

**Twinning for Promoting Excellence, Ability and Knowledge to develop advanced waste gasification Solutions**

**Project No: 951308**



# TwinPeaks

***Proceedings of the first conference***

**WP 3 – Task 3.1 / D 3.8**

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VYTAUTAS  
MAGNUS  
UNIVERSITY  
MCMXXII



**CHALMERS**



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TWIN-PEAKS website: [www.twin-peaks-h2020.com](http://www.twin-peaks-h2020.com)

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## Abbreviations

CYSENI	International Conference of Young Scientists on Energy and Natural Sciences Issues
CTH	Chalmers University of Technology
D	Deliverable
GDPR	General Data Protection Regulation
LAMMC	Lithuanian Research Centre for Agriculture and Forestry
LEI	Lithuanian Energy Institute
RTO Lithuania	An Association of non-university research and technology organisations
TUM	Technical University of Munich
VMU	Vytautas Magnus University
WP	Work package
WtE	Waste-to-energy

## 1 Introduction

The overall objective of the TWIN-PEAKS project is to establish a research and innovation collaboration between LEI, VMU, TUM, CTH and WIP to raise the scientific excellence, capacities and international reputation of LEI and VMU in advanced waste gasification. That imposes the need to widen the network, transfer scientific and soft-skill knowledge and know-how between the TWIN-PEAKS project partners, as well as involving the high-level professionals from outside the project, and tackle gender equality issues etc. Conferences are one of a list of the good platforms for doing so.

## 2 Task 3.1 - Conference organisation

Task 3.1 aims at organizing two conferences in Lithuania based on WtE, biofuels or related topics. The task has planned to be started in M12 and will be ongoing until M33.

The **first** conference on a topic “Conference on Moving towards sustainable customer behavior in the 4th industrial revolution” was hosted by VMU in M18. It attracted over 120 participants.

The **second** 19<sup>th</sup> International Conference of Young Scientists on Energy and Natural Sciences Issues (CYSENI 2023) was organized by LEI together with the partnering institution Lithuanian Research Centre for Agriculture and Forestry (LAMMC) in May 23-26, 2023 (M33). A specially dedicated conference section for TWIN-PEAKS project on ‘Bioenergy, Biomass and Biofuels’ was organized on 25<sup>th</sup> of May. Moreover, the CYSENI 2023 was organized in parallel with the 2<sup>nd</sup> TWIN-PEAKS International Summer School on Advanced Gasification Solutions.

In general, CYSENI 2023 conference had more than 17 topics: Energy Sciences (8 sub-topics); Physical Sciences (3 sub-topics); Environmental Sciences (6 sub-topics), <https://cyseni.com/topics-and-deadlines/#Energy-Sciences>

The CYSENI 2023 was promoted through various web and social media channels:

1. Official conference website: <https://cyseni.com/>
2. Conference newsletter subscribers
3. LEI news: <https://www.lei.lt/cyseni-konferencija-2023-m-vyks-gyvai/>
4. LEI Facebook: <https://www.facebook.com/lietuvos.energetikos.institutas/>
5. LEI Instagram: <https://www.instagram.com/energetikosinstitutas/>
6. LEI LinkedIn: [https://www.linkedin.com/company/lithuanian-energy-institute?original\\_referer=https%3A%2F%2Fwww.lei.lt%2F](https://www.linkedin.com/company/lithuanian-energy-institute?original_referer=https%3A%2F%2Fwww.lei.lt%2F)
7. LAMMC web: <https://www.lammc.lt/lt/naujienu-archyvas/jaunuju-mokslininku-ir-studentu-konferencija-cyseni-2023/3974>
8. RTO Lithuania web: <https://rtolithuania.com/>

The first notification about the CYSENI 2023 is shown in Figure 1.1. Notifications about the status of the conference were sent periodically. The TWIN-PEAKS project participants, mostly from LEI, were included into the organizational and scientific procedure of the conference, i.e. abstracts review and decision of acceptance, chairing of the panel session ‘Bioenergy, Biomass and Biofuels’ of the TWIN-PEAKS project and evaluating presenters, organisation of catering, social event, and etc.

