



SUMMER
SCHOOL
OF

**ARCHITE
CTURE**

2024

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University of Belgrade
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Grande école d'ingénieurs
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SUMMER
SCHOOL
OF
ARCHITECTURE
BELGRADE
2024

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**UNIVERSITY OF BELGRADE
FACULTY OF ARCHITECTURE**

**ESTP - GRANDE ÉCOLE D'INGÉNIEURS
DE LA CONSTRUCTION**

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BELGRADE
JUNE 10 TO JULY 12, 2024



PROGRAM:



1st WEEK

MONDAY 10.06.

14.00 Welcome speech, presentation of the Summer School program

15.30 Guest lecture: Earthquake effects on structures and innovative systems for earthquake protection / Marko Marinković, PhD - Assistant professor, University of Belgrade - Faculty of Civil Engineering

TUESDAY 11.06.

9.00 – 10.30 Architectural creating as an authentic inscription of history - from prehistoric period up to XIX century on the territory of Serbia / Nevena Debljović Ristić, PhD - Assistant professor

11.00 – 12.30 Development of architecture in Serbia in the XX century / Irena Kuletin Čulafić, PhD - Assistant professor

14.00 – 15.30 Belgrade as a capital city / Tanja Damjanović Conley, PhD - Associate Professor at Massachusetts College of Art and Design, Boston USA

WEDNESDAY 12.06.

9.30 – 11.00 Cultural and Ecological Dimensions of Heritage: Architectural Design Tools for Wellbeing Enhancement / Jelena Ristić Trajković, PhD - Associate Professor

11.30 – 12.30 Sustainable urban planning practices: Mainstreaming the Nature-Based Solutions / Ksenija Lalović, PhD - Associate Professor

13.00 – 14.00 Conservation practice– challenges in Serbia - Lecture in the Cultural Monument Protection Institute / Ljubica Radovanović, Cultural Heritage Preservation Institute of Belgrade

14.00-15.00 Guided tour at Kalemegdan fortress/ Ivana Filipović Yorke, Architect at Cultural Heritage Preservation Institute of Belgrade



THURSDAY 13.06.

9.00 – 10.30 Recreation potential of urban landscapes / Jelena Živković, PhD - Associate Professor

11.00 – 12.30 Green building technologies and certification / Nataša Ćuković Ignjatović., PhD - Associate Professor

14.00 – 16.00 Architectural memory of the city, Lecture followed by a walk around central Belgrade / Ivan Rašković, Professor

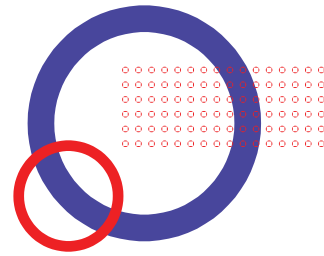
FRIDAY 14.06.

9.30 – 11.00 Tradition in the use of building materials in Serbia / Radivojević Ana, PhD – Professor

11.30 -13.00 Development of structures and building techniques in Serbia during the 19th and 20th centuries/ Ljiljana Đukanović, PhD - Associate Professor

14.00 – 15.30 Serbian building stock characteristics – energy performance and material aspects / Dušan Ignjatović, PhD – Professor

16.00 – 17.00 Contemporary Serbian architecture – Awarded projects, and Architecture & Urban Design competitions / Ksenija Pantović, PhD - Assistant Professor



2nd WEEK

MONDAY 17.06.

9.00 – 10.30 Advanced structural systems / Jelena Milošević, PhD - Assistant professor

11.00-13.00 Digital geometry applications in architecture / Mirjana Devetaković Radojević, PhD - Associate Professor

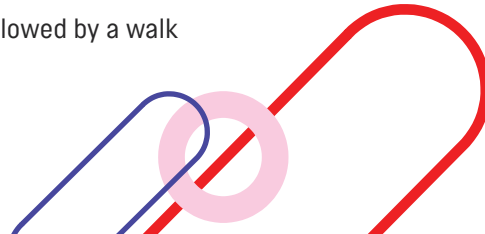
14.00-16.00 Introduction in the world of Rhinosceros / Jelena Ivanović, PhD - Assistant Professor

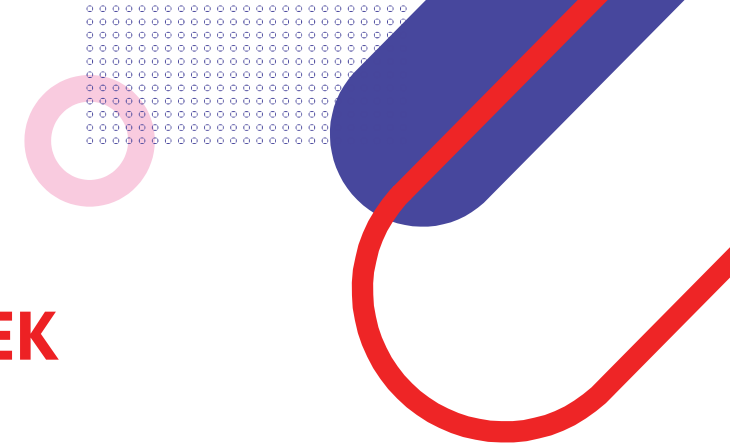
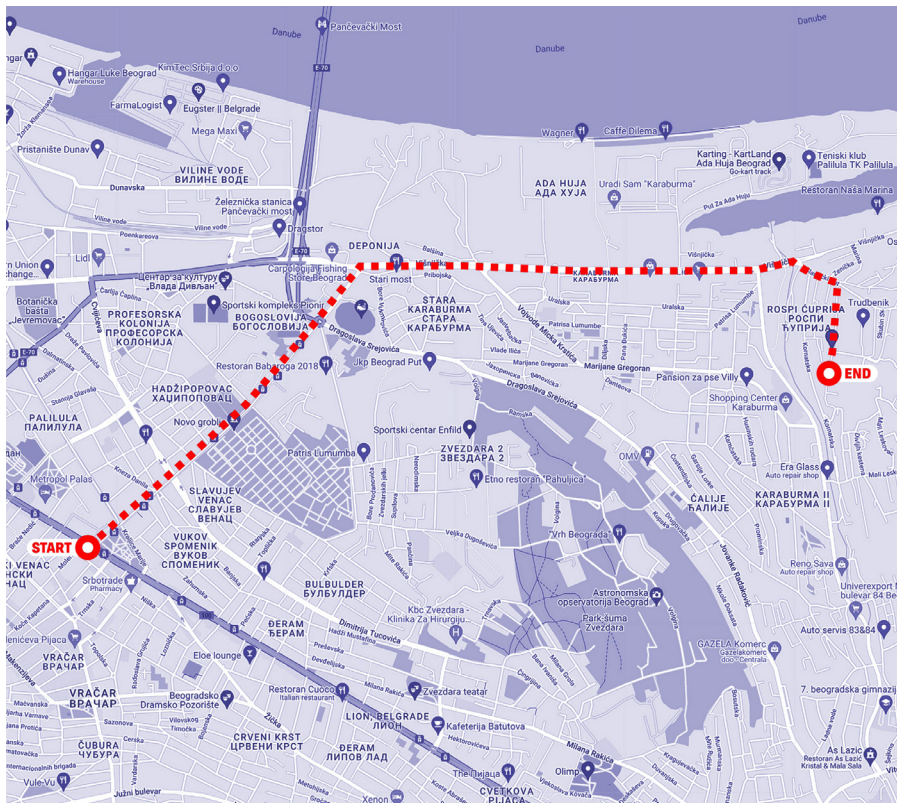
TUESDAY 18.06.

10.00 – 13.00 WORKSHOP - URBANISM: RE-CREATING BRICKYARD / Ksenija Lalović, PhD - Associate Professor, Jovana Bugarski, M.Arch, Teaching Assistant, Predrag Jovanović, Teaching Assistant with PhD

Visit of the former "Polet" brickyard factory site

14.00 – 17.00 WORKSHOP – A GEOMETRIC ADVENTURE IN THE WORLD OF GRASSHOPPER / Mirjana Devetaković Radojević, PhD - Associate Professor, Jelena Ivanović, PhD - Assistant Professor





3rd WEEK

TUESDAY 25.06.

10.00 – 13.00 WORKSHOP - URBANISM: RE-CREATING BRICKYARD / Ksenija Lalović, PhD - Associate Professor, Jovana Bugarski, M.Arch, Teaching Assistant, Predrag Jovanović, Teaching Assistant with PhD

13.00 – 14.30 Guest lecture: EARTH ARCHITECTURE / Dragana Kojičić, architect, Center for building with earth

15.00 – 18.00 WORKSHOP – WORKSHOP – A GEOMETRIC ADVENTURE IN THE WORLD OF GRASSHOPPER / Mirjana Devetaković Radojević, PhD - Associate Professor, Jelena Ivanović, PhD - Assistant Professor

WEDNESDAY 26.06.

