



International conference

**INNOVATION AS A FUNCTION OF  
ENGINEERING DEVELOPMENT**

November 25-26, 2011 Niš, Serbia

## PRELIMINARY PROGRAMME

*Please note that this program is subject to change without prior notice from the organiser.*

### **FRIDAY 25<sup>th</sup> NOVEMBER**

*Tami Resident Hotel*

**08:00 – 10:00 Registration**

*Resident Hall*

**10:00 – 10:30 Opening Ceremony**

*Resident Hall*

**10:30 – 12:00 Plenary Session 1**

*Chairs Stevan Prohaska, Slaviša Trajković, Saeed Samadianfard*

**Ozgur Kisi, Halil Ibrahim Fedakar**

PREDICTION OF SUSPENDED SEDIMENT CONCENTRATION USING FUZZY-GENETIC APPROACH

**Josef Fürst**

MAKING COMPREHENSIVE AND CONSISTENT COUNTRY-WIDE HYDROLOGICAL INFORMATION AVAILABLE FOR A WIDE PROFESSIONAL AND SCIENTIFIC COMMUNITY: GIS BASED HYDROLOGICAL ATLASES

**Mladen Todorović, Nicola Lamaddalena, Simone Mereu**

MODERN TECHNOLOGIES AND TOOLS FOR INTEGRATED MANAGEMENT OF WATER AND LAND RESOURCES IN THE MEDITERRANEAN REGION

**Mohammad-Bagher Aghajanloo, Hossein Tabari**

IDENTIFYING TRENDS IN AUTOCORRELATED REFERENCE EVAPOTRANSPIRATION DATA IN IRAN

*Foyer*

**12:00 – 12:30 Coffee Break**

*Resident Hall*

**12:30 – 14:00 Plenary Session 2**

*Chairs Günther Schmid, Radomir Folić, Djordje Vuksanović*

**Elena Dumova-Jovanoska, Goran Markovski, Sergey Churilov**

FEM UPDATING OF EXISTING STRUCTURES BASED ON AMBIENT VIBRATION MEASUREMENTS

**Zvonko Tomanović**

EXPERIMENTAL RESEARCH AND COMPLEX RHEOLOGICAL MODELS OF SOFT ROCK AS A BASIS FOR NUMERICAL ANALYSIS OF THE STRESS DEPENDENT BEHAVIOR

**Tamara Nestorović**

IMPLEMENTATION OF PIEZOELECTRIC MATERIALS IN SENSING AND ACTUATION FOR MODEL IDENTIFICATION AND ACTIVE VIBRATION CONTROL



International conference

**INNOVATION AS A FUNCTION OF  
ENGINEERING DEVELOPMENT**

November 25-26, 2011 Niš, Serbia

---

*Resident Restaurant*

**14:00 – 15:00**      **Cocktail**

*VIP Hall*

**15:30 – 17:00**      **Presentation on scientific projects**

*Resident Hall*

**15:30 – 17:00**      **Session 1-1 Construction Engineering**  
*Chairs*                      *Zvonko Tomanović, Elena Dumova-Jovanoska*

**Danilo Ristić, Jelena Ristić**

SEISMICALLY SAFE CITIES OF THE FUTURE WITH ADVANCED INNOVATIONS AND EDUCATION: NEW ML-MD SEISMIC RESPONSE MODIFICATION SYSTEM

**Josif Josifovski**

ABSORBING BOUNDARY CONDITIONS AND PERFECTLY MATCHED LAYER MODEL FOR ELASTODYNAMIC ANALYSIS

**Petar Dimitrov Pavlov, Svetlana Velkova Lilkova-Markova, Borislav Nikolov Nakov, Janitza Tzvetanova Dancheva**

APPLICATION OF THE NEW ACHIEVEMENTS IN THE SIMULATING AND MEASURING APPARATUS FOR THE CONSTRUCTION OF A STAND FOR STUDY VIBRATIONS OF A PARTICLE

**Simona Markovska, Elena Dumova- Jovanoska**

COMPARATIVE WIND LOAD ANALYSIS ACCORDING TO EUROCODES AND NATIONAL STANDARDS

**Jelena Ristić, Elena Dumova-Jovanoska**

PUSHOVER ANALYSIS OF RC BRIDGE STRUCTURE USING EUROCODE 8 REGULATIONS

**Marina Četković, Đorđe Vuksanović**

NONLINEAR ANALYSIS OF LAMINATED COMPOSITE PLATES

**Mira Petronijević, Marija Nefovska-Danilović, Srđan Prodanović**

SUSTAINABLE DEVELOPMENT OF CITIES: EFFECTS OF TRAFFIC INDUCED VIBRATION ON HUMANS

*Tami Hall*

**15:30 – 17:00**      **Session 2-1 Architecture**  
*Chairs*                      *Nadja Kurtović-Folić, Petar Mitković*

