PAN POLSKA AKADEMIA NAUK

Faculty of Architecture
Chair of Urbanism and
City Structure Architecture A-9

Cracow University
of Technology
80th Anniversary

Faculty
of Architecture

NATIONAL INSTITUTE
OF ARCHITECTURE
AND URBAN PLANNING

XIX
INTERNATIONAL ACADEMIC CONFERENCE

WISE CITY
THEORY AND PRACTICE
urbanity< architecture< nature

Cracow 13-14 October 2025

THE CONFERENCE IS ORGANISED BY:

CHAIR OF URBANISM AND CITY STRUCTURE ARCHITECTURE A-9
FACULTY OF ARCHITECTURE OF THE CRACOW UNIVERSITY OF TECHNOLOGY

AND

THE URBAN PLANNING SECTION OF THE URBAN PLANNING AND ARCHITECTURE COMMISSION
POLISH ACADEMY OF SCIENCES KRAKOW BRANCH

UNDER THE PATRONAGE OF:

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DR HAB. INŻ. ARCH. WOJCIECH KORBEL, PROF. PK.

BRIEF CONFERENCE PROGRAMME

MONDAY OCTOBER 13TH 2025

1st SESSION 10.00 – 12.00
Warszawska street, No. 24, "Kotłownia" conference building

2nd SESSION 13.10 – 14.40
Polish Academy of Sciences Krakow Branch, Świętego Jana Street 28, ROOM 1, 1st floor

3rd PARALELL SESSION 15.20 – 17.00
Polish Academy of Sciences Krakow Branch, Świętego Jana Street 28, ROOM 1, 1st floor

4th PARALELL SESSION
ROUNDTABLE DISCUSSION - ENHANCED CO-PLANNING - A PATHWAY TOWARDS INCLUSIVE 15 MINUTE CITY 15.20– 16:50
Polish Academy of Sciences Krakow Branch, Świętego Jana Street 28, ROOM 2, 2nd floor

TUESDAY OCTOBER 14TH 2025

5th PARALELL SESSION 10.00 – 12.00
Polish Academy of Sciences Krakow Branch, Świętego Jana Street 28, ROOM 1, 1st floor

6 th PARALELL SESSION 10:00- 12:00
Polish Academy of Sciences Krakow Branch, Świętego Jana Street 28, ROOM 2, 2nd floor

7th PARALELL SESSION 12.30– 13:40
Polish Academy of Sciences Krakow Branch, Świętego Jana Street 28, ROOM 1, 1st floor

8 th DOCTORANTS' and STUDENTS' PARALELL SESSION 12.30– 13:40
Polish Academy of Sciences Krakow Branch, Świętego Jana Street 28, ROOM 2, 2nd floor

9th PARALELL ONLINE SESSION 14.30 – 16.00
Cracow University of Technology, Podchorążych Street 1

FOR THE ACADEMIC COUNCIL PLEASE VISIT:

FOR PROGRAMME DETAILS PLEASE VISIT:

CONFERENCE ABSTRACTS*

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The lack of an abstract results from the not providing it by author or not granting a publication license to the organizer. The order of the abstracts is based mainly on the preferred conference themes indicated by the authors.

Conference theme:
URBANISM

Prof. Dr.-Ing. MICHAEL PETEREK
Frankfurt University of Applied Sciences, Germany
Prof. Dr. phil. THORSTEN BÜRKLIN
Münster School of Architecture, Germany

LIVING – THINKING – SHAPING THE CITY CENTRE
REFLECTIONS BASED ON THE CASE OF FRANKFURT AM MAIN

The (inner) city is a living and working space. It is the stage on which diverse lifestyles unfold. For this reason, urban planning must reflect economic, political, and cultural expectations. The city centre was already suffering from a decline in visitor numbers during the last decade. In particular, the expansion of online retail led to vacancies in city centres. This trend has been exacerbated by the coronavirus pandemic. On the one hand, we love the city centre since it creates a common identity: the history of the city is stored there in buildings and collective memories. On the other hand, we ignore it out of convenience. Ultimately, this is a rather one-sided love that is often only reciprocated on occasion, when it fits into the time budget of our lifestyle programme and there is an event to celebrate.

Living the city centre means thinking and shaping the city centre under current conditions. This is a pragmatic shift in perspective, as shown here by the case of the city of Frankfurt am Main. The city centre must finally open up to the residents, who are more than just consumers. It must provide offers for everyday life: spaces for the appropriation of individuals and groups which serve to promote identification through participation. Participation has at least as strong an effect as the identity-forming power of historical icons. Therefore, in addition to the material foundations of the built city, greater emphasis must be placed on the non-material skills of those who live the city centre. It would be an illusion to think that there is a way back to the old town centre as we know it from history. This belongs to the past. Today's shaping of the city centre must be conceptualised within the framework of current possibilities. For this reason, the aspect of participation must be rethought. Cities must create an economic and political openness for this. The space of the city centre must once again belong to everyone.

Dr hab. inż. arch. MICHAŁ STANGEL, prof. Pol. Śl.
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WISE URBAN HUBS: CATALYZING REGENERATION AND RESILIENT CITY-MAKING THROUGH MIXED-USE NODES

The concept of "Wise Urban Hubs" represents an innovative approach to urban regeneration, integrating sustainability, inclusivity, and resilience within mixed-use urban nodes. Scalable and globally relevant, these hubs embody the "Wise City" ideal, emphasizing ecological balance, social equity, and well-being. Unlike traditional urban centers, Wise Urban Hubs seamlessly blend innovation, culture, ecology, and community services into multifunctional spaces. This presentation explores how such hubs foster regeneration through international examples, highlighting their hybrid functions and significant contributions to urban resilience, inclusivity, and enhanced quality of life.

Wise Urban Hubs integrate innovation clusters, cultural areas, ecological networks (green/blue infrastructure), and community-focused spaces. Innovation hubs stimulate economic vitality through research clusters and startup incubators. Cultural hubs strengthen local identity and social cohesion through museums, theaters, and event venues. Green/blue hubs enhance biodiversity and climate adaptation, while social hubs facilitate essential community interactions. Collectively, these functions create resilient urban ecosystems aligned with "soft city" principles—human-scale design emphasizing interaction, comfort, and adaptability.

The presentation will illustrate this integrated approach through recent urban regeneration projects conducted by the author at the Faculty of Architecture, Silesian University of Technology:

Green Craft Mine, Ruda Śląska: This conceptual masterplan transforms the Pokój Coal Mine into a sustainable urban hub centered on the "Craft Mine" community hub. It integrates artisanal workshops, co-working spaces, and entrepreneurship incubators. Sustainability strategies include adaptive reuse of post-industrial structures, sustainable mobility solutions, and green-blue infrastructure for ecological connectivity and climate resilience.

Energy Hub, Knurów: Redevelopment of the Knurów-Szczygłowice mining site into a multifunctional Energy Hub, harmonizing renewable energy production, hydrogen storage, battery systems, and local community spaces. Repurposed mining infrastructure accommodates energy education, cultural activities, and recreation. GIS-based analyses align with the "15-Minute City" framework, providing replicable strategies for post-industrial transformation.

PIAST Hub, Bieruń: Developed via the "Urban & Business Lab," this project is part of the Regional Transformation Process Observatory (ROPT 2.0), a collaboration between the Silesian University of Technology and the University of Economics in Katowice. Student-led analyses propose strategic scenarios emphasizing sustainable economic diversification, community engagement, and spatial transformation for the revitalization of the Piast Mine area.Forest Cradle, IBA2027 Competition Design: This project envisions transforming a former hospital site in Sindelfingen into a sustainable neighborhood through adaptive reuse and integration with the surrounding forest. Four proposed hubs include a sustainable Mobility Hub, a Cultural Hub engaging city-wide visitors,

a Social Hub enhancing community interactions, and a Coworking Hub promoting local entrepreneurship and innovation.

