



e-NEWSLETTER



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Word from the Editor

It is with great pleasure that I present you the latest issue of our newsletter. Previous issue was six months ago and although my initial plans were to have 4 newsletters a year, two issues seems to be a more realistic plan. In the last six months around the planet the financial issues have been the dominant point of discussion. In the US they are printing money, in Europe confronted with the problem of the deficits and their impact on the euro “innovative” financial schemes are proposed, whereas in the BRIC countries the accumulated wealth because of the trade imbalances and their rapid economic growth can be perceived as a way to finance the problems in the North. Complicated issues and it is not the task of this column to say what should be done. My suggestion is to employ creative thinking, having in mind that times are changing and past remedies might not work in the future.

Of course it is not only money that brings the world together or apart. It is also the air we breathe, the water etc. the environmental issues. They are always in the minds of decision makers and people but these days

they are not at the forefront of the news. The rapid economic growth in Asia, Brazil and elsewhere, even if done using the latest environmental friendly technologies, augments the existing problems. Of course the North has its share in these problems and now it is getting a partner. This is an issue where our community can help.

Let’s get now to the news of immediate concern to our organization and the contents of this issue. The annual meeting in Utrecht last April was well attended. Judging from the experience of the last two meetings it seems that we have stabilized to an attendance of about 180 people, about 150 papers being submitted and having about 7 workshops. There is no doubt the field is maturing, hence our annual meetings are competing with many other GI research conferences which have narrow but well-defined focus. New research directions in the field also are driven by advances in computer science, mathematics and physics.

The next AGILE meeting, 24-27 April 2012, will be in Avignon, a city famous from the children song “*Sur le pont d’Avignon*” and the well known festival (theater and other performing arts). Last day for submitting full papers was a month ago unfortunately; however, the deadline for short papers is in January. There is always the concern that short papers although undergoing a blind review don’t get the same “publicity” – let’s speak in Avignon festival terms -- as those in more traditional journals or the book in the Springer series. Recognizing the issue the organizers of this year’s conference with the agreement of the council are exploring the possibility selected authors presenting in AGILE being invited to submit longer versions of their papers to special issues of some journals.

With respect the initiatives there is a new AGILE initiative for Ph.D. students. It will give the chance to young Ph.D.’s to discuss their research ideas among themselves and more senior researchers. There is an agreement on collaboration between AGILE and EuroSDR to fund research on crowd-source data and how they could be used. The final report of the initiative on the “Access of the Academic and Research Community to the Data of the Mapping and Cadastral Agencies” is out. The EDINA group at the University of Edinburgh in Scotland as always delivered. And more

ideas are discussed in the message of AGILE's president Michael Jackson.

There is a review of the 7th GIS seminar in Education (EUGISES) that took place in September 2010 in Serres, Greece. The discussions were extensive and they bring forward some interesting conclusions. The EduMap workshop also has been present at every one of our conferences.

This issue has many conference calls covering a wide spectrum of research interests. I have included all the calls for which submission of papers is still open (and a few for which deadline was in the last week of our publication). I would like to point out a few; the 7th GIS Science meeting that next year will take place in September in Columbus, Ohio and will be preceded by 2012 Autocarto the International Symposium on Automated Cartography; the 6th International Congress on Environmental Modelling and Software (iEMSs) that will take place in Leipzig, Germany in July; the International Symposium on SDH 2012 Geospatial dynamics, geosimulation and exploratory visualization in Bonn; and the 10th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences in Florianopolis, Brazil in July. An issue that might be disturbing a bit is that we don't receive many calls for GI meetings in Asia and in general from countries of the fast developing South.

There is a call from ISARA the International Spatial Accuracy Research Organization for nominations for the Peter Burrough Medal for Senior Scientist. The awarding of this medal recognizes sustained outstanding contributions by a senior scientist to the thematic area of the Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, namely how to measure, model and manage the spatial uncertainty or error in natural resources and environmental data.

Some good news on the Galileo navigation system. On October 21, 2011 the first two of four operational satellites designed to validate the Galileo concept in both space and on Earth were launched. Two more will follow in 2012. Once this In-Orbit Validation (IOV) phase has been completed, additional satellites will be launched to reach Initial Operational Capability (IOC) around mid-decade.

I have enjoyed preparing this issue but it has been tiring doing a lot of manual work to bring things in an artistically consistent way. For somebody not well versed in the latest high tech gadgets being able to hyperlink a word document was definitely enlightenment. I hope that you enjoy this issue and as always you should not hesitate to send comments to be included in our next issue to be published in March next year. Best wishes for Merry Christmas and a Happy New Year.

Poulicos Prastacos
Editor-in-Chief

AGILE-2012 in Avignon

15th International Conference on Geographic Information Science

Avignon, France

24-27 April, 2011

<http://agile2012.imag.fr/>



Fifteen years after the publication of *“Geographic Information Research: Bridging the Atlantic”*, edited by Max Craglia, one of the founders of AGILE, and Helen Couclelis from the NCGIA, you are invited to attend the 15th AGILE International Conference. As the bridges of Avignon and the Guard which have crossed the History, as the painter Van Gogh who travelled from the Netherlands to South of France, we shall try to emphasize the research in geoinformation science, geomatics and spatial analysis where different disciplines, epistemologies and scientific cultures meet. On behalf of the AGILE council, we invite you to participate in the next AGILE International Conference on Geographic Information Science to be held in Avignon, France on April 24-27, 2012

The program will offer parallel paper presentation sessions, keynote sessions, plenary round table debates, poster sessions and pre-conference workshops to share your ideas, explore on-going research, future developments, including state-of-the-art applications, and to network with the professionals from academia, industry, and government who are interested in promoting GI teaching and research activities among GI laboratories at the European level.

