

3rd Announcement



Polish Academy of Arts and Sciences – Commission of Geoinformatics
Polish Society of Photogrammetry and Remote Sensing
Polish Geographic Society – Cartographic Section
Polish Geographic Society - Section of Remote Sensing
Polish Society of Spatial Information
Association of Polish Surveyors
Association of Polish Cartographers
and
AGH University of Science and Technology in Krakow
Faculty of Geo-Data Science, Geodesy and Environmental Engineering

invite you to

10th National Geoinformation Symposium

at the same time organized as:

1st Geoinformation Congress

***„Contemporary Geoinformation Technologies in space
modelling”***

Kraków, 25th – 27th October 2023

FRAMEWORK PROGRAMME OF THE CONGRESS /20th October 2023/

Wednesday 25th October 2023

QUBUS Hotel Kraków, Nadwiślańska 6, Kraków

9:00 – 11:00 – REGISTRATION OF THE PARTICIPANTS

11:00 – 12:30 – OPENING OF THE SYMPOSIUM, PRESENTATIONS OF INVITED GUESTS

12:30 - 13:00 – COFFEE BREAK

13.00 – 14.30 – SESSION I /Geoinformation Worldwide/ - presentations of invited international guests

14:30 – 15:30 – LUNCH

15.30 – 16.15 – SESSION II /Geoinformation in Administration – part A/

16.15 – 18.15 - SESSION II WITH DISCUSSION PANEL /Geoinformation in Administration – part B/

20:00 – GALA DINNER / QUBUS Hotel, Kraków, Nadwiślańska 6 /

Thursday 26th October 2023

QUBUS Hotel Kraków, Nadwiślańska 6, Kraków

9:00 – 11:00 – SESSION III A /Processing Photogrammetric Data – methodological aspects/

9:00 – 11:00 – SESSION III B /Cartographic Aspects of Geoinformation/

9:00 – 11:00 – SESSION III C /Environmental Protection – Dynamics of Changes/

9:00 – 11:00 – SESSION III D /Geoinformation in Marine Environment/

11.00 – 11.30 – COFFEE BREAK

11.30 – 13.30 – SESSION IV A /UAV in Geoinformation/

11.30 – 13.30 – SESSION IV B /Geoinformation in Solving Urban Problems/

11.30 – 13.30 – SESSION IV C /Contemporary Relationships between Geoinformation Specializations - Terminological and Practical Aspects/

11.30 – 13.30 – SESSION IV D /Artificial Intelligence in Spatial Analyses/

13.30 – 14.30 – LUNCH

14:30 – 15:30 - SESSION V /Presentations by the companies/

14:30 – 15:30 – WORKSHOPS part I

15.30 – 17.30 – SESSION VI A /Geoinformation in Geology and Mining/

15.30 – 17.30 – POSTER SESSION VI B

18.00 – 22.00 – ACCOMPANYING EVENTS

Friday 27th October 2023

QUBUS Hotel Kraków, Nadwiślańska 6, Kraków

9:00 – 11:00 – SESSION VII A /Photogrammetry and Remote Sensing for Geoinformation - in English/

9:00 – 11:00 – SESSION VII B /Maps in Geoportals/

9:00 – 11:00 – SESSION VII C /Geoinformation in Precise Forestry/

9:00 – 11:00 – WORKSHOPS part II

11.00 – 11.30 – COFFEE BREAK

11.30 – 12.30 – DISCUSSION PANEL /Geoinformation for All/ – Sponsors, Invited Guests

12.30 – 13.30 –DISCUSSION PANEL /Geoinformation for All/ – Organizers - Committees

11.30 –13.30 – WORKSHOPS part III

13.30 – 14.30 – CLOSING OF THE CONGRESS, FINAL CONCLUSIONS /Results of the contest and prizes for the best presentations and posters/

14:30 – 15:30 – LUNCH

DETAIL PROGRAMME

Wednesday 25th October 2023

QUBUS Hotel Kraków, Nadwiślańska 6, Kraków

9:00 – 11:00 – REGISTRATION OF THE PARTICIPANTS

11:00 – 12:30 – OPENING OF THE CONGRESS, PRESENTATIONS OF INVITED GUESTS

1. Opening of the Congress – Professor **Marek Gorgoń** - Prorector of AGH-UST for Scientific Affairs

2. Talks by the representatives of local authorities and associations-organizers

3. Activities of the Main National Surveyor in geodesy and cartography – **Alicja Kulka**

12:30 - 13:00 – COFFEE BREAK

13:00 – 14:30 SESSION I - Geoinformation Worldwide

1. Mobile Mapping in Geoinformation **Charles Toth** (Dept. of Civil, Environmental and Geodetic Engineering, The Ohio State University)
2. Paradigm Changes and Trends in Remote Sensing - **Uwe Sörgel** (Institute for Photogrammetry at the Universitaet Stuttgart)

15.30– 15.30 – LUNCH

15.30 – 16.30 – SESSION II - Geoinformation in Administration – part A

Chairing: Kazimierz Bujakowski, co-chairing: Alicja Kulka

1. National System of Satellite Information NSIS - **Jolanta Orlińska, Beata Szafrńska** (POLSA, SmallGIS)
2. Control of the photogrammetric data received by PZGiK - **Anna Bober** (Director of the Department of Geodesy, Cartography and Geographic Information Systems, GUGiK)
3. Carrying out the tasks of GUGiK in cartography - **Marcin Lebiecki** (Head of the Section of Systems of Geographic and Cartographic Information, GUGiK)

16.30 – 18.30 - SESSION II - Geoinformation in Administration – part B

Chairing: Kazimierz Bujakowski, co-chairing: Andrzej Figas

4. How the construction of RIIP impacted the implementation of WODGiK tasks - **Anna Kinach-Jaworska** (Head of WODGiK), **Beata Krzywnicka, Tomasz Murawski**
5. E-services as the source of data for the West Pomeranian Infrastructure of Spatial Information - **Michał Durka** (Head of the project Regional Infrastructure of Spatial Information in the West Pomerania Voivodeship)
6. The infrastructure of Spatial Information in the Silesian Voivodeship: applications-services-open data – **Artur Kaczmarek** (Director of WODGiK– Silesian Voivodeship)
7. System of Spatial Information in the Wielkopolska Voivodeship (SIPWW) – example of a regional hub of spatial information infrastructure co- operating with academic and scientific units – **Dorota Zubik** (Head of the Section of Spatial Information System in the Wielkopolska Voivodeship)

