ICLAR 2019

International Congress on Landscape Architecture Research



2nd International Congress on Landscape Architecture Research

23-24 August 2019
İstanbul-Turkey

Abstract Book

anatolia science academy

www.iclar.org

I. Ulusal Peyzaj Mimarlığı Araştırmaları Kongresi

ÖZET KİTABI



2th International Congress on Landscape Architecture Research

E- ISBN:978-605-69803-3-6

Publisher Certificate Number: 33 825

Editor

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Dear Colleagues and Friends,

It is great pleasure for us to invite you to participate in “The 2nd International Congress on Landscape Architecture Research” (www.iclar.org) which will be held in Istanbul, Turkey on August 23-24, 2019.

The Conference aims to bring together academic scientists, researchers, research scholars, and professionals, in order to exchange and share their experiences and research results related to Landscape Architecture.

Additionally, it aims to provide an opportunity for researchers to answer some of the challenges in the development of health, environment, society, and economy and to outline new solutions for developing them. The main theme includes interrelated issues, each of them calling for a variety of interdisciplinary approaches.

The Conference will be divided into substantive sessions, providing the opportunity to focus on specific areas from their own perspective and national experiences.

The conference will be a great opportunity for academics from a range of disciplines and countries to share their research; to receive informal in-depth feedback through discussions and to establish contact with professionals in other countries and institutions

So, we invite you to contribute with papers and presentations, as well to participate in “The 2nd International Congress on Landscape Architecture Research”

We look forward to meeting you in Istanbul, Turkey

Sincerely,

Dr. Saimir Kristo

Deputy Dean
Faculty of Architecture Design, POLIS University, Tirana, Albania
Chair of the Conference

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Dr. İpek KAŞTAŞ UZUN
İzmir University of Economics, TURKEY

It is a great pleasure to welcome all participants to ICLAR 2019 and bring academicians from all over the world, Albenia, Portugal, Italy and from different cities of Turkey, Gaziantep, Antalya, İzmir, Denizli…

Among all other design and architecture disciplines, landscape architecture is one of the unique ones as we are working with living objects that grow, change and continuously affect human health. We are not only designing urban areas such as squares, waterfronts, parks or simply home gardens but we are also responsible from protection and revitalization of wetlands, green corridors in an ecological and sustainable manner. So it is a great responsibility for us to have a serious impact on the delicate balance of nature and life quality and health of human beings.

In addition to the social responsibilities that landscape architecture profession have, this discipline is also being used as a tool to shape the life styles and perceptions of the society. How people experience their living environments is directly related with the boundaries of landscape architecture. Turkey and especially İstanbul is one of the unique cities to see the examples of landscape architecture projects that gives hints regarding the life style of different eras. In İstanbul it is possible to see the traces of open green space examples from Seljuks to Byzantine, from different eras of Ottoman Empire to the early modernization efforts of Republic of Turkey and also examples of open green spaces of 21st Century.

Today, I want to talk about how public open green spaces evolved very briefly, starting from Ottoman Empire to today's Turkey. As a result of nomadic life style, concept of gardening developed very late compared to world. Most of the first examples in Anatolia carried certain design features of Middle Asian, Persian, Islamic and Anatolian cultures.

In the early days of Ottoman Empire historical background coming from Seljuk art and the Byzantine affected gardening. Additionally factors such as religion, family, traditions and personal views created important effects in the layouts of cities and open green spaces. Use of water such as four-cornered marble pools, shade trees and fruitful big trees, dense ivy, terrace and stairs, rose and tulip gardens.

Following the conquest of İstanbul in 1453 the art of gardening improved with the influences of the geography of Istanbul and the Bosporus. Topkapı Palace and Yıldız Palace Gardens are important examples of Ottoman palace gardening that have a natural layout and harmony of the existing landscape of İstanbul.

During the Tulip Era Ottoman Empire staged to significant improvements in open green space design. The establishment of sea-fronted palaces and their gardens resulted in the transformation of İstanbul as the "city of garden and water". These gardens developed into very attractive social areas for the pleasure and recreation of the society. Especially Sultan's Garden staged to very important events such as weddings and circumcision celebrations.

Mesire is one of the most popular open green space types in Ottoman Period. As one of the most important examples of Mesire, Sadabad Garden was designed with French inspirations and with the Tulip Era different user groups such as women started going outdoors much more than they used to and they realized more existence in the social life in promenades.

With the effects of Industrial Revolution and the project of modernity in Europe Ottoman Empire's economy and organizational structure and urban spaces started to change. Architecture and especially landscape architecture has been considered as one of the important tools that shape the cities. In the expanding cities, with the effects of western cultures, large boulevards with trees have been designed to connect different parts of the cities. In this period landscape architecture has started to be used as the representation of the power of the empire.

With the proclamation of the Republic of Turkey, there were major changes in the structure of the state and the society that led to major changes in the social, political and cultural spheres. To empower the Republican ideology and create a modern city, again officials started to use planning and landscape architecture. First examples of this movement has been seen in Ankara and then in İzmir, Balıkesir and so many other cities.

During the first couple of decades of the republic we see very progressive efforts in terms of planning and landscape architecture. After 1950's, along with the increasing levels of industrialization, socio-economic and cultural developments have caused a rapid urbanization and a major increase in the population of Turkish cities that led to unplanned and uncontrolled cities and decrease in the amount of open green spaces in the cities.

However those years staged to very important improvements in terms of Landscape Architecture Education. Following the establishment of Ornamental Plants Division under the Higher Agricultural Institute in Ankara in 1933, at the same time in İstanbul, Park and Garden Design in İstanbul University became a must course in Faculty of Forestry, in 1939/40 academic year.

As we know it landscape architecture education in Turkey has started in Ankara University, Faculty of Agriculture in 1968 and first landscape architects (14 people in total) graduated in 1973. In the last five decades, the number of departments has grown gradually and reached to 53 with almost 2000 new students each year. Today, Turkey is in the first place in Europe in terms of the number of landscape architecture schools. As a result of the nature of landscape architecture discipline, the schools were founded under different faculties such as agriculture and forestry, architecture and art faculties. I think this indicates the multidisciplinary nature of landscape architecture. Another important mile stone in the discipline was the establishment of "Landscape Architecture Association" in 1966 in Ankara and then the "Chamber of Landscape Architecture" in 1994.

With increasing awareness of the importance of open green spaces, effects of western examples and improvements in the technology, the value of landscape architecture discipline has significantly grew in Turkey. And it keeps growing. Today along with state initiatives to build Nation Gardens in each city with very large open green spaces, there are also private initiatives that pays a great attention to include landscape design elements in their projects.

Now, following this very brief overview of the history, we will start listening the future of landscape architecture through presentations of our participants on topics ranging from sustainable design approaches to inclusiveness; from the importance of green corridors to ecological values that are established through landscape architecture.

