

AR 2011/1

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Arhitektura, raziskave  
*Architecture, Research*

# AR

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**Arhitektura, raziskave**  
*Architecture, Research*  
**2011/1**



Fakulteta za arhitekturo  
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Fakulteta za arhitekturo  
Zoisova 12  
1000 Ljubljana  
Slovenija  
[urednistvo.ar@fa.uni-lj.si](mailto:urednistvo.ar@fa.uni-lj.si)

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**Kongresi / Congresses**

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**'RESPECTING FRAGILE PLACES  
29th Conference on Education and Research in Computer  
Aided Architectural Design in Europe  
(eCAADe 2011 – 29th)',  
Univerza v Ljubljani, Fakulteta za arhitekturo,  
21.-24.9.2011, Ljubljana, Slovenija**

Tema konference 'RESPECTING FRAGILE PLACES' (SPOŠTOVANJE OBČUTLJIVIH PROSTOROV) obravnava prepoznavanje, razvoj in spodbujanje virtualnega oblikovanja prostora v spoštovanju občutljivih, celo krhkih fizičnih in virtualnih prostorov. Navedena tema predstavlja protiutež vsebinskemu poudarku konference eCAADe 2010 na ETH-ju v Zuerichu z naslovom 'FUTURE CITIES' (MESTA PRIHODNOSTI). Če je zueriška tema poudarjala generalno-strateške teme, se Ljubljanska odziva načrtovalskim in oblikovalskim potrebam Slovenije in njej primerljivim specifičnim prostorskim kontekstom, ter povezuje načrtovanje v različnih prostorskih razsežnostih oz. merilih. Poziva k odgovornosti do posebej občutljivih prostorov, k spoštovanju krhkih posebnosti različnih družbeno-prostorskih razmerij. Tako na področju arhitekturnega načrtovanja s pomočjo računalniških tehnologij omogoča pridobivanje novega znanja, prenos tega znanja, mednarodno izmenjavo in prenos raziskovalnih dosežkov v prakso.



**Člane skupnosti eCAADe se ob letošnji temi konference sprašujemo:**

- Kako opredeliti ravni občutljivosti fizičnega in virtualnega prostora, oz. ravni občutljivosti integracije fizičnega in virtualnega prostora?
- Kako lahko spoštujemo raznolikost ravni občutljivosti prostora, ko načrtujemo nove prostorske posege?
- Kako razvijati fizične in virtualne laboratorije za spoštljive, odzivne in odgovorne oblikovalske intervencije?
- Kakšna je prihodnost fizičnih in virtualnih okolij, ki zahtevajo najbolj občutljive in odzivne prostorske posege?

Program: Dneva pred konferenco sta namenjena delavnicam, dan po njej pa družabnemu programu. Uvodni govorniki treh osrednjih konferenčnih dni bodo: prof. dr. Žiga Turk s Fakultete za gradbeništvo Univerze v Ljubljani, prof. dr. Anna Chronaki z Univerze Tesalije v Volosu in prof. dr. Jose Duarte s Tehniške Univerze v Lisboni. Spregovorili bodo o prepoznavanju občutljivosti prostora in družbe ter o prilagodljivi informacijski, tehnološki in drugi sistemski podpori spoštovanju občutljivih prostorov. Program konference bo obsegal devet vzporednih zasedanj s podtemami, kot so: oblikovanje študijskih programov, projektno sodelovanje (meddisciplinarno, uporabniško in sodelovanje javnosti), novi oblikovalski koncepti in strategije, razvoj digitalnih orodij v podporo procesom načrtovanja oz. oblikovanja, odločanja in izvedbe, integralno ('BIM') in algoritmično modeliranje oz. parametrični pristop, modeliranje mesta, načini produkcije ter virtualna arhitektura.

Predsedovanje konferenci:

**izr. prof. dr. Tadeja Zupančič** (članica sveta eCAADe) in **prof. mag. Peter Gabrijelčič** (dekan Fakultete za arhitekturo Univerze v Ljubljani).

Organizacijski odbor konference:

**asist. dr. Matevž Juvančič, Špela Verovšek in Anja Jutraž** (vsi: člani organizacije eCAADe s Fakultete za arhitekturo Univerze v Ljubljani)

Mednarodni programski svet konference: svet organizacije eCAADe (<http://www.ecaade.org/organisation/council.html>)

Več o konferenci: <http://www.fa.uni-lj.si/ecaade2011>.

