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Strategic Planning for Alternative Futures

Belo Horizonte, Brazil

December 11-14, 2017

1. What and Why “Geodesign in South America”

Strong development pressures affect urban areas in South American countries, as population grows and people migrate from the countryside. Design to accommodate this growth is often guided solely by economic factors and implemented without consideration of social and environmental factors. This approach risks unsustainable forms of urban densification which seriously undermine urban quality of life. Investment in new methodologies, procedures, collaborations, and technology are needed to realize the great potential of geodesign to guide transformation through sustainable development processes. Collaborative processes can be deployed to take advantage of a wide range in inputs into the planning process. Geodesign provides an exciting opportunity to involve a broad spectrum of potential participants, from professionals to local people, in an accessible and accountable participatory process that informs the planning outcomes.

Geodesign is design with the territory and for the territory. It aims at contextualized transformation of the landscape, respecting both nature and culture. Geodesign can provide a systematic methodological framework for regional and urban planning, aimed at sustainable integration of human activities with the natural environment, respecting cultural peculiarities, and enabling a process of democratic decision making.

2. The goal

The goal is to put South American researchers together to exchange their expertise and experience in using technologies of information and geo-information to plan at a broad range of scales. Applications range from building and urban design to landscape and regional planning, from cities to suburbs to the coast and countryside. Powerful new tools and techniques are being developed to address the challenges of urban growth and environmental protection. Issues include the use of big-data, e-planning, new methodologies, visualization, and support for opinion and decision making in the context of South America.

3. Topics – To submit extended abstracts (to oral presentation and posters):

- Geodesign
 - Case studies in South America
 - Cultural Heritage and Landscape Planning
 - Concepts, practice and education at different scales
- Spatial Analysis and Visualization
 - Planning support systems
 - Citizens participation
 - Landscape modeling
- Social Media and Smart Communities
 - Crowdsourced mapping
 - Big data
 - Geogames
- Smart-City and Resilience
 - Green infrastructure
 - Parametric Modelling

4. Structure

The meeting will be organized in the activities:

- Lectures – keynote speakers: Carl Steinitz, Michael Flaxman, Alenka Poplin, Rosanna Rivero, Francisco de Oliveira, Clodoveu Davis Júnior and Ana Clara Moura
- Papers sessions – selected works
- Posters session – selected works
- 5 Mini-courses (Geodesign workshop, Drones, Geogames, Social Media Geographic information, Parametric Modeling).

Participants must register to present papers or posters, but the meeting will accept registrations from those that just want to take part of the activities (lectures, oral and poster sessions and courses). All kind of participation requires registration. Participants can choose one mini-course or to take part of the Geodesign workshop: when registering, the participant can choose two activities in order of preference, writing a paragraph justifying the selection, and the organization will distribute the groups according to the requests. We cannot guarantee to register the participant in his first choice, because of limitations in number of places per mini-course.

5. When and where

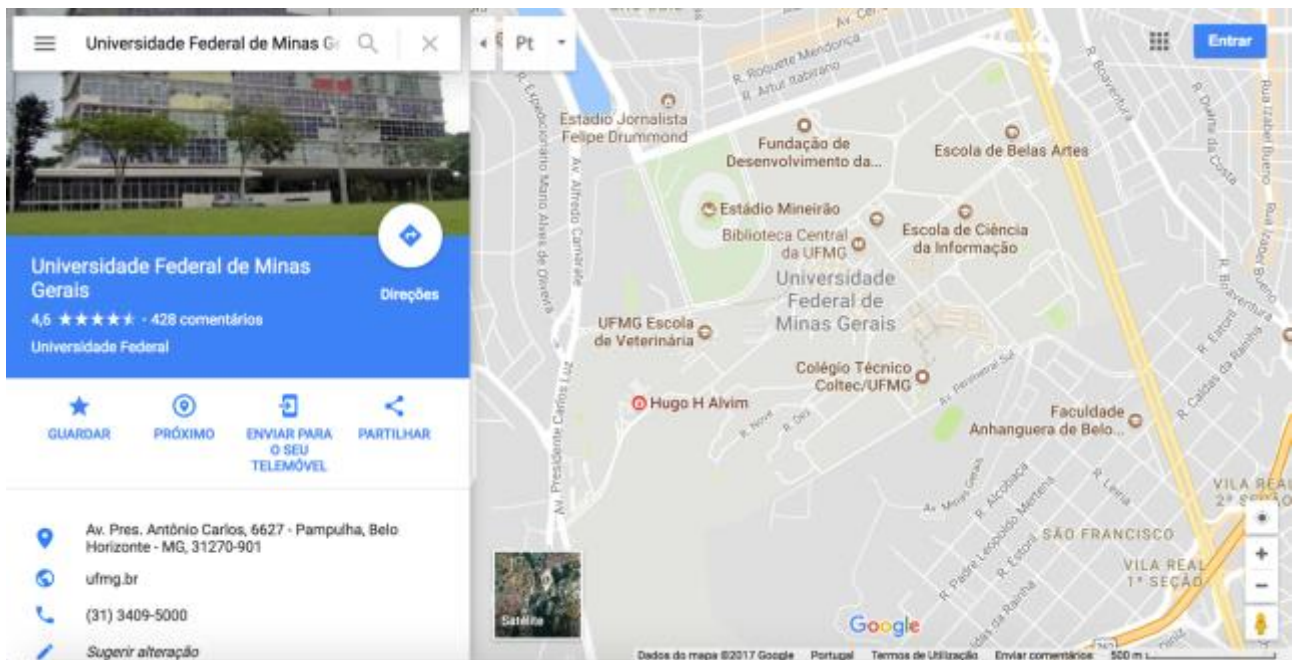
The meeting will take place at the School of Architecture of the Federal University of Minas Gerais, in Belo Horizonte, from December 11 to 14, 2017.