Again as a member of such an important family, I welcome you to İstanbul and I feel very proud to be a part of this congress as we hope to contribute to the landscape architecture profession through creating a platform to discuss important research of valuable academicians and professionals all over the world.



ABSTRACT for
ORAL PRESENTATION

Research for Making Life Better

Parks' Thermal Comfort and User Perceptions of Comfort In "Most-Used" Parks of Izmir

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Presentation Preference: Oral

Abstract 01
Neighborhood parks can provide residents with an easy access to high level of cooling effect nearby their houses in cities such as Izmir with Mediterranean climate. The literature in general expects that those open spaces with higher thermal comfort attract more users. However, presence of thermal comfort at each park is not given. To provide and improve parks' thermal comfort, parks' location and spatial design with amenities and vegetation must be paid attention objectively and also according to user perception of thermal comfort.
Evolving in three park-rich districts of Izmir, this case study investigates how number of users and user perception of thermal comfort in parks relate to those parks' physical characteristics expected to affect thermal comfort there. It has two stages: With t-tests, it analyzes whether and how observed number of users in 95 parks and also demographic and behavioral characteristics in 42 parks in-use relate to these parks' amenities and green landscape. Then, focusing on nine parks with relatively highest number of users, our design analyses show that most of these parks lack thermal comfort shaped typically by urban geometry (i.e., building height, street orientation), kind of vegetation as shading elements and choices of materials. However, out of surveys with 2127 users in these parks, around a third of responses (usually women with children) complain and/or expect more about parks' thermal comfort. We discuss the findings about objective and perceived thermal comfort level of parks in relation to park amenities and users' gender and age related characteristics.

Keywords: Parks, Thermal Comfort, User Perceptions

Vulnerability Assessment and Preservation of Historic Landscape in a Changing Climate

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Presentation Preference: Oral

Abstract 02
Global warming, and consequently climate change, has emerged as one of the most significant threats in the preservation of historical landscapes and cultural heritage resources all over the world. The character of the historic landscape is strictly related to the climate and changing in the weather pattern has destructive and irreversible impacts on cultural heritage resources – both physically and socio-economically. Aim to reduce the adverse impacts of climate change; this paper develops a conceptual framework for vulnerability assessment in historic landscapes. To conduct this, a comprehensive understanding of the concept presents by reviewing the evolution of approaches for assessing vulnerability to climate change. Then, some European cases, which communities or institutions are attempting to manage cultural heritage threatened by climate change, are analysed to establish the proposed framework. So through sharing the best practices, the result of this study will identify the proper approaches for vulnerability assessment and sustainable development of historic landscapes in a changing climate.

Keywords: Climate Change, Historic Landscape, Vulnerability Assessment, Sustainable Development

Visual Landscape Assessment With the Use of Cloud Vision API: Antalya Case

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Presentation Preference: Oral

Abstract 03
Quantifying and mapping visual character of an area is complex because of their intangibility. However, landscape visual character can be captured using indicators derived from several theory-based concepts related to landscape perception. One of the main methods to capture is to take photographs of a region and evaluate it by an expert groups. However, manual content analysis and classification of large numbers of photographs can be time consuming. Therefore, an efficient tools such as Google Vision API image classification service can be used to fasten the process. The API can detect and classify multiple objects including the location of each object within the image and assign labels to images and quickly classify them into millions of predefined categories.
This study compares previous landscape visual character analysis techniques and develops a method for automating content analysis of photographs with the use of an online machine learning algorithm. For this purpose, 60 photographs regarding Antalya City evaluated by Google Vision API image classification service.
At this stage, the method of evaluating the photos and capabilities for perceived landscape visual features of the API have been examined. According to the results, the API has been identified 3 main titles in landcape visual character assesment process. These titles are naturality, perceptibility and recreation value. As a result, a number of procedural recommendations for further evaluation were developed, and the advantages and disadvantages of this new evaluation technique have been discussed.

Keywords: Visual perception, Visual landscape analysis, Machine learning, Antalya

Evaluation of Floods in Urban Areas Under Green Corridor and Resilience Perspective- Istanbul

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Presentation Preference: Oral

Abstract 04
High frequency of floods in streams as a result of climate change induced increased precipitation rates, threatens especially urban built-up areas. The areas which are highly under risk of this threat are areas that suffers from urban poverty, un-planned urbanization and urban squatters. Ayamama stream is such an example that is located in urban built-up areas and urban life around these streams have been frequently impacted from the flash floods. Even tough recently these areas that should be planned as green corridors, experience some rehabilitation efforts, their concepts in accordance with resilient urbanization and green corridor approaches are not known well. It is obvious that Istanbul is very far from being a resilient city as a result of urban regeneration projects that causes socio-economic segregation, loss of public areas and green areas and partial implementations. Resiliency perspective can be summarised not only reducing the risks and/or adapting for having less damages from disasters but also socio economical and spatially having ability to recover itself and continue the urban life as it was before. In this study, the situation of one of the important streams that is highly under risk of floods that that is located in urban areas such as Ayamama is tried to be evaluated under green corridor and resiliency perspective.

Keywords: Resilience, Flood, Green Corridors, Unplanned Urbanization, Istanbul

The Role of Open Spaces in Urban Neighborhoods For Community Attachment

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Presentation Preference: Oral

Abstract 05
In the literature of environmental psychology, studies investigating the interaction between people and the environment have contributed to the interpretation of this relationship by focusing on "place" and "place attachment" studies in recent years. The concept of place attachment and the theoretical framework of home, neighborhood, city, region etc. as well as different spatial scales. This research aims to address the concept of community attachment in the open green areas of the neighborhood, which is an indispensable element of daily life. One of the most appropriate spatial scales to investigate the social dimension of the place attachment (community attachment) is neighborhoods. Today, due to the rapid increase in housing and the planning of enclosed enclosures, spatial and social disruptions occur in the neighborhoods. This problem poses problems such as alienation, lack of communication and loneliness among the inhabitants of the neighborhood and negatively affects satisfaction, place attachment and community attachment. In this context, in this study, human-environment relations, space and place concept, place attachment and community attachment concepts and relations will be expressed within the scope of neighborhood scale. These concepts are examined in the case of Trabzon Çukurçayır, which is the largest quarter of the Eastern Black Sea Region in terms of population size. Thus, the focus of the physical and social characteristics of the neighborhood open green spaces on the level of satisfaction of the users, place attachment and the ability to create community attachments were focused.

