

# ФИНАЛНА ПРОГРАМА FINAL PROGRAMME



## „ОТПОРНИ КОНСТРУКЦИИ“ “RESILIENT STRUCTURES”



**ДГКМ**

ДРУШТВО НА  
ГРАДЕЖНИ  
КОНСТРУКТОРИ НА  
МАКЕДОНИЈА

**MASE 20**

MACEDONIAN  
ASSOCIATION OF  
STRUCTURAL  
ENGINEERS

МЕЃУНАРОДЕН СИМПОЗИУМ  
INTERNATIONAL SYMPOSIUM

СКОПЈЕ, С. МАКЕДОНИЈА  
SKOPJE, N. MACEDONIA  
28 - 29 септември 2023  
September, 28<sup>th</sup> - 29<sup>th</sup>, 2023

## Wednesday, September, 27<sup>th</sup>, 2023

19<sup>00</sup>-21<sup>00</sup> Early registration of participants

## Thursday, September, 28<sup>th</sup>, 2023

08<sup>00</sup>-09<sup>00</sup> Registration of participants

09<sup>00</sup>-09<sup>15</sup> Press statement

### Opening ceremony (Diamond Hall)

- 3D Mapping show "Resilient Structures"
- Intonation of National, student and UKIM anthem
- Darko Nakov, President of MASE, **Welcome and Opening speech, Celebrating 20 MASE Symposia and commemorating 60 years from Skopje earthquake**
- Goran Markovski, Dean of FCE, UKIM, **Celebrating 74 years from foundation of FCE, UKIM**

### **Salute speeches**

- Biljana Angelova, Rector of UKIM
- Armen Grygorian, UNDP Resident representative
- Tina Vejrum, President of IABSE
- Zlatko Markovic, President of ASES
- Primoz Moze, President of SDGK
- Zoran Rakicevic, President of MAEE
- Rüdiger Höffer, Vice-dean of RUB, Germany
- Vladan Kuzmanovic, Dean of FCE, Belgrade, Serbia
- Marina Rakocevic, Dean of FCE, Podgorica, Montenegro
- Ana Baricevic, Vice-dean of FCE, Zagreb, Croatia
- Igor Pesko, Head of Department of CE, FTS, Novi Sad, Serbia
- Slavisa Trajkovic, Dean of FCEA, Nis, Serbia
- Vlatko Sheshov, Director of IZIIS, UKIM, Skopje, N. Macedonia
- Ognen Marina, Dean of AF, UKIM, Skopje, N. Macedonia

### **Patron speech**

- Blagoj Bocharovski, Minister for Transport and communications
- **Granting of MASE Awards**
- **Granting of Honorary and Meritorious memberships of MASE**

11<sup>00</sup>-11<sup>30</sup> Coffee break

# Thursday, September, 28<sup>th</sup>, 2023

**11<sup>30</sup>-12<sup>00</sup>** **Invited speakers (Diamond Hall)**  
Chair: Darko NAKOV and Gjorgji GOSHEV

**Tina VEJRUM**

**IP-10** RECORD LONG-SPAN BRIDGES – FROM GREAT BELT FIXED LINK TO STONECUTTERS AND 1915 ÇANAĞKALE

**12<sup>00</sup>-13<sup>30</sup>** **MASE Awards (Diamond Hall)**  
Chair: Darko NAKOV and Gjorgji GOSHEV

**Ivana DIMITROVA, Kristina MILADINOSKI**

**MA-1** CONSTRUCTION OF BRIDGE AT RIVER VARDAR, BOULEVARD ASNOM, BRIDGE MIHAJLO APOSTOLSKI

**Cvetanka CHIFLIGANEC**

**MA-2** EXPERIMENTAL RESEARCH AND NUMERICAL ANALYSIS OF TIMBER-CONCRETE COMPOSITE SLABS AT AMBIENT TEMPERATURE AND IN FIRE

**Kristina MILKOVA**

**MA-3** METHODOLOGY FOR DEVELOPMENT OF SEISMIC FRAGILITY CURVES FOR EXISTING UNREINFORCED MASONRY BUILDINGS

**Nikola NAUMOVSKI**

**MA-4** INTEGRATED METODOLOGICAL APPROACH TO ANALYSIS OF RAILWAY TRAFFIC VIBRATION IMPACT ON PEOPLE AND FACILITIES

**MA-5** **Sergey CHURILOV, Elena DUMOVA-JOVANOSKA, Maja GOSHEVA, Veronika SHENDOVA, Lidija KRSTEVSKA, Bojan DAMCHEVSKI, Dime JANCHEV**  
EXPERIMENTAL INVESTIGATION OF REPOINTING ON THE SEISMIC PERFORMANCE OF UNREINFORCED MASONRY STRUCTURES

**Milos STOKUCA**

**MA-6** IMPROVEMENT OF STRENGTH AND DEFORMABILITY OF STEEL STRUCTURES WITH ROOF AND SANDWICH PANELS

**13<sup>30</sup>-14<sup>30</sup>** **Buffet lunch (Foyer in front of Platinum Halls)**

**14<sup>30</sup>-15<sup>30</sup>** **Invited speakers (Diamond Hall)**  
Chair: Roberta APOSTOLSKA and Marko MARINKOVIĆ

**Alper ILKI, Caglar GOKSU, Bilal SARI, Hasan Huseyin AYDOGDU, Cem DEMIR**

**IP-5** 2023 KAHRAMANMARAŞ EARTHQUAKES AND LESSONS LEARNT TOWARDS BUILDING RESILIENT CITIES WITH A FOCUS ON ISTANBUL

**Svetlana BRZEV**

**IP-2** SEISMIC RESILIENCE OF CONFINED MASONRY BUILDINGS

**15<sup>30</sup>-16<sup>30</sup>** **Presentation of sponsors (Diamond Hall)**  
Chair: Roberta APOSTOLSKA and Marko MARINKOVIĆ

