

PROGRAM STEPGRAD 2024 ПРОГРАМ СТЕПГРАД 2024

DAY 1 / June 13, Thursday

09:00	Registration (till 14:00)
09:30-10:30	Opening (room 0.18)
10:30-10:45	<i>Coffee break (café at AGGF)</i>
	Plenary lectures (room 0.18)
10:45-11:30	Ajla Akšamija , University of Utah (USA) <i>INNOVATIONS IN ARCHITECTURE: RESEARCH, DESIGN AND TECHNOLOGY</i>
11:30-12:15	Todor Stojanovski , KTH Royal Institute of Technology (Sweden) <i>URBAN MORPHOLOGY AND CITY INFORMATION MODELLING (CIM) – COMPUTATIONAL URBAN DESIGN IN THE PLANNERS' OFFICE OF THE FUTURE</i>
12:15-12:45	Vlatko Šešov , IZIS, Ss. Cyril and Methodius University in Skopje (North Macedonia) <i>SEISMIC RESILIENCE THROUGH EUROPEAN RESEARCH NETWORKING - CRISIS PROJECT</i> (online)
12:45-14:00	<i>Lunch break (catering in the café at AGGF)</i>
14:00-16:00	Parallel sessions (1, 2, 3)

DAY 2 / June 14, Friday

08:30-09:00	Registration
09:00-09:45	Plenary lecture (room 0.18) Marija Nefovska-Danilović , University of Belgrade (Serbia) <i>HUMAN-INDUCED VIBRATIONS OF CROSS-LAMINATED TIMBER FLOORS</i>
09:45-11:00	Parallel sessions (4, 5, 6)
11:00-11:30	<i>Coffee break (café at AGGF)</i>
11:30-13:00	Parallel sessions (7, 8, 9)
13:00-13:15	Closing of the Conference (room 0.18) Presentation of Erasmus+ APLE project (Architecture Pop-up Lab Exchange)
20:00	<i>Conference dinner (café at AGGF)</i>

DAY 3 / June 15, Saturday

10:00-14:00	Rafting on Vrbas river (for signed up participants)
-------------	-----------------------------------------------------

ДАН 1 / 13. јун, четвртак

09:00	Пријава и регистрација учесника (до 14 часова)
09:30-10:30	Свечано отварање конференције и обраћање спонзора (сала 1)
10:30-10:45	<i>Кафе пауза (кафе на АГГФ-у)</i>
	Пленарна предавања (сала 0.18)
10:45-11:30	Ајла Акшамија , Универзитет у Јути (САД) <i>ИНОВАЦИЈЕ У АРХИТЕКТУРИ: ИСТРАЖИВАЊЕ, ПРОЈЕКТОВАЊЕ И ТЕХНОЛОГИЈА</i>
11:30-12:15	Тодор Стојановски , Краљевски технолошки институт (Шведска) <i>УРБАНА МОРФОЛОГИЈА И ИНФОРМАЦИОНО МОДЕЛИРАЊЕ ГРАДА (ЦИМ) – КОМПЈУТЕРСКИ УРБАН ДИЗАЈН У КАНЦЕЛАРИЈИ БУДУЋНОСТИ ГРАДСКИХ ПЛАНЕРА</i>
12:15-12:45	Влатко Шешов , ИЗИИС, Универзитет „Св. Кирил и Методиј“ у Скопљу (Македонија) <i>СЕИЗМИЧКА ОТПОРНОСТ КРОЗ ЕВРОПСКО ИСТРАЖИВАЧКО УМРЕЖАВАЊЕ – ПРОЈЕКАТ 'CRISIS' (онлајн)</i>
12:45-14:00	<i>Пауза за ручак (кетеринг у кафеу на АГГФ-у)</i>
14:00-16:00	Паралелне сесије (1, 2, 3)