TITULINIS ► VISOS NAUJIENOS

## CYSENI KONFERENCIJA 2023 M. VYKS GYVAI

2022 GRUODŽIO 19

Puiki žinia – CYSENI konferencija 2023 m. vyks gyvai!

Lietuvos energetikos instituto (LEI) kartu su Lietuvos agrarinių ir miškų mokslų centru (LAMMC) organizuojama tarptautinė jaunųjų mokslininkų konferencija CYSENI 2023 (Conference of Young Scientists on Energy and Natural Sciences Issues) vyks gegužės 23–26 d., Kaune.

🌟 Registracijos pradžia – 2023 m. sausio 9 d.

📄 Sekite naujienas <https://cyseni.com/>

We have great news!

Lithuanian Energy Institute (LEI) together with Lithuanian Research Centre for Agriculture and Forestry (LAMMC) will organize the 19th International Conference of Young Scientists on Energy and Natural Sciences Issues (CYSENI 2023), which will be held in Kaunas from May 23 to 26, 2023.

🌟 Registration starts at January 9, 2023.

📄 To stay up-to-date on the Conference news – check the Conference website <https://cyseni.com>



Figure 1.1: Invitation to CYSENI 2023

## 2.1 The conference participants

The project KPIs are set following: each conference will host up to 40 participants. It is a huge success as the set target was exceeded (for both conferences organised) more than three times. The CYSENI 2023 attracted **124** participants from **20** countries and **11** key speakers (numbers are provided by chief organizer and the full list of participants cannot be shared in Appendixes due to GDPR). The TWIN-PEAKS special session on 'Bioenergy, Biomass and Biofuels' was fully booked and attracted 10 presenters giving oral presentations (Figure 1.2).

Oral Session III			
	Section 1 PLANT BIOLOGY AND PHYSIOLOGY and GLOBAL CHANGE AND ENVIRONMENTAL FOOTPRINT	Section 2 BIOENERGY, BIOMASS AND BIOFUELS (TWIN-PEAKS PROJECT SESSION); RENEWABLE ENERGY SOURCES and COMBUSTION PLASMA PROCESSES	Section 3 HYDROGEN ENERGY AND FUEL CELL TECHNOLOGIES
Room / chairman	116	301	202
12 <sup>40</sup> –12 <sup>50</sup>	<b>Ieva Gudžinskaitė.</b> <i>Determination of radical scavenging activity in postharvest microgreens Brassica juncea and Amaranthus tricolor grown under different light intensity</i>	<b>Ralfas Lukoševičius.</b> <i>Integration of green hydrogen and biomethane technologies challenges and perspectives</i>	<b>Atif Imdad.</b> <i>Effect of in situ hydrogen charging on the tensile behaviour of a 42crmo4 steel submitted to different heat treatments</i>
12 <sup>50</sup> –13 <sup>00</sup>	<b>Babar Iqbal.</b> <i>Impacts of soil microplastics on crops: A review</i>	<b>Egidijus Buivydas.</b> <i>Chicken manure and cow slurry co-digestion with pig fat waste. A comparative analysis of biogas production parameters</i>	<b>Leo Jansons.</b> <i>From natural gas and biomethane to green hydrogen: gaseous fuel transition associated risks</i>
13 <sup>00</sup> –13 <sup>10</sup>	<b>Gediminas Kudirka.</b>	<b>Serdar Yaman.</b>	<b>Johannes Fabian Bauer.</b>

Figure 1.2: A shortcut from CYSENI 2023 programme indicating the TWIN-PEAKS project session

Full titles of presentations with names of presenters of this special session could be found in the conference programme: [https://cyseni.com/mail/2023/CYSENI\\_2023\\_programme.pdf](https://cyseni.com/mail/2023/CYSENI_2023_programme.pdf)

Poster presentations of the TWIN-PEAKS session topic were in a general poster session together with other posters and will be available in an electronic version of the conference proceedings.

