

RULES FOR PARTICIPATION

Official Language: English

Duration of oral presentation: 15 min

Duration of plenary presentation: 30 min



19.05.2021

OPENING CEREMONY

ZOOM meeting link

Topic: OPENING CEREMONY & PLENARY SESSION

Time: May 19, 2021 10:00 AM Kiev

Join Zoom Meeting

<https://zoom.us/j/94356056708?pwd=ajVPMmhXWkthb2xwUE1QZnNib0Iydz09>

Meeting ID: 943 5605 6708

Passcode: 061498

(10:00 – 10:30)

Vitaliy Kukharskyy

Vice-Rector for Research, Teaching and IT-Development

Serhiy Velhosh

Conference Chairman

PLENARY SESSION

ZOOM meeting link (same as Opening Ceremony)

(10:30 – 13:10)

Moderator: Dr. Taras Nenchuk

Natalya B. Shakhovska	Method for Missing Data Imputation in Big Data Technologies
Stefan Schandera	The Human Capital of Things: Innovation ecosystems and talent development (Case study Industrial IoT)
Valeriy Martynyuk	Energy Harvesting Systems From Photovoltaic Modules
Anatoli Popov	Distinctive features of point defect thermal annealing in functional ceramics for nuclear applications

BREAK TIME
(13:00 – 14:00)

SESSION "Electronics Engineering"

ZOOM meeting link

Topic: SESSION "Electronics Engineering"
Time: May 19, 2021 02:00 PM Kiev
Join Zoom Meeting
<https://zoom.us/j/91941864822?pwd=aXNSbU40ZzdBTjNWckp4cStkYUpBUT09>
Meeting ID: 919 4186 4822
Passcode: 373709

(14:00 – 17:20)

Moderator: Prof. Iryna Yaremchuk

	Sub #	Authors	Title
14:00 – 14:20	11	Mykhaylo Pop, Mladen Kranjčec, Andriy Solomon and Ihor Studenyak	Influence of X-Ray Irradiation on Energy Pseudogap and Refractive Index of (Ga _{0.1} In _{0.9}) ₂ Se ₃ Films
14:20 – 14:40	24	Olga Shcherbyna, Maksym Zaliskyi, Oleksandr Solomentsev, Nataliia Kuzmenko, Felix Yanovsky, Ivan Ostroumov, Yuliya Averyanova and	Diagnostic Process Efficiency Analysis for Block Diagram of Electric Field Parameters Meter

		Olha Sushchenko	
14:40 – 15:00	25	Iryna Shender, Artem Pogodin, Vasyl Aleksyk, Michael Babilya, Ihor Studenyak, Vitaliy Bilanych and Michael Filep	MECHANICAL PROPERTIES OF SINGLE CRYSTALS BASED ON $Ag_{6+x}(P_{1-x}Ge_x)S_5I$ SOLID SOLUTIONS
15:00 – 15:20	29	Pavel Fastykovsky, Michael Glauberman and Yaroslav Lepikh	Remote Seismic Sensor with a New Temporal Algorithm for the Moving Person Detection
15:20 – 15:40	58	Sergiy Luniov, Mykola Khvyshchun, Andrii Tsiz and Volodymyr Maslyuk	Influence of electron irradiation and annealing on the IR absorption of germanium single crystals
15:40 – 16:00	89	Yuri Datsyuk and Bogdan Kuplovskiy	Use of MEMS accelerometer sensors in microseismic surveys
16:00 – 16:20	59	Sergiy Moroz, Mykola Khvyshchun, Victor Lyshuk, Anatoliy Tkachuk and Stanislav Prystupa	Investigation of features of functioning of pyroelectric sensors in electronic security devices
16:20 – 16:40	60	Oleh Bordun, Bohdan Bordun and Iryna Kofliuk	Thin oxide films for transparent electronics and full color displays
16:40 – 17:00	69	Maksym Zaliskyi, Oleksandr Solomentsev, Nataliia Kuzmenko, Felix Yanovsky, Olga Shcherbyna, Olha Sushchenko, Ivan Ostroumov and Yuliya Averyanova	Sequential Method of Reliability Parameters Estimation for Radio Equipment
17:00-17:20	87	Petro Parandiy, Nazar Pelypets and Borys Turko	Microprocessor system as analyzing complex of gas and vapour sensors

