

**EAGE**

CONFERENCE & EXHIBITION

# NEAR SURFACE GEOSCIENCE'20

30 AUGUST - 3 SEPTEMBER 2020 | BELGRADE | SERBIA

26<sup>th</sup>

European Meeting of  
Environmental and  
Engineering Geophysics

4<sup>th</sup>

Applied Shallow Marine  
Geophysics Conference

3<sup>rd</sup>

Conference on Geophysics  
for Mineral Exploration  
and Mining

## FIRST ANNOUNCEMENT



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#NSG2020   

# WELCOME TO THE NEAR SURFACE GEOSCIENCE CONFERENCE & EXHIBITION 2020

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Environmental and  
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Applied Shallow Marine  
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Conference on  
Geophysics for Mineral  
Exploration and Mining

## About the event

For this year's Near Surface Geoscience Conference & Exhibition, the 26<sup>th</sup> European Meeting of Environmental and Engineering Geophysics will be accompanied by two returning successful conferences, the 4<sup>th</sup> Applied Shallow Marine Geophysics Conference and the 3<sup>rd</sup> Conference on Geophysics for Mineral Exploration & Mining. Through this innovative combination, NSG2020 will:

- Provide insight into emerging geophysical techniques for mineral exploration and discuss the state-of-the-art in characterizing the shallow subsurface in aquatic settings;
- Offer three world class technical programmes in the near surface field for the price of one;
- Bring together the most innovative companies working in the near surface industry in our growing exhibition;
- Offer incredible networking opportunities through our delightful social programme, including our **Welcome Reception** in the Exhibition and **Conference Evening** at an impressive, local and traditional venue.

### FACTS

#### DATE

30 AUGUST - 3 SEPTEMBER 2020

#### VENUE

CROWNE PLAZA HOTEL  
BELGRADE,  
SERBIA

#### EXPECTED ATTENDANCE

500-550

#### EXPECTED EXHIBITORS

45

## Welcome



"On behalf of the Near Surface Geoscience Division I invite you to attend the Near Surface Geoscience Conference and Exhibition 2020, in Belgrade (30 August-3 September 2020). The great increase of EAGE members affiliated to our Division (1995: 295 members from 32 countries – 2018: 8200 members

from more than 100 countries), the various projects (mining, geotechnical, environmental, archaeological, agricultural, shallow marine, geothermal, etc.), and the EU Programme calls related to geophysical research for use to the previous projects, all lead to the continuous improvement of the Near Surface Geoscience Conference and Exhibition.

Since 2014 in Athens, the Near Surface Geoscience Conference and Exhibition includes not only the Meeting of Environmental and Engineering Geophysics, but also parallel conferences on hot topics. This format has given us the opportunity to better show the collaboration of geoscientists and engineers in an integrated manner.

In 2020 we will build on the "26<sup>th</sup> Meeting of Environmental and Engineering Geophysics", a conference that has been for years the reference point in topics and quality worldwide, and the parallel conferences "3<sup>rd</sup> Conference on Geophysics for Mineral Exploration & Mining", and the "4<sup>th</sup> Applied Shallow Marine Geophysics Conference". The aforementioned focused topics have a high level of research activity and interest in Europe (especially in the Balkan area) but also in other parts of the world, as proved by the recent success and global presence at these parallel conferences in Porto in 2018.

We will be hosting, as usual, a fantastic array of workshops and field trips. Finally, commercial exhibitors will introduce you to the latest offerings in geophysical equipment, technology and services related to the topics of the meeting.

The Near Surface Geoscience Division and I look forward to welcoming you in Belgrade. I hope that you will join us to present your work, attend a great variety of sessions, network with leading professionals from around the world, and share your experiences with friends, old and new. Belgrade, with its ancient culture and modern outlook, will serve as the perfect backdrop for this. See you there!"