Generally, the TWIN-PEAKS session attracted more than 25 participants, including presenters. The moments from the session are shown below in Figure 1.3.



Figure 1.3: A moment from the TWIN-PEAKS session on 'Bioenergy, Biomass and Biofuels'

Participants giving oral or poster presentation were awarded certificates of participation. The example is shown below in Figure 1.4.



Figure 1.4: Certificate of participation in CYSENI 2023

A shortcut to conference programme is provided in the Appendix A.

The gender distribution among the participants is 49% of women and 51% of men.

## 2.2 Conference proceedings and publication

The best conference presentations were awarded in the end of CYSENI 2023. The conference proceedings, having an ISSN number, will be available online at the <https://cyseni.com/archive/> soon after all the formatting will be accomplished. The plan is to have this done by the end of June or beginning of July. Once the conference proceedings will be released, the link will be provided and reported in the final project's report.

The best conference presenters, ranked by the independent scientific commission of CYSENI 2023, will also have a possibility to publish their works in a special issue of one of the conference collaborative journals. The collaborative journals are provided below in Figure 1.5. The invitations will be provided after the conference and final negotiation with selected journals on a number of papers to be accepted for special issues.

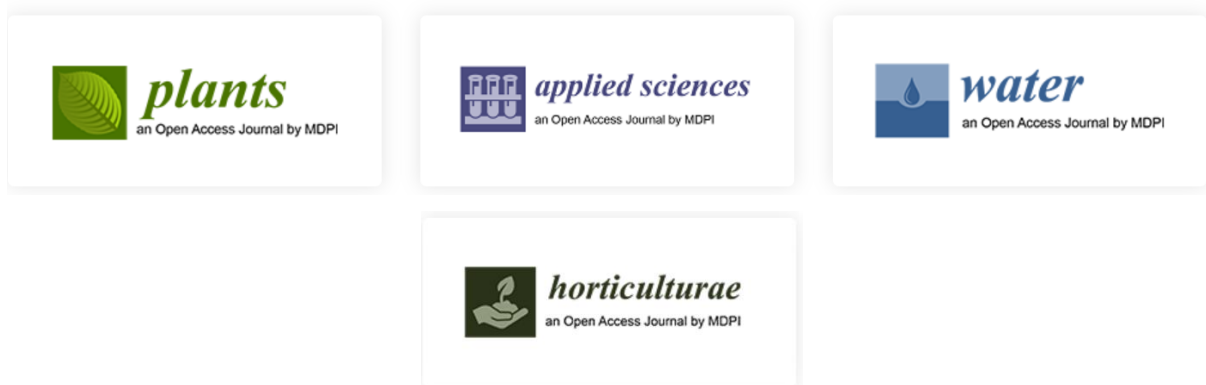


Figure 1.5: Collaborative journals of CYSENI 2023



## Appendixes

### A Shortcut of CYSENI 2023 programme.

Full programme available at: [https://cyseni.com/mail/2023/CYSENI\\_2023\\_programme.pdf](https://cyseni.com/mail/2023/CYSENI_2023_programme.pdf)

#### 19<sup>TH</sup> INTERNATIONAL CONFERENCE OF YOUNG SCIENTISTS ON ENERGY AND NATURAL SCIENCES ISSUES

**(CYSENI 2023)**

23–26th May, 2023

Time EEST (GMT+3)