DISCUSSION PANEL - Geoinformation in Administration

Chairing: Kazimierz Bujakowski

Panel participants:

- **Michał Durka** – head of the project – West Pomerania Voivodeship

- *Andrzej Figas* – Surveyor of the Silesian Voivodeship, Director of the Department of Surveying and Real Estate management – Silesian Voivodeship
- *Artur Kaczmarek* – Director of WODGiK in Katowice, Silesian Voivodeship
- *Anna Kinach-Jaworska* – Head of WODGiK – West Pomerania Voivodeship
- *Piotr Strajny* – Surveyor of the Lublin Voivodeship, Director of the Department of Geodesy and Cartography – Lublin Voivodeship
- *Dorota Zubik* – Head of the Section of Spatial Information System in the Bureau of the Surveyor in the Wielkopolska Voivodeship – Wielkopolska Voivodeship

20:00 – GALA DINNER / QUBUS Hotel, Kraków, Nadwiślańska 6 /

- Concert “Music Live” by Karolina Planeta (vocal and flute) and Krzysztof Piechnik (piano),
- Lottery, including:
 - the flight by a photogrammetric plane over Kraków (Thursday or Friday or any day, arranged earlier) – organized by our Sponsor (MGGP AERO)
 - the flight by a photogrammetric plane over Solina and the Bieszczady Mts. on the day previously arranged – organized by our Sponsor (SmallGiS)
 - other prizes
- Disco

THURSDAY 26/10/2023

QUBUS Hotel, Kraków, Nadwiślańska 6

9:00 - 11:00 Session III A: Processing Photogrammetric Data – Methodological Aspects

Chairing: [Grzegorz Józków](#), **co-chairing:** [Marek Mróz](#)

1. Semantic segmentation of diagonal aerial photos using Segment Anything Model (SAM) - Paulina Zachar, Warsaw University of Technology
2. Methodology of synchronic data orientation LIDAR and aerotriangulation of the block of photogrammetric images obtained with the application of BSL - Łukasz Wilk, Magdalena Pilarska-Mazurek, Wojciech Ostrowski - Warsaw University of Technology
3. Application of synthetic data for the analysis of the detection of binding points in Structurefrom-Motion method - Jakub Markiewicz, Michał Kowalczyk, Karol Karwel, Łukasz Markiewicz - Warsaw University of Technology, Patryk Kot - Liverpool John Moores University, Liverpool, UK
4. Orientation of diagonal aerial photos using Structure-from-Motion software - Wojciech Ostrowski, Łukasz Wilk, Warsaw University of Technology
5. The application of Unreal Engine technology in the construction of the digital twin city - Jakub Modrzewski, Magdalena Pilarska-Mazurek, Wojciech Ostrowski, Warsaw University of Technology
6. The influence of the selection of descriptor on the accuracy of the raster data orientation in Structure-fromMotion method - Jakub Markiewicz, Artur Karol Karwel, Zdzisław Kurczyński, Warsaw University of Technology

9:00 - 11:00 SESSION III B - Cartographic Aspects of Geoinformation

Chairing: Izabela Gołębiowska, co-chairing: Zbigniew Zwoliński, Dariusz Dukaczewski

1. Contemporary view on the cartographic visualisation Marek Baranowski, Polish Society of Spatial Information
2. Present challenges and study areas of geo-visualisation, focus on the presentations of 31st International Cartographic Conference - Izabela Gołębiowska, University of Warsaw
3. Mobile „audiomap” as an example of practical use of voice information - Krzysztof Lipka, Hubert Świech, Dariusz Gotlib, Warsaw University of Technology
4. Application of artificial intelligence in supporting the cartographic indoor description of the buildings - Krzysztof Lipka, Dariusz Gotlib, Kamil Choromański, Warsaw University of Technology
5. Selected aspects of 3D geo visualisation of the buildings indoor - Miłosz Gnat, Warsaw University of Technology
6. Game technologies as a new tool in cartographic research - Jakub Łobodecki, Dariusz Gotlib, Warsaw University of Technology
7. Geoinformation approach to the analysis and visualisation of racial and ethnic population structure based on high resolution raster data - Anna Dmowska, Adam Mickiewicz University in Poznan, Tomasz F. Stepinski, University of Cincinnati, OH, USA

9:00 - 11:00: Session III C – Environmental Protection. Dynamics of Changes

Chairing: Katarzyna Osińska-Skotak, co-chairing: Mieczysław Kunz

1. The influence of restrictions introduced during the first wave of the COVID-19 pandemics of NO₂ in the ambient air in Poland - confrontation of satellite and terrestrial monitoring data - Alfred Stach, Tomasz Czekala, Adam Mickiewicz University in Poznań
2. Archive aerial photos. Trends in archive managements, propagation and use of archive photogrammetric images - Adam Kostrzewa, Warsaw University of Technology
3. Satellite monitoring of algae blooms in the Oder River – experience from operational use of data from Sentinel-2 - Katarzyna Osińska-Skotak, Oskar Graszka, Warsaw University of Technology
4. Remote sensing image of the damage to pine tree stands caused by the pine beauty (*Panolis flammea*) in the forestry commission of Poddębice - Zuzanna Brocka, independent researcher, Krzysztof Będkowski, University of Lodz
5. Copernicus Data Space Ecosystem as revolution in the access to Earth data observation - Marcin Niemyjski, Jędrzej Bojanowski, Jan Musiał, CloudFerro
6. Application of the 3D photogrammetric gap gauge in precise engineering measurements - Piotr Gołuch, Kazimierz Ćmielewski, Janusz Kuchmister, University of Life Sciences in Wrocław