Vabljeni!

**'RESPECTING FRAGILE PLACES - 29th Conference  
on Education and Research in Computer Aided  
Architectural Design in Europe (eCAADe 2011 – 29th)',  
University of Ljubljana, Faculty of Architecture, 21 – 24  
September 2011, Ljubljana, Slovenia**

The subject of the conference, 'RESPECTING FRAGILE PLACES', is concerned with the recognition, development and stimulation of virtual spatial design which respects sensitive, even fragile, physical and virtual spaces. In terms of contents, this theme represents a counterbalance to the emphasis of the eCAADe 2010 Conference at ETH in Zurich entitled 'FUTURE CITIES'. Whereas the theme of the Zurich conference emphasised general strategic issues, the Ljubljana conference theme responds to the planning and design needs of Slovenia and comparable specific spatial contexts by associating designs in various spatial dimensions and scales. It appeals for responsibility in relation to particularly sensitive places, and for respect for the fragile particularities of various social and spatial relationships. Thus, in the field of computer-aided architectural design, the conference enables the acquisition of fresh knowledge, its transmission and international exchange, and the application of research achievements in practice.

On the occasion of this year's conference we asked the members of the eCAADe community the following questions:

- How can we specify levels of sensitivity of physical and virtual spaces and sensitivity levels of integration of physical and virtual spaces respectively?
- How can we respect the diversity of space sensitivity levels when planning new spatial interventions?
- How can we develop physical and virtual laboratories for respectful, responsive and responsible design interventions?
- What is the future for physical and virtual environments which require the most sensitive and responsive spatial interventions?

Programme: the two days prior to the conference are intended for workshops, and the day following it, for a social programme. The introductory speakers of the three conference days are: Professor Dr Žiga Turk from the Faculty of Civil and Geodetic Engineering of University of Ljubljana; Professor Dr Anna Chronaki from University of Thessaly in Volos; and Professor Dr Jose Duarte from Technical University of Lisbon. They will be speaking on the recognition of spatial and social sensitivity, and on the adaptable information, technological

and other systemic support for the respect of sensitive spaces. The programme of the conference will comprise nine parallel sessions involving sub-topics such as: shaping programmes of study; project collaboration (interdisciplinary, practical and with the participation of the general public); new design concepts and strategies; the development of digital tools in support of planning and design, decision-making and implementation; integral ('BIM') and algorithmic modeling and parametric approaches respectively; city modeling; modes of production; and virtual architecture.

The conference will be chaired by associate Professor Dr Tadeja Zupančič (member of the eCAADe Council) and Professor Peter Gabrijelčič MArch (Dean of the Faculty of Architecture of the University of Ljubljana).

Organisational committee of the conference: Assistant Dr Matevž Juvančič, Špela Verovšek and Anja Jutraž (all members of the eCAADe Association at the Faculty of Architecture of the University of Ljubljana).

International Programme Council of the conference: eCAADe Organisation Council

(<http://www.ecaade.org/organisation/council.html>)

More about the conference: <http://www.fa.uni-lj.si/ecaade2011>.

## Welcome!

**Domen Zupančič**  
**STONE CORBELLED SHELTERS AT KRAS IN SLOVENIA**  
**12th International Dry Stone Walling Congress**  
**DSWA / SPS, France**  
**4. - 6. september 2010, Cumbria**  
<http://www.dswa.org.uk/International-Congress-2010-g.asp>

Mednarodni kongres o suhozidnih konstrukcijah kot so zidovi, terase, zatočišča, manjši gospodarski objekti in drugi arhitekturni elementi je bil v Veliki Britaniji. Organizatorji kongresa so bili SPS (Le Val, France), DSWA UK in University of Cumbria, Ambleside. Predstavljeni so bili različni prispevki raziskovalnih dosežkov in aktivnosti v praksi od rekonstrukcij objektov, konzervatorskih posegov v krajini do odmevnih raziskovalnih projektov kot je naša stalna razstava Vrtujak na Korčuli in obnova hišk na Krasu v Sloveniji.



## Izveleček

In the southern part of Slovenia can be found stone shelters, named hiska, this area in Slovenia has special name - Kras. This rocky plain has some unique properties as: caves, intermittent lakes and underground rivers. Landscape of Kras is mixture of stones, pine forests and rare fields edged by stone walling and groups of bushes. Settlements could be interpreted as flock of sheep; houses are gathered close together to battle against dry and cold wind burja. Stone is main material of housing of settlements in the region. Kras could be understood as rocky relief with many holes where resources of water are scarce.

