

7th



**European Meeting
on 3D Geological Modelling**
New frontiers and challenges
in geomodelling

**8–11.04.
2025**

PROGRAM



Warsaw, Poland



**Polish Geological Institute
National Research Institute**



**NATIONAL FUND
FOR ENVIRONMENTAL PROTECTION
AND WATER MANAGEMENT**

Organizer:



**Polish Geological Institute
National Research Institute**

**Polish Geological
Survey**

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Partners:



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Dear Colleagues,

Over the past years, GSOs proofed their modelling capabilities in various geoscientific fields while applying different modelling methods. In addition, many initiatives from academia or GSOs have been dealing with the development of new software tools and modelling approaches to improve and simplify 3D modelling. As GSOs are now able to produce high-quality 3D geological models, the next steps should be addressed. Most importantly: How to add value to the models and how to integrate them into an overall lifecycle of GSOs' strategies, project initiation, execution, outputs and impact? GSOs need to concentrate on this topic, if we want our models to benefit stakeholders and the society at large. We thus wish us all to have a fruitful and inspiring meeting discussing those (and any other) themes.

Sincerely, on behalf of the organizing team,

Ewa Szykaruk

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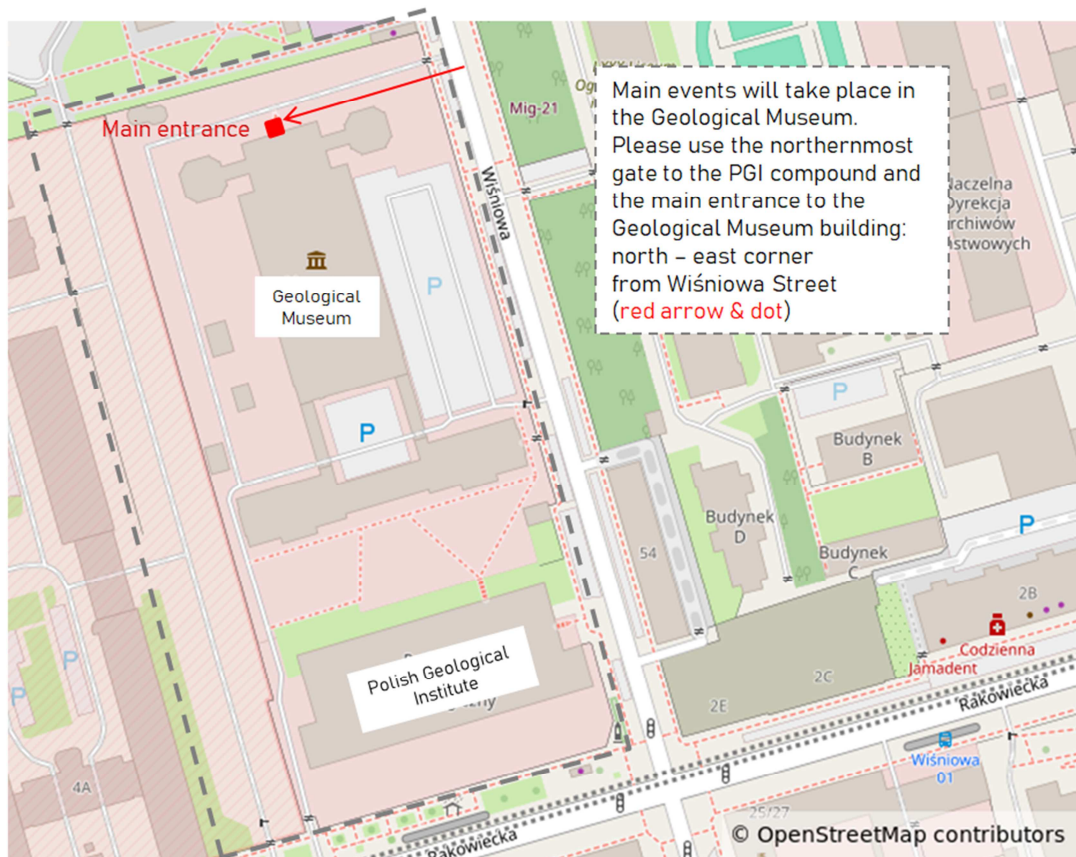
GENERAL INFORMATION

Keep updated at:

<https://konferencje.pgi.gov.pl/pl/3d-geomodelling-2025>

Venue

Polish Geological Institute – National Research Institute
Rakowiecka 4, 00-975 Warsaw, Poland



Date:

8th April: field trip to Holy Cross Mountains & icebreaker event

9th-11th April: conference

Orientation:

Please refer to the separate **Events** document for locations of other events.

