

Thursday, 24 May

08:00-09:00	Conference Registration Desk Open
09:00-09:35	Plenary Session
09:35-10:10	Plenary Session - Anika Goss-Foster, Detroit Future City, Detroit, USA
10:10-10:55	Garden Conversation & Coffee Break
10:55-11:40	Talking Circles
11:40-12:40	Lunch
12:40-13:55	PARALLEL SESSIONS

Room 1 **Manufacturing Place**

Planning with Social Capital in Mind: Voices from Chicago's Vacant Lot Owners

Douglas A. Williams,

Neighborhoods at the urban core of US cities have contended with destabilizing conditions: from the economic blight of "community burn" (Fulilove, 2004, 128) to gentrification in concentrated areas of poverty among the "truly disadvantaged" (Wilson, 1990, 2010). Recent \$1 purchases of hundreds of vacant spaces in Chicago, Illinois's Large Lot Program is showing promise for local residential property owners to reestablish stable dwelling grounds. What voice does social capital have when downtown policy meets local organized citizens? This ethnographic case study shares local place-keeping stories from three inner-city neighborhoods, where thousands of vacant lots are continuing to be purchased. Our findings support social capital theory: when socioeconomic crisis persist, communities come together (Putnam, 2000), using open space for fostering a more sustainable and healthy community (Hou, Johnson, and Lawson, 2009, 3) and social-cultural relationships of claiming open space (Allen, 2001; Finney, 2014; Glave, 2010) are values expressed by new owners.

Social Impacts

Zones of Experimentation: King Cotton and Motor City

Dominic Sagar,

Manchester ("King Cotton") was the first truly industrial city of the nineteenth century subsequently passing the baton to Detroit ("Motor City") as the first truly modern metropolis of the twentieth century. Manchester and Detroit are two hugely important industrial cities which both experienced massive decline in fortune having suffered extensive de-industrialisation. Both cities have suffered with socio-economic problems, unemployment, homelessness, racial issues, riots, protests, poverty, ethnic integration, multiculturalism, and migration/immigration. Yet, in both cities, this decline has been combatted by a fighting spirit, a work ethic bred into the psyche, along with a real sense of radicalism, resourcefulness, innovation, playfulness, and creativity all combined with a deep sense of the people's pride and love of their cities. Significantly, both cities also share a history of altruism and philanthropy. Research in this area will explore the tales of these two cities, their rise and post-industrial decline, their subsequent transitions and transformations, as well as their contemporary potential to develop commercial, cultural, industrial, artistic, and musical transactions. The connections between the two cities, at various levels, are myriad and deserve more detailed documentation and unravelling. These are cities "in transition" with a collective industrial past, but also with an eye to the future; both are "smart cities," now home to manifold digital initiatives and creative industries. We would like to explore these synergies by speculating on the two cities' future in relation to globalisation, digitalisation, and how cities can function to develop solutions to communal living in the cities of the future. We invite contributions interested in promoting zones of experimentation and creativity – areas for people to play, think and create – in order to develop and instigate new initiatives and ideas, and to combat the corporate commodification, re-branding and "re-blanding" of our cities. The ultimate objective is to establish a meaningful creative and cultural exchange between Manchester and Detroit, underpinned by academic enquiry in a host of subject areas across the arts, humanities, leisure, environment, and business sectors.

Social Impacts, 2018 Special Focus: Urban Regeneration (UR): between Regeneration and Resentment, Special Journal Issue: Urban Regeneration in Contemporary Cities

Automotive Production and Its Relationship with the Built Environment: The Toledo Automobile Assembly Complex

Dr. Andreas Luescher,

Dr. Sujata Shetty,

The paper discusses the role of automotive production in shaping the built environment at multiple scales. While globalization has changed automotive business decision-making (for example, to a model driven by supply chain management, just-in-time inventories, and external, non-production related factors forces like tax laws, etc.), the effects of these decisions are profoundly local. Specifically, this paper investigates the Toledo Assembly Complex in Toledo, Ohio. In existence for over 100 years, the auto plant was established in 1910 to produce Willys-Overland vehicles and has been well-known for the production of Jeeps since the 1940s. The paper highlights the complex relationship that exists between the restructuring of the automotive industry and the physical re-structuring that occurs at the scale of the neighborhood and city, and that has a profound influence on the morphology of a place. The paper also looks at the role of local government that is becoming increasingly weak. Toledo has a special relationship with automotive manufacturing since its once-thriving manufacturing-base is now in steep decline. Our research adds to the literature on cities like this that are often referred to as a "rustbelt cities" or "shrinking cities."

Design and Planning Processes

Room 2 **Histories of Preservation**

Thursday, 24 May

12:40-13:55

PARALLEL SESSIONS

The National Historic Preservation Act: A Misguided Law that Bulldozed the Future?

Shahab Albahar, Co-Managing Director, Inmaginative LTD

2016 marked the fiftieth jubilee anniversary commemorating the Congressional signing of the National Historic Preservation Act of 1966. Having fulfilled its own criterion of passing the fifty-year threshold age-value, the NHPA itself is "significantly" historic. It is undoubted that this federal act has shaped the evolution of cities across the American landscape since its enactment; yet, what is questionable is its legitimacy and future trajectory. How would scholars and practitioners of the early preservation movement such as Alois Reigl, react to the NHPA, should it have been passed in the nineteenth century? How might metropolises like New York City look today had the Landmarks Preservation Commission (LPC) created under Mayor Wagner, Jr. in 1965 never existed? The constructed environment of our modern society is a product of the law. Courts have played a key role in dictating history. We often overlook how the laws and their interpretation in Court opinions continue to preserve a long-standing tradition in shaping the built environment. Reciprocally the constructed environment has dictated human behavior and challenged the legal systems as British politician Winston Churchill once said: "We shape our buildings; thereafter they shape us." This paper discusses the politicized underpinnings of the NHPA, identifies the interpretations of regulatory statutes relative to preservation in judiciary opinions, positions the NHPA against the broader context of social movements, and proposes a framework for the future trajectory of the discourse on preservation by a re-interpretation of key legal terms.

