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13TH INTERNATIONAL CONFERENCE OF YOUNG SCIENTISTS ON ENERGY ISSUES

CYSENI 2016, on 26-27th May

May 26, 2016 Kaunas, Lithuania

KEYNOTE SESSION	
Section A	
(Main Hall)	
Chairman: Vytautas Akstinas	
8.00-9.00	Registration
9.00-9.20	Welcome speech
9.20-9.40	J. Kleperis, P. Lesnicenoks, L. Grinberga (Institute of Solid State Physics, University of Latvia, Latvia).
	Researches in hydrogen energy storage materials and applications.
9.40-10.10	M. Grygoruk (Warsaw University of Life Sciences - SGGW, Poland). Is climatic change important to
	environmental management in Central Europe? Examples from the field of hydrology, wetlands, ecosystem
	services and social sciences.
10.10-10.30	H. Vennikas, S. Andresen (Tallinn University of Applied Sciences, Estonia). Electric vehicle usage monitoring
	and analysis examples in Estonia.

10.30-11.00 Coffee break

Section A

2. RENEWABLE ENERGY SOURCES		
	Section A1 (Main Hall)	
	Chairman: Vytautas Akstinas	
11.00-11.20	Z. Sustere, V. Kampars (Institute of Applied Chemistry, Riga Technical University, Latvia). The influence of	
	acyl moiety of carboxylate methyl esters on rapeseed oil chemical interesterification.	
11.20-11.40	I. Ališauskaitė-Šeškienė, (Lithuanian Energy Institute, Kaunas University of Technology, Lithuania). Multi-	
	criteria decision analysis methods aiming to evaluate renewable energy sources technology.	
11.40-12.00	M. V. Savenets, I. V. Dvoretska (Ukrainian Hydrometeorological Institute, Ukraine), G. M. Kruchenitsky	
	(Central Aerological Observatory, Russia). Vertical distribution and seasonal variability of wind over Ukraine	
	and adjacent territories.	
12.00-12.20	J. Černeckienė, T. Ţdankus (Kaunas University of Technology, Lithuania). Wind energy for building heating:	
	converting mechanical energy in the hydraulic system.	

12.20-13.20 Lunch

3. SMART ENERGY NETWORKS	
4. ENERGY EFFICIENCY AND RELIABILITY	
Section A2 (Main Hall)	
Chairman: Vytautas Akstinas	
13.20-13.40	J. Marks (Riga Technical University, Latvia). Study of power transformer mechanical faults detection by using
	vibrodiagnostics.
13.40-14.00	V. Zimackis (Riga Technical University, Latvia). Comparison of commonly used mathematical models for
	lightning return stroke current waveform.
14.00-14.20	V. Varanavičius (Lithuanian Energy Institute, Lithuania). Costumer behaviour in energy consumption:
	environmental activities.
14.20-14.40	H. D. Mathur, Y. K. Bhateshvar (Birla Institute of Technology and Science, Pilani, India). Frequency
	regulation with vehicle to grid (V2G) option in multi generation power network.

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4. Energy efficiency and reliability		
	5. KNOWLEDGE FOR ENERGY POLICY MAKING	
	Section A3 (Main Hall)	
	Chairman: Vytautas Akstinas	
15.00-15.20	T. Komass (Institute of Energetic, Latvia University of Agriculture, Latvia). Experimental analysis of vertical axes wind turbine active pitch control system with permanent magnet synchronous motor using MATLAB Simulink tools.	
15.20-15.40	M. Krečius (Lithuanian Energy Institute, Lithuania). Multicriterion support measures effectiveness investigation for RES-E development in Lithuania.	
15.40-16.00	J. G. Dedecca, R. A. Hakvoort (Delft University of Technology, The Netherlands). A novel approach to offshore grids transmission expansion and modelling.	
16.00-16.20	P. Mačiulis (Lithuanian Energy Institute, Lithuania). Analysis of the application of financial instruments to renewable energy technology.	

