



UNIVERSITY OF WARMIA AND MAZURY IN OLSZTYN
FACULTY OF GEOENGINEERING
Department of Land Management
Department of Geodesy



International Scientific-Methodical Conference

BALTIC SURVEYING'25

under the auspices of

Voivode of Warmian-Masurian Voivodeship

Rector of the University of Warmia and Mazury in Olsztyn

Dean of the Faculty of Forestry and Environmental Sciences,
Latvia University of Life Sciences and Technologies (Latvia)

Dean of the Faculty of Engineering,
Vytautas Magnus University Agriculture Academy (Lithuania)

7-9 May 2025, Olsztyn, Poland



WOJEWODA
WARMIŃSKO-MAZURSKI
Radostaw Król



UNIVERSITY
OF WARMIA AND MAZURY
IN OLSZTYN



Latvia University
of Life Sciences
and Technologies



VYTAUTAS MAGNUS
UNIVERSITY
AGRICULTURE
ACADEMY



Krajowy Ośrodek
Wsparcia Rolnictwa

The purpose of this conference is to share the experience and knowledge in actual problems of land administration, land management, cadastre, land use, rural development, geodesy, cartography, remote sensing, etc. Problems of improvement of education in land management will be discussed as well.

International scientific committee:

assoc. prof. Dariusz Popielarczyk – Chairperson

University of Warmia and Mazury in Olsztyn, Poland

assoc. prof. Agnieszka Dawidowicz – Vice-Chairperson

University of Warmia and Mazury in Olsztyn, Poland

assoc. prof. Robert Duchnowski – Vice-Chairperson

University of Warmia and Mazury in Olsztyn, Poland

prof. dr. sc. ing. Armands Celms

Latvia University of Life Sciences and Technologies, Latvia

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University of Warmia and Mazury in Olsztyn, Poland

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National University of Life and Environmental
Sciences of Ukraine, Ukraine

assoc. prof. Marcin Jagoda

Koszalin University of Technology, Poland

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Latvia University of Life Sciences and Technologies, Latvia

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Vytautas Magnus University Agriculture Academy, Lithuania

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Vytautas Magnus University Agriculture Academy, Lithuania

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Estonian University of Life Sciences, Estonia

prof. dr. oec. Iryna Koshkalda

State Biotechnological University, Ukraine

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University of Warmia and Mazury in Olsztyn, Poland

assoc. prof. Krystyna Kurowska

University of Warmia and Mazury in Olsztyn, Poland

assoc. prof. Przemysław Leń

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assoc. prof. Siim Maasikamäe

Estonian University of Life Sciences, Estonia

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Lithuania

assoc. prof. Natig Mirzayev

Western Caspian University, Azerbaijan

assoc. prof. dr. Livia Nistor-Lopatenco

Technical University of Moldova, Moldova

prof. dr. oec. Vivita Pukite

Latvia University of Life Sciences and Technologies, Latvia

prof. Dali Sekhniashvili

Georgian Technical University, Georgia

assoc. prof. Monika Siejka

University of Agriculture in Kraków, Poland

prof. dr. sc. ing. Gunārs Silabriedis

Latvia University of Life Sciences and Technologies, Latvia

prof. Igor Trevoho

Lviv Polytechnic National University, Ukraine

assoc. prof. Jolanta Valciukiene

Vytautas Magnus University Agriculture Academy, Lithuania

assoc. prof. dr. Aizhan Zhildikbaeva

Kazakh National Agrarian Research University, Kazakhstan

Organizing committee:

assoc. prof. Krystyna Kurowska – Chairperson

PhD Patrycja Wyszowska – Vice-Chairperson

PhD Vita Celmina

assoc. prof. Virginija Gurskiene

MSc Jacek Kil

PhD Dariusz Konieczny

PhD Hubert Kryszk

PhD Jan Kuryj

MSc Beata Milanowska

PhD habil. Tomasz Podciborski

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Conference venue:

Hotel Park

al. Warszawska 119

10-720 Olsztyn, Poland

<https://olsztyn.hotelepark.pl/en/>

SCHEDULE

7 May 2025 – ORAL AND POSTER PRESENTATIONS

13:30-14:00	Registration
14:00-14:30	Official opening and keynote speech <i>Chairs: assoc. prof. Agnieszka Dawidowicz and assoc. prof. Robert Duchnowski</i>
14:30-16:00	Oral session I – LAND MANAGEMENT SESSION <i>Chairs: assoc. prof. Agnieszka Dawidowicz and assoc. prof. Jolanta Valčiukienė</i>
16:00-16:45	Poster session (with coffee break) <i>Chairs: PhD Patrycja Wyszowska and Mg. geogr. Ivars Bergmanis</i>
16:45-18:30	Oral session II – GEODESY AND SURVEYING SESSION <i>Chairs: prof. dr. sc. ing. Armands Celms and assoc. prof. Robert Duchnowski</i>
19:00	Gala dinner

8 May 2025 – FIELD SESSION

7:30-21:00	Departure from Olsztyn (Hotel Park, al. Warszawska 119) Coffee break at the “Okoń” in Pasłęk Visit to the Vistula Spit Canal (viewpoint) Boat trip from Krynica Morska to Tolkmicko Visit to Frombork (in the footsteps of Nicolaus Copernicus) Picnic at a farm in Gronówko Arrival in Olsztyn (Hotel Park, al. Warszawska 119)
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9 May 2025 – ORAL PRESENTATIONS

9:00-10:30	Oral session III – GEOSPATIAL SESSION <i>Chairs: assoc. prof. Radosław Cellmer and PhD Agnieszka Cienciała</i>
10:30-11:00	Coffee break
11:00-12:30	Oral session IV – REAL ESTATE AND CADASTRE SESSION <i>Chairs: assoc. prof. Daiva Juknelienė and PhD Marek Walacik</i>
12:30-12:45	Discussion and closing session <i>Chairs: assoc. prof. Krystyna Kurowska and assoc. prof. Jolanta Valčiukienė</i>
13:00	Lunch

7 MAY 2025

OFFICIAL OPENING AND KEYNOTE SPEECH

Chairs: *assoc. prof. Agnieszka Dawidowicz and assoc. prof. Robert Duchnowski*

1. Welcome speeches

assoc. prof. Dariusz Popielarczyk, Dean of the Faculty of Geoengineering, University of Warmia and Mazury in Olsztyn (Poland)

Radosław Król, Voivode of Warmian-Masurian Voivodeship (Poland)

Iwona Żendarska, Director of the Olsztyn Branch of the National Support Center for Agriculture (Poland)

assoc. prof. Jolanta Valčiukienė, on behalf of the Dean of the Faculty of Engineering, Vytautas Magnus University Agriculture Academy (Lithuania)

prof. dr. sc. ing. Armands Celms, Director of Institute of Land Management and Geodesy, Faculty of Forestry and Environmental Sciences, Latvia University of Life Sciences and Technologies (Latvia)

2. Keynote speech

Fair competition and transparency in the geospatial information industry: the path to trust and development

Armands Celms¹, Māra Čače², Mārtiņš Rutkovskis²

¹ *Latvia University of Life Sciences and Technologies (Latvia)*

² *Latvian Association of Cartographers and Geodesists (Latvia)*

ORAL SESSION I – LAND MANAGEMENT SESSION

Chairs: *assoc. prof. Agnieszka Dawidowicz and assoc. prof. Jolanta Valčiukienė*

1. Review of reclaimed land in Lithuania

Giedrius Balevičius¹, Jolanta Valčiukienė¹, Daiva Juknelienė¹, Vilimantas Vaičiukynas²

¹ *Vytautas Magnus University Agriculture Academy (Lithuania)*

² *Lithuanian College of Engineering (Lithuania)*

2. Application of SLAM technology in land and cultural heritage protection: algorithms, methodology, and technological solutions

/online presentation/

Taras Ievsiukov, Ivan Kovalchuk, Oleksiy Kutsenko, Dmytro Matviichuk

National University of Life and Environmental Sciences of Ukraine (Ukraine)

3. Shaping nature-protected space in the face of progressive urbanisation processes on the example of selected sites in the Podlaskie region

Joanna Budnicka-Kosior, Jakub Gąsior, Emilia Janeczko, Łukasz Kwaśny

Warsaw University of Life Science (Poland)

4. Public value capture as a mechanism for affordable housing development in Bratislava – opportunities and challenges

Julius Golej, Miroslav Panik, Daniela Špírkova

Slovak University of Technology in Bratislava (Slovakia)

5. Network analyses in the study of railway accessibility in the Masovian and Warmian-Masurian Voivodeships

Michał Bijata, Agnieszka Dawidowicz

University of Warmia and Mazury in Olsztyn (Poland)