9:00 - 11:00 SESSION III D - Geoinformation in Marine Environment

Chairing: Grzegorz Stępień, co-chairing: Dominika Wróblewska

1. Application of the deep learning method in marine mining to estimate the resources of polymetallic concretions based on the photos of the sea bottom - Arkadiusz Tomczak, Tomasz Kogut, The Maritime University in Szczecin, Karol Kabała, Numlabs sp. z o.o.
2. Comparative analysis of multispectral channels obtained from the low ceiling to construct the Digital Bathymetric Model in shallow areas limited by the shoreline - Małgorzata Łącka, Jacek Łubczonek, The Maritime University in Szczecin
3. Unified marine gravimetric maps of southern and eastern Baltic for contemporary 3D applications in marine surveying, geology and navigation (BalMarGrav) - Monika Wilde-Piórko, Przemysław Dykowski, Jan Kryński, Gabriel Strykowski, Małgorzata Szelachowska, Institute of Geodesy and Cartography, Tobias Bauer, Federal Agency for Cartography and Geodesy, Germany, Mirjam Bilker-Koivula, National Land Survey of Finland, Artu Ellmann, Tallinn University of Technology, Tallinn, Orjan Josefsson, Lantmäteriet, Sweden, Jānis Kaminskis, Riga Technical University, Riga, Vents Zuševics, Latvian Geospatial Information Agency, Riga, Tobias Nilsson, Lantmäteriet, Sweden, Per-Anders Olsson, Lantmäteriet, , Sweden, Tomasz Olszak, Olga Rosowiecka, Polish Geological Institute, Eimuntas Kazimieras Paršeliūnas, Vilnius Gediminas Technical University, Vilnius, Jerzy Pyrchla, Krzysztof Pyrchla, Gdańsk University of Technology, Joachim Schwabe, Federal Agency for Cartography and Geodesy, Germany, Jakub Szulwic, Gdańsk University of Technology, Arkadiusz Tomczak, Maritime University of Szczecin, Sander Varbla, Tallinn University of Technology, Tallinn
4. Geostatic modelling of the distribution of dissolved oxygen in the Baltic Sea - Patryk Biernacik, Witold Kazimierski, The Maritime University in Szczecin
5. Obtaining and management of bathymetric data from aerial and water level - Marta Sieczkiewicz, GISPRO Technologies Sp. z o.o.
6. Correction of navigation data for the images from the side sonar. Case study - implementation of SONARMUS - Natalia Wawrzyniak, Grzegorz Zaniewicz, Witold Kazimierski, Maritime University in Szczecin

11:30 – 13:30 Session IV A - UAV in Obtaining Geoinformation

Chairing: Grzegorz Józków, co-chairing: Marek Mróz

1. Analysis of the completeness of the data from UAV sensors for the needs to build 3D models construction objects - Bartosz Mitka, Przemysław Kłapa, University of Agriculture in Kraków
2. Geoportal presentation, processing and analysis of data from unmanned aircraft vehicle systems for precise forestry, using Arches - Jakub Górka, Wojciech Ostrowski, Magdalena Pilarska-Mazurek, Krzysztof Bakula, Warsaw University of Technology, Katarzyna Czajka, Dragonfly Vision
3. MAST – digital twin of mast objects regarding inventory with the application of unmanned aircraft vehicles and artificial intelligence - Przemysław Banat, Jakub Modrzewski, Paulina Zachar, Łukasz Wilk, Wojciech Ostrowski, Krzysztof Bakula, Antoni Kopyt, Warsaw University of Technology, Paweł Waligóra, Centre of Airborne and Space Research
4. Penetration of low-ceiling laser scanning beam in forest areas - Krzysztof Bakula, Dorota Marczykowska, Magdalena Pilarska-Mazurek, Warsaw University of Technology, Łukasz Kolendo, Marek Ksepko, State Enterprise Bureau for Forest Management and Geodesy
5. Application of unmanned aircraft vehicles in military - Volodymyr Hlotov, Alla Hunina, Lviv Polytechnic National University, Krzysztof Bakula, Warsaw University of Technology

6. Comparison of the technique of unmanned laser scanning and close range photogrammetry to reconstruct 3D model in an urbanized area - Jarosław Wajs, Wrocław University of Technology, Krzysztof Pleśniak, State Water. Holding. Polish Waters.

12:30 - 13:00 – COFFEE BREAK

11:30 – 13:30 SESSION IV B - Geoinformation in Solving Urban Problems

Chairing: Zdzisław Kurczyński, co-chairing: Piotr Sawicki

1. Looking for the standards of geoinformation analyses in the assessment of the access to urban greenery - Patrycja Przewoźna, Adam Mickiewicz University in Poznań

2. Monitoring of changes in the access to the areas of greenery of recreational function - assessment of the arrangements of the spatial development plan - Joanna Jaroszewicz, Warsaw University of Technology

3. Formal list of legal regulations in the local space - Anna Barańska, AGH University of Science and Technology in Krakow, Konrad Eckes, State Academy of Applied Sciences in Jarosław

4. Practical possibilities of pgRouting in extending spatial database PostgreSQL/PostGIS in network analyses - Robert Kostecki, Adam Mickiewicz University in Poznań

5. Detail identification of potential ecosystem services of Green Infrastructure in the built-up areas of small and medium towns in Poland - Joanna Adamczyk, Agata Cieszewska, Renata Giedych, Warsaw University of Life Sciences, Barbara Szulczewska, Institute for the Development of Cities and Regions

6. Systems of the monitoring of the pollution of the night sea in the area of Toruń - Mieczysław Kunz, Dominika Karpińska, Nicolaus Copernicus University in Toruń

11:30 – 13:30 SESSION IV C – PANEL SESSION - Contemporary Relationships between Geoinformatic Specializations: Terminological and Practical Aspects

Chairing: Marek Baranowski

Introductory Presentations

1. On defining geoinformation as a scientific (sub-)discipline - Zbigniew Zwoliński, Adam Mickiewicz University in Poznań, Marek Baranowski, Polish Society of Spatial Information, Elżbieta Bielecka, Military University of Technology in Warsaw, Szymon Chmielewski, University of Life Sciences in Lublin, Dariusz Gotlib, Warsaw University of Technology, Iwona Jazdzewska, University of Łódź, Jacek Kozak, Jagiellonian University in Krakow, Piotr Werner, University of Warsaw
2. Geoinformation and genealogy: common areas, possibilities of mutual applications - Stanisław Szombara, AGH University of Science and Technology in Krakow

Chairing: Marek Baranowski

Panel Participants:

Katarzyna Osińska-Skotak, Ph.D. Sc., Eng., Professor of the Warsaw University of Technology – remote sensing,

Dariusz Gotlib, Ph.D. Sc., Eng., Professor of the Warsaw University of Technology – cartography, geoinformation,

