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14TH INTERNATIONAL CONFERENCE OF YOUNG SCIENTISTS ON ENERGY ISSUES
CYSENI 2017, on 25-26th May

May 25, 2017
Kaunas, Lithuania

KEYNOTE SESSION Section A (Main Hall) Chairman: Vytautas Akstinas	
8.00-9.00	Registration
9.00-9.20	Welcome speech S. Rimkevičius (Director of Lithuanian Energy Institute) R. Bakas (Director General at AB “Kauno Energija”)
9.20-9.50	W. Gudowski (Royal Institute of Technology – KTH , Sweden) MAJOR PHYSICS DISCOVERIES LEADING TO NUCLEAR POWER
9.50-10.10	A. Radavičius (The Lithuanian Wind Power Association) WIND ENERGY BECOMING MAINSTREAM ENERGY SOURCE
10.10-10.40	F. Maviglia (EURATOM/EUROfusion consortium, Germany) THE ROAD TO NUCLEAR FUSION ENERGY: UPDATES ON ITER, AND DEMO PROJECTS

10.40-11.00 Coffee break

Section A

1. RENEWABLE ENERGY SOURCES Section A1 (Main Hall) Chairman: Vytautas Akstinas	
11.00-11.20	L. Jasiūnas (Aalborg University, Denmark) THE POTENTIAL OF <i>FUCUS VESICULOSUS</i> SEAWEED AS A FEEDSTOCK FOR BIO-REFINERY INTEGRATED HYDROTHERMAL LIQUEFACTION
11.20-11.40	A. Mockutė (University of Florence, Italy) NEED FOR ADVANCING THE WAVE LOAD MODELLING ON MONOPILE OFFSHORE WIND TURBINES
11.40-12.00	G. Gecevičius, M. Marčiukaitis, V. Zimnickas (Lithuanian Energy Institute, Lithuania), G. Gecevičius (Kauno Kolegija – University of Applied Sciences, Lithuania) NOVEL APPLICATION OF STATISTICAL AND PHYSICAL METHODS FOR WIND POWER PREDICTION IN LITHUANIA
12.00-12.20	M. Ruduks, A. Lešinskis (Latvia University of Agriculture, Latvia) GENERATION OF A TEST REFERENCE YEAR FOR DAUGAVPILS, LATVIA

12.20-13.20 Lunch

1. RENEWABLE ENERGY SOURCES Section A2 (Main Hall) Chairman: dr. Diana Meilutytė-Lukauskienė	
13.20-13.40	A. I. Patonia (University of St Andrews, United Kingdom) SELF-SUFFICIENT RENEWABLE ENERGY COMMUNITIES: THE IMPORTANCE OF SOCIAL CAPITAL
13.40-14.00	V. Zaleskas, N. Pedišius (Lithuanian Energy Institute, Lithuania) INVESTIGATION OF PARTICULATE MATTER EMISSIONED FROM SMALL AND MEDIUM SCALE BOILERS SIZE DISTRIBUTION
14.00-14.20	A. N. Karnitski (The Institute of Power Engineering, Belarus) EXPERIMENTAL STUDY OF THE FORMATION OF CARBON SORBENTS FROM GRAIN HUSKS

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14.20-14.40	<u>M. Praspaliauskas</u>, <u>N. Striūgas</u> (Lithuanian Energy Institute, Lithuania) HEAVY METAL DISTRIBUTION IN RESIDUAL PYROLYSIS PRODUCTS OF ANAEROBICALLY DIGESTED SEWAGE SLUDGE
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14.40-15.00 Coffee break