POSTER SESSION

Chairs: PhD Patrycja Wyszowska and Mg. geogr. Ivars Bergmanis

1. Spatial analysis of residential return rates in the largest cities of Poland

Radosław Cellmer

University of Warmia and Mazury in Olsztyn (Poland)

2. Current developments in housing prices in Slovakia and related key determinants

Miroslav Panik, Julius Golej

Slovak University of Technology in Bratislava (Slovakia)

3. Steam-education as a tool for forming geo-environmental research competence of geography teachers on the subject of environmental pollution /online poster/

Roza Mukhitdinova¹, Laura Baibatyrova¹, Danagul Urumbazarova²

¹ *Zhetysu University named after I. Zhansugurov (Kazakhstan)*

² *Abay Secondary School Gymnasium (Kazakhstan)*

4. Local spatial development plan and violation of the essence of property rights

Aleksandra Kudrzycka-Szypillo

University of Warmia and Mazury in Olsztyn (Poland)

5. Protection of agricultural and forest land in the new planning situation

Krystyna Kurowska¹, Agnieszka Czajka²

¹ *University of Warmia and Mazury in Olsztyn (Poland)*

² *Koszalin University of Technology (Poland)*

6. Nature-based solutions in land management for achieving land degradation neutrality in Ukraine /online poster/

Nataliia Stoiko, Vitalii Onyskovets, Bohdan Styranivskyy

Stepan Gzhytskyi National University of Veterinary Medicine and Biotechnologies (Ukraine)

7. Acquisition of real estate by foreigners. A study on the readiness to purchase real estate

Maria Heldak

/online poster/

Wrocław University of Environmental and Life Sciences (Poland)

8. Surveying documentation prepared for the purpose of court proceedings – experiences of selected countries of the world

Agnieszka Cienciala

Kielce University of Technology (Poland)

9. Water in urban environments: the influence of blue infrastructure on residential appeal

Małgorzata Dudzińska, Agnieszka Dawidowicz, Marta Gross

University of Warmia and Mazury in Olsztyn (Poland)

10. Territories planning for the use of renewable energy sources as an important area of sustainable land management /online poster/
Iryna Koshkalda¹, Olena Dombrowska¹, Krystyna Kurowska², Hubert Kryszk²
¹ State Biotechnological University Kharkiv (Ukraine)
² University of Warmia and Mazury in Olsztyn (Poland)
11. Analysis of the content of geodetic data in the field of road networks in terms of use in the location of renewable energy installations
Teresa Front-Dąbrowska
 Kielce University of Technology (Poland)
12. Land acquisition by the state forests in Poland as a tool for spatial policy implementation – economic and regional analysis
Hubert Kryszk, Wiktoria Wiśniewska
 University of Warmia and Mazury in Olsztyn (Poland)
13. GIS tools for green infrastructure – a case study of the Pojezierze estate in Olsztyn
Fabian Miszewski
 University of Warmia and Mazury in Olsztyn (Poland)
14. Agricultural biogas in Poland: a structural and spatial analysis in comparison with selected EU countries
Krystyna Kurowska, Małgorzata Kukolska
 University of Warmia and Mazury in Olsztyn (Poland)
15. The role of smart city elements in public open space from the perspective of gen Z
Adam Garustowicz, Agnieszka Dawidowicz
 University of Warmia and Mazury in Olsztyn (Poland)
16. Challenges facing housing management systems in post-Soviet countries: the case of Uzbekistan
Khurshidjon Kakhramonov¹, Andrzej Muczyński²
¹ Tashkent State University of Economics (Uzbekistan)
² University of Warmia and Mazury in Olsztyn (Poland)

ORAL SESSION II – GEODESY AND SURVEYING SESSION

Chairs: prof. dr. sc. ing. Armands Celms and assoc. prof. Robert Duchnowski

1. Application of the LBTU method in the construction deformation monitoring
Armands Celms¹, Edgars Kraskevičs^{1,2}, Ivars Bergmanis¹
¹ Latvia University of Life Sciences and Technologies (Latvia)
² Ltd Rigas tilti, Construction Supervisor and Geodetic Engineer (Latvia)
2. Segmentation of ALS data to obtain the most reliable profiles from M_{split} estimation
Patrycja Wyszowska, Robert Duchnowski
 University of Warmia and Mazury in Olsztyn (Poland)
3. Overhead electric power line monitoring with remote sensing methods
Ivars Bergmanis^{1,2}, Aivars Ratkevičs^{1,2}, Toms Līdumnieks^{1,2}
¹ Latvia University of Life Sciences and Technologies (Latvia)
² Latvian Geospatial Information Agency (Latvia)

