THE ATHENS INSTITUTE FOR EDUCATION AND RESEARCH

Abstract Book

4th Annual International Conference on

Geography

4-7 June 2018, Athens, Greece

Edited by

Gregory T. Papanikos

2018

Abstracts
4th Annual International Conference on Geography
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Preface

This book includes the abstracts of all the papers presented at the *4th Annual International Conference on Geography (4-7 June 2018)*, organized by the Athens Institute for Education and Research (ATINER).

In total 34 papers were submitted by 42 presenters, coming from 22 different countries (Brazil, Chile, China, Colombia, France, Germany, Hungary, India, Iran, Italy, Jordan, Mexico, Morocco, New Zealand, Poland, Romania, Taiwan, Thailand, Turkey, Uganda, UK and USA). The conference was organized into 10 sessions that included a variety of topic areas such as GIS, infrastructure and more. A full conference program can be found before the relevant abstracts. In accordance with ATINER's Publication Policy, the papers presented during this conference will be considered for inclusion in one of ATINER's many publications.

The purpose of this abstract book is to provide members of ATINER and other academics around the world with a resource through which to discover colleagues and additional research relevant to their own work. This purpose is in congruence with the overall mission of the association. ATINER was established in 1995 as an independent academic organization with the mission to become a forum where academics and researchers from all over the world could meet to exchange ideas on their research and consider the future developments of their fields of study.

It is our hope that through ATINER's conferences and publications, Athens will become a place where academics and researchers from all over the world regularly meet to discuss the developments of their discipline and present their work. Since 1995, ATINER has organized more than 400 international conferences and has published nearly 200 books. Academically, the institute is organized into seven research divisions and 37 research units. Each research unit organizes at least one annual conference and undertakes various small and large research projects.

For each of these events, the involvement of multiple parties is crucial. I would like to thank all the participants, the members of the organizing and academic committees, and most importantly the administration staff of ATINER for putting this conference and its subsequent publications together. Specific individuals are listed on the following page.

Gregory T. Papanikos
President

4th Annual International Conference on Geography, 4-7 June 2018, Athens, Greece Organizing and Academic Committee

ATINER's conferences are small events which serve the mission of the association under the guidance of its Academic Committee which sets the policies. In addition, each conference has its own academic committee. Members of the committee include all those who have evaluated the abstract-paper submissions and have chaired the sessions of the conference. The members of the **academic committee** of the 4th Annual International Conference on Geography were the following:

1. Gregory T. Papanikos, President, ATINER.
2. Nicholas Pappas, Vice President of Academic Membership, ATINER & Professor of History, Sam Houston University, USA.
3. Keshav Bhattarai, Academic Member, ATINER & Professor and Geography Program Coordinator, University of Central Missouri, USA.
4. Jorge Rocha, Assistant Professor, University of Lisbon, Portugal.
5. Oana-Ramona Ilovan, Associate Professor, Babeş-Bolyai University Cluj-Napoca, Romania.
6. Peter Yannopoulos, Vice President of Global Communications, ATINER, Co-editor, Athens Journal of Business and Economics & Professor, Brock University, Canada.
7. Virginia Sisiopiku, Head, Transportation Engineering Unit, ATINER, & Associate Professor, The University of Alabama at Birmingham, USA.
8. Jesus J. Lara, Associate Professor, The Ohio State University, USA.
9. Patrizia Falzone, Professor, University of Genoa, Italy.
10. Lucia Martincigh, Professor, University of Roma Tre, Italy.
11. Alice Merab Kagoda, Academic Member, ATINER & Lecturer, Makerere University, Uganda.
12. Mike Mavromihales, Senior Lecturer and Course Leader, University of Huddersfield, UK.
13. Teodoro Georgiadis, Academic Member, ATINER & Senior Scientist, IBIMET-CNR, Italy.

The **organizing committee** of the conference included the following:

1. Fani Balaska, Research Assistant, ATINER.
2. Olga Gkounta, Researcher, ATINER.
3. Hannah Howard, Research Assistant, ATINER.
4. Eirini Lentzou, Administrative Assistant, ATINER.
5. Konstantinos Manolidis, Administrator, ATINER.
6. Vassilis Skianis, Research Associate, ATINER.
7. Kostas Spyropoulos, Administrator, ATINER.

FINAL CONFERENCE PROGRAM
4th Annual International Conference on Geography,
4-7 June 2018, Athens, Greece
PROGRAM
Conference Venue: Titania Hotel, 52 Panepistimiou Street, 10678 Athens, Greece

Monday 4 June 2018

08:00-08:45 Registration and Refreshments

08:45-09:30 (Room A - Mezzanine Floor): Welcome and Opening Address

Gregory T. Papanikos, President, ATINER.
Nicholas Pappas, Vice President of Academic Membership, ATINER & Professor of History, Sam Houston University, USA.

09:30-11:00 Session I (Room C - 10th Floor): Urban Methodology & Other Issues

Chair: Jesus J. Lara, Associate Professor, The Ohio State University, USA.

1. Teodoro Georgiadis, Senior Scientist, IBIMET-CNR, Italy. The Role of Urban Modelling in Preserving Citizen's Health.
2. Benjamin Kaiser, Lecturer, University of Greifswald, Germany. Some Problems of Interpreting Spatial Analysis Results.
3. Norbert Csizmadia, Lecturer, Corvinus University of Budapest, Hungary. Geofusion - Mapping of the 21st Century.
4. Fulya Selcuk, Research Assistant, Dokuz Eylül University, Turkey & Deniz Guner, Professor, Dokuz Eylül University, Turkey. Decoding the Power Relations in the Production of Space by Mapping Controversies Method: İzmir "Basmane World Trade Center" Case.

11:00-12:30 Session II (Room E - 10th Floor): Geographic Information Systems

Chair: Alice Merab Kagoda, Lecturer, Makerere University, Uganda.

1. Sungsoon Hwang, Associate Professor, DePaul University, USA, Amanda Lin, Assistant Professor, Rosalind Franklin University of Medicine and Science, USA, Ryan Crews, Assistant Professor, Rosalind Franklin University of Medicine and Science, USA, Kristin Schneider, Associate Professor, Rosalind Franklin University of Medicine and Science, USA, Noah Rosenblatt, Assistant Professor, Rosalind Franklin University of Medicine and Science, USA, Sai Yalla, Assistant Professor, Rosalind Franklin University of Medicine and Science, USA & Elizabeth Moxley, Assistant Professor, DePaul University, USA. Assessing Community Participation among People with Limited Mobility using GPS and Accelerometer.
2. Isabelle Seguy, Researcher, INED - Institut National d'Etudes Démographiques, France. A Geographic Information System for the Study of Past Epidemics: The 1705 Epidemic in Martigues (Bouches-du-Rhône, France).
3. Elham Karimi, Noise Expert, Air Quality Control Company, Iran, Peyman Hamian, GIS and Geomarketing Advisory Services, Iran, Maryam Naderi, Head of Air and Noise, Air Quality Control Company, Iran & Vahid Hosseini, Associate Professor, Sharif University of Technology, Iran. Detection of Noise Sensitive Areas at Risk of Exceeded Sound Levels in Tehran Metropolitan City (A GIS-based Approach).

12:30-14:00 Session III (Room C - 10th Floor): Urban Planning Processes
Chair: Teodoro Georgiadis, Senior Scientist, IBIMET-CNR, Italy.
1. Ali Cheshmehzangi, Head of Department of Architecture and Built Environment/Director of CSET, The University of Nottingham Ningbo China, China. Eco Fusion: Augmented Eco Innovation for Urban Development. 2. Raed Al Tal, Assistant Professor, German Jordanian University, Jordan & Ibaa Al-Zubaydi, Architect, German Jordanian University, Jordan. Trans-placed Communities: The Impact of the Iraqi Community on the Spatial and Socio-cultural Urban Structure of Amman. 3. Nattapon Sang-arun, Instructor, Thammasat University, Thailand. Two-Stage Inequality Decomposition Analysis of Thailand's Spatial Economy from 1995 to 2015. 4. Tolga Levent, Academic Staff, Mersin University, Turkey. Urban Regeneration or Urban Degeneration? A Concealed Story of Urban Change in Turkish Metropolitan Cities. 5. Hsuan Lo, Graduate Student, The University of Manchester, UK and National Taipei University, Taiwan. The Influence of Urban Renewal on Housing Vacancy Rates: The Case of Urban Renewal Implementations in Taipei City.