1. RENEWABLE ENERGY SOURCES Section A3 (Main Hall) Chairman: Vytautas Akstinas	
15.00-15.20	<u>M. Savenets</u>, <u>I. Dvoretzka</u> (Ukrainian Hydrometeorological Institute, Ukraine), <u>G. Kruchenitsky</u> (Central Aerological Observatory, Russia) LONG-TERM UPPER WIND DYNAMICS: VARIABILITY AND TRENDS
15.20-15.40	<u>D. Čepauskienė</u>, <u>M. Valantinavičius</u> (Lithuanian Energy Institute, Lithuania) EXPERIMENTAL STUDY ON ASH FUSION CHARACTERISTICS OF AGROMASS AND WOODY BIOMASS
15.40-16.00	<u>A. Karnausenko</u>, <u>E. Shestova</u> (Lomonosov Moscow State University, Russia) THE POTENTIAL OF THE LIVESTOCK FARMS AS A SOURCE OF ENERGY (EVIDENCE FROM THE BELGOROD REGION)
16.00-16.20	<u>V. Zimnickas</u>, <u>G. Gecevičius</u>, <u>A. Markevičius</u> (Lithuanian Energy Institute, Lithuania) A LITERATURE REVIEW OF SMALL WIND TURBINES USAGE IN URBAN AREAS

16.20-16.40 Coffee break

2. ENERGY EFFICIENCY AND RELIABILITY Section A4 (Main Hall) Chairman: Vytautas Akstinas	
16.40-17.00	<u>V. Varanavicius</u> (Lithuanian Energy Institute, Lithuania) THE CHALLENGE OF GREEN CONSUMPTION BEHAVIORS
17.00-17.20	<u>Y. Salehy</u>, <u>P. Clain</u> (Léonard de Vinci Pôle Universitaire, Research Center, France), <u>A. Boufares</u>, <u>V. Osswald</u>, <u>A. Delahaye</u>, <u>L. Fournaison</u> (Irstea GPAN, France) RHEOLOGICAL STUDY ON CO ₂ HYDRATE SLURRIES FOR SECONDARY REFRIGERATION
17.20-17.40	<u>A. Zuoza</u> (Lithuanian Energy Institute, Lithuania), <u>V. Pilinkienė</u> (Kaunas University of Technology, Lithuania) CAUSAL RELATIONS BETWEEN ENERGY CONSUMPTION, ECONOMIC STRUCTURE AND ECONOMIC GROWTH IN EU COUNTRIES

18.00 Conference dinner (Canteen)

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8. COMBUSTION AND PLASMA PROCESSES Section B1 (Room AK-202) Chairman: dr. Darius Justinavičius	
11.00-11.20	A. Šuopys, L. Marcinauskas (Kaunas University of Technology, Lithuania), L. Marcinauskas, M. Milieška, R. Kėželis, M. Aikas (Lithuanian Energy Institute, Lithuania), J. Rodrigues (PSA – Plataforma Solar de Almeria, CIEMAT – Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas, Spain) THE EFFECT OF HEAT TREATMENT ON THE STRUCTURE OF ALUMINA COATINGS
11.20-11.40	A. Liavonchyk, V. Sauchyn, H. Dalholenka, D. Skamarokhau, I. Khvedchyn, N. Sabirau (A. V. Luikov Heat and Mass Transfer Institute, Belarus) TWO-STAGE TECHNOLOGY FOR TREATMENT OF WASTE WITH HIGH CONTENT OF ORGANIC
11.40-12.00	A. Stankevičiūtė, A. Iljinis (Kaunas University of Technology, Lithuania), F. Kalyk (Abai Kazakh National Pedagogical University, Kazakhstan) INVESTIGATION OF THE MAGNETRON SYSTEM CONDITION AND ITS MAGNETIC PROPERTIES
12.00-12.20	Yu. V. Kovtun (National Science Center, Kharkov Institute of Physics and Technology, Ukraine) CALCULATION AND COMPARATIVE ANALYSIS OF THE MEAN ENERGY EXPENDED PER ION PAIR BY ELECTRONS IN WATER AND HYDROXYL RADICAL

