

19TH INTERNATIONAL CONFERENCE OF YOUNG SCIENTISTS ON ENERGY AND NATURAL SCIENCES ISSUES

(CYSENI 2023)

23–26th May, 2023

Time EEST (GMT+3)

| Day 1 (23rd May) | |
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| 09⁰⁰–09³⁰ | REGISTRATION (Breslaujos St. 3, Kaunas) Welcome coffee |
| Keynote section 116 | |
| 09³⁰–10¹⁰ | WELCOME SPEECHES (Didžioji salė) Gintaras Brazauskas (Director of the Lithuanian Research Centre for Agriculture and Forestry), Sigitas Rimkevičius (Director of the Lithuanian Energy Institute), Arminas Varanauskas (Executive director of <i>RTO Lithuania</i>), Representative from Ministry of Agriculture of the Republic of Lithuania. |
| 10¹⁰–10²⁰ | CYSENI 2023 agenda Urtė Stulpinaitė (Chairman of Organizing Committee of CYSENI 2023, Lithuanian Research Centre for Agriculture and Forestry) |
| 10²⁰–11⁰⁰ | Speaker Tony Donne (Programme Manager (CEO) of EUROfusion). <i>Why don't we have fusion yet – and what is EUROfusion doing to get there?</i> |
| 11⁰⁰–11⁴⁰ | Speaker Marcos António Nogueira (Coordinator, H2020-AURORAL, Belgium). <i>Smart communities – a contribution for a free, united and independent Europe.</i> |
| 11⁴⁰–12²⁰ | Speaker Inga Minelgaitė (Professor at the University of Iceland). <i>Leading in a projectified environment: how well are we failing?</i> |
| 12²⁰–13²⁰ | Lunch break |
| 13²⁰–14⁰⁰ | Poster session I (Food sciences and technologies, Global change and environmental footprint, Innovative agriculture, horticulture, and forestry solutions) 📄 ← download |
| Coffee break | |

| Oral Session I | | | |
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| | Section 1 | Section 2 | Section 3 |
| | INNOVATE AGRICULTURE, HORTICULTURE AND FORESTRY SOLUTIONS and SUSTAINABLE PEST MANAGEMENT | RENEWABLE ENERGY SOURCES and THERMAL PHYSICS, FLUID MECHANICS AND METROLOGY | MATERIAL SCIENCES AND TECHNOLOGIES |
| Room / chairman | 116 | 304 | 202 |
| 14⁰⁰–14¹⁰ | Muhammad Abbas. <i>Technology for using endophytic nematodes in biological control and environmental factors</i> | Monika Grinevičiūtė. <i>Prosumers as a tool for energy transformation: a case study of Lithuanian remote solar and wind power plants</i> | Fikret Muge Alptekin. <i>A pathway from biomass to high added value product: carbon quantum dots</i> |
| 14¹⁰–14²⁰ | Lawrence Aguda. <i>Efficacy of Hura crepitans tree extracts as bio-</i> | Justė Jankevičienė. <i>The impact of climate change and urbanization on wind energy</i> | Matas Bašinskas. <i>Dopant-free titanium oxide thin films for gas sensor devices</i> |

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| | <i>preservative against wood bio-deteriorative agents</i> | | |
| 14 ²⁰ –14 ³⁰ | Vaida Čepulienė. <i>Review of the biological properties of the genus Allium</i> | Gabrielė Jenciūtė. <i>Forecasting of meteorological variables in renewable energy production using ARIMA and ANN models</i> | Matas Bašinskas. <i>Thermal analysis of magnesium hydride</i> |
| 14 ³⁰ –14 ⁴⁰ | Dovilė Gustienė. <i>Biomass and carbon stocks in forest floor and ground vegetation in Scots pine stands of different age</i> | Julija Konstantinavičienė. <i>Sustainable forest wood biomass potential: empirical study</i> | Paulius Buidovas. <i>Thermal pre-treatment effect on TiH₂ thermal decomposition</i> |
| 14 ⁴⁰ –14 ⁵⁰ | Shervin Hadian. <i>Exploring diversity of endophytic bacteria in four species of Artemisia medicinal plant in Lithuania as a source of plant growth enhancer and biocontrol agent</i> | Oksana Halych. <i>Comparison of 1D, 2D and 3D CFD models for open channel capacity assessment</i> | Kristel Mols. <i>Atomic layer deposition of TiO₂-II and rutile on sapphire: influence of precursors on thin-film growth and properties</i> |
| 14 ⁵⁰ –15 ⁰⁰ | Yasha Jamil. <i>Nitrogen fixation efficiency of symbiotic and associative bacteria in greenhouse</i> | Isaac Samuel Michael Solomon. <i>Modelling of pipe whip phenomenon induced by fast transients based on fluid structure interaction method using a coupled 1D/3D modelling approach</i> | Vita Petrikaitė. <i>Investigation of the influence of laser pulse energy on the stability of gold, silver and hybrid nanoparticles in aqueous solution using thin film and bulk target methods</i> |
| 15 ¹⁰ –15 ²⁰ | Emilija Jankaitytė. <i>The effect of cold plasma on the biosynthesis of secondary metabolites of Stevia rebaudiana Bertoni grown in aeroponics</i> | | Kernius Vilkevičius. <i>Femtosecond laser-induced formation of wavelength-dependent periodic gold nanostructures</i> |
| 15 ²⁰ –15 ³⁰ | Samanta Kaupaitė. <i>Physiological and technological aspects of improving the quality of greenhouse vegetable seedlings for high-quality crop production: A review</i> | | |