**PS-1** **Platinum Sponsor: ADING**

**PS-2** **Platinum Sponsor: BECHTEL & ENKA**

# Thursday, September, 28<sup>th</sup>, 2023

**15<sup>30</sup>-16<sup>30</sup>** **Presentation of sponsors (Diamond Hall)**  
Chair: Roberta APOSTOLSKA and Marko MARINKOVIĆ

**PS-3** Platinum Sponsor: GOLDEN ART

**PS-4** Platinum Sponsor: PENETRON & IZOTEHNA

**16<sup>30</sup>-16<sup>45</sup>** **Coffee break**

**16<sup>45</sup>-17<sup>15</sup>** **Invited speakers (Diamond Hall)**  
Chair: Koce TODOROV and Marta STOJMANOVSKA

**IP-9** Vlatko SHESHOV  
60 YEARS OF SKOPJE EARTHQUAKE – IZIIS FOR SKOPJE

**17<sup>15</sup>-18<sup>45</sup>** **Session 1: Resilient Skopje (Diamond Hall)**  
Chair: Koce TODOROV and Marta STOJMANOVSKA

**RDS-3** Elena DUMOVA-JOVANOSKA, Grozde ALEKSOVSKI, Liljana DENKOVSKA, Sergey CHURILOV, Kristina MILKOVA, Simona BOGOJEVSKA  
SEISMIC VULNERABILITY OF PRE-CODE MASONRY BUILDINGS, PROJECT SEISMOWALL

**RSC-2** Roberta APOSTOLSKA, Veronika SHENDOVA, Goran JEKIC, Golubka NECEVSKA-CVETANOVSKA, Zivko BOZINOVSKI  
IZIIS FOR SEISMIC RESILIENT SKOPJE

**MRS-3** Shpresim IBRAIMI, Boris TANESKI, Miroslav NASTEV, Stanislav MILOVANOVIC  
1963 SKOPJE EARTHQUAKE: OBSERVED DAMAGE TO BUILDINGS

**RSC-11** Zoran MILUTINOVIC, Radmila SALIC MAKRESKA  
UN ASSISTANCE AND CONTRIBUTION TO DEVELOPMENT OF EARTHQUAKE ENGINEERING – EUROPEAN AND WORLDWIDE

**RSC-8** Milorad JOVANOVSKI, Igor PESHEVSKI, Jovan Br. PAPIĆ, Andrijana ANDREEVA, Lidija TRPENOVSKA, Julijana STAVREVSKI  
GEOTECHNICAL ZONING MAPS – PREREQUISITE FOR DESIGN OF RESILIENT STRUCTURES

**NES-12** Goran MARKOVSKI, Meri CVETKOVSKA, Vukan NJAGULJ, Leonardo MANTA, Marija DOCEVSKA JOVANOVA  
ANALYSIS OF THE FIRE EXPOSED BRIDGE “BELASICA” IN SKOPJE

**18<sup>45</sup>-19<sup>30</sup>** **Poster Session (Foyer in front of Platinum Halls)**

**BIM-1** Roberta APOSTOLSKA, Lars ABRAHAMCZYK, Ruediger HÖFFER, Davorin PENAVALA, Nuno LOPES, Uwe KAHLER, Mahsa MIRBOLAND, Peshawa. L. HASAN, Filip MANOJLOVSKI  
EDUCATIONAL NETWORK FOR VIRTUAL LABORATORY EXPERIMENTS IN STRUCTURAL ENGINEERING

**BIM-4** Angel MAČEVSKI, Dušan ROŽIČ, Milan KUHTA  
PARAMETRIC BIM WORKFLOW FOR BRIDGE DESIGN

## 18<sup>45</sup>-19<sup>30</sup> Poster Session (Foyer in front of Platinum Halls)

- BIM-6** Aleksandar PETROVSKI, Aleksandar ANDJELKOVIC, Roman RABENSEFIER, Norbert HARMATHY  
COMPARISON OF TOOLS FOR SUSTAINABLE BUILDINGS` DESIGN OPTIMIZATION
- CM-1** Petar JANEV, Marko GJORGJIOSKI, Darko NAKOV, Toni ARANGJELOVSKI  
COMPARISON OF DESIGN OF RECTANGULAR CROSS SECTIONS REINFORCED ONLY IN THE TENSION ZONE ACCORDING TO PBAB/87 AND EUROCODE 2  
Emil KOCHOVSKI
- CM-2** SKI HUT "TRIFKOVA KOLIBA" MAVROVO – DESIGN OF STEEL FOR THE THIN MOUNTAIN AIR
- CM-3** Marijana LAZAREVSKA, Vasko GACEVSKI  
DETERMINATION OF CRITICAL PATH IN FUZZY NETWORK DIAGRAMS  
Teodora MIHAJLOVSKA, Elena DUMOVA-JOVANOSKA, Ana TROMBEVA-GAVRILOSKA
- CM-4** FORM-FINDING OF AN ENVELOPE OF A DOUBLE-LAYER SHELL SUBJECTED TO SEISMIC LOADING  
Nikola NISEV, Ana TROMBEVA GAVRILOSKA, Denis POPOVSKI
- CM-8** LIFE CYCLE ASSESSMENT FOR CONSTRUCTION OF AN ENCLOSED SWIMMING POOL  
Marija PETKOVSKA, Zlatko ZAFIROVSKI
- CM-10** PERFORMANCE EXPERIENCES FOR DIVERSION TUNNELS AT DAMS WITH ACCUMULATION  
Emilija RISTOVA, Darko NAKOV
- CM-11** INFLUENCE OF SEISMIC HAZARD AND IMPORTANCE CLASS ON THE BEHAVIOR OF REINFORCED CONCRETE STRUCTURAL ELEMENTS  
Angelko STOJANOVSKI, Toni ARANGELOVSKI, Denis POPOVSKI, Darko NAKOV
- CM-12** COMPARISON OF COMPLETELY AND PARTIALLY CONCRETED COMPOSITE COLUMNS ACCORDING TO EUROCODE 4  
Angelko STOJANOVSKI, Toni ARANGELOVSKI, Denis POPOVSKI, Darko NAKOV
- CM-13** COMPARISON OF CODE FOR DESIGN AND ANALYSIS OF COMPOSITE COLUMNS  
Vesna BULATOVIĆ, Tiana MILOVIĆ, Anka STARČEV-ČURČIN
- MMT-3** EVALUATION OF SULFATE RESISTANCE OF CONCRETE WITH RCA THROUGH LENGTH CHANGE AND THERMAL ANALYSIS  
Radovan CVETKOVIĆ, Stefan CONIĆ, Dragoslav STOJIĆ, Nemanja MARKOVIĆ
- MMT-4** COMPOSITE STRUCTURES TYPE OF CROSS LAMINATED TIMBER AND CONCRETE  
Ksenija JANKOVIĆ, Dragan BOJOVIĆ, Marko STOJANOVIĆ, Anja TERZIĆ, Srboľjub STANKOVIĆ
- MMT-5** THE PROPERTIES OF HEAVYWEIGHT SELF-COMPACTING CONCRETE ON WATER PENETRATION UNDER PRESSURE  
Mihail NAUMOVSKI, Marijana LAZAREVSKA
- MMT-10** ENVIRONMENT AS AN ASPECT OF LIFE CYCLE ASSESSMENT ANALYSIS TOWARDS SUSTAINABLE BUILDINGS