Urban Arcade, Philadelphia: The winning entry of the 2025 Edmund N. Bacon Urban Design Awards addresses Philadelphia's underutilized "Disney Hole." Leveraging AI-assisted analysis and optimization, Urban Arcade integrates human-centered urbanism with technological innovation, demonstrating AI's supportive role in creative, participatory, and sustainable urban regeneration.

Collectively, these projects showcase the transformative potential of Wise Urban Hubs in shaping resilient, adaptive, and inclusive urban environments. The presentation offers a preliminary conceptual framework to stimulate discussions on scalability, adaptability, and practical implementation of Wise City principles in diverse local contexts.

Prof. dr hab. inż. arch. MATEUSZ GYURKOVICH
Cracow University of Technology, Faculty of Architecture, Poland
Dr inż. arch. AGNIESZKA PĘCKOWSKA
The Urban Planning and Architecture Commission Polish Academy of Sciences Krakow Branch, Poland

"LIFE AFTER LIFE" OF FORMER TOBACCO FACTORY IN CRACOW'S UNESCO HERITAGE PROTECTION ZONE

Besides its world-renowned architectural monuments from earlier times, Kraków is also rich in 19th-century urban complexes of post-military, post-hospital, and post-industrial character.

One such example is the former tobacco factory in the present-day downtown area of Krakow. Built in the 1870s, the factory operated until 2002, marking the end of its first stage, which spanned over 130 years.

The second stage of this site's new life began in 2015 when the abandoned and neglected premises were filled with popular clubs, art galleries, restaurants, bars, outdoor cafés, and beer gardens. Until 2024, crowds of students and other young people could spend time in the newly arranged former production halls, storage rooms, and packaging rooms in an informal and spontaneous way, surrounded by an artistic and cultural atmosphere. Different ideas and concepts of development were presented for this valuable site in the heart of the city.

This urban complex's interesting past deserves to be commemorated in its future. One option is to create within the new development a Museum of Tobacco, which would display old equipment, souvenirs, documents, and photos from the first stage. Another option is to establish institutions of academic knowledge and culture in connection with nearby universities, which would continue the second stage. The more culture and knowledge a city has, the wiser it is. So, what about the next step, the third stage or the life after life of the tobacco factory?

Dr hab. inż. arch. JAN WRANA, prof. PL
Mgr inż. arch. MARCIN ĆWIK, Ph.D Student
Lublin University of Technology, Faculty of Civil Engineering and Architecture, Poland

LUBLIN – DISSEMINATION OF KNOWLEDGE ABOUT THE DEVELOPMENT OF THE NEW LUBLIN METROPOLITAN DISTRICT – THE SELECTED CAPITAL OF EUROPEAN CULTURE FOR 2029

Continued since 2016 in Lublin in the Independent Architectural Studio and continued in the Department of Contemporary Architecture since 2019 at the Faculty of Civil Engineering and Architecture, Scientific Conferences in the series “Synergy in Architecture”, included sessions on the Transformation of contemporary cities. Lublin advantages are undoubtedly its colorful history. Valuable monuments as well as its attractiveness at the junction. Public consultations and modernizations in the new structure of the city, named by prof. K. Zuziak in the publication Synergy of the Plan in Architecture; “Synergy of the development of the Plan and Urban Structure, were recalled during the last scientific conference in Lublin on April 10, 2025.

Dr inż. arch. ANNA CUDNY
Warsaw University of Technology, Faculty of Architecture, Poland

CHILDREN AS A PRIORITY IN URBAN SPATIAL POLICY: ARCHITECTURAL EDUCATION OF THE YOUNGEST THROUGH RECREATIONAL AND PLAY SPACES IN THE BIAŁOŁĘKA DISTRICT OF WARSAW

In the face of the projected global demographic crisis, the deteriorating mental health of children and adolescents, and the increasing prevalence of lifestyle-related diseases within this age group (including diabetes and obesity), the well-being of the youngest members of society should be considered a key indicator of urban quality. However, the majority of planning and design decisions fail to account for the potential impact on children, as well as for urban and architectural solutions that address their specific needs within the built environment.

Child-friendly urbanism is an evolving design approach that incorporates children's perspectives on their surroundings, their spatial needs, and aims—through planning, design, and the shaping of urban fabric—to enhance their activity and visibility in urban life. At the same time, the built environment in which children grow up serves as a medium for informal education in architecture and urbanism, social norms and behaviors, permissions (or lack thereof) related to independent mobility, and various aspects of safety. Cities such as Rotterdam, Oslo, Barcelona, Freiburg, and Tel Aviv have already introduced child-friendly urban planning practices.

This article presents the findings of a study conducted in one selected district of Warsaw—Białołęka—which met the established criteria for the research area: it is characterized by a positive natural population growth and a significantly and steadily expanding housing stock, largely based on multi-family residential developments.

The study examined whether the local authorities' planning policies incorporate the principles of child-friendly urbanism, whether existing and planned play spaces adequately meet children's needs, and what educational value the selected public spaces hold. The analysis highlights spatial solutions that either positively or negatively influence the quality of life for children residing in the area.

The article concludes with a set of planning and development guidelines aimed at fostering diversity, equity, and social inclusion—so that Białołęka, as well as other districts, municipalities, and cities, can in the future serve as model examples of implementing child-friendly urbanism.

Dr inż. arch. DOROTA JOPEK
Uniwersytet Ekonomiczny w Krakowie

IDENTIFYING ACTIVITY CENTERS WITHIN THE CITY

Modern cities and regions function as complex spatial systems, with social, economic and civic activity concentrated in specific locations known as activity centres. These are places where residents' daily routines converge: places of work, consumption, education, culture and recreation. Traditional methods of identifying these centres relied heavily on analysing the locations of residences and places of work, resulting in a simplified and frequently inaccurate representation of urban dynamics.

Contemporary approaches take a more holistic view of activity, considering economic, social, cultural, tourist and institutional aspects. This enables a more diverse and realistic picture of how the city functions to be captured. In this context, urban voids — undeveloped, degraded or temporarily unused urban spaces that often remain outside the mainstream of urban planning — gain special importance. Although they may initially appear inactive or unnecessary, they actually represent significant potential for developing new forms of urban activity. Despite growing interest in activity centres, previous research has mainly focused on the location of places of work and residence as the main determinants of activity. This approach does not reflect the complexity of contemporary cities, where social, cultural, consumer, and civic activity all play an important role in shaping urban space. Furthermore, urban voids are rarely considered in analyses as potential sites for activity, despite their increasing significance in grassroots urban planning and revitalisation processes. This article aims to identify and classify contemporary urban activity centres, considering a wide range of functions, including economic, social, cultural, tourist and institutional. It also examines the potential of urban voids as spaces that support or initiate new forms of urban activity, using a selected empirical example to illustrate this.

Dr inż. arch. TOMASZ KRYSTKOWSKI
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BROKEN CONNECTIONS. AN ANALYSIS OF THE PEDESTRIAN ROUTES SYSTEMS OF SELECTED MODERNIST HOUSING ESTATES IN ŁÓDŹ, POLAND

Post-war modernist multi-family housing estates have become a permanent feature in the landscape of many cities in Poland. Realised on a mass scale since the 1960s, they have provided a place of residence for many millions of people. Clearly, therefore, their space plays a key role in the daily lives of the residents. At the same time, one of the most important elements of the inter-block spaces are the pedestrian routes, according to the modernist doctrine, often separated from vehicular traffic. The way in which pedestrian routes are arranged (configuration), their accessibility, technical condition and maintenance, as well as the neighbourhood of attractors (public spaces and important functions) affect their hierarchy and the frequency with which they are used. This study focuses on selected modernist housing estates in Łódź, built between the 1960s and the late 1980s. Although several decades have passed since their construction, many of them remain unfinished spatial layouts. In a great many cases, pedestrian routes layouts remain equally unfinished.