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| Day 2 (24th May) | |
| 08 ³⁰ –09 ⁰⁰ | REGISTRATION (Breslaujos St. 3, Kaunas) |
| Keynote section 116 | |
| 09 ⁰⁰ –09 ⁴⁰ | Speaker Dr Jaakko Leppänen (Research Professor for reactor safety at VTT Technical Research Centre of Finland). <i>Nuclear energy for district heating.</i> |
| 09 ⁴⁰ –10 ²⁰ | Speaker Dr Anatoli Popov (Senior Researcher at the Institute of Solid State Physics of the University of Latvia). <i>Radiation defects and their thermal annealing in functional ceramics for nuclear applications.</i> |
| 10 ²⁰ –11 ⁰⁰ | Poster Session II (Plant biology and physiology, Plant genetics and breeding, Sustainable pest management) 🔗 ◀ download |
| 11 ⁰⁰ –12 ⁰⁰ | Lunch break |
| Coffee break | |

| Oral Session II | | | |
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| | Section 1 | Section 2 | Section 3 |
| | INNOVATE AGRICULTURE, HORTICULTURE AND FORESTRY SOLUTIONS and SUSTAINABLE PEST MANAGEMENT | ENERGY ECONOMICS AND POLICY and FUSION ENERGY, NUCLEAR FISSION AND RADIATION PROTECTION | ENERGY EFFICIENCY, RELIABILITY AND SECURITY |
| Room / chairman | 116 | 304 | 202 |
| 12⁰⁰–12¹⁰ | Simonas Saikauskas. <i>The impact of winter wheat cultivars mixtures on diseases and yield after different pre-crops</i> | Jaroslav Neverovič. <i>Addressing energy poverty through energy efficiency</i> | Rimvydas Adomaitis. <i>Passive house in Lithuania: long-term monitoring results analysis</i> |
| 12¹⁰–12²⁰ | Egidijus Vigrucas. <i>Carbon dioxide (CO₂) efflux from drained nutrient rich organic soils</i> | Ahmed Taha Mohammed Taher. <i>Optimal sizing design and energy management of stand-alone photovoltaic/ wind generator systems</i> | Viktorija Cholomskė. <i>Potential of an artificial intelligence application in the building sector. A systematic literature review</i> |
| 12²⁰–12³⁰ | Simona Chrapačienė. <i>The influence of foliar sprayings by essential oil on the storage life of <i>Daucus carota</i> L.</i> | Joana Žukauskienė. <i>The impact of different industries on the green economy in the Baltic States</i> | Alireza Gholami. <i>Evaluating the cyber physical power system reliability at substation level considering the effect of different process bus architecture</i> |
| 12³⁰–12⁴⁰ | Vytautas Čėsna. <i>Lymantria monacha outbreaks alter the composition of non-target insects in <i>Pinus sylvestris</i> forests</i> | Povilas Balčius. <i>Analysis of the effect of sorption coefficient in concrete on radionuclide release from a near surface repository</i> | Edvinas Juozapaitis. <i>Probabilistic sensitivity analysis of electrochemical model results for battery simulation</i> |
| 12⁴⁰–12⁵⁰ | Aurimas Sabeckis. <i>Effect of variety, seed treatment and sowing time on root rot severity and yield in winter wheat</i> | Imants Kaldre. <i>Thermoelectric effect in liquid metal based capillary porous system (CPS) plasma facing components</i> | Meysam Mohammadtaheri. <i>Reliability Improvement of the Microgrids Considering Dynamic Thermal Rating and Feeder Reconfiguration</i> |
| 12⁵⁰–13⁰⁰ | Maksims Filipovičs. <i>Hyperspectral imaging for early detection of crop plant diseases. A review</i> | Sahar Shirzadi Deh Kohneh. <i>Verification of MAVRIC module against Monaco module within SCALE code against photon flux</i> | Mohab Salem. <i>Condensation of water vapor in a humid air flow</i> |
| 13⁰⁰–13¹⁰ | Valda Gudynaitė-Franckevičienė. <i>The impact of different environmental conditions during vegetative propagation on photosynthesis and spring phenology in populus hybrids in clonal field trial</i> | | Julius Saltanis. <i>A survey of remote methods for detection of smart meters readings anomalies</i> |
| 18⁰⁰ | Conference dinner | | |