14:00-15:00 Lunch

15:00-16:30 Session IV (Room C - 10th Floor): Urban Components & Infrastructure	**15:00-16:30 Session V (Room D - 10th Floor): Science Teaching & Educational Issues**
Chair: Peter Yannopoulos, Vice President of Global Communications, ATINER, Co-editor, Athens Journal of Business and Economics & Professor, Brock University, Canada.	**Chair:** Mike Mavromihales, Senior Lecturer and Course Leader, University of Huddersfield, UK.
1. Carolyn Aguilar-Dubose, Professor, Universidad Iberoamericana, Mexico. The Urban Park: Nature and Democracy as Component of a Planning Strategy. 2. Ratna Ghosh, Assistant Professor, Amity University, India & Uttam Kumar Roy, Assistant Professor, IIT Roorkee, India. Evolving Strategies for Housing Development at a Sub-Regional Level. 3. Dominic Hofmann, Research Assistant and PhD Student, Frankfurt University of Applied Sciences, Germany. Infrastructure – Design - Emotions. 4. Pruethipong Xinghatiraj, Civil	1. Eddie Smigiel, Associate Professor, INSA Strasbourg, France & Sandrine Simon, Professor, Université Euro-Méditerranéenne de Fès, Morocco. An Exploration of the Confusion between Concept and Formalization amongst the Community of Teachers in Physics. 2. Alice Merab Kagoda, Lecturer, Makerere University, Uganda. Teachers' Experiences and Practices of Teaching Practical Geography in Secondary Schools of Uganda. 3. Elif Bengu, Coordinator for Center for the Enhancement of Learning and Teaching, Abdullah Gül University, Turkey & Faruk Kececi, Head of

Engineer, Ministry of Transports, Thailand. The Formulation of Peak Runoff Rate Equation for Road Networks on Frequently Flooded Areas in Central Thailand. 5. Chin-Wei Chen, Graduate Student, National Science and Technology Center for Disaster Reduction, Taiwan and The University of Manchester, UK. How to Assess Footbridges by Walkability? A Case Study in Taiwan.	Mechanical Engineering Department, Abdullah Gül University, Turkey. Maker Spaces and Their Effect on Engineering Education. 4. Laura Santos-Maldonado, Instructor, Universidad de los Andes, Colombia & Diana Carolina Lenis, Senior Pedagogical Adviser, Universidad de los Andes, Colombia. Flipped-Learning and Case Strategy for Developing Interpretative Skills in the Context of an Environmental Thermochemistry Course.

17:30-19:30 Session VI ATINER's 2018 Series of Academic Dialogues: A Symposium Discussion on Recent International Research in Urban Studies and Planning

Venue: Harokopio University (New Building-Ceremony Hall), Eleftheriou Venizelou 70, Kallithea.

Chair: Virginia Sisiopiku, Head, Transportation Engineering Unit, ATINER, & Associate Professor, The University of Alabama at Birmingham, USA.

1. Ali Cheshmehzangi, Head of Department of Architecture and Built Environment, Director of CSET (Center for Sustainable Energy Technologies), Director of UIL (Urban Innovation Lab), & Associate Professor of Architecture and Urban Design, Department of Architecture and Built Environment, The University of Nottingham Ningbo China, China. Smart Cities vs. Urbanism.
2. Carolyn Aguilar-Dubose, Professor, University Iberoamericana, Mexico. From Universe to Pluriverse in Sustainability.
3. Antonio Zumelzu, Associate Professor, Austral University of Chile, Chile. Sustainability in the Global South: The Role of Urban Morphology.
4. Giulia Pellegri, Associate Professor, Architecture-Polytechnic School, University of Genoa, Italy. De-Sign Research: Interactions and Results in the International Contributions of the 2018 Design Day in Genoa. Department of Architecture and Design University of Genoa.
5. Ratna Ghosh, Assistant Professor, Amity University Noida, India. City of Chandigarh.
6. Raed Al Tal, Assistant Professor, German Jordanian University, Jordan. Cities of Continuous Urban Instability - Amman as a Case Study.

21:00-23:00 Greek Night and Dinner

Tuesday 5 June 2018

07:45-11:00 Session VII: An Educational Urban Walk in Modern and Ancient Athens

Chair: Gregory A. Katsas, Vice President of Academic Affairs, ATINER & Associate Professor, The American College of Greece-Deree College, Greece.

Group Discussion on Ancient and Modern Athens.
Visit to the Most Important Historical and Cultural Monuments of the City (be prepared to walk and talk as in the ancient peripatetic school of Aristotle)

11:15-13:00 Session VIII (Room C - 10th Floor): Urban Structuring, Environment & Special Issues

Chair: Kamran Mirza, Assistant Professor, University of the Punjab, Pakistan.

1. Lucia Martincigh, Professor, University of Roma Tre, Italy, Anna Vincenzoni, Councilor, Town Municipality of Rome, Italy, Marina Di Guida, Postdoctoral Research Fellow, University of Roma Tre, Italy & Giovanni Perrucci, Postdoctoral Research Fellow, University of Roma Tre, Italy. Tools for a Better Liveability in Neighbourhoods: The "Environmental Island" Design Methodology and the Citizen Engagement Process.
2. Lukasz Damurski, Assistant Professor, Wroclaw University of Science and Technology, Poland, Jacek Pluta, Assistant Professor, University of Wroclaw, Poland, Jerzy Ladysz, Assistant Professor, Wroclaw University of Science and Technology, Poland, Wawrzyniec Zipser, Assistant Professor, Wroclaw University of Science and Technology, Poland & Magdalena Mayer-Wydra, PhD Candidate, University of Wroclaw, Poland. Potential for Conversion of Offline Services into Online ones in Urban and Suburban Neighbourhoods. Examples of Wrocław and Siechnice in Poland.
3. Andrea Ferraz Young, Researcher, CEMADEN Brazilian National Center of Monitoring and Early Warning of Natural Disasters, Ministry of Science, Technology, Innovation and Communication, Brazil. Adaptation Actions for Integrated Climate Risk Management into Urban Planning: An Integrated Approach in São Paulo Metropolitan Area (Brazil).
4. Cristiana-Maria Pioarca-Ciocanea, Senior Researcher, University of Bucharest, Center for Environmental Research and Impact Studies, Romania. Monitoring Wildlife in Romania – Empirical Evaluation of Argos Location Errors in Romania.
5. Ratan Kar, Scientist, Birbal Sahni Institute of Palaeosciences, India & Ruchika Bajpai, Research Scholar, Birbal Sahni Institute of Palaeosciences, India. Climatic and Vegetational Changes during the Last 11,500 Years from Glacial Sites in Lahaul Valley, Western Himalaya, India.
6. Mark John Burke, Researcher, Cambridge University, UK. Home Ownership Participation – A Cross Sectional Analysis of Major Cities.

13:00-14:00 Lunch

14:00-15:30 Session IX (Room C - 10th Floor): Urban Place-Making & Form and Special Topics

Chair: Lucia Martincigh, Professor, University of Roma Tre, Italy.

1. Jesus J. Lara, Associate Professor, The Ohio State University, USA. Latino Placemaking: Cultural Resiliency and Strategies for Re-urbanization.
2. Antonio Zumelzu, Associate Professor, Universidad Austral de Chile, Chile. Nodality as a Dimension of Sustainable Urban Form: An Evaluation to Five Neighbourhoods in Southern Chile.
3. Austin D'Souza, Student, Victoria University of Wellington, New Zealand, Jacqueline McIntosh, Senior Lecturer, Victoria University of Wellington, New Zealand & Bruno Marques, Lecturer, Victoria University of Wellington, New Zealand. The Togetherness of Strangers: The Role of Ethnicity in 'Place-Making' the Therapeutic Landscape.
4. Abraham Paulsen, Academic and Researcher Geography Institute, Pontificia Universidad Católica de Chile, Chile. Pentecostalism in Anti-Ghettos in Santiago Chile's Metropolitan Area: Bajos de Mena, a Case Study Designed to Generate a Theory of Religiosity in Urban Spaces Classified as Vulnerable.

15:30-17:00 Session X (Room C - 10th Floor): Drawing & Representation: Environment-Landscape-City

Chair: Patrizia Falzone, Professor, University of Genoa, Italy.

1. Michela Scaglione, Adjust Professor, Università degli Studi di Genova, Italy. Basic Methodology for the Knowledge of a Territory through the GIS: Analysis, Surveys and Representations.
2. Ruggero Torti, Research Grant Holder, Università degli Studi di Genova, Italy. *Signum* and Visual Identity.
3. Francesca Salvetti, Professor, University of Genoa, Italy. Quality Standards for the Restoration of Color Values in Urban Areas: Color Projects.

20:00- 21:30 Dinner

Wednesday 6 June 2018
Mycenae and Island of Poros Visit
Educational Island Tour

Thursday 7 June 2018
Delphi Visit

Friday 8 June 2018
Ancient Corinth and Cape Sounion

Carolyn Aguilar-Dubose
Professor, Universidad Iberoamericana, Mexico

The Urban Park: Nature and Democracy as Component of a Planning Strategy

The park is a space imbued with a duality which is confirmed by a long-lived and constant ingredient, when one talks of NATURE, and a much more recent, but no less powerful one, when one talks of DEMOCRACY. It brings the ideas of paradise, country in the city and landscape to the fore, as well as health, repose and community.

Parks, invaluable components of public space, can be forceful advocates for building collective memory, as well as for forming an identifiable and significant urban structure.

This research demonstrates that parks continue to represent a moral space, a space of 'goodness', through layers of commonplaces found in survey testimonials and drawings, through books about parks and about the city, as well as through newspapers, films, television series and paintings.