The routes used by pedestrians can be divided into four groups: pedestrian-roadway, separated pavements, elephant paths and illegal crossings. The routes classified in the last two groups often shorten the way to the most important public spaces, services or public transport stops of the estates, but on the other hand, for many users, they remain a spatial barrier that is clearly difficult or even impossible to overcome.

The study analysed the layouts of existing pedestrian routes in selected housing estates in Łódź. The first aim of the study was to identify the areas with the lowest and highest levels of integration and relations between the routes and their surroundings - residential buildings, basic services or public transport stops. The second was to find out how large a proportion of the pedestrian routes are in use but improvised, and what would happen if the pedestrian routes ceased to exist - to what extent their absence would affect the entire layout and the relationship between the individual elements.

The study was based on an analysis and own assessment of the estates' pedestrian route layouts (site visits), in addition to a series of analyses using Space Syntax (e.g. integration, choice) and Place Syntax Tool (PST). The results can contribute not only to the identification of possible transformations of the existing connection network, but also to drawing attention to the importance of an appropriately shaped pedestrian system.

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CRISIS REVEALS: MAPPING THE INVISIBLE CITY FOR WISE URBAN REGENERATION

Urban conflicts are not problems to be solved but revelations to be understood. What if urban crises, rather than disrupting planning, actually expose essential city structures invisible to conventional approaches? This research explores Crisis Reveals—an alternative reading of urban conflicts as diagnostic moments that expose hidden city structures.

Cities develop invisible layers across centuries that often shape development more profoundly than visible infrastructure. Medical heritage networks, community connections, historical morphologies, and institutional memories create hidden influences on urban vitality. Traditional regeneration frequently overlooks these invisible structures, leading to interventions that work against existing dynamics. Crisis moments—such as hospital relocations, institutional changes, and development conflicts—reveal multiple hidden dimensions that are typically invisible to planning processes. Our exploratory approach examines this through three analytical perspectives:

The four-dimensional analysis maps how conflicts expose temporal tensions (historical continuity versus efficiency demands), social dynamics (community networks versus institutional interests), emotional connections (place identity versus functional change), and structural realities (formal procedures versus actual decision-making processes).

Heritage Mediation examines how stakeholders preserve invisible structures through material interventions, revealing institutional, grassroots, commercial, and hybrid preservation strategies.

Stakeholder Coordination identifies how collaborative engagement transforms revealed potentials into sustainable regeneration outcomes across community, institutional, municipal, and private domains.

Drawing from direct engagement with the Kraków Wesoła hospital relocation conflict (2017-2021), this approach revealed a 200+ year medical heritage ecosystem embedded in neighbourhood identity. Community response—"hard to generate life" when medical function disappears—exposed emotional infrastructure invisible to administrative logic. The analysis demonstrated how different actors experienced medical heritage disruption differently, informing coordinated preservation strategies. The approach suggests enhancing standard regeneration processes through reconstruction, considering invisible heritage alongside physical rebuilding; revitalisation, activating hidden potentials across stakeholder domains; and regeneration, creating emergent properties from coordinated activation.

This pilot framework offers experimental tools, including conflict analysis protocols, stakeholder coordination approaches, and progressive scaling strategies that range from tactical interventions to strategic regeneration planning.

European case review suggests broader applicability across different urban contexts. This reframing invites planners to reconsider urban conflicts as diagnostic opportunities rather than obstacles to overcome. Rather than avoiding urban conflicts, this approach proposes working with exposed invisible structures to create more responsive regeneration that integrates historical depth with contemporary needs.

Dr inż. arch. AGNIESZKA WŁOCH-SZYMLA
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COMMUNITY-BASED LAND AND HOUSING MANAGEMENT AS A MECHANISM FOR URBAN DEGROWTH: AN ANALYSIS OF BARRIERS, POTENTIAL AND SOCIO-ENVIRONMENTAL EFFECTS

In the face of mounting challenges related to urbanisation, the housing crisis and pressure on natural resources, the concept of degrowth is gaining importance as an alternative urban development paradigm based on curbing uncontrolled growth and promoting sustainable and equitable land use models. This study focuses on community land and housing management as a practical mechanism for implementing degrowth principles in an urban context. The article aims to analyse the legal, social and economic barriers, potential and socio-environmental effects of community projects, using selected examples.

The study employs qualitative methods, incorporating case studies and an analysis of planning and legal documents. Key barriers to implementing community land management models are identified, including inconsistencies in property rights, regulatory constraints, market pressure, and a lack of social capital. At the same time, it highlights the increasing importance of local initiatives and institutions that support housing autonomy, affordability, and the sustainable use of land resources.

The analysis covers the environmental effects, such as reducing raw material consumption and CO_2 emissions and preserving green spaces, as well as the social effects, such as improving social integration, strengthening social capital and increasing housing stability for participants in the initiatives. The results suggest that community models provide a promising alternative to traditional market mechanisms, facilitating the achievement of sustainable development and spatial justice objectives.

The summary emphasises the importance of integrating the degrowth approach into local planning strategies and housing policy, highlighting the need for institutional reforms and the development of mechanisms to encourage social participation. This article makes a valuable contribution to the debate on sustainable urban development models and highlights the need for further empirical research and policy experiments in this area.

Dr inż. arch. JUSTYNA ZDUNEK-WIELGOŁASKA
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THE CRISIS OF THE CITY'S URBAN IDENTITY? THE GREEN INFRASTRUCTURE OF INTERWAR WARSAW AND CONTEMPORARY CONCEPTS OF CITY DEVELOPMENT

The growing problems of large cities at the end of the 19th century led to a crisis and even a qualitative ideological explosion, the effect of which was a complete change in thinking about the needs of the elites and the majority. This pro-social movement seeking solutions to improve the quality of life was a breakthrough in thinking about the city. Today, with hindsight, it is worth taking a fresh look at the challenges faced by specialists from various fields, whose task was to find new qualitative solutions to improve life in the city. The study aims to show how difficult and groundbreaking the changes proposed at the beginning of the 20th century were regarding the city's green infrastructure, using the example of the experiences of interwar Warsaw. A comparison of the pro-environmental postulates formulated at that time and proposals of old solutions with the currently implemented policies in the field of shaping green infrastructure in Warsaw will allow us to show to what extent old ideas have already become morally worn out, and to what extent they can become a generator of new changes. The study answers whether and to what extent the vision of a healthy city has changed over the years, and whether there is room for restoring urban concepts lost due to various conditions, such as Warsaw's green wedges.

The pandemic experience has shown how unprepared cities are for crises. It is already known that greenery needs to participate in urban life to an increasing extent and be more accessible, which is why it is all the more worth looking at the potential of past ideas. Although it seems that we are discovering things anew every time, this is probably how things go- to plan the future well, you must first understand the past well.

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CITIES UNDER PRESSURE FROM OVERTOURISM - A CRITICAL REVIEW OF MANAGEMENT INSTRUMENTS, WITH A FOCUS ON URBAN PLANNING

Cities across Europe are increasingly grappling with the impacts of intensified tourism, which not only strains infrastructure and the environment but also disrupts local communities and accelerates housing market shifts—often resembling gentrification (Koens et al., 2015; Füller & Michel, 2014).