Travel: Warsaw airport as well as Central Train Station is only ca. 20 min from the city centre & Polish Geological Institute by bus, train or taxi. You can plan your route via: <https://jakdojade.pl/warszawa>

Public transport in Warsaw is generally well-organized, timely (as long as you avoid buses at rush hours) and inexpensive. Tickets are available from ticket-machines installed at many bus/tram stops, in metro stations and onboard trams & buses (onboard machines accept card payments only, drivers do not sell tickets). Tickets can also be purchased in jakdojade.pl android app, which is as well handy for planning your route.

Please note that the Rakowiecka street between Puławska and Aleje Niepodległości is currently a construction site for the new tramline, so there is very limited traffic. Please let us know if you plan to arrive by car, so we could advice you on the current access options.

Card payment is accepted almost everywhere no matter how little you want to spend (including at many street vendors selling vegetables and alike) so you might not need cash at all. Otherwise cash machines are numerous and you can also withdraw cash in a Żabka (6-23 convenience stores located at almost every block) as long as you also buy any item at the time.

INFORMATION FOR PRESENTERS

Country updates:

3 min, max. 3 slides per country (Wednesday 9th April, ca. 9:45-11:00 hrs), screen format 16/9, please focus on the future rather than the history of your organization in the area of 3D geomodelling.

Posters:

1 min, 1 slide per poster for oral presentation at the poster madness session (Wednesday 9th April, 11:30-12:00 hrs), screen format 16/9, please briefly introduce your poster to the audience.

Posters themselves shall be vertical outlay and measure max. 70 width x 100 height cm (a bit more than A1 page size, but less than A0). Please print your poster and bring it with you to the meeting. Fixing your poster will be possible from Wednesday morning, preferably during registration. Afterwards posters will be on display for the entire duration of the meeting.

Oral sessions:

12 min + 3 min for questions per talk (sessions on Thursday and Friday 10-11 April), screen format 16/9; please aim to include not more than 15 slides.

Software demonstrations:

15 min presentation of each software, regular presentation or hands-on live demo, screen format 16/9.

Please mail your slides (preferred format .ppt or .pptx but we can accommodate others) to:

Konrad.Swierczewski@pgi.gov.pl and Zbigniew.Malolepszy@pgi.gov.pl (cc) by the **3rd of April** at the latest.

GENERAL PROGRAM

	April, 8 Tue	April, 9 Wed	April, 10 Thu	April, 11 Fri
6:30-7:30	Field trip start 7:30	wake-up walk birdwatching	wake-up walk birdwatching	wake-up run
8:00-8:30	Full day field trip Holy Cross Mountains Leaders: Piotr Szrek, Mirosław Ludwiniak	coffee and registration (main Museum hall)	coffee (main Museum hall)	coffee (main Museum hall)
8:30-9:00				
9:00-11:00		official introduction & welcome (room 15)	session "Communicating geological models (including visualization)" (room 15)	sessions "Novel methodologies and approaches to geomodelling" and "New challenges and solutions in geomodelling for clean, efficient and at-scale energy systems and mining" (room 15)
		country updates (room 15)		
11:00-11:30		coffee & cake (main Museum hall)	coffee & cake (main Museum hall)	coffee & cake (main Museum hall)
11:30-13:00		poster madness (room 15) poster session + networking/PGI museum tour (main Museum hall)	session "New challenges and solutions in geomodelling for meeting civil society needs" (room 15)	session "Communicating and justifying a need for basic, general-purpose geomodelling" +thanks, summing up & outlook (room 15)
13:00-14:00		lunch (main Museum hall)	lunch (main Museum hall)	lunch (main Museum hall)
14:00-15:30		city tour (in the city centre, ending at the dinner place)	Introduction (room 15) & discussions in breakout groups (rooms 15, Morozewicza, Czarnockiego, Library) summing up (room 15)	
15:30-16:30			coffee, cake, networking, software demonstrations (main hall & room 15)	
16:30-18:00	session "New challenges and solutions in urban geology modelling" (room 15)			
18:00-21:00	Icebreaker (main Museum hall)	shared-cost dinner (DOCK 19 Elektrownia Powiśle)	conference dinner (main Museum hall)	