Prof. Krystian Pyka, Ph.D. Sc., Eng. – photogrammetry,

Prof. Zbigniew Zwoliński, Ph.D. Sc. – geoinformation

11:30 – 13:30 Session IV D - Artificial Intelligence in Spatial Analyses

Chairing: Adam Iwaniak, co-chairing: Wojciech Drzewiecki

1. The application of machine learning and monoscope satellite photos to generate 2.5D models of buildings - Kamil Grudzień, KPGeo Sp. z o.o.
2. Selected methods of deep machine learning in the automated system of volume measurements based on UAV data - Sławomir Mikrut, AGH University of Science and Technology in Krakow, Michał Huppert, InvestGIS
3. The application of satellite data Sentinel-1 in estimating the area of sowing for Poland - Przemysław Slesiński, Magdalena Mleczek, Natalia Kotulak, University of Warmia and Mazury in Olsztyn.
4. Processing of GML and DXF data in the browser, focus on the geoportal of GEOBID - Krzysztof Borys, GEOBID
5. GeoAI: New era in geographic information systems - Adam Iwaniak, University of Life Sciences in Wrocław
6. Analysis of the influence of the use of various attributes during teaching the network of deep learning on the results of semantic segmentation of the 3D points of clouds - Grzegorz Gabara, Warsaw University of Technology

13:30 – 14:30 – LUNCH

14:30 – 15:30 - SESSION V /Presentations by the companies/

14:30 – 15:30 – WORKSHOPS part I

15:30-17:30 Session VI A – Geoinformation in Geology and Mining

Chairing: Piotr Gołuch, co-chairing Zbigniew Perski

1. Simplification of the geometry of mining chambers in the aspect of calculating deformation of the terrain - Joanna Bac-Bronowicz, Wrocław University of Technology, Andrzej Kwinta, University of Agriculture in Kraków
2. Monitoring of non-continuous deformations in Trzebinia with the application of TLS, ULS, ALS, InSAR and photogrammetry - Krzysztof Karwacki, Zbigniew Perski, Maria Przyłucka, Tomasz Wojciechowski, Rafał Sikora, Marcin Wódka, Sylwester Kamieniarz, State Geological Institute
3. Monitoring of vertical dislocations of terrain in the area of mining protective pillars based on LiDAR data and photogrammetric data - Grzegorz Jóźków, Wojciech Bzdok, Agata Walicka, Wojciech Sowa, Jan Kapton, University of Life Sciences in Wrocław
4. "EGMS European Ground Motion Service" products and applications of satellite SAR interferometry on a European scale Marek Mróz, University of Warmia and Mazury in Olsztyn, Michele Crosetto, Centre Tecnologic de Telecomunicacions de Catalunya, Lorenzo Solari, European Environment Agency

15:30 -17:30 Session VI B – Poster Session

Chairing: Urszula Marmol

FRIDAY 27/10/2023

QUBUS Hotel, Kraków, Nadwiślańska 6

9:00 – 11:00 Session VII A - Photogrammetry and Remote Sensing for Geoinformation /SESSION IN ENGLISH/

Chairing: Krzysztof Bakula, co-chairing: Roberto Pierdicca

1. Emission and air quality cadastre as a tool for sustainable development of urban areas
Agnieszka Cienciola, Politechnika Świętokrzyska, Agnieszka Bieda, Akademia Górniczo-Hutnicza w Krakowie, Kinga Szopińska, Politechnika Bydgoska, Jan K. Kazak, Uniwersytet Przyrodniczy we Wrocławiu
2. Measurement of terrain displacement on passive corner reflectors using Sentinel-1 data from ascending/descending orbits and its comparison to the Copernicus EGMS products on copper mining area
Natalia Kotulak, Magdalena Mleczo, Marek Mróz, Uniwersytet Warmiński – Mazurski w Olsztynie, Michele Crosetto, Riccardo Palamà, Centre Tecnologic de Telecomunicacions de Catalunya
3. Modern map without space technology. Is that possible?
Tetiana Fedoryshyn, Yosyp Hiletskyi, Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk
4. Modern Measurement and Cartographic Technologies in the Parametrisation of Anthropogenic Water Bodies – Focus on Przylasek Rusiecki in Krakow – Nowa Huta
Rafał Gawatkiewicz, Aleksandra Wagner, Akademia Górniczo-Hutnicza w Krakowie
5. Agroforestry Applications: Insights from the GAP Research Group
Eva Savina Malinverni, Mattia Balestra, Stefano Chiappini, Roberto Pierdicca, Università Politecnica delle Marche
6. Geomatics-Enabled Interdisciplinary Approach for Hydrological Risk Analysis and Management
Francesco Di Stefano, Stefano Chiappini, Marsia Sanità, Roberto Pierdicca, Eva Savina Malinverni, Università Politecnica delle Marche
7. UNet convolutional network on Spacenet public datasets for monitoring the surrounding area of Chan Chan (Peru)
Eva Savina Malinverni, Marsia Sanità, Roberto Pierdicca, Chicchón Apaza Miguel Angel, Francisco James León Trujillo, Francesca Colosi, Università Politecnica delle Marche

9:00 – 11:00 Session VII B – Maps in geoportals

Chairing: Dariusz Gotlib, co-chairing: Paweł Kowalski

1. System of class 3DCity GIS, Geoportal 3D with interactive city model Stanisław Biernat, infoSolutions sp. z o.o., Joanna Bac-Bronowicz, Wrocław University of Technology
2. Topographic visualisations in Geoportal - Paulina Bidzińska, Joanna Bac-Bronowicz, Wrocław University of Technology, Iwona Nakonieczna, Marshal Office of the Lower Silesia Voivodeship
3. Using webGIS environment in collecting and publication of data on war crimes and war victims in Ukraine - Nataliya Yarema, Dmytro Marchenko, Yuliia Holubinka, Mariana Yurkiv, Lviv Polytechnic National University, Paweł Kowalski, Warsaw University of Technology
4. Patternogram: new approach to recognising special autocorrelation - Jakub Nowosad, Adam Mickiewicz University in Poznań
5. Presentation of contest presentation and announcement of the results of the Contest <https://kartografia.pwr.edu.pl/konkurs-na-internetowa-mape-roku-2023/>
Paweł Kowalski, Warsaw University of Technology