9.30 Bus drive to Mošorin, Center for building with earth

11.30 – 13.00 WORKSHOP on building with earth in Mošorin earth&crafts center

13.00-14.00 lunch break

14.00 – 16.00 WORKSHOP on techniques of finishes in clay materials in Mošorin earth&crafts center

17.00 Bus drive back to Belgrade

THURSDAY 27.06.

10.00 – 13.00 WORKSHOP - ARCHITECTURE PROJECT DEVELOPMENT: RE-CREATING BRICKYARD / Maja Dragišić, PhD - Assistant Professor, Snežana Zlatković, Teaching Assistant with PhD

14.00 – 17.00 WORKSHOP – ARCHITECTURE/CONSTRUCTION TECHNOLOGY: RE-CREATING BRICKYARD / Nataša Čuković Ignjatović, PhD - Associate Professor, Tijana Žišić, M.Arch, Teaching Assistant

WEDNESDAY 19.06.

9.00 – 11.00 Belgrade in plural / Zoran Đukanović, PhD – Professor

11.30 – 13.00 Public art for public space – Dreaming by doing / Zoran Đukanović, PhD - Professor

14.00-15.30 Development of housing in Serbia / Maja Dragišić, PhD - Assistant Professor

THURSDAY 20.06.

10.00 – 13.00 WORKSHOP - ARCHITECTURE PROJECT DEVELOPMENT: RE-CREATING BRICKYARD / Maja Dragišić, PhD - Assistant Professor, Snežana Zlatković, Teaching Assistant with PhD

14.00 – 17.00 WORKSHOP - ARCHITECTURE/CONSTRUCTION TECHNOLOGY: RE-CREATING BRICKYARD / Nataša Čuković Ignjatović, PhD - Associate Professor, Tijana Žišić, M.Arch, Teaching Assistant



illustration: photo - Achim Flori & Cosmin Neagu



4th WEEK

TUESDAY 02.07.

10.00 – 11.30 Guest lecture: Digital Tools in Circular Built Environment / Ana Nadadži, Assistant professor, University of Belgrade - Faculty of Civil Engineering

12.00 – 14.00 WORKSHOP - URBANISM: RE-CREATING BRICKYARD / Ksenija Lalović, PhD - Associate Professor, Jovana Bugarski, M.Arch, Teaching Assistant, Predrag Jovanović, Teaching Assistant with PhD

14.00 – 16.00 WORKSHOP – A GEOMETRIC ADVENTURE IN THE WORLD OF GRASSHOPPER / Mirjana Devetaković Radojević, PhD - Associate Professor, Jelena Ivanović, PhD - Assistant Professor

THURSDAY 04.07.

10.00 – 13.00 WORKSHOP – ARCHITECTURE PROJECT DEVELOPMENT: RE-CREATING BRICKYARD / Maja Dragišić, PhD - Assistant Professor, Snežana Zlatković, Teaching Assistant with PhD

13.00 – 13.30 Guest lecture: Unlocking Success: Innovative Project Delivery Methods for High-Performance Buildings / Zorana Petojević, PhD - Assistant professor, University of Belgrade Faculty of Civil Engineering & Zurich University of Applied Sciences

14.00 – 17.00 WORKSHOP – ARCHITECTURE/CONSTRUCTION TECHNOLOGY: RE-CREATING BRICKYARD / Nataša Čuković Ignjatović, PhD - Associate Professor, Tijana Žišić, M.Arch, Teaching Assistant

5th WEEK

TUESDAY 9.07.

10.00 – 13.00 WORKSHOP FINALIZATION / all workshop coordinators

WEDNESDAY 10.07.

PREPARATION OF FINAL PRESENTATIONS

THURSDAY 11.07.

PREPARATION OF FINAL PRESENTATIONS

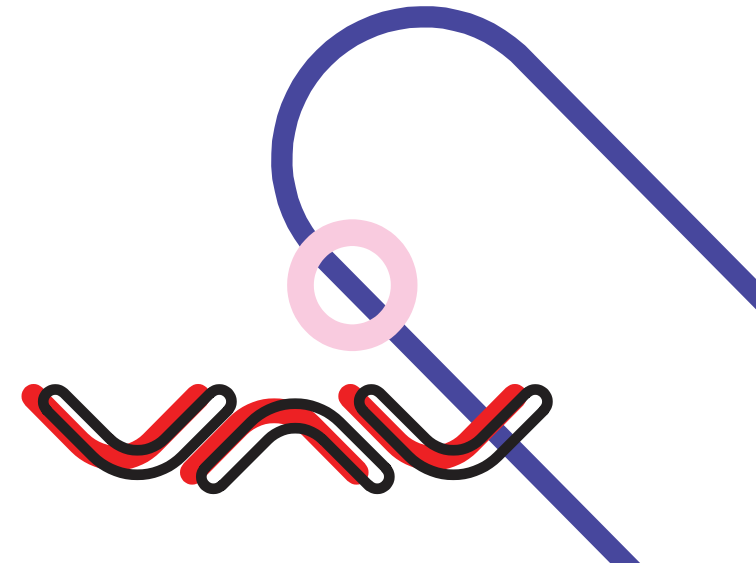
FRIDAY 12.07.

12.00 – 13.00 Exhibition of workshops' results and student presentations at the French Institute

13.00 Wrap up and closing speech

17.00 Reception at the French embassy

21.00 FAREWELL DINNER/PARTY





WORKSHOPS:



URBANISM: Re-creating brickyard - urban design

Ksenija LALOVIĆ, PhD, Associate Professor, UBFA
Predrag JOVANOVIĆ, Teaching Assistant with PhD
Jovana BUGARSKI, M.Arch, Teaching Assistant

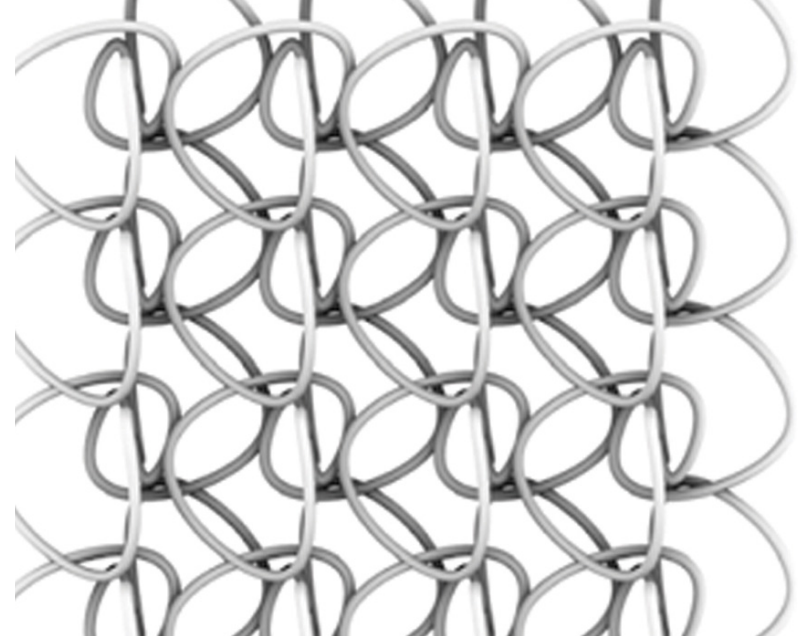
The URBAN DESIGN workshop will be focusing on reading, understanding and re-creating the open public space within the area of former "Polet" brickyard factory. The "Polet" factory is one of the many industrial brownfields in Belgrade and has been exposed to spatial transformation processes in accordance with the changing needs of modern society. These processes include the search for new temporary or permanent uses and activities that will ensure the continued usability, livability and vitality of these city spaces.

The aim of the workshop project is to explore urban design strategies for further sustainable and circular re-use of buildings and complementary open spaces that have been previously abandoned or unutilized. The workshop should result in innovative ideas and a wide range of possible urban design interventions that could boost the sustainable transformation of the area.