12.20-13.20 Lunch

8. COMBUSTION AND PLASMA PROCESSES 9. THERMAL PHYSICS, FLUID MECHANICS AND METROLOGY Section B2 (Room AK-202) Chairman: Mārtiņš Ruduks	
13.20-13.40	M. Sadeckas, N. Striūgas (Lithuanian Energy Institute, Lithuania) FLAME CHEMILUMINESCENCE AND RADICALS EMISSION RESEARCH DURING COMBUSTION OF SINGLE BIOMASS PARTICLE
13.40-14.00	M. Maziukiene, G. Miliauskas (Kaunas University of Technologies, Lithuania), V. Ramanauskas (UAB “Enerstena”, Lithuania) THE COMBINED HEAT AND MASS TRANSIT PROCESSES OF WATER DROPLETS IN BIOFUEL TECHNOLOGIES
14.00-14.20	E. Misiulis, A. Džiugys (Lithuanian Energy Institute, Lithuania) AN INVESTIGATION OF THE BALANCE PRINCIPLE IMPLEMENTED BY NON-INVASIVE INTRACRANIAL PRESSURE MEASUREMENT METHOD BY MEANS OF COMPUTATIONAL MODEL
14.20-14.40	P. Vilkinis, N. Pedišius (Lithuanian Energy Institute, Lithuania) INVESTIGATION OF PULSATING FLOW IN OPEN-TYPE MICROCAVITY

14.40-15.00 Coffee break

5. HYDROGEN ENERGY AND FUEL CELL TECHNOLOGIES Section B3 (Room AK-202) Chairman: Lukas Jasiūnas	
15.00-15.20	M. Urbonavičius, D. Girdzevičius, Š. Varnagiris, D. Milčius (Lithuanian Energy Institute, Lithuania) POSSIBLE REDUCTION OF ALUMINIUM HYDROXIDE IN HYDROGEN GAS PLASMA

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15.20-15.40	J. R. Díaz Ordaz (Vytautas Magnus University, Lithuania), D. Milčius (Lithuanian Energy Institute, Lithuania) Ni-NaCl POWDERS PRODUCTION USING MAGNETRON SPUTTERING
15.40-16.00	D. Girdzevičius, D. Milčius, M. Urbonavičius, Š. Varnagiris (Lithuanian Energy Institute, Lithuania) ATTEMPT TO REGENERATE MgO TO Mg UNDER HYDROGEN PLASMA CONDITIONS

16.20-16.40 Coffee break

16.40-17.40	2. ENERGY EFFICIENCY AND RELIABILITY Section A4 (Main Hall) Chairman: Vytautas Akstinas
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18.00 Conference dinner (Canteen)

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Section C

10. MATERIALS SCIENCES AND TECHNOLOGY Section C1 (Library) Chairman: Dalius Girdzevičius	
11.00-11.20	J. S. Eensalu, M. Krunks, I. Gromyko, A. Katerski, A. Mere (Tallinn University of Technology, Estonia) A COMPARATIVE STUDY ON PHYSICAL PROPERTIES OF AL DOPED ZINC OXIDE THIN FILMS DEPOSITED FROM ZINC ACETATE AND ZINC ACETYLACETONATE BY SPRAY PYROLYSIS
11.20-11.40	Š. Varnagiris, M. Urbonavičius, D. Girdzevičius, D. Milčius (Lithuanian Energy Institute, Lithuania), S. Sakalauskaitė (Vytautas Magnus University, Lithuania) PHOTOCATALYTIC PROPERTIES OF TiO ₂ DEPOSITED ON NON-EXPANDED POLYSTYRENE BEADS
11.40-12.00	J. Cipa, G. Kizane, A. Supe, A. Zolotarjovs (University of Latvia), A. Zarins (Daugavpils University, Latvia), L. Baumane (Latvian Institute of Organic Synthesis, Latvia) LUMINESCENCE OF X-RAY INDUCED RADIATION DEFECTS IN MODIFIED LITHIUM ORTHOSILICATE PEBBLES WITH ADDITIONS OF TITANIUM DIOXIDE
12.00-12.20	M. Üürike, N. Maticiuc (Tallinn University of Technology, Estonia) INFLUENCE OF pH ON THE HYDROXIDE IMPURITIES IN CHEMICALLY DEPOSITED CdS THIN FILM