### George Apostolopoulos

Chair, Near Surface Geoscience Division

## Technical Programme

Technical programme includes plenary talks, oral and poster sessions within the following three conferences taking place as parallel programs in the same venue. The conferences have their own technical program and they are focused on colleagues specialized in the specific conference topics. The combination of conferences offers participants from different disciplines a chance to follow the technical programme specialized in their area of expertise whilst also being exposed to the other disciplines.

### Conference Overview

Sunday	Workshops
Monday	Conference & Exhibition Welcome Reception
Tuesday	Conference & Exhibition Field Demonstrations Conference Evening
Wednesday	Conference & Exhibition
Thursday	Field Trips

### Workshops and field trips

Near Surface Geoscience 2020 will offer several workshops and field trips.

The following workshops are scheduled on Sunday 30<sup>th</sup> August:

- **WS1 - 2D and 3D Seismic Data Processing focused on the Near Surface**
- **WS2 - MASW Workshop**
- **WS3 - Sustainable Development in the Modern Mineral Resource Industry - Balkan Case**
- **WS4 - The Best of 2020 Mineral Exploration Geophysics**

Why not attend a field trip to complement your time in Belgrade? The following field trips are planned:

- **FT1 - Geoscientists at Walk - Witchery of The Old Fortress**  
(Thursday 3 September)
- **FT2 - Western Serbia – A Never-Ending Story**  
(Thursday 3 - Friday 4 September)

For more details and full descriptions of the workshops and field trips, make sure to check the website ([www.NSG2020.org](http://www.NSG2020.org)).



The Ottoman Mehmed Pasa Sokolovic Bridge in Visegrad (FT2 - Western Serbia – A Never Ending Story)





## Exhibition and Sponsoring

Near Surface Geoscience 2020 will include an exhibition that will enable you to network with key international companies from the Near Surface Geoscience industry. Here you will be able to witness the latest developments, newest technologies, and innovative services. Besides the exhibition, Near Surface Geoscience 2020 will offer a wide variety of sponsoring opportunities. As a sponsor, you will have dedicated exposure at the event.

### Field Demonstrations

EAGE offers exhibitors the opportunity to showcase their products live at the conference venue. For more information about this increasingly-popular event, please contact the exhibition team.

If you are interested in participating at this event as an exhibitor or sponsor, please refer to the EAGE website or contact us at [exhibition@eage.org](mailto:exhibition@eage.org).

## Venue

Formerly known as the Intercontinental Hotel Belgrade, the Crowne Plaza is one of the most prestigious hotels in Belgrade. The hotel is located at the Novi Beograd business "Glass" district, and has a good public transport connection to downtown, Belgrade Arena and Merkator.



## About Belgrade

Outspoken, adventurous, proud and audacious: Belgrade ('White City') is by no means a 'pretty' capital, but its up-beat energy makes it one of Europe's most famous cities. Belgrade is well connected by air worldwide, with flight connections to/from 70 major European, Middle Eastern, Asian, and North American cities. While it heads towards a brighter future, its chaotic past unfolds before your eyes: socialist blocks are squeezed between art nouveau masterpieces, and remnants of the Habsburg legacy contrast with Ottoman relics and socialist modernist monoliths. This is where the Sava and Danube Rivers kiss, an old-world culture that at once evokes time-capsuled communist-era Yugoslavia and new-world, EU-contending cradle of cool.

### A City Underneath The City

Belgrade has so many secrets, but one of them hides just below the surface. More than one hundred caves, canals, tunnels, passages tell the story of its connection to various empires and states that ruled over the ages. Roman halls and aqueducts, Tito's secrets as well those of Communist Information Bureau spies – you can find them all beneath Belgrade.

## Social Media

Connect with EAGE! You can find us on LinkedIn, Facebook, and Twitter where you will be able to find all updates on the three conferences! Feel free to add comments, like, share or tag our posts, and don't forget to follow us!

