

CONFERENCE PROGRAM



14 - 17 OCTOBER, 2014
Kharkiv, Ukraine

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Brief information about IRE NAS Ukraine

Usikov Institute for Radiophysics and Electronics of the NAS of Ukraine (IRE NASU) is the first Academic Institute for Radiophysics in Ukraine. It was founded in September, 1955. The Institute became the leading research centre with deep expertise in various fields, such as: millimeter and submillimeter wave radiophysics and electronics, interaction of electromagnetic waves with solid states and biological objects, radiowave propagation in the environment, radiophysics sensing of artificial and natural objects.

The most important achievements of the institute for last years are the following ones: development of new methods of radiolocation used for designing of radiolocation systems for territories control, detection of alive people under ruins, subsurface remote sensing, monitoring of buildings condition, designing of radiolocation monitoring from aerospace satellites used for monitoring and forecasting of floods, flowages and emergencies, and also for monitoring of vegetation, erosive processes and pollution of water surfaces.

The Institute is the founder of the following widely known scientific conferences: International Symposium “Physics and Engineering of Millimeter and Submillimeter Waves” (MSMW), International Conference “Mathematical Methods in Electromagnetic Theory” (MMET), and Annual Kharkiv Young Scientist Conference (YSC) which traditionally gathers over 100 young scientists from different parts of Ukraine as well as from FSU and European Countries. All these conferences are aimed at development of favorable conditions for communication between Ukrainian scientists and the worldwide electromagnetic community. These events are traditionally supported by IEEE, OSA, SPIE, and URSI, EuMA, ESF societies and foundations.

Welcome note from the Organizing Committee

Dear Colleagues,

We are happy to welcome you at the 14th Kharkiv Young Scientists Conference on Radiophysics, Electronics, Photonics and Biophysics (YSC-2014) which is traditionally held in IRE NASU, Kharkiv, Ukraine.

We are very thankful to everybody for your interest in the YSC and believe that participation in the Conference will provide you with helpful experience and warm memories. We have done our best to make the YSC not “just another conference” but a remarkable event in the life of each participant. We hope you will acknowledge and appreciate our efforts and will come back to us the next year.

YSC-2014 Organizing Team

Organizers and Sponsors



Scientific Council of IRE NASU
Young Scientists Council of IRE NASU
IEEE MTT-S, ED-S, AP-S, PHO-S IRE Kharkiv Student Branch Chapters
IPMash OSA Student Chapter
OSA/SPIE Joint Student Chapter of IRE NASU

In collaboration with

IEEE AP/MTT/ED/AES/GRS/NPS/EMB Societies East Ukraine Joint Chapter

Organizing and Programme Committees

Org. Committee Chairs:

Ms. Daryna Pesina, e-mail: darynapesina@gmail.com

Dr. Pavel Vyplavin, e-mail: pavlo.vyplavin@gmail.com

Prog. Committee Chairs:

Dr. Pavel Krasov, e-mail: pskrasov@ukr.net

Dr. Maksym Khruslov, e-mail: khruslov.maksym@gmail.com

Secretariat:

Dr. Kateryna Arkhypova, e-mail: ysc.ire.2014@gmail.com

Mrs. Oksana Balaban, e-mail: oksana.balaban@gmail.com

Org. and Prog. Committees

Mrs. Liliya Egorova

Dr. Anna Linkova

Dr. Olga Vdovychenko

Mrs. Hanna Sliusarenko

Dr. Vladimir Kudryashov

Mr. Aleksey Kovorotniy

Ms. Evgeniya Minakova

Dr. Sergey Skuratovsky

Dr. Sergey Melnik

Mr. Sergey Lukin

Mr. Sergey Radionov

Mr. Serge Yerin

Mr. Denys Natarov

Dr. Mikhail Balaban

Dr. Vitaliy Shcherbinin

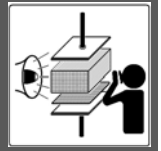
Mrs. Liubov Ivzhenko

	Conference and workshops geography - Country (city)	Number
1.	Ukraine (Kharkiv)	73
2.	Ukraine (Dnipropetrovsk, Kyiv, Odessa)	20
3.	Ukraine – USA – Germany	1
4.	Armenia (Yerevan)	1
5.	Belgium – Ukraine – France – Austria	1
6.	Ukraine – Czech Republic	1
7.	Ukraine – France	1

Total : 98

SESSION:

**SOLID STATE RADIOPHYSICS &
NANO AND METAMATERIALS – 1**



1st Conference Hall

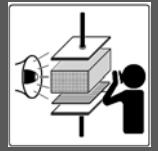
Tuesday 14.10.2014 11:30 – 13:30

- Session** **TRAPPED-MODES INTERACTION IN NONLINEAR METAMATERIALS**
Guest Talk **Dr. Vladimir Tuz**
SSR&NM-1 *V. N. Karazin Kharkiv National University, Kharkiv, Ukraine*
- SSR&NM-2** **‘BRIGHT’ AND ‘DARK’ PLASMONS IN THE SYSTEMS OF METAL NANOWIRES**
Nadiia Stognii, N. Sakhnenko
Kharkiv National University of Radio Electronics, Kharkiv, Ukraine
- SSR&NM-3** **TM-ELECTROMAGNETIC WAVES IN A DEFECT DIELECTRIC PERIODIC LAYERED STRUCTURE PLACED IN A PARALLEL-PLATE WAVEGUIDE**
Nikita Gvozdev
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- SSR&NM-4** **DIELECTRIC RESONATORS OF DIFFERENT CONFIGURATIONS AS SENSORS FOR SURFACE IMPEDANCE OF SUPERCONDUCTORS**
Mikhail Kharchenko, A. Barannik, I. Protsenko
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- SSR&NM-5** **DIFRACTION OF ELECTROMAGNETIC WAVE ON INFINITE CYLINDER WITH METAMATERIAL COATING**
Natalia Kostina, E. Odarenko
Kharkiv National University of Radioelectronics, Kharkiv, Ukraine
- SSR&NM-6** **SYNTHESIS OF KESTERITE LAYERS OBTAINED BY SULFURIZATION OF ELECTRODEPOSITED METAL PRECURSORS**
Alexandra Momotenko, N. Klochko, V. Lyubov, V.Kopach
National Technical University «Kharkiv Polytechnic Institute», Kharkiv, Ukraine
- SSR&NM-7** **CLUSTER MODEL OF SOLUTIONS IN MOLECULAR CRYSTALS INERT GASES AR - CO, AR - N₂**
Nataliya Mysko, V. Danchuk, A. Solodovnik, M. Strzhemechny
B.Verkin Institute for Low Temperature Physics and Engineering of National Academy of Sciences of Ukraine, Kharkiv, Ukraine

IRE
YSC

SESSION:

**SOLID STATE RADIOPHYSICS &
NANO AND METAMATERIALS – 2**



2nd Conference Hall

Tuesday 14.10.2014 14:30 – 16:30

- SSR&NM-8 FLUCTUATION CONDUCTIVITY AND PSEUDOGAP IN THE NEW IRON-BASED SUPERCONDUCTOR $\text{EuAsFeO}_{0.85}\text{F}_{0.15}$**
Lyudmila Omelchenko, A. Terekhov, A. Solovjov
B. Verkin Institute for Low Temperature Physics and Engineering of NAS of Ukraine, Kharkiv, Ukraine
- SSR&NM-9 SOFTWARE AND HARDWARE FOR THE NEUTRON ACTIVATION ANALYSIS OF MATERIALS**
Aleksander Ralo², S. Styervoyedov², A. Osipchuk², M. Khruslov¹
¹*O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine*
²*V.N. Karazin Kharkiv National University, Kharkiv, Ukraine*
- SSR&NM-10 REFLECTIVITY OF SEMI-INFINITE LAYERED SUPERCONDUCTORS IN PRESENCE OF EXTERNAL DC MAGNETIC FIELD**
Tetiana Rokhmanova¹, S. Apostolov^{1,2}, Z. Maizelis^{1,2}, V. Yampol'skii^{1,2}
¹*O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine*
²*Karazin Kharkiv National University, Kharkiv, Ukraine*
- SSR&NM-11 GIANT OPTICAL ACTIVITY OF PLANE-CHIRAL STRUCTURE WITH TRAPEZOIDAL SLIT**
Olexander Salogub, Ye. Ostrizhnyi
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- SSR&NM-12 SIMULATIONS OF THE PLANE WAVE SCATTERING BY MULTILAYER CYLINDRICAL STRUCTURE**
Yana Sashkova, E. Odarenko
Kharkiv National University of Radioelectronics, Kharkiv, Ukraine
- SSR&NM-13 DUAL NATURE OF ELECTRON LOCALIZATION IN MULTICHANNEL CONDUCTORS WITH RANDOMLY ROUGH BOUNDARIES**
Luka Shostenko, Yu. Tarasov
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- SSR&NM-14 SURFACE ACOUSTIC WAVES TRAVELLING ALONG THE INTERFACE OF TWO ELASTIC MEDIA**
Olena Sokolova¹, A. Kovalev¹, A. Maznev², A. Mayer³
¹*B. Verkin Institute for Low Temperature Physics of NAS of Ukraine, Kharkiv, Ukraine*
²*Massachusetts Institute of Technology, Cambridge, USA*
³*University of Applied Sciences, Offenburg, Germany*
- SSR&NM-15 IMPROVEMENT OF ELECTRON SPIN RESONANCE TECHNIQUE BY THE SCANNING RESONANT FREQUENCIES METHOD**
Arthur Vakula, A. Varavin, A. Vasilyev
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine

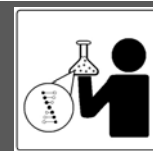
SESSION: MICROWAVE AND TERAHERTZ ELECTRONICS2nd Conference Hall

Tuesday 14.10.2014 11:30 – 14:00

- Session** **WORK IN JAPAN: BEST CHANCE TO TEST YOURSELF IN MODERN SCIENCE**
Guest Talk **Dr. Alexei Kuleshov**
MTE-1 *O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine*
- MTE-2** **MODELING OF ENERGY SPECTRA AND ELECTRON MOBILITIES OF HgCdTe QUANTUM WELLS IN THE RANGE OF TOPOLOGICAL TRANSITION WITH k_p METHOD AND ITERATIVE BTE TECHNIQUE**
Evgen Melezhik, J. Gumenjuk-Sichevska
V.E. Lashkaryov Institute of Semiconductor Physics of NAS of Ukraine, Kyiv, Ukraine
- MTE-3** **Ka-BAND TRANSCEIVER BASED ON DIGITAL FREQUENCY SYNTHESIZER FOR FMCW RADAR**
Oleksandr Vasilyev, G.Ermak, A. Varavin, O. Vietoshko
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- MTE-4** **DIFFERENTIAL PHASE SECTIONS BASED ON FORM BIREFRINGENCE IN THE TERAHERTZ FREQUENCY RANGE**
Oleg Kosiak¹, V. Bezborodov¹, Ye. Kuleshov¹, V. Yachin²
¹*O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine*
²*Institute of Radio Astronomy of NAS of Ukraine, Kharkiv, Ukraine*
- MTE-5** **IMPROVING THE EFFICIENCY OF OSCILLATORS O-TYPE IN SUBMILLIMETER RANGE**
Yuriy Kovshov, S. Kishko, S. Ponomarenko, A. Kuleshov, B. Yefimov
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- MTE-6** **HIGH VOLTAGE POWER SUPPLY WITH THE HIGH LEVEL OF STABILITY OF OUTPUT VOLTAGE**
Yuriy Kovshov, S. Kishko, S. Ponomarenko, A. Kuleshov, B. Yefimov
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- MTE-7** **THE PHOTOACOUSTIC RECEIVER IN THE TERAHERTZ RANGE**
Anastasia Penkina, E. Kuleshov, V. Laptiy, V. Savchenko
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- MTE-8** **THE EXCITATION OF THE HIGH Q-FACTOR WHISPERING-GALLERY MODES IN THE HEMIBALL SHIELDED DIELECTRIC RESONATOR BY THE “SLOT-LINE”**
Sergey Nosatyuk, R. Dolya
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- MTE-9** **ELECTROMAGNETIC WAVE COMPLEX TRANSMISSION COEFFICIENT OF A BELOW CUTOFF LAYERED MILLIMETER-WAVE WAVEGUIDE WITH HIGH LOSS MEDIUM**
Ekaterina Kuznetsova, Z. Eremenko
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine

SESSION:

BIOPHYSICS – 1

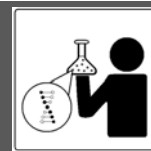
1st Conference Hall

Wednesday 15.10.2014 12:15 – 14:15

- Session** INTERACTION OF ANTIMICROBIAL PEPTIDES WITH MEMBRANES
Guest Talk Dr. Vladimir Berest
BIO-1 V. N. Karazin Kharkiv National University, Kharkiv, Ukraine
- BIO-2** THERMODYNAMICS OF Zn²⁺ IONS COMPLEX FORMATION WITH SINGLE-STRANDED POLYI IN NEUTRAL SOLUTION
Eugenia Usenko¹, V. Valeev¹, V. Andrushchenko², V. Sorokin¹
¹B.I. Verkin Institute for Low Temperature Physics and Engineering, NAS of Ukraine, Kharkiv, Ukraine
²Institute of Organic Chemistry and Biochemistry, Academy of Sciences, Prague, Czech Republic
- BIO-3** THE INFLUENCE OF CHLOROPHYLLIN ON INTERACTION IN THE PROFLAVINE-DNA SYSTEM
 Anastasiia Gerus
 O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- BIO-4** EFFECT OF DIVALENT CATIONS ON ERYTHROCYTE SURFACE CHARGE
Mariana Anikieieva¹, O. Gordiyenko²
¹V.N. Karazin Kharkiv National University, Kharkiv, Ukraine
²Institute for Problems of Cryobiology and Cryomedicine NAS of Ukraine, Kharkiv, Ukraine
- BIO-5** MODIFICATION OF DPPC MEMBRANE PHASE BEHAVIOR BY OXYETHYLATED DERIVATIVES OF GLYCEROL
Alina Krasnikova¹, M. Ratushnaya², O. Vashchenko¹, N. Kasian¹, A. Zinchenko³, L. Lisetski¹
¹Institute Scintillation Materials of NAS of Ukraine, Kharkiv, Ukraine
²Karazin Kharkiv National University, Kharkiv, Ukraine
³Institute for Problems of Cryobiology and Cryomedicine of NAS of Ukraine, Kharkiv, Ukraine
- BIO-6** DEPENDENCE OF THE INTERACTION POTENTIAL BETWEEN THE VIRUS AND A FLAT SOLID SURFACE ON THE PARAMETERS OF THE VIRUS COAT
Natalia Rusinchuk, V. Lozovski
 Institute of High Technologies, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine
- BIO-7** EFFECT OF ALTERNATIVE MAGNETIC FIELD ON PLANTS GRAVITROPIC REACTION UNDER THE CONDITIONS OF ABSENCE OF STATIC COMPONENTS OF MAGNETIC FIELD. THE SHUMAN'S FREQUENCIES ROLE
 Nadezhda Sheykina
 National University of Pharmacy, Kharkiv, Ukraine

SESSION:

BIOPHYSICS – 2

1st Conference Hall

Wednesday 15.10.2014 15:15 – 17:00

- BIO-8 THE INFLUENCE OF THE CRESS AND MAIZE ROOTS ORIENTATION RELATIVELY TO COMBINED MAGNETIC FIELD DIRECTION ON CHANGES OF THEIR GRAVITROPIC REACTION. EXPERIMENT AND NEW HYPHOTESIS. ADAPTATION MECHANISM**
Nadezhda Sheykina², N. Bogatina¹
¹*B. I. Verkin Institute for Low Temperature Physics and Engineering NAS of Ukraine, Kharkiv, Ukraine*
²*National University of Pharmacy, Kharkiv, Ukraine*
- BIO-9 NEW METHOD FOR ASSESSING THE CONFORMATIONAL CHANGES OF PROTEINS: FÖRSTER RESONANCE ENERGY TRANSFER BETWEEN THE MICROENVIRONMENT SENSITIVE SQUARINE DYES**
 Irina Govor
State Scientific Institution "Institute for Single Crystals" of the National Academy of Sciences of Ukraine, Kharkiv, Ukraine
- BIO-10 A CRITERION FOR ASSESSING THE INFLUENCE OF BIOLOGICALLY ACTIVE SUBSTANCES ON BIOPOLYMERS FROM THE CHANGES TO THE TEXTURES OF THEIR FILMS**
Dmitriy Glibitskiy, G. Glibitskiy
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- BIO-11 OPTICAL IRRADIATION INFLUENCE ON THE BEHAVIOR OF SUSPENDED ALCOHOLS DROPLETS FOR DIFFUSION EVAPORATION REGIME**
Oksana Korobko, A. Brytan, G. Verbinska, D. Gavrushenko
Taras Shevchenko Kyiv National University, Kyiv, Ukraine
- BIO-12 THE INFLUENCE OF LED IRRADIATION ON THE ABILITY OF NEUTROPHILS TO FORM NETS**
 Svetlana Malanchuk
V. N. Karazin Kharkiv National University, Kharkiv, Ukraine
- BIO-13 CHROMATOGRAPHY OF VOLATILE METABOLITES EMISSION AND SURFACE FLUORESCENCE OF THE APPLE FRUIT OF DIFFERENT GENOTYPES**
Sergiy Kryvets, D. Savchenko, Ya. Lazorenko
Institute of Applied Problems of Physics and Biophysics of NAS of Ukraine, Kyiv, Ukraine
- BIO-14 DETECTION OF ENDOGENOUS ACETONE USING FLUORESCENT DISPERSE SYSTEMS SILICIUM DIOXIDE/ORGANIC DYE**
Yaroslav Lazorenko, O. Bezruchko, S. Krivec, M. Konoplya, A. Misyura
Institute of Applied Problems of Physics and Biophysics of NAS of Ukraine, Kyiv, Ukraine
- BIO-15 LAURDAN SENSING OF THE CHANGES IN NUCLEAR MEMBRANE PHISYCAL STATE UPON CYCLIC INTERMITTENT FASTING IN RATS OF DIFFERENT AGE**
Mykhailo Girysh, N. Kurguzova, A. Bozhkov
Institute for Biology, Karazin Kharkiv National University, Kharkiv, Ukraine