# Thursday, September, 28<sup>th</sup>, 2023

## 18<sup>45</sup>-19<sup>30</sup> Poster Session (Foyer in front of Platinum Halls)

- MMT-11** **Marija PETROVA**  
REVIVING VERTICAL LIVING: DEVELOPMENT OF RESIDENTIAL TOWERS IN MACEDONIAN CITIES
- RDS-1** **Kenneth C. CRAWFORD**  
RC BRIDGE FAILURES IN EARTHQUAKES
- RDS-2** **Sofija DUSHANOVSKA, Aleksandar BOGOEVSKI, Dragan DIMITRIEVSKI, Katerina VELESKA**  
INFLUENCE OF THE ENVIRONMENT ON THE CONCRETE COVER
- MMT-12** **Goce PRANGOVSKI, Suzana ARANGJELOVSKA, Nikola TRPESKI, Marija MENCHEVSKA, Gjorgji GOSHEV**  
INFLUENCE OF WASTE ASH FROM COMBUSTED WOOD BIOMASS ON THE PHYSICAL AND MECHANICAL CHARACTERISTICS OF CONCRETE
- MMT-13** **Adriana SALLES, Rand ASKAR, Camila CERVANTES, Luis BRAGANÇA, Meri CVETKOVSKA**  
CREATING A ROADMAP TOWARDS CIRCULARITY IN THE BUILT ENVIRONMENT
- MMT-14** **Todorka SAMARDZIOSKA, Andrea VELKOVA, Ivan NAUMOVSKI**  
THERMAL PROPERTIES OF SUSTAINABLE CEMENTITIOUS COMPOSITES WITH STRAW
- MMT-15** **Dragana STANOJEVIĆ, Vladimir MUČENSKI, Milena SENJAK PEJIĆ, Mirjana TERZIĆ, Panta KRSTIĆ**  
ANALYSIS OF CARBON FOOTPRINT IN CERTAIN PHASES OF THE CONSTRUCTION PROJECT
- MMT-18** **Marko STOJANOVIC, Lana ANTIĆ ARANĐELOVIĆ, Dragan BOJOVIĆ, Ksenija JANKOVIĆ**  
THE INFLUENCE OF STEEL FIBERS OBTAINED BY RECYCLING WASTE TIRES ON THE PROPERTIES OF CONCRETE
- MMT-20** **Slobodan ŠUPIĆ, Gordana BROĆETA, Mirjana MALEŠEV, Anđelko CUMBO, Vladan PANTIĆ, Ivan LUKIĆ, Marina LATINOVIĆ**  
DEVELOPMENT OF ENVIRONMENTALLY FRIENDLY CORN COB ASH BLENDED CEMENT MORTAR
- MMT-22** **Anja TERZIĆ, Ksenija JANKOVIĆ**  
THE DESIGN OF CEMENTITIOUS COMPOSITES WITH ADVANCED THERMAL PROPERTIES
- MRS-1** **Festim ADEMI, Elena DUMOVA-JOVANOSKA, Sergey CHURILOV, Enis JAKUPI**  
SEISMIC RETROFIT OF MASONRY WALLS USING REPOINTING
- MRS-2** **Ana BARIČEVIĆ, Antonija OCELIĆ, Zvezdana MATUZIĆ, Miljenko VUČIĆ**  
SULPHATE RESISTANCE OF WOOD-BIOMASS-ASH INJECTION GROUT
- MRS-4** **Emil KOCHOVSKI**  
ALL ALONG THE WATCHTOWER
- MRS-6** **Vladan PANTIĆ, Vlastimir RADONJANIN, Mirjana MALEŠEV, Slobodan ŠUPIĆ, Ivan LUKIĆ, Zoran BRUJIĆ**  
THE ASSESSMENT OF THE LOAD-BEARING STRUCTURE OF STADIUM "RFC NOVI SAD"
- MRS-9** **Borče VELJANOVSKI, Jovan Br. PAPIĆ, Andrea TANEVSKI**  
REGENERATING THE SKOPJE AQUEDUCT