BUT.: The activities of the 11th of December will be held at the Pampulha Campus, in the Auditorium of the Rectory.

The lecture of Prof. Carl Steinitz on December 11 at 6:00 pm, will be open to the public.

UFMG – Campus Pampulha: Av. Antônio Carlos 6627. Auditorium of the Rectory

<https://www.google.com.br/maps/place/Universidade+Federal+de+Minas+Gerais/@-19.8690878,-43.9663841,15z/data=!4m5!3m4!1s0x0:0xbb1391cea62811dd!8m2!3d-19.8690878!4d-43.9663841>

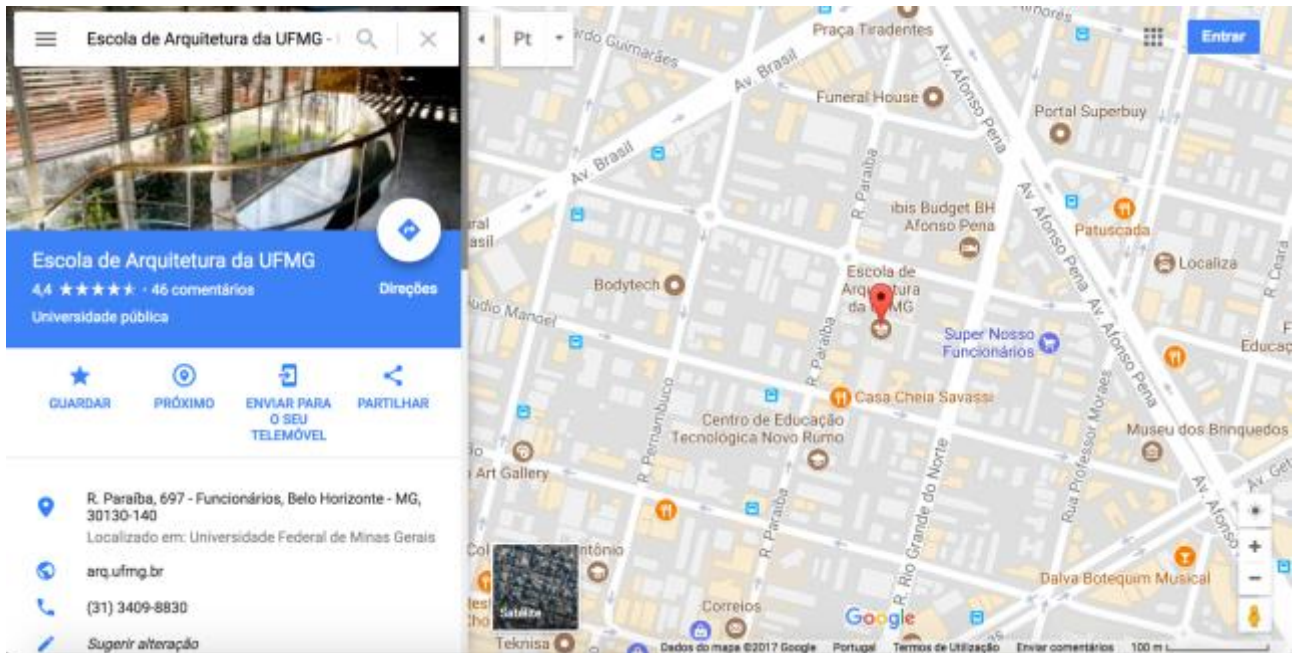


Source: Google maps

The activities from 12 to 14 will be held at the School of Architecture, Federal University of Minas Gerais.

Escola de Arquitetura – Rua Paraíba 697, Savassi, Belo Horizonte

<https://www.google.com.br/maps/place/Escola+de+Arquitetura+da+UFMG/@-19.9330436,-43.9344216,17z/data=!3m1!4b1!4m5!3m4!1s0xa699c2f07035ef:0x6b76f3996f16b27f!8m2!3d-19.9330436!4d-43.9322329>