Keywords: Open spaces, Place attachment, Community attachment, Neighborhoods

Social Sustainability in Landscape Design Elements in Neighbourhood Scale (Case Study: Istanbul Technical University Maslak Campus)

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Presentation Preference: Oral

Abstract 06
Social sustainability first defined over 30 years ago. is widely accepted as an important conceptual framework which tries to make the society improvement sustainable (Williams et al.. 2000). Landscapes as one of the most effective parts of the cities for humanity to spend their leisure time. or passing it in daily activities. are one of the most important elements of the social sustainability. In this article. two main dimensions of social sustainability are identified and discussed in detail: equitable access and the sustainability of the community itself. In addition. as Austin (2002) defines the landscape design elements (the separate "parts" that interact and work with each other to create a cohesive design) are: Line. Form. Texture. Colour and Visual Weight. The main purpose of this research is to find out that if there is any relation between the social sustainability and the landscape design elements. As a case study. Istanbul Technical University Maslak campus landscape design project will be analysed. Thus by the observation of the students behaviour in the landscape of the university. some interviews with them and asking their opinion with a questionnaire. as the main users of the landscape. the analysis with the help of SPSS software will be done. It will be explored if there is an effective relation between the social sustainability and landscape design elements and principles in neighbourhood scale.

Keywords: Social Sustainability, Equitable Access, Community, Landscape Design, Social İnteractions

Why Use and Not Use Neighborhood Parks: Cases in Three Park-Rich Districts of Izmir

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Presentation Preference: Oral

Abstract 07
For their well-being, all age groups are encouraged to use public green spaces (or parks). However parks' presence in neighborhoods is not enough for dwellers' high level of uses of these public greens. Whereas most people have various conditions and reasons for using neighborhoods parks, some residents do not use these parks even in close range to their dwelling. This study aims at identifying kinds of reasons and conditions for people's use and non-use of neighborhood parks. The results can guide park design alternatives in respect to socio-demographic characteristics of neighborhoods.
Based on our survey with 2127 park users and 339 non-users in three park-rich urban districts (Karşıyaka, Bornova, and Güzelbahçe) of Izmir in 2018, we investigate the reasons and conditions for park uses in relation to the respondents' age, gender and other individual characteristics and to these parks' and neighborhoods' physical and social characteristics. Study findings underline that people's park use patterns differ especially along with their age characteristics related to their gender and paid-job responsibilities and income level. While such demographic characteristics and also certain park amenities vary among three urban districts of Izmir, adolescent and senior users have contrasting park use patterns especially in the parks of residential versus commercial areas. Non-uses of parks relate to the presence of alternate open spaces (e.g., seashore and own gardens) and the concerns about parks' conditions without climate sensitive design, with stray dogs or "too much children" and also about parks without "crowd and brightness" especially for women alone there.

Keywords: Neighborhood Parks, Use And Non-Use, Physical Characteristics, Age-Gender

The Importance of Using Design Plants in University Campus: ÇOMU Case

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Presentation Preference: Oral

Abstract 08
The open area of the university campus is a potential social activity area where students and staff spend a significant portion of their time. It is also an open laboratory for landscape architecture students. In this study, the importance of the use of design plants in the university campus was put forward and Terzioğlu Campus of Çanakkale Onsekiz Mart University was examined. The study was carried out within the open green area between Çanakkale Onsekiz Mart University Rectorate Building, Atatürk Statue, ÖSEM, Library and Yamaç Café as this area. Because this area is the most important meeting point and usage rate is very high. The main purpose of this study is to ensure that all students, staff and visitors who use this region in their spare time are interested in and learn about plants. .Also the aim of this study is to turn study site into a live woody plant laboratory. In this way, landscape architecture students will be able to learn these plants on site by studying each season. The study method is based on territory research, examinations, analyzes and literature research. As a result of the study, woody plants in the area were identified at the family, genus and species level and labels were prepared and hung.

Keywords: Canakkale Onsekiz Mart University, Terzioglu Campus, Arboretum, Campus design

Note: This work was supported by Canakkale Onsekiz Mart University The Scientific Research Coordinations Unit, Project number: 2480.

What Children and Parents Want from Streets for Children's Independent Walk to School: Bornova Case (Izmir)

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Presentation Preference: Oral

Abstract 09
At increasing level in urban areas, children have passive lifestyles. Besides the increasing number of car ownership and decreasing size of public open spaces in contrast to technology-driven and attractive in-door activities, parents' threatened sense of safety about public spaces limit children's outdoor activities. Meanwhile, a practical way to adopt outdoor physical activity in children's daily life is expected to enable them to commute to school by walking. Yet besides this assumption, this study relies on the argument that children's expectations about their environment should be investigated to develop design policies about children's open space use. This study compares children's to their parents' perceptions and expectations about children's independent walk to school and about public spaces and streets they want. Driven from our surveys with 244 students (8-11 years old) and their parents at two schools of two neighborhoods in Bornova (Izmir), we analyze the results in terms of perceived distance to school, safety (with vehicular traffic, strangers vs. crowd, kind of land uses) and landscape and aesthetic elements at streets. Study findings underline that there are differences between children's and parents' perceptions and expectations about physical characteristics of school surroundings and open spaces. While parents concern mostly about child's safety due to people and vehicular traffic, children want mostly accessible (e.g. wide sidewalks), "aesthetically" attractive and "fun" streets and more parks and trees on the way to their school. Considering these differences, we propose certain design solutions for safe, aesthetically attractive and fun open spaces in school surroundings.

Keywords: Children's walk to school, Parents, Perception of Open Spaces

Design Proposal Model for Improving Rıvers with Phytoremediation Method

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Presentation Preference: Oral

Abstract 10
Discharge of heavy metal-containing wastewater caused by industrialization and urbanization has led to significant deterioration in aquatic ecosystems. In recent years, the restoration of ecological balance by natural methods; facilitated adaptation, reduced costs and at the same time increased sustainability. It is known that phytoremediation method is used frequently in artificial wetlands and it has been designed by using phytoremediation method which is a natural treatment system for the treatment of streams with water surface.

Keywords: Phytoremediation, Wastewater, Streams

Evaluation of User Perception Regarding a Municipal Urban Design Scheme: A Study in Gönyeli, Cyprus

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Presentation Preference: Oral

Abstract 11
Urbanisation and cities are expanding across the world. Due to rapid urban expansion structural and biological homogenization increases within the cities. Therefore, urban planning and urban green spaces are becoming key concept for sustainable cities worldwide. Accordingly, it is known that user perception, user satisfaction and citizen participation are significant and valuable dynamics for sustainable urban planning. Within this framework, a user survey was conducted within the Nicosia district (Gönyeli area), Cyprus. A random sample of 60 residents was chosen for the user survey. The aim of this research was to investigate the local people`s satisfaction and awareness on recent new urban design implementations within the area. Particularly, local people`s awareness of tree plantations along the main street was investigated during this research. The results showed that 66% of participants were satisfied and aware of urban afforestation and other urban green areas with the shade effect of the trees and the improved quality of life. However, 26.6 % were not satisfied with new plantations and 6.6 % were not sure about the new plantations along the main street. Survey results indicated interesting attitudes of residents. Therefore, this survey can be preliminary research in exploring the potential of green areas on urban social well-being in Cyprus.