# Thursday, September, 28<sup>th</sup>, 2023

## 18<sup>45</sup>-19<sup>30</sup> Poster Session (Foyer in front of Platinum Halls)

- NES-1** Aleksandra CHUBRINOVSKA, Denis POPOVSKI, Mile PARTIKOV  
ANALYSIS OF FRAMING SYSTEMS FOR BOX SECTIONS WITH DISTORTION EFFECTS
- NES-7** Konstantin KAZAKOV, Lena MIHOVA, Doncho PARTOV  
INTERPRETATION OF BURIED ARCH BRIDGE RESPONSE TO SEISMIC IMPACT  
Ivan LUKAČEVIĆ, Ivan ČURKOVIĆ, Andrea RAJIĆ, Vlaho ŽUVELEK
- NES-9** BENDING RESISTANCE OF COMPOSITE STEEL-CONCRETE FLOOR SYSTEM MADE OF BUILT-UP COLD-FORMED STEEL ELEMENTS  
Filip MANOJLOVSKI, Zoran RAKICEVIC, Aleksandra BOGDANOVIC, Antonio SHOKLAROVSKI, Angela POPOSKA
- NES-10** REPAIR OF REINFORCED CONCRETE COLUMN HINGES BY POLYURETHANE JACKETING  
Mladen MUHADINOVIĆ, Duško LUČIĆ
- NES-14** PREVIOUS AND FURTHER RESEARCH OF BEAM COLUMN JOINT IN ALUMINIUM STRUCTURES – COLUMN WEB RESISTANCE IN TRANSVERSE COMPRESSION  
Pavle RISTESKI, Denis POPOVSKI, Nikola NISEV, Antonio TOMESKI
- NES-21** EXPERIMENTAL AND ANALYTICAL RESEARCH OF THE BEHAVIOUR OF CHEMICAL ANCHORS AS SHEAR CONNECTORS  
Jelena RISTIC, Zijadin GURI, Danilo RISTIC
- NES-22** TESTING AND MODELING OF GFRP AND STEEL REINFORCED COLUMNS UNDER CYCLIC BENDING AND VARYING AXIAL LOADS  
Antonio SHOKLAROVSKI, Aleksandra BOGDANOVIC, Zoran RAKICEVIC, Angela POPOSKA, Filip MANOJLOVSKI
- NES-23** EXPERIMENTAL TESTS OF BRIDGE STRUCTURES  
Nikola SIMOV, Denis POPOVSKI, Nikola NISEV, Antonio TOMESKI
- NES-24** EXPERIMENTAL AND ANALITICAL RESEARCH OF THE BEHAVIOR OF MECHANICAL ANCHORS AS SHEAR CONNECTORS  
Angelko STOJANOVSKI, Dragan DUGANOV, Cvetan ZAFIROV, Filip NANEVSKI, Nikola MITOVSKI, Maja BUNDEVSKA, Iva LAZAREVSKA, Tamara GEORGIEVSKA
- NES-25** DYNAMIC LOADING OF REINFORCED CONCRETE PILES ON VIADUCT OF JABUCHKI DOL AND BRIDGE ON THE RIVER BLIDESH
- NES-31** ANTONIO TOMESKI, MARKO GJORGJIOSKI, PETAR JANEV, SEAD ABAZI  
STATIC AND DYNAMIC ANALYSIS OF A SPREAD FOUNDATION ACCORDING TO EUROCODE
- NES-32** Zlatko ZAFIROVSKI, Vasko GACEVSKI, Ivona NEDEVSKA, Riste RISTOV, Slobodan OGNJENOVIKJ, Bojan SUSINOV, Sead ABAZI  
NUMERICAL ANALYSIS OF A HYDROTECHNICAL TUNNEL IN THE TORANICA MINE ASSEMBLY
- RDS-7** Kaltrina SPAHIU  
CLAY IN BUILDING FACADES
- RSC-1** Maja ANACKOVA, Simona DOMAZETOVSKA, Viktor GAVRILOSKI, Zlatko PETRESKI  
ANALYSIS OF THE EFFECTIVENESS OF SOUND BARRIERS FOR TRAFFIC NOISE CONTROL IN THE CITY OF SKOPJE

# Thursday, September, 28<sup>th</sup>, 2023

## 18<sup>45</sup>-19<sup>30</sup> **Poster Session (Foyer in front of Platinum Halls)**

**Sanja AVRAMOSKA**

**RSC-3** DESIGNING RESILIENT URBAN RIVER CORRIDORS: TRENDS IN RIVER REDEVELOPMENT PROJECTS IN THE LAST TWO DECADES

**RSC-4** **Željka BELJKAŠ, Nikola KNEŽEVIĆ, Jasmina ČETKOVIĆ, Bojan ADŽIĆ**  
FACILITY FOR THE STRAY DOGS POPULATION IN VARDAR PLANNING REGION

**RSC-7** **Dejan JANEV, Darko NAKOV, Toni ARANGJELOVSKI**  
CONCRETE FOR RESILIENT INFRASTRUCTURE: REVIEW OF BENEFITS, CHALLENGES AND SOLUTIONS

**RSC-9** **Goran MICKOVSKI, Ana IVANOVSKA DESKOVA, Jovan IVANOVSKI**  
OLD BUILDINGS NEW POSSIBILITIES, CASE STUDY OF INDUSTRIAL BUILDINGS IN SKOPJE

**RSC-10** **Goran MICKOVSKI, Slobodan VELEVSKI, Aleksandar RADEVSKI, Dimitar KRSTESKI**  
PERSPECTIVES FOR INDUSTRY DEVELOPMENT IN SKOPJE

**RSC-14** **Vasil PENCHEV, Doncho PARTOV**  
BRIEF CRITICAL ANALYSIS OF THE NORMATIVE SEISMIC INSURANCE OF BUILDINGS IN THE REPUBLIC OF BULGARIA

**RSC-15** **Borjan PETRESKI, Igor GJORGJIEV, Aleksandar ZHUROVSKI**  
THE INFLUENCE OF THE RATIO OF SECTION SIDES OF A RECTANGULAR COLUMN ON SEISMIC RESPONSE OF A RC BUILDING

**RSC-16** **Irina POSTOLOVA, Zlatko ZAFIROVSKI, Meri CVETKOVSKA, Milosh KNEZHEVIKJ**  
FIRE PROTECTION MEASURES IN TUNNELS