Source: Google maps

6. Important Dates

November 14 – Notification of distribution in mini-courses

December 11 and 12, 2017 – The Seminar - Lectures, papers presentations

December 13-14 – The Seminar – Lectures, posters event and mini-courses

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7. Program

Monday, December 11	Tuesday, December 12	Wednesday, December 13	Thursday, December 14
<p>Keynote Speaker Ana Clara Moura and Discussion 9:30 - 10:30</p> <p>Paper Sessions 1 10:30– 13:00</p> <p>Lunch Break 13:00 – 14:00</p> <p>Paper Sessions 2 14:00 – 17:30</p> <p>Coffee Break 17:30-18:00</p> <p>Keynote Speaker Carl Steinitz And discussion 18:00 – 19:30</p>	<p>Keynote Speaker Michael Flaxman and Discussion 9:30- 10:30</p> <p>Coffee Break 10:30 -11:00</p> <p>Paper Sessions 3 11:00 – 13:00</p> <p>Lunch Break 13:00 – 14:00</p> <p>Keynote Speaker Francisco de Oliveira 14:00 – 14:40</p> <p>Paper Sessions 4 14:40 – 17:00</p> <p>Social meeting – by adhesion – in the style “Boteco's food” (local typical finger food)- 17:30</p>	<p>Mini-Course – GEODESIGN 8:30-13:00</p> <p>Mini-Course - SMGI</p> <p>Mini-Course - PM</p> <p>Mini-Course – GG</p> <p>Mini-Course - Drones 9:00 – 13:00</p> <p>Mini-Course - GEODESIGN 14:00 – 18:00</p> <p>Coffee Break 18:00-18:30</p> <p>Keynote Speaker Alenka Poplin and Discussion 18:30- 19:30</p> <p>Cultural event – by adhesion - 21:00</p>	<p>Mini-Course - SMGI</p> <p>Mini-Course - PM</p> <p>Mini-Course – GG</p> <p>Mini-Course - Drones 9:00 – 13:00</p> <p>Posters Event 14:00 – 15:30</p> <p>Keynote Speaker Rosanna Rivero and discussions 15:30 – 16:30</p> <p>Coffee Break and books launch 16:30-17:10</p> <p>Keynote Speaker Clodoveu Davis Jr. and discussion 17:10 – 18:10</p> <p>Final Words Scientific Committee 18:10 – 18:30</p>

Mini-course GEODESIGN - Geodesign Workshop: The use of Geodesign Hub in a case study

Mini-Course – SMGI – Social Media Geographic Information as support to sharing decision

Mini-Course- GG – Geogames to promote co-design and co-planning

Mini-Course - PM – Parametric Modeling to simulate alternative futures

Mini-Course - DRONE – The use of drones in data production

Keynotes:

Ana Clara Mourão Moura: “Geodesign as support to opinion and decision making in case studies of contentious interest territories”

Clodoveu Davis Júnior: “Challenges in crowdsourcing geospatial data to replace or enhance official sources”

Carl Steinitz: “On Negotiation as a Geodesign Method”

Michael Flaxman – “Geodesign of Green Infrastructure Using Satellite Imagery”

Alenka Poplin – “Geogames: Games for Change - Designing Future Communities”

Rosanna Rivero – “Experiences in Geodesign: the past, the present and the future”

Tours (by adhesion) (read more in Topic 15 – *Cultural Tours*):

December 10 – Sunday, 13:00 - 18:00 – Pampulha (Niemeyer project, UNESCO`s Cultural Heritage)

December 15 – Friday, 8:00 to 18:00 – Inhotim (contemporary art museum and botanic garden)

December 16 – Saturday, 8:00 – 19:00 – Ouro Preto (baroque historical city)

8. Mini-Courses

Mini-course – GEODESIGN: Geodesign experience:

The use of Geodesign hub to support co-creation of alternative futures to a contentious interest territory in Brazil. The framework of Geodesign: representation, process, evaluation, impact, change and decision models. The teams in Geodesign dynamics. The creation of diagrams, designs and the composition of shared decision.

Mini-course – SMGI: Social Media Geographic Information as support to sharing decision

Social media application to support the construction of data, information and knowledge in Geodesign process. Volunteered Geographic Information, Crowdsourcing Mapping, Web Mapping, voting process and Delphi to arrive to shared decisions. The construction of Representation Models with the use of data captured in Social Media. The construction of Evaluation Models with visualization promoted by Web Maps. The support to opinion making in Impact Models using Delphi method. The support to decision making in Decision Models using web-voting process.

Mini-course – GG: Geogames to promote co-design and co-planning

Geogames are physical or digital games, individual or collaborative, anchored in a spatial environment, elaborated with georeferenced data and maps, allowing learning through fun aspects. Exempli gratia: Geocaching, Ingress (even Pokémon Go), Minecraft, Geotictactoe, CityPoker, Neocartographer, Guesstimate. The Geogames Group at the Geoprocessing Laboratory, of the School of Architecture, UFMG, research on the use of geogames in urban planning and geography studies in articulation with the framework of Geodesign. Hence, the aim of the short course Geogames to Co-crete and Co-design the City is to develop theoretically the key concepts to the topic such as serious games / educational games, and propose two different pragmatic approaches to geogames applied to geodesign: a location-based game in the vibrant neighborhood of Savassi in Belo Horizonte city, and an intervention using Minecraft at the neighborhood of Pampulha, a relevant heritage site in Belo Horizonte.

Mini-course – PM: Parametric Modeling to simulate alternative futures

The use of City Engine for beginners. Exercises on parametric modeling to simulate scenarios on city landscape. Fundamental knowledge of the tools, the ability to manipulate CGA programming language. Programming skills in City Engine software (ESRI), in order to apply and to create rules (scripts) that favor the visualization of future city landscapes authorized by the Laws of Land Use and Occupation, in the use of Brazilian urban parameters. It is of wide interest to simulate the future of urban landscapes, supporting discussions of Geodesign.

Mini-course – DRONE: The use of drones in data production

Capture and data processing using remotely piloted aircraft (RPA). History of RPA creation and evolution. Current equipment and applications. Legislation and Brazilian rules. Desktop and cloud processing software. Demonstration of capture and processing of data using a DJI Phantom 4 Pro and the software Pix4D.

9. Submission of Abstracts

Extended abstracts and/or Video presentations – Language--English + Portuguese/Spanish.