2018 Special Focus: Urban Regeneration (UR): between Regeneration and Resentment

Traditional Terms of Spaces, Forms, and Artifacts as Cultural Semiotics in Southwest Nigeria

Ajibade Adeyemo,

Housing has more cultural meaning than mere shelter as shown in building terms such as "roof over my head." The study is significant in the study area because its people were traditionally orally centered until "culture contact" led to graphical presentation and appreciation in the form of drawings which is a modern language of architecture. This semiotic study will facilitate the understanding of the wholesomeness of traditional building practices and thoughts. This is in the culture of the traditional multi-sensory appreciation of architecture, urban design, and the arts. The research will analyze traditional aphoristic words and terms which are like proverbs which are significant in language because of their metaphorical essence. Many of such terms in the dominant Yoruba language of the study area are oftentimes phenomenal reducing universal terms such as the earth and heaven to the simple module of housing. These words could be worth investigating because they serve as symbolic codes which are cultural tools of regional ethnic significance. Saussure's and Pierce's concepts of Semiotics in line with Eco's concept of semiotics of metaphor shall be deployed.

2018 Special Focus: Urban Regeneration (UR): between Regeneration and Resentment

Referential Style at the United States Capitol Visitor Center, Washington, D.C.: A Case Study of Environmental Graphic Design in a Historical Context

John R. Kleinpeter, Associate Professor, Department of Design, California State University Long Beach, Long Beach, California, United States

When a structure or space of historical significance is renovated, the addition of a new Environmental Graphic Design (EGD) program has the potential to impact preservation concerns. To address these preservation concerns, design practitioners may consider processes and solutions that honor the historical significance in some way. This case study describes how consideration for historical significance affected the design process of an EGD program for the expansion of the U.S. Capitol Visitor Center in Washington, D.C. The Visitor Center is a prime example of referential style where the characteristics of the EGD program were inspired by the site and appear to belong, but are not period-specific replicas. This paper highlights details of the project, its challenges and solutions.

Design and Planning Processes

Room 3

Transforming Spaces

Transforming the Asphalt Universe: The Forêt Urbaine/Urban Forest at Montreal's McCord Museum's as Case Study

Paula Meijerink,

While critiquing contemporary urban practices where the car is the dominant figure in the city's organization, this paper outlines the success of the Forêt Urbaine as a road transformation. Asphalt is everywhere. In fact, asphalt spaces are our most public landscapes, and their use is higher than any park or plaza. As the spatial and material deposit of a global community that favors the car as the dominant figure in the city, asphalt spaces are compromised ecologically, socially, and culturally. While a body of literature continues to question car spaces, little output in the world testifies to a positive response. How can asphalt spaces be transformed? Over the last six years, the McCord Museum, in conjunction with the City of Montreal is transforming Victoria Street from a ubiquitous automobile dominated road into an otherworldly environment. For the duration of the summer, the street is used for relaxation, play, music, food, health-related events, and political manifestations. Forêt Urbaine, or Urban Forest, demonstrates the desire for a different kind of space, one in which the car is an incidental visitor rather than the dominant user.

Environmental Impacts

Thursday, 24 May

12:40-13:55 **PARALLEL SESSIONS**

Investigating Phenomenon of Residential Buildings Injected with Commercial Usage

Fang Xu, Associate professor, Design, Art & Design UNSW

Marcus Ho,

This paper examines a special scenario of "ZhuGaiShang," Residential Building Injected with Commercial Usage (RBICU) in many residential districts in Chinese cities. As a grass-root activity, the RBICU has become a common phenomenon emerged in many residential districts that are planned and constructed in the past thirty years. It is surely opposite to the original intention of the government planning policy and practice of urban housing development. The past studies of the RBICU were mostly from the perspectives of legal, management, building design alone, and focused mainly on those negative aspects. The research outputs mostly led to a similar result that recommends to enhance the administration role to eliminate or limit the RBICU activities. However, in reality, these simple and crude administrative approaches could not properly change the RBICU phenomenon, and even causes some other problems. Hence, the studies of RBICU needs to explore an alternative perspective. The first task is to fully understand the physical attributes of RBICU. What has RBICU done to change the residential buildings, how does it change? Is there any common symptom of RBICU? Why residents want to change their living environments? Clarifying those questions become a priority to avoid misunderstanding and misinterpreting the phenomenon of the RBICU.

Design and Planning Processes, Social Impacts

13:55-14:05 **Transition Break**

14:05-15:20 **PARALLEL SESSIONS**

Room 1 Aspirational Landscapes

InsideOut: Landscape Archive

Peter Goché,

Situated on a defunct seed farm against a wall of derelict lumber, the archive defines a condensed space for seminar discussions and holdings specific to Iowa's agricultural crisis. The experimental assembly seeks to explore the material and immaterial makeup of the leftover hardwood ground matt and steel ties recently salvaged from the Dakota Access Bakken crude oil pipeline project which passes within one mile of the site. The accumulated fortress, and thereby, attenuated voids within will serve as archive for collected artifacts selected on the grounds of their enduring cultural, historical, and evidentiary value. The series of spaces (gallery, sky room, and earth room) will serve as venue for seminars and workshops. Disparate agents and collaborators will author the workshops – using the archive for unfettered, experimental practices and performances. Collaboratively, we will assist each other, and the public at large, in expanding our domain of knowledge and thereby collective realm of experience through sincere engagement in our local material culture. By leveraging our individual works as provocations within the traditional stead of the family farm unit, we hope to cultivate a discourse that deals head-on with the complex intersection of politics, atmospheres, and humanity as understood from the inside out. The construction methodology of this archive is latently informed by the tectonic nature of its host farm building construction and associated spatial configurations. The platform assembly is constructed using a grade beam methodology whereby the ¾" Douglas Fir plywood flooring is set level on a series of 4x6 white oak grade beams which have been cut into the earth and leveled with gravel and sand beneath. The wall assembly stands 8' tall throughout using ½" and ¼" thick Douglas Fir plywood on a series of 2x open framing. The top/bottom framing plates and flooring were shaped using a CNC router.