DETAILED PROGRAM

Wednesday, 9th April 2025

6:30 – 7:30	Wake-up walk – birdwatching leader: Tomasz Gogołek	Mokotów Field
8:00 – 9:00	Registration & Coffee	Main Museum hall
Time	Title	Presenter
		Room

Introduction & welcome

9:00 – 9:45	Introduction by the conference organizer	15
	Welcome by Director of the Polish Geological Institute	

Country Updates

chair: Abigail Burt

9:45 – 11:00	Belgium	Jan WALSTRA	15
	Canada	Abigail BURT	
	Czech Republic	Jan FRANĚK	
	Denmark	Anne-Sophie HØYER	
	Estonia	Tavo ANI	
	France	Philippe CALCAGNO	
	Germany	Rouwen LEHNÉ	
	Hungary	Gábor Hercules HÉJA	
	Iceland	Maria Helga GUDMUNDSDOTTIR	
	Ireland	Beatriz MOZO LOPEZ	
	Italy	Chiara D'AMBROGI	
	Poland	Ewa SZYNKARUK	
	Romania	Anca VIJDEA	
	Slovenia	David GERČAR	
	Sweden	Eva WENDELIN	
	Switzerland	Eva KURMANN	
	The Netherlands	Denise MALJERS	
	United Kingdom	Stephen THORPE	
	United States	Jason THOMASON	
	Uzbekistan	Shokir AKHMADOV	
11:00 – 11:30	coffee break		Main Museum hall

Poster madness
chair: Rouwen Lehnè

11:30 – 12:00	<i>Posters: Communicating geological models (including visualization)</i>		15
	To be or not to be findable – results of the first stage of the GSEU 3D geomodels inventory	Urszula STĘPIEŃ	
	Spatial maps of a potential salt pillow in the Złotów area	Patryk BLADUSIAK	
	Strategies for Enhancing Communication and Visualization of 3D Geological Models adopted at the Servizio Geologico d'Italia - ISPRA (SGI)	Patrizio PETRICCA	
	Utilizing Modern 3D Visualization Techniques for Communicating Geological Models	Heidrun Louise STÜCK	
	Cookie-cutting 3D Geological Models	Marianne B. WIESE	
	3D model of Intrasedimentary Synclinorium (SW Poland) for use in geothermal prospecting and modelling	Michał SŁOTWIŃSKI	
	Web-based 3-D geological model viewers for open viewing accessibility: Case study for southern Ontario, Canada	Zbigniew MAŁOLEPSZY	
	<i>Posters: New challenges and solutions in geomodelling for meeting civil society needs</i>		
	3D modelling for subsurface policy needs	Helga FERKET	
	A 3D Geological Model of the Morsleben repository in Germany: Modelling complex intra-salt deformation	Manuela C. STEHLE	
	<i>Posters: New challenges and solutions in urban geology modelling</i>		
	Evaluation of anthropogenic transformation of urbanized areas based on archival topographic maps and its impact on modeling of geological structure	Aneta HORBOWICZ	
	<i>Posters: Novel methodologies and approaches to geomodelling</i>		
	Uncertainties in geological 3D-models - a challenge in the search for a repository for HLW disposal in Germany	Dr. Ute MAURER-RURACK	
	Testing tTEM capabilities for geological mapping in Estonia	Tavo ANI	
	<i>Posters: New challenges and solutions in geomodelling for clean, efficient and at-scale energy systems and mining</i>		
	Integration of geoinformation systems into geological exploration works on the example of Kokpatas ore field	Shokir AKHMADOV	
	Capabilities of Empirical Kriging 3D and IDW 3D Analyses in ArcGIS Pro Software for Creating Three-Dimensional Models of Uranium Ore Deposits	Akram GOIPOV	
	Three-dimensional analysis of GIS layers of the project their advantages in the allocation of preliminary forecast areas of Mount Bukatau	Zainiddinkhon MUSAKHONOV	
	Challenges of 3D geological and geothermal models of the northeastern Slovenia (Pannonian Basin)	David GERČAR	
	<i>Posters: Communicating and justifying a need for basic, general-purpose geomodelling</i>		