12.20-13.20 Lunch

10. MATERIALS SCIENCES AND TECHNOLOGY Section C2 (Library) Chairman: Vaidotas Zimnickas	
13.20-13.40	J. Garankin, A. Plukis, E. Lagzdina (Center for Physical Sciences and Technology, Lithuania) THERMAL NEUTRON DETECTION USING THIN PEN FILM DOPED WITH HIGH CROSS SECTION MATERIALS
13.40-14.00	R. Janulionis (Lithuanian Energy Institute, Lithuania) NUMERICAL INVESTIGATION OF J-INTEGRAL
14.00-14.20	V. Rudelis, T. Dambrauskas, K. Baltakys (Kaunas University of Technology, Lithuania) PECULIARITIES OF F- IONS LEACHING FROM WASTE SILICA GEL IN STATIC AND DYNAMIC CONDITIONS
14.20-14.40	D. R. Zhydyk, Y. A. P. Cherniak, O. P. Shugailo (State Scientific and Technical Center for Nuclear and Radiation Safety, Ukraine) IMPROVEMENT OF IMAGING ALGORITHMS TO INCREASE THE RELIABILITY OF ULTRASONIC INSPECTION RESULTS FOR NPP EQUIPMENT

14.40-15.00 Coffee break

8. COMBUSTION AND PLASMA PROCESSES Section C3 (Library) Chairman: dr. Anton Brin	
15.00-15.20	D. Gimžauskaitė, A. Tamošiūnas, V. Snapkauskienė, P. Valatkevičius, V. Valinčius (Lithuanian Energy Institute, Lithuania) REMEDIATION OF PETROLEUM HYDROCARBONS CONTAMINATED SOIL USING WATER VAPOR PLASMA

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15.20-15.40	V. Dovydaitis, L. Marcinauskas, M. Černauskas (Kaunas University of Technology, Lithuania), M. Miličška, M. Aikas (Lithuanian Energy Institute, Lithuania), M. Černauskas (Vilnius University, Lithuania) INVESTIGATION OF ARGON-ACETYLENE PLASMA USING OPTICAL EMISSION SPECTROMETRY
15.40-16.00	L. Vorotinskienė, N. Striūgas (Lithuanian Energy Institute, Lithuania) INVESTIGATION OF THE BIOFUEL DRYING INTENSIFICATION BY EXPERIMENTS IMITATING THE FURNACE OPERATIONAL PROCESSES
16.00-16.20	Yu. V. Kovtun, Y.V. Siusko, A. I. Skibenko, E.I. Skibenko (National Science Center, Kharkov Institute of Physics and Technology, Ukraine) REFRACTION OF MICROWAVES IN AN INHOMOGENEOUS GAS-METAL ROTATING PLASMA

16.20-16.40 Coffee break

16.40-17.40	2. ENERGY EFFICIENCY AND RELIABILITY Section A4 (Main Hall) Chairman: Vytautas Akstinas
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18.00 Conference dinner (Canteen)

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CYSENI 2017, on 25-26th May**

**May 26, 2017
Kaunas, Lithuania**

Section A

3. SMART ENERGY NETWORKS Section A1 (Main Hall) Chairman: Vytautas Akstinas	
8.30-9.00	Registration
9.00-9.20	<u>B. Pichon</u>, P. Clain (Léonard de Vinci Pôle Universitaire, Research Center, France), H.M. Hoang, T. Dufour, A. Delahaye, L. Fournaison (Irstea GPAN, France) REVIEW OF THERMAL ENERGY STORAGE TECHNOLOGIES INTEGRATION IN SMART GRID
9.20-9.40	<u>I. Dimoulkas</u>, M. Amelin (KTH Royal Institute of Technology, Sweden) MONTE CARLO SIMULATION OF DISTRICT HEATING SYSTEM SHORT-TERM OPERATION
9.40-10.00	<u>Z. Nehai</u>, G. Guerard (Léonard de Vinci Pôle Universitaire, Research Centre, France) INTEGRATION OF THE BLOCKCHAIN IN A SMART GRID MODEL
10.00-10.20	<u>R. Liepniece</u>, S. Vitolina, J. Marks (Riga Technical University, Latvia) STUDY OF APPROACHES TO INCIPIENT FAULT DETECTION IN POWER TRANSFORMER BY USING DISSOLVED GAS ANALYSIS
10.20-10.40	E. Cathelineau, <u>L-N. Levy</u>, G. Guerard (Léonard de Vinci Pôle Universitaire, Research Center, France) SMART GRID: FROM RAW DATA TO A DIGITAL MODEL