Not all professionals responsible for the design and care of parks understand this duality, or the wealth of diverse meaning parks convey to all types of users. Designers, Planners and Managers see the park as an 'object', a passive space whose success is centered on rearranging physical attributes. Users consider the park to be a 'subject', an active element of the city. The park can lose its power and become fragile when projects do not meet users' expectations.

Parks and park systems are a reliable planning strategy. In the present discussion on the 'spaciality' of social problems, the urban park can contribute to promote a healthy, legible, just, beautiful and livable city.

Raed Al Tal
Assistant Professor, German Jordanian University, Jordan
&
Ibaa Al-Zubaydi
Architect, German Jordanian University, Jordan

Trans-placed Communities: The Impact of the Iraqi Community on the Spatial and Socio-cultural Urban Structure of Amman

The influx of Iraqis to Jordan came in two major waves. The first wave had taken place in 1991 when Iraq was subjected to a devastating war following its invasion of Kuwait, while the second wave resulted from the US-led war against Iraq in 2003. In both waves, the Iraqi immigrants can be grouped into three categories. The first relates to those Iraqis who came seeking temporary safety from the spread of violence back home, but for whom the idea of returning to Iraq remains uncertain. The second category is made up of those Iraqis who came to stay for family or any pressing reasons; and the third group includes those who viewed Amman as a transit station towards other destinations.

The second wave has proven to be not as short-lived as was the earlier one, due to persistent living hardship in Iraq. The Jordanian government statistics and documents show that when searching for long-term permanence, a large number of Iraqis bought or built houses or apartments which will be discussed in farther details later. In addition, this long-term permanent residency means that the Iraqis have to move their own business or to establish new one.

This research addresses the long-term pattern and establishing businesses in Amman by the upper-middle class and high-class of Iraqis immigrants. Also the research questions why do those Iraqis have selected certain areas, and finally by testing the two questions the research will examine if they did form an Iraqi community within the urban fabric of Amman and what kind of characteristics dose this community has physically, socially and economically. To give a comprehensive and fully understanding answers for the research problem a multi-dimensional behavior and physical urban theories and principles will be applied such as place attachment, place identity, place memory, trans placed, sense of place, sense of community, urban structure urban forms and spatial dimensions, and this will be studied in an analytical operated methodology.

The findings of this research will help to establish an assessment urban tool for testing the impact of the conflict trans-placed communities on the physical, as well as, the social and cultural urban structure of the multi-layered cities such as Amman.

Elif Bengu
Coordinator for Center for the Enhancement of Learning and Teaching, Abdullah Gül University, Turkey
&
Faruk Kececi
Head of Mechanical Engineering Department, Abdullah Gül University, Turkey

Maker Spaces and Their Effect on Engineering Education

According to the research "the engineer of the future needs to be able to harness creativity and innovation in order to stay competitive and relevant in an economy with ever growing needs." Accordingly, engineering faculties are expected to cultivate curiosity and foster creativity in students. "Maker space" is a new concept in education pioneered in 2001 at MIT. According to the literature review, these spaces are seen as venues where students and/or professionals gather at a specifically designed please to think, explore, discover and create by using a variety of tools and materials that are provided.

In this research, the definition of Roslunds' will be used. Because in this definition she used important elements of maker spaces; place, people and make things. She defines maker space' as a place where people get together to make things. Maker spaces might focus on designing, prototyping, 3D printing, manufacturing and programing, or some combination of these activities.

These spaces provide an opportunity for students to engage in an experiential learning and develop a large range of skills that undergraduate curriculum is unable to provide, as well as soft skills, such as planning, teamwork, budgeting and communication. There are still limited studies about the full effect and impact of these spaces in teaching and learning, from the pedagogical perspective. The research presented in this session takes place in a public university in Turkey, namely Abdullah Gul University. The maker space at this university can be considered to be the first one in its scale in the country. The presentation will discuss the effect and impact of the maker space on teaching and learning. In addition, we will present the advantages and the disadvantages of having one in regard to the sustainability and management of the space.

Mark John Burke
Researcher, Cambridge University, UK

Home Ownership Participation – A Cross Sectional Analysis of Major Cities

This paper examines the effects of macroeconomic movements across developed and developing markets and tests the widely held assumption that increased overall economic performance leads to, or contributes to, increased home ownership participation in metropoles. Analysing twelve select countries and their capital cities through multivariate regression analysis, with varying socio-economic trajectories, it is proven that there is no observable correlation between an increase in indicators of national wealth and increased home ownership. This research posits that a more nuanced understanding of factors leading to home ownership within major economic hubs and metropoles is required, as well as proposing a number of causes of housing shortages in cities, along with avenues for future research.

Chin-Wei Chen
Graduate Student, National Science and Technology Center for Disaster Reduction, Taiwan and The University of Manchester, UK

How to Assess Footbridges by Walkability? A Case Study in Taiwan

Walking has been regarded as the most basic way to move in daily life. It increases pedestrian activities and encourages interactions with neighbours. Also, "Walkability" is widely accepted concept to evaluate pedestrian environment. However, pedestrians' environment has been ignored by urban planners in east countries, and open space is easily squeezed by motorists. On the other hand, footbridge is a crucial walking network to connect diverse destinations. Nevertheless, urban professionals usually consider footbridge construction as single development or "engineering" project in east Asia, ignoring footbridge as a part of pedestrian infrastructure in cities. As a result, the aim of this research is to identify the composition of pedestrian friendly footbridges, and establish a suitable assessment framework for footbridges by walkability. This paper would analyse several case studies, trying to give a conceptual framework of footbridges by walkability. Then, street survey might be used for understanding users' perspectives, and test the whole footbridge assessment framework. This research will show high-care for pedestrian-friendly environment and promote sustainable lifestyle in cites.

Ali Cheshmehzangi
Head of Department of Architecture and Built Environment & Associate Professor of Architecture and Urban Design, The University of Nottingham Ningbo China, China

Eco Fusion: Augmented Eco Innovation for Urban Development

Eco Fusion is a term, coined by the author, highlighting the importance of eco urban development at multiple scales of the built environment. This was utilised as a comprehensive method to recent teaching in China and developing a new platform of knowledge in the field of research; a platform that offers a blend of eco-development strategies and possibilities that may eventually enhance the current practice of eco design and planning. This paper is aimed to highlight the meaning and importance of this new term and how it is then aimed to focus on issues and opportunities of eco-development in the context of China. This comprises three levels of eco design at three urban spatial levels of eco-city (city/district level), eco-community (neighbourhood level) and eco-building (site/building level). The paper will go through each level individually and together as in one package of eco development knowledge.

By doing so, we first critically assess the context of New East City in the City of Ningbo, East China, a new zone that is promoting the green development plan of the city. As part of this process, this study explores Chinese contemporary urban development and directions of new design principles. The paper then offers an in-depth research in the field of eco-development from multiple scales. In this process, five directions of masterplanning were generated by a group of undergraduate final students, and each highlighting a particular aspect of eco development. These were then utilised for development of key performance indicator (KPI) systems and directions towards urban innovation scenarios that were then finalized for students' urban design and architectural projects. This paper highlights the one-year long teaching approach to the idea of *eco fusion* and how it was then recognised as an augmented eco innovation for urban development. It will then conclude on the emergence of this concept from both research and practice perspectives.

Norbert Csizmadia
Lecturer, Corvinus University of Budapest, Hungary

Geofusion - Mapping of the 21st Century

The presentation 'Geofusion' guides the audience with the help of maps in the global world of the 21st century through the quest for the winning nations, communities, leaders and powers of this age. The explorers and the geostrategists of this century are expected to present guidelines of our new world full of global social and economic challenges. To do so, new maps are needed which do not miss the wisdom and tools of the old, but complement it with the new structure of knowledge. Using the lately discovered geographic and economic interrelations, the presentation tries to give a prognosis of the global processes. The methodology contains the survey and analysis of many recent publications worldwide, regarding geostrategic, cultural, geographical, social and economic surveys structured into global networks. The result is a collage of the global map of the 21st century mentioned above. In conclusion, the presentation displays the results of a several year-long study giving the audience an image how economic navigation tools can help the investors and travelers to get along in the changing new world.

Lukasz Damurski
Assistant Professor, Wroclaw University of Science and Technology, Poland
Jacek Pluta
Assistant Professor, University of Wroclaw, Poland
Jerzy Ladysz
Assistant Professor, Wroclaw University of Science and Technology, Poland
Wawrzyniec Zipser
Assistant Professor, Wroclaw University of Science and Technology, Poland
&
Magdalena Mayer-Wydra
PhD Candidate, University of Wroclaw, Poland

Potential for Conversion of Offline Services into Online ones in Urban and Suburban Neighbourhoods: Examples of Wrocław and Siechnice in Poland

Services originally developed as natural concentrations of human activity, reflecting the Christallerian hierarchy of central places. Today those natural mechanisms are challenged by strong competition from online facilities. More and more services are offered by the Internet and this affects the traditional 'bricks-and-mortar' urban development. In this paper we examine the potential for conversion from offline to online channels in urbanized neighbourhoods.