ДАН 2 / 14. јун, петак

08:30-09:00	Пријава и регистрација учесника
09:00-09:45	Позивно предавање (сала 0.18) Марија Нефовска Т. Даниловић , Универзитет у Београду (Србија) <i>ВИБРАЦИЈЕ МЕЂУСПРАТНИХ КОНСТРУКЦИЈА ОД УНАКРСНО ЛАМЕЛИРАНОГ ДРВЕТА ИЗАЗВАНЕ ЉУДСКИМ АКТИВНОСТИМА</i>
09:45-11:00	Паралелне сесије (4, 5, 6)
11:00-11:30	<i>Кафе пауза (кафе на АГГФ-у)</i>
11:30-13:00	Паралелне сесије (7, 8, 9)
13:00-13:15	Затварање конференције (сала 0.18) Презентација пројекта Erasmus+ APLE (Архитектонска Поп-Уп лабораторија за размену знања)
20:00	Конференцијска вечера (<i>кафе на АГГФ-у</i>)

ДАН 2 / 15. јун, субота

10:00-14:00	Рафтинг на Врбасу (за пријављене учеснике)
-------------	--------------------------------------------

ABOUT THE CONFERENCE

The Faculty of Architecture, Civil Engineering and Geodesy of the University of Banja Luka is the organizer and host of the International Conference on Contemporary Theory and Practice in Construction - STEPGRAD. The conference, the 16th in a row, will be held on June 13 and 14 in Banja Luka. STEPGRAD XVI conference continues the tradition of connecting researchers, teachers and experts from all over the world, experts in construction, architecture, geodesy and related fields. The conference enables the interaction of students, young engineers and scientists with more experienced members of the academic and professional community in order to discuss contemporary challenges in construction. The published works provide an insight into current scientific and professional knowledge in computational mechanics, engineering structures, building materials, roads, energy efficiency, urban planning, architecture, history of architecture, geodesy, engineering education, etc.

Thanks to the consistent application of strict academic standards and continuous progress in achieving quality and excellence, the Ministry of Scientific and Technological Development and Higher Education of the Republic of Srpska ranks STEPGRAD in the highest category. This year, out of almost 90 submitted manuscripts, 74 were accepted and categorized.

О КОНФЕРЕНЦИЈИ

Архитектонско-грађевинско-геодетски факултет Универзитета у Бањој Луци организатор је и домаћин међународне конференције Савремена теорија и пракса у градитељству – СТЕПГРАД. Конференција, 16. по реду, ће се одржати 13. и 14. јуна у Бањој Луци. Конференција СТЕПГРАД XVI наставља традицију повезивања истраживача, наставника и стручњака из цијелог свијета, експерата грађевинарства, архитектуре, геодезије и сродних области. Конференција омогућава интеракцију студената, младих инжењера и научника са искуснијим члановима академске и стручне заједнице у циљу дискусије о савременим изазовима у градитељству. Објављени радови пружају увид у актуелно научно и стручно знање из рачунске механике, инжењерских конструкција, грађевинских материјала, саобраћајница, енергетске ефикасности, урбанизма, архитектуре, историје архитектуре, геодезије, образовања инжењера, итд. Захваљујући досљедној примјени строгих академских норми и континуираном напретку у остваривању квалитета и изврности, Министарство за научнотехнолошки развој и високо образовање Републике Српске рангира СТЕПГРАД у највишу категорију - Међународни научни скуп од посебног значаја. Ове године, од скоро 90 достављених рукописа, 74 је прихваћено и категорисано.

STEPGRAD Conference is organized by
СТЕПГРАД конференцију организује



УНИВЕРЗИТЕТ У БАЊОЈ ЛУЦИ
UNIVERSITY OF BANJA LUKA
АРХИТЕКТОНСКО-ГРАЂЕВИНСКО-ГЕОДЕТСКИ ФАКУЛТЕТ
FACULTY OF ARCHITECTURE, CIVIL ENGINEERING AND GEODESY