Types of submissions:

1. Extended abstract

- 2 pages in English plus the same text translated into 2 pages in Portuguese or Spanish. Font Times New Roman, size 12, text in single space, A4 format. Color images are acceptable. To be published in the website of the meeting, as a free e-book. Format: DOC or DOCX.

2. Video presentation

- Video presenting experiences and case studies, but not thesis or researches in progress. The language is English. Maximum 5 minutes' video, posted by the author in YouTube. The author must send the link as submission in DOC or DOCX format. The link will be published in the website of the meeting, in a free e-book.

3. Full-papers

- The best presentations will be recommended for publication in the journals:

Disegnarecon (Italy)

ISSN 1828 5961 - <http://disegnarecon.univaq.it/ojs/index.php/disegnarecon>

GeoSIG (Argentina)

ISSN 1852-8031 - www.revistageosig.wixsite.com/geosig

Revista Brasileira de Cartografia (Brazil)

ISSN 1808-0936 - <http://www.lsie.unb.br/rbc/index.php?journal=rbc>

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10. Registration:

November 16, 2017 - Final Registration (to other participants)

Registration fee includes:

- Admission to all sessions;
- Coffee breaks;
- Admission to one mini-course*;

*The participant can indicate 2 possibilities according to a preference, writing a paragraph explaining the motivations, and the organization will distribute and inform the groups.

For lunch break we will indicate possibilities in the surroundings of the meeting, but it won't be included in the organization or fees.

The social meetings, cultural events and cultural tours will be by adhesion. If you have interest in taking part, inform the organization until 16 of November, and you will receive further information about them.

Fee values:

Graduate students* – R\$90,00 (noventa reais – ninety reais)

Post-Graduate students* – R\$180,00 (cento e oitenta reais – one hundred and eighty reais)

Professionals – R\$360,00 (trezentos e sessenta reais – three hundred and sixty reais)

* Students enrolled in the Student category (undergraduate or graduate) must send the proof to geodesign2017@yahoo.com, institutoeds@ieds.org.br . Without presenting the proof, they will be charged to total amount of professional category.

Registration will be confirmed only after payment. The pre-registration doesn't confirm the participation in the event or mini-courses. All kind of participation (to present papers, posters or to follow the activities) requires registration and payment of fees.

If the participant needs invoice or must pay by institutional transaction (“empenho”), he is required to inform the Secretary all his data (PF or PJ): complete name or name of the institution to receive the invoice, complete address, City, Zip Code; CNPJ or CPF or Passport Number; IE (Inscrição Estadual). The authorization to payment (“empenho”) must be done in the name of IEDS (Instituto de Estudos do Desenvolvimento Sustentável). Email: institutoeds@ieds.org.br

Policy and repayment term: Until 30th of November – repayment of 70% of paid registration. After this period, there will be no refund of payment. Repayments must be asked by email to IEDS, informing bank

codes (Bank, Agency, Count), and the refunds will be done after 11th of February (60 days after the seminar). (institutoeds@ieds.org.br)

DO YOUR REGISTRATION IN THE SITE:

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11. Scientific Committee:

Brazil:

1. Ana Clara Mourão Moura – UFMG - Brazil
2. Bráulio Magalhães Fonseca – UFMG –Brazil
3. Rogério Palhares de Araújo – UFMG - Brazil
4. Flavio de Lemos Carsalade – UFMG - Brazil
5. Clodoveu Davis Junior – UFMG - Brazil
6. Alfio Conti – UFMG - Brazil
7. Elisângela de Almeida Chiquito Martins – UFMG - Brazil
8. Sônia Carvalho Ribeiro – UFMG - Brazil
9. Silvio Romero Fonseca Motta – PUC-MG - Brazil
10. Camila Marques Zyngier – Instituto Metodista Izabela Hendrix - Brazil
11. Jorge Xavier da Silva – UFRJ - Brazil
12. Tiago Badre Marinho – UFRRJ –Brazil
13. Paulo Menezes – UFRJ - Brazil
14. Paulo Pellegrino – USP - Brazil
15. Rodrigo Pinheiro Ribas – UDESC - Brazil
16. Francisco Henrique de Oliveira – UDESC - Brazil
17. Fábio Malini – UFES – Brazil
18. Andrea Tenório Carneiro – UFPE
19. Antônio Aderson dos Reis Filho – UFPI
20. Diana Hamburger - UFABC

Europe/United States:

21. Michele Campagna – UNICA – Italy
22. Andrea De Montis – UNISS – Italy
23. Alenka Poplin – Iowa State University - USA
24. Mônica Amaral Haddad – Iowa State University – USA
25. Piotr Jankowski – San Diego State University – USA
26. Michael Flaxman – Geodesign Technologies, San Francisco – USA
27. Juan Carlos Vargas-Moreno – GeoAdaptive and invited professor at the University of Costa Rica
28. Hrishikesh Ballal – Geodesignhub - UK

South America:

29. Gustavo Daniel Buzai – Universidad Nacional de Luján - Argentina
30. Javier Eduardo Becerra – Universidad Santo Tomás de Aquino - Colombia
31. Aldo Ramos – Universidad Nacional del Centro de la Provincia de Buenos Aires – Argentina
32. Rosanna G Rivero – Venezuelan teaching at U Georgia USA, lectures at Simon Bolivar University - Venezuela
33. Martha Cecilia Fajardo - CEO, Grupo Verde Cundinamarca - Colombia
34. Damián Pérez - Facultad de Agronomía, Universidad de Buenos Aires – Argentina
35. Oscar G. Linares Trivino – Universidad del Tolima – Colombia
36. Santiago Mena López – Pontificia Universidad Católica de Ecuador – Ecuador
37. Ignacio Bisbal Grandal - Universidad del Bío-Bío – Chile