The workshop will be conducted through four phases: a) Context analysis - Understanding social and spatial context, b) Concept - Defining the concept through mapping the needs of different groups of users and programming activities, c) Design - multifunctional spatial intervention and d) Presentation-reflection.



illustration: 3D Curve and 2D pattern composition; Boško Zdravković, student work. Geometric Adventure in the World of Grasshopper, 2023



GEOMETRY: A Geometric Adventure in the World of Grasshopper

Mirjana DEVETAKOVIĆ RADOJEVIĆ, PhD - Associate Professor
Jelena IVANOVIĆ, PhD - Assistant Professor

This is a workshop of digital modelling of geometric form, using the Rhino 3D/Grasshopper software. The aim of the Workshop is acquiring basic knowledge and skills of parametric modelling and understanding the concepts of variability, control and automatization in the process of geometry creation. Through this way of digital modelling, the Workshop is also aimed at stimulating creative thinking and innovation that could be applied in students' own design projects.

The Workshop consists of five parts: An introductory part that will be given in the lectures on parametrization in creation of architectural form, and Rhino/Grasshopper basics; Parametric 2D pattern – In the first of three classes, the students will be guided step by step in creation of a simple, yet visually very expressive 2D pattern; Spatial curves – In this exercise the basic knowledge of mathematic, related to spatial curves, is integrated in Grasshopper parametric systems; Combination of 2D patterns and spatial curves – In this part students will combine the contents of the previous two parts of the Workshop, creating a parametrized, spatial geometric composition; Exhibition of students' works.

The results of the student activity will be printed and displayed after each part of the Workshop. At the end of the Workshop the final exhibition will be organized. Selected student models will be 3D printed. After this Workshop the students will be able to comprehend parametric approach in creation of geometric form, to understand and to create simple Grasshopper definitions.

ARCHITECTURE project development: Re-creating brickyard

Maja DRAGIŠIĆ, PhD, Assistant Professor, UBFA
Snežana ZLATKOVIĆ, PhD, Teaching Assistant with PhD

Theme of the architectural project workshop is based on the question of how to think big and build small in order to challenge industrial heritage. Working on the architectural project of the new structure in the highly complicated context of brickyard "Polet" in Belgrade, students will be encouraged to explore different scenarios of urban futures and to investigate alternative city usage in the face of contemporary demands. Transformation of traditional values and principles of industrial buildings into new spatial concepts and models, will be tested on the small-scale project that should be treated with more ephemerality and replaceability, contrary to the traditionalist approach to the eternal in architecture. The aim of the workshop is to examine whether the new architecture is able to be flexible and adaptable enough to become a natural extension of industrial identity.

The architectural project will be develop as a study of characteristic fragments of a small scale project, dealing with several research questions: what is the idea: analysis of context in terms of the ideas for the new structure, how to understand the idea: programmatically and spatially examine the possible architectural concepts, how to develop architectural concept from the idea: development of the new structure and how to present the idea: finalization and presentation of architectural project. Design process should be understood as the study of terms and procedures that make up the language of industrial heritage, from inspiration and idea, through elaboration and verification, all the way to the graphic and expressive aspect of the architectural project.



illustration: The Catenary and the Arc Installation /
Manuel Bouzas + Santiago del Aguila / Palma de Mallorca (2019)



illustration: "From Gray to Green" -
Dušan Ignjatović & Nataša Čuković Ignjatović, Belgrade Design Week 2009.

ARCHITECTURE/CONSTRUCTION TECHNOLOGY: Re-creating brickyard

Nataša ČUKOVIĆ IGNJATOVIĆ, PhD, Associate Professor, UBFA
Tijana ŽIŠIĆ, M.Arch, Teaching Assistant

Transformation of existing structures is, in fact, a quest for new qualities of the 40+ years old buildings that can be delivered through contemporary architecture/construction technology. Obsolescence has its social, spatial, aesthetic and aspects intertwined with functional and technological issues. Thus, the transformation demands a specific approach, sensitive to multiple layers as well as perception of today's demands and future (un)certainties.

The workshop tackles the issue in several steps. Step 1 refers to "diagnosis", identifying the potentials and current shortcomings; Step 2 is dedicated to defining proper "strategies", i.e., the responses to the Step 1; Step 3 is "action" – deployment of selected strategies in designing the transformation of existing structure, while Step 4 is "wrap-up" and production of the final presentation.

While each student is developing an individual response to the workshop task, the steps are done in teams, stressing the necessity of collaboration and teamwork. As the result, the reflections and results of all participants are, in a certain way, embedded in the final proposal, introducing the notions of "sustainability" and "efficiency" in the design process.



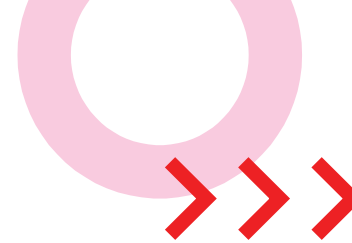
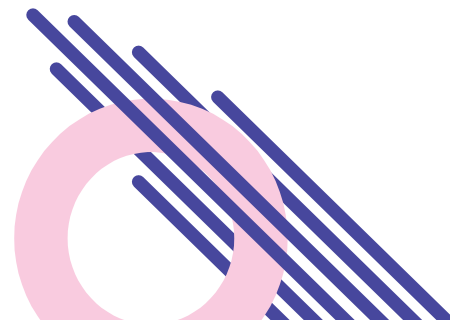
TEACHERS:



Ksenija PANTOVIĆ, PhD is an architect and Assistant professor at the University of Belgrade – Faculty of Architecture, at the Department for Architectural Design. Her research topics are largely focused on the field of contemporary architecture and urbanism, with particular interest in the development of dynamic and adaptive design methods and the way architectural design adapts to the context of rapid change. Ksenija holds a PhD with the topic “Role of the transformation principles in the development of design models in architectural design”. She is also of the founders of Studio OBE, a Belgrade based architectural practice dealing with projects of various typologies and scales in the field of architecture and urban design. Ksenija works on the development of conceptual and architectural projects and actively participates in architectural and urban design competitions and exhibitions and has won several significant awards.

Contemporary Serbian architecture – Awarded projects, and Architecture & Urban Design competitions

This lecture focuses on the analysis of contemporary architecture in current Serbian architectural practice. Through the presentation and analysis of various awarded projects, and Architecture & Urban Design Competitions, the specific relation between context and concept will be analyzed. This will enable better understanding of the aesthetic, formal, programmatic and technological characteristics of contemporary architecture, but also of our city and culture.



Nevena DEBLJOVIĆ RISTIĆ, PhD is an Assistant professor at the University of Belgrade - Faculty of Architecture, at the Department for History and Theory of Architecture and Art. She began her professional career at the Republic Institute for the Protection of Cultural Monuments – Belgrade (2000). In this institution, she achieved the highest rank as an architect, conservation advisor. She is the author of many conservation and restoration projects. For the Studenica (12th century) and Sopoćani (13th century) UNESCO WHS monasteries, she was the coordinator of professional teams and the manager of architectural research, project development and monitoring of works (2009–2021). She is the co-author of a large number of studies on the protection of immovable cultural assets for spatial plans. During her career, she has taken part in numerous international scholarly conferences. The annual award of the Association of Conservators of Serbia, she received in 2018. She is a member of the editorial boards of several scientific and professional journals, she is a member of the Executive Board of ICOMOS Serbia, as well as the Association of Conservators of Serbia and the Chamber of Engineers of Serbia.

Architectural creating as an authentic inscription of history - from prehistoric period up to XIX century on the territory of Serbia

To get to know a country and its people, the past holds a particularly important place. Preserved and non-preserved material evidence from the past enables the reading of history through architecture, as well as the understanding of architecture thanks to history. An overview of architectural creating in the territory of today's Serbia is presented through four chronological markers: The Pre-historic Period - the development of the first urban cultures; The Roman Empire - architecture at the Limes, Medieval endowments and the Serbian Kingdom; Oriental heritage and the influx of European influences in the 19th century.



Development of architecture in Serbia in the XX century

This lecture will focus on the development of Serbian architecture of the 20th century through three significant periods: 1. The period of liberation of the Serbian state from Ottoman rule at the end of the 19th century and the creation of the independent Kingdom of Serbia (1878-1918), 2. The period of constitution of the Kingdom of Serbs, Croats and Slovenes (later the Kingdom of Yugoslavia) after the First World War (1918-1941) and 3. The period of the constitution of the Socialist Federal Republic of Yugoslavia after the Second World War until the dissolution of Yugoslavia in 1991 (1945-1991).

Irena KULETIN ĆULAFIĆ, PhD is an Assistant professor at the University of Belgrade - Faculty of Architecture, at the Department for History and Theory of Architecture and Art. Her professional interests include history, theory, aesthetics and philosophy of art, architecture, applied arts and design, environmental aesthetics and everyday aesthetics in architecture, urban design, interior design and industrial design, protection of cultural tangible and intangible heritage. She is the author and co-author of books, as well as many scientific research papers. In 2011 she received international architectural award Ranko Radović for the book *The Aesthetic Theory of Architecture* of Marc-Antoine Laugier. She is member of several scientific and professional associations: Association of Belgrade Architects (DAB), Union of Architects of Serbia (UAS), Association of Art Historians, Society for Aesthetics of Architecture and Visual Arts of Serbia (DEAVUS), L'Association des diplomes de l'enseignement superieur français (ADEF), L'Association des Centraliens (AECF) and Associazione Consorti Dipendenti Ministero Affari Esteri (ACDMAE).

