



1st Croatian Conference on Earthquake Engineering 1CroCEE

22-24 March 2021, Zagreb, Croatia

www.grad.hr/crocee

Conference organizer



UNIVERSITY OF ZAGREB
FACULTY OF CIVIL ENGINEERING

Supporting organization



THE EUROPEAN ASSOCIATION
FOR EARTHQUAKE
ENGINEERING

Under High Auspice of



President of the
Republic of Croatia
Zoran Milanović

Auspices requested



President of the
Croatian Parliament
Gordan Jandroković



Prime Minister of the
Croatian Government
Andrej Plenković



Mayor
of the City of Zagreb
Milan Bandić

WHY 1CroCEE? ■ ■ ■ ■

The 22 March 2020 magnitude $M_L = 5.5$ Zagreb earthquake **painfully brought to light inadequate** earthquake preparedness and resilience of Croatia's capital. This seismologically moderate event caused significant disruption to life in the capital and induced major damage to the building stock of the administrative, cultural, scientific and economic center of the country. At the same time, the prospect of an expected magnitude 6.5 event on the Medvednica fault zone still looms large and is additionally compounded by the ongoing COVID-19 pandemic.

While our preparedness was unquestionably subpar, this event also demonstrated the immense courage and compassion of first responders, emergency services and 'ordinary' people to do extraordinary things and selflessly help their fellow citizens in need. The Faculty of Civil Engineering spearheaded a number of **post-earthquake activities** aimed at damage assessment and steering of public policy, continuing the previous collaboration with relevant governmental institutions. These included organization of the post-earthquake building evaluations (during the Covid-19 pandemic) which yielded estimates of losses and reconstruction costs that were instrumental in passing the new Law for Reconstruction. Furthermore, the Rapid Damage and Needs Assessment report was drafted for the Croatian Government and the World Bank in addition to preparing guidelines for urgent retrofit measures and comprehensive guidelines for structural designers. In order to raise the level of knowledge (crucial for the reconstruction) and seismic risk awareness (crucial for the future) specific lectures on the monthly basis are being organized (every 22. of the month). All these activities were

supported by numerous colleagues from Croatia and abroad, and collaboration with numerous practicing engineers, seismologists, architects, and government officials was key in making these projects truly impactful and long lasting.

To commemorate the anniversary of these events and to forge a path towards a resilient future, the University of Zagreb, Faculty of Civil Engineering is organizing the **1st Croatian Conference on Earthquake Engineering (1CroCEE)** on 22-24 March 2021. While the conference name does reflect the geographic origin of the earthquake, its message is aimed to be far reaching, unconstrained and inclusive. By bringing together national and international researchers, practitioners and public policy makers, one of the main goals is to explore the implications of the Zagreb earthquake on Croatia's future development as well as on other regions of low to moderate seismicity including earthquake resilience of Europe as a whole. Additionally, our aim is to raise awareness of seismic risk and to start increasing the level of education as well as the state of research and practice in earthquake engineering in the region by fostering international cooperation and exchange of ideas.

In summary, the Zagreb earthquake once again **incontrovertibly demonstrated** the exigent need for enhancing disaster-resilience of communities and should serve as a stern warning to all stakeholders to stop ignoring this burning issue. Earthquake resilience of our communities is paramount for Croatia's and Europe's stable future development as well as for preservation of our rich cultural heritage.

Join us at 1CroCEE to shake (help) Zagreb with knowledge and to reconstruct the past for resilient future (new tradition).

COVID-19 CONSIDERATIONS ■ ■ ■ ■

A unique aspect of the Zagreb earthquake is that it occurred in a nation's capital amidst the **COVID-19 lockdown** providing a specific learning opportunity in terms of risk assessment and emergency management discussions. As the global pandemic continues to affect our daily lives, we will con-

tinue to monitor the developing public health situation and tailor the conference format in order to ensure safety of all participants while allowing for effective exchange of knowledge and networking. Further details will be announced in the upcoming months.

CONFERENCE TOPICS ■ ■ ■ ■

Conference themes cover topics in the field of earthquake engineering, seismic risk prevention and post-earthquake recovery and reconstruction of buildings and infrastructures. Contributions may be within – but are not limited to – the following topics. For a more detailed list of conference topics please visit the official website www.grad.hr/crocee.