GENERAL SPONSOR
ГЕНЕРАЛНИ СПОНЗОР

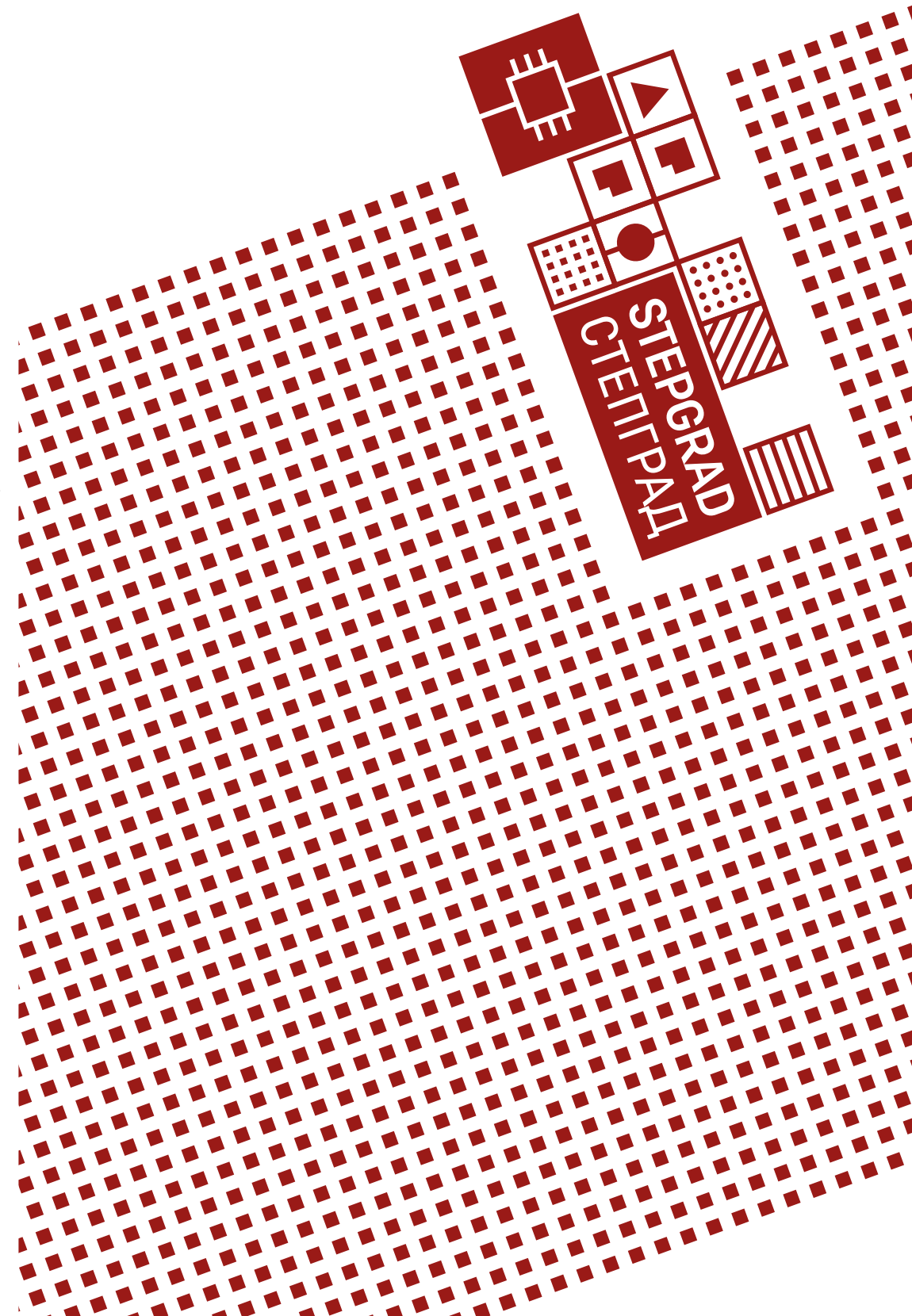


International conference on Contemporary Theory and Practice in Construction XVI

Banja Luka, June 13-14, 2024

Међународна конференција
Савремена теорија и пракса у градитељству XVI

Бања Лука, 13-14.06.2024.