**RSC-18** **Zlatko SRBINOSKI, Zlatko BOGDANOVSKI, Filip KASAPOVSKI, Tome GEGOVSKI, Filip PETROVSKI**  
DEFINING REGIONAL GEODYNAMIC PHENOMENA BASED ON MEASUREMENTS IN ACTIVE REFERENCE NETWORKS

**RSC-19** **Goce TASESKI, Nikola KRSTOVSKI**  
INCREASING CITIES RESILIENCE THROUGH IMPROVED STORM WATER MANAGEMENT

**SHM-1** **Hassan AWADAT SALEM**  
A COMPARATIVE STUDY ON THE METHODS OF MIXING THE MODIFIED ASPHALT

**SHM-2** **Shpresim IBRAIMI, Stanislav MILOVANOVIC, Grozde ALEKSOVSKI, Boris TANESKI, Zoran ALTIPARMAKOV**  
RECONSTRUCTION OF THE XI CENTURY CATHEDRAL CHURCH AT KALE FORTRESS BITOLA

**BIM-3** **Liljana DIMEVSKA SOFRONIEVSKA, Ana TROMBEVA GAVRILOSKA, Meri CVETKOVSKA, Bojan KARANAKOV, Dobro NIKOLOVSKI**  
THE IMPORTANCE OF COMPUTER SOFTWARE IN BUILDINGS' ENERGY PERFORMANCE ANALYSIS

**NES-17** **Angela POPOSKA, Zoran RAKICEVIC, Aleksandra BOGDANOVIC, Antonio SHOKLAROVSKI, Filip MANOJLOVSKI**  
NUMERICAL MODELLING OF SELF-CENTERING CONCENTRICALLY BRACED STEEL FRAMES

## **MASE Gala Dinner (Diamond Hall)**

**21<sup>00</sup>-01<sup>00</sup>** Music: Petar Rendzov band

Dress code: Elegant

Included: Dinner and unlimited selected drinks



# Friday, September, 29<sup>th</sup>, 2023

- 08<sup>30</sup>-09<sup>30</sup>** **Invited speakers (Diamond Hall)**  
Chair: Toni ARANGJELOVSKI and Ivan IGNJATOVIĆ  
**Gerard J. O'REILLY**
- IP-8** EUROPEAN RESEARCH SYNERGIES TOWARDS LOSS AND RISK-DRIVEN MITIGATION APPROACHES
- IP-1** **Josip ATALIĆ, Mario UROŠ, Marta ŠAVOR NOVAK, Marija DEMŠIĆ, Maja BANIČEK, Alen KADIĆ, Nika RAKAS, Ivan KOSALEC, Maja MRKONJIĆ**  
2020 EARTHQUAKES IN CROATIA: FROM DAMAGE ASSESSMENT PROCESS TO THE NATIONAL STRATEGIES
- 09<sup>30</sup>-09<sup>40</sup>** **Presentation of sponsors (Diamond Hall)**  
Chair: Toni ARANGJELOVSKI and Ivan IGNJATOVIĆ
- GS-1** **Gold Sponsor: DOJRAN STEEL**
- 09<sup>45</sup>-10<sup>45</sup>** **Parallel Session 4 (Diamond Hall)**  
Chair: Toni ARANGJELOVSKI and Ivan IGNJATOVIĆ
- CM-17** **Mladen ULIČEVIĆ, Jovan FURTULA, Ana PETRANOVIĆ**  
EXTRADOSED BRIDGE OVER MORAČA RIVER IN PODGORICA - DESIGN AND CONSTRUCTION
- CM-6** **Goran MILUTINOVIĆ, Duško BOBERA**  
COMPARATIVE ANALYSES OF BRIDGE PIER CAP USING STRUT-AND-TIE AND BEAM MODEL
- CM-15** **Elena STOKUCA, Marija STOKUCA TERZIEVSKA**  
INSTALLATION OF STEEL TRANSVERSE BEAMS UNDER THE PYLON OF THE RHINE BRIDGE IN LEVERKUSEN
- CM-14** **Nenad STOJCHEVSKI, Jovana VELICHKOVA**  
PROJECT FOR NEW BRIDGES OVER THE ELBE RIVER IN MAGDEBURG
- 09<sup>45</sup>-10<sup>45</sup>** **Parallel Session 4 (Platinum 1 Hall)**  
Chair: Elena DUMOVA-JOVANOSKA and Marina RAKOČEVIĆ
- NES-11** **Marko MARINKOVIĆ, Christoph BUTENWEG, Aleksa MILIJAŠ, Matija GAMS**  
ISOLATION OF INFILL WALLS AS A SOLUTION FOR BOTH MASONRY INFILLS AND RC STRUCTURES: EXPERIMENTAL INVESTIGATION
- CM-5** **Ivan MILIČEVIĆ, Milica VIDOVIĆ, Jelena DRAGAŠ, Branko MILOSAVLJEVIĆ**  
BEHAVIOUR AND DESIGN OF BOLTED CONNECTORS WITH MECHANICAL COUPLER: AN OVERVIEW
- NES-6** **Lisa JUSUFI, Leart TARAVALI, Borjan PETRESKI**  
INVESTIGATING THE PROBABILISTIC SEISMIC RISK ASSESSMENT PRINCIPLES THROUGH A TYPICAL CASE STUDY
- RSC-6** **Kefajet EDIP, Roberta APOSTOLSKA**  
SUSTAINABLE URBAN PLANNING THROUGH SEISMIC RISK ASSESSMENT - CASE STUDY KARPOSH
- RSC-13** **Zabedin NEZIRI, Radmila SALIC MAKRESKA**  
COMPARATIVE ANALYSIS OF AVAILABLE EARTHQUAKE CATALOGS FOR THE TERRITORY OF NORTH MACEDONIA AND THE BORDER REGION