	Enhancing 3D geological models: Regional geological mapping with planned 2D seismic survey in Brandenburg	Sebastian WEINERT	
	Regional structural models – challenges and limitations. An example from Szczecin Trough (NW Poland)	Michał MICHNA	
	Harmonization of 3D models in poor exploratory scenarios based on the integration of geological, gravimetric, petrophysical and seismic data; a case study in the Southwestern Pyrenees	Emilio PUEYO	
	Building a Lithotectonic Framework for Belgium	Jan WALSTRA	

12:00 – 13:00	Poster session, networking, PGI Museum tour Museum tour guide: Marlena Świto	Main Museum hall
13:00 – 14:00	Lunch	Main Museum hall
14:00 – 18:00	City tour	Starts at venue
18:00 – ca. 21:00	Shared-cost dinner	DOCK 19

Thursday, 10th April 2025

6:30–7:30	Wake-up walk – birdwatching leader: Tomasz Gogótek	Mokotów Field
8:00–8:30	coffee	Main Museum hall

Session: Communicating geological models (including visualization) chair: Zbigniew Małolepszy

Time	Title	Presenter	Room
8:30 – 8:45	Juggling the challenges of 3D Modelling	Steve THORPE	15
8:45 – 9:00	Effectiveness of interactive 3D viewers on stakeholders' understanding and communication of geology	Jason THOMASON	
9:00 – 9:15	visualkarsys.com, a webtool for building and communicating 3D geological models	Arnauld MALARD	
9:15 – 9:30	How Data Management and Services help to share 3d Models across Systems	Paul GABRIEL	
9:30 – 9:45	Expanding the Reach of Geo3D Geological Model Viewer	Steve THORPE	
9:45 – 10:00	short break		
10:00 – 10:15	Web-Based Visualization of Live 3D Earthquake Data	Sascha GÖRNE	

10:15 - 10:30	Making the Invisible Visible: Challenges in Visualising and Communicating 3D Geological Models	Eva KURMANN	
10:30 - 10:45	3D Geological Map of Gothenburg to support Underground Planning	Eva WENDELIN	
11:00 - 11:30	coffee break		Main Museum hall

Session: New challenges and solutions in geomodelling for meeting civil society needs
chairs: Denise Maljers & Rouwen Lehnè

Time	Title	Presenter	Room
11:30 - 11:45	The use of geological models in practice	Erik HESKES	15
11:45 - 12:00	How to use a 3D geological voxel model to answer societal questions	Romée KARS	
12:00 - 12:15	Survey-Client Collaboration - Ripples in a Pond	Abigail BURT	
12:15 - 12:30	Applications of the 3D subsurface model of Mecklenburg-Western Pomerania (NE Germany)	Karsten OBST	
12:30 - 12:45	3D modelling of the Cenozoic groundwater resources of Mecklenburg-Western-Pomerania (NE Germany)	Christoph JAHNKE	
12:45 - 13:00	Hydrogeological model of the Upper Silesian Coal Basin to assess the impact of mining activities on groundwater	Zbigniew MAŁOLEPSZY	
13:00 - 14:00	lunch		Main Museum hall

Discussions in 4 break-out groups
chairs: Abigail Burt, Zbigniew Małolepszy, Jan Franěk, Sascha Görne

14:00 - 14:20	Introduction of break-out themes		15
14:20 - 15:10	Discussions in 4 break-out groups: Communication & visualization, chair: Abigail Burt, Civil society requirements, chair: Zbigniew Małolepszy, Uncertainties in geomodelling, chair: Jan Franěk, Transition from basin modelling to crystalline terrains modelling (including for CRMs), chair: Sascha Görne		Czarnoc- kiego, 15, Morozew- icza, Library
15:10 - 15:30	Summing up		15
15:30 - 16:30	Software demonstrations & coffee, cake, networking		15 & Main Museum hall
15:30 - 15:45	Bogdanka coal mine	Dawid MÓL	15
15:45 - 16:00	GIGA-Infosystems	Paul GABRIEL	15

