

## Scientific conference - 2017

### 1. „The academic space of architecture - the phenomenon of thinking personification“

Associate professor Medea Melqadze

#### Annotation

The aim of the report is:

- To implement fixing of two spaces of architectural activity: creative – practical and the academic-creative conceptual points and to solve phenomenon of their interaction.
- To find out the place of architectural scientific base in academic space of architectural learning, which will give us an opportunity to evaluate phenomenon of talent and experience of creator-personality with scientific instrumentalities.
- The anatomy of the creative process. The cornerstone of our teaching method is: the analysis of the conceptual side of architectural thinking and its disintegration into cognitive vectors of the creative part of architectural work.  
–word and meaning - text and line, formation of thinking as a philosophical-poetic text-essay -and hereafter - essay - text - in installation, which represents a spatial projection of meaning – which is our method and resulted searching space.  
Talent can not be measured, but it is possible to put the young man right on the road by scientific analysis of pragmatic side of architectural creativity.

1st International Conference – IHE 2017; Internationalization in Higher Education: strategies and challenges

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### 2. „Teaching methods of "universal projection" in the educational space“

Professor Nino Imnadze

#### Annotation

The aim of this article is to understanding of the concept of Universal design which is currently relevant and new for Georgia. In urban culture universal design is a new way of thinking. Its purpose is to creation of equal conditions for all. The analysis is showed that in the XXI century, for full functioning of a modern society is impossible without the implementation of the concept of a barrier-free environment, which gives an opportunity to all categories of the people to realize the physical and don't virtual accessibility to facilities. The main barrier that can be found in universal design is the emphasis on typology and recurrence in creative thinking. Typology and repeatability in the creative thinking is the main barrier which will be appearing in universal projection. For this it is necessary to bring up professionals, raise awareness and training courses introduce in higher education institutions. In the facultys of Architecture in Warsaw and Gdunia Technical Universitise was introduced curriculum "Universal Designing" the training course for learning. The learning method is original. Based on simulation. The method was involves using wheelchairs and special glasses. The

analyze revealed that in the higher schools of Architecture in Georgia should be introduced similar course and adapt them to the specifics of Georgia.

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### **3. „Study of transformation peculiarities of factories’ and fabrics’ architecture of Tbilisi reality“**

Professor Nino Imnadze

#### Annotation

The purpose of this report is to study transformation peculiarities of dysfunctional factories and fabrics, which exist in urban environment of modern Tbilisi and to determine the prospect of their existence in the future. In the city structure, the industrial facilities, because of their appearance, are destroying harmony of urban space and create "dead spots" on the city map. Therefore, recycling process of dysfunctional old factories and fabrics and creating a new one, on their own basis, is the most topical direction of our modernity.

Analysis has shown, that industrial architecture can not use the entire potential in order to a cultural environment today. Transformation promotes integration process of the dysfunctional factories and fabrics in the urban structure. It should not be isolated and must be actively involved in social life. The transformation of industrial buildings and structures, is characterized by free experiments, fantastic fantasy, conceptual ideas, democratic cosmopolitanism and globalism.

Conversion of factories and fabrics territories and their architecture is a kind of laboratory for the world architecture development. Georgian samples are quite modest. However, they reveal conceptual solutions for organizing of new public spaces, which are adequate in our time and are dynamically developing.

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### **4. "Regionalism" and "internationalism" of tourist - informational centers in architecture (according to practices of USA, China and Georgia)**

Professor Nino Imnadze

#### Annotation

In modern architectural practice, trends of regional identity have been dominating with development of global tendencies. The theme – itself " Regionalism in Architecture" -has been expanded by professionals in theoretical and practical works, understanding and revealing of which has been changing gradually.

Therefore, architectural form, in which peculiarities of a region reveal the identity in global context, still remains an issue in architectural practice. Each nation should be striving for preserving its history, traditions, culture. Architecture, as a face of time, can act as a mediator in a dialogue between internationalism and traditions. According to the goal of article, we have analyzed regional approach of three objects of architecture having the same function.

Tourist –informational centers in so called Canyon "Red Rock", state of California, America, (Arch. Studio- Line and Space, 2011), village Pye Town, region Namchabau, Tibet, (Arch. Studio Standard Arch, 2008), village Gordi, region Imereti, Georgia (architect could not be detected. 2013).

Based on the analysis, we came to the following conclusion: despite the fact, that the above discussed objects, are vary from each other , they are based on the common principle, which we have attributed to a regional one, the adaptation of international tendencies with priorities of preserving historical legacy and particular attention towards human scale and context.

In the above mentioned objects, a new regionalism has been created, not as a style, but as a gamma of sensations, which is linked organically to specific place area.

Their specific characteristics are expressed in laconic architectural features. In some cases the source of inspiration can be an interpretation of traditional solutions (decisions) of facade plastic and proportions, creative understanding of historical figures and ornaments, the use of gamma of traditional colors for correlations with the environment, including live nature components in building structure, perceiving unique silhouette of the area and imitation of nature by inspiration of the nature itself, showing national identity and realization of "the spirit of the place" conception.

Ivane Javakhishvili Tbilisi State University Institute of American Studies

Georgian Association for American Studies The 18th Annual International Conference on American Studies Tbilisi State University, 2 th Building, Room 135

## **6. Problem of tradition in the period of Postfunctionalism**

Professor V. Davitaia; Doctoranr A. Bibilashvili

### **Annotation**

From the XX century "Functionalism" (New architecture, Modernism) universally managed world architecture and for forty years it was able to create architectural monotony in the world. It loses power and begins to find the ways to continue its existence. If in the initial period Functionalism conceptually denounced tradition, history and burned the bridges connecting to the past, it becomes more conciliatory and opens its doors to regional factors. It was revealed conceptual approach to tradition. It was principally different from the approach of the past years, when nationality was based on the simply interpreting of material cultural monuments. It was shown immaterial cultural factors, such as mentality of nation, traditions, "soul of place", mood, legend, poetry, folk creations, decorative art, folklore, and others.