Maja DRAGIŠIĆ, PhD is an architect and Assistant professor at the University of Belgrade - Faculty of Architecture, at the Department for Architectural Design. She obtained MSc (2004) and a Ph.D. degree in Architecture (2017) within the field of Architectural Design and Contemporary Architecture from the University of Belgrade - Faculty of Architecture. Her research interests lie primarily in the field of contemporary architectural design, exploring methodologies of deformability in architecture, specifically the influence of topology and higher geometry in adaptive design strategies. Her research work is highly practice-based, since she is one of the founders of Spring Studio, Belgrade based architectural group focused on architectural projects design with deeply experimental approach. Through participation in architectural and urban design competitions and exhibitions, her work was rewarded several times.

Development of housing in Serbia

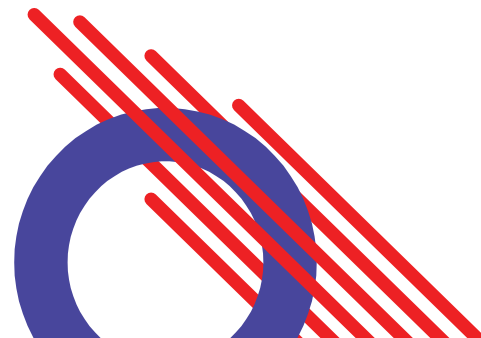
Residential architecture being one of the most responsible for the look, size, shape and the soul of our cities is again, maybe more than ever in focus of planners and architects due to constant demand to meet speeding demographic changes. How we dealt with the same problem in the past, what is happening now and what we can expect in days to come - experiences from a local context.



Jelena RISTIĆ TRAJKOVIĆ, PhD is an Associate Professor at the University of Belgrade - Faculty of Architecture and at the University of Arts in Belgrade - Faculty of Applied Arts, where she is involved in both practical / design studio and theoretical design courses. With a background in architecture, her research interests include cultural and ecological aspects of design, environment-behavior theories in design, design for health and wellbeing, cultural heritage, and generally a design methodology in terms of climate change, regenerative and responsible architectural and urban design. She is involved in several research projects, and networks mainly focused on climate and societal changes as a central theme, especially on educating the professional and general public in the context of developing a critical reflection on society and cities.

Cultural and Ecological Dimensions of Heritage: Architectural Design Tools for Well-being Enhancement

This lecture aims to explore various architectural design tools and methodologies that can enhance the social, cultural, and ecological dimensions of heritage preservation and reuse. It will open the discussion on the importance of considering the specific context, beliefs, and current societal and environmental needs when reusing heritage sites. Good design supports the health and well-being of all users, taking into account the physical, mental, and emotional impact on building occupants and the surrounding environment. In line with that, the lecture will highlight the importance of shifting the focus from solely material and formal heritage values to intangible and sensitive ones by identifying the hidden values of spatial patterns that constitute the heritage.



Dušan IGNJATOVIĆ, PhD is a Professor at the University of Belgrade - Faculty of Architecture, at the Department for Architectural Technologies and a member of the Faculty management as a Vice Dean for Finance and Business Cooperation. As expert and researcher, he has been involved in numerous international and domestic scientific project as a team leader, coordinator and researcher. His expertise in Building typology and energy efficiency has enabled him active participation as invited speaker and lecturer in numerous national and international professional trainings, workshops and symposiums. Apart from the academic work he is taking actively participating in professional and social activities through the involvement in working groups for development of the regulations in the field of EE, and building refurbishment, managing board of Association of Belgrade Architects and in Serbian Chamber of engineers as a lecturer in the field of EE. He has designed numerous buildings covering great variety of programs, in various cultural and climatic conditions (Gabon, Equatorial Guinea, Serbia, Montenegro, Russia, Greece). His practice was presented in more than 20 group exhibitions with international selection as well as individual author exhibitions. He holds professional license for design ITC Level 1, LEED GA and Energy efficiency.

Serbian building stock characteristics – energy performance and material aspects

Having in mind the significance that built heritage represents for adequate formulation of sustainable development strategies, lecture aims to present the complexity and diversity that depicts its structure and main material and performance characteristics. Based upon the executed research and results, lecture explains the methodological approach of Typology development and definition of a model buildings, as representatives of statistical averages, that were used for formulation of refurbishment strategies. Investigating the principles of various refurbishment levels lecture illustrates the potentials and possible benefits of the process.



Conservation practice—challenges in Serbia

The first part of the lecture is conceived as an introduction to the practice of immovable cultural heritage protection on the territory of all 17 municipalities of Belgrade. Presenting the legal frameworks and how they are reflected in daily work, the lecture indicates the goals and challenges that arise along the way. The aim of this part of the presentation is to point out the grounds for placing real estate under protection, which conditions the heritage must meet to acquire the status of cultural property and how it is achieved. In this part of the lecture, special attention is paid to the obligations and responsibilities of the users and owners of cultural assets, as well as fellow citizens, professionals and the general public. The second part of the lecture offers a review of specific examples, in this case the cultural assets that make up the industrial heritage fund of Belgrade, such as the Pantelić Foundry, the Power Plant “Snaga i Svetslost”, the Sugar Factory, etc.

This lecture will take place in the Cultural Monument Protection Institute of Belgrade at Kalemegdan fortress.

Ljubica RADOVANOVIĆ, born in 1991, completed her bachelor academic studies at the Faculty of Philosophy of the University of Belgrade, majoring in art history, after which she obtained the title of Master of Art Historian. After a one-year internship at the Museum of the City of Belgrade, Collection of Architecture and Urbanism, and passing a professional exam, she obtained the title of curator. In 2016, she was hired at the Institute for the Protection of Cultural Monuments of the City of Belgrade, and a year later, after passing the professional exam, she obtained the title of Art Historian and Conservator. She continues to build her career and develop her professional path in the same institution. She is the author of numerous exhibitions, texts, educational walks, participant of professional and scientific conferences in the country and region.

Ivana FILIPOVIĆ YORKE, is a senior conservator architect at the Cultural Heritage Preservation Institute of Belgrade. Organizes and participates in research, study and valorization of the architectural heritage, in the development of projects for rehabilitation, conservation, restoration, revitalization and presentation of the architectural heritage, performs conservation supervision over the implementation of technical protection measures of the architectural heritage. In her work at the Institute, she primarily deals with the Belgrade Fortress. As a responsible architect, she executed many projects for the fortress. She is member of the Chamber of Engineers of Serbia and member of ICOMOS Serbia.

Guided tour at Kalemegdan fortress

The Belgrade Fortress is a cultural property of exceptional importance for Serbia. Due to its position above two rivers, it offers a magnificent view of a picturesque, dynamic landscape. It represents the urban and cultural nucleus of Belgrade. The fortress of Belgrade, its construction and development are inseparable from the history and present life of Belgrade. Nowadays, it is a favorite place and meeting point, it stands like a museum and proof of the past. Growing on one and the same place, from prehistoric settlements and the Roman castrum to a Byzantine castel, from a mediaeval fortified town to a modern bastion fortification, the fortress has been proof of its highly significant geostrategic position for centuries. In the last few decades, interest has been expressed in the inclusion of the Belgrade Fortress in the modern life of the city, primarily through investments in conservation and restoration works, but also in works on the preservation and use of the space of the Belgrade Fortress, as a unique urban ensemble. Some of the topics for the tour that will be presented to the student are development of the fortress, its position, some parts of the fortress where specific works were executed; what kind of investigative works were applied prior to the projects and how the works are done; what kind of problems are present and represent obstacles to the preservation of the fortress in its original form.



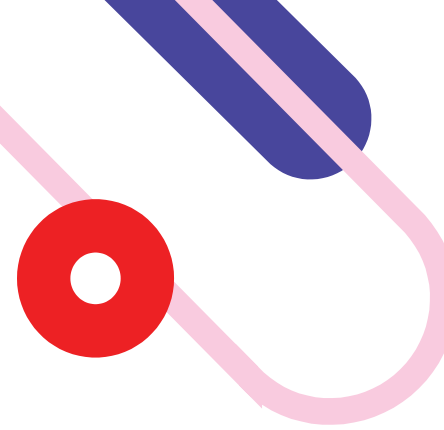
Mirjana DEVETAKOVIĆ RADOJEVIĆ, PhD is an Associate Professor at the University of Belgrade, Faculty of Architecture. She teaches a range of courses related to BIM (Building Information Modeling) and Parametric Modeling of Architectural Form. Actively participates in all national bodies related to application of BIM technology, including the Board of Directors of the BIM Serbia Association. Mirjana leads the AF.BIM Group that gathers students interested in a range of extracurricular activities in the field of BIM. She is also a member of the Executive Board of SUGIG, Serbian Association for Geometry and Graphics. Her recent research interests are related to BIM documentation of industrial heritage, as well as AI and Python integration in creation of geometric form.