9:00 – 11:00 Session VII C - Geoinformation in Precise Forestry

Chairing: Piotr Wężyk, co-chairing: Krzysztof Stereńczak

1. Geoinformation technologies in the assessment of vegetation cover of the reclaimed Sośnica Spoil Tip - Marta Szostak, Paweł Hawryło, Igor Pawelec, Bartłomiej Woś, Amisalu Milkias Misebo, Agnieszka Józefowska, Anna Klamerus-Iwan, Pranav Dev Singh, Marek Pająk, Marcin Pietrzykowski, University of Agriculture in Kraków, Edyta Sierka, Agnieszka Kompała-Bąba, University of Silesia in Katowice
2. Modelling of the probability of dying pine tree stands in changeable climatic conditions with the use of spatial data - Paweł Hawryło, Jarosław Socha, Luiza Tymińska-Czabańska, Paweł Netzel, University of Agriculture in Kraków, Piotr Janiec, Michał Woda, Office of Forest Management and Forest Surveying
3. Satellite monitoring Sentinel-2 (ESA) and PlanetScope Dove (Planet Labs) in the detection Poland Piotr Wężyk, Artur Golasz, Wojciech Krawczyk, University of Agriculture in Kraków, Polish Geographic Society
4. Possibilities of the application of low-cost laser scanner in the inventory of forest test plots - Michał Brach, Jakub Gąsior, Wiktor Tracz, Warsaw University of Life Sciences, Grzegorz Krok, Research Institute of Forestry
5. Technologies of remote sensing in the inventory of mistletoe (*Viscum album*), focus on the capital city of Warsaw - Łukasz Kwaśny, Warsaw University of Life Sciences
6. Good practices of the use of satellite remote sensing in forest management - Kamil Onoszko, Forestry Commission of Rajgród, State Forest Holding
7. Definition of the influence of the health state of the spruce (*Picea abies* H. Karst) tree stands on the results of LiDAR measurement of mission GEDI (NASA) in the Tatras - Wojciech Krawczyk, Piotr Wężyk, University of Agriculture in Kraków, Polish Geographic Society
8. The application of the airborne laser scanning in Polish forestry – from the studies to the implementation of the operational method - Krzysztof Stereńczak, Krzysztof Mitelsztedt, Bartłomiej Kraszewski, Sylwia Kurpiewska, Kacper Guderski Tomasz Hycza, Marek Lisańczuk, Research Institute of Forestry, Stanisław Miścicki, Warsaw University of Life Sciences

11:00 – 11:30 – COFFEE BREAK

11:30 – 12:30 –DISCUSSION PANEL / Geoinformation for All/ - Sponsors, invited guests

Chairing: Sławomir Mikrut

Panel participants: representatives of sponsor companies

12:30 - 13:30 –DISCUSSION PANEL / Geoinformation for All/ - Organizers - Committees

Chairing: Krystian Pyka

Panel Participants:

Krzysztof Bakula /PTFIT/

Marek Baranowski /PTG OK, PTIP/

Jacek Kozak /PAU/

Mieczysław Kunz /PTG OT/

Paweł Kowalski /SKP/

Zdzisław Kurczyński /KN IKG/

13:30 – 14:30 – CLOSING THE CONGRESS AND FINAL REMARKS

Closing Remarks of the Congress, announcement of the contest results and handing prizes for the best oral presentations and posters. Handing the prizes in SKP Contest - the Internet Map of 2023 and in the Contest for Young Scientists.

14:30 – 15:30 LUNCH

List of posters:

1. Long-term trends of satellite indexes of plant biomass in Poland (NDVI, EVI; MODIS, 2000-2022) and their potential conditions - Alfred Stach, Adam Mickiewicz University in Poznań
2. Use of UAV and UGV in getting visual materials in the studies of visual attractiveness of the landscape based on the tools of virtual reality (VR) - Marta Nalej, Maciej Adamiak, Katarzyna Leśniewska-Napierała, Tomasz Napierała, Anna Majchrowska, University of Lodz
3. The application of ALS data in volumetric analyses of the dynamics of the cliff coast in the Wolin Island - Marcin Winowski, Jacek Tylkowski, Adam Mickiewicz University in Poznań, Marcin Hojan, Casimir the Great University in Bydgoszcz
4. Management of information in post-industrial areas for the needs of transformation for the needs of their transformations in the context of residents' health, focus on the city of Warsaw - Agnieszka Zwirowicz-Rutkowska, Joanna Nowak da Costa, Military University of Technology, Andrzej Muczyński, University of Warmia and Mazury in Olsztyn
5. The well-being of the country will depend on the ability to geoinformation by the youth - Patrycja Przewoźna, Iwona Piotrowska, Adam Mickiewicz University in Poznań
6. The influence of greenery on the microclimate of contemporary cities: analysis of Satellite Data Landsat - Ewa Głowienka, Marcin Kucza, AGH University of Science and Technology in Krakow
7. The application of contemporary photogrammetric techniques in the inventory of historic monuments, focus on the Potockis Palace in Krzeszowice - Sławomir Mikrut, Katarzyna Smoter, AGH University of Science and Technology in Krakow
8. The application of the synthesis of satellite data Sentinel-1 and Sentinel-2 in making maps of changeable nitrogen fertilizing of winter rapeseed - M. Michalski, B. Buszke, R. Malinowski, M. Rybicki, M. Stankiewicz, Wasat, P. Turos, Topologic Consulting
9. The application of satellite remote sensing and geospatial analysis for the needs of marking the indicators of sustainable development - Przemysław Slesiński, Natalia Kotulak, University of Warmia and Mazury in Olsztyn, Statistical Office in Olsztyn
10. Identifying burnt areas and flood monitoring based on multi-spectral passive and microwave active remote sensing in tropical peatlands Magdalena Mleczeko, University of Exeter, Cornwall, UK, University of Warmia and Mazury, Karen Anderson, University of Exeter, Cornwall, UK, Marek Mróz, University of Warmia and Mazury, Teuntje Hollaar, University of Exeter, Exeter, UK, University of Exeter, Exeter, UK, Angela Gallego-Sala, University of Exeter, Exeter, UK, Claire Belcher, University of Exeter, Exeter, UK, Mark Edward Harrison, University of Exeter, Penryn, UK, Susan Page, University of Leicester, Leicester, UK, Darmae Nasir, University of Palangka Raya, Palangka Raya, Kitso Kusin, Palangka Raya University, Palangka Raya, Indonesia, Nomeritae, University of Palangka Raya, Palangka Raya, Rahmad Ade Arianto, University of Palangka Raya, Palangka Raya, Imron A. Muhammad, Universitas Gadjah Mada, Yogyakarta, Indonesia (IN ENGLISH)