Keywords: Street Trees, Urban Area, Afforestation, Residents, Satisfaction, Cyprus

Investigation of Ancient Settlements in Bayramiç District in terms of Rural Landscape

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Presentation Preference: Oral

Abstract 12
This study was carried out in the district of Bayramiç which is located within the area surrounding the Kazdağ (Ida Mountain) in east and southeast directions and Bayramiç-Ezine plain where Menderes River passes through in west and northwest directions. This area was selected as the research subject considering the continuity of the settlement existence, cultural activities and the rich forest resources of Kazdağ (İda Mountain) where each of these factors constitute the potential importance of the region from ancient period till present day. In this study, the ancient settlements of Bayramiç region; Skepsis (Kurşunlu), Kebrene (Çaldağ) and Gergis (Karıncalı) which were located in the region so called as Inner Troas in the antique period, have been investigated.These ancient cities, were located on the ancient road starting from Çanakkale (Abydos) and passing over Kazdağ to Altınoluk (Antandros). In the antique period, each of these three cities minted their city coins. Furthermore, the cities of Skepsis and Kebrene were also found important due to fact of their membership in the Attica-Delos Marine Union. In this study, it is aimed to reveal the importance of the natural and cultural values of Bayramiç region by means of benefiting with conservation, and furthermore raising awareness in order to be able to contribute towards the development of the region. For this purpose, in this study, literature review and field studies with on-site investigations were conducted, the location of the ancient cities and the characteristics of their environment were determined, and recommendations were further made.

Keywords: Çanakkale, İda mountain, Landscape conservation, Cultural landscape, Rural development

Indicators of Naturalness and Landscape Preference

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Presentation Preference: Oral

Abstract 13
Naturalness is one of the key concepts suggested in landscape preference research and is described as the state of the landscape which is natural or perceived as natural. It's been recently determined by many researchers that perceived naturalness has important positive effects on human health and landscape preference. Users prefer environments that are perceived as natural to the other ones. Understanding what the demands and the expectations of the users from a landscape is important in terms of answering the question that which qualities of the landscape can meet the needs of the users. In this paper, the indicators of naturalness which had been developed in a recent research based on a literature review and the findings of a field study have been explained and discussed. Each of these indicators focuses on different aspects of the landscape significant for the concept of naturalness in landscape design. The indicators of naturalness developed can guide the designer in the design stage as well as forming a basis for systematic and objective assessments.

Keywords: Naturalness, Indicators, Landscape preference, Landscape design, Landscape assessment

Role of Natural Environment as Stimulating Outdoor Play Space for Children – A Study of Bhopal, India

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Presentation Preference: Oral

Abstract 14
Play is the origin of all learnings in children, it lets you explore, discover, take risks, fall, succeed, become spontaneous, creative and test many other capabilities. Furthermore, as playful activities are fun and purposeless, they significantly contribute to their physical, social, cognitive and emotional development. To be able to play freely is the right of every child. But in the present scenario of rapid urbanization, increased traffic, pollution, crammed spaces and other hazards have diminished their access to natural outdoor environs. This has led to ignorance of quality and dedicated playspaces. As a result, they are forced to play in poorly designed grounds that are often hammered with repetitive equipment which leads to a rigid and monotonous play patterns. It has been found that the children have affinity towards natural elements and it nurtures their overall growth. As nature unfolds its complex and unexpected experiences of rain, waterfall, wind, birds, mud splashing and leaves falling, it sparks curiosity while it provides an arena to play. Every child responds in multiple ways to these interactions with nature, and hence creates a plethora of opportunities to enjoy and learn innocently. This paper aims to study these natural relationships and prospects it creates for a 'quality' play that can accommodate a child's needs and behaviour. The methodology for this research includes qualitative analysis (behaviour mapping, photo projection) and quantitative survey (social questionnaire). This study shall become the basis for the landscape architects to design play spaces integrated with natural environment.

Keywords: Playground, Quality play, Children, Nature, Landscape design

Ecotourism Strategy with Multi-Criteria Decision Making in Iznik

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Presentation Preference: Oral

Abstract 15
Iznik is ancient Greek, Roman, and Byzantine city of Nicaea with natural and cultural landscape values on the southeast of Marmara Region in Turkey. It was one of the main important cities Hellenistic kingdom of Bithynia, Byzantine and Ottoman periods respectively. The area is also reputable with its lake, historical walls and gates, ceramic tiles, agricultural activities, ancient churches and early periods mosques, hence part of it was declared as different type of protected areas. However, recently, there are number of unsuitable management and economic activities proposed for the area such as villa settlement, changes of protection status, unplanned construction of lake areas, uncontrolled immigration from Istanbul and unsuitable tourism strategies. The basic premise of this research is that ecotourism could be a more sustainable activity for Iznik. Ecotourism is a well-known sustainable tourism strategy for providing balance between ecology and economy in the ecologically and culturally rich landscapes that have also tourism potential. The aim of this research is to define ecotourism criteria for Iznik and offers ecotourism strategies for ecologically and culturally sensitive landscape areas. To reach our aim, SWOT and multi-criteria decision-making method is used that is derived from the surveys and interviews with locals and experts. This research proposes a framework by using priority-ranking method for development of ecotourism strategies of Iznik. The findings can be an example for sustainable tourism development for other ecologically and culturally important areas in Turkey and other countries.

Keywords: Ecotourism, Multi-Criteria Decision Making, Priority Ranking, Swot, Iznik

Understanding the Role of User-Spatial Relationship in an Assisted Living Centre: A case of Durgapur, India

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Presentation Preference: Oral

Abstract 16
An assisted living center is a residential facility for old aged people who cannot choose to live independently. A typical resident would usually be a senior citizen who prefers companionship and need assistance in day to day living. The ailment considered for research are memory impairment and patients with terminal illness requiring end of life care treatment. Hence there is a need for customised spaces for patients depending on their physical and psychological conditions. Such customisation can be achieved by developing a patient-space-cure relationship matrix. A connection between patients and spaces, can either be of passive or active order. It has been widely studied that natural garden passively cures by simulating sensory organs to experience spiritual value. Social corridor and common areas cure actively and encourages physical participation and interactions between patients, which not only engage mind but has significant impact on health. Both these active and passive approaches strengthen mind, body, spirit of an individual to create physical and mental balance. This paper proposes a framework for designing an assisted living center by understanding user-spatial relationship along with site analysis followed by built form evolution. The aim of the master plan hence generated shall be to provide a set of design guidelines based on parameters identified for developing old age home in future.