Parametric Approach to the Creation of Architectural Form

As a result in digitalization of the design and construction processes, parametrization has been widely spread nowadays and parametricism is even considered as an actual, radically different style in contemporary architecture.

In this lecture we will introduce students with the notion of parametric architectural design and give a review of related courses at University of Belgrade, Faculty of Architecture. The teaching method will be explained, as well as results of the Geometric Adventure Workshop realized within the "Week with Architecture 2023".

The second part of the lecture we will dedicate to the Workshop titled „Geometric Adventure in the World of Grasshopper“, and will present the software requirements and also go through the virtual environment that has been prepared for the communication with students. The prepared templates will be explained and the dynamics of the upcoming Workshop will be defined. Finally, the challenges of 3D printing will be discussed.



Jelena IVANOVIĆ, PhD is an assistant professor at the University of Belgrade, Faculty of Architecture. She earned her Ph.D. in Mathematics from the University of Belgrade, Faculty of Mathematics. Consequently, she teaches mathematically-oriented courses, offering students the opportunity to apply mathematical concepts and algorithms in architecture and urbanism. Her pedagogical focus centers on the application of logical and analytical thinking in parametric modeling of complex geometric forms using the graphical algorithm editor Grasshopper. Jelena is an active member of the Department of Mathematics at the Mathematical Institute of the Serbian Academy of Sciences and Arts, the Department of Combinatorics, Geometry, Topology and Algebra at the Faculty of Mathematics, as well as the Serbian Society for Pure and Applied Logic and the Serbian Association for Geometry and Graphics. She also serves as a member of the board of directors of the Young Mathematician Association and as a reviewer for the Serbian Architectural Journal (SAJ).

Initiating a Parametric Adventure in the World of Grasshopper

In this lecture, students will be introduced to the technical aspects of using Rhinoceros and Grasshopper software. The session will cover basic tools, interface familiarity, and a gradual immersion into the realm of parametric modeling. By the end of the presentation, participants will have a clear understanding of the advantages of parametric modeling over traditional digital modeling. Moreover, they will have the opportunity to experience this difference through simple examples. The aim is to provide a comprehensive overview of parametric modeling and empower attendees to apply these concepts effectively. Through hands-on exercises, participants will gain confidence in utilizing Grasshopper as a powerful tool for creative design exploration. Additionally, by mastering the fundamental tools necessary for subsequent detailed work on complex models, students will be well-equipped for further exploration and application of advanced parametric techniques during our workshop.

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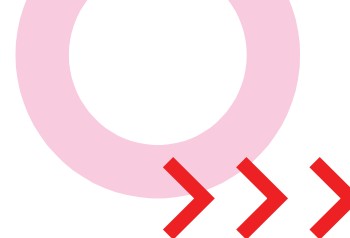
Zoran ĐUKANOVIĆ, PhD, architect, Professor of Participatory Urban Design, Urban Housing, Urban History and Public Art at the University of Belgrade, Faculty of Architecture, Department of Urbanism, Belgrade, Serbia. Initiator, founder and leader of the international, interdisciplinary research Program Public Art & Public Space. Visiting professor at Sapienza University of Rome (Italy), Keio University of Tokyo (Japan), University of Sassari (Italy), Politecnico di Bari (Italy).

Belgrade in plural

Whenever I think about Belgrade, I don't think about any particular place there. I always imagine my city in its totality, as a big, complete image, filled and framed by the vivid dreams and fears of the people who reside there. In real life, Belgrade is fragmented by its geographical characteristics; by its wounds of the recent wars; by its ambivalent multicultural character – but deep in my mind, it's actually indivisible. Belgrade is the capital of Serbia, a small European country currently challenged by a comprehensive, multilevel transition from autocracy to democracy, from socialism to capitalism, from collectivism to individualism, from atheism to zealotism, from isolation to globalization, from celebrated to scorned and vice versa.

Public art for public space

Public art Public space (PaPs) is an educational interdisciplinary program that aims at integrating art into public spaces and city life as a way of improving their quality. It was established in 2003 at the Faculty of Architecture University of Belgrade, with a purpose to explore alternative approaches to academic urban design education. During the last twenty years, Public Art and Public Space program explores possibilities for redefinition of public spaces use and design, through recognition of the importance to educate students in the field of public art, as well as to train them to collaborate with different professions and local community in realization of their projects.



Belgrade as a capital city

The lecture will shed light onto three distinct periods of developing Belgrade into a modern capital city: one from the early 19th century until WWI, the second after Serbia spread into a larger national union called Yugoslavia, after WWI as the Kingdom of Yugoslavia and the third when political system changed from the royal to the communist. The emphasis is on the distinct architectural typologies which varied within changing political frameworks, but also on the urbanistic setups which has radically changed in the new circumstances. The conclusion will be to the current image of Belgrade which after the turbulent turn of the millennium became again only a Serbian capital.

Tanja D. CONLEY is Associate Professor at Massachusetts College of Art and Design in Boston - USA, teaching History and Theory of Architecture and Urbanism. Previously she worked as a senior advisor on urban conservation at the State Institute for the Protection of Cultural Heritage in Belgrade - Serbia. Her early research published in Serbian and English focused on the influence of Central European architectural centers on the formation of Serbian architectural academia in the late 19th and early 20th century. Conley's more recent list of publications include titles such as: Capital Cities in the Aftermath of Empires: Planning in Central and Southeastern Europe, Belgrade and Beyond: Reading Serbian Architectural Landscapes and "Conceptualizing National Architectures: Architectural Histories and National Ideologies among the South Slavs" in Nationalism and Architecture. Her newest book Urban Architectures Interwar Yugoslavia, developed from her PhD dissertation from Cornell University, was published by Routledge in 2020.



Tradition in the use of building materials in Serbia

The availability of material resources being the key to the building process is best observed in the case of traditional architecture where this principle is most directly reflected. In Serbia, this historical paradigm changed at the beginning of the 19th century when it gradually gained independence from the Ottoman Empire, becoming open to the influences of Central and Western Europe that reflected in the material aspect and characteristics of construction. Since then, Serbia has followed the steps of developed European countries, so the new materials of the time were used in buildings, and the building materials industry developed. After the First World War, Serbia became part of a larger country - Yugoslavia, increasing the availability of resources and enabling faster economic and urban development. In the following

period of socialism, after the Second World War, there was an accelerated development of both the construction industry and construction technologies, which on a large scale included industrialized construction. The transitional nineties of the 20th century brought new social changes that resulted in a reduction in the scope of construction, carried out with a significantly reduced palette of construction materials. However, a kind of renaissance of the construction industry that is happening in recent years brings in new architectural problems and dilemmas.

Ana RADIVOJEVIĆ, PhD is a Professor at the University of Belgrade - Faculty of Architecture, at the Department for Architectural Technologies. She attended several specialized trainings, including the First International Course on the Conservation of Ancient Masonry in Byzantine Architecture - CAMBA in Thessaloniki and the pilot course Sharing the Science of Conservation: Towards a Common Language in Paris. In 2002 she conducted a research study at the Aristotle University of Thessaloniki. Her research focus is on building materials and building physics, with particular interest in traditional building materials, historic structures and building techniques.

Ljiljana ĐUKANOVIĆ, PhD is an Associate professor at the University of Belgrade - Faculty of Architecture, at the Department for Architectural Technologies. Her scientific interests focus on the field of Building technology (from the standpoint of historical and contemporary construction), energy efficiency and improving housing stock in order to improve comfort. She is author of the book: Comfort in Belgrade residential buildings. She is also the co-author of seven books about improving energy performances of residential and public buildings in Serbia, as well as numerous papers published in domestic and international journals.