Technical group:

1. Ítalo Sousa Sena – UFMG
2. Nicole Andrade da Rocha – UFMG
3. Pedro Casagrande – UFMG
4. Suellen Roquete Ribeiro – UFMG
5. Bruno Amaral de Andrade - UFMG
6. Júnia de Castro Borges – UFMG
7. Marina Magalhães de Castro – UFMG
8. Gustavo Adolfo Martines – UFMG
9. Renata Herculano Nogueira – UFMG
10. Christian Rezende Freitas – UFMG
11. Danilo Marques de Magalhães – UFMG
12. Ana Isabel Junho Anastasia de Sá – UFMG
13. Priscila Lisboa de Paula – UFMG
14. Chiara Cocco – UNICA
15. Emil Lanfranchi - AAU
16. Francesco Fonzino - AAU

11. About us:

Organization Committee:

- Arlete Soares de Oliveira (IEDS)
- Equipe do Laboratório de Geoprocessamento da Escola de Arquitetura da UFMG (geoproea.arq.ufmg.br)

General Coordination:

Prof. Ana Clara Mourão Moura (EA-UFMG)

Prof. Carl Steinitz (Harvard University)

Technical support:

- Instituto de Estudos do Desenvolvimento Sustentável (IEDS)

Support:

- EA-UFMG – Escola de Arquitetura da UFMG
- IEAT – Instituto de Estudos Transdisciplinares Avançados – UFMG
- FUNDEP – Fundação de Desenvolvimento da Pesquisa
- Post-Graduate Programs of the School of Architecture (NPGAU), Geosciences Institute (IGC), School of Engineering (Environmental Engineering) and Cedepar (FACE).
- CNPq - Conselho Nacional de Desenvolvimento Científico e Tecnológico.
- FAPEMIG - Fundação de Amparo à Pesquisa do Estado de Minas Gerais.

Apoio:



TO ANY INFORMATION, SEND EMAILS TO: geodesign2017@yahoo.com, institutoeds@ieds.org.br

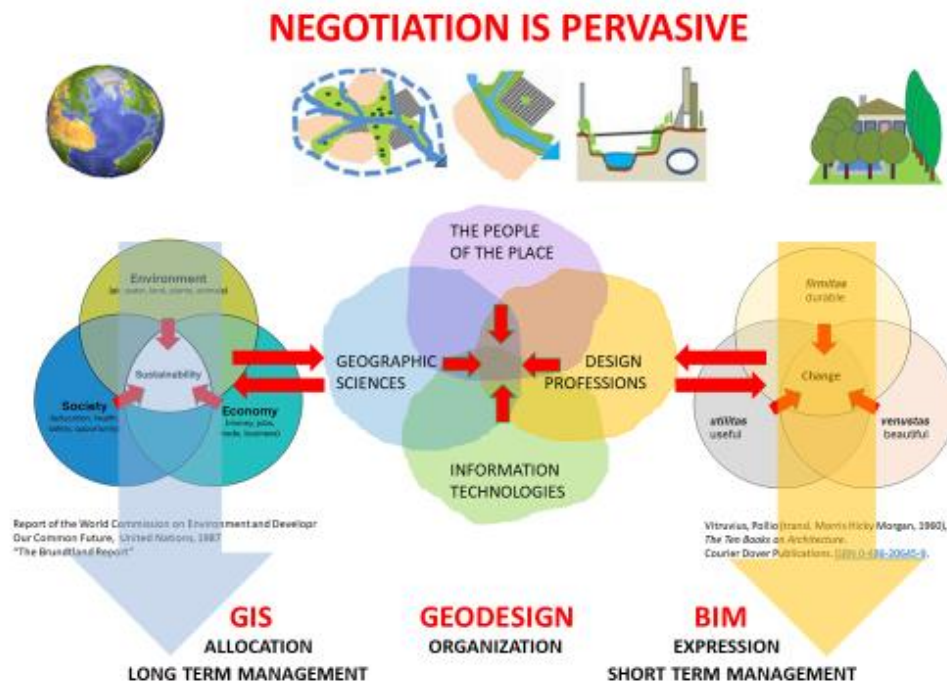
12. Main Conference*:

***OPEN TO WIDE PARTICIPATION, FOR THOSE REGISTERED AND NOT REGISTERED IN THE EVENT**

“On Negotiation as a Geodesign Method”

Carl Steinitz

Graduate School of Design, Harvard University, and
Centre for Advanced Spatial Analysis, University College London



Negotiation is pervasive. It is the most important method for arriving at political consensus regarding future change. It is applicable across size and scale. It has powerful implications for GIS, Geodesign and BIM, and especially on why and how they should and can be linked for the future integration of their workflows. Whether working at large size in GIS, in a middle range in Geodesign, or on a project in BIM, making design decisions in complex circumstances should not be seen as a zero-sum game. Rather, it must be through some level of consensus derived from negotiation. At the global scale, the geographic sciences provide excellent guidance, and at the small project scale the design professions provide excellent service. The priority for collaboration occurs in the middle range, where supply –

based “defensive” strategies need to be balanced with demand – based “offensive” strategies, and where the people of the place who are assumed to initially disagree have the major political role. Coming to a politically acceptable planning strategy inevitably is a collaborative negotiation among the people of the place, aided by geographic scientists and design professionals, and supported by information technologists. These people must have a basis for mutual understanding, communication, collaboration and negotiation (and this is not easy to achieve). Geodesign (in my opinion) is intentionally situated and most effective in the middle role, linking explanation, policy formation and design strategy, and especially on large complex and contentious problems in their earliest stages of strategic design.