SESSION: RADIO ASTRONOMY AND ASTROPHYSICS

2nd Conference Hall

Wednesday 15.10.2014 12:15 – 14:15

- Session** SOLAR RADIO EMISSION OBSERVED WITH UTR-2 FACILITIES
Guest Talk Dr. Artem Koval
RAA-1 *Institute of Radio Astronomy of NAS of Ukraine, Kharkiv, Ukraine*
- RAA-2** DETECTION OF A FINE STRUCTURE OF THE PULSAR J0953+0755 RADIATION IN THE LOW FREQUENCY RANGE RADIO ASTRONOMY
Anastasiia Skoryk, O. Ulyanov, A. Shevtsova
Institute of Radio Astronomy of the National Academy of Sciences of Ukraine, Kharkiv, Ukraine
- RAA-3** SPIKES AS A TOOL FOR DETERMINATION OF SOLAR CORONA PARAMETERS
Mykola Shevchuk¹, V. Melnik², S. Poedts¹, V. Dorovskyy², A. Brazhenko³, C. Briand⁴, J. Magdalenic⁵, A. Konovalenko¹, A. Frantsuzenko³, H. Rucker⁶, P. Zarka⁴
¹*KU Leuven, Centrum voor mathematische Plasma-Astrofysica, Leuven, Belgium*
²*Institute of Radio Astronomy of the National Academy of Sciences of Ukraine, Kharkiv, Ukraine*
³*Institute of Geophysics, Gravimetrical Observatory, Poltava, Ukraine*
⁴*Observatoire de Paris, Paris, France*
⁵*Royal Observatory of Belgium, Brussels, Belgium*
⁶*Space Research Institute, Austrian Academy of Sciences, Graz, Austria*
- RAA-4** ACCELERATING HYBRID PROGRAMMING ALGORITHMS FOR PROCESSING OF RADIO ASTRONOMY DATA
Maxim Plakhov¹, A. Skoryk¹, O. Ulyanova², A. Shevtsova¹
¹*Institute of Radio Astronomy of NASU, Kharkiv, Ukraine*
²*Kharkov National University of Radio Electronics, Kharkiv, Ukraine*
- RAA-5** RADIOSPECTROSCOPY OF ASTROPHYSICAL MOLECULES: MILLIMETER AND SUBMILLIMETER WAVE SPECTRUM OF N-METHYLFORMAMIDE MOLECULE
Arthur Mescheriakov¹, V. Ilyushin¹, E. Alekseev¹, R. Motiyenko², L. Margules²
¹*Institute of Radio Astronomy of NASU, Kharkiv, Ukraine*
²*Laboratoire PhLAM, UMR 8523 CNRS, University Lille 1, Villeneuve d'Ascq, France*
- RAA-6** RADIO INTERFERENCE MONITORING AT THE UTR-2 RADIO OBSERVATORY
Yaroslav Volvach, A. Koval, A. Stanislavsky, A. Konovalenko
Institute of Radio Astronomy of NAS of Ukraine, Kharkiv, Ukraine
- RAA-7** SEARCHING FOR NON-IMPULSE DECAMETER RADIATION OF PSR B0809+74
Ihor Kravtsov, V. Zakharenko
Institute of Radio Astronomy of NAS of Ukraine, Kharkiv, Ukraine