Thursday, June 13

SESSION 1 СЕСИЈА 1 14:00-16:00

ARCHITECTURE [ROOM 2.14] **Moderators** Модератори
АРХИТЕКТУРА [САЛА 2.14] Darija Gajić, Nevena Novaković

#05 **ANALYZING ZONES FOR STANDING: ENHANCING VIBRANCY DURING PUBLIC EVENTS**
Tanja Mitrović, Milica Vračarić

#06 **APPLICABILITY OF THE TYPOLOGY OF RESIDENTIAL BUILDINGS IN BOSNIA AND HERZEGOVINA, AT A MUNICIPALITY OR CITY LEVEL, CASE STUDY - SINGLE-FAMILY HOUSES IN THE CITY DERVENTA**
Milovan Kotur, Goran Jevtić

#10 **DETERMINING THE THERMAL TRANSMITTANCE COEFFICIENT OF THE OPAQUE FAÇADE WALL ELEMENT USING NON-INVASIVE METHOD**
Slobodan Peulić, Darija Gajić, Jelena Kljakić, Biljana Antunović

#11 **DIVERSITY OF RESIDENTIAL BLOCKS OF NIŠ PERIPHERY – CONTRIBUTION TO THE GUIDELINES OF FUTURE URBAN POLICY**
Nataša Živaljević Luxor, Nada Kurtović Folić

#14 **HIGHRISE BUILDINGS IN HOUSING CONSTRUCTION: ECONOMIC EFFICIENCY VS SPATIAL BALANCE**
Tijana M. Vujičić, Brankica Milojević

#15 **IMPLEMENTING PARAMETRIC METHODS FOR ANALYSIS AND DESIGN TOWARDS SUSTAINABLE URBAN DEVELOPMENT**
Dajana Papaz, Maja Ilić, Tijana M. Vujičić

SESSION 2 СЕСИЈА 2 14:00-16:00

CIVIL ENGINEERING [ROOM 2.15] **Moderators** Модератори
ГРАЂЕВИНАРСТВО [САЛА 2.15] Borislava Blagojević, Zana Topalović

#32 **EVALUATION OF PROPERTIES OF MASONRY MORTARS BLENDED WITH CERAMIC WASTE POWDER**
Vladan Pantić, Slobodan Šupić, Mirjana Malešev, Gordana Bročeta, Marina Latinović-Krndija, Anđelko Cumbo

#33 **MODELING OF POROUS DRY MATERIALS USING RHEOLOGICAL-DYNAMICAL ANALOGY**
Dragan Milašinić, Nataša Mrda Bošnjak

#35 **SOME PHYSICAL PROPERTIES OF LIGHTWEIGHT MORTARS WITH EXPANDED VERMICULITE**
Jakob Sušteršić, Violeta Bokan Bosiljkov, Aljoša Šajna, Bojan Hertl, Rok Ercegović

#38 **ZOLLINGER LAMELLA VAULT OF EXISTING TIMBER HANGARS IN ŠIBENIK (CASE STUDY) – INITIAL CONDITION ASSESSMENT AND PRELIMINARY ANALYSIS OF GLOBAL STRUCTURAL FEATURES**
Adriana Bjelanović, Matija Sesek, Paulo Ščulac

#40 **RESEARCH ON THE LIQUEFACTION POTENTIAL OF THE TERRAIN ALONG THE MONTENEGRIN COAST**
Nikola Čadenović

#46 **REVIEW OF THE DEVELOPMENT OF SUSPENSION BRIDGES AND BRIDGES WITH INCLINED CABLES WITH A FOCUS ON NEW TECHNOLOGIES AND THE OAKLAND BAY AND YAVUZ SULTAN SELIM BRIDGES**
Mihailo Maksimović, Dajana Janković, Ognjen Mijatović

SESSION 3 СЕСИЈА 3 14:00-16:00

GEODESY [ROOM 2.16] **Moderators** Модератори
ГЕОДЕЗИЈА [САЛА 2.16] Vlado Cetl, Mehmed Batilović