The research sample reflects the current trends in human settlement in Poland and includes a well-established urban neighbourhood (Pereca Square in Wrocław) and a rapidly developing suburban municipality (Rynek Square in Siechnice). A social research conducted in 2017 among users of public spaces and among service providers (276 respondents in total) enables drawing reliable hypotheses on the relationship between offline and online services in local contexts.

The results show that about 60% of customers in Wrocław and 74% in Siechnice use online shopping whereas only 25% of service providers in Wrocław and 19% in Siechnice offer their products online. There is a significant potential for conversion from offline to online channels (and for hybridization of both of them) which is relatively higher in suburban neighbourhoods but lower in urban ones.

The paper contributes to the current debate on the real-virtual dichotomy in urban development. In particular it addresses the question of the conflicting (competitive) or supporting (complementary) role of the Internet in shaping urban functions. It also gives a valuable insight into the demand/supply relationship in various (urban and suburban) settings

and defines the potential for hybridization of online and offline channels in local urban services.

Austin D'Souza
Student, Victoria University of Wellington, New Zealand
Jacqueline McIntosh
Senior Lecturer, Victoria University of Wellington, New Zealand
&
Bruno Marques
Lecturer, Victoria University of Wellington, New Zealand

The Togetherness of Strangers: The Role of Ethnicity in 'Place-Making' the Therapeutic Landscape

New Zealand is an increasingly ethnically-diverse country with immigration rising rapidly over the last 40 years. However, there are growing concerns that representation of different ethnicities are not always present and that a failure to acknowledge this could further increase the gaps in social and cultural inequality. With increasing globalization, some fear increasing sameness throughout the world and with it, global assimilation in the direction of dominant groups and societies. Others maintain that the effects of globalization are largely superficial and that the deep structure of cultures are largely unaltered as a result. This paper acknowledges differing forms of place production but maintains that culture, ethnicity and race all play a big part in the way that people choose to activate themselves within their natural surroundings and claim their 'right to the city'. Using Hofstede's deep cultural dimensions of individualism and collectivism, this paper aims to highlight the key differences in the types of behaviors that these two clusters typically exhibit in the outdoor environment. Drawing from case studies both internationally and locally, it finds a positive relationship between cultural dimension and engagement with the outdoor realm. It also finds a lack of accommodation for minority groups in many outdoor public spaces. Adopting a position of plurality rather than unity as a defining characteristic of a public, it proposes an alternative vision of urban life where the social relations of difference can be instantiated without exclusion. This means an environment that can provide for the activities of different groups who can dwell together *without* forming a community. Highlighting the similarities and differences between the needs of these two groups, it posits design considerations for improving cultural inclusion in public outdoor spaces; facilitating the creation of parks or natural spaces where a larger variety of ethnicities can participate, exercise and recreate.

Andrea Ferraz Young
Researcher, CEMADEN Brazilian National Center of Monitoring and Early Warning of Natural Disasters, Ministry of Science, Technology, Innovation and Communication, Brazil

Adaptation Actions for Integrated Climate Risk Management into Urban Planning: An Integrated Approach in São Paulo Metropolitan Area (Brazil)

This work explores some questions highlighting how political actions and public decisions can improve the resilience of people and places in São Paulo Metropolitan Area (SPMA). What are the connections among city planning processes, climate change and resilience? How political decisions could connect planning and governance with special focus on adaptation and resilience? Cities face a chronic stresses and/or acute impacts, therefore special focus should be on the development of regulations and incentives to the interactions of concepts on climate change, city adaptation and resilience, through the perspective of transition for urban resilience, which enable cities change and build capacity of innovation in face of uncertainty. Changes in many extreme weather and climate events have been observed since 1933 and precipitation patterns are projected to change in the future (2030-2050), possibly resulting in floods caused storms or water scarcity caused by droughts. The urban areas in SPMA are highly complex with interdependent systems (i.e. airports, commerce and international trade, industry). A failing caused by an extreme event (e.g. storms, heavy rains) in this urban system can result in cascading impacts that can disrupt such as that occurred in 2011 (i.e. interruptions of energy, transport system, and communication). On the other hand, between 2013 and 2014, SPMA has experienced a terrible drought and scarcity of water. For this reason, almost ten years ago, precisely in 2010, it was developed a scientific project called Vulnerability of Megacities to Climate Change in São Paulo Metropolitan Area. We can say that many of the expected events actually occurred such as the floods in 2011 and the drastic drought between 2013 and 2014 as much as the return of floods in 2016, 2017 and 2018 (during summer seasons). Actually, we will take a retrospective of what has been technically analyzed in the past and the evolution of the events up to the present moment. Resilient cities will require new issue and problem framings, analytical procedures, and deliberative public processes that together can generate norms and practice for safest places. Physical changes without accompanying social, political and institutional engagement will ultimately fail to prevent disasters.

Teodoro Georgiadis
Senior Scientist, IBIMET-CNR, Italy

The Role of Urban Modelling in Preserving Citizen's Health

In few decades, the urban population will represent more than ¾ of the entire world population. The places where the humankind will live will be crucial to assure the proper conditions of wellness, accessibility to the services, and dignity. The structure of the cities will be of paramount importance in assuring these conditions and politics should be aware that actually exists the possibility for a proper modelling of the city itself. Even if societal conditions are not possible to be exactly parametrized, all the other physical inputs that leads to impact on the public health can be modellised in order to assure, at least, a minimum impact during cities regeneration. The aims of this presentation is to highlight to some experiences conducted in urban environments.

Ratna Ghosh
Assistant Professor, Amity University, India
&
Uttam Kumar Roy
Assistant Professor, IIT Roorkee, India

Evolving Strategies for Housing Development at a Sub-Regional Level

This study is an attempt to tackle the existing and upcoming issues related to housing at a sub-regional level, where, at the core of the study area herein termed as Greater Roorkee Area, lies the city of Roorkee, which has since long been an established educational and institutional hub of national importance. The analysis of this region reveals its increasing dynamism and shifts towards the tertiary economy from a primarily agricultural region. The core strategy to tackle the emergent issues from the study was thought to be a balance between regulating the intensity and location of development by giving due consideration to the ecological fragility apart from anticipated future growth in transportation and employment areas. Adopting this scale of study provides the researcher an opportunity to explore the issues in details and therefore the results that are produced are location specific apart from covering the regulatory framework aspect.

Dominic Hofmann
Research Assistant and PhD Student, Frankfurt University of Applied Sciences, Germany

Infrastructure – Design – Emotions

Introduction. The presentation is based on an ongoing Ph.D. project. The aim of the presentation is to explain the influence of design on the modal choice. Symbolic, aesthetic and functional levels of design will be considered. These results will help manufacturers and operators of sustainable transport and direct transport infrastructure to classify the importance of the aforementioned factors. In addition, through an appealing design, an emotional bonding to a mode of transport can be established. The research is concentrating on sustainable transport modes like public transport, sharing-systems, walking and cycling.

Theoretical background. The transport sector causes 18% of all greenhouse gas emissions in Germany (umweltbundesamt.de, 2016a). The traffic sector also dominates the primary energy use with around 24% of all consumptions (umweltbundesamt.de, 2016b). The trend of the overall energy consumption over the past 20 years is steady increasing. A large proportion of emission and consumption are attributable to motorized private transport and air traffic. The primary objectives of transport planning are to avoid and relocate traffic as well as handling traffic in an environmentally friendly way (Müller, Scholich 2010).

Methods. For the interdisciplinary approach, a comprehensive mix of methods was necessary. The first method was a comprehensive literature review. Practical knowledge was gained during a local conference (with corresponding workshops), where 80 experts participated in 2015/Frankfurt. Furthermore, 27 expert interviews were conducted in early 2016. Furthermore, qualitative surveys in several case study examples in Europe were done in 2016/2017. In 2017, a quantitative user survey was done with overall 400 participants. The findings of all methods result in comprehensive recommendations for traffic planners.

Results and Conclusion. The project/research is still ongoing. First results show, that the importance of design, regarding the modal choice, is a research gap. Especially the necessary interdisciplinarity scares off a lot of researchers. But all the interviewed experts mentioned that the potential of that approach has a fundamental importance. The conference will be used, to present first exclusive results of the project, especially scientific findings of the quantitative surveys. An interdisciplinary project, carried out by engineers, influenced by architects, designers, psychologists and sociologists to promote sustainable transport modes.

Sungsoon Hwang
Associate Professor, DePaul University, USA
Amanda Lin
Assistant Professor, Rosalind Franklin University of Medicine and Science, USA
Ryan Crews
Assistant Professor, Rosalind Franklin University of Medicine and Science, USA
Kristin Schneider
Associate Professor, Rosalind Franklin University of Medicine and Science, USA
Noah Rosenblatt
Assistant Professor, Rosalind Franklin University of Medicine and Science, USA
Sai Yalla
Assistant Professor, Rosalind Franklin University of Medicine and Science, USA
&
Elizabeth Moxley
Assistant Professor, DePaul University, USA

Assessing Community Participation among People with Limited Mobility using GPS and Accelerometer

Contexts: Improving community participation outcomes among people with limited mobility is an important public health goal. Community participation can be defined as active involvement in activities that occur outside the home or are part of a nondomestic role. Conventional measures of community participation is self-reported, and thus lack objectivity and specificity particularly in spatial and temporal domain. Recent advances in wearable sensors for Quantified Self in public health present opportunities for improving the outcome measures.