Such was the general tendency, which revealed in the different ways in each country.

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## **7. THE PHENOMENOLOGICAL ARCHITECTURE STEVEN HOLL**

Associate professor M. Davitaia

### Annotation

Architect, rhetorician and artist Steven Holl's architecture often called as phenomenological. It's the architecture which considers human movement in space and his swamp into the multilayered experiment, where the space, color, geometry, aroma, sounds, surfaces and materials intercrossing. Phenomenologic should follow from the main idea, exactly similar to story of novel. Implementation of idea and its countercheck in architecture's impression is what you feel when you pass the building, how is moving the body, how it's interacting with other bodies, how the lighting, perspective, lines, sounds teaming-up. There is reviewed the phenomenological ideas of philosopher M. Merlo Ponti, which were the bases of Steven Holl's architectural concepts. There is presented the conjunction between the architecture and emotions or the phenomenological basis of design, phenomenological principles, which are concentrated in his works.

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## **7. Regarding Establishing Norms for Residential House Designs**

Professor N. Tevzadze, Associate Professor Q. Berekashvili

### Annotation

There is reviewed the issue of establishing specific norms for designing residential houses, that are interlaced with the independence of Georgia and consequently of national architecture. The analysis and generalization of a lay-out of particular building complexes, houses and amenities in the country are presented, with the objective of revealing their characteristics and developing recommendations for perspective design.

From that perspective, at this stage, a folk type residential dwelling referred to as „Oda House“ is reviewed. All of its details are carefully analyzed, and recommendations are made for establishment of a database.

There, a methodology of working on the issue. It involves the collaboration of interested specialists by the means of scientific-technical Journal led by the department of architecture, urbanistics and design of the Georgian Technical University.

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## **8. Renovatiov-rahabilitation approaches for internal courtyards of Vake and Vere districts residential blocks of Tbilisi**

Professor T. Makharashvili

### Annotation

There is considered expansion results of existing green areas in Vake and Vere districts. Principles and methods of renovation and rehabilitation for internal courtyards of Vake residential blocks are given as well, together with particular examples.

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### **9. „The basic principles of rehabilitation-reconstruction of residential areas of Tbilisi, of the Soviet period, built in the 1950s and 1970s**

Professor T. Makharashvili , Doctorant G. Khoperia

#### Anotation

There are considered the results of the study of large residential buildings in the 1950s and 1970s in Tbilisi, taking into account the analysis of parameters (the years of construction, the area of the territory, the population, the density of the housing stock and so on..) and, accordingly, some principles of rehabilitation and reconstruction of these residential areas were proposed.

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### **10. The problems of mountain resorts in Georgia**

Asso. Professor M. Melqadze

#### Anotation

In this article there is an attempt to present different vectors of Georgian resorts problems on the example of mountainous Adjara. The mountain region of Adjara consists of several parts. The sphere of our thinking Keda and Khulo municipalities.

Components of reasoning: 1. Overview of our selected area. 2. Bio-climatic analysis and zoning. 3. The list of types of tourism. 4. Fixing the current problems. 5. Conclusions and recommendations.

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### **11. Regionalism and its influence on the work of student design bureau at the faculty of Architecture of Georgian Polytechnic Institute**

Teacher T. Natsvlishvili

#### Annotation

The topic “Search for regionalism on the example of student design bureau of the faculty of Architecture at the Georgian Polytechnic Institute” is concerned with the problem of regionalism. Regionalism is not an architectural style, but a view and position changing and evolving in time and space. Regionalism is a striving for world of one’s own culture and national mentality, it is a new

rethinking of the centuries-old experience of people, and thus it carries permanently innovative artistic and aesthetic charge. There is discusses projects and realizations done at design bureau of the faculty of Architecture in GPI. The student bureau became a creative arena for students, young architects and teachers in 1970-1990. The projects and realizations of architectural bureau show a clear and original view of creative team behind them.

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## **12. “Greening of public consciousness”**

Professor G. Salukvadze

### Annotation

Reality indicates, that environmental problems cannot be solved if appropriate moral principles and traditional attitudes towards the nature are not changed, if there is not increased social responsibility of each person for activities affecting the nature, therefore actually raising public consciousness of environmental issues and relevant culture are of great importance.

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## **13. Fractal structures in urban planning**

PhD in Architect T. Tabatadze

### Anotation

Urban fabric of any plant is a fractal structure due to its systemic hierarchy. As a result of the "desirable" regular order and chaotic influence of different nature, real cities, agglomerations or smaller accommodation facilities are formed. Fragmentary vision and chaos theory is a modern instrument of modern research and prediction.

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## **14. VOLUMETRIC ARCHITECTURAL GRAPHIC ART AS A METHOD OF ARCHITECTURAL DESIGNING.**

Professor Z. Titvinidze

### Annotation

The article deals with spatial thinking and the role of its main mechanism, imaginary action in the creative process of architectural designing.

In order to organize architectural terminology in the Georgian language, the visualization instrument of the architectural product, “architectural graphic arts” has been differentiated as flat and volumetric constituents.