Some hundred years ago the areas close to settlements were used for pasture (especially sheep) and for agriculture. Field were cleaned and stones found were used to construct walls and small very modest shelters for shepherds. When describing construction of hiska at Kras I should point out that stones were piled up by shepherds with no special knowledge of corbelled constructions. Many shelters documented in this area are constructed as corbelled vault lean against the bigger rock. Using characteristics of relief and logic they have erected small modest shelter. Later with more experiences they have built independent shelters using corbelling false dome to cover roof span. TAny of he various stone shelters found in this area haves different realization using but use a common material – nearby stone pieces from the vicinity - and the technique – corbelling.

ZUPANČIČ, Domen. *Stone corbelled shelters at Kras in Slovenia. V: Dry stone walls as part of the cultural landscape : proceedings of the 12th International Dry Stone Walling Congress, held at the University of Cumbria, Ambleside Campus, 4 - 6 September 2010. Milnthorpe, Cumbria: DSWA, Dry Stone Walling Association, 2010, str. 66-68, ilustr. [COBISS.SI-ID 2515076]*

**Lara Slivnik**  
**JEKLENE KONSTRUKCIJE, ZGRAJENE V SLOVENIJI**  
**V DRUGI POLOVICI DVAJSETEGA STOLETJA**  
**32. zborovanje gradbenih konstruktorjev Slovenije,**  
**7.-8. oktober 2010, hotel Golf, Bled**  
<http://www.sdgk.si>

Vsakoletno zborovanje gradbenih konstruktorjev se je začelo z dvema uvodnima predavanjema. Dr. Zlatko Šavor, profesor na zagrebški gradbeni fakulteti, je predstavil RecentCroatianBridges, konstruktorja iz Nemčije dr. ReinerSaul in Siegfried Hopf pa sta pripravila prispevek z naslovom LongspanRailwayBridges. Sledili so prispevki, razdeljeni na pet tematskih skupin: o mostovih, o konstrukcijah, o gradbenih materialih, o gradbeni informatiki, o potresnem inženirstvu ter o eksperimentalnih in numeričnih analizah konstrukcij. Sama sem predstavila prispevek o slovenskih jeklenih konstrukcijah druge polovice prejšnjega stoletja.

## Izveleček

V prispevku so predstavljeni objekti z vidno jekleno konstrukcijo, ki so jih zgradili v Sloveniji v drugi polovici dvajsetega stoletja. V uvodu je predstavljen kratek pregled gradnje litoželeznih konstrukcij v Sloveniji. Podrobno so opisani pomembnejši arhitekturni objekti s konstrukcijo iz vidnega jekla. Razdeljeni so v štiri skupine: industrijske stavbe, stavbe za šport in rekreacijo,



poslovne in trgovske stavbe ter jekleni stebri kot samostojne konstrukcije. V slovenski arhitekturi jeklena konstrukcija stavb ni bila razširjena, zato je prispevek zaključen z nekaterimi ugotovitve, zakaj je bilo tako.

*SLIVNIK, Lara. Jeklene konstrukcije, zgrajene v Sloveniji v drugi polovici dvajsetega stoletja = Steelstructures in Slovenia. V: LOPATIC, Jože (ur.), MARKELJ, Viktor (ur.), SAJE, Franc (ur.). 32. zborovanje gradbenih konstruktorjev Slovenije, Bled, 7.-8. oktober 2010. [Zbornik]. Ljubljana: Slovensko društvo gradbenih konstruktorjev, 2010, str. 199-206, ilustr. [COBISS.SI-ID 2468484]*

**Špela Verovšek**

**Tadeja Zupančič**

**HOW TO CONVEY ARCHITECTURAL CONTENTS TO THE GENERAL PUBLIC?**

**10th International Conference on Design & Decision Support Systems in Architecture and Urban Planning**

**DDSS organization, Eindhoven University of Technology**

**19. - 22.07.2010, Eindhoven, Nizozemska**

**<http://2010.ddss.nl/index.php>**

Mednarodna dvo-letna konferenca (Design & Decision Support Systems) se je v letu 2010 osredotočila na problematiko razvoja orodij in sistemov za podporo arhitekturno-urbanističnemu odločanju ter poudarila potrebo po povezovanju metodološko-teoretičnega in praktičnega prispevka k področju.