13. About Carl Steinitz

Short Biography:

Carl Steinitz is the Alexander and Victoria Wiley Professor of Landscape Architecture and Planning Emeritus at Harvard Graduate School of Design, and Honorary Professor at the Centre for Advanced Spatial Analysis, University College London. Professor Steinitz has devoted much of his academic and professional career to improving methods for designing conservation and development in highly valued landscapes that are undergoing substantial pressures for change. He began his affiliation with the Harvard Laboratory for Computer Graphics and Spatial Analysis in 1965. In 1984, the Council of Educators in Landscape Architecture (CELA) presented Professor Steinitz with the Outstanding Educator Award for his “extraordinary contribution to environmental design education” and for his “pioneering exploration in the use of computer technology in landscape planning, especially in the areas of resource management and visual impact assessment.” In 1996, he received the annual “Outstanding Practitioner Award” from the International Society of Landscape Ecology. He has been honored as one of Harvard University’s outstanding teachers and he is the 2015 recipient of the Jot Carpenter Teaching Medal of the American Society of Landscape Architects. Professor Steinitz is principal author of “Alternative Futures for Changing Landscapes”, Island Press, 2003, and author of “A Framework for Geodesign”, Esri Press, 2012. He has lectured and given workshops at more than 150 universities, and has several honorary degrees.

14. More about the Lectures

14.1. “Geodesign of Green Infrastructure Using Satellite Imagery”

Michael Flaxman

It is always useful to base Geodesign on good current conditions data. This is obviously true where rapid growth renders mapped data quickly obsolete. But it is also fundamentally important in green infrastructure design and planning. Many or most available land cover and vegetation maps are categorical, allowing inference only on average class characteristics. However, the performance characteristics of vegetation and soils often vary by orders of magnitude within common classifications. For example, an urban forest has significant internal diversity in performance characteristics which very much affect its ability to mitigate floods or maintain native fish populations. If we are to design hydrologically and ecologically-performant systems, or to have sustainable agriculture and forestry, we need new ways of thinking about these issues and new tools capable of managing these complexities.

Fortunately, new technologies make it much more economical and practical to measure and monitor desired performance characteristics. Recent advances in remote sensing mean that an unprecedented amount of imagery is now available, increasing at low cost or even free. We present here some recent projects based on open data from Sentinel-2 satellite, which provides global coverage at 10m resolution approximately every 5 days. We found the primary barrier to design use is no longer availability or cost, but rather the compute power and expertise required to get usable information from very large datasets. Therefore, we have built a new cloud-based service designed to perform computationally-heavy tasks such as mosaicking and classification using on-demand servers. We use web services to make resultant imagery and classifications easily accessible on light clients like cell phones and web apps. We will present first tests of this system in several application areas, including urban cover and green infrastructure mapping, as well as in forestry and agriculture.

About...

He has spent the last 20 years working in the field of spatial environmental planning. He currently runs Geodesign Technologies Inc, a startup which concentrates on spatial scenario planning. He was most recently a professor at MIT and co-founder of GeoAdaptive LLC.

His main goal is to continue to develop spatial scenario planning tools, ultimately to bring the benefits of sustainable environmental planning to a much wider global audience. This requires new tools and techniques, which he is active in developing and promoting, It also requires a combination of analytical rigor and design creativity which he tries to foster all of his work.

Specialties: GIS, teaching, spatial analysis, landscape planning, environmental planning, urban growth modeling, environmental impact assessment

14.2. “Geogames: Games for Change - Designing Future Communities”

Alenka Poplin

The key-note speech focuses on the concept of serious geogames, the current developments in this area of research and development, and considers the future of this exciting field. Online serious geogames have been increasingly developed and implemented for urban planning, public participation in planning, civic engagement and architecture. They can be used in a variety of urban planning phases and can enable one to visualize the current situation in the city and/or future developments, facilitate discussions on the issues relevant to the citizens, public officials or other stakeholders; participants can visualize and discuss the proposed plans and changes in the city, learn and reflect upon urban issues. Geogames may foster negotiation and consensus building in urban planning, and/or connect citizens in online virtual platforms, enabling them to submit their suggestions and ideas for urban designs or comment on the proposed urban planning alternatives. Serious geogames are games that are developed for more than just fun. They may enable learning, exploring, experiencing, experimenting and envisioning. They are games mostly played at places in the geographic environment, which is often visualized realistically to immerse the player into a real-world environment. Novel technologies including artificial intelligence, virtual reality, and tactical devices offer exciting opportunities for the expansion of this field technologically and socially. Join us on this exciting playful adventure!