**Ljiljana Vasilevska, Milorad Ribar**

LOW-RISE HIGH DENSITY HOUSING – RECOMMENDATION AND KEY PRINCIPLES IN THE PROCESS OF URBAN AND ARCHITECTURAL DESIGN

**Biljana Arandjelović**

THE REICHSTAG ARCHITECTURAL TRANSFORMATIONS

**Biljana Arandjelović, Ana Momčilović-Petronijević**

TRADITIONAL SERBIAN MORAVA TYPE HOUSE AND ITS INFLUENCE ON MODERN SERBIAN ARCHITECTURE



International conference

**INNOVATION AS A FUNCTION OF  
ENGINEERING DEVELOPMENT**

November 25-26, 2011 Niš, Serbia

**Nikola Krunic, Marina Nenković-Riznić, Saša Milijić**  
GIS APPLICATION IN SPATIAL DEVELOPMENT OF SERBIA

**Marina Nenković-Riznić, Saša Milijić, Nikola Krunic**  
INNOVATING EXISTING METHODOLOGIES IN STRATEGIC ENVIRONMENTAL IMPACT  
ASSESSMENT THROUGH THE USAGE OF SOTAVENTO METHOD

**Ivana Lukić, Đordje Nenadović, Vladimir Kovač**  
INNOVATION IN CONTEMPORARY URBAN VISUAL COMMUNICATION

*Foyer*

**17:00 – 17:30 Coffee Break**

*Resident Hall*

**17:30 – 19:00 Session 1-2 Construction Engineering**  
*Chairs Mira Petronijević, Miloš Knežević, Meri Cvetkovska*

**Meri Cvetkovska, Ljupčo Lazarov, Koce Todorov**  
FIRE RESISTANCE OF RC FRAME IN CASE OF POST EARTHQUAKE FIRE

**Ana Trombeva Gavriloska, Meri Cvetkovska, Todorka Samardzioska, Viktor Gavriloski**  
EXPERIMENTAL DETERMINATION OF REINFORCEMENT RATIO INFLUENCE ON  
MECHANICAL PROPERTIES OF FRP MATERIALS

**Marijana Lazarevska, Miloš Knežević, Meri Cvetkovska**  
COMPARISON OF NUMERICAL ANALYSES AND NEURAL NETWORK'S PROGNOSTIC  
MODEL

**Julijana Cvetanovska, Vlatko Sesov, Igor Gjorgiev, Kemal Edip**  
GIS APPLICATION IN EARTHQUAKE GEOTECHNICAL ENGINEERING PROBLEMS

**Kemal Edip, Mihail Garevski, Christoph Butenweg, Vlatko Sesov, Julijana Cvetanovska, Igor  
Gjorgiev**  
APPLICATION OF COUPLED FINITE AND INFINITE ELEMENTS IN NUMERICAL  
SIMULATION OF GEOTECHNICAL PROBLEMS

**Igor Gjorgiev, Mihail Garevski, Vlatko Sesov, Julijana Cvetanovska, Kemal Edip**  
RESPONSE OF BASE ISOLATED STRUCTURE CONSIDERING THE SOIL STRUCTURE  
INTERACTION EFFECTS

**Ivan Lukić, Vesna Milovanović, Igor Džolev**  
COST EFFECTIVE ANALYSIS OF INSULATION THICKNESS OF FAÇADE WALLS

**Bojan Matić, Djordje Uzelac, Ranko Okuka**  
IMPLEMENTATION OF NEW METHODOLOGY AND SOFTWARE SOLUTION FOR  
ASSESSING THE CONDITION OF BRIDGES IN SERBIA

**Ranko Okuka, Bojan Matić**  
KRALJEVO EARTHQUAKE - STRATEGY FOR PREVENTIVE REHABILITATION OF  
MASONRY BUILDINGS IN SEISMICALLY ACTIVE ZONES

**Edisa Nukić, Rijad Šišić, Edin Delić, Abduselam Adilović**  
NUMERICAL SIMULATION OF DIFFERENT FIRE SCENARIOS IN VRANDUK 2 TUNNEL