SESSION "Data Analysis and Machine Learning"

ZOOM meeting link

Topic: SESSION "Data Analysis and Machine Learning"

Time: May 19, 2021 02:00 PM Kiev

Join Zoom Meeting

<https://zoom.us/j/91289930290?pwd=WXFibG9VdlFrUnkydm10elZ4ZXRNdz09>

Meeting ID: 912 8993 0290

Passcode: 457297

(14:00 – 16:20)

Moderator: Prof. Ivan Karbovnyk

	Sub #	Authors	Title
14:00 – 14:20	2	Vladislav Lopatka, Ievgen Meniailov and Ksenia Bazilevich	Classification and Prediction of Diabetes Disease using Modified k-neighbors Method
14:20 – 14:40	4	Gennady Chuiko, Yevhen Darnapuk, Olga Dvornik, Yaroslav Krainyk, Olga Yaremchuk and Ruslan Haab	A new way of data analysis and rating of the blood oxygen saturation variability
14:40 – 15:00	63	Zinovii Liubun, Vasyl Mandziy and Oleksandr Karpin	Correlation-based Contactless Hand-Gesture Detection for Capacitive Sensing
15:00 – 15:20	64	O. S. Kushnir, L. B. Ivanitskyi, A. I. Kashuba, M. R. Mostova and V. B. Mykhailyk	Large-Scale Studies of the Repetition Characteristic for Different Models of Symbolic Sequences
15:20 – 15:40	74	Ivan Ostroumov and Nataliia Kuzmenko	Aviation Weather Data Processing with Spline Functions
15:40 – 16:00	39	Mykola Kozlenko, Olena Zamikhovska, Valerii Tkachuk and Leonid Zamikhovskiy	Deep learning based fault detection of natural gas pumping unit
16:00 – 16:20	56	Oksana Boyko, Olesia Chaban,	Decision Support System for the Diagnosis of Thyroid Cancer

		Volodymyr Yuzevych, Askold Kucher, Ihor Ogirko and Oleksiy Dutchak	
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SESSION "Modeling of Phenomena, Processes and Systems" Track 1

ZOOM meeting link

Topic: SESSION "Modeling of Phenomena, Processes and Systems" Track 1

Time: May 19, 2021 02:00 PM Kiev

Join Zoom Meeting

<https://zoom.us/j/94188305047?pwd=U1I0Mi9SdDZnMDJlQ2gwZGFV0FHQT09>

Meeting ID: 941 8830 5047

Passcode: 821686

(14:00 – 17:40)

Moderator: Dr. Yaroslav Shpotyuk

	Sub #	Authors	Title
14:00 – 14:20	1	Yaroslav Paranchuk	Modeling of electromechanical system modes with fuzzy proportional-integral position regulator
14:20 – 14:40	3	Alireza Mohammadi, Dmytro Chumachenko and Tetyana Chumachenko	Machine Learning Model of COVID-19 Forecasting in Ukraine based on the Linear Regression
14:40 – 15:00	6	Andrii Kashuba, Oleh Kushnir, Hryhorii Ilchuk, Bohdan Andriyevsky, Ihor Semkiv and Roman Petrus	Ab initio calculations of electronic band structure, optical and elastic parameters of solid-state CdTe–CdSe solutions
15:00 – 15:20	10	Juliy Boiko, Ilya Pyatin and Oleksander Eromenko	Determining the Effectiveness of LDPC Codes for 5G Information Networks
15:20 – 15:40	13	Oleksii Dovhaniuk and Vitaly Deibuk	Synthesis and Implementation of Reconfigurable Reversible Generalized Fredkin Gate