Building Processes

Outremont Site, a Transitory Loose Space Revealer of Landscape Potential

Jonathan Cha,

The master plan proposed for the Outremont site in Montreal builds the city in a traditional approach without regard to landscape issues or citizen aspirations that are expressed by actions of ephemeral reappropriation. Could the regeneration of this vast site give way to free nature and free appropriation? The demolition of the old railyard to make room for a new campus led to a transformation of the landscape, from industry to wasteland, from third-landscape to built space. In parallel, a transitory occupation has engaged a variety of audiences in the experimentation of the place and thus opened the perspectives to new potentials. This exploration of landscape mutations and the use of the site by local organizations as an urban catalyst offers the opportunity to influence the urban future, to operate a paradigm shift, from the problem to the potential. Can the changing state of the transitory site and its cultural occupations engage a landscape reflection on how to develop and inhabit the space? Is it possible to imagine a moving garden and a space of freedom in addition to an official urban space? The richness and the complex nature of this territory revealed by our researches, observations and actions pave the way for a real regeneration that could change the way we think and do the city.

Design and Planning Processes, Social Impacts, 2018 Special Focus: Urban Regeneration (UR): between Regeneration and Resentment, Special Journal Issue: Urban Regeneration in Contemporary Cities

Room 2 Regulating Spaces

Thursday, 24 May

14:05-15:20	PARALLEL SESSIONS
	<p>Dr. Pink's House: Decor Determinism in South Manchester, United Kingdom Shelley McNulty, Home ownership is a particularly British obsession, which has fuelled a nationwide home improvement addiction, encouraged and validated by over inflated house prices. However, the idolisation, and subsequent commodification of the home through architectural remodelling and interior decoration, is well identified in western cultural norms and have lead to aesthetic hierarchy and the décor determinism of gentrification. (Miller, 2017) As home ownership becomes out of reach for the many and the pace of gentrification excludes original communities, this paper explores a more humanistic and ethnographic approach to buying or occupying property, and the subsequent decision making process of interior decoration. This paper centres on the fellowship that developed between the seller and buyer of a Victorian Semi in the South Manchester suburb of Whalley Range, Dr. Pink and the Mitchell Family. The amity between Dr. Pink and the Mitchell's led the family to consciously live with elements of Dr. Pink's distinctive décor - the 70's wallpaper and light fittings, lazy Jane and avocado bath suite – so even though Dr. Pink had long since moved out, the Mitchell's were happily co-habiting with him through his décor. This paper will explore what this fellowship means and what it can teach us, proposing a much needed antidote to social exclusion and the décor determinism of gentrification. <i>Design and Planning Processes, Social Impacts, 2018 Special Focus: Urban Regeneration (UR): between Regeneration and Resentment, Special Journal Issue: Urban Regeneration in Contemporary Cities</i></p> <p>Renewal and Ruination along the Margins of the City: Mapping Street Dog Carcerality and Mobility in Istanbul Mine Yıldırım, Every year, Istanbul Metropolitan Municipality (IMM) forcibly displaces more than 20,000 street dogs from inner-urban districts, confining more than half of them to two Animal Detention and Rehabilitation Centers located on the margins of the city. While Animal Detention and Rehabilitation Centers form the fixed centers of mass dog incarceration in Istanbul, spatial logics, design and practices of carcerality prevail also beyond them to permeate and turn the surrounding communities into “transcarceral spaces” by means of regulation of bodies, intense surveillance, policing, and use of violence. This paper makes street dogs in Istanbul central informants in ethnography of carcerality, space and animality. It tracks forcibly displaced street dogs’ movements between those transcarceral spaces of urban marginality in Istanbul as living, symbolic, and material agents that move through different states of urban change and decay, care and violence, order and disorder, as they are caught up in quasi-legal, municipality sanctioned, fixed as well as mobile and illicit forms of confinement. Drawing on the findings of four years of ethnographic field research in Kisirkaya and Kurtkoy dog reservoirs, this paper explores intertwined logics of confinement, marginality, and use of law and violence across human and nonhuman animal carceral geographies in Istanbul. <i>2018 Special Focus: Urban Regeneration (UR): between Regeneration and Resentment</i></p>
Room 3	Built Environments
	<p>Future Ecology of Twentieth Century Retail Landscapes in the Midwest: With Columbus, Ohio as a Case Study Paula Meijerink, Tameka Sims, The landscape of retail industry is changing as we know it. Consumer behavior has shifted to online and experiential shopping leaving retail's big box asphalt landscapes as obsolete spaces in the urban fabric of many cities, most notably those in the Midwest. While the ecological and social impact of these spaces have been known for ten-plus years, very little advancement, change, and adaptation can be seen in the way cities plan for growth and regeneration; the car remains a driving force behind design of all urban form. Using the Paris agreement on Climate Change as a guide for urban transformation, this research develops a series of site interventions for regional and community retail centers which will enrich environmental values, create social identity, and in turn increase the economic value of surrounding communities. <i>Environmental Impacts, 2018 Special Focus: Urban Regeneration (UR): between Regeneration and Resentment, Special Journal Issue: Urban Regeneration in Contemporary Cities</i></p> <p>Artificial Environments: Architecture and Its Future Applications Salih Ceylan, Although humans have already set foot outside their home planet, permanent habitation on another celestial body or any other place is not yet an option. However, the development of aerospace technologies and scientific research studies in astrophysics, combined with the enthusiasm of humans for expanding their knowledge and experience on space, make it possible to come up with alternative options for livable environments. At the moment, it appears to be only a matter of time to find an inhabitable planet in outer space, or to create solutions for making inhabitable artificial environments on currently uninhabitable places. Additionally, the changing conditions of life on earth make it also necessary to consider artificial environments as an option for living spaces. Difficulties like rapidly growing populations, increasing CO2 emissions, deforestation, or improper urbanization are making life on earth harder to sustain. Therefore it is vital to explore alternative methods and places for habitation. This study creates an overview on the term “artificial environments” with its historical background, taking existing conditions and future assumptions into consideration. It also contains projections for the upcoming studies and applications on artificial environments in the future, depending on emerging scientific and technological developments. Architectural and structural characteristics are the focal point of the study, as they are crucial in terms of forming concepts for artificial environments, as well as the actualization of those conceptual works. <i>Environmental Impacts</i></p>
15:20-15:30	Transition Break
15:30-16:45	PARALLEL SESSIONS
Room 1	Perspectives of Knowing