Aim: The aim of this talk is to discuss how GPS and accelerometer were used to assess out-of-home mobility as an indicator of community participation. Data were collected as part of assessing efficacy of programs that were developed to improve health among diabetic persons with risk for foot ulcer, people with traumatic brain injury and users of lower limb prostheses.

Methods: The methodology was developed to mitigate the sensitivity of analysis results to uncertainty of GPS trajectory data (such as signal loss and signal errors). Time gaps in GPS data were filled using a gap imputation algorithm, and then GPS trajectory is segmented into a sequence of stop and move episodes before location data is seamlessly synchronized with accelerometer data (e.g., step counts and duration of postural event such as walking and standing).

Results: After physical activity interventions for 10 diabetic patients, the daily average number of steps out of home increased from 1488 to 1771, and the number of places visited out of home increased from 2.44 to 2.73. After interventions on balance confidence for a user of lower limb prostheses, the number of trips increased from 4.5 to 5.1, and the average number of steps per trip increased from 248 to 362.

Conclusions: The integrated measurement of GPS, accelerometer and GIS can help improve outcome measures (such as community participation) by making them context-specific, and assess spatiotemporal configuration of environmental exposures. Uncertainty handling of GPS trajectory data and episode-level analysis enable exhaustive and correctly weighted exposure assessment. As a future research, a travel diary needs to be incorporated to fully characterize environmental exposures and community participation.

Alice Merab Kagoda
Lecturer, Makerere University, Uganda

Teachers' Experiences and Practices of Teaching Practical Geography in Secondary Schools of Uganda

Geography is a practical subject and its approach in teaching it is practical in nature –focusing on concepts that are relevant to everyday life. The main purpose of this study was to guide teacher trainees; identity practical activities in geography classes in secondary schools. The teaching methods used, the challenges and problems faced by geography teachers. Third year geography teacher trainee and secondary school teachers participated in the study. Results reveal that activities like map work, photograph interpretation and field works are the main activities. Teachers use the following methods; lecture, fieldwork and to a less extent group work as main methods of study. The main challenges faced by teachers include; lack of instructional materials, lack of sufficient time on timetable, lack of geographical knowledge and skills by some teachers and lack of support by school administrators. The researcher recommends special workshops for teachers, governments, school administration and parents to buy geography equipment essentials for teaching practical geography.

Benjamin Kaiser
Lecturer, University of Greifswald, Germany

Some Problems of Interpreting Spatial Analysis Results

While various disciplines of urban research describe the city as an architectural product in terms of functionalism, the methods of *spatial analysis* try to grasp the spatial arrangements defined in terms of architecture analytically and propose to interpret them as expressions of socio-economic relations. Such an interpretation can only be achieved by recourse to functionalist perspectives that describe the corresponding social conditions and their spatial impact. However, there is so far no uniform methodology of interpretation to be identified, which leads to a twofold conceptual difficulty: on the one hand arbitrary interpretations are serious threats, since results can be interpreted differently depending on functionalist terms, on the other hand there is a risk of circular explanations.

This interdisciplinary approach aims at developing a theoretical framework within which formal and functionalist approaches of urban research can be linked consistently in order to achieve a more precise handling of *spatial analysis* results. The variety of functions of the architectural space is set out to be restricted by both absolute and relational formal properties of architecture as well as by the respective *condiciones humanae* and *condiciones sociales*.

Since the methods of *spatial analysis* relying on the relational properties of the architectural space, they are first to be scaled to the absolute properties of the human dimension (Jan Gehl). The principle of pertinence (Philippe Boudon) is auspicious to achieve this goal.

On this base, second, architecture is set out to organize the accessibility to public, semi-public and private spaces and thus the possibility of encounter as a precondition for any social interaction. In the case of internal architectures (i.e. residential buildings), the degrees of privacy and security increase corresponding to the amount of rooms to be passed.

Third, the possible functions of external architectures are heavily constrained by the respective community. For example, central public open spaces can function as a village square, market place, parking lot or as a traffic area, depending on technologies, the internal social cohesion of the community and the circumstances of the surrounding region.

Thus, the presented methodological approach will propose a more accurate and more reliable interpretation of the results of those recognized tools of *spatial analysis* that are globally received in present day (digital) planning practice.

Ratan Kar
Scientist, Birbal Sahni Institute of Palaeosciences, India
&
Ruchika Bajpai
Research Scholar, Birbal Sahni Institute of Palaeosciences, India

Climatic and Vegetational Changes during the Last 11,500 Years from Glacial Sites in Lahaul Valley, Western Himalaya, India

The higher Himalaya is an exceptional repository of past climatic records, which provides a unique prospect to study the interaction of glaciations and climate during the Quaternary Period. Among the various proxies, pollen grains recovered from the terrestrial sediments offer a broad outlook of the vegetation and significantly help in understanding the long term climatic changes. Pollen-spores preserved in the sediment layers provide details about the environmental conditions at the time of their deposition. Hence their alterations, both qualitatively and quantitatively, in the sediments at different depths, are excellent indices for the analysis of temporal variations of climate. The objective of the present study is to decipher the past vegetational and climatic changes during the Holocene (~11,600 years) from selected glacial sites in the Lahaul Valley, India. The area is a cold, high-altitude desert located in the Trans-Himalayan region, characterized by alpine, steppe type of vegetation.

Palynological studies have been undertaken around Hamtah and Chattru glaciers from the surface and sub-surface sediments. The study of surface samples has brought out the pollen-vegetation relationship, which has been used as a modern analogue to deduce the past vegetational and concurrent climatic changes from the sub-surface sediments. In the outwash plains of the Hamtah and Chattru glaciers, two trial trenches having a depth of 90 cm and 130 cm respectively, were dug to rebuild the vegetational changes with reference to past climatic fluctuations. Overall, the arboreal pollen is dominating over the non-arboreal pollen in both the profiles. Various climatic phases have been inferred since the last 11,500 years BP to Recent, on the basis of the changing frequencies of arboreal and non-arboreal pollen (AP/NAP ratio).

Elham Karimi
Noise Expert, Air Quality Control Company, Iran
Peyman Hamian
GIS and Geomarketing Advisory Services, Iran
Maryam Naderi
Head of Air and Noise, Air Quality Control Company, Iran
&
Vahid Hosseini
Associate Professor, Sharif University of Technology, Iran

Detection of Noise Sensitive Areas at Risk of Exceeded Sound Levels in Tehran Metropolitan City (A GIS-based Approach)

The problem of noise pollution in Tehran city is the most serious issue that citizens face publicly. Nowadays, noise pollution is given less priority because the health risks arising from this pollution usually does not occur immediately after the exposure. Traffic of roads and highways is one of the most important noise generating factors in Tehran, which its mitigation is considered to be a priority of today's modern life.

Although the use of noise abatement strategies, such as the installation of noise barriers, the use of double glazed windows in buildings, and porous asphalt, are all suitable and efficient noise mitigation solutions, it should not be forgotten that prevention is better than treatment. Compliance with noise buffer zones of highways and the prohibition of constructing building residential homes and noise sensitive centers, such as hospitals and schools within these zones, can play a very important role in reducing the receiving noise. Meanwhile, the use of GIS as a database, as well as a tool for modeling and analyzing spatial data, can help urban managers and decision makers make better and more accurate decisions.

In this research, using CadnaA modeling software, the sound level map of Tehran City was prepared based on the map layers of roads (traffic volume and the speed of vehicles) and buildings (height), which had already been developed in GIS software. Then, according to the standard limits for the sound level of residential and noise sensitive areas set by Iran's Department of Environment, the noise buffer zone of the highways was determined. There are a total of 5352 schools and 157 hospitals in Tehran City. Finally, using the GIS software, the percentage of resident population, as well as the schools and hospitals located in this acoustical zone, was prioritized in order to use for developing noise abatement and mitigation strategies. Based on the noise level map derived from the modeling, the noise buffer area of highways was extracted as a map layer using data Spatial Analyst tool in GIS. Accordingly, the areas with a sound level of less than 55 dBA were considered as “No-Risk” zones. The intermediate sound level was regarded to be in the range of 55-65 dBA, within which approximately 21% of the city population resides. There are also 1420 educational centers and 32

hospitals in this zone. The high-risk area, with a sound level of above 65 dBA, includes about 22.5% of the city population, 34 hospitals, and 1217 educational centers. It is highly recommended to use abatement and mitigation strategies in the high-risk zone. In addition, in the construction of new highways, care must be taken not to have noise sensitive centers adjacent to these zones.

Jesus J. Lara
Associate Professor, The Ohio State University, USA

Latino Placemaking: Cultural Resiliency and Strategies for Re-urbanization

The purpose of this presentation is to understand the factors that contribute to the establishment of Latino neighborhoods in urban areas, and to explore how these Latino communities contribute to the creation of social, economic, and cultural resilience for their residents. To address the research objectives, this presentation examines a series of commercial corridor case studies in different urban areas across the U.S. in order to learn from best practices, and to draw out some lessons on cultural, social, and economic resilience among immigrant neighborhoods. These cases show public policy makers, academics, and business owners as examples of how Latino communities can revitalize retail corridors and improve both the economy and quality of life.