Examples from cities such as Barcelona, Dubrovnik, Amsterdam, Venice, or Kraków show how mass tourism can create tensions between residents and visitors, especially when daily life is disrupted or housing affordability declines (Milano et al., 2021). These challenges have prompted many local governments to adopt regulatory responses. Among the most common are “hard” measures such as limiting short-term rental licenses (Nieuwland & van Melik, 2018), introducing tourist taxes (Göktaş & Çetin, 2023), or applying zoning tools to prevent uncontrolled development of holiday accommodations.

In parallel, cities are also experimenting with “soft” approaches rooted in public participation. These include community consultations, stakeholder dialogues, and collaborative planning processes with tourism industry actors. Such inclusive strategies foster local acceptance and increase awareness among both residents and businesses (Çelik & Çevirgen, 2024).

However, the mounting pressures of overtourism point to the need for integrated, long-term urban management strategies. These should be guided by the Wise City concept, combining coherent policy frameworks with forward-thinking urban governance. Without such models, tourist destinations remain vulnerable to short-term economic interests that can undermine broader sustainability goals (Seraphin et al., 2018).

This article critically assesses the tools used to mitigate the negative effects of overtourism in major Polish and European cities. Particular emphasis is placed on urban planning instruments and the importance of social dialogue in building inclusive, resilient, and adaptive urban systems aligned with sustainability principles.

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Mgr ANASTASIIA ZHOKHOVA, Ph.D Student
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REDEFINING URBAN STREET DESIGN: RESPONDING TO SOCIAL CHANGE, HEALTH CHALLENGES, AND SPATIAL NEEDS IN CONTEMPORARY CITIES

Contemporary urban policies bring forward the focus on sustainability, climate adaptation, public health, equity and liveability. Yet the gap remains in compliance and embeddedness with conventional street-design practices angulations which still align with car-centric paradigm. This means that urban streets are still treated mainly as traffic conduits, reinforcing separation of everyday life and marginalising their social function as public spaces.

Rapid technological (smartphones, e-commerce, e-mobility) and lifestyle shifts (remote work and sedentary lifestyle) further accelerated by the COVID-19 pandemic, and its 25 % spike in global anxiety and depression (WHO 2022) have challenged conventional assumptions about movement, proximity, and the role of public space. Street design prioritising vehicle flow, sidelines older adults, people with disabilities, children, youth and caregivers despite their varied needs for access, independence and social interaction. Children lack the freedom to play or travel independently, confined to “safe” zones or ferried by car, while weak inter-neighbourhood ties and reduced public interaction fuel social isolation and loneliness. At the same time, Europe’s 65+ population rose from 16 % to 21 % (2002–22; Eurostat 2023), physical inactivity related to sedentary lifestyle doubles premature-death risk (2× overall; 2.7× for cardiovascular disease, HUNT Study 2020) and costs €80 billion per year (152 000 deaths; 2.1 million lost healthy years, EC Health Promotion 2023) while increasing mental-health disorders including those associated with social isolation and loneliness consume ≈4 % of EU GDP (EESC 2023). These trends form a new contextual framework to which existing street standards have yet to adapt.

The paper examines those contemporary social shifts, lifestyle trends, and emerging challenges to identify evolving needs in urban public space, particularly streets. It challenges conventional traffic-oriented design through theoretical analysis supported by international examples, proposing a more inclusive and multifunctional approach aligned with current societal and spatial dynamics.

The recent studies demonstrate how inclusive, multifunctional street environments can address overlapping health and social challenges and how street design shapes social cohesion and community well-being (Health.com 2023, WSJ, EEG pilot study 2024, Dr Bruce Appleyard Livable Streets 2.0 2020).

At the same time, numerous cities around the world (for instance, Amsterdam, Barcelona, Paris, Oslo, London, Milan, Freiburg, Strassburg etc.) are undertaking efforts to transform existing transportation arteries into multifunctional public spaces, where movement, meeting and play coexist, the municipal regulations can be aligned with contemporary demands for inclusive, resilient and healthy urban futures. Thus far, this movement commonly referred to as "from roads to streets"

have primarily been observed by the most forward-thinking municipal governments, often supported by urban activists. However, this trend is likely to gain further momentum in the coming

years. To effectively bridge the gap between policy and practice, there is a pressing need to develop comprehensive tools that do not yet exist tools – capable of integrating social-function metrics with mobility requirements, embedding participatory co-design that includes marginalised groups (such as older adults, people with disabilities, children, youth, and caregivers), and accounting for economic, social, and environmental impact through cost-benefit analysis to support informed decision-making.

Mgr inż. arch. ADRIANA JASIAK
University of Zielona Góra, Poland

ASSESSING THE URBAN POTENTIAL OF POST-INDUSTRIAL SITES IN A CITY. A CASE STUDY OF ZIELONA GÓRA

Incorporating brownfield sites into the urban fabric is a necessary endeavour, which is carried out in different ways depending on local circumstances. It is a topic that requires a comprehensive approach in order to use these spaces for the long-term benefit of urban communities. Existing post industrial sites and facilities can be revitalised, sub-optimally used or not used. Their state of preservation also varies. The contemporary topic of incorporating post-industrial sites into the urban fabric in Poland is linked, among other things, to the collapse of numerous industrial plants at the end of the 20th century as a result of the political transformation. Due to the intensive development of civilisation and technology and the associated urban development, they are valuable areas, if only because of their attractive locations.

The problem of revitalisation of post-industrial sites raises the topical issue of the recycling of space by bringing them back into use in a way that is appropriate to the needs and effective development of cities within their boundaries. The aim of this study is to identify the characteristics representing the potential of brownfield sites for revitalisation and, on this basis, to assess the attractiveness of these sites for revitalisation activities on the example of Zielona Góra.

In order to identify the key features of former industrial sites, a literature review was carried out. Information on post-industrial sites in Zielona Góra was obtained using desk research and as a result of research walks. The result of the research is a classification of Zielona Góra's brownfield sites for revitalisation.

Conference theme:
ARCHITECTURE

Prof. DSc. Ph.D Arch. YURIY KRYVORUCHKO
Bialystok University of Technology, Lviv Polytechnic National University, Ukraine

MSc Eng. Arch. JOANNA KOPACZ-GRUŹLEWSKA
Silesian University of Technology, Poland

THE CITY-FORMING ROLE OF LVIV'S VILLA ESTATES: SHAPING PROCESS AND CONTEMPORARY IMAGE

Important historical factors for the development of modern Lviv were the dismantling of the defensive wall system around the medieval city, the granting of autonomy to Galicia as part of Austria-Hungary in the years 1860–1876, and as a result the establishment of many local offices with administrative buildings, the settlement of noble families in the city, creation of the Polytechnic Society, the transformation of the Technical Academy into the Polytechnic School, the founding of the railway lines and the construction of the station, the organization of the Eastern Fair, accompanied with development of industry and housing until the mid-20th century.

An important element of the city's development were its suburbs, consisting of manor buildings, which, along with the development of the city, increasingly emerged into its inner structure, overgrowing with residential districts and industrial areas, and at the same time contributing to expansion of the suburbs.

As the city developed, defensive monasteries, castles, residences and palaces located outside the city gradually became urban elements. Simultaneously, noble manors were playing more and more significant role in the developing city.

Thus, a type of single-family house with an unique tradition and philosophy of life was crystallized - a villa dating back to ancient Greek and Roman period, the Renaissance and modern times.

In the first half of the 20th century, the complex of pavilions of the Eastern Fair, located in Stryisky Park, shaped a new image of the city. The high level of investment in infrastructure in this area led to the creation of villa estates, built both by private investors (villas in Zofiivka, along today's Geroiv Niebianskiy Sotni and Lyzhvyarska streets) and from the funds of the City Development Committee, the Military Housing Fund and housing cooperatives. New villa estates, such as Kastelivka intended for professors of the Polytechnic School, Wlasna Strzecha fot the administrative staff and the Officers' and Professors' Colonies were built in Lviv in that time. On the city outskirts, the construction of small row single-family houses built on previously undeveloped areas of Bogdanivka and Lewandivka exemplifies the housing construction of railway workers.