The article provides definitions of “modeling” and “models”, “maquetting” and “maquette” . It demonstrates the advantage of visualization of imaginary-spatial architectural images by means “plastic architectural modeling” over the linear architectural graphic arts.

An opinion is expressed, that plastic architectural modeling, as the integral part of architectural graphic arts represents one of the leading mandatory teaching discipline of the architectural specialty and that the attitude towards this subject should be dramatically changed in terms of increasing its role and scope.

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### **15. The syndrome of sick buildings**

Academician A. Prangishvili, professor G. Salukvadze, Doctoral student L. Pirveli

#### Annotation

According to experts of the world health organization, a city resident spends almost 95% of his time on the premises. Therefore, the degree of ecological compatibility of the internal and external environment of the building is among the factors, that significantly affect on health.

Already about 20 years in the world there is such concept as „a syndrome of sick buildings". Scientists - hygienists have come to a conclusion long ago, that many diseases are defined by quality of living conditions.

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### **16. Regional Chart of Resettlement of Georgia**

Architect V. Phrangishvili

#### Annotation

Regional Chart of Resettlement of Georgia – first document of the country’s spatial arrangement - was developed in the Project on City Building of Georgia (Sakkalakmshensakhproekti), in 1979. For certain reasons, this scheme is not known to the Georgian society. The article covers the analysis of the main provisions presented by the co-author of the Resettlement Scheme, which can be considered as a result of the work.

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### **17. Chamkhmusi Tetraconch (Geometric concepts of Architecture)**

Professor G Kipiani

#### Annotation

The monument is located in Tao-Oltisi region, near the well-known Bana Tetraconch, conventionally dating back to the VIII-IX Centuries. Nowadays, it is perceptible as a plan only. The researchers parallelize it with the monuments, such as Jvari Monastery in Mtskheta, which is correct, because some of its features are similar to Jvari monastery in terms of diagonal development of the space and its “pictorial” plan.

Its circumference takes large and small 32 facets i.e. 4,8,16 partitioning system of the circle. If we review the popular (Mtskheta) Jvari type temples in Georgia there is no doubt, that its original graphics – a free cross with diagonal development e.i Rosette representation, is maintained everywhere, unlike Armenian ones, which are seemingly the similar buildings, all of which without exception are strictly represented in rectangles.

There are many differences though: a primary geometric face of Chamkhushi Tetraconch is a geometric square (and not a rectangular one, the aspect ratio is 3: 4, which is evidenced by Jvari and Hripsime churches) and a cross-like plan is initially developed through exedras and then through hexagon compartments. This development is strictly diagonal, in contrast to Jvari type churches, where “swastikas ” are quite noticeable. As for the dome, it is so encompassing, that it had even removed bema in front of apses. Its appearance, which is now only imaginable for us totally matches the space and its partition.

Perhaps it seems safe to say that here, for the sake of space, an architect uses the principle of compass geometry, which was so inherent for the late antique period i.e emperor Hadrian’s architectural style. At the same time, the architect maintains the inner diagonal square, through dynamic rectangles, creating outer masses through typical proportional systems.

Without the thorough exploration there is little to be said about its date, though the characteristics listed above surely indicate, that it is closely related to the late antique architecture. The wide apsidal gates surrounding it on three sides should be taken into account as well.

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### **18. The comparative analysis of two historical districts in Lisbon and Tbilisi (Bairro Alto, Sololaki).**

Associated Professor M. Dzidziguri

#### Annotation

The urban and architectural characters of two historical districts of Lisbon and Tbilisi (Bairro-Alto and Sololaki) are compared in the article in terms of their vitality, functionality and integration into a modern city. The analysis is done on the basis of characteristic of each neighborhoods history, urban planning, development, problem description and finally some conclusions are presented.



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### **19. The results of A. Pushkin street and Liberty square rehabilitation.**

Associate professor M. Dzidziguri, Doctoral student M. Meskhi

#### Annotation

Recently, in the historic districts of Tbilisi, against the background of building new houses and rehabilitation of the old ones, it became urgent to protect the identity of the old quarters and historically formed settlements.

From this point of view is discussed the street of Al. Pushkin and Liberty square-built in the current century monumental group of buildings. Also there is discussed the correspondence of postmodernist development scale with environment, its (historical) eligibility or negative and positive impact on historical territory and architectural values.

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### **21. Architectural propedeutics and computer technology**

Associate professor T. Chigogidze, Architect Z. Kharalashvili

#### Annotation

Architecture combines art, science and technology, which is accumulated in the architectural work. Until now, architectural work was a synthesis of scientific and artistic creativity, but the universal era of designing has now come, based on the general computerization. Rapid and intense occurrence of architectural science in all areas of design convinced us, that modification of the process of design and construction and accordingly – a new understanding of the role of the architect, as well as improvement of the architecture school is necessary, considering the realities of life changes and tendencies.

Development of CAD design systems means to describe and manipulate architectural forms in two- and three-dimensional geometry using mathematical tools. But the problem consists in addressing the formalization of properties of architectural phenomenon. Today, architectural informatics does not replace the architect; it's just a powerful tool of modeling of architectural objects. New training programs should facilitate the introduction of such techniques, which contain an integrated approach and implementation of information modeling, such as a specialized information system modeling (BIM) Revit Architecture, which offers architects intuitively clear, powerful way of designing.

CAD and BIM packages not regarded only as graphics systems, they are instruments of the organization, optimization, testing and management of project work.

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## **22. Polycentrism as a Doctrin for Tbilisi land-use general Plan.**

Professor G. Shaishmelashvili

### Annotation

In the frame of Tbilisi urban development active discussion is going on transportation of Tbilisi from monocentric city to polycentric one.