16.20-16.40 Coffee break

12. Cross-cutting energy issues	
Section A4 (Main Hall)	
Chairman: Vytautas Akstinas	
16.40-17.00	A. Auzans, A. Teder, A. H. Tkaczyk (University of Tartu, Estonia). Regional regulation effect on the uranium
	market price.
17.00-17.20	A. E. Lutynska (Vytautas Magnus University, Lithuania). Dynamic model for assessment of sustainable
	development level.
17.20-17.40	E. Misiulis, A. Dţiu gys (Lithuanian Energy Institute, Lithuania). Effect of geometrical shape and boundary
	condition on stress distribution and deformation in ophthalmic artery numerical model.
17.40-18.00	F. Osmani (University of Mitrovica, Kosovo), A. Kochov (University of Skopje, Macedonia). Case study – the
	importance and the impact of the cogeneration project in reducing atmospheric emissions in the city of Pristina.

18.00 Conference dinner (canteen)

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Section B

	6. INVESTIGATIONS IN THE FIELDS OF THERMAL PHYSICS, FLUID MECHANICS AND METROLOGY	
	Section B1 (Room AK-202)	
	Chairman: dr. Svetlana Danilova-Tretiak	
11.00-11.20	M. Drūlia (Lithuanian Energy Institute, Lithuania). Experimental equipment design for investigating	
11.00-11.20	condensation phenomena at horizontal water-vapor interface.	
11.20-11.40	A. Gediminskas (Lithuanian Energy Institute, Lithuania). Preliminary results on condensation modelling in	
	vertical flat channel.	
11.40-12.00	I. V. Novikova, A. S. Pushnov (Moscow State University of Mechanical Engineering, Russia). The new	
	structured packing cub for realization heat and mass transfer processes.	
12.00-12.20	P. Vilkinis, M. Valantinavičius, N. Pedišius (Lithuanian Energy Institute, Lithuania). Investigation of fluid flow	
	structure in open type cavity under stationary and pulsatile flow conditions.	

12.20-13.20 Lunch

7. MATERIALS SCIENCES AND TECHNOLOGY		
Section B2 (Room AK-202)		
	Chairman: Andrejs Snegirjovs	
13.20-13.40	Z. Zelca, S. Kukle, S. Jegina (Institute of Design Technologies, Riga Technical University, Latvia), J. Kajaks (Institute of Polymer Materials, Riga Technical University, Latvia). Effects of hemp fibres pre-processing on linear low density polyethylene matrix composite mechanical properties.	
13.40-14.00	N. Gupta, A. Mishra (Birla Institute of Technology and Science, Pilani, India). Comparative study on selection of substrate material from hybrid microwave integrated circuits (HMICs) using ASHBY,s and TOPSIS,s techniques.	
14.00-14.20	A. Oluwabi, I. O. Acik, M. Krunks, V. Mikli (Tallinn University of Technology, Estonia), A. Juma (Botswana International University of Science and Technology, Botswana). Characterisation of zirconium doped titanium dioxide thin films deposited by chemical spray pyrolysis.	
14.20-14.40	<u>Š. Varnagiris</u> , D. Milčius (Lithuanian Energy Institute, Lithuania). Incorporation of nanoparticles into the bulk of EPS foam using PVD system.	

14.40-15.00 Coffee break

7. MATERIALS SCIENCES AND TECHNOLOGY	
Section B3 (Room AK-202)	
Chairman: dr. Anton Brin	
15.00-15.20	W. Yang, N. Spalatu, N. Maticiuc, M. Krunks, J. Hiie (Tallinn University of Technology, Estonia). Influence of
	the secondary thermal annealing on the properties of CdTe/CdS:CdCl ₂ :O ₂ structure.
15.20-15.40	R. Janulionis, G. Dundulis, A. Grybėnas (Lithuanian Energy Institute, Lithuania). Numerical investigation of
	critical stress intensity factor.
15.40-16.00	S. Jegina, A. Sutka, S. Kukle, Z. Zelca (Institute of Design Technologies, Riga Technical University, Latvia).
	The effect of sodium chlorophyllin on polyvinyl alcohol electrospun nanofiber diameters.
16.00-16.20	I. Dündar, I. O. Acik, A. Mere, A. Katerski, M. Krunks, V. Mikli (Tallinn University of Technology, Estonia).
	Niobium doped TiO ₂ layers by chemical spray pyrolysis.