Development of structures and building techniques in Serbia during the 19th and 20th centuries

From the early 19th century Ottoman domination started to weaken in the Balkan region and Serbia moved towards political independence and giving way to the Western, mainly Central European, influence. In rural settlements, the natural and climatic conditions had a primary impact on the house characteristics with the readily available materials, such as wood, earth and stone, dominating in the vernacular architecture. Three main construction techniques dominated the rural houses: log-cabins, timber-framed houses and rammed earth house. Urban houses followed the same construction principles as the timber-framed rural ones and the eastern type of urban houses developed by the Ottomans in Asia Minor and Balkan region. Changes refer to transformation of building types and structures imported from Central Europe in the mid-19th century, as well as to the use of new building materials which were not necessarily natural in their origin but were the subject of various technological processes, such as use of brick, cement and concrete. This type of construction remained in urban areas until the end of the Second World War, when the mass application of prefabricated construction began.

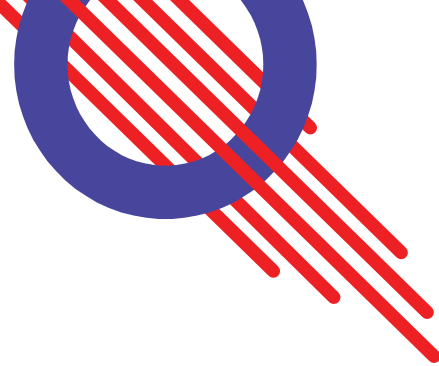




Nataša ČUKOVIĆ IGNJATOVIĆ, PhD is an Associate professor at the University of Belgrade - Faculty of Architecture, at the Department for Architectural Technologies. She has organized and mentored numerous extracurricular activities, including participation at Solar Decathlon Middle East 2018 competition (TwistBox team), W.A.Ve Abroad workshop (with IUAV) etc. The extensive bibliography with research results includes 8 monographs (7 international) and numerous scientific papers, conference papers and other, mainly international, publications. She has designed numerous buildings covering wide variety of programs, showing high sensitivity to various cultural and climatic conditions (Gabon, Equatorial Guinea, Serbia, Montenegro, Russia, Greece). Her practice was presented in more than 15 exhibitions with international selection, and she holds numerous entries and awards in international and national architectural design competitions. Professional licenses include LEED AP BD+C (Building Design and Construction, since 2012) and national licenses responsible designer – architecture (since 2002), and responsible energy efficiency engineer (since 2013).

Green building technologies and certification

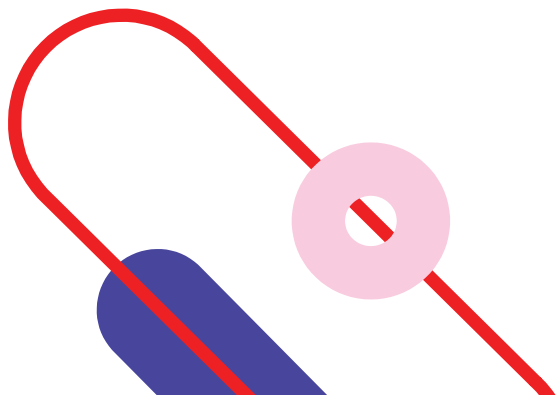
Rather than offering a firm definition of green/sustainable building, the lecture aims to initiate discussion and reflections on contemporary green design concepts – what is perceived as green architecture, what is formally acknowledged as green architecture and which design approach could be sustainable. Green building certification systems may provide valuable design tools and help achieve sustainability goals, but they are also often used as a tool for “greenwashing”. Critical thinking is, therefore, becoming as important as formal knowledge if we are seeking truly sustainable solutions.



Architectural memory of the city

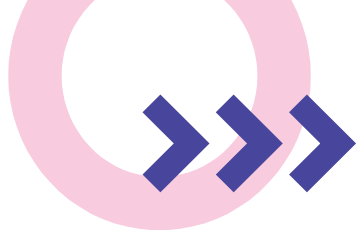
This lecture is taking place on the streets of Belgrade city center, walking from Kosančićev Venac to Dorćol area. In this walk, along the Kralja Petra street, many layers of architectural history intertwine and a diverse street front tells many stories about prevailing ideas, concepts, longings, everyday life and events that shaped our city and its urban fabric. The ambient of Kosančićev venac, historical buildings of Princess Ljubica's Residence and Question Mark tavern, The Cathedral Church of St. Michael the Archangel and the administrative seat of the Serbian Orthodox Church - The Building of the Patriarchate, residential building designed by architect Milorad Macura, the first department store building in Belgrade, relation to the heritage and historical buildings in the contemporary architectural design, memory of the Jewish and Muslim legacy in Belgrade in the streets of Dorćol area (the building of the Fresco museum, Bajrakli Mosque buildings) are just some of the buildings and themes that will be presented during this walk.

Ivan RAŠKOVIĆ is a distinguished architect and Professor at the University of Belgrade - Faculty of Architecture, at the Department for Architectural Design. His professional engagement is focused on architectural and urban design in theory and practice. His architecture office AGM (partner with B.Petrović and N.Jelić) founded in 1998, won numerous prizes for realized projects. He won numerous annual prizes (Ranko Radović prize for architecture, Grand prize of the annual architecture exhibition, Novosti prize) as well as several dozens of prizes in domestic and international architectural design competitions. With B.Petrović he published a monograph Tradition-Transition: use of heritage in architecture. He is chairman of the architecture section in Serbian Chamber of engineers. He was the president of the Association of Belgrade Architects and the National commissioner of the Venice architecture biennale in 2014.




Sustainable urban planning practices: Mainstreaming the Nature-Based Solutions

Nature-Based Solutions (NbS) are currently considered the main paradigm that could contribute to the future sustainability of urban settlements. This powerful syntagm stresses human development in synergy with nature as the most important norm that enables facing global challenges. The NbS call for innovative transitions of cities, both in their structure and in their strategies and actions. Urban planners and designers should play an important leadership role in this process. However, they should be empowered with specific knowledge and skills. This presentation aims to provide a guide map for young professionals for this quest. It will present the basic NBS concepts, and challenges of mainstreaming the NBS in urban planning and design, stressing the research fields important to be considered for future innovative practices.



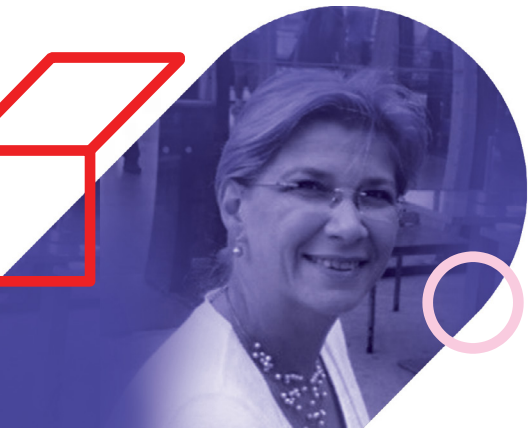
Ksenija LALOVIĆ, PhD is an Associate Professor at the University of Belgrade - Faculty of Architecture, at the Department of Urbanism. Her professional career focuses on research and practice in a field of informed and sustainable strategic urban transformations, primarily on ICT supported planning and collaboration methods, techniques, and tools. Since 1992, she was engaged in five national scientific projects (from 2011 as a subproject leader), and also in five international projects (UN-HABITAT SIRP, EU FP6 PARAMOUNT, 100 Resilience Cities, MAECI - Learning Economies, Horizon 2020 - CLEVER Cities). She gained a significant professional planning experience through 24 adopted spatial and urban plans and 14 urban studies. She won 15 different national and international awards. The latest is Zero2020 Award for Innovative Practice 2020 on Inclusive Education and ICT for Improving Research And Training On Urban Accessibility And Universal Design at the University of Belgrade - Faculty of Architecture.



Jelena ŽIVKOVIĆ, PhD is an Associate Professor at the University of Belgrade - Faculty of Architecture, at the Department of Urbanism. She is the co-director of the educational interdisciplinary program - Public Art & Public Space and the co-head of the Vital Places Lab – a research laboratory at UBFA. Her research, teaching and professional work focus on: theory, practice and pedagogy of urban design; planning and design of open and recreational spaces; ecological urbanism; public art and place-making. She has been involved in several national and international research projects, and published over 100 articles, conference papers and chapters in monographs. Under her mentorship, students have been winning major national and regional awards. She was a member of the planning team for the Strategy and Spatial Plan of the Republic of Serbia, and a member of the National Expert Team for the European Landscape Convention.

Recreation potential of urban landscapes

The challenge for architecture and urbanism today is to help develop healthy and vital cities where people and nature can thrive together. Recreation has long been recognized as an activity that significantly contributes to human physical, mental and social health and well-being, and is at the same time compatible with urban nature protection. Nowadays, the importance of urban recreation is additionally emphasized based on the role it can play in sustainable urban regeneration and development. In that sense, providing quality recreation experiences is an important urban quality factor to be achieved through urban planning and design. This lecture focuses on the spatial dimension of urban recreation to open up the discussion on what constitutes the recreation potential of the urban landscape and how to capitalize on it for the benefit of both humans and nature.