Thursday, 24 May

15:30-16:45

PARALLEL SESSIONS

Learning Fields

Cidália Ferreira Silva,

This paper introduces a research-based practice developed with the architecture students of Urban Research Lab in the School of Architecture at the University of Minho. They were asked to do a reflection, represented with visual and textual media, on a loved space of their childhood: one where they belonged, where they may have laughed or cried, where they learned how to become a sentient being. Through these forty case studies, we have learned the extra-ordinariness of the ordinary, the incredible imagination of children to play with the "as found," and to make it magical, to see the potential of simple things and their changing role both in space-time and in themselves. In a time when the fear of the unidentified other, increases the control and fragmentation of space into insurmountable frontiers, this paper reclaims the right to learn and play in every place: to freedom, to interaction, to know that now-here and then-there are co-existent. Taking as motto Aldo van Eyck's statement: the role of "architecture is to build homecoming" (1963, p. 442), we think of space as a learning field with fields of hope and freedom to create oneself in the realm of generosity while learning to inhabit the in-between: this space and this space, this interior and this exterior, this school and this community, this community and this land-scape, below this tree.

Design and Planning Processes

Applicability of Sustainable Community Assessment Tools in Urban Regeneration Projects

Luke Boyle, Rondebosch, Cape Town, , South Africa

Prof Kathy A. Michell,

Sustainable community assessment tools (SCATs) are fast becoming the principal framework for urban planners and developers for promoting sustainability in the built environment. The majority of SCATs focus on planned neighbourhoods; thus, it is argued that these tools effectively exclude regeneration projects from the urban sustainability conversation and do not devise meaningful strategies for addressing urban regeneration and sustainability in the local context. Moreover, our cities are mostly built, and existing, under-served, communities are in particular need of meaningful intervention and sustainable redevelopment frameworks. This paper undertakes an evaluation of various SCATs and builds the case that the technocratic "one size fits all" approach adopted by many tools inadequately accounts for underlying institutional, social, and economic arrangements that influence urban development, making them inappropriate for application in both planned and existing communities. The paper proposes that urban redevelopment strategies need to be derived from the urban realities of a particular place or context. Such strategies must be grounded in principles of urban governance, participatory action and an understanding of market dynamics. Without these collaborative procedural frameworks, urban regeneration projects will continue to inadequately transition towards more comprehensive sustainability trajectories.

Design and Planning Processes, Environmental Impacts, 2018 Special Focus: Urban Regeneration (UR): between Regeneration and Resentment, Special Journal Issue: Urban Regeneration in Contemporary Cities

Creative Class, Entrepreneurial Space, and Housing

Prof. Tai-Ming Ben,

Hsin-Ju Bien,

Hsiao-Jui Su,

The issue of creative class has become the topic of recent research, with increasing research on the residential location of creative class. However, a theoretical model in the migration research of creative class has not been established in recent studies. In view of this, the paper provides the theoretical model by applying the general labor migration to the creative class. The theoretical model includes four factors, which are creative class, entrepreneurial space, entrepreneur, and housing. The model uses the spatial economy theoretical model to simulate the migration of creative class. The second part of the paper carries out the empirical analysis of the creative class that resides in six different municipalities in Taiwan. The empirical analysis consists multiple logistic regression analysis. The results validate the conclusion of the theoretical model by showing that the migration of the creative class is affected by the relative utility within cities, which in turn, is affected by housing and entrepreneurial space.

Social Impacts

Room 2

Data Mobilities

Resident's Intra-urban Mobility and Immobility Due to Mobile Phone Usage: A Study of Somolu, Lagos, Nigeria

Peter Fosudo,

Oluwafisayo Fosudo,

Dr. Olayinka Agunloye,

This study examined the socio-economic characteristics of residents in the study area, examining residents' mobile phone usage pattern, residents mobility pattern, and the relationship between non-mobility resulting from mobile phones usage. Questionnaires were administered on 178 residents of the study area. A systematic sampling technique was adopted for the study. Data were analyzed using frequency tables, chart, cross tabulation, and Pearson product moment correlation coefficient. The result shows that 52.8% of respondents spent fewer amounts (between N101-N500) on calls per day while the travel distance of respondents was $\leq 10\text{ km}$ and the daily travel cost were between N101-N500. The major travel purposes of respondents were official assignment and visitations (38.2%). The study also established that 42.7% of respondents travel mode was through public transit while 52.4% of respondents spent less than 1 hour on trips per day. Authors found that there was a significant positive correlation between the respondents' received calls and appointment cancelled ($n=178, p > 0.01, r=0.480$). There was also a positive relationship between respondents' calls frequency and number of trips completed per day ($n=178, p < 0.05, r=0.194$). Also, calls frequency by respondents and travel induced ($n=178, p > 0.01, r=0.204$). Authors posit that there should be a perfect synergy between making calls and mobility and immobility. The authors recommend that intra-urban mobility and immobility studies should increase in order to ensure better livability in cities.