16:00 - 16:15	I-GIS	Niels-Peter JENSEN	15
16:15 - 16:30	visualkarsys	Arnauld MALARD	Main Museum hall

Session: New challenges and solutions in urban geology modelling

chairs: Jeroen Schokker & Tom Van Haren

Time	Title	Presenter	Room
16:30 - 16:45	Urban geology and three-dimensional (3D) city models: a symbiotic relationship	Rouwen LEHNÈ	15
16:45 - 17:00	Modelling anthropogenic disturbance in the Brussels Periphery	Roel DE KONINCK	
17:00 - 17:15	Improved representation of anthropogenic deposits in a nationwide 3D geological subsurface model	Jeroen SCHOKKER	
17:15 - 17:30	Incorporation of geological models into BIM approach	Zdeněk RUDOVSKÝ	
17:30 - 17:45	Shallow geothermal energy potential 3D modeling in PGI-NRI	Grzegorz RYŻYŃSKI	
18:00 - 21:00	Conference dinner		Main Museum hall

Friday, 12th April 2025

6:30-7:30	Wake-up run in Royal Łazienki Park Leader: Marta Szlasa	Starts at Hotel Reytan
8:00 - 8:30	coffee	Main Museum hall

Session: "Novel methodologies and approaches to geomodelling

chairs: Philippe Calcagno & Dominik Szrek

Time	Title	Presenter	Room
8:30 - 8:45	A Knowledge-Driven Method to Improve Efficiency and Accuracy in High-Resolution TEM Data Interpretation	Don KEEFER	15
8:45 - 9:00	Integrating Geological Priors into Probabilistic Geophysical Inversion for Enhanced Subsurface Modelling	Anne-Sophie HØYER	
9:00 - 9:15	A probabilistic 3D voxel modeling framework for integration of multiple data sources	Thomas HØJLAND LORENTZEN	
9:15 - 9:30	Mapping seabed-sediments in the Dutch North Sea with Artificial Intelligence	Willem DABEKAUSSEN	

9:30 - 9:45	Geological modeling in QGIS: initial results and pending challenges to address	Simon LOPEZ	
9:45 - 10:00	short break		
10:00 - 10:15	Shallow modelling: squeezing more out of imperfect borehole and outcrop data	Lance REYNOLDS	
10:15 - 10:30	A Collaborative Platform for Large-Scale 3D Geological Modeling	Niels-Peter JENSEN	
Session: New challenges and solutions in geomodelling for clean, efficient and at-scale energy systems and mining chairs: Philippe Calcagno & Dominik Szrek			
10:30 - 10:45	Establishing a nation-wide 3D geological model of Denmark: a key enabler for geothermal energy, carbon capture storage, and natural hydrogen exploration	Florian W.H. SMIT	
10:45 - 11:00	Optimal methods of three-dimensional calculation of reserves of gold ore deposits Bulutkan by different cut-off grades	Jakhongir BEKCHANOV	
11:00 - 11:30	coffee break		
			Main Museum hall

Session: Communicating and justifying a need for basic, general-purpose geomodelling
chair: Anne-Sophie Høyer

11:30 - 11:45	What should be taught in a 3D geological modelling course?	Joseph PAWSON	15
11:45 - 12:00	Towards an integrated framework model of the Dutch subsurface	Jan STAFLEU	
12:00 - 12:15	General-purpose 3D geological models in Italy: the new "dimension" of the Geological map of Italy at 1:50,000 scale	Chiara, D'AMBROGI	

Summing up and closing remarks

12:15 - 12:30	Mentimeter	Anne-Sophie Høyer, Denise Maljers & All	
12:30 - 12:45	GeoAwards Lottery	Awards winners & Meeting Organizers	
12:45 - 13:00	Thanks, summing up, outlook	Meeting Organizers	
13:00 - 14:00	lunch		Main Museum hall



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