Jelena MILOŠEVIĆ, PhD is an Assistant professor at the University of Belgrade - Faculty of Architecture, at the Department for Architectural Technologies. She teaches courses theoretical courses on Structural Systems and spatial structures and structural design course. Her scientific research focuses on structural systems and spatial structures, structural design, structural morphology, form-finding, and optimization of structures. She is a participant in national and international scientific research projects. She is the author of papers published papers in journals, conference proceedings, and monographs. The focus of her professional engagement is architectural and urban design. As a designer, she worked at company Archicon d.o.o. Belgrade (2006-2012), in which she was deputy director (2009-2012). She is the author of several competition designs. She has participated several exhibitions. She is a member of the Serbian Association for Geometry and Graphics (SUGG), the Serbian Association for Earthquake Engineering (SUZI), and the International Association for Shell and Spatial Structures (IASS).

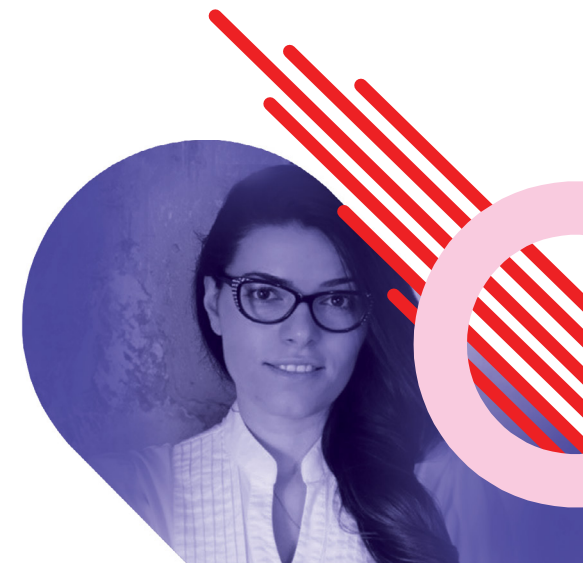
Advanced structural systems

The lecture on Advanced Structural Systems delves into the cutting-edge technologies and innovative approaches that are revolutionizing the field of structural design. The presentation will explore a diverse range of topics, including state-of-the-art materials, computational modelling techniques, and innovative design methodologies. Through real-life case studies and expert insights, students will gain an understanding of how these innovative systems are shaping the future of architectural design and construction. The presentation aims to inform and inspire students for potential further exploration in this dynamic and rapidly evolving discipline.

Digital Tools in Circular Built Environment

The built environment significantly impacts our planet, accounting for a substantial portion of global energy consumption, waste generation, and carbon emissions. However, the emergence of digital tools and technologies has opened possibilities to reshape how we design, construct, and manage our buildings to ensure a sustainable and regenerative future. This lecture aims to shed light on the potential of digital tools to lead the green transition in all phases in the built environment. It will focus on how digital tools (BIM, AI, BCT, GIS, IoT) can enhance the pre-use phase and its decision-making process, design optimization, materials and resource management in the construction phase, facility management and end-of-use phase, and collaboration of stakeholders in all phases.

Ana NADAŽDI, is an Assistant Professor at the Department of Construction Project Management at the University of Belgrade, Faculty of Civil Engineering. She teaches courses related to site organization, project management and quality management. As a researcher, she focuses on the circular economy, sustainability assessments, and ex-ante and ex-post analyses of the road transport, energy and waste management sectors. She has over ten years of experience as a Contract Management Consultant on various construction projects, from residential and road infrastructure projects to industrial and hospital building projects.



Earthquake effects on structures and innovative systems for earthquake protection

This lecture provides an overview of earthquakes, their causes, and the physical processes involved in seismic activity. It highlights the need for proactive measures to mitigate seismic hazards and protect both existing and future structures, and offers a comprehensive examination of innovative earthquake protection systems. These systems encompass a wide range of techniques, including passive, active, and hybrid solutions, which have been developed to minimize structural damage and improve the safety of buildings and infrastructure. The lecture emphasises the importance of research, collaboration, and innovation in driving the development of these earthquake protection systems. It showcases successful case studies and ongoing research projects that demonstrate the potential for significant advancements in seismic safety and resilience.

Marko MARINKOVIĆ, is an Assistant Professor at the University of Belgrade, Faculty of Civil Engineering and president of the Learning from Earthquakes Committee of the Serbian Association of Earthquake Engineering. His field of scientific and professional work is related to the seismic analysis of structures, both reinforced concrete and masonry, as well as steel structures. He is also a member of the CEN/TC 250 working body team /SC8/TG3 established by the European Commission with the task of preparing new Eurocodes. He participated in several European research projects and three shaking-table tests investigating full scale structures under earthquake excitation. His work on projects in industry is related to the seismic design and assessment of buildings. He published more than 40 papers in international journals and conferences.

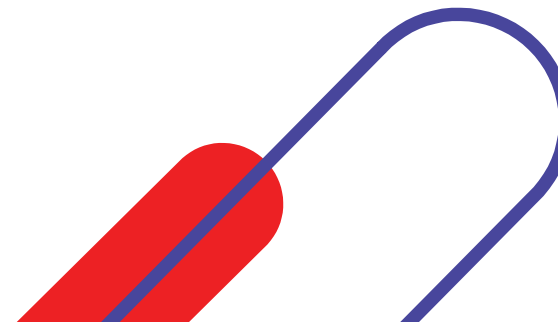
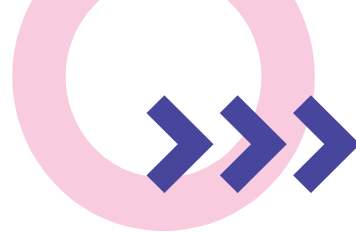
Dragana KOJIČIĆ is an independent architect specialized in earth architecture. She graduated from the Department of Architecture and Urbanism at the Faculty of Technical Sciences, University of Novi Sad, in 2005. After student internships in Syria and Colombia, she lived and worked in East Africa from 2005 to 2008. She specialized in earth architecture in the CRAterre program at the National Higher School of Architecture in Grenoble, France.

After a period of professional development, in 2010 she founded the KFZ association, through which she has organized numerous workshops, summer schools, and earth-building camps with organizations and institutions in the country and the region. Since 2022, the association has been the holder of the ECVET Earth Building training and certification in non-formal education.

She is finishing doctoral studies in Scene Architecture, Technique, and Design at the Faculty of Technical Sciences, University of Novi Sad.

Earth architecture

This lecture will be an introductory lecture for the workshop of building with earth that will be held in the village of Mošorin. We will talk about basics of earth architecture, its advantages and disadvantages, different techniques of building with earth, constructive cultures in the world, modern earth architecture and local earthen heritage. At the workshop in Mošorin students will have the opportunity to do soil tests and clay plaster tests, and then try out various techniques: adobe, rammed earth, light clay, cob, etc. They will also have the chance to experiment with decorative clay plasters, dorodango balls, and more. They will also see a typical house of Vojvodina (and Pannonia), the materials that were used, as well as possible methods for renovating traditional houses.