The villa estates located around Stryiskyi Park, as well as the complex of the Eastern Fair pavillons, reflect Ebenezer Howard’s garden-city model, creating a significant source of valuable urban heritage of Lviv. The villa complexes of the first half of the 20th century became an important element shaping the urban structure and image of contemporary Lviv.

Prof. dr hab. inż. arch. MACIEJ MOTAK
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ARCHITECTURAL AND URBAN WISDOM NEARLY A 100 YEARS AGO: IMPROVING KRAKOW IN THE 1930s

A hundred year ago, in 1925, at the dawn of International Style and Modernism getting widespread, Krakow was the city of over 200,000 and growing, though still quite deeply rooted in architectural history and urban tradition. However, the new trends had already started to nurture and undermine the tradition, which was exemplified by following Western patterns and by learning about the new technologies, functional solutions, and forms. A vast majority of Krakow newly and successfully built environment in the 1930s, was created in accordance with traditional urban block structure, which was modernised, improved, and adjusted to the emerging or growing needs and expectations of at least part of the society, especially its middle class. Numerous small areas of the city were subsequently parcelled and covered by regulatory plans (called building plans since 1928 building law). On one hand these plans determined the type of urban tissue in a given area, while on the other hand enough freedom was left by the municipal planners to the investors and architects. The documentation for the construction was brief, the mutual trust between the officials and designers obvious. The back buildings in the small yards, which had been a 19th-century nightmare, were abandoned. The clear functional plans, equipped with garages, air-raid shelters, radio antennas, and updated technical installations were introduced. The potential monotony was eliminated due to original plans, artistic details, as well as a great variety and incredibly high quality of finishing the façades.

In the article, the 1930s urban trends in Krakow are discussed via selected examples, with a special focus on the issues positioned in between the urban scale and architectural scale: tenement raw houses of limited scale being designed individually in accordance with traditional block-based urban tissue. Architects and builders, who were responsible for the particular projects, were solid craftsmen of their profession rather than visionary artists. They rarely talked about forms and styles, let alone themselves. That is also why so little is known about J. J. Spira, H. Jakubowicz and S. Wexner, S. Mehl, E. Skawiński, A. Dostal, and many others responsible for the projects that resulted in the city's gradual transformation. Unfortunately the hopeful process was halted abruptly in 1939 with the outbreak of the World War II and all its tragic consequences including the deaths of many specialists and residents. After many decades and various transformations the Krakow 1930s urban design and tenement houses have been most appreciated nowadays, both in artistic and financial terms.

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HISTORICAL OBJECT AS AN INITIATOR OF SPACE INTEGRATION - ON SELECTED EXAMPLES OF KRAKOW

Historic buildings can be associated with the phenomenon of integration of space - that is, its composition (but at the same time residents and users, as they identify themselves with the place). A monument can be a “flywheel” of local transformations, and thus can influence the surroundings, which will translate in the long term into the phenomenon of polycentricity of the city (on a different scale).

An example would be Krakow, where one can point out, among other things, the former vodka factory in Grzegórzki/Dąbie, now as a meeting place “Fabryczna 13” surrounded by new residential and office buildings, or the preserved airport strip and the “Avia” housing estate, St. Stanislaus Church (and the Dąbie housing estate) on the former rampart, industrial buildings in Zabłocie, or - as an extremely negative example - attempts to develop the immediate vicinity of Krakow forts.

This can, of course, be valued from the perspective of monument protection, but leaving this aspect aside, one should focus on the fact that even such a significantly rebuilt or covered-up monument continues to function as a “landmark”, provides a starting point for the composition of neighboring developments and to some extent integrates residents as a symbol of the place.

Dr inż. arch. NATALIA GORGOL
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IN THE SEARCH OF A WISE MEASUREMENT TOOL OF MULTIFAMILY RESIDENTIAL DEVELOPMENT. THE ANALYSIS OF THE DYNAMICS OF CHANGES IN THE FORMATION OF MULTIFAMILY RESIDENTIAL DEVELOPMENT IN KRAKOW

Despite many attempts, the housing deficit in Poland is still an actual social, construction and political challenge. From this perspective, the issue of multifamily residential development remains a vital and hotly debated issue. Simultaneously, the shortage of housing results in that multifamily residential development accounts for the great majority of newly constructed development in Poland, making residential development a crucial part of Poland's newly designed architecture. What trends and characteristic patterns can be noted in this regard? How to approach the issue of an analysis of the dynamics of changes in the formation of multifamily residential development in Poland wisely? Is it possible to introduce a wise measurement tool of multifamily residential development?

The study attempts to provide answers to the posed questions upon the study of the dynamics of changes in multifamily housing in Krakow (as one of the biggest metropolises in Poland) over the period 2013-2023. The analysis is conducted in four temporal comparison cycles (years: 2014, 2017, 2020 and 2023). The article addresses three research objectives: C1. To create a wise measurement tool of multifamily residential development based on the statistical database of the Central Statistical Office. C2. To examine the dynamics of the formation of multifamily residential development in Krakow using the proposed proprietary research tool over four comparison cycles. C3. To define noticeable trends and patterns of the dynamics of changes in the formation of multifamily residential development in Krakow. In order to obtain the most objective and reliable research results, the methodology is based on a mix of research methods and tools: 1. review and critical analysis of the state-of-the-art, including printed sources and reliable online sources, 2. statistical query (quantitative and statistical research method), 3. qualitative research based on a proprietary research tool (comparison sheet), 4. analysis and visualization of results. The research methods and tools used served to derive logical arguments in order to formulate conclusions.

The key element of the paper is a proprietary measurement tool in the form of a comparison sheet divided into three sections: I. Quantitative data, II. Functional-utility standards. III. Economic standard. All sections include indicators and parameters of multifamily residential development measurable by publicly available statistical databases provided by the Central Statistical Office.

The outcomes of the study present the current state of affairs of the formation of multifamily residential development in Krakow, highlighting its current trends and patterns.

Arch. PhD. ROSA ROMANO
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THE PROACTIVE ROLE OF CULTURAL HERITAGE IN THE ADAPTATION PROCESS OF THE CITY

Cultural heritage is threatened by changes in current weather patterns, particularly extreme events, which affect it by influencing the biological, chemical, and physical mechanisms of its structures and materials, causing degradation. Natural factors, such as solar radiation, air temperature, humidity, precipitation, ventilation, influence the Earth's atmosphere and the climatic phenomena that occur there.
And, depending on the location of the settlement, each of these elements can represent a resource or a hindrance for that particular place, with notable differences between rural and urban areas.
The two contexts, in fact, present surfaces with very different characteristics: permeable, absorbent, and cooling in rural areas with a high thermal inertia factor, impermeable and reflective in urban areas. But while the factors that determine the existence of a given climate in a region of the globe are geographical in nature, the factors that influence the urban climate also depend on anthropogenic factors and can manifest themselves with similar effects even in very different contexts. Therefore, although every point on Earth has its own specific climate, different from that of any other part of the world, we can detect a certain similarity in the climatic events of urban areas. But it is also true that climatic phenomena are not foreign to the history of cities and communities. Indeed, some have always struggled with even extreme weather conditions and phenomena, such as hurricanes or the extreme heat of some region. They have developed a wealth of solutions that certainly represent important reference practices for current adaptation efforts according to a vision of a wise city that builds its future starting from the treasures of its past. Therefore, to make cities climate resilient, it seems interesting to rediscover the adaptive methods of the past, to rediscover how cities have coped with adverse climate conditions over time and what strategies they have developed to more thoughtfully address the associated problems. After all, if the structures of the past have survived until today, it is precisely thanks to their ability to adapt and evolve to historical, social, and environmental changes. From this perspective, climate change presents itself as an opportunity for growth and development, activating projects capable of generating quality, security, and innovation, starting from the consolidated past and its millennia-long stratification: territorial integrity is at the heart of European and Member State policies as the guardian of the memory of civilizations, the loss of which can lead to chaos and disorientation, as well as the loss of local identity and that of future generations. Indeed, protecting cultural heritage in its twofold dimension, tangible and intangible, is essential to a community's cultural identity (Faro Convention 2005): preserving vernacular/traditional solutions is not only a way to operate consistently with the material heritage in an evolutionary logic, but also means knowing how to preserve the skills and knowledge that make that heritage alive and therefore aligned with the identity and know-how of the community that generates, animates, and preserves it.