An overview of the steps that planners and policymakers can take include responding to an urban population's increasing diversity and changing demands, examining the processes and mechanisms that contribute to ethno-cultural alienation in Latino neighborhoods, and guaranteeing that any revitalization efforts in Latino communities will enhance local assets. Some prominent urban scholars argue that the idea of creating community via deterministic designs must be re-evaluated and that urban patterns of class, culture, race, and ethnicity should be part of the redevelopment of urban places (Marcuse 2000, Harvey 1997). The study areas are currently part of a transformation process resulting in areas with vibrant commercial centers, and these centers help maintain the social networks that provide ties to Latin American home countries while working to acclimate new immigrants.

A detailed analysis of business activities and census data in the case studies illustrate changing spatial patterns and demonstrates how ethnic minority entrepreneurs are giving new meaning to such abandoned and dilapidated landscapes as strip malls and older, unmaintained neighborhoods. This presentation also investigates the specific ways in which urban spaces are being transformed and modified to suit the needs and cultural preferences of their residents.

Latino immigrants play an important role in shaping the built environment, and what that role implies for the future. Scholarship in Latino urbanism is practiced across many disciplines, with scholars engaged in research from a variety of perspectives and geographic representations. Books such as Latino Urbanism (Diaz and Torres, 2012) Diálogos: Placemaking in Latino Communities (Rios and Vasquez 2012), Barrio Urbanism (Diaz 2005), Hispanic Spaces, Latino Places: Community and Cultural Diversity in Contemporary America (Arreola 2004), and

Latino Metropolis (Valle and Torres 2000) all these provide a foundation for discussions about the future course of Latino urbanism in the US.

Tolga Levent
Academic Staff, Mersin University, Turkey

Urban Regeneration or Urban Degeneration? A Concealed Story of Urban Change in Turkish Metropolitan Cities

Just before the New Millennium, in year 1999, a high intensity earthquake hit Turkey and caused massive damage and destruction in northwestern cities of Anatolia. Just after the societal shock of this earthquake, all the stakeholders of urban development realized the fact that the possibilities of such large-scale losses in Turkish cities are relatively high due to the low physical qualities of building stock. In a very short period of time, depending on a broad consensus, urban regeneration appeared as the strongest option by replacing unqualified buildings with the qualified ones.

At the very beginning, urban regeneration was conceptualized as a panacea curing all kinds of urban problems. This conception increased the popularity of urban regeneration, both in theoretical and practical domains. It has become one of the widespread concepts in theoretical domain, the sign of which is the increasing number of graduate studies focusing on different aspects of urban regeneration. In the practical domain, since they are strongly supported by local and central authorities, the number of urban regeneration projects has increased as if they are the only legal interventions to built environments.

The apparent dominance of urban regeneration projects on planning practices does not mean that they are problem-free in Turkey. There is a theoretical ambiguity about the definition, input-outputs and processes of urban regeneration. The practical reflection of this ambiguity is a varied range of projects, which have been dominated by the *concrete* expectations of subcontractors and land developers, like more construction areas or more urban rents. The projects are obviously successful by increasing the physical quality of building stock because of the recent advancement in construction technologies. However, they also cause some problems related to the economic, social, cultural and spatial dimensions of cities. With reference to many cases, it can be easily said that the costs of these problems are more than the benefits of urban regeneration projects, especially for tenants and low-income property owners.

The aim of this study is to concentrate on the problems resulted from urban regeneration practices in a systematic way to reply the question whether urban regeneration projects create a kind of urban degeneration or not. In the first part of the study, there is a brief historical description of urban regeneration in the Turkish context, focusing mainly on the methods and priorities of urban regeneration. This description is important to understand positive and negative aspects of ongoing processes of urban regeneration. Second part concentrates on the general problems of urban regeneration projects with reference to different urban dimensions. The clear

definitions of these problems are significant because this study assumes that urban regeneration projects may cause urban degeneration if these problems are concentrated around certain projects. The conclusion of the study proposes possible changes in the processes, priorities and principles of existing urban regeneration practices so that the possibility of urban degeneration could decrease.

Hsuan Lo
Graduate Student, The University of Manchester, UK and National Taipei University, Taiwan

The Influence of Urban Renewal on Housing Vacancy Rates: The Case of Urban Renewal Implementations in Taipei City

After their rapid economic development, many urban areas around the world have less and less developable space, and the notion of Urban Renewal (UR) has been developed to address many urban issues. The concept was first developed in America in the 1960s, and initially emphasized large-scale redevelopment, which led to oversupply and housing market saturation. Although conceptions associated with UR that employ small-scale renewal have since appeared, many local-level governments still apply large-scale redevelopments as the primary method, including Taipei City, which causes long-term ramifications. For instance, compared to the capitals of other Asian countries, Taipei City truly possesses higher Housing Vacancy Rates (HVR) and has the largest number of large-scale UR cases. Also, after reviewing available literature, it is evident that UR and HVR share similar notions such as house price level, housing attributes, investment motivations, and urban development. Therefore, this research aims to identify the correlation between UR and HVR through HVR's influencing factors to evaluate UR's influence on the housing market. However, the broad variety of immeasurable factors such as personal preference are not the emphasis in this research, meaning that this research stresses the supply–demand side.

Although the analysis result found that the correlation between UR and HVR is weak and even slightly negative on the basis of the spatial and quantitative analysis of housing prices and attributes, according to statements from interviewees, investment motivations and urban development of UR still impact HVR evidently. The main reasons why housing price and attributes do not influence HVR significantly is just because there are several barriers to implementing UR such as the lack of other incentives and the gaps between departmental policies. Thus, from the analysis results and international cases, it is suggested that Taiwanese governments should make UR more attractive to investors in order to improve urban environment on the one hand, guidance and regulations should also be amended to clarify and simplify UR procedures to prevent UR implementation from increasing HVR through excessive investments and urban development on the other hand. Finally, this research will point out the specific issues and solutions as findings and recommendations to address the problems between imperfect UR institutions and high HVR.

Lucia Martincigh
Professor, University of Roma Tre, Italy
Anna Vincenzoni
Councilor, Town Municipality of Rome, Italy
Marina Di Guida
Postdoctoral Research Fellow, University of Roma Tre, Italy
&
Giovanni Perrucci
Postdoctoral Research Fellow, University of Roma Tre, Italy

Tools for a Better Liveability in Neighbourhoods: The "Environmental Island" Design Methodology and the Citizen Engagement Process

The constant increase of private vehicular traffic and its arrogant pervasiveness worsened the urban environment liveability in many Italian cities and destroy more and more their true essence. Only in the last thirty-year period, in Europe, there was a marked acceleration in scientific research and policymaking, for defining and experimenting traffic calming strategies and measures aimed at improving the level of safety and accessibility, creating more shared spaces and increasing quality of life, especially in neighbourhoods. Lagging behind other European countries, Italy started to relate the slow speed principle to the liveable district notion; thanks to the New Traffic Code, the concept of «Environmental Island» was introduced: a «single urban zone delimited by the main road network, aimed at recovering urban spaces' liveability». The «Environmental Island» can then be meant as a possibility not only for reorganizing vehicular mobility but also for upgrading residential urban areas and satisfying dwellers' daily life needs.

The analysis of limits and possibilities of application demonstrated that the used methodology could take, both from scientific and operative viewpoint, to interesting results defining actions' location, priority and range and providing administrations advice on the opportunity to act. It is indeed the tight interlace between design process, involving technicians, and public consultation process, involving citizens and local administrations, that can achieve success. In order to ensure the effectiveness of this work, a widespread awareness of the need of changing rooted habits, regarding urban space use, has to be developed; this becomes then the best occasion to implement a type of collective education that leads to a more responsible behaviour from the overall sustainability viewpoint.

For years, the topic here presented was researched, also featuring pilot studies in Rome, and now is going to become an applied research; thanks to the collaboration with various stakeholders, a participation process, aimed at defining the implementation of an Environmental Island in one of the oldest and most central districts of Roma: Rione Monti, is currently underway.

Abraham Paulsen
Academic and Researcher Geography Institute, Pontificia Universidad Católica de Chile, Chile

Pentecostalism in Anti-Ghettos in Santiago Chile's Metropolitan Area: Bajos de Mena, a Case Study Designed to Generate a Theory of Religiosity in Urban Spaces Classified as Vulnerable

I herein analyze the geography of religion, and from the aforementioned viewpoint, the spatial distribution of Pentecostal temples and places of worship in Bajos de Mena, an area located in the Municipality of Puente Alto in the Metropolitan Region of Santiago Chile. I posit the issue of socio-spatialization of vulnerability and disaffiliation, Pentecostalism and the dynamics of secularization. The sector is categorized as an anti-ghetto in which there is evidence of specific categories of secularization and religious movement.