Excess transport and high concentration of social loads in the historical center, as as the extremely negative expression of monocoteric development of Tbilisi causes the imbalance between the center and the suburbs.

Current situation, actual model of monocentricity is becoming a device to destroy the cultural and natural heritage of the historical center.

Tbilisi Urban Policy priorities should be the creation of new innovative high-tech business clusters outside the Tbilisi Center, Tbilisi and Tbilisi agglomeration.

The development of such clusters, on the one hand, will significantly reduce the traffic flow in the historical center of the capital, and on the other hand, will raise the quality of life of the city's suburbs.

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## **23. Effective use of post-soviet industrial territories, buildings and constructions**

Associate professor G. Tkovrebashvili, Associate professor G. Natsvlishvili

### Annotation

The rational use of urban and agricultural lands (territories) is becoming increasingly important issues every year. The solution of the problem is mainly linked to the reasonable use of already assimilated and built-up industrial areas.

Majority of the post-soviet industrial constructions in Georgia lost their relevance and function in terms of supply sources and product demand. Because of these reasons, most of the industrial facilities ceased to exist, buildings and structures were left without purpose and they were ravaged and demolished. Territories are abandoned (or even seized) in the best cases they are alienated by pieces to investors without any strategic development plan.

Therefore, optimal use of post-soviet industrial objects and territories is an urgent problem to solve. In case of result oriented regulation, new industrial enterprises should be built on used and old territories. For this purpose it is necessary to study the areas of existing industrial zones throughout the country. Current (disfigured) city planning should be improved by rehabilitation, which in turn includes four main developing perspectives: technical renovation; revitalization; economic modernization and ecological restoration.

The article gives recommendations for effective solutions of these problems by studying these looted territories and buildings and creating a catalogue for potential investments.

Rehabilitation of industrial zones throughout the world starts with technical rearmament of these objects (not destruction) and changing their functional purpose in accordance with modern local

requirements, like rearrange them as residential, public, cultural, or business status zones, but first and foremost give them modern industrial functions.

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#### **24. Bioclimatic principles of modern architecture - American experience**

Associate professor M. Javakhishvili, Assistant professor B. Tinikashvili

##### Annotation

The planning methodology defines bioclimatic approach as a basic criterion for house design. The place, environment and orientation determine how to provide better protection and better use of natural conditions (sun energy, wind and heat sources). To confirm the foregoing this article presents examples of foreign architecture - modern bioclimatic houses which use high technologies and are based on the ecological principles.

From Ancient times, houses were building according to the native climate and location. We present some examples of historical folk architecture models (Mesa Verde, Pueblo, Tipi, Wigwam), as well as bioclimatic living houses based on the principles of all available technologies and eco-architecture, according to practices of American Architects (F. L. Wright, Louis Kahn, L. Chelprine and others.)

The means of modern technologies strive for extensive use in every environment. The intensity of their use is determined by the natural-climate factors, as well as by the volume and spatial composition of an object. Building technologies enables the successful solution of problems regarding the energy efficiency. While projecting, it is important to consider the foundations of bioclimatic principles for the efficiency of sun and wind installations. While projecting passive sun building, for a person's comfort, the optimal amount of heat must be estimated. The main goal of the Bioclimatic Architecture is to create an environment for people, where the natural factors will be foreseen.

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#### **25. Sustainable furniture design – the way to maintain ecological sustainability**

Associate professor N. Khochladze

##### Annotation

“Environmentally responsible design” includes sustainable design and green design. The term sustainable design for the built environment is used interchangeably with green design. However, there is a subtle difference. The green design often implies an interest in design that protects people's health and well-being while sustainable design also protects the global environment and the world's ecosystems for future generations.

Sustainable Design is the philosophy of designing physical objects, the built environment, and services to comply with the principles of social, economic, and ecological sustainability. The intention of sustainable design is to eliminate negative environmental impact completely through skillful, sensitive design. Manifestations of sustainable design require no non-renewable resources, impact the environment minimally, and connect people with the natural environment. A dynamic balance between economy and society, intended to generate long-term relationships between user and object/service and finally to be respectful and mindful of the environmental and social differences. Sustainable Design is mostly a general reaction to global environmental crises, the rapid growth of economic activity and human population, depletion of natural resources, damage to ecosystems, and loss of biodiversity. Sustainable design is used in areas such as architecture, landscape planning, graphic design, also in interior design and furniture design. Many American designer companies are creating contemporary eco-friendly furniture: Urban woods, Vermont wood studios, EcoVet, Urban Green, Sustainable Furniture, Inc., Manchester wood, Fancher chair and etc.

“Environmentally responsible design” makes relations between man and nature harmonious, increasing humans responsibility towards nature.

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## **26. Learning of Urban Problems Using International Experience in Educational and Scientific Institutions (On the example of 1997-2002 Avlabari student competition)**

Associate professor M. Javakhishvili, Asistent professor B. Tinikashvili, Associate professor N. Kopchladze

### Annotation

International experience in higher education is very important because it empowers young people with the knowledge and competences that are most demanded by employers: rapid adaptation to environment, experience in multicultural staffing and more.

The modern teaching methodology is based on the use of real current tasks for educational purposes, case study, cooperation with foreign partners and participation in international educational projects. An example of such approach is the project implemented in 1997-2002 at the Georgian Technical University, the initiator and coordinator of which was the German Academy of Urban Planning and Landplanning (DASL). In the frames of the project was conducted the pre-project research of the selected precinct - Avlabari, based on the analysis of the study materials was elaborated the preliminary design for the competition. 219 students took part in the student project "Gare Avlabari reconstruction" (1997-2002), including five German students from Kaiserslautern Technical University. As a result of the competition, the analytical and important design material has been collected on which the illustrated albums were published.