Conference theme:

NATURE AND CLIMATE

Prof. dr hab. inż. arch. ZDZISŁAW PELCZARSKI
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ACCESS TO LIGHT AND SKY VIEW VERSUS UNCONTROLLED EXPANSION OF TREE STANDS IN URBAN HOUSING ESTATE ECOSYSTEMS: A CASE STUDY EXAMPLE OF THE JÓZEFOWIEC ESTATE IN KATOWICE

The *Józefowiec* estate was built in the 1970s – approximately 50 years have passed since its settlement. The deciduous trees planted at that time, without taking into account the proper distances from the building elevations, are also that old. These are mainly maples, sycamores, lime trees, rarely willows, chestnut trees, birches. They form compact groups of densely leafy crowns, the height of which exceeds the cornices of four-storey residential buildings.

The aim of the study is to conduct a detailed analysis of a specific case of degradation of the housing values of an exemplary urban estate ecosystem, which is caused by uncontrolled growth of the stand. Deeper knowledge of the causes and effects of this state of affairs is necessary in order to understand the complexity of the problem and determine the required corrective actions.

From an ecological point of view, the ecosystem of the studied estate shows signs of a deep lack of sustainability. This consists in the dominance of dense trees in the spaces between buildings. As a result, the fulfillment of the basic needs of the subjective element of this ecosystem, which are people, is limited or even impossible. In many cases, their apartments have significantly limited access to daylight, solar radiation, and the view of the sky. The constant shading of the space in front of the buildings causes the creation of an unhealthy microclimate, characterized by lower air temperature, lack of ventilation, increased humidity, and lack of vegetation on the lowest floor in the area surrounding the building.

To analyze the existing condition and determine the optimal solutions to the problem of the degree to which the open view is obscured by tree crowns, the author used a method which he calls the criterion of access to the view of the sky. It was successfully tested by him in earlier research works on determining the distance between buildings.

According to the author, an inalienable element of the view through the window is the image of the sky, which is the basic reference in the human perception of the space of the external environment. The analyses are based on simple graphical research methods that allow for the simulation of the visual perception of images of the space of the external environment through the window. The key parameter in these analyses is the vertical angle of view, called *the angle of entry of the sky view*. Its minimum value set at 7.5° is of fundamental importance in shaping the distance relations between neighboring objects of the housing estate ecosystem, such as buildings and trees. The value of this angle defines the lowest height of the sky image achieved in the views through the windows of the lowest apartments.

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THE ROLE OF URBAN COMPOSITION IN SHAPING PUBLIC SPACES IN WARSAW

The spatial and functional structure of large metropolitan areas is undergoing dynamic transformations. This also applies to Warsaw, whose structure is currently subject to numerous changes that reflect a variety of needs and processes taking place within urban areas. As a result, there is a growing need for continuous and in-depth research on the urban landscape.

Such research places particular emphasis on evaluating the current state of spatial development of specific areas and locations, including assessments of spatial order. It is important to recognize that in shaping urban space - especially its key components such as public spaces and residential areas - the factor of urban composition plays a crucial role in determining spatial quality.

Particularly in the contemporary context of the third decade of the 21st century, amid intensified and accelerated urban processes, it is essential to emphasize the importance of conscious composition of the spatial structure of cities. Special attention should be given to the design of multifunctional urban complexes and public spaces - an issue of critical importance and necessity. The composition of 21st-century urban space should be rooted both in the centuries-long tradition of philosophical, scientific, and artistic exploration, and in stimulating a need for experimentation, which serves as a driving force for progress.

This paper presents the results of research on selected areas and public spaces in Warsaw that are currently undergoing dynamic transformation. The analyses focus on the role of urban composition in shaping the city's landscape. The study primarily includes examples of revitalizing existing urban fabric, with particular emphasis on the introduction of new greenery, water elements, small architectural forms, lighting, technical infrastructure, and urban design details. It also considers newly implemented green areas (such as urban parks, including linear parks) and public spaces within residential neighbourhoods.

The transformations of Warsaw's public spaces are a response to a range of needs and phenomena, the most significant of which include: 1/The introduction of greenery into existing public spaces - as a response to climate change and the growing need for rest and recreation near one's place of residence; 2/The improvement of the quality of public space development - as an answer to social demands, including the need for spatial order; 3/The implementation of modern technologies - as a necessity for coordinating various urban systems and enabling residents and tourists to function simultaneously in physical and virtual spaces. These premises support the thesis that in shaping the spatial and functional structure of the "wise city," particularly in its critical components such as public spaces, it is necessary to skilfully balance environmental, social, and technological needs.

Detailed analyses and studies of selected projects and implementations in Warsaw lead to the conclusion that the composition factor currently plays a significant role in shaping the contemporary

spatial structure of cities. The resulting spatial arrangements are attractive and original compositions, characterized by a strong identity and high quality, while simultaneously incorporating diverse forms of greenery. Consequently, it is also reasonable to assert the equal importance of the built and natural environments in shaping the contemporary urban fabric and city landscape.

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THE ROLE OF INNOVATIVE PARTICIPATORY TOOLS IN BUILDING THE RESILIENCE OF LOCAL COMMUNITIES: THE CASE OF THE URBAN HEALTH PATH

The challenge for contemporary urban development is to shape the urban model in a way that focuses attention on people and takes into account each city's cultural trajectory, thus drawing on local values and local social capital. A wise city is an expression of resilience to environmental changes, readiness to effectively address emerging urban issues, and efficiency in protecting vulnerable groups of residents. At the same time, the concept of a wise city can help us connect all the interdisciplinary areas of activity that take place within the complex ecosystem of cities. Above all, this new paradigm brings local authorities closer to the everyday pulse of residents' lives, thereby providing a greater opportunity for understanding and dialogue. One of the key dimensions of quality of life in a city is its health-promoting potential. In this regard, planners and urban designers have repeatedly taken on the task of creating healthy living and recreational conditions by emphasizing contact with nature and applying its principles in architecture. Nowadays, movement and physical activity have also become recurring themes, acting as drivers of change within urban spatial structures. A notable example of contemporary concepts addressing this issue is the idea of Active Design, which draws on local values and spatial characteristics as generators of pedestrian movement: imageability (memorable places), enclosure (defined spaces), human scale, transparency (visibility), and complexity (richness of place). This approach was applied in the Urban Health Path (UHP) project, which can be presented as an example of an innovative way to harness the potential of urban space, human capital, and technology in the context of health and building resilient local communities. Prototype versions of the Urban Health Pathway were developed for Gliwice and Barcelona. The iterative process of creating this tool, involving local organizations and groups of older residents, enhanced its potential as a participatory instrument. In the research work, methods such as research walks, expert interviews, and solution testing were used to diagnose the local spatial and social potential. Moreover, this was an inclusive process, where the university, local organisations and community were the crucial stakeholders. The outcome of the project is not only a set of active walking routes in selected urban areas, but also guidelines indicating key elements for creating this type of urban activity in new locations. The Urban Health Path (UHP) concept uses local architectural values and urban green spaces as a stimulus for physical activity among older adults and, when combined with an application, has the potential to strengthen local identity and community bonds. Coupled with the opportunities offered by a mobile app, this can become a new way of building the capacity of local communities, especially in the context of an ageing society.