**EXCURSION TO KHARKIV STATE AIRCRAFT
MANUFACTURING COMPANY MUSEUM**



KSAMC

Thursday

16.10.2014

09:45 – 12:00

SESSION:

ELECTROMAGNETICS – 1



1st Conference Hall

Thursday

16.10.2014

09:45 – 12:00

- Session* **PROPAGATION AND RADIATION OF IMPULSE SIGNALS IN A
DIELECTRIC WAVEGUIDE**
- Guest Talk*
EM-1 **Dr. Maksym Legenkiy**
V. N. Karazin Kharkiv National University, Kharkiv, Ukraine
- EM-2** **IMPULSE TEM HORN ANTENNA MODELING**
XiangYu Hao, M. Legenkiy
Karazin Kharkiv National University, Kharkiv, Ukraine
- EM-3** **NUMERICAL STUDY OF BIMODAL DIELECTRIC DISK ANTENNA**
Sergii Radionov
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- EM-4** **STUDY OF ENERGY LOSS OF CHARGED PARTICLE ON EIGEN MODES
IN THE CYLINDRICAL STRUCTURE WITH THIN PLASMA LAYER ON
ITS LATERAL SURFACE**
Anatoliy Dormidontov, Yu. Prokopenko, S. Khankina, V. Yakovenko
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- EM-5** **SCATTERING OF ELECTROMAGNETIC WAVES FROM A GRATING OF
METAL BARS WITH SLITS FILLED BY PIECEWISE HOMOGENEOUS
DIELECTRIC**
Lyudmila Kochetova
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- EM-6** **BISTABILITY INDUCED BY LOW-TO HIGH-FREQUENCY
INTERACTIONS**
Anastasiia Nimets, D. Vavriv
Institute of Radio Astronomy of NAS of Ukraine, Kharkiv, Ukraine
- EM-7** **ACCURATE ANALYSIS OF SUBARRAY CHARACTERISTICS FOR GURT
LOW-FREQUENCY RADIO TELESCOPE**
Serge Yerin, P. Tokarsky
Institute of Radio Astronomy of NAS of Ukraine, Kharkiv, Ukraine

IRE
YSC

KHARKIV IDEAS & TECHNOLOGIES (KIT) WORKSHOP



"7/9" anti-cafe

Thursday

16.10.2014

17:00 – 21:00

«*Science & Technologies side by side*»

Organized in the frames of YSC-2014, Kharkiv, Ukraine

Organizing Team of the Conference is happy to present you the renewed format of Young Scientist Career Development Workshop: **Kharkiv Ideas & Technologies (KIT) Workshop**. This year for the first time this conference event is available not just for the participants of the conference, but also for everyone interested in science and technologies.

The duties of the KIT participants include attending the lectures by young scientists and representatives of alternative technological trends, understanding the core of what is happening, improving mood, increasing the amount of faith in the future of science, studying the independent technological groups' work, identifying the ways to achieve results, finding like-minded people, making new acquaintances, and accepting cookies at the end of the event.

Please note that the KIT Workshop is to be held outside the Institute, at anti-café "7/9" (7/9 Kharkovskaya Naberezhnaya Str.)

KIT will include:

SciKIT/Scientific KIT / 17:00-18:40

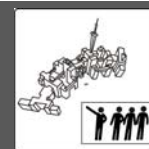
- *What is "KIT"*
by **Pavlo Krasov**
- *Young scientist: above and beyond*
by **Julia Bezvershchenko** and **Oleksander Skorokhod**
- *Making great science with your own hands: open source package 'Meep'*
by **Anna Slusarenko**
- *Easy Radio Astronomy*
by **Anastasia Skoryk** and **Serge Yerin**

HacKIT/Hacker KIT / 19:00-21:00

- *Khackerspace*
by **Dmitrij Birjukov**, **Maksym Losev**, **Igor Kulakevych**, **Ilya Shevchenko** and **Mykola Khrystencko**
- *Do It Yourself Biology*
by **Anton Kulaga**