Social Impacts

Thursday, 24 May

15:30-16:45

PARALLEL SESSIONS

Wearable Sensor-based Detection of City Dwellers' Discomfort in Urban Infrastructure

Gaang Lee, Ann Arbor, , United States

Byungjoo Choi,

Houtan Jebelli,

Prof. Changbum Ahn,

Prof. SangHyun Lee,

As city dwellers' discomfort has diversified and intensified in over-urbanized cities, detection of the discomfort has become increasingly essential to maintain and improve their quality of life. While wearable sensors and advanced signal processing techniques possess an immense potential to detect discomfort in real time (e.g., recording changes in body movement and/or heart rate at the moment of discomfort), existing research efforts have focused on physical discomfort though other types of discomfort, including cognitive and emotional discomfort, which remain equally important for city dwellers' use of urban infrastructure. To address this issue, this study detects and distinguishes physical, cognitive, and emotional discomfort using physiological and motion sensors embedded in a wristband. Specifically, these different types of discomfort are identified by the combinations of motion abnormalities and physiological stress. A field test was conducted with ten participants' data in their everyday lives. The result shows that the proposed approach can detect and distinguish the three types of discomfort. Also, the spatial distribution of discomfort in a city was demonstrated by visualizing the results on a map. This study contributes to an in-depth understanding of city dwellers' physical, cognitive and emotional discomfort in urban infrastructure, which opens a door toward their management.

Social Impacts, 2018 Special Focus: Urban Regeneration (UR): between Regeneration and Resentment

Room 3

Urban Management

Photovoltaic Systems in the Urban Landscape of Northern Cyprus: Architectural Integration of Photovoltaic Systems in Buildings

John Emmanuel Ogbaba,

The integration of photovoltaic systems (PV) in buildings has a strong connection to the environment. This makes its consideration for the urban environment very pertinent. In order to successfully install PV systems in a building, it is crucial for designers to put into consideration the visibility of the PV installation and its level of dominance on the appearance of the building. Several research projects have specifically investigated the visual impact of PV systems on the urban environment. Since building skin also forms urban spaces, they thus have to relate to the view of onlookers.

Therefore, the ability of a PV system to link elements to form uniform ensemble is a crucial design requirement. This paper discusses the current applications and use of solar energy in buildings and its visual impact on the urban form of the city. The study focuses on solar technologies such as Building Integrated Photovoltaic (BIPV), Building Applied Photovoltaic (BAPV), and Solar Thermal applications in the building sector. It further investigates the effects of the architectural and constructional characteristics of these buildings on the respective applications. Through its findings, solar energy in buildings have been used in Cyprus for the past fifty years mainly for water heating. While the application of BIPV and BAPV for electricity generation in buildings is still very low though the potential of utilization is high. Finally, architectural strategies for the successful integration of PV systems in buildings in North Cyprus are introduced.

Environmental Impacts

Planning Criteria for Urban Water Management in a Planned Housing Layout: Case Studies from Kolkata Metropolitan Area, West Bengal, India

Somnath Sen,

Urbanisation is the process of creating and enlarging cities and towns with creation of a new type of planned housing layout to accommodate additional population. Conventional housing layout heavily relies on imported water either from municipal supply or through withdrawal of ground water. This phenomena creates undesirable hydrological impacts such as increased storm water runoff leading to urban flooding, drop in ground water level without much recharging through infiltration, and above all huge discharge of waste water thereby adding to surface water pollution. This study investigates and compares the various uses of water, which includes imported water, rain water, waste water, and ground water to facilitate water conservation measures in newly planned housing clusters in different parts of the metropolitan area in Kolkata. The main attributes utilized for the study consists of assessing the extent of urban water utilization and feasibility of waste water re-use in typical housing clusters, identifying the planning and design criteria in typical housing cluster layout, which helps in optimizing the use of freshwater (including control of runoff), assessing various alternatives for rain water harvesting in meeting the partial demand for water among the residents, and developing options for reform of building rules and related regulations to facilitate Water Sensitive Urban Design (WSUD), within the framework of relevant legislative and economic constraints. The results and outcome will talk about comparative surveys of various housing layouts and their hydrological impact on surface runoff, drainage, catchment drying, and water pollution in the local area. Additionally, construction of a set of benchmark urban design policies and standards for application across jurisdictions, adapted to different planning contexts and scales (greenfield, small lot, subdivision of up to fifty lots, and single dwelling scale) will be stated along with better linkages with methodologies for such water sensitive infrastructure for designing future housing layout, including the use of development levies, as an alternative to relying on funding of large-scale capital items through expenditure of public funds.

Environmental Impacts

16:45-18:15

Screening of "One October" & Welcome Reception

Friday, 25 May

08:30-09:00	Conference Registration Desk Open
09:00-09:35	Plenary Session
09:35-10:05	Garden Conversation & Coffee Break
10:05-11:20	PARALLEL SESSIONS