Keywords: Assisted living, Integrated open spaces, Natural environment, User-spatial relationship

Change Process of Forms in Landscape Design from Past to Present

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Presentation Preference: Oral

Abstract 17
Every period and civilization has natural and cultural factors that influence the design elements. However, there is also an aesthetic understanding adopted by societies. Especially the lines that change / transform from time to time, maturing sometimes with contrasts and sometimes with similarities create the design forms. These forms are undoubtedly influenced by the design movements in the historical process. However, while developing the aesthetic understanding of the societies, the symbols specific to their culture and their reflections on the details of the architecture and exterior spaces are seen.
In this study, the changes in the art of shaping nature throughout human history have been revealed and the reflections of human and nature relations on space have been examined through various project examples. Factors in the process of transition from geometry to organic forms were researched. Thus, the change of aesthetic perception has been observed over the years.
Within the scope of the study, how the psychological changes of the societies as well as the physiological changes of the cities that constitute the design forms are examined through the examples of model, adapted, or applied design. By making abstractions on these examples, design transformations over time are given in a linear manner. The inclusion of this study in the literature will contribute to the other studies.

Keywords: Aesthetic, Form, Design movements, History of landscape design

Aesthetical and Ecological Functions of Green Interfaces in Spatial Design

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Presentation Preference: Oral

Abstract 18
Spatial interfaces are the elements that establish and link relationships between spaces. Interfaces, which can be either indoors or outdoors, but also between indoor and outdoor, have an important role in the relationship of the building with the city and the citizen. The interface represents the area formed between the building and the urban space and has a volumetric characteristic besides being planar. One of the innovative design applications to increase human-nature interaction in urban space is green interfaces. Green interfaces have both aesthetic and ecological functions as perceived elements in the transition between spaces. Green interfaces have a variety of names such as vertical garden, green surface, living wall, green wall, bio-surfaced wall, green pier, landscape wall. In addition to the positive effects of the green interfaces on the visual perception of space, there are also positive ecological effects in terms of reducing urban heat island effect, improving indoor air quality, increasing energy efficiency, increasing biodiversity and reducing noise. Green interfaces as important components of sustainable built environment have positive functions in terms of urban ecology, building ecology and human ecology and thus, improve the quality of life in the built environment. In this paper, the aesthetic and ecological functions of the green interfaces, which have become an important element in spatial design, will be presented in detail.

Keywords: Green interfaces, Spatial design, Human ecology, Building ecology, Urban ecology.

Accessibility Measurement of the Proposed Park Locations at the Redevelopment Plans of Buca, Izmir Using GISs

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Presentation Preference: Oral

Abstract 19
Commonly, there are 'park rich and 'parks poor' areas in the cities as well in residential neighborhoods, whereas ideally we want neighborhood parks in walking distance to dwellings. However, decision-making processes for allocation or spatial distribution of parks do not always result in accessible parks for all groups even of the same neighborhoods and might lead into spatial inequities. This study argues that prioritizing "need-based equity" in the spatial distribution of parks not only at city-scale but also at neighborhood scale is necessary to decrease spatial inequities related to accessibility to public green spaces. Moreover, this aim is attainable even before implementing development plans of neighborhoods.
At the "park poor" neighborhoods with highest population of Buca districts in Izmir, we propose how to use GIS tools to evaluate the proposed park locations at the Redevelopment Plan of these neighborhoods and then re-propose new locations of parks (if necessary) that could improve spatial equity at neighborhood level. The study differs from majority of studies abroad that focus on spatial distribution of parks at urban scale. New to the literature, this study aims at park location-allocation modelling at neighborhood scale, while considering physical (topographical, land use and transportation networks) and population characteristics of selected neighborhoods. We deploy in particular Location-Allocation method by heuristic algorithm. Moreover, the ways of location-allocation analysis is important in achieving the limitations of data about public green areas and population characteristics at spatial scales smaller than neighborhood level in Turkey.

Keywords: Spatial Equity, Location-Allocation, Geographic Information Systems

Water-wise Mediterranean Landscapes: Learning from the Botanical Dry Garden at Orbetello (Tuscany, Italy).

Paolo Camilletti

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Presentation Preference: Oral

Abstract 20
In the recent decades, public and private landscaping in Italy has been affected by changes in climate conditions, which resulted in altered seasonal conditions such as irregular precipitations and tropical-like storms. Nevertheless, the Mediterranean summer drought is still featuring most of the peninsular areas. Water scarcity and irrigation bans require a shift in landscape planting and design, in order to meet these pressing needs through resilient and aesthetically performant green areas. The present paper aims to delineate the main factors influencing contemporary landscape design in Mediterranean regions and to discuss sustainable approaches and solutions to address the mentioned phenomena.
The case study of the Botanical Dry Garden near Orbetello (Grosseto) highlights the main research topics of Xeriscaping applied to the Mediterranean context. Located in the hilly Tuscan Maremma – a representative area of the phytoclimate Warm Lauretum - it was conceived as a demonstrational garden of the Mates Plant Nursery, and progressively landscaped in 4 hectares with a collection of approximately 1,500 species and cultivars. Horticultural research has developed innovative cultivation devices to enhance the root apparatus, delivering higher stress-tolerant plants. The planting palette is purposely restricted to xerophytes and xero-tollerant species, from Mediterranean and Mediterranean-like regions, even suitable for replacing conventional graminaceous lawns. Plant grouping reflects their cultivation requirements, whilst layering exploits the benefits of plant association in relation to light exposure and winds. Functional zoning, mulching, wise choice of permeable materials foster sustainability. Lastly, art works and sight lines link the Dry Garden's identity to the surrounding inspirational landscape.

Keywords: Dry gardening, Mediterranean gardening, Xeriscaping, Sustainability.

Evaluation of Hail Precipitation in the West Black Sea Region of Kastamonu within the Framework of Climate Change Forecasts

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Kastamonu University

Presentation Preference: Oral

Abstract 21
The use of fossil fuels which began with the industrial revolution continuously increases the concentration of greenhouse gases held in the atmosphere. The increase in the amount of these gases causes climate change and endangers the lives of all living things. Climate change is one of the biggest problems facing living things nowadays. To combat the negative effects of climate change; various studies on global, regional and local scale became compulsory. According to climate change forecasts and studies for the Black Sea region; precipitation will increase. unexpected weather events will occur. Kastamonu is the largest of the 9 provinces in the Western Black Sea basin with a rate of 25.6% In 2018 and 2019. rainfall occurred in some districts of Kastamonu province which caused great damages. Although these precipitation vary seasonally; caused unexpected material loss land degradation and injury to living things. In this study the data obtained from Kastamonu Provincial Meteorological Directorate and AFAD data were evaluated. The status of the hail from past to present and the compliance with the situation of the predictions in regional projections were evaluated.