- POST DISASTER RECOVERY AND RECONSTRUCTION
- LESSONS LEARNED FROM EARTHQUAKES
- SEISMIC PERFORMANCE OF STRUCTURES
- IMMEDIATE POST-DISASTER RESPONSE
- ENGINEERING AND GENERAL SEISMOLOGY
- GEO-ASPECTS OF EARTHQUAKE ENGINEERING
- EARTHQUAKE RISK MITIGATION POLICIES AND MANAGEMENT
- INNOVATIVE TECHNOLOGY

KEYNOTE SPEAKERS ■ ■ ■ ■

- Ina Ceci, ARSO, Ljubljana
- Gregory Deierlein, Stanford University
- Peter Fajfar, University of Ljubljana
- Agostino Goretti, Civil Protection Department of Italy
- Marijan Herak, University of Zagreb
- Paulo B. Lourenco, University of Minho
- Paolo Morandi, University of Pavia
- Kyriazis Pitilakis, Aristotle University
- Neritan Shkodrani, Polytechnic University of Tirana
- Vitor Silva, EUCENTRE / University of Aveiro

IMPORTANT DATES

Abstract submission 15 December 2020
Abstract acceptance 30 December 2020

Full paper submission 31 January 2021
Full paper acceptance 15 February 2021

CALL FOR PAPERS

The Organizing Committee invites prospective authors to submit abstracts to be considered for presentation at the conference. Abstracts should be between 250 to 300 words in length and relate to the theme of the conference. Authors of accepted abstracts will receive instructions for preparation of full-length papers (4 to 8 pages). All submitted papers will be peer-reviewed by the Scientific Committee. The con-

dition for including a paper in the conference proceedings and program is that at least one of the authors participates in the conference and presents his/her paper. Official languages of the conference are English and Croatian. Simultaneous translation from English to Croatian and from Croatian to English will be provided during the conference.

Publishing and Indexing

All accepted papers will be published in full length in the 1CroCEE Conference Proceedings, in both printed and digital form. DOI number (Digital Object Identifier) will be assigned to each published paper. The authors of the papers that, in the opinion of the Scientific Committee, significantly contribute to science, will be invited to submit their extended manuscript to scientific journals **GRADEVINAR** (WoS SCI Expanded, <http://www.casopis-gradjevinar.hr/>) published by the Croatian Association of Civil Engineers, **Organization, Technology & Management in Construction** (WoS SCI Expanded, <http://www.editorial-manager.com/otmcj>) published by the University of Zagreb Faculty of Civil Engineering & De Gruyter, **e-GFOS** (WoS ESCI, <http://e-gfos.gfos.hr/egfos>) published by the Faculty of Civil Engineering and Architecture Osijek, **International Journal for Engineering Modelling** (<http://gradst.unist.hr/internationaljournal-for-engineering-modelling>) published by University of Split and **Geofizika** (WoS SCI Expanded, WoS Current Contents, <http://geofizika-journal.gfz.hr/>) published by the Andrija Mohorovičić Geophysical Institute of the Department of Geophysics, Faculty of Science, University of Zagreb, in accordance with the usual procedure for publication.



Guidelines for Authors

The Open Conference System is used for managing the 1CroCEE event. In case you have any issues with signing in to the system or submitting your abstract, please contact crocee@grad.hr. Prior to submitting an abstract, you should sign in to the conference management system, using the link shown on the conference web page. In the registration process, please make sure you check the "Author" check-

box so that you can submit an abstract. After a successful login, you should proceed with abstract submission.



CONFERENCE ORGANIZATION

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- Prof. Stjepan Lakušić, Dean

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- Marija Mustać, University of Zagreb
- Miroslav Nastev, Geological Survey of Canada
- Eva Ocvirk, University of Zagreb
- Jelena Pejović, University of Montenegro
- Ljupko Perić, ETH Zürich
- Kypros Pilakoutas, University of Sheffield
- Josip Pišković, Croatian Chamber of Civil Engineers
- Kyriazis Pitilakis, Aristotle University
- Marijana Serdar, University of Zagreb
- Veronika Shendova, Ss. Cyril and Methodius University
- Neritan Shkodrani, Polytechnic University of Tirana
- Zvonko Sigmund, University of Zagreb
- Vitor Silva, GEM, EUCENTRE, University of Aveiro
- Hrvoje Smoljanović, University of Split
- Mislav Stepinac, University of Zagreb
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- Nicolae Taranu, University of Iasi
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- Thanasis Triantafyllou, University of Patras
- Boris Trogrlić, University of Split
- Mario Uroš, University of Zagreb
- Mladen Vučetić, UCLA
- Mihaela Zamolo, Croatian Society for Earthquake Eng.

SPONSORS AND MARKETING PRESENTATIONS

Interested Companies may apply for advertising during the conference. The following marketing and corporate advertising opportunities are available:

- advertising in the conference proceedings on 1/1 page (500 EUR or 3.750 HRK)
- presentation on boards set up in the conference areas (500 EUR or 3.750 HRK)
- exhibition space (~ 300 EUR/m²)

We hope that companies will recognize the conference as a useful marketing opportunity to present their activities, products and business potential to a targeted audience. Companies are also welcome to make a sponsorship to the conference.