Faculty of Architecture, Urban Planning and Design of Georgian Technical University continues successful communication with foreign universities.

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**27. Urban-social model of disability,as one of the major opportunity for disabled people, to adapt to the urban environment.**

Associate professor M. Pochkhua

Annotation

The urban environment planning, oriented for disabled people is getting particular actuality at the modern stage of the urban development. The problem for the disabled people has taken an important place for a long time in the international community, particularly in the existence of America. In Georgia this full-adaptation question has especially escalated for its social –economic crisis.

In many cases, limiting a person's ability derives not from only his own resources, but from the urban environments made from existing construction standards . It damages not only individual persons, but the whole society, that losing the great resources . The aforesaid shows that the use of their modern resources specific, requires a new awareness of the urban policies, which is considered in the context of building constructions,architectural practice and city planning regulations.

Our goal is to review the existing important problems in the urban areas of Tbilisi, to be possible to have more comfortable conditions to disabled people for their works and lives,which are mostly reached with the American experience, to analyze analogues with combining the recent advances in science and technical assistances.

he major actions also will be discussed in the report , which is implemented by Georgian specialists supported with American colleagues to protect human rights for the people,who have different types of disabilities.

Ivane Javakhishvili Tbilisi State University Institute of American Studies Georgian Association for American Studies The 18th Annual International Conference on American Studies Tbilisi State University, 2 th Building, Room 135

**28. The problems of mountain and resorts in Georgia and highlights of their essence in the background of USA analogues.**

Associete Prodessor Medea Melkadze

Annotation

At least 300 mountain resorts are scattered on almost whole territory of USA- from New England to California. That is why, in present report we want to be focused on such regions of our country and USA, in which two forms of entertainment and rest, like sea and resorts, are accumulated. In this context, we will consider scheme of both kinds of resorts of California state and on this background, we will discuss the problems of sea and mountain resorts of Adjara- one of the most beautiful region of Georgia.

-What kind of problems are they?

-Are they characteristics of only our country? or, do these events have an international character?

- The question is the following: what are we talking about?

About nature, of course, about anthropogenic environment, that exists around us and represents a human living space, with all its components.

Here we can see the contours of- of sustainable architecture –frame- characteristic of architectural thinking, which is the basis for architecture from ancient times. The basis is the following: the harmonization of - man made (artificial) environment - architectural space-with anthropogenic environment - with nature.

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### **30. About relevance of creation of the conceptual-terminological electronic reference dictionary of computer graphics and the automated design**

Professor T. Chigogidze, Z. Kiknadze, B. Ckhadadze

#### Annotation

The use of modern technological and methodological innovations assigns the special role to computer graphics. We should note its interdisciplinary role that consists in the associative connection between academic disciplines, as well as the various branches of the fine arts and production. The mastery of computer graphics should be taken as the basis for future professional orientation and refresher courses for a wide range of students and professionals. Future and accomplished engineers, designers, architects, urbanists, designers, fashion designers, developers, operators of geo-information systems and computer-aided design, as well as those wishing to master a number of other civil, industrial and military technical/technological fields should refer to computer graphics as one of the priority subjects. With regard to computer-aided design, it is recognized not only as declarative, but also as normative (mandatory) level.

The described circumstance is reflected in the fact that the proposed project would be not only a retrospective and describing the current situation lexicographic product, but also the earlier electronic terminology explanatory dictionary of computer graphics and computer-aided design reflecting the promising technology that will combine the function of supporting tutorial in this industry.

The dictionary is trilingual due to the following reasons:

- Insufficiency of the Georgian technical, information and creative the terminology in the subject area that does not meet the modern requirements and intellectual (cognitive, educational, manufacturing and creative) challenges.
- The recognition of the English concepts and terminology of the main base (knowledge base), as well as software packages that support information technology, relevant glossaries and guides are presented mainly in English originals.
- English part in the dictionary is treated as a means of monitoring adequate translation and expansion of the range of users.

1st International Conference – IHE 2017; Internationalization in Higher Education: strategies and challenges The conference is organized by : Faculty of Architecture, Urban Planning and Design; Faculty of Business Technology of the Georgian Technical University Address: 77, Kostava Str, 0175 Tbilisi, Georgia. Conference Hall, Administrative Building. Web: <https://sites.google.com/gtu.ge/tempus-rethinke/home>

### **31. "New Dimensions in Architecture"**

Assistent professor T. Tabatadze

#### Annotation

Definition of strategies and possible directions of architectural process shall be examined according to the hierarchy formula: materials, technological forms. Modern situation of scientific-technical base essentially broadens abilities of architecture, especially in the aspect of realization of fractal forms. We can bring modern examples of constructions, which unify functionality, technology, ecology and figurative solutions, which reflect fractal forms, knowingly and purposefully.

Similarity between architectural, geometric and natural objects indicates that initials of universe development come from laws of nature. After introduction of fractal geometry by Mandelbrot there was identified new direction in development of architectural planning, which is characterized as realized fractal architectural forms.

Ways of further research of problems examined in the work are connected directly to introduction of methods of multimedia projection and deep comprehension of inter-direction of virtual and real architectural environment. We hope that acquired materials and results of their examination will be a base for further successful theoretical searches and educational searches, and for perfection of educational programs.