Keywords: Climate Change. Black Sea Region. Hail Precipitation

The Scenery of Lesbos: Natural Environment and Cultural Reference

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Presentation Preference: Oral

Abstract 22
This paper aims to find out the character of Lesbos island's scenery. Initially, our research investigates the concepts of 'landscape' and 'place identity' in order to develop a theoretical background, which defined our approach of Lesbos' scenery and set two perspectives and dimensions of it; the imaginary and the real one. The imaginary character of Lesbos consists of local myths, literary sources, visual references and film productions related to the island. The approach of the island's landscape through the field of arts, is dominated by great artists, such as Sappho, Alcaeus, Longus, Theophilus and Elytis, who were born there and contributed significantly with their work to the formation of the Western civilization, while simultaneously praised the beauty and uniqueness of their homeland. At the same time, an attempt was made to investigate the physiognomy of the real landscape of Lesbos, through a cartographical analysis, which tried to highlight its multifarious cultural identity. Thus, a total insular monumental landscape was revealed that consists of the combination of a diverse natural background and a remarkable historical palimpsest, caused by the multicultural, human-induced intervention on the island. The contradictory scenery of Lesbos, just like eros, is governed by the coexistence of euphoria and ferocity. Among the unique characteristics of significant value of the island's identity are the sensuality, the gender equality and the sexual and physical freedom in accordance with nature, which are especially presented in the ancient novel "Daphnis and Chloe" and in the poetry of Sappho.

Keywords: Lesbos, Scenery, Culture – civilization, Realistic and imaginary perception of landscape, Insular monumentality

The Role of Golf Courses as a Basic Element for a New Culture of Conservation, Development and Enhancement of the Landscape

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Presentation Preference: Oral

Abstract 23
Golf courses are transforming elements of the landscape of the area in which they are inserted, since they require a considerable soil surface and a scarce resource such as water. On the other hand, agricultural activities are also based exclusively on a territorial basis and require the same resource and phytosanitary treatments for their development. Therefore, criticism of the construction of golf courses responds to environmental concerns or social connotations. The implementation of golf pieces can have positive impacts on the territory and contribute to their preservation, such as the recovery of aggregates, the increase and diversification of fauna, the use of wastewater, etc. But in addition, it can bring into play resources that had not been used until now, reactivate degraded areas or anthropized areas with little development. They can also value heritage elements and contribute to the development and improvement of a specific landscape through actions that respect the topography and endemic species. To do this, we must start talking about a new culture of the territory around the implementation of golf courses to understand them as new opportunities for landscape projects.

Keywords: Golf courses, golf course implantation, territorial development, landscape integration

The Plain and the Mountain – The Landscape of Settlement in Israel and the West Bank, and its Cultures.

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Presentation Preference: Oral

Abstract 24
To address current global challenges - political extremism, climate change, economic inequality - landscape architecture must go out into the regions of the states and the land itself.
Since the iron age and until the 19th century, Jewish settlement in Israel has mostly been in the mountain ridge. As in Fernand Braudel distinction, it was mostly a traditional, local, rural culture. In contrast, with the beginning of Zionism, settlements began in the coastal plains, as Jewish immigrants came from an internationalist, traders culture.
The character of the landscape affects the character of society – as the modernist ideals "touched the ground" with agriculture, the view was lowered from the horizon to the soil. Culture and landscape architecture evolved from "ordered" in-front of the "natural" expanse - to "natural" in-front of the settled, ordered expanse.
After 1967, settlement came back to the mountain. The international became local again, liberal ideology transformed to territorial religion, green revolution agriculture turned organic and traditional, modernist landscape architecture devolved from cultural-natural to wild. Now that the external horizon of the mountain was settled and internalised, society and its landscape are no longer outward-looking but are in Vico's "barbarism of reflection".
We formulate options to come back to the plain and its culture. Based on this kind of research, we do applied analysis for NGOs regarding future territorial solutions in the West Bank, towards a peace agreement.
The aim is to advance a geopolitical, regional landscape architecture, and its applications also on a smaller design scale.

Keywords: Regional Landscape, Geopolitical Landscape, Territorial Agriculture, Territorial Religion, Settlement

Interactive Landscape: Understanding Criteria by Landscape Qualitative Assessment

Neda Farsıastaneh

Presentation Preference: Oral

Abstract 25
In the present day, considering the importance of man and the dramatic changes in technology and its subsequent changes; the discussion of interactive art was introduced as one of the new topics, which, on the one hand, utilizes the interaction of audience interaction in order to interpret the display and on the other hand, by insisting on the active participation of the audience in changing the show, it reveals the independent existence of the same species to us. The more accurate recognition of this kind of art in terms of the importance of the audience in the formation of a desirable landscape is not blessed. Therefore, recognizing and defining the interactive landscape and determining its characteristics in order to improve the conditions is very important due to lack of attention to the type of beneficiary's interest in the context of contemporary view. The open spaces that human beings face in the city as one of the places that play an important role in human communication with the environment is considered as matching the characteristics of the landscape. Improving the quality of these landscapes is important to respond to the needs of the audience, hence its qualitative assessment is currently under consideration. In the process of doing this, identifying effective indicators in the assessment of the urban open spaces and defining the interactive landscape and how it effects on improving the quality of urban spaces is addressed. To achieve this, there is a need to review the past, review today and build a model for the future. This is an applied research that will be carried out with qualitative approach through descriptive-analytic method. The method of collecting information is a library, along with observations and interviews from experts and ordinary people, which can be achieved by matching the results of the related model. Presenting patterns in a direction that allows management and planning operations to align the characteristics with the landscape.

Keywords: Interactive Landscape, Urban Open Spaces, İmproving The Quality, Assessment Of The Landscape

Imagining homeland
-Imaging and imagining a rural landscape in North western Ghats, India

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Presentation Preference: Oral

Abstract 26
Here homeland refers to rural landscapes of India that are lands of stories, of people and their associations to a deep-rooted culture that is closely knit to their natural settings providing them their cultural identity. The focus of the paper is to draw a spatial procedure for reading and abstraction of one/many idea/s of homeland with in such contexts. Two rural settlements with very distinct human geographies nestled in the northern foothills of the greater system of mountains known as Western Ghats in the south west coast of Indian peninsula is chosen as the study area. The study develops specific methods for imaging and imagining this rural context and its present day complexities through readings of the place, people and their existence. This is articulated through thematic maps, narratives, motifs and transects depictions. The learning from this process is then advanced to develop a collective vision to strengthen the idea of homeland for these villages. It further details the collective vision through landscape proposals with strong empathy towards ecology, culture and community to generate innovative and sustainable methods of development that are deeply knitted to the traditional practices and systems that are unique to these contexts.
The process of the study involve developing specific methods and tools for deriving plausible landscape projects from a set of tangible and intangible aspects of the context and articulating a detailed procedure for spatial and systemic processes involved in crafting/ transforming an idea to a physical landscape using drawings as the representation medium.