| Day 3 (25 th May) | | |
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| 08 ³⁰ –09 ⁰⁰ | REGISTRATION (Breslaujos St. 3, Kaunas) | |
| Keynote section 116 | | |
| 09 ⁰⁰ –09 ⁴⁰ | Speaker Guðmundur Gunnarsson (Senior Scientist/Project Manager at Tæknisetur IceTec, Iceland). <i>CO₂ free aluminium for energy storage.</i> | |
| 09 ⁴⁰ –10 ²⁰ | Speaker Runar Unnthorsson (Professor and the Head of the Faculty of Industrial Engineering, Mechanical Engineering, and Computer Science at the University of Iceland). <i>The future of fuel – is it up to politics, science or both?</i> | |
| 10 ²⁰ –11 ⁰⁰ | Speaker Dr Christiaan Richter (Professor in chemical engineering at the University of Iceland). <i>Aluminium-ion batteries – A promising alternative for stationary battery storage.</i> | |
| 11 ⁰⁰ –11 ⁴⁰ | Speaker Dr Anna Pytlak (Professor at the Department of Natural Environment Biogeochemistry, Institute of Agrophysics, Polish Academy of Sciences). <i>Methane in the environment and in the human economy – why should we be concerned?</i> | |
| 11 ⁰⁰ –11 ⁴⁰ | Poster Session III (Energy/Physical) ↗ ◀ download | Coffee break |
| 11 ⁴⁰ –12 ⁴⁰ | Lunch break | |

| Oral Session III | | | |
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| | Section 1 | Section 2 | Section 3 |
| | PLANT BIOLOGY AND PHYSIOLOGY and GLOBAL CHANGE AND ENVIRONMENTAL FOOTPRINT | BIOENERGY, BIOMASS AND BIOFUELS (TWIN-PEAKS PROJECT SESSION); RENEWABLE ENERGY SOURCES and COMBUSTION PLASMA PROCESSES | HYDROGEN ENERGY AND FUEL CELL TECHNOLOGIES |
| Room / chairman | 116 | 301 | 202 |
| 12 ⁴⁰ –12 ⁵⁰ | Ieva Gudžinskaitė. <i>Determination of radical scavenging activity in postharvest microgreens Brassica juncea and Amaranthus tricolor grown under different light intensity</i> | Ralfas Lukoševičius. <i>Integration of green hydrogen and biomethane technologies challenges and perspectives</i> | Atif Imdad. <i>Effect of in situ hydrogen charging on the tensile behaviour of a 42crmo4 steel submitted to different heat treatments</i> |
| 12 ⁵⁰ –13 ⁰⁰ | Babar Iqbal. <i>Impacts of soil microplastics on crops: A review</i> | Egidijus Buivydas. <i>Chicken manure and cow slurry co-digestion with pig fat waste. A comparative analysis of biogas production parameters</i> | Leo Jansons. <i>From natural gas and biomethane to green hydrogen: gaseous fuel transition associated risks</i> |
| 13 ⁰⁰ –13 ¹⁰ | Gediminas Kudirka. <i>The significance of nutrient solution buffer capacity for hydroponic lettuce cultivation</i> | Serdar Yaman. <i>Comparison of combustion behaviours of wood- and bark-parts of forest biomass</i> | Johannes Fabian Bauer. <i>Strategic analysis of external effects on the thermal hydrogen production</i> |
| 13 ¹⁰ –13 ²⁰ | Asta Kupčinskienė. <i>Flavanol and anthocyanin reflectance indices for early grey mould detection in lettuce</i> | Serdar Yaman. <i>Investigation of the combustion kinetics of some agricultural waste biomass species</i> | Cruz Marrune. <i>Economic evaluation of the combined hydrogen and heat generation by alkaline electrolysis</i> |
| 13 ²⁰ –13 ³⁰ | Valeriia Mishcherikova. <i>Changes in the fungal communities of Norway spruce along a latitudinal gradient from Slovakia to Northern Finland</i> | Anil Yilmaz. <i>Characterization of some agricultural waste biomass for sustainable usage</i> | Darius Pranckevičius. <i>An overview of hydrogen application for energy purposes in industry</i> |