# Friday, September, 29<sup>th</sup>, 2023

- 09<sup>45</sup>-10<sup>45</sup>** **Parallel Session 4 (Platinum 2 Hall)**  
Chair: Todorka SAMARDZIOSKA and Daniel CEKOV  
**Nikola PETROV, Nurzhan SATUOV, Radmila SALIC MAKRESKA**
- NES-16** UTILIZING AMBIENT NOISE TO EVALUATE POTENTIAL RESONANT CONDITIONS IN SEISMIC EVENTS: A CASE STUDY OF NOVO LISICHE, SKOPJE
- MMT-1** **Hassan AWADAT SALEM**  
DEVELOPMENT OF PAVEMENT TEMPERATURE REGRESSION MODELS AT BRAK, LIBYA
- MMT-7** **Marija MIHAJLOVIĆ, Ljiljana STOŠIĆ MIHAJLOVIĆ**  
GREEN CONSTRUCTION AND GREEN CIRCULAR ECONOMY
- MMT-17** **Stojanche STOJANOV, Ljubomir TRAJCHEV**  
WATERPROOFING OF CONCRETE BRIDGES WITH POLYMER-MODIFIED BITUMINOUS MEMBRANES
- MMT-2** **Olivera BUKVIĆ, Mirjana MALEŠEV, Marijana SERDAR, Suzana DRAGANIĆ, Vlastimir RADONJANIN**  
FEASIBILITY OF USING SUNFLOWER HUSK ASH AS AN ALTERNATIVE ACTIVATOR FOR ALKALI-ACTIVATED SLAG
- 10<sup>45</sup>-11<sup>00</sup>** **Coffee break**
- 11<sup>00</sup>-11<sup>30</sup>** **Invited speakers (Diamond Hall)**  
Chair: Sergey CHURILOV and Branko MILOSAVLJEVIĆ  
**Eleni CHATZI**
- IP-3** AUGMENTED TWINS: PHYSICS AND DATA IN SUPPORT OF VIRTUALIZING STRUCTURAL SYSTEMS
- 11<sup>30</sup>-11<sup>45</sup>** **Presentation of sponsors (Diamond Hall)**  
Chair: Sergey CHURILOV and Branko MILOSAVLJEVIĆ
- SS-1** Silver Sponsor: KNAUF
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- SS-3** Silver Sponsor: WB&E
- 11<sup>45</sup>-12<sup>45</sup>** **Parallel Session 5 (Diamond Hall)**  
Chair: Sergey CHURILOV and Branko MILOSAVLJEVIĆ
- MRS-7** **Predrag POPOVIC**  
ASSESSMENT AND REHABILITATION OF COLLAPSED FIRE DAMAGED CONCRETE STRUCTURES
- MRS-8** **Boško STEVANOVIĆ, Ivan GLIŠOVIĆ, Dragoljub TODOROVIĆ**  
PALACE OF GOLUBAC FORTRESS
- SHM-4** **Mirjana LABAN, Sandra NEDELJKOVIĆ, Željko ŽUGIĆ, Miloš KNEŽEVIĆ**  
POST DISASTER NEEDS ASSESSEMENT METHODOLOGY
- RSC-12** **Sandra NEDELJKOVIĆ, Željko ŽUGIĆ, Mirjana LABAN, Zdravko MAKSIMOVIĆ**  
RISK REGISTER AS A BASIS FOR SUSTAINABLE PUBLIC INVESTMENTS STRATEGY IN REPUBLIC OF SERBIA

# Friday, September, 29<sup>th</sup>, 2023

- 11<sup>45</sup>-12<sup>45</sup> Parallel Session 5 (Diamond Hall)**  
Chair: Sergey CHURILOV and Branko MILOSAVLJEVIĆ
- RSC-5** **Suzana DRAGANIC, Mirjana LABAN, Igor DŽOLEV, Meri CVETKOVSKA**  
FIRE RESILIENCE AND BUILDINGS' SUSTAINABILITY IN RENOVATION WAVE
- 11<sup>45</sup>-12<sup>45</sup> Parallel Session 5 (Platinum 1 Hall)**  
Chair: Ana TROMBEVA GAVRILOSKA and Igor PESKO
- SHM-3** **Novak JOKSIMOVIC, Ljiljana BRAJOVIC**  
CHALLENGES AND POTENTIAL OF FIBER OPTIC SENSORS FOR STRUCTURAL HEALTH MONITORING OF BRIDGES: A REVIEW
- BIM-2** **Sonja CHEREPNALKOVSKA, Dijana LIKAR**  
DIGITALIZATION IN CONSTRUCTION -BIM TECHNOLOGY
- BIM-5** **Teodora PANAJOTOVIKJ, Silvija PETRESKA, Boban BOJCHEVSKI, Boris TASEVSKI**  
IMPLEMENTATION OF 3D MODELING (BIM) FROM DESIGN TO EXECUTION
- Nenad KRSTIVOJEVIĆ**
- MRS-5** DESIGN AND SUPERVISION ON THE CONSERVATION WORKS ON THE REHABILITATION OF THE RESIDENCE GEORGJEVIC
- SHM-5** **Riste VOLCHEV, Nikola POSTOLOV, Koce TODOROV, Ljupcho LAZAROV**  
OVERVIEW OF THE DAMAGES TO THE AQUEDUCT IN SKOPJE
- 11<sup>45</sup>-12<sup>45</sup> Parallel Session 5 (Platinum 2 Hall)**  
Chair: Vladimir VITANOV and Igor DŽOLEV
- NES-4** **Isidora JAKOVLJEVIĆ, Milan SPREMIĆ, Zlatko MARKOVIĆ**  
CONCRETE MODELING IN FINITE ELEMENT PUSH-OUT TEST SIMULATIONS
- CM-7** **Jelena MIRJANIĆ, Vladimir ŽIVALJEVIĆ, Igor DŽOLEV, Andrija RAŠETA**  
INFLUENCE OF NON-LINEAR MATERIAL MODELS ON SEISMIC RESPONSE OF RC BUILDING
- Leart TARAVARI, Koce TODOROV**
- NES-29** COMPARATIVE ANALYSES OF VARIOUS NONLINEAR MODELLING APPROACHES OF REINFORCED CONCRETE FRAMES
- Bojan SUSINOV, Josif JOSIFOVSKI, Sead ABAZI**
- CM-16** PILE BEARING CAPACITY CALCULATION USING RESULTS FROM STATIC AND DYNAMIC LOAD TESTS ACCORDING TO EUROCODE 7
- NES-2** **Anita GJUKAJ, Petar CVETANOVSKI, Ana Trombeva GAVRILOSKA**  
NUMERICAL ANALYSIS OF EXTENDED END-PLATE BOLTED CONNECTION
- 12<sup>45</sup>-13<sup>45</sup> Buffet lunch (Foyer in front of Platinum Halls)**
- 13<sup>45</sup>-14<sup>45</sup> Invited speakers (Diamond Hall)**  
Chair: Goran MARKOVSKI and Vlastimir RADONJANIN
- IP-7** **Marco NOVARIN**  
RESILIENT BRIDGES IN SEISMIC AREAS
- Peter MARK, Patrick FORMAN, Jannik HOPPE**
- IP-6** SUSTAINABLE CONCRETE ENGINEERING – STRATEGIES FOR EXISTING AND NEW STRUCTURES