Ivane Javakhishvili Tbilisi State University Institute of American Studies Georgian Association for American Studies The 18th Annual International Conference on American Studies Tbilisi State University, 2 th Building, Room 135

### **32. On the possibility of common semiotic model for architecture and music as syntactic systems (Considering Peter Eisenman's conceptual architecture)**

Associate Professor David Bostanashvili

#### Annotation

The major focus of the American architect and theoretician Peter Eisenman is grammatical aspect of architecture. Understanding architecture's syntax-governed inner logic and working has a major value for introductory course of architectural education considering the importance of teaching abstract thinking; the latter is a crucial component not only for design process but also even before the process starts – when the problem must be always reconsidered and restated.

We place the discourse on architecture's inner grammatical order within the framework of semiotics. Semiotic systems include language, gestures, images, texts. Music and architecture are examples of such systems although music could be considered as an ideal example of pure syntactic code. As Claude Levi-Strauss formulated "music is a language without signification".

It is challenging to think of architecture in this way since it always carries the burden of representation and semantic aspect. By considering Eisenman's writings, we attempt to free architecture from this burden. As a result, architectural thinking unfolds as pure creative process akin to music.

Ivane Javakhishvili Tbilisi State University Institute of American Studies Georgian Association for American Studies The 18th Annual International Conference on American Studies Tbilisi State University, 2 th Building, Room 135

### **33. "Erased architectural heritage of 20th century architecture of Tbilisi"**

Associate professor D. Bostanashvili

#### *Annotation*

There are buildings that no longer exist. Those, which during their short lifetime attracted little attention of the public and had not been part of some significant historical events. The date of their constructions is so recent that it can hardly be termed historic. The topic discusses why one would try to maintain their memory. The issues of material makes heritage are discussed. In addition, we discuss the process of replacement of these building that is dictated by market forces and discuss the unseen dangers of renewal. The topic discusses four cases of the public building built during last 30 years, their history and their replacement.

Scientific conference dedicated to the 90th anniversary of the academic Nodar Janberidze. Georgian Architecture and art of XX-XXI, Georgian history of art and National Research center of Cultural protection center. Tbilisi, 1th December, 2017

St. Giorgi Atoneli №9

### **34. Sustainable furniture design – the way to maintain ecological sustainability**

Natia Kochladze

#### *Annotation*

"Environmentally responsible design" includes sustainable design and green design. The term sustainable design for the built environment is used interchangeably with green design. However, there is a subtle difference. The green design often implies an interest in design that protects people's



health and well-being while sustainable design also protects the global environment and the world's ecosystems for future generations.

Sustainable Design is the philosophy of designing physical objects, the built environment, and services to comply with the principles of social, economic, and ecological sustainability. The intention of sustainable design is to eliminate negative environmental impact completely through skillful, sensitive design. Manifestations of sustainable design require no non-renewable resources, impact the environment minimally, and connect people with the natural environment. A dynamic balance between economy and society, intended to generate long-term relationships between user and object/service and finally to be respectful and mindful of the environmental and social differences. Sustainable Design is mostly a general reaction to global environmental crises, the rapid growth of economic activity and human population, depletion of natural resources, damage to ecosystems, and loss of biodiversity. Sustainable design is used in areas such as architecture, landscape planning, graphic design, also in interior design and furniture design. Many American designer companies are creating contemporary eco-friendly furniture: Urban woods, Vermont wood studios, EcoVet, Urban Green, Sustainable Furniture, Inc., Manchester wood, Fancherchair and etc.

“Environmentally responsible design” makes relations between man and nature harmonious, increasing humans responsibility towards nature.

18 th International annual conference on American studies, TSU, 2017

## Scientific conference - 2016

### **1.The perspectives of tourism development and related issues of adaptation of the upland Georgian settlements on the Mtskheta-Mtianeti regions example**

N. Jobadze, N. Kochladze

#### Annotation

Tourism is one of the leading and profitable potentials for the upland regions of Georgia in economic terms. The purpose of this work is the study of natural, historical and cultural potentials of Georgia on the example of Mtskheta-Mtianeti region and identification of the most promising directions in tourism. At the moment there are many examples of private hotels and hostels in the Mtskheta-Mtianeti region. But we are interested in a more ambitious approach to deal with this urgent issue. To achieve this goal we, ones again, analyzed the potentials of the territory and we suggest that in Mtskheta-Mtianeti region can be successfully developing these types of tourism:

1. Cognitive (excursion) - pilgrimage, ethnic tourism;
2. Health tourism - spa, climate;
3. Athletic tourism - hiking, skiing, rafting, horse riding;
4. Ecotourism;
5. Agritourism;
6. Photo-tourism.

Careful elaboration of a plan for tourism development, which will correspond to the needs of sustainable tourism, involvement of the local communities and small businesses, thoughtful architectural design will serve as a solid base for tourism in the mountainous regions of Georgia.

“Architecture and town-planning development of resorts, zones of recreation and tourist areas” October 27-28, 2016, Baku, p.37-40

## **2.Color as a psychological characteristic, Its role in forming architectural spaces**

Professor N. Khabeishvili, Doctoral student M. Tsalkalamanidze

### Annotation

The use of color played important role through the history of man kind. In this article we discussed how we comprehend color and how it affected human psychology. We discuss current advances and experience shared by architects and designers around the world. How color, shape and light interact with each other and how this elements of interior design create harmonious environment for us to live in.

In this paper we present discussion about the topics related to color perception and use of scientific knowledge about light and color to benefit interior design. The interior designs by world renowned architects are great examples of using this methods. The light color and shapes are used to symbolize the functional significance of space and answer the demands of the client.