JELENA RISTIĆ TRAJKOVIĆ, PhD, Associate Professor, Vice Dean for Research and Innovation
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INTERDISCIPLINARY PEDAGOGIES IN ARCHITECTURAL EDUCATION: FOSTERING HUMAN–NATURE CONNECTIONS AND WELL-BEING

As cities increasingly face ecological degradation, social fragmentation, and disconnection from natural systems, education in architecture and urbanism must evolve to address these complex realities through integrative and transformative approaches. This presentation shares experiences from the development and implementation of interdisciplinary educational activities that blend formal and informal learning—ranging from academic courses and design studios to international summer schools and workshops.

Focusing on creative practices and design as a medium for transformative change, this research emphasizes how place-based and experiential education can empower students to co-create wise cities for healthier, more connected urban environments. Through direct engagement with diverse contexts, communities, and ecologies, students are encouraged to critically examine the spatial, cultural, and environmental dimensions of design. By detecting hidden values in spatial patterns that support psychological and physical well-being and deepen human–nature relationships, these pedagogical models aim to shift the focus from material and technical solutions toward integrative, sensitive, and future-oriented design thinking. In doing so, education becomes a key driver of urban transformation, nurturing the capacities needed to imagine and shape wise cities that are resilient, inclusive, and rooted in care for both people and the planet.

Dr hab. inż. arch. KATARZYNA ŁAKOMY, prof. PK
Dr inż. arch. krajobrazu ANNA STEUER-JUREK
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THE GARDENS OF THE OLD TOWN OF KRAKOW COURTYARDS - DEVELOPMENT PROBLEMS IN THE CONTEXT OF CLIMATE CHANGE

In the housing environment of city centres, we can observe a trend towards development densification, a reduction of biologically vital areas and the removal of greenery, which translates into negative climatic, environmental and social changes. A similar phenomenon has been also observed in Kraków's Old Town. It is an area of high cultural heritage value (i.e., it is a World Heritage Site), popular with tourists. However, there are many negative phenomena within this space related to the deteriorating state of the natural, residential and socio-cultural environment.

Particularly at risk are courtyards with economic and commercial functions, including those adapted as restaurant gardens. Since these areas are enclosed within buildings, they are subject to different legal and ownership regulations than gardens located in public road lanes or on sidewalks.

The research focuses on courtyards within residential blocks with gastronomic or mixed functions, located in the historic centre of Kraków. The analyses will cover both the cultural and historical context as well as contemporary development opportunities—focusing on user needs, legal aspects, and ecosystem services. This will include an examination of the scale and quality of current developments, the types and quantities of greenery present, legal aspects of courtyard use, and case studies from other cities in Poland and Europe.

The methodology will combine classical landscape analysis methods with open data analysis.

The result will be the identification of good models of courtyard revalorization processes and the creation of guidelines for their development, mainly in terms of the possibility of introducing greenery. This will have a significant impact both in terms of the proper exposure of cultural heritage and the improvement of environmental conditions in the residential structure of the old town in Krakow.

Dr inż. arch. AGNIESZKA CZACHOWSKA
Sendzimir Foundation, Poland

SHAPING BLUE-GREEN INFRASTRUCTURE IN CITIES USING DEEP PARTICIPATION TOOLS

In the face of the climate crisis, engaging citizens and other stakeholders in the planning and implementation of blue-green infrastructure solutions in cities is essential to support adaptation efforts. Equally important are consistent information and educational activities, the development of various forms of cooperation, and the use of diverse methods of public participation.

Public participation can serve as a tool for introducing sustainable blue-green infrastructure solutions in urban areas. Solutions developed through participatory processes tend to gain greater social acceptance and respond more effectively to the challenges posed by the climate crisis. Moreover, participation facilitates the systemic implementation of blue-green infrastructure and helps raise public awareness about climate adaptation efforts. It also strengthens community identity and fosters social integration.

The approaches described here—designed to support the use of deep participatory techniques in implementing blue-green infrastructure—are based on the author's experience and projects carried out by the Sendzimir Foundation, such as *Shared Space – Participatory Spatial Planning in Municipalities*, *Climate-Friendly School: A Model Center for Education on Mitigation and Adaptation to Climate Change in the City*, and others.

During the conference, the author presented an original tool for analyzing and designing spaces adapted to climate change — the Adaptation Form. This tool was created in response to the need to address the climate crisis in participatory spatial planning processes. It helps assess the potential of a given site to adapt to climate change and identify which parts of a city are most vulnerable to climate-related risks. It also provides guidance on what short- and long-term solutions can be introduced. The Adaptation Form enables evaluation of a selected urban area — such as a square, plaza, street, block, or district, and even larger developed areas — by local communities or experts. It can be used during public consultations or expert workshops. The tool may serve as the foundation for a participatory workshop or be integrated as one of several tools and methods applied in co-creating urban space.

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NEW RECREATIONAL AND MAINTENANCE SOLUTIONS IN CEMETERIES – INSIGHT FROM CENTRAL-WESTERN EUROPE

Cemeteries are very important elements of cultural heritage and green infrastructure within the urban landscape. Traditional burial practices using slowly biodegradable caskets and occupying significant land for cemeteries are progressively perceived as unsustainable. New, unconventional burial approaches minimize environmental impact and are increasingly used in numerous countries, including post-socialist cities of Western Europe like Poland, Germany, and the Czech Republic. They are often called “Forests of Memory” or cultural sacred zones, especially in homogeneous societies in Poland. However, their recreational character is still undiscovered, or the spaces are treated as sacred areas, not open spaces with the ability for leisure, which is – on the other hand - more representative of Germans (Berlin or Leipzig cemeteries). We asked young residents and students (questionnaire survey, n=201) about their perception of cemeteries (barriers, functions, historical meaning, natural value, biodegradable forms of burial as options). In general, visitors see the potential of cemeteries as passive recreation (walking, sightseeing, contemplating, reading books, and seeing movies) due to their ecological function and natural or historical character, which is unique and lets them stop in the dense and noisy rapids of cities. The reflection might be a good starting point in developing cemeteries' standards of management in European cities as an important element of urban green infrastructure. The spaces might be treated as places for neglected people who need more silence and are not able to recreate in public open spaces with wave recreational facilities. Also, a visible trend of urns or burials under a tree with symbolic information instead of traditional forms of graves and maintenance with cleaning or passive reactional equipment (benches, ecological surfaces of paths, garbage sorting trash), mostly more visible in Czech villages (Křtiny, Bílovice nad Svitavou), might be a challenge for local Polish cemeteries (Łódź, Warsaw) especially with new or planned ecological form of burial forms) management and maintenance in the near future.