11. Chmura TLS points as a data source for the needs of BIM in the aspect of the details of the model - Przemysław Kłapa, Bartosz Mitka, University of Agriculture in Kraków
12. The application of digital airborne photogrammetry and machine learning in the study and monitoring of an active landslide - Mirosław Kamiński, State Geological Institute
13. The application of satellite data in the analysis of thermal diversity of urban areas - Aleksandra Jasińska, Anna Malczewska, Karolina Pargieła, AGH University of Science and Technology in Krakow
14. Radiometric correction and its influence on marking the influence of vegetation indicators with the application of a drone - Piotr Kędziorski, Tomasz Oberski, Koszalin University of Technology.
15. Modelling of changes in the surface of the terrain caused by the mass movements with the application of remote sensing data and photogrammetric data - Krzysztof Karwacki, Tomasz Wojciechowski, Zbigniew Perski, State Geological Institute
16. Assessment of the availability of parking places for persons with disability in the Zone of Unguarded Paid Parking in Warsaw - Anna Fijałkowska, Warsaw University of Technology, Krzysztof Przybysz, Municipal Roads Authority in Warsaw
17. Analysis of the state of preservation of an object of cultural heritage based on multi-source and multitemporal data – case study - the Grodzka Tower of the Royal Castle in Warsaw - Jakub Markiewicz, Dorota Zawieska, Warsaw University of Technology, Agnieszka Bocheńska, Royal Castle in Warsaw, Patryk Kot, Liverpool John Moores University, Liverpool, UK
18. Comparison of selected network architectures in the semantic segmentation of selected construction elements of the photos from the UAV platform - Patryk Balak, Agnieszka Łysak, Kamil Choromański, Konrad Sosnowicz, Skysnap sp. z o.o, Krzysztof Bakula, Skysnap sp. z o.o, Warsaw University of Technology
19. System of multi-dimension and multitemporal monitoring of coastal zone with the application of unmanned water vehicle - Marta Włodarczyk-Sielicka, Marine Technology
20. Mobility of the society in forest areas - Mariusz Ciesielski, Agnieszka Kamińska, Miłosz Tkaczyk, Research Institute of Forestry, Karolina Taczanowska, University of Natural Resources and Life Sciences, Vienna
21. Systems of geographic information in education at universities in selected countries of Central Asia - Tolgonai Bozzhigit kyzy, Andrzej Kostrzewski, Mikołaj Majewski, Adam Mickiewicz University in Poznań
22. The application of photogrammetric data and lidar data in defining changes of green areas in cities - Natalia Borowiec, Urszula Marmol, AGH University of Science and Technology in Krakow
23. Lidar and photogrammetric data as data a source in making base of input images in visual perception - Urszula Marmol, Natalia Borowiec, AGH University of Science and Technology in Krakow
24. Method of the delimitation of forest areas with the application of data from airborne laser scanning, hyperspectral images and satellite images - Tomasz Hycza, Emilia Wysocka-Fijorek, Krzysztof Stereńczak, Research Institute of Forestry
25. Landscape colours of the Płock Powiat (district) from satellite perspective - Krzysztof Będkowski, University of Lodz, Urszula Kałużna, independent researcher

26. Modelling of historic environment based on geospatial data and GIS tools – case study of the Strytskyi Park in Lviv - Zoriana Kuzyk, Lviv Polytechnic National University, Jakub Markiewicz, Dorota Zawieska, Warsaw University of Technology
27. Maritime magnetometer in submarine archaeology - Izabela Bodus-Olkowska, Grzegorz Zaniewicz, Maritime University in Szczecin
28. Surface monitoring of glaciers in the region of the Argentine islands (Antarctic Peninsula) based on archival datasets - Khrystyna Marusazh, Lviv Polytechnic National University, Krzysztof Bakula, Warsaw University of Technology (IN ENGLISH)
29. Application of orthophotomaps created from UAV aerial images for monitoring historical and cultural heritage sites Borys Chetverikov, Lyubov Babiy, Andrii Malitskyy, Lviv Polytechnic National University, Sebastian Różycki, Warsaw University of Technology (IN ENGLISH)
30. Detecting changes in land cover using multitemporal optical data Sentinel-2 and platform Google Earth Engine - Alicja Rynkiewicz, Agata Hościło, Aneta Lewandowska, Anna Kończak, Institute of Geodesy and Cartography, Linda Aune-Lundberg, Anne B. Nilsen, Norwegian Institute of Bioeconomy Research, Norway
31. How the verification of reference data and the application of Digital Terrain Model influences the result of the land cover classification? Adam Waśniewski, Agata Hościło, Institute of Geodesy and Cartography, Linda Aune-Lundberg, Norwegian Institute of Bioeconomy Research
32. Challenge of data collection from Sentinel-1 and Sentinel-2 in BigData scale - architecture of the implementation OGC standard - Marcin Niemyjski, Jan Musiał, Jędrzej Bojanowski, CloudFerro
33. The review of optimization techniques of OGC services presenting BigData, focus on cloudless composition of Sentinel-2 - Michał Bojko, Marcin Niemyjski, Jędrzej Bojanowski, CloudFerro
34. Forecasting of the yield quantity of selected crops with the application of satellite observations - Piotr Wężyk, University of Agriculture in Kraków, ProGea 4D Sp. z o.o., Antoni Łabaj, SmallGIS Sp. z o.o., Wojciech Drzewiecki, AGH University of Science and Technology in Krakow, ProGea 4D Sp. z o.o., Jarosław Jasiewicz, Adam Mickiewicz University in Poznan, ProGea 4D Sp. z o.o., Cezary Kaźmierowski Adam Mickiewicz University in Poznan, ProGea 4D Sp. z o.o., Jan Piekarczyk , ProGea 4D Sp. z o.o., Sławomir Królewicz, Adam Mickiewicz University in Poznan, ProGea 4D Sp. z o.o., Mariusz Twardowski, AGH University of Science and Technology in Krakow
35. Monitoring of channel deformations of the Lower Dniester using topographic maps and satellite images with the use of GIS technologies Khrystyna Burshtynska, Nazar Hrytskiv, Iryna Zayats, Lviv Polytechnic National University, Anna Fijałkowska, Warsaw University of Technology (IN ENGLISH)
36. Quality assessment of grass-covered areas with the application of multispectral low ceiling remote sensing - Paweł Wiącek, Optidata sp z o.o. in Krakow, AGH University of Science and Technology in Krakow, Adam Radkowski, Optidata sp z o.o. in Krakow, University of Agriculture in Kraków, Marcin Tarasiuk, Optidata sp z o.o. in Krakow, Łukasz Jeleń, Optidata sp z o.o. in Krakow, Wrocław University of Technology, Piotr Ciskowski, Optidata sp z o.o. in Krakow, Wrocław University of Technology, Andrzej Rusiecki, Optidata sp z o.o. in Krakow, Wrocław University of Technology, Wojciech Drzewiecki, Optidata sp z o.o. in Krakow, AGH University of Science and Technology in Krakow, Konrad Kluwak, Optidata sp z o.o. in Krakow, Wrocław University of Technology
37. Machine learning in the modelling of spatial distribution and dynamics of understory - Wiktor Tracz, Warsaw University of Life Sciences