International conference

**INNOVATION AS A FUNCTION OF  
ENGINEERING DEVELOPMENT**

November 25-26, 2011 Niš, Serbia

*VIP Hall*

**17:30 – 19:00**      **Session 3-1 Water Resources Engineering**  
*Chairs*                      *Ozgur Kisi, Josef Fürst, Mladen Todorović*

**Saeed Samadianfard, Ali Ashraf Sadraddini, Slaviša Trajković**  
ESTIMATING REFERENCE EVAPOTRANSPIRATION IN A CASE OF LIMITED WEATHER  
DATA USING GENETIC PROGRAMMING

**Borislava Blagojević, Aleksandra Ilić**  
AN ALGORITHM FOR IDENTIFICATION OF HYDROLOGIC HOMOGENEOUS REGION FOR  
UNGAUGED BASIN

**Djordje Djordjević, Lazar Ignjatović, Srbislav Nešić**  
"BIOTOKSINOMER" -- A BIO-DEVICE FOR WATER QUALITY CONTROL

**Djordje Djordjević, Lazar Ignjatović, Čedomir Antanasijević**  
NUMERICAL MODEL OF OIL AND GREASE SEPARATOR FROM WASTE WATER

**Andrijana Todorović, Miloš Stanić, Dušan Prodanović, Jasna Plavšić**  
ADVANCED HYDROLOGICAL MODELLING IN URBAN AREAS USING  
HYDROINFORMATIC TOOLS

*Tami Hall*

**17:30 – 19:00**      **Session 4-1 Other engineering disciplines**  
*Chairs*                      *Miroslav Trajanović, Tamara Nestorović, Jugoslav Karamarković*

**Snežana Djorić-Veljković, Jugoslav Karamarković**  
CHALLENGES AND POSSIBILITIES OF APPLICATION OF OLED LIGHT SOURCES

**Predrag Milić, Miomir Jovanović**  
THE REAL RESPONSIBLE ELEMENTS PROPERTIES OF TRANSPORTATION MACHINES'  
SUPPORTING STRUCTURES

**Vujadin Aleksić, Ljubica Milović**  
THE APPLICATION OF THE PARAMETRIC PROGRAMMES FOR MODELLING IN  
PREPARATION FOR ND TESTING AND PREPARATION OF THE TESTING REPORT

**Jelena Tanasijević, Marina Savić, Jovan Jovanović, Mića Jovanović**  
IMPROVED TECHNICAL SOLUTION OF POWER PLANT COAL STORAGE

**Ana Veljašević, Marina Savić, Jovan Jovanović, Mića Jovanović**  
NEW METHOD FOR CRUDE OIL STORAGE TANKS EVAPORATIVE LOSSES  
DETERMINATION

**Darko Avramović, Dragoljub Novaković, Nemanja Kašiković, Gojko Vladić**  
USE OF DATABASES IN E-LEARNING SYSTEMS

**Nataša Bogdanović, Jovica Bogdanović, Aleksandar Spasić**  
COMPUTER SIMULATION IN ACOUSTIC DESIGN OF A THEATRE PERFORMANCE HALL