#### **Izvleček**

The article presented has been focused on the specific nature of co-deciding in urban and architectural design. Elements relevant for actual participation of the lay public and sustainable final decisions have been isolated, and second their role in the process defined. The discussion outlines the communication gap between expert and lay public, and differences in understanding spatial realities, which derive from their distinguishing perspectives, knowledge and skills. Furthermore, elements such as significance of education, the power of presentation techniques as well as personal attitudes which general public brings into the process are defined. The second part of the paper presents a preliminary questionnaire-based inquiry (N=227). The survey is applied to actual spatial issues in Slovenia and targeted to the lay public in order to identify methodological constraints and opportunities for further investigation.

*VEROVŠEK, Špela, ZUPANČIČ-STROJAN, Tadeja. How to convey architectural contents to the general public? V: TIMMERMANS, Harry (ur.), VRIES, Bauke de (ur.). 10th International Conference on Design & Decision Support Systems in Architecture and Urban Planning, 19 - 22 July 2010, Eindhoven, 2010, str. 1-15, ilustr. [COBISS.SI-ID 2460036].*

**Matevž Juvančič**

**Špela Verovšek**

**Anja Jutraž**

**Tadeja Zupančič**

**DEVELOPING SHARED URBAN VISIONS THROUGH PARTICIPATION SUPPORTED BY DIGITAL TOOLS**

**FUTURE CITIES 28th Education and Research in Computer Aided Architectural Design in Europe**

**eCAADe in ETH v Zürichu**

**15.-18.9.2010, Zürich, Švica**

**<http://www.ecaade2010.ethz.ch/>**

Tradicionalna evropska konferenca o CAD raziskovanju in izobraževanju se je v letu 2010 posvetila mestom prihodnosti skozi prizmo računalniško podprtega načrtovanja in oblikovanja.

#### **Izvleček**

The authors base their efforts on the assumption that future cities will only be called 'advanced' and 'sustainable' if they evolve as a shared vision between the city users / dwellers (general public) and urban designers, planners, architects, engineers (experts). For visions to be shared and planning processes to be inclusive the involvement of all (urban) actors is paramount. With the increasing urban complexity and the interrelation of phenomena there is also an increasing demand for updated, advanced and re-thought digital tools that could help in forming and enabling such common urban visions. The paper outlines the agenda and connects our on-going research efforts with the fields deemed most crucial for inclusive-for-all, successful participation that can lead to shared visions of future cities. Standing out in interchangeable order and never-ending cyclic process are: (1) education, (2) communication and (3) collaboration.

*JUVANČIČ, Matevž, VEROVŠEK, Špela, JUTRAŽ, Anja, ZUPANČIČ-STROJAN, Tadeja. Developing shared urban visions through participation supported by digital tools. V: SCHMITT, Gerhard (ur.). Future cities : eCAADe 2010 : proceedings of the 28th Conference on Education in Computer Aided Architectural Design in Europe, September 15-18, 2010, Zurich.*

**Anja Jutraž**

**Tadeja Zupančič**

**EVALUATION OF VISUAL DIGITAL TOOLS FOR PUBLIC PARTICIPATION IN URBAN DESIGN**

**10th International Conference on Design & Decision Support Systems in Architecture and Urban Planning**

**DDSS organization, Eindhoven University of Technology**

**19. - 22.07.2010, Eindhoven, Nizozemska**

**<http://2010.ddss.nl/index.php>**

Konferenca DDSS je dvoletna konferenca s poudarkom na vprašanih, pomembnih za razvoj sistemov za podporo pri načrtovanju in odločanju ter njihova uporaba v arhitekturi in urbanizmu.

#### **Izvleček**

This paper gives an evaluation of visual digital tools available for public participation in urban design. Public participation is seen as an opportunity for lifelong urban design learning, offering a wide variety of actual situations. The document deals with the positive and negative sides of different digital tools as options for effective public participation and education in urban design. The main purpose of the article is to explore the possibilities to improve communication between the different actors of the urban design process. The document forms the basis for the development of the new digital tool to be used regardless to the tradition of public participation in different cultural contexts. It establishes the criteria to define a good digital tool for this purpose and offers some guidelines for the development of new

digital tools. The elements of digital tools will be defined through the comparison of known examples, grouped from the research databases such as CUMINCAD, DDSS.