#50 **INTEGRATION OF ResUNet AND YOLO ALGORITHMS INTO A UNIFIED MODEL FOR OBJECTS DETECTION**
Milan Gavrilović, Igor Ruskovski, Željko Bugarinović, Dušan Jovanović, Miro Govedarica

#53 **THE INFLUENCE OF GEODETIC BASE QUALITY IN ROAD DESIGN**
Nina Seva, Miloš Tutnjević, Ivana Stojković

#54 **APPLICATION OF CLOSE-RANGE UAV PHOTOGRAMMETRY IN THE DETECTION OF CRACKS ON FAÇADE**
Nikola Santrač, Mehmed Batilović, Marko Marković, Miro Govedarica, Pavel Benka

#55 **COMPARATION OF PHOTOGRAMMETRY AND TERRESTRIAL LASER SCANNING METHODS FOR EROSION MONITORING IN THE AREA OF DEVILS TOWN: PROJECT "DEMONITOR"**
Nenad Brodić, Mileva Samardžić-Petrović, Dragana Đurić, Anastasija Martinenko

#57 **DETECTION OF DISTRICT HEATING PIPELINE USING UAV-MOUNTED THERMAL CAMERA AND GPR SCANNING**
Aleksandar Ristić, Željko Bugarinović, Milan Vrtunski, Aleksandra Radulović, Milka Šarkanović Bugarinović, Dušan Jovanović

#62 **APPLICATION OF GEODETIC AND HYDROMETRIC MEASUREMENTS FOR THE PURPOSES OF DEFINING THE WATER BALANCE – THE EXAMPLE OF "DEDIN MLIN" NEAR SVETI ĐURD ON THE PLITVICA RIVER, CROATIA**
Bojan Đurin, Nikola Kranjčić, Vlado Cetl, Danko Markovinić, Ana Frntić

#63 **APPLICATION OF LASER SCANNING IN THE BASIC GEODETIC WORKS DURING THE RECONSTRUCTION OF THE THERMAL SPA GUBER COMPLEX**
Jovana Popović, Sanja Tucikešić, Tanja Đukanović, Miodrag Regodić

Friday, June 14

SESSION 4 СЕСИЈА 4 09:45-11:00

ARCHITECTURE [ROOM 2.14] **Moderators** Модератори
АРХИТЕКТУРА [САЛА 2.14] Malina Čvoro, Milena Dinić Branković

#09 **BETWEEN URBAN RESISTANCE AND PARTICIPATION: THE CASE OF A CIVIL INITIATIVE FOR THE PRESERVATION OF OPEN PUBLIC SPACE IN BANJALUKA**
Ana Špirić

#13 **GENESIS OF SUBURBAN FORMS FROM THE SECOND PART OF THE 20TH CENTURY ARCHITECTURE AND URBAN PLANNING IN CORRELATION WITH CULTURAL ASPECTS**
Zoran Uljarević, Malina Čvoro, Igor Kuvač

#20 **QUANTITATIVE AND QUALITATIVE ANALYSIS OF URBAN GREEN AREAS USING NON-PARAMETRIC TESTS**
Milana Radujković, Tanja Stupar, Marina Nikolić-Topalović

#21 **RECLAIMING PUBLIC OPEN SPACE WITHIN LOCALIZATION OF SUSTAINABLE DEVELOPMENT GOAL 11: THE PERSPECTIVE OF THE CITY OF NIŠ, SERBIA**
Milena Dinić Branković, Milica Igić

#29 **THE RELATION OF SPATIAL PLANNING DOCUMENTATION TO GREEN OPEN PUBLIC SPACES IN BOSNIA AND HERZEGOVINA**
Slobodan Bulatović

SESSION 5 СЕСИЈА 5 09:45-11:00

CIVIL ENGINEERING [ROOM 2.15] **Moderators** Модератори
ГРАЂЕВИНАРСТВО [САЛА 2.15] Gordana Bročeta, Anđelko Cumbo

#31 **EFFECT OF THE HRWRA QUANTITY ON DURABILITY PROPERTIES OF SELF-COMPACTING CONCRETE**
Jovan Volaš, Gordana Bročeta, Marina Latinović-Krndija, Slobodan Šupić, Vladan Pantić, Mirjana Malešev, Vlastimir Radonjanin, Anđelko Cumbo, Aleksandar Savić, Žarko Lazić, Draženka Lozo