## Contact

For more information or enquiries please visit the event website [www.NSG2020.org](http://www.NSG2020.org) or contact the EAGE Europe Office via [registration@eage.org](mailto:registration@eage.org).

## Welcome by the LAC

It is our great pleasure to welcome you to the Conference and Technical Exhibition Near Surface Geoscience 2020, which is held between 30<sup>th</sup> August and 3<sup>rd</sup> September 2020 in Belgrade (Republic of Serbia), under the auspices of the European Association of Geoscientists and Engineers.

The following three conferences will take place as parallel programs: 26<sup>th</sup> European Meeting of Environmental and Engineering Geophysics; 3<sup>rd</sup> Conference Geophysics for Mineral Exploration & Mining and 4<sup>th</sup> Conference Shallow Marine Seismic (applied to River Systems). Registering for the Near Surface Geoscience 2020 will give you the opportunity to benefit from all conferences.

It is important to highlight that the Near Surface Geoscience 2020 Technical Exhibition will be held parallel to the three conferences. It will be the central meeting place where companies display products and services that are relevant to all events, introducing new products and services, but also demonstrating novel technology and equipment. During the event, instrument and field method demonstrations will take place. The exhibition will be a nice opportunity for exhibitors and participants to monitor the competition and expand the network in Balkan region.

In addition to the technical sessions and the exhibition, the conference will have an enjoyable and unique social program. All geological locations in Serbia are in few hours distance from the city, but Belgrade itself has a unique history, architecture, and the most important - interesting geological settings and landscape (29 hills, two rivers, one plain and one mountain).

We hope that attending the event will be an enriching professional experience, with a lot of networking opportunities and a lot of fun. We are looking forward to meeting you in Belgrade!

### Local Advisory Committee

Snežana Komatina (Chair)	AGES
Koya Suto (Co-Chair)	Terra Australis Geophysica Pty. Ltd.
Milovan Urošević (Co-Chair)	Curtin University of Technology
Magdalena Marković Juhlin	Uppsala University
Dragana Đurić	University of Belgrade
Bojan Brodić	Uppsala University
Saša Ziramov	Curtin University of Technology
Marko Vanić	Scientific and Technological Research Centre NIS
Raffaele Persico	Institute for Archaeological and Monumental Heritage
Victor Mocanu	University of Bucharest
Florina Tuluca	University of Bucharest
Mehmet Salih Bayraktutan	Igdir University

## Welcome by the SC

On behalf of the Scientific Committee, we cordially invite you to attend the EAGE Conference and Technical Exhibition Near Surface Geoscience 2020. After the 49<sup>th</sup> EAGE Annual Meeting, held in 1987 in Belgrade, it is the first time that the EAGE Near Surface Geoscience Conference is organized in Serbia. That is why this will be an exciting opportunity to witness the activities of a country with a long-standing tradition in applied geophysical research and a most vibrant and active geophysical community in academia, industry and the public sector. Our goal is even more ambitious – as Serbia is, through Association of Geophysicists and Environmentalists of Serbia (AGES), member of Balkan Geophysical Society (BGS). This Scientific Committee consists of distinguished representatives of geophysicists from BGS countries, in order to attract all colleagues from Balkan region to participate and present their results.

The Scientific Committee invites you to contribute to the technical programme by submitting an extended abstract and participate actively in this leading-edge event. We are assuring you in our dedication and readiness to make the Conference & Exhibition Near Surface Geoscience 2020 a true success.