38. Greenery as visual advantage of a city - Kornelia Grzelka, Agnieszka Bieda, AGH University of Science and Technology in Krakow
39. Problems of the fusion of data from LiDAR and non-metric camera for the monitoring of coastal zone from the unmanned water vehicle - Ilona Garczyńska-Cyprysiak, Witold Kazimierski, Maritime University in Szczecin, Marta Włodarczyk-Sielicka, Marine Technology
40. Precise forestry – concept, present status and challenges for the future - Krzysztof Stereńczak, Research Institute of Forestry
41. The influence of meteorological elements on the changeability of NDVI in Polish Forests - Kinga Kulesza, Agata Hościło, Institute of Geodesy and Cartography
42. Enhancement of the resolution of Sentinel-2 images based on aerial orthophotomaps - Anna Malczewska, Wojciech Drzewiecki, AGH University of Science and Technology in Krakow, SmallGIS Sp. z o.o
43. Analysis of the availability of covered swimming pools in Krakow and the neighbouring communes - Ewa Dębińska, AGH University of Science and Technology in Krakow
44. Monitoring of the light pollution with the application of unmanned airborne platform - Katarzyna Bobkowska, Paweł Burdziakowski, Paweł Tysiąc, Gdansk University of Technology
45. The application of Geographic Information Systems in geodiversity assessment - Alicja Najwer, Adam Mickiewicz University in Poznań
46. Not only GML, i.e., alternative formats of coding spacial data - Paweł Soczewski, GISPartner
47. Stratospheric missions of the Tarnow Academy - Jakub Antosz, Jakub Chruszcz, Regina Arabik, Damian Pękała, Maciej Witek, Piotr Nowak, Piotr Jasielski, Piotr Moryl, Łukasz Ciężadło, Ewa Serafińska, Jacek Jasielski, Krzysztof Golonka, Eryk Lisowski, Sylwia Plata, Piotr Wojtanowski, Paulina Knapczyk, Robert Wielgat, Wojciech Żyłka, Tarnow Academy
48. PyLiGram - lidar data processing tool based on photogrammetric methods - Antoni Rzonca, Mariusz Twardowski, AGH University of Science and Technology in Krakow
49. Marking the edges of trenches for the needs of the integration of grounds - Izabela Basista, Kamil Maciuk, AGH University of Science and Technology in Krakow, Łukasz Borowski, University of Agriculture in Kraków
50. The application photos CORONA and Landsat in the analysis of landcover changes in 1969-2022 with methods of machine learning - Joanna Pluto-Kossakowska, Warsaw University of Technology, Aleksandra Wasik, Institute of Geodesy and Cartography, Katarzyna Ostapowicz, Norwegian Institute for Nature Research
51. Proposal of the algorithms of automatic analysis of window views, based on 3D models of urban areas - Kamil Grudzień, KPGeo Sp. z o.o., Piotr Cichociński, AGH University of Science and Technology in Krakow
52. The application of the integration of TLS and UAV data in the modelling of specific objects szczególnych
Bogusława Kwoczyńska, Paweł Gudź, University of Agriculture in Krakow
53. Analysis of the possibilities to use photogrammetric date in the inventory of the St. Mary's Assumption Church in Biórków Wielki
Izabela Piech, University of Agriculture in Krakow
54. The application of geoinformation programs in geospatial analyses, focus on Łuska Bystrego (Outer Carpathia flysch)
Zbigniew Ziarek, Jakub Andrzejak, Hanna Edelmüller, AGH-UST in Krakow
55. Comparative analysis of terrestrial results on humidity with the processed data from UAV and Sentinel-1 – case study
Szymon Sobura, Kielce University of Technology, Beata Hejmanowska, AGH-UST in Krakow

56. The RGB and multispectral images obtained by unmanned airborne vehicles in the assessment of damage caused by boars in maize Barbara Dobosz, Dariusz Gozdowski, Elżbieta Wójcik-Gront, Szkoła Główna Gospodarstwa Wiejskiego w Warszawie, Jerzy Koronczok, Agrocom Polska, Jan Žukovskis, Vytautas Magnus University, Lithuania

57. Linear and spatial economic relationships between centres of close and far distance trade in early Middle Ages, focus on the area of Carpathia in the light of the newest geoinformatic studies. Cyryl Konstantinowski Puntos- Jagiellonian University

58. The assessment of the application of satellite temperature data and spectral indicators in studying the city microclimate. Ewa Głowienka, Bartłomiej Rój - AGH-UST in Krakow, Krystyna Michałowska – Gdansk University of Technology/ University of Agriculture in Kraków

59. Analysis of the reliability of Sentinel-2 image classification to detect mining excavations Beata Hejmanowska - AGH-UST in Krakow, Krystyna Michałowska - Gdansk University of Technology/ University of Agriculture in Kraków Ewa Głowienka, Piotr Kramarczyk - AGH-UST in Krakow

60. Integration of Remote Sensing Data for Control in the System of Direct Agricultural Subsidies (IACS). Beata Hejmanowska - AGH-UST in Krakow (IN ENGLISH)

61. Radiometric Calibration in the Multivariate Method of Mining Excavation Detection Krystyna Michałowska - Gdansk University of Technology/ University of Agriculture in Kraków, Tomasz Pirowski, Ewa Głowienka - AGH-UST in Krakow (IN ENGLISH)

62. Identification of tree canopy in high resolution satellite images. Stanisław Łażewski, Antoni Jamiołkowski, Anna Fiedukowicz, QED Software Sp. z o.o, Jacek Chojnacki, Jędrzej Bojanowski - CloudFerro

Exhibitions and Workshops

In the framework of the Congress there will be thematic workshops:

LiMON Software

1. Workshops on LiMON:
 - Loading point clouds, 3D models (CityGML, IFC, OBJ), options of their display, setting applications and recording the project.
 - Integration with ULDK
 - Integration with WMS data
 - Sections, measurements and markers.
 - Module of documents.
 - Export of point clouds, transformation of clouds between systems.
 - Cutout cube.
 - Manual classification of point clouds LiMON Editor
2. Practical applications of LiMON software:
 - LiMON – analysis of changes in a selected area over the years;
 - LiMON – application in urban planning – mean height of buildings, maximum height of buildings, slope angle of roofs:

Company: Geotronics-Dystrybucja

"How modern technologies change the work of surveyors"

The workshop on the use of modern technologies in the surveyors' work and advantages brought by the application of subsequent solutions in specific tasks. The users will see in what kind of work various models of drones can be applied and what advantages it brings compared to classical measurements. We will also work on various variations of laser scanning, such as stationary scanning allowing the projection of reality with millimetre precision, SLAM scanning, combining quickness and precision of the measurement and mobile scanning, allowing the measurements of the roads several dozens of kilometres long in only an hour. During workshops it will be possible to learn the examples of applying these technologies and try some of these tools.