About

Alenka Poplin is an assistant professor of Geoinformation Science and GeoDesign at Iowa State University and the founder of the GeoGames Lab. Her research interests intersect geospatial modelling, interactive virtual geo-environments, game-based modelling and design, and interaction with online mapping systems. Her main application areas include civic engagement, public participation in urban planning, energy modelling, and smart cities. She holds a PhD in Geoinformation Science from the Vienna University of Technology, a Master of Business Administration (MBA) from Clemson University, South Carolina, and a Master in Surveying and Spatial Planning from the Technical University of Ljubljana, Slovenia. Prior to this position she was an associate professor at HafenCity University Hamburg, where she taught between 2007 and 2014. Alenka recently published in several journals including the *Journal of Urban Technology*, *Environment and Planning B: Planning and Design*, *Computers, Environment and Urban Systems (CEUS)*, *The Cartographic Journal*, *Transactions in GIS*, *Cartography and Geographic Information Science*. She is one of the co-editors of the forthcoming edited book *The Virtual and The Real: Perspectives, Practices and Applications for The Built Environment*, to be published by Routledge.

14.3. “Challenges in crowdsourcing geospatial data to replace or enhance official sources”

Clodoveu Davis Júnior

Challenges in crowdsourcing geospatial data to replace or enhance official sources.

Many demands from urban dwellers are based on the availability of geospatial data on various aspects of contemporary life. Governmental sources account for several important data categories, including mobility, health services and public safety. However, open governmental data sources can make existing data available and easily accessible, but not necessarily up-to-date, or even covering all aspects of modern urban life.

On the other hand, technologies such as smartphones allow citizens to become geospatial data producers. Services like OpenStreetMap, Google Places, Foursquare and Waze allow users to contribute valuable georeferenced data on businesses, transit and events in near real time. Although crowdsourced data can be updated continuously, it often has problems in aspects such as coverage, reliability and positional accuracy.

This lecture focuses on the numerous challenges that exist in the integration of geospatial data provided by governmental or corporate sources at their own time and with their own set of rules, to crowdsourced data, provided voluntarily by concerned citizens, or unconsciously through online tools and social networks.

About

He is very important to Brazilians` studies on applied computer science, spatial data infrastructure, database, volunteered geographic information and social media as a source to spatial analysis, geographic data modeling.

He coordinates a group of very talent researchers in the Lab “CS+x” that means “Computer Science plus x” with the intention to put the knowledge of computer science to support interdisciplinary connection with other areas of science. He is collaborating with the development of the bases to Geodesign in South America.

Clodoveu A. Davis Jr. is a professor at the Computer Science Department (Departamento de Ciência da Computação) of the Federal University of Minas Gerais (Universidade Federal de Minas Gerais) (UFMG), in Belo Horizonte, Brazil. He holds a PhD (2000) and a MSc (1992) in Computer Science from UFMG, and is also a civil engineer (UFMG, 1985). Current research areas are mostly on geoinformatics, including geographic information systems (GIS), spatial databases, spatial data infrastructures, geographic data modeling, geocoding, and geographic information retrieval.

14.4. "Experiences in Geodesign: the past, the present and the future"

Rosanna G. Rivero

During the last 4 years, while continuing her work in Florida, she has also been involved in projects that integrate research, teaching and public service, through issues related to planning for natural disasters and mapping applications in collaboration with interdisciplinary groups.

Through the use of "Geodesign" framework, in collaboration with Carl Steinitz, emeritus professor from Harvard University, she conducted two regional projects on the coast of Georgia, involving the use of mapping techniques, visualization and evaluation of scenarios, for the future of this region.

She also collaborates as an advisor in projects with NASA, in a program called NASA Develop, in projects that involve the use of satellite images and geospatial technologies for modeling and decision making, with partners such as The Trust for Public Lands, The Nature Conservancy, and Miami - Dade Parks and Recreation.

In her lecture she will talk about her experiences in Geodesign and will present her ideas about past, present and future for Geodesign studies and methods, as possibilities to urban and regional planning in South America.

About

Rosanna G. Rivero is assistant professor with the College of Environment and Design, at the University of Georgia. Dr. Rivero obtained her Master (2000) and Ph.D. (2006) degrees from the University of Florida, in Urban and Regional Planning and Natural Resources and Environment, respectively. Before joining UGA, she was affiliated faculty with Florida International University and staff with the Everglades Foundation, a non-profit organization conducting research and planning activities related to Everglades' restoration. Her areas of interest have been in regional environmental planning, geospatial technologies and collaborative processes, including geodesign.

Dr. Rivero is originally from Caracas, Venezuela, and came to the U.S.A. with a Fulbright scholarship in 1998. Her interest in natural resources planning started more than 20 years ago, while working in the Orinoco-Apure basin in Venezuela (South America), and later with an environmental consultant company (1987-1997). She has also worked in Florida (University of Florida, Geoplan Center, and Soil and Water Department) and the Florida Fish and Wildlife Conservation Commission.

Dr. Rivero is affiliated faculty with the Southeast Environmental Research Center (SERC) at Florida International University (Miami), and the NSF- Florida Coastal Long Term Ecological Research (LTER).

14.5. "Multipurpose Territorial Cadaster (CTM) and challenges to 3D cadastre"

Francisco Henrique de Oliveira

This presentation aims to contribute to proper procedures and challenges related for the incorporation of 3D information to the Urban Cadastre from the existing structure, especially in where there isn't a cadastral system.

In fact, the increasing complexity of infrastructures and densely built-up in urban areas requires a proper registration of the legal status (private and public), which only can be provided to a limited extent by the existing 2D cadastral registrations. Despite all research and progress in practice, no country in the world has a true 3D Cadastre. As a case study, it will be considered the Municipality of Balneário Camboriú / SC that presents as a profile - the largest buildings in Brazil.