15:40 – 16:00	15	Dmytro Havrilov, Andrii Volovyk, Andriy Semenov, Leonid Koval, Mikola Vasylkivskyi and Natalia Havrilova	Research of Electromagnetic Compatibility of Electronic Automotive Equipment
16:00 – 16:20	16	Oleksiy Kuznyetsov and Yaroslav Paranchuk	Remarks on the Behavior of a Multistable DC Drive in the Presence of Noise
16:20 – 16:40	17	Ihor Javorskyj, Roman Yuzefovych, Oleh Lychak and Pavlo Kurapov	Hilbert Transform for Analysis of Daily Changes of the Earth Magnetic Field
16:40 – 17:00	18	Ivan Nebola, Anton Katanytsia, Viktor Studenyak, Yurii Pal, Aleksyna Shteyfan, Vasyl Sidey and Ihor Studenyak	Phonon spectra of Cu ₇ GeSe ₅ I and Ag ₇ GeSe ₅ I crystals
17:00 – 17:20	97	Ihor Bohdanov, Yana Suchikova, Sergii Kovachov, Valentina Peregudova, Alma Dauletbekova and Anatoli Popov	Investigation of critical points of pore formation voltage on the surface of semiconductors of A ₃ B ₅ group
17:20 – 17:40	98	Ihor Bohdanov, Yana Suchikova, Sergii Kovachov, Lyudmila Dannik, Aleksandra Moskina and Anatoli Popov	Texturing of indium phosphide for improving the characteristics of space solar cells

20.05.2021

SESSION "Data Analysis"

ZOOM meeting link

Topic: SESSION "Data Analysis"

Time: May 20, 2021 10:00 AM Kiev

Join Zoom Meeting

<https://zoom.us/j/98988400827?pwd=WTRtZFNqMGJUSGx2eU9lc3JadE52Zz09>

Meeting ID: 989 8840 0827

Passcode: 334491

(10:00 – 12:40)

Moderator: Prof. Ivan Karbovnyk

	Sub #	Authors	Title
10:00 – 10:20	93	Igor Olenych, Oleh Sinkevych, Marianna Prytula and Oleksiy Khamar	System of Automatic Determination of Ukrainian Text Tone
10:20 – 10:40	70	Ivan Tverdokhlib and Alina Ladur	Assessment of the stress of competitive environment of Ukraine`s economy banking sector on the basis of media monitoring
10:40 – 11:00	72	Sergei Yelmanov and Yuriy Romanyshyn	A new Technique for Image Enhancement by Adaptive Power-Law Intensity Transformation
11:00 – 11:20	78	Mariia Nazarkevych, Yaroslav Voznyi, Volodymyr Hrytsyk, Ivanna Klyujnyk, Bohdana Havrysh and Nataliia Lotoshynska	Identification of biometric images by machine learning

11:20 – 11:40	85	Qaisar Saeed	Machine Learning Based Short-Term Load Forecasting for Smart Meter Energy Consumption Data in London Households
11:40 – 12:00	86	Vasyl Rabyk, Ivan Tsmots, Vasyl Teslyuk, Yurii Lukaschuk and Zinovij Lyubun	Neural Network Technology for Protecting Cryptographic Data
12:00 – 12:20	88	Mrutyunjaya Hiremath	Segmenting Leaf Region for Detection of Plant leaf Diseases using Color Space conversion and Flood Filling Algorithm
12:20 – 12:40	99	Oleksandr Mamro, Andrii Lagun and Bohdan Dupak	Investigation of homophonic encryption on zodiac Z408 and Z340 ciphers

SESSION "Modeling of Phenomena, Processes and Systems" Track 2

ZOOM meeting link

Topic: SESSION "Modeling of Phenomena, Processes and Systems" Track 2

Time: May 20, 2021 10:00 AM Kiev

Join Zoom Meeting

<https://zoom.us/j/99020025895?pwd=cmNFbDJENTdBQXQ4ZHlMaUppaHNMUT09>

Meeting ID: 990 2002 5895

Passcode: 474486

(10:00 – 13:00)

Moderator: Prof. Oleh Kushnir

	Sub #	Authors	Title
10:00 – 10:20	19	Sergiy Sveleba, Ivan Katerynychuk and Ivan Kuno	Calculation of Fourier Spectra of Amplitude Function of Incommensurate Superstructure Described by Two Components Parameter of Order (N=4)
10:20 – 10:40	26	Eduard Zubov	Exchange Bias in Gadolinium Orthochromite
10:40 – 11:00	30	Olha Sushchenko, Yurii	Modeling Optimization Process in Design of Robust Systems