Room 1	<p>Conceptualizing Space</p> <p>Decentralization as an Alternative: The Case of Rockford, Illinois Rolando Gonzalez, The State of Illinois is sadly immersed in a deep political and economic standstill that retains it insolvent and immobilized with few possibilities of growth due to an excessive dedication to Chicago and almost none over the rest. Although historically there were intents to rely on some other cities with a variety of industrial products' manufactured, by now all of them have lost population and almost all their commercial bases while returning to the Chicago area. East St. Louis, considered an All-America City by the National Civic League in 1959, suffers today one of the nation's deepest social deserts. A decentralization policy for a more scattered development is urgent. From a comprehensive analysis of cities by size and population within the State and supported on a broad and assorted pool of variables, this work shows the practice done with my graduate students on finding and establishing the ideal igniting point to begin a State decentralization process. The result is the design of a new urban center appointed to open different strategies to satisfy the existing needs on its zone and the ones coming in the future, and also to start moving a network of growing development everywhere in the whole State. <i>Design and Planning Processes</i></p> <p>Thematic Design and the End of Architecture Dave Gottwald, Moscow, ., United States Dr. Gregory Turner-Rahman, Program Head Associate Professor, Art + Design College of Art and Architecture, University of Idaho, Moscow, ., United States Dr. Gregory Turner-Rahman, Program Head Associate Professor, Art + Design College of Art and Architecture, University of Idaho, Moscow, ., United States Dr. Gregory Turner-Rahman, Program Head Associate Professor, Art + Design College of Art and Architecture, University of Idaho, Moscow, ., United States Dr. Gregory Turner-Rahman, Program Head Associate Professor, Art + Design College of Art and Architecture, University of Idaho, Moscow, ., United States Dr. Gregory Turner-Rahman, Program Head Associate Professor, Art + Design College of Art and Architecture, University of Idaho, Moscow, ., United States Dr. Gregory Turner-Rahman, Program Head Associate Professor, Art + Design College of Art and Architecture, University of Idaho, Moscow, ., United States Discussions about our contemporary built environment tend to look at themed and virtual spaces as something irrelevant at best or, worse, as something disdainful. Our polemic: Entertainment, as a visual and experiential thrust, has consumed the built environment to the point that nothing escapes theming. Granted, physical and imagined spaces have always conveyed narrative; there have always been themes. Yet, what we term thematic design is something quite different. It is a form of visual storytelling executed primarily in consumer spaces that is at once popular, profitable, prolific, and above all, problematic. We reject the more conventional terminology "Architecture of Entertainment" and posit that thematic design, owing to its roots in the motion picture industry of the early twentieth century, now challenges the very primacy of the architect, elevating instead the role of the creative director. Thematic design is not the architecture of anything. Art direction (in the cinematic tradition) itself, in the thematic mode, becomes "The Mother Art." We outline and mine the genealogy of themed environments, both physical and virtual, to pinpoint the influences supporting a story-based vision of space and function; this is the mode of thematic design. To that end we speculate on thematic design's contribution to the "spatial turn" in which the world of visual communication further evolves into predominantly a language of environments. <i>Design and Planning Processes</i></p> <p>Damage Control: Alternative Strategies for Leveraging Civilian Populations in Urban Military Operations Dr. Leo Blanken, Associate Professor, Defense Analysis, Naval Postgraduate School, Monterey, ., United States Iver Johansen, Chief Scientist, Division for Industry and Innovation, Norwegian Defence Research Establishment (FFI), Kjeller, ., Norway Military planners are struggling to plan for future operations in large, dense, urban centers. First, the scale of "mega cities" far exceeds the capacity of modern military force structures. Second, highly kinetic operations using stand off munitions (bombing and shelling) is precluded by normative and political constraints. What else can be done? We explore the types of operations and urban environments in which policy aims might be achieved by leveraging informal communities and social structures nested within urban centers. This will allow for the achievement of goals while minimizing the destruction imposed on urban landscapes and populations. We utilize formal typological analysis and qualitative methods to frame the alternative space. This is part of a larger research project looking at strategies of engaging communities and networks. <i>Social Impacts</i></p>
Room 2	Social Transformations

Friday, 25 May

10:05-11:20

PARALLEL SESSIONS

Sustainable Livelihoods in Human Settlements: Urban Regeneration in South Africa

Dr. Brian Wasserman, Associate Professor, Construction Management, MN State University, Mankato, MN, United States

From Apartheid to Nelson Mandela to current President Zuma, South Africa has a history rich in separation. The visionaries in South Africa have been grappling with this separation since the dawn of democracy in their country. Public policy has been in existence since the writing of their constitution in 1984. However, thirty years later, coordinated spatial planning and land use management is just beginning at both the national and provincial levels. With over 20% of the population dwelling in dirt floor shacks and an unemployment rate above 40%, it is difficult to envision the urban regeneration required to maintain the largest economy in Africa. However, there are substantial natural resources available to drive industry, and with skilled planning, South Africa could prove to be a shining example of economic transformation. Sustainable livelihoods in human settlements is the story of life in South Africa presented by an American who has traveled extensively throughout the country and spent six months living in the Eastern Cape and teaching at the University of Fort Hare.

Social Impacts

Street Culture towards Mixed-use Architecture: Publicity Architectural Design and Street Culture in Chiang Mai City, Thailand

Dr. Chiranthanin Kitika, Lecturer, Faculty of Architecture, Faculty of Architecture, Chiang Mai University

This project designs "mixed-use" architecture by learning raw street culture. Since modernity, thoughts have been strongly and strategically used in urban planning and development in ASEAN countries. Many of these cities were managed without people/community-centered design. People have had to adapt their local lifestyle to modern architectural design coming from government or real estate, profit-based companies. This project studies "publicity" design which learns from raw area usages on the street. The project firstly started from streets in Chiang Mai city, Thailand. The methodology uses street photographs to analyze spatial practice on the site. The second session will make a street film for learning "mixed-use" practices on the site. Then, the third session is a design session to study "publicity" by developing mass design. The final session is to finalize design for public architecture which compromises local area usages and existing "modernity based design" cities in the ASEAN city.

Social Impacts, Special Journal Issue: Urban Regeneration in Contemporary Cities

Impact of Building Characteristics on the Patterns of Building Energy Consumption in Different Climate Conditions

Juntae Son,

Dr. Suk-Kyung Kim,

Seongju Chang,

Most engineers predict energy consumption using simulation programs in pre-design and design development phases. During the simulation process, various tests are necessary to identify optimum energy consumption. However, choosing variables is challenging to analyze and requires unnecessary resources. This study addresses how to reduce resources by predicting variables that have a large effect on energy consumption. To achieve the research goal, a reliable public data provided by the U.S. Energy Information Administration was used. The data contain numerous variables, such as gas, electricity, materials, and climate condition of 6,700 commercial buildings located in the U.S. The analysis determined the most explanatory variables that could reduce energy consumption. This study utilized two different methods: First, the Principle Component Analysis was conducted to determine which variables among over 400 variables have the greatest impact on gas and electricity consumption. Second, Association Rule Mining was used to extract combinations of variables. Since a building consists of a combination of variables, energy predictions should be estimated for multiple variables rather than a single variable. For the energy simulations, this study uses food service and food sales buildings which most consumed gas and electricity respectively. The results show when food service buildings are built with single-layer glass and a metal roof in hot-dry/mixed-dry regions, gas consumption is low. Also, when food sales buildings are built with metal-panel walls, a metal roof, and multi-layer glass in cold regions, electricity consumption is low. Using these rules would greatly reduce resources on the simulation process.