**Ana Luković, Goran Janačković**  
MULTI-CRITERIA DECISION ANALYSIS FOR WASTEWATER TECHNOLOGY SELECTION



International conference

**INNOVATION AS A FUNCTION OF  
ENGINEERING DEVELOPMENT**

November 25-26, 2011 Niš, Serbia

**Asja Damadžić, Nadira Kuljuh**

TEACHING STYLES ON EXAMPLE OF STRUCTURAL ANALYSIS AND DESIGN COURSE  
FOR THE STUDENTS OF ARCHITECTURE

*Resident Restaurant*

**20:00 – Official Dinner**

**SATURDAY 26<sup>th</sup> NOVEMBER**

*Residence Hall*

**09:30 – 11:00 Session 1-3 Construction Engineering**

*Chairs Zvonko Tomanović, Josif Josifovski, Rijad Šišić*

**Zoran Bonić, Verka Prolović, Nebojša Davidović, Rijad Šišić**

PUNCHING SHEAR STRENGTH OF COLUMN FOOTINGS IN ACTUAL DESIGN CODES AND  
THEIR EXPERIMENTAL INVESTIGATION

**Nebojša Davidović, Zoran Bonić, Verka Prolović, Aleksandar Šutanovac**

CRITICAL ANGLE OF REPOSE OF UNCOMPACTED SEPARATED RIVER GRAVEL 16/32MM

**Aleksandra Cilić, Danijela Djurić-Mijović**

POSITIVE EFFECTS OF OUTRIGGER TRUSSES

**Danijela Djurić-Mijović, Aleksandra Cilić, Gordana Broćeta**

SEISMIC DESIGN OF THE GLAZED BUILDING ENVELOPE

**Zoran Grdić, Gordana Topličić Ćurčić, Nenad Ristić, Iva Despotović**

IMPACT RESISTANCE OF MICRO-REINFORCED CONCRETE WITH STEEL AND  
POLYPROPYLENE FIBRES

**Tomislav Igić, Marina Mijalković, Dragana Turnić**

LIMIT ANALYSIS AND OPTIMUM DIMENSIONING OF SHELLS

*VIP Hall*

**09:30 – 11:00 Session 2-2 Architecture**

*Chairs Nadja Kurtović-Folić, Nikola Cekić*

**Nikola Cekić, Milenko Stankovic, Miloš Dačić**

FUNCTIONAL INNOVATIONS IN URBARCHITECTURE OF STUDENT HOSTELS

**Miloš Dačić, Nikola Cekić, Milenko Stanković**

INNOVATING ARCHITECTURAL DESIGN WITH PARAMETERIZATION AND  
COLLABORATION

**Ivana Bogdanović Protić**

EUROPEAN COUNTRIES EXPERIENCES IN URBAN REGENERATION OF RESIDENTIAL  
COMPLEXES WITH MULTIFAMILY HOUSING

**Nevena Grubić**

SUSTAINABLE STRUCTURAL USE OF ALUMINIUM IN ARCHITECTURE AND CIVIL  
ENGINEERING



International conference

**INNOVATION AS A FUNCTION OF  
ENGINEERING DEVELOPMENT**

November 25-26, 2011 Niš, Serbia

---

**Ljiljana Jevremovic, Marina Jordanović, Milanka Vasić**

CONTEMPORARY TRENDS IN DESIGNING WINERIES, INNOVATIVE ENGINEERING VS. TRADITIONAL CONSTRUCTION

**Vuk Milošević, Jelena Savić**

STRUCTURAL STATUS EVALUATION AND APPLICATION OF INNOVATIVE STRUCTURAL AND ARCHITECTONIC MEASURES DURING REVITALIZATION

**Miomir Vasov, Jelena Savić, Danijela Milanović**

MODERN FACADE SYSTEMS IN THE FUNCTION OF RESHAPING OF EXISTING FACADES

**Aleksandra Koneski**

UTILIZATION OF URBAN INTERACTIVE DISPLAYS FOR THE PURPOSE OF REANIMATION OF THE PUBLIC URBAN AREA – ON THE EXAMPLE OF KRALJA MILANA SQUARE IN NIS