Cristiana-Maria Pioarca-Ciocanea
Senior Researcher, University of Bucharest, Center for Environmental Research and Impact Studies, Romania

Monitoring Wildlife in Romania – Empirical Evaluation of Argos Location Errors in Romania

Tracking animals and movement data collection is a challenging task due to the technological and data quality constrains (Turchin, 2015). Location transmitters must be resistant to shocks, appropriately sized to the animal monitored, and include a long lasting battery or alternative power source for consistent two-way communication between devices and remote satellites. A device meeting all these parameters is cumbersome and heavy, therefore difficult to use. The challenge is the device's physical size since such a device must not exceed 5% of the animal's body weight.

The global navigation satellite system such as GPS offers the possibility to collect acceptable quality data, but the devices equipped with GPS are particularly heavy and not suitable for many species. For small size species is more appropriate the use Argos systems, but the location of a Platform Transmitter using Doppler effect influence the accuracy of location (McClintock et al., 2015). Argos operator, Collecte Localisation Satellites - CLS, attribute the position of a PTT to a location class based on geometrical conditions of the satellite pass and stability of the transmitter frequency (Madry, 2015), however, little is known about the degree of the accuracy of error prediction in Romania. To overcome the lack of data about Argos telemetry accuracy in Romania, we performed a field test with 5 low power solar PTT's (GeoTrak, Inc. USA, 23 g) in 4 geographic locations in static, low speed, and high-speed condition. We compared Argos and true GPS locations, analyzed the error structures and tested the influence of filtering methods on the quality of Argos location datasets (i.e. retaining best location classes, keeping only the locations complying with the maximum speed of the studied animal, Douglas Argos filter based on spatial redundancy, movement rate and angles (Douglas et al., 2012)). We conclude that Argos locations in Romania exceed the error values assigned by CLS and the data need to be filtered and tested before movement analysis.

The study was supported by a grant of the Romanian National Authority for Scientific Research, PN-III-P2-2.1-PED-2016-0568 Argos based applications for real time wildlife monitoring in Romania (BioMoveFix).

Francesca Salvetti
Professor, University of Genoa, Italy

Quality Standards for the Restoration of Color Values in Urban Areas: Color Projects

Introduction: Polychromy in architecture has always been an integral part of the buildings with its ability to influence shapes, volumes and proportions; fundamental identity component of reference for cities, environments and places that over time has generated images that characterize the landscape in any part of the world on a mnemonic / perceptive level.

In the twentieth century, the role of color in construction and its study as a qualifying aspect of our environment led to the emergence of multiple fields of investigation on historical documentary, technical / objective, theoretical / sociological observations. The control of the colors on an urban scale, in particular the historical one, where the signs left by the past are present and evident, becomes an element where the architectural debate has led to the formulation of different approaches and experiments in design choices.

To date, the perceptual chromatic study at urban / environmental / landscape level can be divided into three macro areas: the color of historic buildings, the color of public housing / urban buildings and the color of new buildings.

Research Methodology: The theme color of historic buildings has been investigated since the second half of the twentieth century through the Color Plans, Color Projects, redevelopment of road axes aimed at the identification and use of methods and models of study, attentive to the complex of urban furniture , also considering the aspects related to the visual perception of the chromatic values hypothesized for the single building and its context, for the purpose of quality and congruence of the interventions. Here we will analyze the origins, the development of plans and color projects in urban areas and in particular the practices currently in use, analyzing in particular the differences and peculiarities of some case studies.

Expected Outcomes: In Italy, the birth of the Color Projects, was intended to standardize and standardize interventions on historic buildings and to intervene on the colors of the historical centers as a whole. To date, issues related to the color component in the urban landscape, continue to refer to territorial-landscape areas at the municipal level, implemented through the Plans and the Color Projects and adopted at the administrative level as an instrument for urban planning. What are the most widespread theoretical /practical attitudes in color design? What aspects are still to be explored and the new perspectives for specific national regulations in this regard?

Nattapon Sang-arun
Instructor, Thammasat University, Thailand

Two-Stage Inequality Decomposition Analysis of Thailand's Spatial Economy from 1995 to 2015

This study analyses spatial economic inequality in Thailand over the 1995-2015 period using two-stage inequality decomposition analysis to divide the levels of spatial inequality: between-region inequality, between-provincial cluster inequality and within- provincial cluster inequality. The analysis shows that overall inequality has decreased particularly since 2007 which performed by the declination of between-region inequality. On the other hand, between-provincial cluster inequality has increased which means when the trend of overall inequality is downward, another inequality occurs. This situation reflects on the spatial agglomeration of economic activities, it also found in the level of within- provincial cluster inequality. For these reasons, the further spatial economic development policy should deeply emphasize the development in the levels of provincial cluster and province and also integrate with the other perspectives of development.

Laura Santos-Maldonado
Instructor, Universidad de los Andes, Colombia
&
Diana Carolina Lenis
Senior Pedagogical Adviser, Universidad de los Andes, Colombia

Flipped-Learning and Case Strategy for Developing Interpretative Skills in the Context of an Environmental Thermochemistry Course

At Universidad de Los Andes, the *Environmental Thermochemistry* Course is part of the Environmental Engineering Curriculum. The objective of this course is that the student gets to understand the basic concepts behind thermodynamics and the principles of the mass and energy balances. The course has been developed in a traditional manner (lecture and workshop sessions). However, the course methodology had to be reviewed due to the high percentage of students failing and the course performance evaluations exhibit deficient results. Therefore, we propose to implement a new methodology based on flipped-learning, using case strategy.

During the second semester of 2017 the teaching needs of the course were identified, and the design of the pedagogical strategies began. The first teaching need identified, and the most important one, was that the students develop the interpretative ability to propose mass balances and to draw a scheme that represents the processes that include its variables. In addition to developing this interpretive ability, our intention is that the students apply this in a real context. To fulfill this specific need, a case-based strategy was designed. This strategy requires that the students comply with the following steps:

1) Recognize issues related to social and environmental topics in their country,
2) Identify the role of an environmental engineer in a real context,
3) Identify the type of process and variables related to thermochemistry,
4) Interpret the information presented in the case to propose the mass balance and the scheme that represents the process, and
5) Solve mass balance.

With the pilot implementation of this case strategy, within the framework of the flipped-learning, students are expected to associate the concepts of mass balance with real-world applications in environmental engineering, as well as putting into practice the collaborative learning and strengthen communication skills. The pilot implementation of this course ends in March 2018; at a later stage, instruments will be applied to measure the perception of the students.

Michela Scaglione
Adjust Professor, Università degli Studi di Genova, Italy

Basic Methodology for the Knowledge of a Territory through the GIS: Analysis, Surveys and Representations

The research, developed in the PhD School of Architecture at the Polytechnic School in Genoa with relator Prof. Arch Patrizia Falzone, has developed a "method of investigation" aimed at knowledge of a Ligurian system coast and its hinterland, and identified the best data management, through the use of an information system able to relate the information gained.

The research identified a processing system and data management, aimed at the diagnosis, and therefore also to the project: a system implemented for the purpose of monitoring, both on the ground that built on.

The data are derived from the analysis of this knowledge punctual - land and built - including the historical, socio-economic and environmental data more significant: from the territorial scale to the building scale.

The study and analysis carried out are aimed at identifying the identity and vocation of a territory, through a project of knowledge of the natural and the anthropic background: a milestone to assess what future scenarios might be most appropriate.

The hypothesis underlying the research argues that an integrated study carried out by the Information Technology and Geomatics can form the cognitive structure complete, adequate for any kind of intervention: rehabilitation, monitoring and development of the area.

The issues investigated during the research were:

- What, how much and how to collect the data necessary to actually describe a critical and complex territory?
- What is essential to document and represent?
- What type of representation is used?
- How is the acquired system-data configured?
- What communication techniques and narrative models can be used to facilitate the accessibility of results?

Isabelle Seguy
Researcher, INED - Institut National d'Etudes Démographiques, France

A Geographic Information System for the Study of Past Epidemics: The 1705 Epidemic in Martigues (Bouches-du-Rhône, France)

Research for some years on the city of Martigues (Bouches-du-Rhône, in the South of France) has enabled us to constitute an important onomastic database -based on the Census of 1702, parish registers, nominative lists of epidemic victims, tax registers-, and to combine it with the cadastre of the city, entirely reconstituted from fiscal data (land registers) of the same period, describing the four confronts of properties. Converting this textual information in cartographic one enable us to create an Historical Geographic Information System (H-GIS) for the city *intra-muros*. The analysis of all these historical documents gives us socio-demographical, fiscal and epidemiological information, for both individual and household levels.

At the beginning of the 18th century, this medium-sized community of about 6,000 people, comprising three parishes within the city walls and large surrounding areas of land, was hit by several severe epidemics whose causes are still not clearly understood.

To draw up epidemic profiles that might enable us to identify the pathogenic agents concerned, we use the H-GIS of Martigues to locate each epidemic victim and to follow the spread of the epidemic, day by day, week by week. The cross-linking of epidemiological and demographical data in a simultaneously spatial and temporal approach allows us to propose a new diagnosis for the epidemic which reached Martigues in the autumn of 1705.