		Bezkorovainyi and Oleksandr Salyuk	
11:00 – 11:20	31	Volodymyr Fitio, Yuriy Kotsiuba, Halyna Petrovska and Yaroslav Bobitski	IMPROVING THE QUALITY OF THE PHASE MAPS BY CHEBYSHEV POLYNOMIALS
11:20 – 11:40	35	Andrii Korotun, Nina Smirnova, Vitalii Reva and Igor Titov	The spectral quality factor of the sensory elements of the nanosensors based on the surface plasmonic resonance
11:40 – 12:00	36	Yan Karandas and Andrii Korotun	An optical radiation efficiency of the composite nanocylinders
12:00 – 12:20	37	Nazar Pavlyshche, Andrii Korotun, Igor Titov and Valentina Tretiak	Quality factor of the surface plasmonic resonance in the metallic nanodiscs
12:20 – 12:40	40	Volodymyr Kolomiets, Mariya Kovalenko, Oleg Bovgyra, Oleh Kozachenko and Volodymyr Kapustianyk	Structural, Electronic and Optical Properties of CsPbBr ₃ and CH ₃ NH ₃ PbBr ₃ : First- Principles Modeling
12:40 – 13:00	45	Svitlana Ponomarenko, Tetiana Bulavinets and Iryna Yaremchuk	Plasmon Characteristics of CuS Nanoparticles Depending on Their Structural Parameters

SESSION "Modeling of Phenomena, Processes and Systems" Track 3

ZOOM meeting link

Topic: SESSION "Modeling of Phenomena, Processes and Systems" Track 3

Time: May 20, 2021 10:00 AM Kiev

Join Zoom Meeting

<https://zoom.us/j/96278117094?pwd=bGdWWTVJRy9KRnZRTEJm1hkYWlZUT09>

Meeting ID: 962 7811 7094

Passcode: 072134

(10:00 – 13:00)

Moderator: Prof. Anatoly Popov

	Sub #	Authors	Title
10:00 – 10:20	50	Andrii Shapovalov, Olha Boliasova, Mikhail Belogolovskii and Aleksey Kalenyuk	Two-Band/Two-Gap Superconductivity in Molybdenum-Rhenium Alloys
10:20 – 10:40	51	Volodymyr Shnyrkov, Andrii Shapovalov, Aleksey Kalenyuk, Andrii Dumik, Olha Boliasova and Alexander Kordyuk	Low-Back-Action RF Squid Read-Out for a Josephson Flux Qubit Measurement
10:40 – 11:00	55	Tetiana Bulavinets, Iryna Yaremchuk and Yaroslav Bobitski	Size-Dependent Localized Surface Plasmon Resonance of Large Triangular Ag Nanoprisms
11:00 – 11:20	71	Oleh Pihnastyi and Olga Kozhyna	An Approximate Method For Constructing Linear Regression Models For Prediction Of a Severe Bronchial Asthma Course
11:20 – 11:40	76	B. I. Horon, O. S. Kushnir, V. Yo. Stadnyk and A. I. Kashuba	Least-Squares Analysis of the Dielectric Permittivity for Improper Ferroelectric Ammonium Fluoroberyllate
11:40 – 12:00	9	Kyrylo S. Krasnikov	Numerical experiments of addition mixing during batch vacuuming with cored wire in

			ladle
12:00 – 12:20	22	Dmytro Bletska, Vasyl Vakulchak, Viktor Studenyak, Artem Pogodin and Ihor Studenyak	DFT+U calculations of electronic structure and optical properties of Ag ₇ GeS ₅ compound
12:20 – 12:40	8	Olexandr Polishchuk	Isolated zones and granulation of complex network systems
12:40 – 13:00	100	Oleksii Kushnir, Ivan Bolesta, Antonina Demchuk and Yaroslav Shmyhelsky	Substrate charge model development using discrete dipole approximation method

BREAK TIME
(13:00 – 14:00)