*JUTRAŽ, Anja, ZUPANČIČ-STROJAN, Tadeja. Evaluation of visual digital tools for public participation in urban design. V: TIMMERMANS, Harry (ur.), VRIES, Bauke de (ur.). 10th International Conference on Design & Decision Support Systems in Architecture and Urban Planning, 19 - 22 July 2010, Eindhoven, the Netherlands.*

**Borut Juvanec**

**SQUARE ROOT OF THREE IN VERNACULAR USE**

**12th International Dry Stone Walling Congress**

**DSWA / SPS, France**

**4. - 6. september 2010, Cumbria**

**<http://www.dswa.org.uk/International-Congress-2010-g.asp>**

Kot član združenja SPS (Le Val, France) sem se udeležil kongresa, ki sta ga organizirali DSWA in SPS v okviru University of Cumbria, Ambleside med 4. in 6. septembrom 2010. Med kakimi dvesto udeleženci je bilo 31 predavateljev.

#### **Izvilleček**

Theory is more common than we think, in the practice of construction in stone, too. An unlearned, simple builder and mathematical science. Is this relation possible? The simple answer is: yes, it is.

The most complicated construction in dry stone walling is undoubtedly a stone shelter. There are many different shelters, in terms of both shape and materials used. This is no more than to be expected: shelters can be found from Iceland to Yemen, from Lanzarote to Palestine, all in accessible stone. The basic difference is the shape: from ground plan to walls, from details to roof; the only things in common are use and construction.

Order is used for all reasonable compositions: to simplify, to avoid mistakes and for better aesthetics. A system of proportion provides the basic identity for all architecture.

Seeking the right system of proportion is a matter of scientific work: surveying thousands of objects in my documentation over the last 30 years. At the beginning of my work, I elaborated 52 objects and found the only order to be an equilateral triangle and the square root of three. My work since then has only confirmed this.

Different forms can be found in the composition of shelters. The following are some that appear: rectangular house (paghliaddiu in Corsica), round house (cabane, France; chozo, Spain; kazun, vrtujak, Croatia; twlch mochin crwn, Wales), stepped 'pyramid' (pont de bestiar, Menorca; trullo, Puglia), truncated cone (mantarah, Palestine; trullo, Puglia), bell-shaped roofs (cabane, France; trullo, Puglia), and raw construction (fiskbyrgi, Iceland) or shaped naturally by gravel (el bombo, Spain) etc, etc.

Corbelling is a construction of horizontal circles in ground plan, and overhanging layers in cross section. This construction does not affect the shape. However, three constructional elements can be observed: corbelling – the construction itself, the frame and the filling (gravel) between them.

The square root of three is the height of an equilateral triangle, if the baseline is equal to two. A square with baseline of one has

as diagonal equal to the square root of two. The mathematical order, or rule, of these rectangles (one to the square root) is that the diagonal of a rectangle is one number higher than the number under the square root of the baseline. So: a rectangle with baseline (square root of two) and height (one) has a diagonal equal to  $\sqrt{2} + \sqrt{1}$ . This is  $\sqrt{3}$ .

In my experience, the baseline of the equilateral triangle found in corbelling is the width from middle of the wall to the middle of the other wall. It seems complicated but it is not. This baseline is measured from the outer point of the wall (at the entrance) to the end of the room. It means:  $w + 2r$ , where  $w$  is width of the wall (theoretically  $1/2w + 1/2w = 2/2w = w$ ), and  $r$  is the radius of the inner room, and  $2r$  is the diameter of the circle in groundplan. I found the proof in 2009 in Lanzarote, the Canary Islands, where some objects can be found with unfinished construction. Some of them have only corbelling construction, some have corbelling and a frame, with an infill between. The layers are clearly visible. The width of the wall is divided by construction and by the frame, half by half. The point in the middle of the wall is defined.

The system of equilateral triangle is thus proven. A reconstruction can be performed, giving the finished, perfect shape of the shelter.