#36 **STRESS AND STRAIN ON STATE ROAD IB33 IN SERBIA**
Milan Draganović, Jugoslav Karamarković, Snežana Đorić Veljković, Dušan Cvetković

#39 **OPTIMIZATION OF PURLINS CROSS-SECTION EXPOSED TO FIRE**
Milan Bursač, Svetlana Kostić

#42 **SAFETY REQUIREMENTS FOR TUNNELS REGARDING THE TRANSPORT OF DANGEROUS GOODS (ADR)**
Snežana Petković, Valentina Golubović Bugarški, Nataša Kostić

#45 **IMPROVING THE NETWORK OF SECONDARY ROADS IN URBAN SETTLEMENTS: CASE STUDY ISTOČNO NOVO SARAJEVO**
Zoran Spajić, Igor Jokanović, Milica Pavić

SESSION 6 СЕСИЈА 6 09:45-11:00

GEODESY [ROOM 2.16] **Moderators** Модератори
ГЕОДЕЗИЈА [САЛА 2.16] Sanja Tucikešić, Mileva Samardžić Petrović

#58 **GEOMATIC DATA FOR TREATMENT OF HISTORIC BRIDGES. THE CASE STUDY OF THE RIBNICA BRIDGE IN PODGORICA, MONTENEGRO**
Athanasios Iliodromitis, Radovan Đurović, Jovan Furtula, Gojko Nikolić, Vassilios Pagounis

#59 **GEOSPATIAL TOOLS FOR THE STUDY AND DOCUMENTATION OF THE COMMUNAL CULTURAL HERITAGE IN MOUNTAINOUS AND ISOLATED AREAS. THE CASE STUDY OF DOLO POGONIOU**
Charikleia Pagouni, Dimitrios Anastasiou, Athanasia Liberi, Eleni Vouklari, Vassilios Pagounis

#61 **VALIDATION OF THE NEQUICK AND IRI MODELS BASED ON DATA FROM IONOSONDES**
Slavica Ilijević, Sanja Grekulović, Miljana Todorović Drakul

#64 **CRUSTAL DEFORMATIONS AND THEIR IMPACT ON THE REALIZATION OF A NATIONAL COORDINATE REFERENCE SYSTEM: CASE STUDY AETOLIA-ACARNANIA, WESTERN GREECE**
Michail Gianniou, Antonios Charalampous

#65 **GEODETIC CONTROL OF THE GEOMETRY OF THE BRIDGE IN KULA USING TERRESTRIAL LASER SCANNING TECHNOLOGY**
Mehmed Batilović, Marko Marković, Vladimir Bulatović, Duro Krnić, Nikola Santrač

Friday, June 14

SESSION 7 СЕСИЈА 7 11:30-13:00

ARCHITECTURE [ROOM 2.14] **Moderators** Модератори
АРХИТЕКТУРА [САЛА 2.14] Jasna Guzijan, Svetlana Perović

#07 **APPLYING CONTEMPORARY PRINCIPLES FOR PRESERVING CULTURAL HERITAGE: A CASE STUDY OF THE MILITARY KITCHEN IN BELGRADE FORTRESS**
Ena Takač, Jelena Ščekić, Marko Nikolić

#16 **ORIGIN AND CONTINUITY OF THE SYMBOLIC FORM BY THE EXAMPLE OF MEMORIAL ARCHITECTURE IN THE CONTEXT OF THE YUGOSLAV IDEOLOGY**
Andrej Jovanović

#17 **AUTOTELICITY AS A CAPACITY OF ARCHITECTURAL CONCEPT: ARCHITECTURE OF CREATIVITY IN CHILDREN'S SPACES**
Diana Stupar, Maja Milić Aleksić, Ivan Živanović