16.20-16.40 Coffee break

	12. Cross-cutting energy issues
16.40-18.00	Section A4 (Main Hall)
	Chairman: Vytautas Akstinas

18.00 Conference dinner (canteen)

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Section C

8. INVESTIGATIONS OF COMBUSTION AND PLASMA PROCESSES		
Section C1 (Library)		
	Chairman: Adomas Minkevičius	
11.00-11.20	D. Gimţa uskaitė, A. Tamošiūnas, P. Valatkevičius, V. Valinčius (Lithuanian Energy Institute, Lithuania). The	
11.00-11.20	influence of gas type on the plasma torch electrical and thermal characteristics.	
	V. V. Leschevich, O. G. Penyazkov, S. Yu. Shimchenko (A.V. Luikov Heat and Mass Transfer Institute,	
11.20-11.40	Belarus). The experimental studying of auto-ignition of hybrid methane/air/coal dust mixture under temperature	
	950 – 1200 K.	
	A. Saliamonas, R. Navakas, N. Striūgas A. Dţiu gys, K. Zakarauskas (Lithuanian Energy Institute, Lithuania).	
11.40-12.00	Research of OH* chemiluminescence intensity dependence on execess air ratio in premixed natural and	
	producer gas flame.	
12.00-12.20	J. Kluska, P. Kazimierski, D. Kardaś (Institute of Fluid-Flow Machinery, Poland), P. Kazimierski (Gdańsk	
	University of Technology, Poland). Effect of biomass settling in the fixed bed gasification reactor.	

12.20-13.20 Lunch

8. INVESTIGATIONS OF COMBUSTION AND PLASMA PROCESSES	
Section C2 (Library)	
Chairman: Dalius Girdzevičius	
13.20-13.40	R. Paulauskas, A. Dţi ugys, N. Striūgas (Lithuanian Energy Institute, Lithuania). The cause and mechanism of
	pelletized biomass swelling upon pyrolysis.
13.40-14.00	I. N. Shatan (A.V. Luikov Heat and Mass Transfer Institute, Belarus). Tomographic reconstruction of the flame
	temperature field based on the talbot images method.
14.00-14.20	V.Zaleskas, D.Valaitis (Lithuanian Energy Institute, Lithuania). Analysis of precipitated particles in ESP and
	cyclones of small and medium scale boilers.
14.20-14.40	K. Lazdovica, V. Kampars, L. Vasarina (Institute of Applied Chemistry, Riga Technical University, Latvia), J.
	Grabis (Institute of Inorganic Chemistry, Riga Technical University, Latvia). Screening of nanopowders from
	catalytic pyrolysis of buckwheat straw by using TGA-FTIR method.

14.40-15.00 Coffee break

8. INVESTIGATIONS OF COMBUSTION AND PLASMA PROCESSES	
10. FUSION ENERGY	
11. Nuclear fission and radiation protection	
Section C3 (Library)	
Chairman: dr. Darius Justinavičius	
15.00-15.20	A. Tidikas, G. Stankūnas (Lithuanian Energy Institute, Lithuania). Neutron activation in water cooling systems
15.00-15.20	of nuclear fusion devices.
15.20-15.40	A. Graţ evičius (Lithuanian Energy Institute, Lithuania). CDF simulating the heat removal from fuel assembly
	located in a spent fuel pool.
15.40-16.00	T. Vonţo das (Lithuanian Energy Institute, Lithuania). The application of agricultural waste and recycling
	products for small and medium scale boilers.
16.00-16.20	L. Vorotinskienė, N. Striūgas (Lithuanian Energy Institute, Lithuania). Estimation of indirect fuel moisture
	content for intelligent control of biofuel furnaces.