The aim of this work is to underline importance of elements of interior design like color, light and shape in creating harmonious environment.

Verbal Communication Techniques -5. International Conference Proceedings. Georgian Technical University. Tbilisi – 2016. (p. 224-229)

## **3.Verbal Communication Technology by Peter Eisenman**

M.Davitaia

### Annotation

Peter Eisenman an American architect author of many interesting projects, theoretical works and ideas was born in 1932 in New Jersey. in both theory and practice. He is one of the founders of deconstructive architecture. When working towards this direction he analyses architecture as an idea, and uses the ideas and psychoanalysis of Jacques Derrida as a source of inspiration. According to his opinion architecture should be critical, shouldn't meet the customer's requirements and should pose a problem. Eisenman uses this concept in a theory as well as in a practice while building the structures. He says that these are not abstract ideas, these were always hidden inside the architecture. An architect's job is to unhide it and show the versions which were considered non-functional, etc. in past times. Since 1990s his direction is changed and shifted towards non-linear architecture. He got new inspiration from the scientific discoveries, idea of self-organized organic structures, theory of J. Delez, Fractal Theory. Displacement is the priority in the architecture of Eisenman. It involves a wall, a ceiling, etc. as well as a line of movement of people and accordingly an architecture is created with this line. The report tells about "the displacements", are used an American architect

17 th International annual conference on American studies, TSU, 2016; 21 May

#### **4. High Mountainous Region of Georgia, Svaneti, Yesterday and Today**

M.Davitaia

##### **Annotation**

High mountainous region (particularly village Ushguli) is included in the list of the world heritage UNESCO and is the center of the tourism. The major factor for the development of tourism is the nature with a difficult relief and alpine zone, tradition, language, architecture as well. For preservation of such unique historical heritage and improving living conditions the restoration and rehabilitation works were done. All these helped to increase the number of tourists and gave the new life to this exotic region of Georgia.

“Architecture and town-planning development of resorts, zones of recreation and tourist areas” October 27-28, 2016, Baku,

#### **5. Verbal Communication Technology by Peter Eisenman**

M.V.Davitaia

##### **Annotation**

The report tells about "the displacements", verbal communication technology, are used an American architect Peter Eisenman which born in 1932 in New Jersey in both theory and practice. Eisenman is author of many interesting projects, theoretical works and ideas. He is one of the founders of deconstructive architecture. When working towards this direction he analyses architecture as an idea, and uses the ideas and psychoanalysis of Jacques Derrida as a source of inspiration. According to his opinion architecture should be critical, shouldn't meet the customer's requirements and should pose a problem. Eisenman uses this concept in a theory as well as in a practice while building the structures. He says that these are not abstract ideas, these were always hidden inside the architecture. An architect's job is to unhide it and show the versions which were considered non-functional, etc. in past times. Since 1990s his direction is changed and shifted towards non-linear architecture. He got new inspiration from the scientific discoveries, idea of self-organized organic structures, theory of J. Delez, Fractal Theory. Displacement is the priority in the architecture of Eisenman. It involves a wall, a ceiling, etc. as well as a line of movement of people and accordingly an architecture is created with this line.

Communicative Technology in the Engineering and Technical Sphere 2016; 25-27 November p.150-154 IV International conference GTU.

#### **6. The formation of bifunctional typology of housing in the resort regions of Georgia.**

M.Milashvili, V.Mchedlishvili

##### **Annotation:**

The article discusses the main issues of the formation of Typology of Bifunctional Residential Houses in the Georgian Resorts.

Materials of the International Scientific and Practical Conference. Baku. 2016 year, P. 160-162;

### **7. Julia Morgan - the first American architect woman.**

M. Milashvili, V. Mchedlishvili.

#### Annotation:

The article focuses on the first stages of the work of the first American architect Julia Morgan and her contribution to women's architecture as a profession.

American study issues. Institute of American Studies at I. Javakishvili Tbilisi State University Work Collection "American Studies Issues" # VI. Tbilisi. 2016 year, P. 258-264;

### **7. The phenomenon of white color in Richard Meyer's architecture**

Vanda Mujiri, Doctor of Architecture

#### Annotation

Richard Meyer's creation occupies a special place in modern architecture. Meyer's philosophy emphasizes his belief that architecture is made up by human and therefore it should be visually separated from nature. The main element of this approach is Meyer's white color. Meyer says that the white color is a symbol of his creativity. This is a principle that emphasizes the architectural concepts and enhance the expressiveness of the form. Color helps him to achieve main tasks - manipulation with light, space and form. White buildings constantly change color. All existing colors are fully reflected in whiteness of white buildings.

From the project to next project Meyer is methodically propagating own principles and is leaving his especial, recognizable style and trace in the different cities of the world. Richard Meyer's snow-white buildings for decades have become an etalon for the practicing architects all over the world.

The 17<sup>th</sup> annual International Conference on American Studies 2016

### **8. The fourth dimension – realization of futuristic fantasies in USA**

N. Kochladze, N. Jobadze, K. Berekashvili

#### Annotation

In the early 20-th century from the futurism movement emerged an idea that movement can be enabled for the significant portion of a buildings' superstructure. By the 1940 innovators began to implement the new idea and the movement became known as kinetic or dynamic architecture. American architect and theoretic Buckminster Fuller was one of the first innovators in kinetic architecture. By developments in mechanics, electronics and robotics kinetic buildings have become increasingly common worldwide and especially in USA. As of today many kinetical, nearly fantastic objects are implemented. In this article are reviewed several interesting kinetical objects created by American artists or built in USA. At the end we can state that objects

which can change their form, which have the fourth dimension in virtue of kinetics seem like a living creatures and the new connections between humans and architecture could be traced.