IRE
YSC

KHARKIV TOUR WITH MAX ROZENFELD



Begins at 54/2 Pushkinskaya Str. Friday 17.10.2014 10:00 – 13:00

SESSION: GEOSCIENCE AND REMOTE SENSING – 1

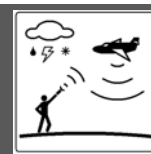


1st Conference Hall Friday 17.10.2014 13:30 – 15:15

- Session** **FPGA-BASED RADAR SIGNAL IMITATOR**
Guest Talk **Sergiy Lukin**, K. Lukin, P. Vyplavin, O. Zemlyaniy
GRS-1 *O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine*
- GRS-2** **THE MAPPING OF THE TOTAL WATER CONTENT OVER THE KHARKIV REGION BY GNSS MEASUREMENTS**
Alexey Kovorotniy
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- GRS-3** **DEVELOPMENT OF THE COMBINE SPEED AND WHEEL SLIP SENSOR OF TRACTIVE AGRICULTURE VEHICLES**
Valentin Maltsev, G. Khlopov
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- GRS-4** **GEOMETRICAL TECHNIQUES FOR REDUCING RADAR TARGETS DETECTABILITY**
Alexander Maslovskiy, M. Legenkiy
V. N. Karazin Kharkiv National University, Kharkiv, Ukraine
- GRS-5** **A NEW AUTOFOCUS METHOD FOR HIGH-RESOLUTION SYNTHETIC APERTURE RADAR IMAGING**
Ievgen Gorovyi, O. Bezvesilniy, D. Vavriv
Institute of Radio Astronomy of NAS of Ukraine, Kharkiv, Ukraine
- GRS-6** **MOVING TARGET DETECTION AND TRACKING BASED ON LOCAL TRAJECTORY PARAMETERS ESTIMATION**
Vitalii Vovk, N. Babanska
National Aviation University, Kyiv, Ukraine

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SESSION: GEOSCIENCE AND REMOTE SENSING – 2



1st Conference Hall

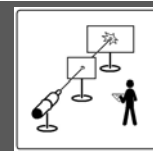
Friday 17.10.2014 15:30 – 17:15

- GRS-7 DETERMINATION OF AIRCRAFT CURRENT LOCATION ON THE BASIS OF ITS ACOUSTIC NOISE**
Eugene Chervoniak, F. Yanovsky, R. Sinitsyn, O. Zaporozhets
National Aviation University, Kyiv, Ukraine
- GRS-8 ANALYSIS OF FEATURES OF ELECTROMAGNETIC SCATTERING BY SINGLE SPHERICAL DROP AT TWO WAVELENGTHS**
Ganna Veselovska, G. Khlopov
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- GRS-9 EXPERIMENTAL RESEARCH OF INFLUENCE OF SUN ECLIPSE ON RADIOWAVE PROPAGATION IN TROPOSPHERE**
Dmytro Khalameyda, I. Mytsenko
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- GRS-10 BACKSCATTERING OF EM WAVES FROM THE MIXTURE OF HYDROMETEORS**
Alexander Pitercev
National Aviation University, Kyiv, Ukraine
- GRS-11 RADIO-LOCATION SOUNDING OF MAGNETOSPHERE IS IN IONOSPHERE**
Andrey Fesun¹, T. Skvortsov¹, L. Emelyanov²
¹*National Technical University «Kharkiv Polytechnic Institute», Kharkiv, Ukraine*
²*Institute of Ionosphere NAS and MES of Ukraine, Kharkiv, Ukraine*
- GRS-12 INFLUENCE OF ULTRASONIC, IRRADIATION ON RELAXATION PROCESSES AND AUTOMATED SYSTEM OF ANISOTROPY ANALYSIS**
Yuriy Onanko, G. Prodayvoda, A. Onanko, A. Shabatura, A. Onischenko
Taras Shevchenko Kyiv National University, Kyiv, Ukraine

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SESSION:

OPTICS AND PHOTONICS – 1



2nd Conference Hall

Friday 17.10.2014 13:30 – 15:15

- Session** **METHODS OF DECREASING OF LASING THRESHOLDS OF OPTICAL**
Guest Talk **RESONATORS WITH PERIODICALLY STRUCTURED ACTIVE**
OPH-1 **NANO WIRES**
Volodymyr Byelobrov
O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine
- OPH-2** **THE TRANSFORMATION RATIO AT THE PLASMA WAKEFIELD**
EXCITATION BY A LASER PULSE WITH AN ASYMMETRIC
INTENSITY DISTRIBUTION
Olena Svystun
National Science Center "Kharkiv Institute of Physics and Technology" NASU, Kharkiv, Ukraine
- OPH-3** **INFLUENCE OF LOCATIONS ON PHOTOLUMINESCENCE OF**
CRYSTALS ZNS:MN ON INITIAL STAGES OF PLASTIC DEFORMATION
Evgenii Plakhtii, O. Khmelenko, A. Kovalenko, M. Bulanyi
Oles Honchar Dnipropetrovsk National University, Dnepropetrovsk, Ukraine
- OPH-4** **ENHANCED BACKWARD DIFFRACTION OF TM-POLARIZED**
ELECTROMAGNETIC WAVES AT HIGH REFLECTING INTERFACES
ACCOMPANIED BY THE SPECULAR REFLECTION SUPPRESSION
Anton Kuzmenko¹, I. Spevak¹, V. Gavrikov², A. Kats¹
¹*O.Ya. Usikov Institute for Radiophysics and Electronics of NASU, Kharkiv, Ukraine*
²*Institute of Radio Astronomy of NAS of Ukraine, Kharkiv, Ukraine*
- OPH-5** **INDIVIDUAL EMISSION BANDS Mn²⁺ IONS IN ZnS SINGLE CRYSTALS**
Oleksandr Morozov, M. Bulaniy, O. Kovalenko
Oles Honchar Dnipropetrovsk national University, Dnepropetrovsk, Ukraine
- OPH-6** **ANTIREFLECTIVE EFFECT OF ELECTRODEPOSITED ZnO**
NANOSTRUCTURES
Katharine Klepikova, N. Klochko, G. Khrypunov, V. Kopach, V. Lyubov
National Technical University «Kharkiv Polytechnic Institute», Kharkiv, Ukraine

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SESSION:

OPTICS AND PHOTONICS – 2



2nd Conference Hall

Friday 17.10.2014 15:30 – 17:15

- OPH-7 TO THE PHOTON HYDRODYNAMICS IN EQUILIBRIUM MEDIUM**
Gleb Orlovsky, A. Sokolovsky
Oles Honchar Dnipropetrovsk National University, Dnepropetrovsk, Ukraine
- OPH-8 INVESTIGATION THE PARAMETERS OF MULTIJUNCTION SINGLE CRYSTAL SILICON SOLAR CELLS WITH VERTICAL DIODE CELL TEST SAMPLES**
Olesya Polezhaeva, R. Zaitsev, V. Kopach, M. Kirichenko
National Technical University «Kharkiv Polytechnic Institute», Kharkiv, Ukraine
- OPH-9 DEVELOPMENT AND APPROBATION THE AUTOMATIZATION COMPLEX CURRENT-VOLTAGE CHARACTERISTICS MEASUREMENT**
Dmitriy Prokopenko, R. Zaitsev, M. Kirichenko
National Technical University «Kharkiv Polytechnic Institute», Kharkiv, Ukraine
- OPH-10 ATTESTATION OF SOLAR CELLS BY BACK EMF METHOD**
Darya Lobatenko, M. Kirichenko, R. Zaitsev, V. Kopach
National Technical University «Kharkiv Polytechnic Institute», Kharkiv, Ukraine
- OPH-11 EFFECT OF RESIDUAL POROSITY ON THE OPTICAL PROPERTIES OF LASER CERAMICS $Y_3Al_5O_{12}:Nd^{3+}$**
Ihor Vorona, R. Yavetskiy, D. Kosyanov, O. Shpilinskaya, A. Tolmachev
”STC “Institute for Single Crystals” NAS of Ukraine, Kharkiv, Ukraine
- OPH-12 CARRIER’S LIFETIME IN QCD GaN/AlGaIn STRUCTURE**
 Sergii Gryshchenko
Kharkov National University of Radio Electronics, Kharkiv, Ukraine
- OPH-13 PHONON-POLARITONS IN PERIODIC MAGNETO-ELECTRO-ELASTIC STRUCTURES**
Davit Piliposyan, K. Ghazaryan
Institute of Mechanics of NAS of Armenia, Yerevan, Armenia

CLOSING CEREMONY



1st Conference Hall

Friday 17.10.2014 17:45 – 18:15

- 17:45– **AWARDS CEREMONY**
 18:15 **Ms. Daryna Pesina and Dr. Pavlo Vyplavin**
YSC-2014 Organizing committee chairs