#18 **FROM A TRADITIONAL OFFICE TO HYBRID WORKSPACE AND TELEWORKING: EXPERIENCES PRE-, DURING, AND POST-PANDEMIC PERIOD**
Sanja Paunović Zarić, Svetlana Perović, Ema Alihodžić Jašarović

#19 **FROM CHAPEL TO CONVENT: UNVEILING TOLISAS FRANCISCAN ARCHITECTURAL HERITAGE**
Miroslav Malinović, Jasna Guzijan, Siniša Cvijić, Milijana Okilj

#23 **THE PHENOMENON OF ATMOSPHERE IN ARCHITECTURE**
Maja Milić Aleksić, Diana Stupar, Ivan Živanović

#24 **FOCUSING A CITY BRANDING STRATEGY ON A LUMINARY: A CASE STUDY OF TREBINJE AND JOVAN DUČIĆ**
Jasna Guzijan, Siniša Cvijić, Miroslav Malinović, Milijana Okilj, Simo Radić

SESSION 8 СЕСИЈА 8 11:30-13:00

CIVIL ENGINEERING [ROOM 2.15] **Moderators** Модератори
ГРАЂЕВИНАРСТВО [САЛА 2.15] Igor Jokanović, Aleksandar Savić

#34 **REGIONALIZATION OF CATCHMENTS BASED ON SILHOUETTE WIDTHS FOR FLOOD RESPONSE ESTIMATION ACROSS SERBIA**
Borislava Blagojević, Aija Mulaomerović-Šeta, Vladislava Mihailović, Andrea Petroselli

#41 **REVIEW OF STRUCTURAL DEVELOPMENT OF DAMS WITH AN EMPHASIS ON THE CONSTRUCTION OF THREE GORGES DAM**
Aleksandra Jeremić, Jelena Stojičić, Ognjen Mijatović, Dijana Tatar

#43 **THE ROLE OF RESERVOIRS IN MITIGATING THE CONSEQUENCES OF CLIMATE CHANGE: CASE STUDY OF THE VRBAS RIVER BASIN**
Tina Dašić, Zana Topalović, Milica Sudar, Tamara Sudar

#48 **STUDY OF LONG-TERM WATER SUPPLY IN THE AREA OF MUNICIPALITY OF TEŠANJ, BOSNIA AND HERZEGOVINA**
Danijela Đervida, Biljana Cuso, Milica Santrač

SESSION 9 СЕСИЈА 9 11:30-13:00

OTHER [ROOM 2.16] **Moderators** Модератори
ОСТАЛО [САЛА 2.16] Sandra Kosić-Jeremić, Ana Lojić

#68 **FLASH FLOODS VULNERABILITY ASSESSMENT OF THE MUNICIPALITY OF ČELINAC, BOSNIA AND HERZEGOVINA**
Marko Ivanišević, Dragana Kuzmanović, Dajana Đuka, Dušica Lemez

#69 **MATHEMATICAL SUBJECTS AND THE ENTRANCE EXAM AS PREDICTORS OF THE ACADEMIC SUCCESS OF GEODESY STUDENTS**
Ljubiša Preradović, Đorđe Stojisavljević, Vladimir Mučenski

#70 **NESTED POLYNOMIALS TRIGONOMETRIC AND HYPERBOLIC TYPE WITH APPLICATIONS**
Snježana Maksimović, Arslan Ansari, Sandra Kosić-Jeremić

#71 **SCAFFOLDING TECHNIQUE IN GRAPHING ELEMENTARY FUNCTIONS – A CASE STUDY**
Sandra Kosić-Jeremić, Snježana Maksimović, Ljubiša Preradović

#72 **USING NATURAL LANGUAGE PROCESSING (NLP) FOR CATEGORIZING PAPER TITLES FROM GOOGLE FORMS**
Ana Lojić, Zerina Mašetić, Samed Jukić

#73 **INVESTIGATION OF THE PURPOSE OF THE TRAVEL IN THE AREA OF UNA – SANA CANTON FOR THE NEEDS OF EXPRESSWAY CONSTRUCTION**
Saša Ostojić, Marko Knežević, Dajana Đuka