17 th International annual conference on American studies, TSU, 2016

## Scientific conference - 2015

### 1.Responsive architecture of XXI century in USA

N. Kochladze

#### Annotation

Responsive architecture takes over a notable position in the field of architectural research.

The term "responsive architecture" was given to us by Nicholas Negroponte (Greek American architect), who first conceived of it during the late nineteen sixties when spatial design problems were being explored by applying cybernetics to architecture.

The common definition of responsive architecture is a class of architecture or building that demonstrates an ability to alter its form, to continually reflect the environmental conditions that surround it.

Some 21 century examples of responsive architecture in USA are North house prototype, Burke brise soleil - Quadracci Pavilion (Milwaukee Art Museum), Prairie house in Illinois, Echoviren pavilion, "Floating" house for Brad Pitt's Make It Right New Orleans foundation, proto-type called eSkin.

As far as we see in the case of responsive architecture it is not merely the aspect of AI (artificial intelligence) that draws attention, but the experience of space through technology. It is shown that there is a change of focus towards space envelopes, which give up their solely meaning as boundary between the dualistic positions of inside and outside. This counts likewise for situations of inter and exterior space, for architectural space and a technological world beyond.

16 th International annual conference on American studies, TSU, 2015

## Scientific conference - 2014

### 1.Basic Tendencies in American Architecture

Maia Davitaia

#### Annotation

American Architecture is sufficiently complicated phenomena, by its traditions from which it appeared and by multy variety of styles. It is unreasonable eclecticism, peculiar style, complicated styles, which offer artistic cocktail of forms. Before the first Europeans were immigrated, American ancestors had already formed their own architectural traditions. Indian culture in north America. In colonial period (XVIc.-1775 ys.) in the north territory of America spread European culture in XVIII c. the architecture was begin developed by the mix of the traditions and the local particularities carried in by emigrants which made different styles. At first it was neoclassicism and at the beginning of XIX c. it was Greece style, in the middle – romantic spirit. In a big cities gothic style was superior. In the end of XIX c they began building a lot of villas, eclecticism was in fasion. XIX c. was a great temp of urbanism and at the end of XIX c. building of sky-scrappers began. From 1920 in American architecture "International style" was dominated which left a lot of names and architectural achievements to the world. From 1960 postmodernism era began in America. In XX c. 70's. America had a hard crysis. This crysis was not in building business but in lack of ideas, that's why architecture of that period had no exactly expressed "framework". In 80's began

architectural“Deconstructivism” which influences the world’s architectural process. It creates particular aesthetic and offers a new order. American architecture is not historical but is eutopian. Past itself is creating from future. It reflects today’s American contrast and is indivisible of social structure and is depended on its technical progress and world culture.

15 th International annual conference on American studies, TSU, 2014; 15-17 May

## **2.The perspective view of street vending in Tbilisi**

N. Kochladze

### Annotation

Street markets are popular all over the world. In the cities, where is intended to revitalize public spaces, street vending is greeted. After studying modern street markets we defined three main types: 1) permanent markets, 2) temporary weekly markets 3) open stalls. I want to underscore distinctive sort of farmers’ market and Davis farmers market in U.S. would be good example to describe. Its positive side is informality and temporary design. Twice in a week farmers came to the public park in the city center. When the citizens arrive the sidewalk transforms into promenade. It is an example how properly selected public design and management can quickly and inexpensively serve human demands.

In Tbilisi two years ago begun to function weekly markets. Information about these markets was published via internet. It would be appropriate to renew this project and to select more places for farmers markets. These places can be multifunctional like Davis farmers market. As far as there are not many greened organized territories in the city it would be appropriate to design transforming parks in Tbilisi. This kind of park can combine several functions: place for leisure activities and a free zone where farmers can sell their product.

15 th International annual conference on American studies, TSU, 2014

## **Scientific conference - 2013**

### **1.Eric Owen Moss and New Life of Calver City**

Maia Davitaia

### Annotation

Eric Owen Moss became famous due his original view on feature of universe. Most of his works aims to individualism. Moss is designing not an individual orders but more large scale public projects. We can meet the buildings designed by him in USA, Russia, China, Latin American countries and even in Kazakhstan. In Eric Moss works virtuously and in a masterly fashion can be correspondingly used wood and steel, glass and concrete, and giving new lives to old ruins. He is carefully considering each building and before to start design with his team Moss is studding an exact environment, researching the history of city, building or territory, deeply considering any details and only after this he is drafting the concept and starts the design process.

In an individual manner of Eric Owen Moss it can be find the marks of Dekonstruktivism. One of his famous works is rehabilitation of Clever City, the suburb of Los Angeles. This city stands at the beginning of film industry and only by 1915 film studios moves to Hollywood and left here old and destroyed industrial buildings. Moss has used the original method of recast the deconstructivism style Californian warehouses into the modern offices. As the result city got a functionally new district.

14 th International annual conference on American studies, TSU, 2013; 16-18 May

## **2. Architecture – an art of environment perfection**

### **B. Tinikashvili, M. Javakhishvili**

#### *Annotation*

There is represented the specifics of site development and construction's progress in the last 20 years. There are shown the facts of violence against environment through the architectural-constructing

processes. For comparison are shown objects, which esthetically improve the environment with the help of an appropriate composition

GTU, Scientific conference Architecture, Urban Planning and Design Faculty: Modern problems of Architecture and Town Planning. 2013