SESSION " Embedded & Hybrid Information Systems"			
ZOOM meeting link			
Topic: SESSION " Embedded & Hybrid Information Systems"			
Time: May 20, 2021 02:00 PM Kiev			
Join Zoom Meeting			
https://zoom.us/j/99168724414?pwd=OGI5ZzRJNDNYdTdTOGRUOVNwNWttdz09			
Meeting ID: 991 6872 4414			
Passcode: 522112			
(14:00 – 15:40)			
Moderator: Prof. Ivan Karbovnyk			
	Sub #	Authors	Title
14:00 – 14:20	52	Oleh Sinkevych, Yaroslav Boyko, Liubomyr Monastyrskii, Oleksandr	Embedding sequence model in STM32 based neuro-controller

		Rechynskiy and Bohdan Sokolovskii	
14:20 – 14:40	43	Sergii Shendryk, Vira Shendryk, Sergii Tymchuk, Yuliia Parfenenko and Oleksii Drozdenko	Decision Support System for Efficient Energy Management of Hybrid Power Grid
14:40 – 15:00	77	Mariia Nazarkevych, Pavlo Levush and Bohdan Pankovych	Improving the efficiency of information collection based on the development of a chatbot with a parser
15:00 – 15:20	79	Serhiy Velhosh, Yuriy Furgala, Andriy Velhosh and Bohdan Rusyn	Using Color Histograms for Shrunk Images Comparison
15:20 – 15:40	38	Sergey Surkov	The model of payload authentication for HTTP protocol family

SESSION "Modeling of Phenomena, Processes and Systems" Track 4

ZOOM meeting link

Topic: SESSION "Modeling of Phenomena, Processes and Systems" Track 4

Time: May 20, 2021 02:00 PM Kiev

Join Zoom Meeting

<https://zoom.us/j/93541245800?pwd=RmFnMzI2NTh4ckRLckxua2lnMkk3dz09>

Meeting ID: 935 4124 5800

Passcode: 801229

(14:00 – 17:40)

Moderator: Dr. Oleg Bovgyra

	Sub #	Authors	Title
14:00 – 14:20	42	Roberts Eglitis and Anatoly Popov	Ab initio Calculations of Bulk and (001) Surface F-centers in ABO ₃ Perovskites
14:20 – 14:40	102	A.I. Popov, E. Elsts, M. Kemere, S. Omelkov and G. Krieke	Fast luminescence studies of NaLaF ₄ :Pr ³⁺ glass ceramics

14:40 – 15:00	48	Atamanyuk Igor	Multiparameter Stochastic Control Model Based on the Random Sequence Canonical Expansion
15:00 – 15:20	49	Bohdan Blagitko and Ihor Zajachuk	Modeling the Moving of a Self-driving Electric Car with Account the Features Invasive Sensors
15:20 – 15:40	57	Roman Melnyk, Yurii Havrylko and Roman Kvit	ANALYSIS OF MOVING CLOUDS DIRECTION AND VELOCITY BY STATISTICAL FEATURES
15:40 – 16:00	61	Vasyl Stadnyk, Pavlo Shchepanskyi, Myron Rudysh, Roman Matviiv and Ruslan Brezvin	Phase Transition in Impurity Crystals of Potassium Sulfate: Refractive Parameters
16:00 – 16:20	62	Myron Rudysh, Bohdan Horon, Pavlo Shchepanskyi, Vasyl Stadnyk and Ruslan Brezvin	First principles calculation of band structure and physical properties of ferroelectric $(\text{NH}_4)_2\text{BeF}_4$ crystal
16:20 – 16:40	82	Heorhii Kulinchenko, Oleksii Drozdenko, Petro Leontiev and Vladyslav Hrek	Pressure regulator for low temperature separation process
16:40 – 17:00	94	George Vostrov and Andrii Khrinenko	Methods and approaches for behavior analysis of fractal and chaotic components of cyclic trajectories of nonlinear dynamical systems
17:00 – 17:20	95	George Vostrov and Roman Opiata	Information technologies in computer and analytical methods for modeling the processes of forming classes of prime numbers and estimating the constants of Artin's generalized hypothesis, Part 1
17:20 – 17:40	96	George Vostrov and Roman Opiata	Modeling the processes of forming dynamic information about the structure of classes of prime numbers on a given basis, Part 2