Keywords: Western Ghats, Rural Landscapes, Identity, Alternate Livelihoods, Village Commons, Rural Planning

India International Convention & Expo Centre

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Presentation Preference: Oral

Abstract 27
The project India International Convention & Expo Centre in Dwarka is designed by IDOM as the result of the international competition organised by DMICDC in January 2017. The 900.000 m2 complex comprises a convention centre, an arena, exhibition halls, offices, hotels, commercial spaces and 600.000 m2 of open area. The objective of the project is to represent the plural and diverse culture of India while creating an international and state-of-the-art complex. In parallel with the architectural proposal, the open areas of the project reflect the Indian landscape culture and local art practices with a modern and sustainable approach. The proposal has been structured creating green corridors, named as Eco-lanes, which serve as breeze passageways freshening the air through the local vegetation planted in them. Mirror water features, inspired from Jal Mahal in Jaipur, are located around the Arena to enhance it as an iconic element. The design of the Main Boulevard is based on a geometric pattern organising water elements and colourful parterres and resembles the gardens of Taj Mahal. The Main Boulevard emphasising the central axis of the project, leads to several plazas which contain special paving designs reminding mandala drawings. Green roofs above the exhibition halls are one of the signature elements of the project and its vibrant design takes references from the traditional Rangoli art. With these specific features, the projectserves as a model in terms of representing the local culture and sustaining it through landscape design by using contemporary design approaches, recent technologies and materials.

Keywords: Landscape Design, India, Local Culture, Sustainable

Life Quality-Promoting Impact of Water in Landscape

Shina Sad Berenji

Presentation Preference: Oral

Abstract 28
This paper seeks to discover factors related to water in landscape as a source that promotes peoples well-being physically and mentally. Different quality-promoting landscape characteristics are discussed. This study has been done by the descriptive method of content analysis and with the qualitative approach and by gathering information through library and documentary methods. A set of meaningful pathways that link water in landscape and quality of life have been identified. Water in landscapes has the potential to promote quality of life through attention restoration, stress reduction, and the evocation of positive emotions. This paper allows us to describe the potential of water in landscape as a resource for planning in an efficient way to enhance characteristics of quality. A suggestive framework is presented that can be utilized in landscape planning and design.

Keywords: Quality of Life, Water, Landscape.

Urban-Landscape Continuum: Architecture As Metabolic Organism In The Environment To Tackle Climate Change.

Selenia Marinelli

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Presentation Preference: Oral

Abstract 29
Facing the increasing consequences of climate change and the ecological crisis, architecture can play a crucial role within this new anthropocenic paradigm. In fact, researchers currently recognize human activity as a geological force, able to compromise terrestrial biosphere equilibrium. For this reason, we need to rethink the urban fabric in its metabolic relation to the environment and to perceive it as a complex hybrid nature, generated by the urban-landscape continuum. Hence, as designers we need to challenge our design strategies. We should ask ourselves: can we think about our future cities as living organisms interacting with the biosphere in a mutualistic and non-parasitic way? Along with a theoretical framework, the paper will present some academic results representing an attempt to raise awareness on these topics also among the students in the architectural design lab class at the School of Architecture "Sapienza" - University of Rome.

Keywords: Climate Change, Nature/Culture, Metabolism, Ecopoiesis

Sustainability and Social Inclusion Through Urban Catalysis

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Presentation Preference: Oral

Abstract 30
The city and the concept of public space evolved in the last century. Most of the successful public spaces of today are made, envisioned, designed, and realized not as sole entities, but as integrative components of an organism. The notion of what makes a successful public space is a topic worth investigating in the urban framework. What can this describe the present, even about future urban space? As architects we need to go beyond movement to think about what growth, expansion, and contraction can influence the urban tissue. According to Attoe and Logan, the notion of Urban Catalyst is an attempt to reopen the debate on strategies and tools to activate and rethink urban space and city development. This research would attempt to examine the significance of the urban catalyst as a means of urban revitalization. Bohannon, (Bohannon, 2004) states that the urban catalyst theory can be linked to place through the study of contextual factors in urban design. These factors include morphological, social, functional, perceptual, visual, and temporal points of view. For the urban catalyst to respond to its setting, it also must possess a strong sense of place and authenticity. The intent of this research is to serve as a prototype for demonstrating and testing the position and design process in the case of catalytic interventions. The methodology that will be applied has as an analysis point a serious of public spaces in the city.

Keywords: Urban Design, Urban Catalyst, Public Space, City Transformation

Architectural Analysis of The Shrine, A Symbol Social and Spatial Interaction.

Dr. Joana Dhiamandi

The Odeon, Tirana's Bektashi Tekke

Presentation Preference: Oral

Abstract 31
This paper tries to investigate and understand Tirana's Bektashi Headquarters, the Bektashi Tekke which hold great importance in the Bektashi community. The Tekke inhabit a vital position in the cultural and social as well as religious and culture life of rituals, Saints, traditional belief, sounds, trance, dance, music in ethnic healing, and spiritual illness/disease. It is not only a place of faith and devotion based on Sufi shrines but a place where Muslims and non-Muslim take part in happiness activities together. The design and architecture of the Odeon have local as well as worldwide influences, representative spiritual, belief systems, economic, and aesthetic dimensions of Bektashi and Islamic social institute. Centered on an ethnographic and architectural illustration, this research aims to highlight the use of Sufi Shrines space and the architectural qualities of this distinguished Tekke. In addition to the discussion of the architectural aspects it is very important to discuss the socio-spatial interactions of the Tekke, and appreciate the fact that majority of the people and visitors do not have belief systems upon the blessings of Bektashi, and they visit shrines to fulfill their social, economic, physical, mental and spiritual wishes. In the case of the Odeon in Tirana, this place accomplishes more than religious rituals but also serves as a gathering point for the city.

The Impact of Public Art on Urban Open Spaces

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Presentation Preference: Oral

Abstract 32
Public art is the physical form of artistic expressions produced in urban open spaces such as streets, squares and parks. Art products produced in such urban open spaces contain features that affect individuals, stimulate their emotions and attract their attention. Thus, these products ensure a connection between people and the space. This relationship could help transfer the space into a place, improve the quality of the place, create a sense of place, lead to high-occupation and lively places, and establish social relationships among people. Therefore, public art allows the changes in the space and physical changes in the space, improves the quality and aesthetic value of the space, as well as improving the sense of community, social relationships, avoiding social exclusion and meeting the social requirements. Thus, there are several important correlations between public art and urban open space that require further investigation. Only a few studies, however, have acknowledged the critical relationship between urban open spaces and the art built into these spaces, and therefore there is a lack of evidence to support these claims. The present study aimed to contribute to the gap in the literature through determination of the relationship between the occupant, urban open space and art with an experimental approach. Thus, occupant views on art examples available in urban open spaces were obtained. As a result, it was determined that the places where public art is available tend to be occupied at a higher level and strengthen social relations.