MSc in Arch. ADRIAN LASOCKI
Academy of Silesia, Katowice, Poland

BLUE-GREEN INFRASTRUCTURE AS A TOOL FOR URBAN REVITALIZATION OF A POST-INDUSTRIAL CITY- ON THE EXAMPLE OF THE BZI SYSTEM CONCEPT FOR THE CITY OF MYSŁOWICE

Small and medium-sized cities with an industrial past are currently facing complex challenges regarding their development prospects. This is particularly visible in Upper Silesia. On the one hand, the decline of heavy industry has caused economic collapse, degradation of space and the natural environment. On the other, all urbanized areas, including small and medium sized cities, are affected by the effects of climate change, which requires adaptation measures. These two challenges intensify a number of negative phenomena, both economic and social, as well as environmental and spatial. Thus, they require synergy between revitalization process and those aimed at adapting to climate change The example of shaping the GBI system in the city of Mysłowice presents a systemic solution for introducing green areas and accompanying water elements as a coherent spatial structure combining natural elements with modern revitalization solutions. Strengthening revitalization processes with GBI solutions is the result of analyses of conditions and needs in terms of providing residents with access to recreational areas. It is also a response to the growing threats resulting from climate change and the need to strengthen the city's resistance to the effects of these changes. The presented research is based on the potential of urban green areas, which have been connected and supplemented with additional GBI elements. An important element of this issue has been to indicate the possibilities of developing degraded areas as part of this system. The presented case study is a model proposal for the synergy of revitalization and adaptation activities aimed at shaping a friendly urban space of a medium-sized post-industrial city.

Conference theme:
ANALYTICAL METHODS AND TOOLS IN URBAN PLANNING

Dr inż. arch. MAREK GACHOWSKI
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A STUDY OF COHESION IN URBAN STRUCTURES USING THE WEIGHTED DUAL-GRAPH METHOD

Space syntax methods have become increasingly popular and valuable in urban design. The traditional approach focuses on analyzing public-space structure through graph-theoretic principles, which is particularly effective at regional and city scales.

At the scale of urban design, however, the interplay of public versus private, open versus enclosed, and built versus empty spaces—each serving diverse functions—must be considered. Consequently, it is essential to study the structure and connections within both public/open and private/built-up spaces, and to compare the resulting analyses. This presentation proposes an analytical framework based on weighted-graph notation to capture these relationships. We begin by modeling public space as a primary graph, whose nodes and edges reflect spatial complexity and hierarchical integration. Then, we construct a dual graph representing private or built-up areas, where edges are weighted to indicate antagonistic or symbiotic adjacencies. In cases of symbiosis, the analysis can be extended to explore emergent synergy. Given the intricate spatial nature of these relations, weighted graphs are particularly effective: they both valorize built-up areas and reveal their hierarchical organization. By comparing the weighted primary and dual graphs, we can assess the compatibility or conflict between public-space hierarchies and the morphology of adjacent built fabric, thereby evaluating the continuity and coherence of the urban environment. A critical component of this methodology is establishing an appropriate system of scales and analysis rules. In this context, applying Shannon entropy provides a rigorous metric for quantifying the distribution of complexity and cohesion within the urban-space structure.

Dr inż. arch. BEATA STELMACH-FITA
University of the National Education Commission, Krakow, Poland

SMART CITIES AND U-SPACE. PREPARING FOR UAV OPERATIONS IN URBAN AIRSPACE

The Polish Air Navigation Agency initiated the U-space concept in 2019, assuming the integration of manned and unmanned aviation, but it was not fully implemented by 2024. In turn, the development of new technologies related to 3D city models, digital twins and drone services is currently very dynamic and promises many innovative solutions for cities and communities. The main goal of interdisciplinary research is to assess the need for an innovative technological solution using a 3D city model, supporting the assessment of the risk of UAV operations in urban space, including the safety of residents. The selected research methods are: a research survey addressed to municipalities and specialists in UAV technology and 3D city models in Poland in 2020, research projects implemented at the EU level 2020-2024, participant observation (Workshops: Smart City Digital Twins at the University of Turku in 2023, a research visit to Forum Virium Helsinki in 2024 and interviews in April 2025), interviews with UAV operators, specialists in UAV technology and 3D models. The research results were verified in several environments. The presented original, universal 4D model of urban airspace includes a division into zones: I - safe for UAV operations and II - acceptable for UAV operations (ultimately, dynamically updated using urban digital twins and provided data). The approach of the Helsinki City Office to spatial planning and management of low-altitude airspace and the resulting recommendations for other cities will be presented.

Dr inż. arch. ELIZA SZCZEREK
Dr inż. arch. DOROTA WANTUCH-MATLA
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EVOLVING APPROACHES TO GREENERY IN RESIDENTIAL AREAS OVER THE LAST HALF-CENTURY– METHODOLOGICAL FRAMEWORK

Green areas in residential estates are a key component of urban quality of life, yet their form and function have changed considerably over the past half-century, reflecting broader political, economic, social, and technological transformations. This study presents a methodological framework for analyzing greenery in housing estates in Cracow, Poland, across three distinct time periods: the centrally planned era (late 1960s–1989), the transitional post-socialist phase (1990–2003), and the contemporary free-market period (2004–2025). Thirty estates were selected for comparative analysis, ten from each timeframe, while three of them—one from each period—were chosen for a pilot study to test the proposed methodology.

The approach relies on drone-based photogrammetric surveys, which provide high-resolution orthophotomaps and three-dimensional point clouds. These datasets are integrated with open-access resources to generate thematic land cover layers. This enables the analysis of estates in terms of the amount of greenery, spatial structure of green spaces, their fragmentation, and landscape diversity, using appropriate ecological and urban indicators.

The results confirm the effectiveness of the proposed method and its usefulness in obtaining valuable data for comparative analyses of housing estates in terms of the resources and spatial layout of green areas across the adopted time periods. This approach also makes it possible to extend the assessment of green areas to include vegetation structure—such as estimating tree height and canopy extent from the LiDAR point cloud. It is also worth considering using this method for monitoring changes over time by comparing data obtained from successive drone surveys.

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PROBLEMS WITH INTEGRATING STRATEGIC AND SPATIAL PLANNING AFTER THE 2023 PLANNING REFORM: THE CASE OF KRAKÓW (POLAND)

In the years 2020–2023, the Republic of Poland implemented substantial reforms in its strategic and spatial planning systems, aiming to establish an integrated framework for territorial governance and economic development. A pivotal outcome of this transformation was the introduction of the Plan Ogólny Gminy (General Municipal Plan, POG), a new planning instrument intended to harmonize long-term development strategies with spatial management mechanisms. Despite its relatively general and flexible character, the POG can serve as an effective tool—provided it is anchored in rigorously formulated strategic foundations. This paper posits that successful spatial planning is feasible even within the constraints of the POG, contingent upon the coherent and purposeful integration of strategic objectives into spatial frameworks. Central to this process is the development of comprehensive Municipal Development Strategies which incorporate models of functional and spatial structure. These strategies must be crafted by experienced urban planners, reflect a nuanced understanding of local development trajectories, and be capable of guiding future spatial interventions. Their construction should ensure logical consistency, structural clarity, and temporal relevance, enabling municipalities to delineate not only the spatial configurations they aspire to achieve but also realistic implementation timelines. The empirical core of the paper is grounded in the recent experience of the city of Kraków, which has undertaken the simultaneous development of both a Municipal Development Strategy and a General Municipal Plan under the reformed planning paradigm. This dual-track process has revealed critical challenges, including difficulties in aligning strategic visions with spatial delimitations, inconsistencies in methodological approaches, and limited institutional cooperation between departments responsible for strategic and spatial planning. Furthermore, the case highlights the necessity for procedural synchronization and the establishment of a shared planning culture at the municipal level. By examining the Kraków case, this study contributes to the broader discourse on integrative planning practices and the operationalization of planning reforms. It underscores the importance of interpretative capacity at the local level and the role of planning expertise in translating legislative intentions into actionable urban development agendas. Ultimately, the paper advocates for a recalibration of planning processes—one that foregrounds strategic-spatial coherence, fosters interdisciplinary collaboration, and ensures that planning documents serve as effective instruments of urban governance rather than mere formalities.

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