4. Implementation of object detection algorithms in the inventory of technical infrastructure, case study: insulators detection

Mateusz Czyrznia, Jacek Rapiński, Dariusz Tomaszewski

University of Warmia and Mazury in Olsztyn (Poland)

5. Assessment of precise geodetic measurements

/online presentation/

Toms Lidumnieks^{1,2}, Maris Virkavs¹, Jolanta Luksa¹, Vita Celmiņa¹

¹ Latvia University of Life Science and Technologies (Latvia)

² Latvian Geospatial Information Agency (Latvia)

6. Current techniques and progress in land surveying

Adam Doskocz

University of Warmia and Mazury in Olsztyn (Poland)

7. Transport infrastructure of the Vistula Fens and selected regional architectural objects

Dariusz Konieczny

University of Warmia and Mazury in Olsztyn (Poland)

9 MAY 2025

ORAL SESSION III – GEOSPATIAL SESSION

Chairs: assoc. prof. Radosław Cellmer and PhD Agnieszka Cieniała

1. The development of geospatial knowledge today – back to the map

Aivars Ratkevičs^{1,3}, Una Krutova^{2,3}, Armands Celms¹, Jolanta Luksa¹

¹ Latvia University of Life Sciences and Technologies (Latvia)

² Riga Technical University (Latvia)

³ Latvian Geospatial Information Agency (Latvia)

2. Use of GIS in studying children's map-reading skills

Anna Klimach, Agnieszka Dawidowicz, Marzena Nowicka, Marta Czaplicka, Marta Gross

University of Warmia and Mazury in Olsztyn (Poland)

3. Modern approaches to land resource management using geoinformation databases

/online presentation/

Timur Rafikov¹, Virginija Gurskienė², Aizhan Zhildikbaeva¹, Zhandos Mukaliev³

¹ Kazakh National Agrarian University (Kazakhstan)

² Vytautas Magnus University (Lithuania)

³ Al-Farabi Kazakh National University (Kazakhstan)

4. Using a city model as a Digital Twin for public consultations

Robert Skowroński, Cezary Kowalczyk, Rafał Kaźmierczak

University of Warmia and Mazury in Olsztyn (Poland)

5. Evaluation of settlements at risk of landslides by using GIS/RS – case study of Kashar administrative unit, Albania

/online presentation/

Enkela Begu, Albana Kosovrasti, Aida Huta

University of Tirana (Albania)

- 6. The role of the roads infrastructure and of the agritourisms trends for the new development of the rural areas in Albania** /online presentation/

Orjana Hanxhari¹, Romeo Hanxhari²

¹ *University of Sports of Tirana (Albania)*

² *University of Tirana (Albania)*

ORAL SESSION IV – REAL ESTATE AND CADASTRE SESSION

Chairs: assoc. prof. Daiva Juknelienė and PhD Marek Walacik

- 1. Analysis of cadastre data of potential construction sites for solar and wind power plants**
Maris Virkavs, Toms Lidumnieks, Vivita Pukite
Latvia University of Life Sciences and Technologies (Latvia)
- 2. Innovative approaches to cadastre and spatial planning in the context of modern security challenges: balancing transparency and confidentiality**
Andrii Martyn, Liudmyla Hunko, Liudmyla Kolosa
National University of Life and Environmental Sciences of Ukraine (Ukraine)
- 3. Changes of real property taxation system in Lithuania**
Audrius Aleknavičius^{1,2}, Jolanta Valčiukienė¹
¹ *Vytautas Magnus University Agriculture Academy (Lithuania)*
² *Lithuanian Engineering College (Lithuania)*
- 4. Investment realization risk in the light of formal-legal and administrative documentation analysis – the role of property valuers in identifying investment threats**
Anna Noweł-Śmigaj
Wrocław University of Environmental and Life Sciences (Poland)
- 5. Real estate market transparency from the perspective of real estate property registration**
Marek Walacik, Aneta Chmielewska
University of Warmia and Mazury in Olsztyn (Poland)
- 6. Agricultural greenhouse gas emissions and mitigation strategies** /online presentation/
Can Mavruk, Aziz Cumhur Kocalar
Nigde Omer Halisdemir University (Turkiye)