Keywords: Urban Open Spaces, Public Art, Sense of Community

Change Detection in Urban Area Using Landsat Images Satellites, A Case of Study in Gaziantep

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Presentation Preference: Oral

Abstract 33
Arid and semi-arid regions have different spectral characteristic from other regions. Therefore, indices have been developed in order to eliminate confusion between built-up and bare land classes in land use/land cover classification in these regions. In this study, in order to increase the accuracy of change detection in Gaziantep city which has semi-arid climate, different indices have been compared. The aim of this study is to determine the variation of built-up/bare land boundaries with urban indices in Gaziantep, which has a semi-arid climate. For this purpose, Landsat 5 TM and Landsat 8 OLI images of two different dates (1985 and 2018) were used. The normalized difference built-up index (NDBI), Enhanced built-up and bareness index (EBBI), and spectral bands were compared, it was evaluated according to binary change detection method. In order to detect the change with high accuracy, respectively 2 σ (81.37%) and 1 σ (80%) thresholds were found appropriate for blue band and NDBI images.

Keywords: Change detection, NDBI, EBBI, Image differencing, Gaziantep



ABSTRACT for
POSTER PRESENTATION

Research for Making Life Better

Land Surface Temperature and Urban Indices in Response to Land Use/Land Cover Change Using Multi-Temporal Landsat Images in Gaziantep, Turkey

Muge Kulahlioglu[1], Sevim Yasemin Cicekli[2], Cenk Donmez[1] & Suha Berberoglu[1]

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Presentation Preference: Poster

Abstract 01
Rapid urbanization in Turkey has attracted the attention of researchers from different countries and regions due to its potential influence on the environment and local climate. In this study, Gaziantep City was chosen as a research site to demonstrate the process of urban expansion as well as the associated land surface temperature change in a long time period. Multi-temporal Landsat TM/ETM+ satellite images acquired in September in 1985, and 2018 were used to document changes in land cover and land surface temperature (LST) using the thermal image processing. Also commonly used urban indices namely normalized difference built-up index (NDBI), index-based built-up index (IBI), urban index (UI), and enhanced built-up and bareness index (EBBI) were utilized to extract urban areas. Results showed that Gaziantep rapidly expanded over the study period, with urban area replacing soil and vegetated land. Increasing LST was mostly due to the conversion of LULC change with likely negative consequences for biodiversity and local climate change.

Keywords: Land Surface Temperature, Urban Indices, LULC, Gaziantep

Evaluation of Planting Design of Ankara University Tandogan Campus

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Presentation Preference: Poster

Abstract 02
Tandogan Campus of the Ankara University, which is the first of the Republic era and Turkey's 3rd University, was founded in 1943 with the opening of the A.U. Faculty of Science. Today, there are buildings belonging to Rectorate and various units affiliated to the Rectorate, Faculties of Science, Pharmacy and Engineering and the Nuclear Sciences, Social Sciences and Biotechnology Institutes in the campus area. The structural and vegetal landscaping of the campus, which also includes registered structures, started in the first period and continued until today. Especially natural and exotic species planted in the early periods and reached to the present day add value to the area in terms of history and culture. There are species registered as cultural assets in the field, such as *Pinus griffithii* McClelland, *Cupressus arizonica* Greene, *Abies nordmanniana* (Stev) Spach., *Juniperus virginiana* L. In 2016, the plant existence of the site was determined within the scope of the project titled as "Establishing the Plant Survey and Inventory of Ankara University Tandogan Campus" supported by Ankara University Scientific Research Projects. While in this study, Ankara University Tandogan Campus planting design was evaluated in terms of species diversity as well as; wind control, noise control, image control, orientation, limitation, siege, shielding, shadowing, linking, highlighting, background forming, softening, vision framing and visual appeal functions, and suggestions were developed.

Keywords: Ankara University Tandogan Campus, Planting design, Campus planning and design

Agriculture In The Ziban: From Oasis Agriculture to the Greenhouses Development Biskra Region (ALGERIA)

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Presentation Preference: Poster

Abstract 03
Algeria is a country known for its agricultural vocation as it is rich in natural resources and skilled labour with know-how in the agricultural field, but unfortunately it is one of the countries suffering from a food deficit, Despite all the efforts made, all the policies outlined and all the means put in place to achieve better production and food self-sufficiency; this sector still remains very far from the objectives outlined and the desired performance. In recent years, greenhouse has proved its success, especially in the long-established Biskra region, through three main agricultural activities, namely Date Palm, sheep farming and cereals, but in the last thirty years this region has undergone a production system mutation with the greenhouse crops appearance and development. This has enabled it to become a leader at the national level by supplying a large part of the Algerian market with agricultural products out of season, and ensuring the consumers' needs throughout the year. Our contribution aims to take stock of the situation and state of play of greenhouse crops in the Biskra region through a technical-economic approach, making it possible to identify the obstacles that prevent the development of this sector; as well as to demonstrate the different strategies put in place to face the problems encountered, to maximize production and profit by the actors of this sector and to exploit their opportunities.

Keywords: Greenhouse Crops, Production System, Biskra, Strategy, Obstacles, Self-Sufficiency.

The Use of Planted Filters By Macrophytes For The Industrial Wastewater Treatment

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Presentation Preference: Poster

Abstract 04
The environment is a key element of survival, but it is dangerously affected by human activities and especially industrialization. The ecosystems are relatively degraded, the aquatic environments are soiled, the waste is poorly recycled and wastewater is used without any prior treatment. This last use poses a serious environmental problem because of the pollutants contained in the wastewater, such as toxic substances, pathogens and organic and inorganic pollutants. Currently, chemical pollution is a major concern for serious risks that it can cause and among the most dangerous chemical pollutants are heavy metals. These elements are toxic to humans, animals and plants because they are non-degradable, persistent and difficult to remove once incorporated into the environment; also, Nitrogen pollution imbalances the water nutrient balance causing an aquatic environment modification and rendering it anoxic. In the context of environment protection and preservation, studies have been carried out and techniques have been adopted to eliminate the various pollutants and to clean up contaminated ecosystems. Phyto-purification "The use of plants and their associated micro-organisms in root systems for environmental remediation", presents a noninvasive, a cost-effective and an efficient technology. macrophytes showed great plasticity of structures, morphology and behavior in aquatic systems; they are therefore used for the decontamination of polluted aquatic ecosystems. The main objective of this study is to evaluate and assess the efficiency of planted filters with macrophytes on their ability to remove chemical pollutants present in industrial wastewater including nitrogen and heavy metals. Results obtained confirm the interest of using the planted filters in the framework of industrial wastewater treatment.

Keywords: Environment, Chemical pollution, Phyto-purification, Macrophytes, Industrial wastewater.



International Journal of Landscape Architecture Research

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