Depending on the size of sponsorship package, the company can become:

- General sponsor: sponsorship appointed
- Platinum sponsor: 45.000 HRK (6.000 EUR)
- Golden sponsor: 30.000 HRK (4.000 EUR)
- Silver sponsor: 15.000 HRK (2.000 EUR)
- Bronze sponsor: 7.500 HRK (1.000 EUR)

If a company decides to become a platinum, golden, silver or bronze sponsor, it is automatically entitled to advertising space in the conference proceedings. The content of each sponsorship package is presented in the following table:

BENEFITS	PLATINUM sponsor	GOLDEN sponsor	SILVER sponsor	BRONZE sponsor
Possibility of organising a VIP event, either before or after the conference	✓	×	×	×
Advertisement in the Earthquake Renewal Handbook – Condition Assessment, Calculation and Strengthening (December, 2020)	✓	✓	✓	×
Advertisement in the Conference Proceedings (March 2021)	✓	✓	✓	✓
Advertisement in the special issue of journal GRADEVINAR, theme: Selected Papers from 1CroCEE Conference (June 2021)	✓	✓	✓	×
Banner during the live-stream conference	10 pcs	5 pcs	3 pcs	2 pcs
Spot advertisement in the break between presentations within a section	1 min	0.5 min	×	×
Live-stream video material in the break between sections	3 min	×	×	×
Company presentation in the scope of an appropriate conference section	✓	✓	×	×
Sponsor promotion on social networks	At least 5 posts	At least 3 posts	At least 1 post	×
Distribution of promotional material in virtual bag (coupons, registration for online courses, brochures, etc.)	5 pcs	3 pcs	2 pcs	1 pce
Company logo on all published materials (proceedings, program, etc.)	✓	✓	✓	✓
Company logo on 1CroCEE Conference web pages with links	✓	✓	✓	✓
Company banner on home page of the conference web site	✓	×	×	×
Company logo at the conference mobile application, with link	✓	✓	✓	✓
Company logo on the home page the conference mobile application	✓	×	×	×
Exhibition space	✓	✓	✓	×
Virtual exhibition space (web page and mobile application)	✓	✓	✓	×
Number of conference participants not required to pay registration fees	4	2	1	1

For all additional information relating to sponsorship and marketing possibilities, be free to contact conference secretariat by sending email to crocee@grad.hr; all information is also available at the conference website www.grad.hr/crocee. We are convinced that you will recognise the potential of

this conference and thus present yourself at the 1CroCEE Conference to be held in Zagreb on 22-24 March 2021, by choosing one of sponsorship packages or marketing services, either readily made or tailored according to your suggestions.

LOCATION AND VENUE ■ ■ ■ ■

1CroCEE will take place in Zagreb, capital of Croatia. Zagreb's history dates back to Roman times when the urban settlement of Andautonia existed at the location of the modern-day Šćitarjevo. In 1945, Zagreb was declared the capital of Croatia and today it is the cultural, scientific, economic, political and administrative centre of the Republic of Croatia, and a home to the Croatian Parliament, Government and President. It is located on the southern foothills of Medvednica Mountain and spreads along the banks of the Sava River. Culturally, it is a European city well worth visiting, with its numerous historical monuments, parks and medieval architecture. Everything is accessible by foot – from your



hotel to the theatre, wandering around the old Upper Town or through the bustling streets of the more modern Lower Town, which has not lost an ounce of its charm despite the eternal march of time. The streets and monuments of Zagreb proudly testify to its hundreds of years of history. However, in March 2020, moderate ML5.5 earthquake struck Zagreb and generated impacts far exceeding expectations for an event of that size and revealed all its weaknesses. By organizing 1CroCEE, we hope to initiate, together with you, a new tradition in Croatia aiming to generate improved strategies and create future directions in earthquake engineering, in order to enhance earthquake resilience of our community.



REGISTRATION FEE AND PAYMENT ■ ■ ■ ■

The conference registration fee (both general and student) includes conference proceedings, conference welcome reception and banquet, refreshments during coffee breaks, and lunch during the conference. For accompanying persons, it includes the conference welcome reception and banquet, as well as lunches during the conference. Today

we face new challenges fighting the Covid-19 pandemic, but the exchange of knowledge and networking of experts needs to be continued. Our first priority is to protect the health of all participants by taking every precaution for on-site presenters, or by organizing online presentations.

ON-LINE Early-bird (until 1 February 2021)	ON-LINE Late (until 15 March 2021)	ON-SITE Early-bird (until 1 February 2021)	ON-SITE Late (until 15 March 2021)
Participants € 150	Participants € 200	Participants € 350	Participants € 400
Authors € 100	Authors € 150	Authors € 300	Authors € 350
PhD Students* € 50	PhD Students* € 50	PhD Students* € 200	PhD Students* € 250
Payment options and instructions will be available through Conference web site from December 2020		Accompanying person* € 100	Accompanying person* € 150

CONFERENCE SECRETARIAT ■ ■ ■ ■

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