*JUVANEC, Borut. Square root of three in vernacular use. V: Dry stone walls as part of the cultural landscape : proceedings of the 12th International Dry Stone Walling Congress, held at the University of Cumbria, Ambleside Campus, 4 - 6 September 2010. Milnthorpe, Cumbria: DSWA, Dry Stone Walling Association, 2010, str. 96-98, ilustr. [COBISS.SI-ID 2515332]*

**ZLATA KOCKA 2011**

**ZLATA KOCKA ZA VZGOJNO-IZOBRAŽEVALNE ZAVODE**

**OSNOVNA ŠOLA ANTONA ŠIBELJA STJENKA KOMEN IN OSNOVNA ŠOLA DUTOVLJE**

**Bienalni natečaj prostorskega oblikovanja za projekt**

**Po Fabianijevih poteh**

**UL FA, UL Pef**

**<http://www.arhitekturainotroci.si/ZK2011.htm>**

Projekt Po Fabianijevih poteh, bienalni natečaj prostorskega oblikovanja Osnovna šola Antona Šibelja Stjenka Komen in Osnovna šola Dutovlje sta v letu 2010 četrtrič zapored organizirali bienalni likovni natečaj Po Fabianijevih poteh. Na natečaju sodelujejo šole iz vse Slovenije, od leta 2008 pa tudi iz tujine in zamejstva. V okviru projekta potekajo likovni natečaj, delavnice za učence, izobraževanja za učitelje in spoznavanje dediščine arhitekta Maksa Fabianija. Natečaj in spremljevalne dejavnosti učence, mladostnike, pedagoge in širšo javnost ozaveščajo o arhitekturi, urbanizmu in okolju. Vzgojno-izobraževalni cilji projekta so spodbujanje k ustvarjalnemu reševanju likovnih nalog s področja prostorskega oblikovanja, povezovanje učencev in mentorjev, spoznavanje dela Maksa Fabianija, promocija kakovosti prostora, naravne in kulturne dediščine ter načel urbanističnega načrtovanja med učenci in mentorji ter izobraževanje likovnih pedagogov in učiteljev drugih predmetov o prostorskem oblikovanju in arhitekturi. Likovni natečaj ima več kategorij: fotografski natečaj Arhitektura skozi fotografski objektiv oziroma Maks Fabiani, oblikovalec prostora, natečaj preoblikovanja prostora Moj kraj naš skupni prostor in natečaj likovnega oblikovanja Arhitekt lastnega prostora.



V okviru bienala 2010 so razstavljali tudi naše študentke in študentje 1. letnika UL FA. Razstavljali so makete ureditve Jurčičevega trga v Ljubljani s tematiko: Ljubljana, svetovna prestolnica knjige 2010. Mentor nalog je bil doc.dr. Domen Zupančič.

Poleg soudeležbe pri bienalu Po Fabianijevih poteh sodelujeta kolega doc. dr. Domen Zupančič in doc. dr. Ljubo Lah kot predavatelja.

Nagrade Zlata kocka je na 15.3.2011 v Cankarjev domu na Kulturnem bazarju podelila ministrica za kulturo Majda Širca. Vsi projekti, ki so prejeli nagrado Zlata kocka so bili nominirani za svetovne nagrade Golden Cubes Awards, ki jo podeljuje Svetovna zveza arhitektov UIA.

**Borut Juvanec**  
**USE OF PROPORTION: PROVEN**  
 Symmetry: Art and Science  
 International Society for the Indisciplinary Study of Symmetry ISIS  
 23. – 28. avgust 2010, Gmünd, Avstrija

Na povabilo predsednika ISIS, prof Denesa Nagya sva se z docentom dr. Domnom Zupančičem udeležila ISIS Congress 2010 v mestu Gmuend v Avstriji. Kongres teče vsaka tri leta in

ga organizira ISIS, International Society for the Interdisciplinary Study of Symmetry (Victoria AUS, Budapest H), izvršna organizacija je tekla tokrat pod okriljem IHZ z Dunaja. Predsednik ISIS prof Nagy me je tudi prosil, če prevzamem vlogo predsedujočega v sekciji B z naslovom Symmetry in Architecture and Design.