Thus, the example of the urban parameterization of the municipality and its real meaning in the decision making in relation to urban territorial planning and management is going to be presented. Thus, the importance of Multipurpose Territorial Cadaster 2D/3D information for GeoDesign studies will be highlighted.

About

He graduated in Cartographic Engineering from Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP) in 1993. He obtained his PhD in Production Engineering from the Federal University of Santa Catarina (UFSC) in 2002.

In 2012, as a CNPq Fellow he held in the first semester his postdoctoral degree at RWTH - Aachen University - Institute of Geodesy - Germany, and in the second semester of the same year he continued his postdoc at UNI - University of Northern Iowa - Department of Geography - USA, focusing on the theme of the Multifinal Territorial Cadastre .

He is currently an associate professor at the State University of Santa Catarina (UDESC), a collaborating professor at the Federal University of Santa Catarina (UFSC) and a visiting professor at the Lincoln Institute of Land Policy - Boston - USA. He has experience in Geosciences, with emphasis on Multipurpose Territorial Cadastre, working mainly on the following topics: geoprocessing, cartography, digital cartography, multipurpose technical cadastre and thematic cartography.

15: Accommodation indication

The first day of meeting will be in Pampulha, in the auditorium of the Rectory, UFMG (Federal University of Minas Gerais) – Av. Antônio Carlos 6627. But all other activities (from 12 to 14th of December) will be held at the School of Architecture, in the Savassi neighborhood (a central neighborhood in Belo Horizonte). Due to that, we recommend participants to choose hotels in the central area, near Savassi.

Indication of Hotel (with negotiated prices):

Hotel Royal Savassi Express

Rua Bernardo Guimarães 1045, Savassi.

Negotiated price – R\$149,00 + 10% tax of service + 5% ISS - SGL (with breakfast and free Wi-Fi).

Write and email to Andressa: reservas@royalsavassiexpress.com.br

<http://www.royalhoteis.com.br/royalsavassiexpress/hotel-overview.html>

Other hotels close to the School of Architecture:

Ibis Budget Afonso Pena - <https://www.accorhotels.com/pt-br/hotel-8527-ibis-budget-belo-horizonte-afonso-pena/index.shtml>

Ibis Afonso Pena - <http://www.ibis.com/pt-br/hotel-8498-ibis-belo-horizonte-afonso-pena/index.shtml>

Boulevard Park - www.hotelboulevardparkbh.com.br/

Boulevard Express - www.hotelboulevardexpressbh.com.br/pt-br/

Promenade Champagnat - www.promenade.com.br/hotel-champagnat-savassi/

16. Cultural Tours (by adhesion):

December 10 – Sunday, 13:00 - 18:00 – Pampulha (Niemeyer project, UNESCO`s Cultural Heritage)

December 15 – Friday, 8:00 to 18:00 – Inhotim (contemporary art museum and botanic garden)

December 16-17 – Saturday, departure 16 at 8:00, arrival 17 at 13:00 – Ouro Preto (baroque historical city)

Pampulha

Meeting in front of Architecture School, Sunday 10th of December, at 13:00

Itinerary: Casa de Juscelino Kubitschek, Casa do Baile, Igreja de São Francisco, Museu de Arte (JK's house, Ball House, San Francisco Church, Art Museum).

Investment: R\$30,00 per person.

Investment includes: transportation and guide.



Inhotim

Meeting in front of Architecture School, Friday 15th of December, at 8:00

Itinerary: Walking tour 9:40 – Gallery Mata, Gallery Praça, Gallery Adriana Varejão, Gallery Cildo Meirelles, Gallery Cosmococa. Break for lunch: 12:20-13:30. Walking tour 13:30 – Gallery Miguel Rio Branco, Gallery Cláudia Andujar, Gallery Marcenaria, Penetrable Magic Square from Helio Oiticica, Garden of Narcissus from Yoi Kusama. Return to Belo Horizonte: 16:00, to arrive around 17:30.

Investment: R\$100,00 per person.

Investment includes: transportation and tourism guide.

Entrance tickets and lunch are not included.

For entrances prices: <http://www.inhotim.org.br/en/visit/admission/>



Ouro Preto

Meeting in front of Architecture School, Saturday 16th of December, at 8:00

Itinerary: Leaving BH at 8:00. Typical Breakfast 9:20-9:40 (Lanchonete Retiro Novo). Arrival in Ouro Preto 10:00. Visit to Museum of Inconfidence 10:00-11:00. Carmo Church 11:00 – 11:30.

Lunch break (Rua Direita Restaurant) 11:30-12:30.

Walking tour from Rua Direita to Silvano Brandão Square 12:30-13:15. Mirante Getulio Vargas Street and Rosario Church 13:15 – 14:00. Pilar Church and Museum of Sacred Art – 14:10 – 15:00.

Coffee break and pause for handicraft shopping – 15;10 – 16:00. San Francisco of Assis Church – 16:00 – 16:40. Santa Efigenia Church – 17:00 - 17:30.

PS.: After the request of most people that are going to Ouro Preto, we decided to sleep there and return in the morning of 17. The hotels must be reserved and paid by each person.

Investment: R\$100,00 per person.

Investment includes: Transportation and tourism guide. Tickets to Museums and Churches are not included. The tour will be confirmed only with a minimum of 15 persons, but values will be refunded if canceled.