### Scientific Committee

Snežana Komatina (Chair)	AGES
Milovan Urošević (Co-Chair)	Curtin University of Technology
Koya Suto (Co-Chair)	Terra Australis Geophysica Pty. Ltd.
George Apostolopoulos	National Technical University of Athens
Alireza Malehmir	Uppsala University
Sergey Buryak	DECO Geophysical SC
Takao Aizawa	Suncoch Consultants Co.
Musa Manzi	Witwatersrand University
Dragana Đurić	University of Belgrade
Jun Sugawara	Queensland Government
Monika Ivandić	Uppsala University
Raffaele Persico	Institute for Archaeological and Monumental Heritage
Radoje Pantović	University of Belgrade
Victor Mocanu	University of Bucharest
Florina Tuluca	University of Bucharest
Mehmet Salih Bayraktutan	Igdir University
Gergana Georgieva	Sofia University



Following the successful conferences in Athens (2014), Barcelona (2016) and Porto (2018), professionals from academia, research institutes, service and engineering companies, operators and offshore energy companies will reconvene in Belgrade 30 August - 3 September 2020, to further present and discuss the state-of-the-art in characterizing the shallow subsurface in aquatic settings (rivers, lakes, fjords, coastal systems, offshore and deep offshore).

The safe assessment of site conditions for all types of marine installations and infrastructure requires a detailed understanding of the shallow subsurface and the changes therein over the lifetime of the areas of interest. This essential objective can only be achieved through the extensive use of complementary geophysical methods and monitoring approaches, as well as a proper, data-driven integration of geotechnical, geomechanical, metocean and geophysical data and models.

The 4<sup>th</sup> conference will cover the widest range of topics of applied high-resolution geophysics in all types of aquatic settings, with specific focus on:

- Characterization and monitoring in shallow water environments, lakes, river beds and coastal areas for engineering (bridges, tunnels, harbour installations, dredging) and specific processes assessment (liquefaction, excavations, erosion) and their mitigation;
- Geophysical investigations for offshore wind energy and Oil & Gas activities;

- Environmental geophysics (e.g., pollution of sewage, nuclear waste deposits, identifying contaminants, archaeology);
- Research into the effects of global warming/climate change in vulnerable areas (e.g., polar regions, coastal areas);
- Advances in integration and very-high-resolution inversion for establishing data-driven ground models and uncertainty assessment;
- Novel data acquisitions, data processing and data analysis techniques (multi-method approaches, beyond P-wave reflection for the marine environment; Machine Learning);
- Monitoring and risk mitigation assessment (including CO<sub>2</sub> Capture and Storage activities)
- International guidelines and standards;
- Case studies

### Scientific Committee

Maarten Vanneste (Chair)	NGI
John Arthur	Top-Hole Site Studies Ltd.
Eric Cauquil	Total
Carl Fredrik Forsberg	NGI
Ken Games	Gardline
Simon Oakley	Fugro
Nils Sørenes	Equinor
Mark E. Vardy	SAND Geophysics
Gareth Wood	BP





Following the two EAGE Conferences on Geophysics for Mineral Exploration and Mining in Barcelona, 2016, and in Porto, 2018, the Third Conference will invite researchers from academia, industry, and government organizations to share recent advances, trending topics, and novel geophysical methods in mineral exploration and mining.

Geophysics plays a major role in unlocking mineral reserves. It is well recognized that many easily-discovered large mineral deposits with the strong geophysical signature have been already identified. Future discoveries present significant challenges being located undercover, in remote areas, with less prominent geophysical signal. The modern-day challenges of exploration require developing novel geophysical techniques, which improve exploration success and lead to new discoveries.

The Third Conference invites papers which focus on emerging geophysical techniques for mineral exploration, novel interpretation methods, including joint inversion of multiphysics data, and challenging case studies. We encourage contributions from all over the world, especially those with a European focus and application.



**Organizing Committee**

Michael Zhdanov (Chair)	University of Utah/Technolmaging
George Apostolopoulos	National Technical University of Athens
Chris Nind	Abitibi Geophysics
Joe Cucuzza	AMIRA International
Alireza Malehmir	Uppsala University
Greg Paleolog	CGG
Jean Legault	Geotech





# CALL FOR ABSTRACTS

SUBMIT YOUR EXTENDED ABSTRACTS AT  
**WWW.NSG2020.ORG**

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