16.20-16.40 Coffee break

	12. Cross-cutting energy issues
16.40-18.00	Section A4 (Main Hall)
	Chairman: Vytautas Akstinas

18.00 Conference dinner (canteen)

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May 27, 2016 Kaunas, Lithuania

Section A

2. RENEWABLE ENERGY SOURCES		
Section A1 (Main Hall)		
Chairman: dr. D. Meilutytė-Lukauskienė		
9.00-9.20	E. Grigonytė, E. Butkevičiūtė (Lithuanian Energy Institute, Lithuania). Short-term wind speed forecasting	
	using ARIMA model.	
9.20-9.40	V. V. Voloshchuk (National Technical University of Ukraine "Kyiv Polytechnic Institute", Ukraine). On-line,	
	interactive tools and algorithms for thermal calculations of heat pumps.	
9.40-10.00	G. Gecevičius, M. Marčiukaitis, V. Zimnickas (Lithuanian Energy Institute, Lithuania). Analysis of wind	
	power prediction errors using data of high resolution local area model.	
10.00-10.20	L. Jasiūnas (Aalborg University, Denmark). Investigation of spent mushroom compost as an alternative waste-	
	based feedstock for biofuel precursor production via hydrothermal liquefaction.	

10.20-10.40 Coffee break

2. RENEWABLE ENERGY SOURCES	
Section A2 (Main Hall)	
Chairman: Vytautas Akstinas	
10.40-11.00	M. Praspaliauskas (Lithuanian Energy Institute, Lithuania). Possibilities of anaerobic digested sewage sludge thermal utilization in Lithuania.
11.00-11.20	G. Kondratavičienė (Lithuanian Energy Institute, Lithuania). Statistical analysis of measurement data of wind energy parameters.
11.20-11.40	M. Ruduks, A. Lešinskis (Latvia University of Agriculture, Latvia). Generation of a test reference year for Dobele, Latvia.
11.40-12.00	<u>V. Zimnickas,</u> G. Gecevičius, A. Markevičius (Lithuanian Energy Institute, Lithuania). A literature review of wind turbines icing problems.

12.00-12.30 Coffee break

	Section A3 (Main Hall)
12.30-14.00	Chairman: Vytautas Akstinas
	Final discussion and closure

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Section B

1. HYDROGEN AND FUEL CELLS	
9. GLOBAL CHANGE AND ECOSYSTEMS	
Section B1 (Room AK-202)	
Chairman: dr. Darius Justinavičius	
9.00-9.20	D. Girdzevičius, D. Milčius (Lithuanian Energy Institute, Lithuania). Electrical power generation with PEM FC
	using hydrogen supply through Mg-Ni reaction with water.
9.20-9.40	M. Urbonavičius, D. Milčius (Lithuanian Energy Institute, Lithuania). Power generation by proton exchange
	membrane fuel cell using plasma modified aluminium and water reaction.
9.40-10.00	L. Tylec (Warsaw University of Life Sciences, Poland). Diversity and importance of ecosystem services on
	wetlands: example of Biebrza National Park and Warta Mouth National Park, Poland.
10.00-10.20	V. Akstinas (Lithuanian Energy Institute, Lithuania). Low flow projections of the South-Eastern Lithuanian
	rivers in 21 st century.

10.20-10.40 Coffee break

1. HYDROGEN AND FUEL CELLS		
Section B2 (Room AK-202)		
Chairman: Dalius Girdzevičius		
10.40-11.00	A. Volkovs, M. Vanags, J. Kleperis (Institute of Solid State Physics, University of Latvia, Latvia).	
	Direct measurements of dissolved gas near the cathode during pulse electrolysis.	
11.00-11.20	M. T. Idiev, B. S. Safarov, U. N. Fayzulloev (Tajik National University, Tajikistan). Conversion of the idle	
	water discharges from reservoirs to the hydrogen production by electrolysis.	
11.20-11.40	A. O. Muminov, N. B. Kurbanov, B. A. Markaev (Tajik National University, Tajikistan). The influence of	
	potassium hydroxide, stainless and graphite electrodes on efficiency of the water electrolysis.	

12.00-12.30 Coffee break

	Section A3 (Main Hall)
12.30-14.00	Chairman: Vytautas Akstinas
	Final discussion and closure