Fulya Selcuk
Research Assistant, Dokuz Eylül University, Turkey
&
Deniz Guner
Professor, Dokuz Eylül University, Turkey

Decoding the Power Relations in the Production of Space by Mapping Controversies Method: İzmir "Basmane World Trade Center" Case

Space has many dimensions and it has been conceptualized in a variety of ways within different disciplines. Disciplines such as geography, planning and architecture have developed concepts from interrelated perspectives seeing space as a physical phenomenon, a condition of mind or a product of social processes (Madanipour, 1996). In this study, space is discussed as a "process" in a relational approach. Space is not an immutable product but a dynamic process implicit power relation among different actors who have different motivations, tools and reflections. Taking the space as a process, not as a final product, will decipher the relations of power embodied in the space and makes all layers of the space visible. Approaches that consider power, space, society and subject as different poles, and evaluate the relation between these poles as cause-effect relations do not provide this opportunity. This can be achieved through a relational and process-oriented approach. Actor Network Theory (ANT) is an alternative theory with its relational and process-oriented approach.

ANT has its origins in studies of the sociology of science and technology, associated with the work of Bruno Latour, John Law, Michel Callon and many others in 1980's. ANT sorts out spatial configurations of variety of actors, both human and non-humans, who are placed and positioned differently in networks and construct different relations and forms of power (Bosco, 2006). To analyze the space as a series of transformations enables decoding these power relations that make the space controversial. "Mapping controversies" method, based on Actor Network Theory, is developed by Bruno Latour for such analyzes. The method offers a new way to follow and document interactions, translations and transformations during the production of space (Yaneva and Heaphy, 2012).

This paper applied "mapping controversies" method for decoding power relations in the case study area "Basmane World Trade Center" in İzmir, Turkey. The land is located in a region that was used to be an Armenian neighborhood in Ottoman period and there was a hospital on this land. After "The Great İzmir Fire" in 1922, the land was destroyed. In 1923, The Republic of Turkey was founded and planning cities in a modernist way became the primary politic of the new government. İzmir's first city plan was prepared by Rene-Daymond Danger and the land got its triangle shape with a size of 20.866 m² by this plan. The land was used to be a central

transportation hub until the garage functions moved to another region in 1975. The land was transformed into an empty and precious lot in the city center which has been provoking different actors with different motives.

Land owners, developers, mayors, investors have involved in a process with a motive to profit from high value of the land. Their interventions have translated the program (from "tourism and trade center" to "hotel and convention center"; from "hotel and convention center" to "metropolitan activity center"; from "metropolitan activity center" to "tourism-trade area with housing and municipal service area"), height limitation and total construction area (from 97.000 m^2 to 104.000 m^2; from 104.000 m^2 to 230.000 m^2) for several times. Nongovernmental organizations have involved in a process for common good and filed several cases, organized panels and protests against the investor-friendly projects. Many renders has been served via press to create "the skyscraper" image among public. Ground was broken for twice: symbolic ground breaking in 1988 for one project, the physical one was for another project in 1998. However, the construction halted in 1999 and the land became a lagoon with its new habitants: fishes, mice, mosquitos. The discourses changed from "the highest skyscraper" to "the hole of shame".

The constantly changing relationships between land owners, city mayors, nongovernmental organizations, investors, city planners, architects, citizens, animals, greenery have produced and reproduced the land. There is still not a completed construction in the project area but there has been ongoing controversies following several political and economic issues, planning processes and jurisdiction in the heart of the city. To map the ongoing controversies, data is collected by referring to the project proposals for the area, land use plans, implementation plans and their revisions, the news published in media, press releases of Chamber of Architects and Chamber of City Planners. The collected data is visualized chronologically by diagrams. Actors are grouped as human actors, non-human actors, and institutional actors. Their interactions in different periods are visualized as actor networks. The links are emphasized depending on actors' concerns and motives like rent, design or common good. The network of power relations in the production of space is made visible by its dynamic, controversial and constantly changing characteristics with this method.

Eddie Smigiel
Associate Professor, INSA Strasbourg, France
&
Sandrine Simon
Professor, Université Euro-Méditerranéenne de Fès, Morocco

An Exploration of the Confusion between Concept and Formalization amongst the Community of Teachers in Physics

This study focuses on the links between concepts in physics and the mathematical formalisms that translate them. A physics concept ought to be explored from an epistemological disciplinary perspective, one that shouldn't be confused with the formalization process that aims at translating it. The notion of divergence of a vector field can be used to highlight the confusions that might exist between concept and formalization. Using an internet survey, an important proportion of French professors of higher education were asked to give the definition of the divergence of a vector field. 80% of the answers defined that term as the sum of the partial derivatives of the components of the field in relation to the corresponding coordinates. The paper shows how Maxwell and Heaviside have clarified this concept and how they have shown that an intrinsic definition based on vector analysis leads to the correct articulation between former concepts and new ones. By defining divergence as the limit of the electric flux per unit volume through a closed surface when the volume tends towards zero, the introduced concept takes root in previous knowledge whose limits were highlighted; it helps in pursuing the initial reflection and hence in making more sense. The poll showed surprisingly that this definition rarely appears. One might wonder about the introspection of teachers concerning the meaning of the elements they teach in physics. This article shows that much work on Science teaching combined with History of Science remains necessary despite the great amount of results that the discipline has already achieved.

Ruggero Torti
Research Grant Holder, Università degli Studi di Genova, Italy

Signum and Visual Identity

The contribution focuses on the analysis of the role of the sign as the foundation of the visual identity of artistic-cultural artefacts, also intended as a connotation of their place of belonging. Today the cities, the territories and consequently the architectures and the works of art contained in them must emerge from the visual anonymity to stand out, even for the purposes of socio-economic development. The attention is then placed on a possible process of conception of a visual identity system that starts from the territory, from the city and its characterizing artifacts and is capable of transmitting identity and attractiveness to the users, be they residents, tourists, operators. The intent is to demonstrate the effectiveness of communication design in the definition of a sign or a system of signs that represent and make impressed in the memory the characters considered essential of a place and of what qualifies it, passing through the analysis of some case studies. We then arrive at a first conclusion that shows how the systems of Visual Identity defined for a given territorial and/or urban reality, also through significant artifacts, on the one hand they must be recognized as belonging to the population of the place itself, which must identify and reflect in them and, on the other hand, must also succeed in giving new impulses and possible future developments.. Ultimately, the definition of a sign - o of a system of signs - identifying a place can assume a relevant importance also in the conversion of territorial and urban areas.

Pruethipong Xinghatiraj
Civil Engineer, Ministry of Transports, Thailand

The Formulation of Peak Runoff Rate Equation for Road Networks on Frequently Flooded Areas in Central Thailand

Many disasters have occurred in Thailand, leading to loss of life and economic damages. Most disasters are from storm- and flood-related. Most flooding disasters have been blamed from the effects of deforestation due to the development of transportation network. So, when heavy rain continues, surface runoff is increased, particularly in areas where roads were developed. If the drainage system is insufficient, it will cause more flooding problems.

The design of the drainage system is based on the maximum flow rate calculated traditionally by methods that are in the form of equations or graphs. However, there are some limitations on using such methods, especially on the urban areas in central part of Thailand that are difficult to determine the exact size of the appropriate rainfall area. This leads to the insufficient design of the drainage capacity. To remedy flooding problem in frequently flooded area especially on central part of Thailand, this study will determine the maximum flow rate through the use of mathematical model on the DEM, satellite image, rainfall intensity, soil characteristics, etc. The results show that maximum flow rates from the mathematical models are closer to the actual data from satellite images than the calculation from the traditional method.

Antonio Zumelzu
Associate Professor, Universidad Austral de Chile, Chile

Nodality as a Dimension of Sustainable Urban Form: An Evaluation to Five Neighbourhoods in Southern Chile

The transformation of Chilean cities has followed the similar morphological pattern change as observed in European and North American cities. From individuals to communities, social relations have been in a decreasing observed manner following the individualistic single-family housing model. Consequently, this way of living has reflected its features on the morphological function of the city, forming new residential structures, changing the city scale and hence provoking numerous environmental debates on sustainability. In recognition of city patterns at different scales, neighbourhoods are identified as the basic sustainable unit of the city, in which socio-urbanistic concepts are rather tangible. By looking critically at the unfolding of urbanisation process and the change of social relations, neighbourhoods are under threat to lose their vitality and identity. This research aims to evaluate Nodality as a dimension of sustainable urban form. Nodality promotes the sustainability of the urban form through providing public spaces where all the shops, local services and social interaction occur. Five neighbourhoods in the city of Valdivia, in Southern Chile, are evaluated in this research. The objective is to explore the vitality of the social environment in neighbourhoods and the influence on the components of its urban forms. The method Morpho is used to explore the morphological conditions that influence the human activity. The static snapshot and gate methods from Space Syntax theory are used to analyse the intensity spatial occupation and human activities on public spaces, to explore how different spatial elements are influencing in the generation of levels and spatial hierarchies. The results show that certain neighbourhood nodes have greater degree of adaptability in their morphology to generate diversity of uses, which in turn promote greater sustainability of the urban form. The article concludes with respect to future challenges to promote the development of more sustainable urban forms in Latin American cities.