### Izvilleček

Rules and order is used for all reasonable compositions: to simplify, to avoid mistakes and for better aesthetics. A system of proportion provides the basic identity for all architecture, especially in vernacular. Corbelling is a construction of horizontal circles in ground plan, and overhanging layers in cross section. This construction does not affect the shape. The square root of three is the height of an equilateral triangle, if the baseline is equal to two. A square with baseline of one has as diagonal equal to the square root of two. The mathematical order, or rule, of these rectangles (one to the square root) is that the diagonal of a rectangle is one number higher than the number under the square root of the baseline. So: a rectangle with baseline (square root of two) and height (one) has a diagonal equal to  $\sqrt{2} + \sqrt{1}$ . This is  $\sqrt{3}$ . The baseline of the equilateral triangle found in corbelling is the width from middle of the wall to the middle of the other wall. The proof can be found in Lanzarote, the Canary Islands, where some objects can be seen with unfinished construction. Some of them have only corbelling construction, some have corbelling and a frame, with an infill between. The layers are clearly visible. The width of the wall is divided by construction and by the frame, half by half. The point in the middle of the wall is defined.

The system of equilateral triangle is thus proven. A reconstruction can be performed, giving the finished, perfect shape of the shelter.

*JUVANEC, Borut. Use of proportion : proven. V: LUGOSI, George (ur.), NAGY, Dénes (ur.). 8th Interdisciplinary Symmetry Festival-Congress of ISIS-Symmetry : (International Society for the Interdisciplinary Study of Symmetry), Gmünd, Austria, August 23 - 28, 2010, (Symmetry, issue 1-4, 2010). Melbourne-Kew: International Society for the Interdisciplinary Study of Symmetry, 2010, str. 120-125, ilustr. [COBISS.SI-ID 2449540]*

**Domen Zupančič**  
**CORBELLED CHAMBERS OF RED PYRAMID IN DAHSHUR**  
 Symmetry: Art and Science  
 International Society for the Indisciplinary Study of Symmetry ISIS  
 23. – 28. avgust 2010, Gmünd, Avstrija

Mednarodna znanstvena konferenca Symmetry of Forms and Structures se je odvijala na temo prostorskih struktur in harmonije. Symmetry konferenca združuje znanstvenike z različnih področij. Na teh srečanjih se srečujemo matematiki, industrijski oblikovalci, arhitekti, fiziki, gradbeniki, urbanisti, arheologi, ki se praktično ukvarjamo na realnih primerih in razvijamo teoretične modele in metode dela. Namen konference je v povezovanju idej, vedenja in utrjevanju misli o ravnovesju.

**Izvleček**

Red pyramid of north Pyramid is located nearby the town Dahsuh, about 40 km south of Cairo. The necropolis area has another pyramid s.c. Bent pyramid and some tombs. The architectural structures of this area are part of Old Kingdom era (2600 BC) of IV. dynasty. Both pyramids are named upon Seneferu Pharaoh. More than historical data are interesting dimensions of chambers and its spatial proportions. Geometry played great role in the ancient Egypt, it was used when planning, erecting and using the architectural structures. Symmetry is not the obvious part of inner structure, however it may be revealed when using mathematical shapes, diagonals and other simple geometrical analysis. The purpose of research was to find reasonable answer why chambers are positioned as they were. From the aspect of an architecture and engineering the understanding of erecting such structures is vital for understanding any other stone structure. Nevertheless pyramids are the final results derived from square combined with the circle. Chambers in the hearts of those structures are accessed through narrow gaps and corridors. To reach valuable research results in the field of Ancient Egypt architecture the measurement of royal cubit should be taken as module unit. The second aim is awareness that 4400 years ago the climate was different as it is today. The pyramids were very probably part of green bank of river Nile.

ZUPANČIČ, Domen. *Corbelled chambers of red pyramid in Dahshur. V: LUGOSI, George (ur.), NAGY, Dénes (ur.). 8th Interdisciplinary Symmetry Festival-Congress of ISIS-Symmetry : (International Society for the Interdisciplinary Study of Symmetry), Gmünd, Austria, August 23 - 28, 2010, (Symmetry, 1-4). Gmünd; [Kew, Vic.]: [International Society for the Interdisciplinary Study of Symmetry], 2010, str. 320-323, ilustr. ISSN 1447-607X \* formerly Symmetry, Culture and Science, ISSN 0865-4824.*

**ZLATA KOCKA 2011**  
**ZLATA KOCKA ZA TISKANI MEDIJ**  
**prof. dr. Živa Deu in Bara Kolenc ter**  
**ilustrator Damijan Stepančič**  
**Založba Rokus Klett d.o.o.**  
**Kje pa ti živiš?**