Design and Planning Processes

11:20-12:20

Lunch

12:20-13:35

PARALLEL SESSIONS

Room 1

Urban Visions

Space of Passage: On the Aesthetics of the Architectural Promenade in Giancarlo De Carlo's Urbino Projects, 1962-1999

Mark Blizard, San Antonio, , United States

The phenomena of space, and movement through space, play an important role in shaping our perception of the atmosphere of the historic city as well as Giancarlo De Carlo's work. He is known for his close reading of the historic city of Urbino and its region. This provided the basis for his subsequent architectural works. The paper first briefly outlines De Carlo's process of reading the territory, focusing on the role of the passage as a visual armature for organizing space. De Carlo's own writings, rather vague on this subject, are nonetheless considered. Following which, the paper looks into questions that surround formulating an aesthetics of passage through the city, drawing from the writings of the late philosopher, Heinz Paetzold, Lefebvre's "Writings on Cities," Burckhardt's science of strollology, and De Certeau's rhetoric of walking. These serve as a lens through which De Carlo's architecture is re-examined. The paper concludes by considering the formation of a urban aesthetic, one that is inextricable from our experience of the atmosphere of the city and grasped through our rhythmic movement through its spaces, offers a new perspective on the urban fabric, urban design practices, and architecture in general. In addition, the paper contributes to expanding our knowledge of De Carlo's design process through a spatial examination of his built work of Giancarlo de Carlo.

Design and Planning Processes

Friday, 25 May

12:20-13:35

PARALLEL SESSIONS

Urban Core Theory: The Hidden Battle between Urban Communities and Their Urban Controlling Environments

Aida Ejroushi, Lubbock, , United States

The urban core theory argues that, wherever an urban community exists, either in the past, present, or future, it forms the core of its urban setting. However, it is a unique core because it does not control its surroundings. Instead, it obtains its power from continuous interactions with these surroundings (controlling environments). The reactive attitudes that urban cores (urban communities) take to resist these environments usually strengthens their abilities to shape various urban settings. This theory can evaluate whether the reactive attitudes of urban communities are active or passive, and to infer their abilities to resist their controlling environments. It can examine the sequential development or degradation of any size of urban setting. As a measuring tool, it can study old urban settings and predict changes for the existing ones. The map of this theory provides a static, visual representation for all components of the theory. Applying the map to a sample of three cities, Tripoli, New York, and Venice, resulted in three dynamic maps, characterizing the reactive attitudes of urban communities in each city. The effects of urban cores in shaping urban settings can be easily found and they transfer cumulative experiences over time, which can be globally shared.

Social Impacts

Room 2

Materialities

Effect of Recycled Calcined Alumino Silicate Content on Mechanical Properties of Controlled Low Strength Materials

Nazik Citir,

Catherine Johnson,

Dr. S. A. Durham, Denver, , United States

Dr. Mi Geum Chorzepa, Athens, , United States

This paper introduces the engineering properties of Controlled Low Strength Materials (CLSMs) incorporating recycled Calcined Alumino Silicate (CAS) in varying amounts. CLSM, also known as structural fill, is a material used as void fill and backfill in construction practices. Primarily used as a replacement for compacted soils, CLSMs provide an advantage for difficult to fill voids by filling them more quickly than by traditional methods. Because the compressive strength requirement is much lower than structural concrete, CLSMs provide a unique opportunity to incorporate recycled materials where the later may not allow. Specifically, this study evaluates CLSM mixtures containing recycled CAS, cement, fly ash, water, and virgin fine aggregate. The mixture proportions were designed for increasing amounts of recycled CAS content with increments of 25% by fine aggregate weight. The CLSM's flowability, air content, bleeding, unit weight, and compressive strength were measured and analyzed for suitability for field use. The study found that increasing the amount of recycled CAS in the CLSM mixtures decreases the removability modulus by lowering the unit weight with decreasing the compressive strength over the long term. Therefore, the structural fill evaluated in this study was determined acceptable based on the flowability and removability modulus when recycled CAS was included in the mixtures.

Building Processes

The Effect of Terrasil and Banana Fibers on Soil Subgrade Characteristics

Lokesh Gupta, ASSISTANT PROFESSOR, SIR PADAMPAT SINGHANIA UNIVERSITY

Weak subgrade soils are generally stabilized to increase their strength and durability or to prevent erosion and dust formation in soils. For the designed life of an engineering project, soil improvement is of major concern in construction activities due to rapid growth of urbanization and industrialisation. This study envisages the effect of terrasil (1%, 2%, and 3% by weight of water) and banana fibres (up to 1% by weight of dry soil) mixed in different proportion on CBR values, unconfined compressive strength and durability of the soil. The study deals with the influence of fibers, varying in length (20 mm, 30mm, 40mm, and 50mm) and percentage (0.25 %, 0.50 %, 0.75 %, and 1.0 %) added to the soil samples. The study determines the reinforcing effect of randomly distributed fibres and terrasil chemical on the compaction characteristics, penetration resistance, unconfined compressive strength, and durability of soils. The addition of fibre and terrasil results in the improvement of soil subgrade characteristics in terms of CBR, UCS, and durability measures. The combination of 3% terrasil and 0.5% banana fibre (once keeping aspect ratio as 160) produces the best results and significant improvement in the soil subgrade characteristics than any other combination. It can be concluded that a combination of banana fiber and terrasil has a mutual effect on both the chemical stabilized soil and fiber reinforced soil. Therefore, it can be adopted successfully for the improvement of soil subgrade characteristics and will also reduce pavement crust thickness.