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| 13 ³⁰ –13 ⁴⁰ | Martynas Urbutis. <i>Exogenous phytohormones: photosynthetic response of lettuce and pea</i> | Anil Yilmaz. <i>Investigation of different tree bark biomass to be used for various purposes</i> | Havva Nur Sagdic. <i>Determining life span in PEM fuel cell using random forest method</i> |
| 13 ⁴⁰ –13 ⁵⁰ | Serhii Nazarenko. <i>Hydrological drought forecast for Lithuania according to Standardized Water Level Index</i> | Oksana V. Zikrata. <i>Dehydration of bio-derived 2-methylpropan-1-ol over zeolite catalysts into butene isomers</i> | Catia Siueia. <i>Evaluation of a green hydrogen liquefaction process by using Peltier effect</i> |
| 13 ⁵⁰ –14 ⁰⁰ | Rimantė Balsiūnaitė. <i>Methods for evaluating the impact of sustainable entrepreneurship: A systematic literature review</i> | Ernest Bykov. <i>Plasma assisted combustion of different biogas mixtures in low swirl burner for combustion efficiency</i> | Dirk Baganz. <i>Carbon capture storage and usage (CCSU): Overview and current research</i> |
| 14 ⁰⁰ –14 ¹⁰ | Befkadu Mewded. <i>Comparative analysis of woody carbon stock of Buska dry evergreen Afromontane Forest and adjacent vegetation types, southwestern Ethiopia: Implications for climate change mitigation</i> | Johannes Fabian Bauer. <i>Simulating of hydrogen forming combustion processes within oil reservoirs: A introduction</i> | Hassan Zhairabany. <i>Effect of molybdenum doping on the structure and properties of diamond-like carbon films</i> |
| 14 ¹⁰ –14 ²⁰ | | Vytautas Džiūvė. <i>Comparative economic and environmental performance analysis of conventional industrial chillers and heat pumps with waste heat recovery</i> | |

Day 4 (26th May)

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| 08 ³⁰ –09 ⁰⁰ | REGISTRATION (Breslaujos St. 3, Kaunas) | | |
| Keynote section 116 | | | |
| 09 ⁰⁰ –09 ⁴⁰ | Speaker Bozena Smreczak (Professor at the Institute of Soil Science and Plant Cultivation – State Research Institute, Poland). <i>Soil monitoring systems in Europe, why are they important?</i> | | |
| 09 ⁴⁰ –10 ²⁰ | Speaker Dr Catherine Brewer (Associate Professor at the Department of Chemical and Materials Engineering at New Mexico State University). <i>Engineering co-products to support sustainable agriculture.</i> | | |

Oral Session IV 116

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| FOOD SCIENCES AND TECHNOLOGIES and PLANT GENETICS AND BREEDING | | | |
| 10 ²⁰ –10 ³⁰ | Dawa Tsering. <i>Food sciences and technologies situation of Nepal</i> | | |
| 10 ³⁰ –10 ⁴⁰ | Aliaksandr Padutau. <i>Analysis of the genetic structure in the clonal seed orchards of Scotch pine</i> | | |
| 10 ⁴⁰ –10 ⁵⁰ | Ahmed Hosney. <i>Evaluation of the effects of the demineralization phase on the extraction of chitosan from shrimp shells</i> | | |
| 10 ⁵⁰ –11 ⁰⁰ | Edvinas Misiukevičius. <i>Transcriptome analysis of diploid and autotetraploid Hemerocallis response to drought stress</i> | | |
| 11 ⁰⁰ –11 ¹⁰ | Riccardo Paoloni. <i>Comparison between crown thinning and girdling to enhance sporadic tree species in a coppice stand in Central Italy (INNOVATE AGRICULTURE, HORTICULTURE AND FORESTRY SOLUTIONS)</i> | | |
| Closing ceremony/awards | | | |