Company: CloudFerro

" CloudFerro Technologies "

The workshops are addressed to people interested in issues connected with storing and processing large datasets, as well as those who would like to know the bases of EODATA and use the cloud environment. The participants will have the opportunity to learn how to use the graphic panel of the CloudFerro, which enables us to manage cloud resources. After finishing the workshops the participants will be able to manage the machines, get access to them, review the repositorium of EODATA and data processing in a friendly cloud environment. The whole workshop will be carried out by experts of the CloudFerro company.

Company: NAVIGATE

„Automatic process of processing LIDAR data obtained with UAV”

NaviGate, Gold Partner of DJI Enterprise, will present the newest solutions allowing the collection of 3D data. During workshops the premier scanner LiDAR: DJIZenmuse L2 will be presented. This is a revolutionary tool in scanning with the use of an unmanned airborne vehicle. The whole programme will be supplemented by the presentation of an automatic process of the processing LiDAR data from drones. Application for the workshops will be held at the reception of the Congress. In case of a higher interest several sessions of the workshops will be held.

More information at the Congress website - <http://kongres-geo.pl>

Scientific Committee

Professor Zdzisław Kurczyński, Ph.D. Sc., Eng.	President of the Committee Polish Society of Photogrammetry and Remote Sensing, Warsaw University of Technology
Joanna Bac-Bronowicz, Ph.D. Sc., Eng., Professor of PWR	Association of Polish Cartographers , Wrocław University of Science and Technology
Professor Aleksandra Bujakiewicz, Ph.D. Sc., Eng.	Polish Society of Photogrammetry and Remote Sensing, Warsaw University of Technology
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Professor Beata Hejmanowska, Ph.D. Sc., Eng.	Polish Society of Photogrammetry and Remote Sensing, AGH University of Science and Technology

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Dorota Zawieska, Ph.D. Sc., Eng.	Polish Society of Photogrammetry and Remote Sensing, Warsaw University of Technology
Agnieszka Zwirowicz-Rutkowska, Ph.D. Sc., Eng.	Polish Society of Spatial Information, Military Technical University in Warsaw

Steering Committee

Joanna Bac-Bronowicz, Ph.D. Sc., Eng., Professor of PWR	Association of Polish Cartographers
Krzysztof Bakula, Ph.D., Eng.	Polish Society of Photogrammetry and Remote Sensing
Marek Baranowski, Ph.D. Sc., Professor of IGiK	Association of Polish Surveyors
Professor Jacek Kozak, Ph.D. Sc.	Polish Geographic Society – Cartographic Section
Mieczysław Kunz, Ph.D. Sc., Professor of UMK	Polish Society of Spatial Information
	Polish Academy of Arts and Sciences – Commission of Geoinformatics
	Polish Geographic Society - Section of Remote Sensing

Organizing Committee

Sławomir Mikrut, Ph.D. Sc., Eng., Professor of AGH	Chairperson of the Organizing Committee -Polish Society of Photogrammetry and Remote Sensing
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Urszula Marmol, Ph.D. Sc., Professor of AGH

Ewa Głowienka, Ph.D., Eng.

Kazimierz Bujakowski, Ph.D., Eng.

Wojciech Drzewiecki, Ph.D., Eng.

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Aleksandra Wagner, Ph. D.

Piotr Wężyk, Ph.D. Sc., Eng., Professor of URK

Polish Geographic Society - Section of Remote Sensing, AGH University of Science and Technology

Vice-Chairperson of the Organizing Committee - AGH University of Science and Technology
Secretary - AGH University of Science and Technology

Polish Society of Spatial Information

AGH University of Science and Technology

Polish Geographic Society - Cartographic Section

AGH University of Science and Technology

Polish Society of Photogrammetry and Remote Sensing

Association of Polish Surveyors – Board

Polish Academy of Arts and Sciences –

Commission of Geoinformatics

Association of Polish Cartographers

Association of Polish Surveyors

AGH University of Science and Technology

AGH University of Science and Technology

Polish Geographic Society – Section of Remote Sensing

The Place of the Congress

Qubus Hotel Kraków, address: ul. Nadwiślańska 6, 30-527 Kraków

Fees

Fee for the participation in the Symposium:

- by 30th June 2023 – PLN 950 + VAT

- after 30th June 2023 – PLN 1150 + VAT

- after 12th October 2023 – PLN 1450 + VAT

- Ph.D. students, graduate and undergraduate students and retired academic staff – PLN 500 + VAT, with the possibility of waiver from VAT

The fee includes:

- participation in Symposium in 25 –27th October 2023

- conference materials

- formal dinner on 25th October (Wednesday) 2023 in QUBUS hotel

The fee does not include theatre tickets and selected excursions proposed by the organizers on the Congress website.

The fee does not include accommodation. There is a possibility to book a room in Qubus hotel for PLN 400 (single) and/or PLN 500 (double) – while booking, please give the password: "IKG 2023 AGH".

There will be a possibility to participate in planned for the second day visit to the Bagatela theatre (the approximate estimated cost is PLN 150, but final cost will depend on the number of participants). On the Congress website the proposals of the hotels in various standards are given with the preliminary block of booking for the participants of Symposium.

The fee should be paid for the following account ZG SGP:

mBank account: 14 1140 0026 0000 3522 2900 1015 with the note: **I KG 2023 - Your Name**

The number of participants is limited – the order of applications will decide about the admission.

Contact with the Organizing Committee

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Ewa Głowienka, Ph.D., Eng - Secretary

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Map of the location of the Congress

In the map suggested means of transport (double digits)

Inexpensive and reliable taxis

Dwójki tel. 12 19622

Itaxi tel. 737 737 737

EcoTaxi tel. 12 644 2222

Access from the Railway Station