**Petar Pejić, Emilija Petrić, Sonja Kراسić**

RESTITUTION AND PHOTOGRAMMETRY AS A METHOD OF CREATING THREE-DIMENSIONAL ARCHITECTURAL MODELS

*Tami Hall*

**09:30 – 11:00**      **Session 4-2 Other engineering disciplines**

*Chairs*                      *Srdjan Glišović, Dragan Arandjelović*

**Milić Pejović, Momčilo Pejović, Nikola Nešić, Nataša Bogdanović, Zijad Bajramović**

THE EVOLUTION OF TIME DELAY OF ELECTRICAL BREAKDOWN MEASUREMENT SYSTEM

**Milan Protić, Dragan Mitić, Velimir Stefanović, Jordan Hristov**

EFFECTS OF STRAW BALE FRAGMENTATION ON ROTATIONAL CHOPPER OF NOVEL DESIGN

**Ivan Stanković, Milan Gocić, Dragan Janković**

COLLABORATION AND ISSUE TRACKING IN CONTEMPORARY COMPANIES

**Filduza Prusević-Sadović, Enis Sadović**

LIFELONG LEARNING IN CIVIL ENGINEERING EDUCATION

**Maja Stanojević Gocić**

INNOVATIVE TECHNOLOGIES IN TEACHING ENGLISH FOR ENGINEERING

*Foyer*

**11:00 – 11:30**      **Coffee Break**

*Residence Hall*

**11:30 – 13:00**      **Session 1-4 Construction Engineering**

*Chairs*                      *Radomir Folić, Danilo Ristić*

**Slobodan Ranković, Radomir Folić, Dušan Kovačević**

EXPERIMENTAL DETERMINATION OF MECHANICAL CHARACTERISTICS OF FRP REINFORCEMENT BARS



International conference

**INNOVATION AS A FUNCTION OF  
ENGINEERING DEVELOPMENT**

November 25-26, 2011 Niš, Serbia

**Todor Vacev, Slobodan Ranković**

INNOVATION VERSUS RELIABILITY THROUGH DIAGNOSTICS OF ONE CRANE RUNWAY

**Slavko Zdravković, Dragan Zlatkov, Vlado Micov**

SEISMIC RISK AND HAZARD IN THE DESIGN OF CIVIL ENGINEERING STRUCTURES

**Marija Spasojević-Šurdilović, Ana Spasojević**

ANALYTICAL SOLUTIONS FOR DETERMINING TENSION FORCE IN STRANDS OF BRIDGE STAY CABLE IN ISOTENSION PROCEDURE

**Ana Spasojević, Marija Spasojević-Surdilović, Dario Redaelli**

POSSIBILITIES FOR STRUCTURAL APPLICATIONS OF ULTRAHIGH PERFORMANCE FIBRE-REINFORCED CONCRETE

**Biljana Matejević**

CONSIDERATION THE POSSIBILITY OF DETERMINING THE CRITICAL PATH IN REPETITIVE SCHEDULING METHOD

**Ovidiu Gavris**

STATIC RESPONSE OF THE DECKS BRIDGES USING THE FINITE STRIP METHOD

**Jovan Br. Papić, Vasil Vitanov, Milorad Jovanovski, Igor Peševski, Biljana Krsteska-Papić**

MODELING EXERCISES AS VALUABLE TOOL FOR SHAPING STUDENTS' KNOWLEDGE

**Spasen Gjurdjevski, Jovan Br. Papić, Atanas Strašeski, Bojan Susinov**

SYNERGY THROUGH DESIGN OF RETAINING WALL IN THE ST. JOVAN BIGORSKI MONASTERY COMPLEX

*VIP Hall*

**11:30 – 13:00**      **Session 2-3 Architecture**

*Chairs*                      *Ljiljana Vasilevska, Goran Jovanović*

**Goran Jovanović, Branislava Stoiljković, Mirko Stanimirović**

NEW TENDENCIES IN RESIDENTIAL SPACE ORGANIZATION

**Mirko Stanimirović, Goran Jovanović**

NEW TENDENCIES IN SPACE ORGANIZATION REGARDING RESIDENCE OF THE ELDERLY

**Branislava Stoiljković, Slaviša Kondić, Milan Sazdanović**

APARTMENT OPEN AREAS AS INDIVIDUALIZATION FACTOR IN MULTI-FAMILY HOUSING

**Milica Živković, Milan Tanić, Slaviša Kondić**

CONVERSION OF OBSOLETE BUILDINGS TO RESIDENTIAL BUILDINGS IN THE CONTEX OF SUSTAINABLE DEVELOPMENT

**Aleksandar Milojković, Marko Nikolić**

PASSIVHAUS IN MOLKEREISTRASSE IN VIENNA, AUSTRIA – AN EXAMPLE OF „USABLE“ ARCHITECTURE



International conference

**INNOVATION AS A FUNCTION OF  
ENGINEERING DEVELOPMENT**

November 25-26, 2011 Niš, Serbia

**Aleksandar Milojković, Marko Nikolić**

MUSEUM ARCHITECTURE AT THE BEGINNING OF THE 21 CENTURY – FROM SPECTACULAR ARCHITECTONIC FORM TO THE “NEUTRAL” MINIMALISM

**Marija Stamenković, Dragan Gavrilović**

GREEN ROOFS AS A TOOL FOR MANAGING RAINWATER RUNOFF

*Tami Hall*

**11:30 – 13:00**      **Session 3-2 Water Resources Engineering**

*Chairs*                      *Hossein Tabari, Srdjan Kolaković, Snežana Đorić-Veljković*

**Dragan Arandjelović**

MEASURING OF WATER DISCHARGE IN OPEN CHANNELS

**Slaviša Trajković, Milan Gocić**

ANN-BASED MODEL OF ESTIMATING MAXIMUM DISCHARGE IN THE IRRIGATION SYSTEM

**Milan Gocić, Slaviša Trajković**

AN APPROACH TO SPECIFY REFERENCE EVAPOTRANSPIRATION

**Dragan Milićević, Borislava Blagojević, Vladimir Nikolić**

APPLICATION OF SPATIAL DECISION SUPPORT SYSTEM IN THE INTEGRAL PROTECTION OF WATER RESOURCES FROM POLLUTION

*Foyer*

**13:00 – 13:30**      **Closing Ceremony**