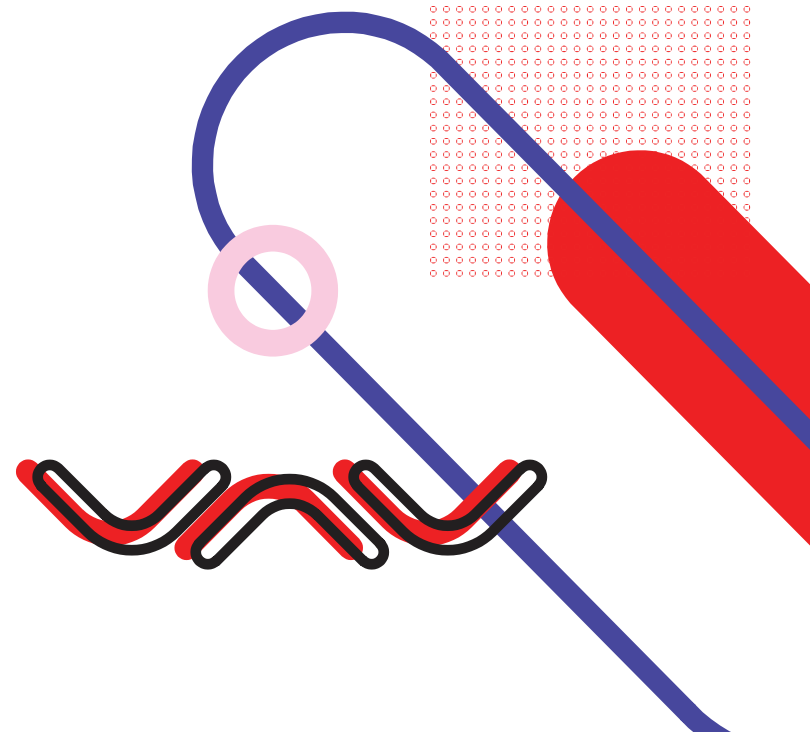
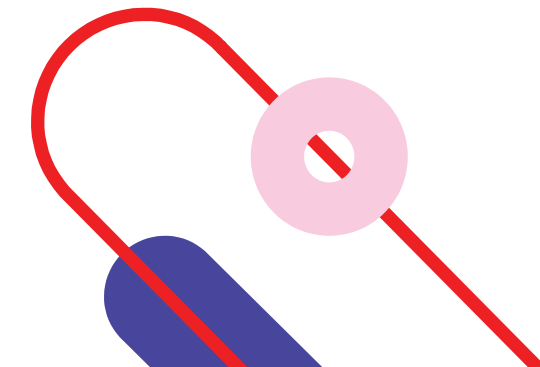
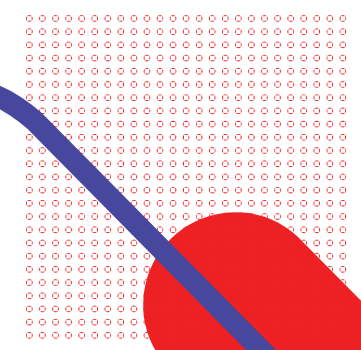
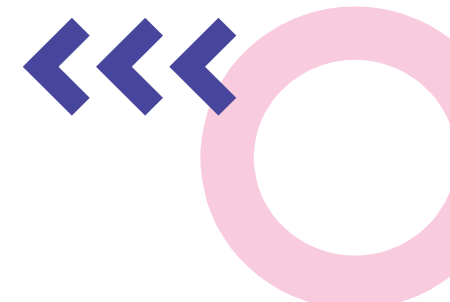


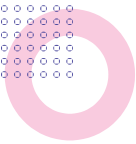
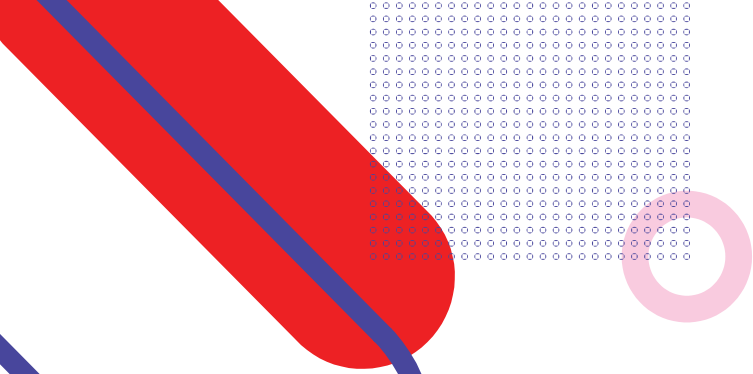


Zorana PETOJEVIĆ is an Assistant Professor at the University of Belgrade, Faculty of Civil Engineering Department of Construction Project Management & Zurich University of Applied Sciences. In addition to her role at the University of Belgrade, she also serves as a researcher at the Zürich University of Applied Science, specifically in the School of Architecture, Design, and Civil Engineering. She is a recognised expert in energy efficiency in buildings and circular economy in the construction industry through her extensive research efforts and publication of scientific papers. Zorana's primary focus revolves around data-driven modelling of thermal systems in buildings, strategic approaches to building renovation and examining project delivery methods aimed at constructing high-performance buildings. As a consultant, she has actively contributed to noteworthy projects, offering various consultancy services such as investment project management, construction management, and contract and claim management.

Unlocking Success: Innovative Project Delivery Methods for High-Performance Buildings

In this lecture, it will be explored the need for a project delivery method that addresses the challenges faced by the construction industry and aligns with the goals of maximising project value and achieving exceptional outcomes. It will be discussed the importance of integrating various aspects from the early stages of a project, adopting an integrated and interdisciplinary approach, and embracing a proactive and adaptive mindset to navigate the complexities of modern construction projects. Additionally, it will be examined how sustainability, circularity, and digitisation play crucial roles in shaping the future of project delivery for high-performance buildings.

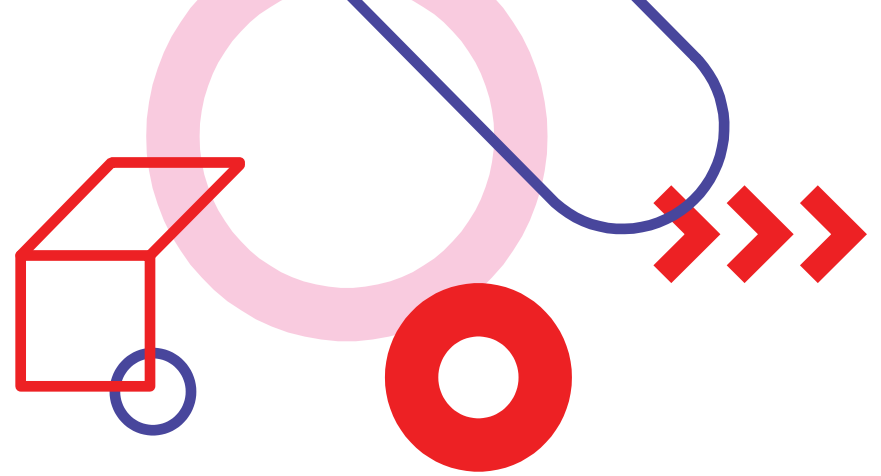




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STUDENTS

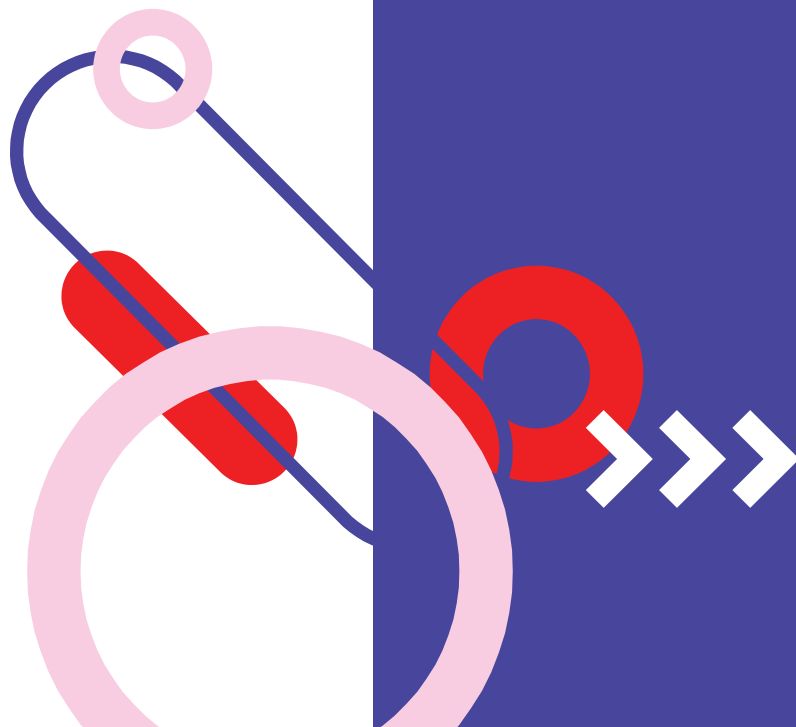
ESTP - GRANDE ÉCOLE D'INGÉNIEURS DE LA CONSTRUCTION

Grégoire DELALANDE
Noah THINEY
Antoine CAILLET
Maureen ORTEGA
Nathan MAUDUIT
Marie BUTTE
Ethanaël AZOULAY-CHATELAIN
Dimitri CASEAU
Nathan LE COINTE
Emma RIGAL
Marie MALAUBIER
William CARDEROT
Eva FREYERMUTH
Lola FRANCISCO
Hektor MAZUER
Julien DE ROTALIER
Eleanor BENAYOUN
Vladimir LEBLANC NAGY
Victor MAILLARD
Gwendoline GIBIER
Paul JOSSEAUME

UNIVERSITY OF BELGRADE FACULTY OF ARCHITECTURE

Vedrana ĐONIĆ
Ognjen BOJIĆ
Ana MARKOVIĆ
Anđela NEDIĆ
Danijela PANTIĆ

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Belgrade
JUNE 10 TO JULY 12, 2024





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