# Friday, September, 29<sup>th</sup>, 2023

**14<sup>45</sup>-15<sup>00</sup>** **Presentation of sponsors (Diamond Hall)**  
Chair: Goran MARKOVSKI and Vlastimir RADONJANIN

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**15<sup>00</sup>-16<sup>00</sup>** **Parallel Session 6 (Diamond Hall)**  
Chair: Goran MARKOVSKI and Vlastimir RADONJANIN

**Vladimir GOCEVSKI**

**NES-3** EVALUATION OF HYDROELECTRIC POWERHOUSES FOUNDED ON ALKALI-AGGREGATE REACTION (AAR) AFFECTED CONCRETE

**MMT-8** **Tiana MILOVIĆ, Mirjana MALEŠEV, Ivan LUKIĆ, Vesna BULATOVIĆ, Vlastimir RADONJANIN**  
MECHANICAL, PHYSICAL AND DEFORMATION PROPERTIES OF REPAIR CEMENT-BASED MORTARS CONTAINING ZEOLITE

**CM-9** **Nenad PEČIĆ, Saša STOŠIĆ, Snežana MAŠOVIĆ, Dragan MAŠOVIĆ**  
SHEAR DESIGN OF CIRCULAR CONCRETE SECTIONS ACCORDING TO THE EC2 TRUSS MODEL

**MMT-16** **Irina STEFANOVSKA**  
STIMULATED AUTOGENOUS SELF-HEALING OF CEMENT MATERIALS USING FLY ASH AND CRYSTAL FORMING ADDITIVES

**MMT-9** **Stefan Ž. MITROVIĆ, Ivan IGNJATOVIĆ**  
HARDENED PROPERTIES OF 3D PRINTED CONCRETE – EXPERIMENTAL INVESTIGATION

**15<sup>00</sup>-16<sup>00</sup>** **Parallel Session 6 (Platinum 1 Hall)**  
Chair: Zlatko MARKOVIĆ and Mile PARTIKOV

**NES-13** **Primož MOŽE**  
LOAD-DEFORMATION BEHAVIOR OF BOLTED BEARING-TYPE CONNECTIONS

**NES-26** **Petar SUBOTIĆ, Duško LUČIĆ**  
THE PATH TO AN ANALYTICAL SOLUTION FOR ELASTIC CRITICAL LATERAL TORSIONAL BUCKLING MOMENT FOR I BEAMS WITH BATTEN PLATES

**NES-19** **Denis POPOVSKI, Mile PARTIKOV, Ditar MEMEDI**  
EVALUATION OF THE BEHAVIOUR FACTOR FOR COMPOSITE STEEL-CONCRETE MOMENT FRAMES USING NONLINEAR STATIC ANALYSIS

**NES-18** **Denis POPOVSKI, Mile PARTIKOV, Ditar MEMEDI**  
ANALYSIS OF STEEL MOMENT FRAME USING NONLINEAR STATIC ANALYSIS

**NES-28** **Leart TARAVARI, Denis POPOVSKI, Mile PARTIKOV**  
COMPARATIVE ANALYSES OF THE DESIGN SEISMIC BEHAVIOR OF CHARACTERISTIC STEEL FRAMES