Day 1 (23 <sup>rd</sup> May)	
09 <sup>00</sup> –09 <sup>30</sup>	<b>REGISTRATION</b> (Breslaujos St. 3, Kaunas) <b>Welcome coffee</b>
<a href="#">Keynote section 116</a>	
09 <sup>30</sup> –10 <sup>10</sup>	<b>WELCOME SPEECHES</b> (Didžioji salė) <b>Gintaras Brazauskas</b> (Director of the Lithuanian Research Centre for Agriculture and Forestry), <b>Sigitas Rimkevičius</b> (Director of the Lithuanian Energy Institute), <b>Arminas Varanauskas</b> (Executive director of <i>RTO Lithuania</i> ), Representative from Ministry of Agriculture of the Republic of Lithuania.
10 <sup>10</sup> –10 <sup>20</sup>	<b>CYSENI 2023 agenda</b> <b>Urtė Stulpinaitė</b> (Chairman of Organizing Committee of CYSENI 2023, Lithuanian Research Centre for Agriculture and Forestry)
10 <sup>20</sup> –11 <sup>00</sup>	Speaker <b>Tony Donne</b> (Programme Manager (CEO) of EUROfusion). <i>Why don't we have fusion yet – and what is EUROfusion doing to get there?</i>
11 <sup>00</sup> –11 <sup>40</sup>	Speaker <b>Marcos António Nogueira</b> (Coordinator, H2020-AURORAL, Belgium). <i>Smart communities – a contribution for a free, united and independent Europe.</i>
11 <sup>40</sup> –12 <sup>20</sup>	Speaker <b>Inga Minelgaitė</b> (Professor at the University of Iceland). <i>Leading in a projectified environment: how well are we failing?</i>
12 <sup>20</sup> –13 <sup>20</sup>	<b>Lunch break</b>
13 <sup>20</sup> –14 <sup>00</sup>	<b>Poster session I (Food sciences and technologies, Global change and environmental footprint, Innovative agriculture, horticulture, and forestry solutions)</b> <a href="#">📄</a> <a href="#">← download</a>
	<b>Coffee break</b>

Oral Session I			
	Section 1	Section 2	Section 3
	<b>INNOVATE AGRICULTURE, HORTICULTURE AND FORESTRY SOLUTIONS and SUSTAINABLE PEST</b>	<b>RENEWABLE ENERGY SOURCES and THERMAL PHYSICS, FLUID MECHANICS AND METROLOGY</b>	<b>MATERIAL SCIENCES AND TECHNOLOGIES</b>

Poster presentations (shortcut):

POSTER SESSION I (1)				
Poster place	ID	Name	Surname	Title of abstract
1	G_T3_P32'	Simas	Borkertas	Fruit And Vegetables By-Products May Be a Part of Substrates of Edible Mushrooms Cultivation?
2	G_T3_P33'	Audronė	Ispiryan	Biochemical And Antioxidant Profiling of Raspberry Plant Parts
3	G_T3_P34'	Laura	Jūrienė	Extraction Of Lipophilic Components from Chokeberry (Aronia Melanocarpa) Pomace with Supercritical CO <sub>2</sub>
4	G_T3_P35'	Lauksmė	Merkevičiūtė-Venslovė	The Effect Of The Tall Oat Grass (Arrhenatherum Elatius) Inclusion on The Quality of Perennial Legume Silage During Aerobic Exposure
5	G_T3_P36'	Kornelijus	Micka	Green Tea, Honey, Black Chocolate as Antimicrobial Agents for Prevention Dental Caries
6	G_T3_P37'	Aistis	Petruškevičius	Extraction Of Polyphenols from Black Currant (Ribes Nigrum L.) By-Products With Rapid Solid-Liquid Dynamic Extraction Method
7	G_T3_P38'	Viktorija	Puzeryte	Fermentation Impact on Biochemical and Functional Properties of Sea Buckthorn (Hippophae Rhamnoides L.) Leaves
8	G_T3_P39'	Veida	Selenauskas	Green Synthesis, Characterization and Antimicrobial Activity of Silver Nanoparticles Synthesized by Hippophae Rhamnoides Plant By-Products