Otroška slikanica avtorice dr. Žive Deu in Bare Kolenc z naslovom *Kje pa ti živiš?* Je bila edini prijavljeni projekt v kategoriji tiskanih medijev. Prva slovenska slikanica o arhitekturi, namenjena otrokom med 4. in 8. letom starosti, zelo poljudno in jasno sledi zastavljenim vzgojno-izobraževalnim ciljem: predstaviti prostore, namenjene bivanju, arhitekturne objekte in njihovo vlogo v širšem grajenem okolju. Knjiga podaja znanja o posameznih delih hiš, vrstah zgradb, o arhitekturi in grajenem okolju in s tem mladim bralcem ponuja osnovno informacijo. Lahko je pripomoček pedagogom in staršem pri spoznavanju zgradb v povezavi z načeli varstva okolja in kulturne raznovrstnosti. Knjiga se navezuje na razpoznavne vizualne komponente lokalnega prostora, kar omogoča lažje razumevanje družbenih, ekonomskih in ekoloških značilnosti grajenega okolja. Žirija meni, da slovenski prvenec arhitekturne knjige za otroke zgledno predstavlja glavne značilnosti stanovanjskih grajenih okolij in osnove arhitekturne pripovedi in ji v pričakovanju napovedanih publikacij, ki bodo omogočale

razvoj kritičnega pristopa in spodbujale razumevanje in občutljivost za to področje, zato podeljuje nagrado zlata kocka za tiskane medije.

**Polona Filipič**

**Primož Hočevar**

**Trajnostna revitalizacija mestnega središča**

**A Sustainable Revitalization of City Center**

**2. znanstvena konferenca z mednarodno udeležbo**

**MANAGEMENT, IZOBRAŽEVANJE IN TURIZEM**

**- družbena odgovornost za trajnostni razvoj -**

**21. - 22. oktober 2010, Portorož, Slovenija**

**<http://www.turistica.si/>**

Namen 2. znanstvene konference je opozoriti znanstveno in strokovno javnost s področij managementa, turizma in izobraževanja na pomen družbene odgovornosti pri trajnostnem razvoju sodobne družbe in okolja. Na konferenci je bilo predstavljenih pet vabljenih predavanj in preko 270 prispevkov. Prispevek o trajnostni revitalizaciji mestnega središča je bil predavan v sekciji 'Strategije trajnostnega razvoja'.

**Izvleček**

Reurbanizacija predstavlja novo priložnost za kvalitetno prihodnost mestnih središč.

Obnova in ponovna raba razvrednotenih in neprimerno izkoriščenih urbanih površin, racionalna izraba praznih zemljišč in nove razvojne paradigme urbanističnega planiranja ustvarjajo možnosti za doseganje kakovostnejšega urbanega življenja. Revitalizacija je povezana s ponudbo in ustvarjanjem kvalitetnega bivanjskega okolja in vpliva na zadovoljevanje potreb lokalnega prebivalstva in obiskovalcev. V prispevku opisan koncept revitalizacije je rezultat ustrezne mestne prenove in sanacije opuščenih ter razvrednotenih območij. Poudarjen je inovativen pristop do novih interpolacij v obstoječo mestno strukturo, kjer strateška vzdava izkorišča obstoječo infrastrukturno opremljenost razvrednotenega zemljišča in s tem generira novo ali dodano prostorsko vrednost. Vzdave so usmerjevalni projekti, ki učinkujejo v smeri dolgoročno zastavljene preobrazbe v smislu soobstoja vzdržnega mestnega razvoja in visoke kakovosti mestne ponudbe. Ohranjanje identitete, dobra mestna ekonomija, raznovrstnost ponudbe in visoka bivanjska kvaliteta pa so cilji, ki zadovoljujejo tako potrebe lokalnega prebivalstva kot tudi obiskovalcev mesta. Akupunkturni pristop vzdav mešanega programa je inspiracija in stimulacija novim načinom urbanega življenja in zato bistven korak k vzdržni revitalizaciji mestnih središč.

FILIPič, Polona, HOČEVAR, Primož. *Trajnostna revitalizacija mestnega središča = A sustainable revitalization of city center. V: BREZOVEC, Aleksandra (ur.), MEKINC, Janez (ur.). Management, izobraževanje in turizem : družbena odgovornost za trajnostni razvoj : 2. znanstvena konferenca z mednarodno udeležbo, 21.-22. oktober 2010, Portorož : zbornik referatov = proceedings. Portorož: Turistica, Fakulteta za turistične študije, 2010, str. 455-466, ilustr. [COBISS.SI-ID 2475652]*