# Friday, September, 29<sup>th</sup>, 2023

- 15<sup>00</sup>-16<sup>00</sup>** **Parallel Session 6 (Platinum 2 Hall)**  
Chair: Meri CVETKOVSKA and Mirjana MALESEV
- MMT-21** **Arta SYLEJMANI, Ivana BANJAD PEČUR, Bojan MILOVANOVIĆ**  
PROPERTIES AND CHARACTERISTICS OF EXPANDED POLYSTYRENE INSULATION AND ITS USE IN BUILDINGS
- RDS-5** **Visar KRELANI, Muhamet AHMETI, Driton KRYEZIU, Liberato FERRARA, Theodor MENTZIKOFAKIS**  
INCREASED DURABILITY FOR CONCRETE STRUCTURES UNDER SEVERE CONDITIONS BY USING CRYSTALLINE ADMIXTURES
- MMT-6** **Milica JOVANOSKA-MITREVSKA, Todorka SAMARDZIOSKA, Aleksandar MILENKOVIC, Danica BOLJEVIC**  
METAMATERIAL-BASED LIGHTWEIGHT DOUBLE WALL FOR LOW FREQUENCY NOISE REDUCTION
- MMT-19** **Milica STOJKOVIĆ, Marina AŠKRABIĆ, Aleksandar RADEVIĆ, Aleksandar SAVIĆ, Dimitrije ZAKIĆ**  
SOLIDIFIED WASTE WATER TREATED SLUDGE AS PARTIAL REPLACEMENT OF CEMENT IN CONCRETE COMPOSITES
- NES-30** **Marija TODOROVIĆ, Nađa SIMOVIĆ, Ivan GLIŠOVIĆ**  
BENDING BEHAVIOUR OF CROSS LAMINATED TIMBER PANELS MADE FROM LOCALLY SOURCED SPRUCE WOOD
- 16<sup>00</sup>-16<sup>15</sup>** **Coffee break**
- 16<sup>15</sup>-16<sup>45</sup>** **Invited speakers (Diamond Hall)**  
Chair: Josif JOSIFOVSKI and Primoz MOZE
- IP-4** **Rüdiger HÖFFER**  
FUTURE EUROPEAN STANDARDS FOR THE DETERMINATION OF GENERAL ACTIONS FOR THE DESIGN OF STRUCTURES
- 16<sup>45</sup>-17<sup>45</sup>** **Parallel Session 7 (Diamond Hall)**  
Chair: Josif JOSIFOVSKI and Primoz MOZE
- RDS-4** **Radomir FOLIĆ, Zoran BRUJIĆ**  
NEW TENDENCIES IN DESIGNING DURABILITY OF CONCRETE STRUCTURES
- CM-18** **Todor VACEV, Danijela ĐURIĆ MIJOVIĆ, Miloš MILIĆ, Andrija ZORIĆ**  
ANALYSIS OF WIND ACTION ON CONTAINER STACKS ACCORDING TO EC STANDARDS
- RDS-6** **Goran MILUTINOVIĆ, Rade HAJDIN, Ivana ANDRIJANIC, Milos MILOSAVLJEVIC, Marko BAJIC**  
OVERVIEW OF BRIDGE TRAFFIC LOADS IN SERBIA USING B-WIM
- NES-5** **Dejan JANEV, Toni ARANGJELOVSKI, Darko NAKOV, Goran MARKOVSKI, Peter MARK**  
DYNAMIC BEHAVIOUR OF RC BRIDGES UNDER MOVING LOADS: A SIMPLIFIED NUMERICAL AND ANALYTICAL APPROACH
- 16<sup>45</sup>-17<sup>45</sup>** **Parallel Session 7 (Platinum 1 Hall)**  
Chair: Zoran RAKICEVIC and Vladimir VUKOBRATOVIC
- RSC-17** **Arthur ROSHI, Golubka NECHEVSKA-CVETANOVSKA, Jordan BOJADJIEV**  
ENHANCING SEISMIC RESILIENCE OF RC BUILDING COLUMNS USING CFRP

## Friday, September, 29<sup>th</sup>, 2023

- 16<sup>45</sup>-17<sup>45</sup>** **Parallel Session 7 (Platinum 1 Hall)**  
Chair: Zoran RAKICEVIC and Vladimir VUKOBRATOVIC  
**Luka NAUMOVSKI, Boris AZINOVIĆ, Tomaž PAZLAR, Matija GAMS**
- NES-15** PUSHOVER-BASED FRAGILITY ANALYSIS OF MULTI-STOREY CROSS-LAMINATED TIMBER PLATFORM-TYPE BUILDINGS
- NES-20** **Nikola POSTOLOV, Riste VOLCHEV, Kristina MILKOVA, Koce TODOROV, Elena DUMOVA-JOVANOSKA**  
SEISMIC VULNERABILITY OF OPEN GROUND FLOOR RC FRAMES WITH MASONRY INFILL
- NES-27** **Lert TARAVARI, Lisa JUSUFI, Borjan PETRESKI, Koce TODOROV**  
PERFORMANCE-BASED ANALYSIS OF A MULTI-STORY AND MULTI-BAY REINFORCED CONCRETE FRAME
- NES-8** **Toni KITANOVSKI, Vlatko SHESOV, Julijana BOJADJIEVA, Kemal EDIP, Dejan IVANOVSKI**  
EFFECTS OF PRE-EXISTING CYCLIC LOADING ON TRIAXIAL MONOTONIC BEHAVIOR

**17<sup>45</sup>-19<sup>15</sup>** **Round table: Current state and trends in structural engineering**

**19<sup>15</sup>-19<sup>30</sup>** **Closing of the Symposium**

**MASE Closing party (Tribeca Restaurant & Bar)**

Music:

**21<sup>00</sup>-01<sup>00</sup>**

The Ringtones (21<sup>00</sup>-23<sup>00</sup>)

The Hounds (23<sup>00</sup>-01<sup>00</sup>)

Dress code: Casual/MASE T-shirt

(Included: Buffet dinner and Welcome cocktail drink)

## Saturday, September, 30<sup>th</sup>, 2023

**Excursion** **Technical visit of Ljubljanska Bridge and touristic visit of Canyon Matka (Supported by ADING and GRANIT)**

Dress code: Sport/Sport shoes

**10<sup>00</sup>-10<sup>30</sup>** **Bus transport: Hotel Hilton – Ljubljanska Bridge**

**10<sup>30</sup>-11<sup>30</sup>** **Site visit of Ljubljanska Bridge**

**11<sup>30</sup>-12<sup>00</sup>** **Bus transport: Ljubljanska Bridge – Canyon Matka**

**12<sup>00</sup>-13<sup>30</sup>** **Visit of Canyon Matka**

**13<sup>30</sup>-15<sup>30</sup>** **Lunch**

**15<sup>30</sup>-16<sup>00</sup>** **Bus transport: Canyon Matka - Hotel Hilton**

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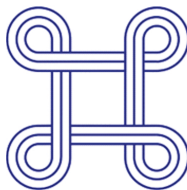
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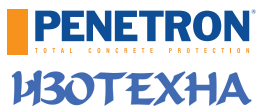
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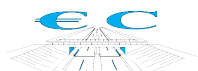
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