Design and Planning Processes

13:35-13:45

Transition Break

13:45-15:00

PARALLEL SESSIONS

Room 1

Use Values and Measurements

Friday, 25 May

13:45-15:00

PARALLEL SESSIONS

Digital Elevation Modelling for Sustainable Development

Akinwumi Akinpelu, Senior Lecturer, Building Technology, Lagos State Polytechnic, Ikorodu, Lagos, Nigeria

Olufemi Iyiola,
Effiong Ekpo,
Peter Fosudo,

Digital models of topographic elevation data are regarded as part of the Geographic Information System (GIS) used for flood modelling, soil erosion modelling, delineation and analysis of watersheds and drainage networks, geomorphological evaluation of landforms, engineering and military applications like visibility analysis, troop movement planning, site and route selection, landslide hazard assessment, etc. Digital Elevation Models (DEM) provide land information which can be used by different professionals to solve spatial problems in their fields. Data for generating DEM come from various sources such as ground survey methods, hydrography, satellite and remote sensing, photogrammetry, scanning and digitizing of existing maps, etc. This study assesses the accuracy and suitability of elevation data from Shuttle Radar Topography Mission (SRTM) for generating digital elevation models of the terrain. The methodology included downloading of the study area elevation data from SRTM website, pre-processing of downloaded data to correct inherent errors. ArcGIS 9.3 was used to generate digital elevation models which included contour map, Triangulated Irregular Network (TIN), slope and aspect for the study area. Validation of the final results was carried out to determine the suitability of the product for sustainable development. Other spatial analyses included line of sight, analysis, watershed analysis and viewshed analysis. Appropriate recommendations were also made for applications of the products.

Environmental Impacts

Determining Peri-urban Agricultural Land Use Change: Exploring a Geographic Information System Methodology

Peter Fosudo,
Mr Oladayo Ramon Ibrahim,

Akinwumi Akinpelu, Senior Lecturer, Building Technology, Lagos State Polytechnic, Ikorodu, Lagos, Nigeria

Considering peri-urban land use change impact on agricultural land uses, there is need for a global check (environmental, ecological, physical, and climatic) particularly in spatio-temporal terms, to ensure that the rate of loss of agricultural land in peri-urban areas is reduced to the barest minimum or well managed. This study thus considered that a variety of methodologies exists for determining the extent of changes that occurs in land uses, most especially in terms of accuracy to enhance land use decision making. Amongst these methods include those of Serneels and Lambin (2001) using spatial statistical model, Dubovyk, Sliuzas, and Flacke (2011) explored the change using spatio-temporal modeling of informal settlements, and Orenstein, Bradley, Albert, Mustard, and Hamburg (2011) quantified a pattern of built space using different spatial data. This research adopted a GIS overlay as posited by Alkema, Bijker, Ali, Zoltan, and Wouter (2012); Erenner, Düzgün, and Yalciner (2012); Estoque and Murayama (2011); Lu, Mausel, Brondizio, and Moran (2004); Orenstein et al. (2011). In conclusion the authors agree that other methodologies for detecting land use change could still be adopted to determine accurate extent of change that occurs in land use, however this method remains a distinct type.

Environmental Impacts

Room 2 Living Cities

Neighborhood Walkability and Quality of Life: The Mediating Role of Self-efficacy

Dr. Michal Jaśkiewicz, Assistant professor, Institute of Psychology, University of Gdańsk, Gdańsk, Poland

Numerous studies have suggested that environmental factors may influence quality of life through indirect pathways. The list of possible psychological mediators includes agency-related variables (e.g. controllability and self-efficacy) and identity-related variables (e.g. Leyden, 2003; Rogers et al., 2011; Jaśkiewicz and Besta, 2014). From the perspective of Bandura's theory, human functioning is seen as the product of a dynamic interplay between personal, behavioural, and environmental influences. Self-efficacy is a person's belief in his or her ability to succeed in a particular situation. In attempting to investigate how personal and neighbourhood factors work together, researchers have found significant effects for both variables: neighbourhood walkability and self-efficacy in physical activity (Kaczynski et al., 2012). Self-efficacy has also been shown to moderate the relationship between access to recreational facilities and physical activity (Cerin et al., 2008). The results of Study 1 showed that all the subscales of the Polish version of Neighborhood Environment Walkability Scale (Jaśkiewicz and Besta, 2016), except for residential density, were significantly related to walkability self-efficacy in a predicted direction. As anticipated, people living in a more walkable neighbourhood declared better walkability self-efficacy, and this self-belief was in turn related to quality of life in the city. In studies 2a and 2b, we tested the relationship experimentally whereby participants were exposed to (2a) photos of walkable/non-walkable neighbourhoods or (2b) to descriptions of high/low walkable neighbourhoods. They were then asked to assess the walkability of the neighbourhood and to evaluate their potential self-efficacy and quality of life in such a place. In both studies, walkability self-efficacy turned out to be a significant mediator between walkability and quality of life. In Study 3, we used commuting time (an aspect of walkability related to the time that people spend travelling to work) as the independent variable and overall quality of life as the dependent variable. The results showed that a shorter average daily commuting time was linked to stronger walkability self-efficacy beliefs. Individuals who assessed their self-efficacy as higher also declared better overall quality of life. To sum up, our research replicated and extended previous findings on the association between walkability and various well-being measures. We introduced a potential mediator of this relationship, that is, self-efficacy beliefs.

Design and Planning Processes

Friday, 25 May

13:45-15:00

PARALLEL SESSIONS

**City Planning Methods and Principles for Organization of Waste Management in Residential Areas of the City:
Automated Planning of Waste Collection Points**

Liudmyla Zolotar,
Dr Oleksii Pryimachenko,
Olena Mishchenko,

The positive dynamics of the increase in the volume of household waste generation and the accumulation of it in the environment is caused by the level of consumption of primary raw materials, the existing structure of production, commercial activity, low culture of population, outdated technologies, and funds in the field of waste management. Anthropogenic impact on the environment and the quality of waste management of the city are studied in economic, environmental, sanitary-epidemiological, and economic directions. The scientifically grounded approach to the solution of the problem from a city planning and urban development point of view makes it possible to optimize the network of locations for primary collecting points of household waste for organizing the waste collection system of the city's territories as a whole. Research of the primary collection points of household waste as an element of a residential environment, the technological levels of organization of waste collection system of residential areas are allocated. The research focuses on the main factors and city planning criteria that affect the organization of a waste collection system, proposed solutions for choosing an optimal method for the collection of household waste based on city planning requirements, analysis of the territory, and adoption in accordance with a number of conditions and constraints that characterize the territory. A model for optimizing the location of primary collection points in residential areas for the possible introduction of automated planning has been developed.

Design and Planning Processes

15:00-15:15

End of Sessions