10.40-11.00 Coffee break

12. CROSS-CUTTING ENERGY ISSUES 4. ENERGY ECONOMICS AND POLICY Section A2 (Main Hall) Chairman: dr. Diana Meilutytė-Lukauskienė	
11.00-11.20	<u>P. Bertheau</u> (Reiner Lemoine Institut gGmbH, Germany) PROJECTION OF RURAL ELECTRICITY DEMANDS FOR NIGERIA
11.20-11.40	<u>P. Mačiulis</u> (Lithuanian Energy Institute, Lithuania) ANALYSIS OF THE APPLICATION OF RENEWABLE ENERGY SOURCES FOR ROAD PUBLIC TRANSPORT
11.40-12.00	V. V. Klimenko, <u>E. V. Kasilova</u>, A. G. Tereshin (Moscow Power Engineering Institute, Russia) ESTIMATION OF INTEGRAL IMPACTS OF THE CLIMATE CHANGE ON THE RUSSIAN ENERGY SYSTEM
12.00-12.20	<u>I. Ališauskaitė-Šeškienė</u> (Lithuanian Energy Institute, Lithuania) THE EVALUATION OF LITHUANIAN HOUSEHOLDS' WILLINGNESS TO PAY FOR MICROGENERATION TECHNOLOGY

12.20-12.40 Coffee break

12.40-14.00	Section A3 (Main Hall) Chairman: Vytautas Akstinas Final discussion and closure
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Section B

6. FUSION ENERGY 7. NUCLEAR FISSION AND RADIATION PROTECTION Section B1 (Room AK-202) Chairman: Dalius Girdzevičius	
9.00-9.20	A. Graževičius (Lithuanian Energy Institute, Lithuania) MODELLING OF POOL HEAT-UP EXPERIMENT USING ANSYS FLUENT
9.20-9.40	E. Lagzdina, D. Lingis, A. Plukis, R. Plukienė, J. Garankin, V. Remeikis (Center for Physical Sciences and Technology, Lithuania) EVALUATION OF THE POINT DEFECTS PRODUCTION IN NEUTRON IRRADIATED RBMK-1500 GRAPHITE
9.40-10.00	M. V. Frankova, M.P. Vyshemirskiyi (State Scientific and Technical Center for Nuclear and Radiation Safety, Ukraine) DEVELOPMENT OF VVER-1000/V-320 MODEL FOR SEVERE ACCIDENT ANALYSIS WITH ATHLET-CD CODE
10.00-10.20	D. Cruz, R. Vila (CIEMAT – National Fusion Laboratory, Spain), B. Gómez-Ferrer (Université et INSA de Rouen, France) DIELECTRIC PROPERTIES OF ALUMINA CERAMICS FOR FUSION APPLICATIONS

10.40-11.00 Coffee break

11. GLOBAL CHANGE AND ECOSYSTEMS 12. CROSS-CUTTING ENERGY ISSUES Section B2 (Room AK-202) Chairman: Mykhailo Savenets	
11.00-11.20	L. Pysarenko (Ukrainian Hydrometeorological Institute, Ukraine) THE SUM OF ACTIVE TEMPERATURES AND THEIR LONG-TERM CHANGES IN UKRAINE
11.20-11.40	V. Akstinas (Lithuanian Energy Institute, Lithuania) COHESION OF STATISTICAL DOWNSCALING METHODS AND PROJECTIONS OF METEOROLOGICAL PARAMETERS OVER LITHUANIA
11.40-12.00	O. Shchegloy (Ukrainian Hydrometeorology Institute, Ukraine) CLIMATE CHANGE IMPACT ON EFFICIENCY OF USAGE ROOFTOP RAINWATER HARVESTING SYSTEMS OVER THE TERRITORY OF UKRAINE
12.00-12.20	J. Lunyć (University of Oslo, Norway) ENERGY TRANSITION IMPACT ON LIQUEFIED NATURAL GAS (LNG) SECTOR

12.20-12.40 Coffee break

12.40-14.00	Section A3 (Main Hall) Chairman: Vytautas Akstinas Final discussion and closure
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