Conference Topics

The conference topics include any subject areas related to GI Science.

Submissions

The call for short papers and posters was launched end of November. Short paper submission should be 2000 to 3000-words manuscripts limited to 6 pages (in pdf format) of original and unpublished research work. High-quality scientific and strategic (industrial and governmental) submissions will be accepted for presentation at the conference. Since the new template is very compact, these 6 pages correspond to 8-10 pages in previous AGILE 2011 or single column common guidelines. A selection of the submitted papers will be published in the Proceedings, under ISBN. The selection process is double blind, so the authors must not insert their name, affiliation or own

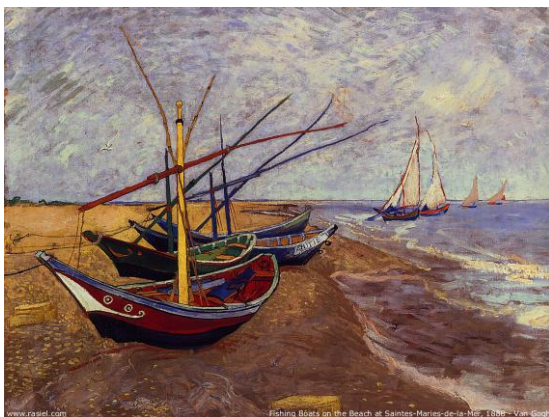
publications in the submitted papers. Papers must be written in English according to the submission template and formatting guidelines.

This year there will be an opportunity to prepare an extended paper for a series of international journals based on a long or short paper. With that aim, a sub-committee of the scientific program committee will make a selection of papers based on their quality, potential and relevance for the respective special issues. The authors will be invited to prepare such an extended paper for one of the below mentioned journals, after the conference. These papers will have to be extended and designed according to the journal requirements (paper length, specific guidelines, journal reviews, possible additional fee). Details on the selection and review process will be provided at a later stage.

Poster submission 500 to 1000-words manuscript of original scientific and strategic research work. High-quality submissions will be accepted for poster presentations at the conference, which will provide the exceptional opportunity to stimulate scientific discussions and exchange novel ideas. Posters proposals must be written in correct English according to the submission template and formatting guidelines. Poster abstracts must be written in English according to the submission template and formatting guidelines.

For more information and the latest news, see the conference web site <http://agile2012.imag.fr/>.

At the conference, prizes will be awarded to the best paper and poster, courtesy of a corporate AGILE affiliated member.



Pre-conference workshops

The conference workshops will be held on Tuesday, April 24, 2012 and are a complementary forum to the main conference, encouraging presentation and discussion of work in progress, and facilitating a dialogue on emerging topics in small groups. The workshop proposals are currently being evaluated by the programme chairs and the AGILE council. Workshops will be mostly interactive in nature.

Scientific and Local Committee

Programme Chairs

- Didier Josselin, (chair) (ESPACE, Avignon, France)
- Jérôme Gensel, (co-chair) (LIG, Grenoble, France)
- Danny Vandenbroucke (co-chair) (SADL/K.U, Leuven, Belgium)

Workshop Chairs

- Thérèse Libourel (Espace-Dev, Montpellier, France)
- Mauro Gaio (LIUPPA-T2i, Pau, France)

Local Organizing Committee

- Didier Josselin (ESPACE, Avignon, France)
- Johnny Douvinet (ESPACE, Avignon, France)
- Cyrille Genre-Grandpierre (ESPACE, Avignon, France)
- Julio Rojas (ESPACE, Avignon, France)
- Jagannath Aryal (ESPACE, Avignon, France)
- Julie Prud'homme (ESPACE, Avignon, France)
- Adrien Lammoglia (ESPACE, Avignon, France)

And from the laboratories in partnership

- Nathalie Brachet (ESPACE, Avignon, France)
- Michel Guerin (ESPACE, Avignon, France)
- Mouna Snoussi (LIG, Grenoble, France)
- Marlène Villanova-Oliver (LIG, Grenoble, France)
- Paule-Annick Davoine (LIG, Grenoble, France)
- Jérôme Gensel (LIG, Grenoble, France)

Call for Grants

The AGILE Grant Programme will allocate 15 grants (scholarships) to AGILE 2010 attendees, with priority given to PhD student candidates from lesser developed regions. An applicant must have submitted a full or short paper, or a poster that has been accepted. The estimated value of each grant is approximately 500 Euro (including full conference registration and a maximum of 4 nights in a hotel chosen by the conference organisers). Information on how to apply for a grant will be eventually published on the web site of the conference.

Important deadlines

October 21, 2011	Full papers submission
November 30, 2011	Pre-conference workshop proposal
December 12, 2011	Notification of full paper acceptance
December 15, 2011	Notification of workshop proposals
December 29, 2011	Camera ready full paper due
January 12, 2012	Short paper and poster submission
February 9, 2012	Grant application
February 16, 2012	Notification of short paper and poster acceptance
March 8, 2012	Camera ready short paper due
March 15, 2012	Deadline early registration
April 24, 2012	Workshops
April 25 – 27, 2012	Agile conference

From the Chair

The busyness of the AGILE agenda is most visibly linked to the annual Conference. There is the selection of the location from the bids from potential hosts, discussions with the local organisers once the selection is made, the call for and review of papers, workshops and posters, consideration of key note speakers, sponsors, etc. all reflecting the workload associated with any major event of this nature. But AGILE members are increasingly active in an organisational context with a range of other activities that run through the year. This is the sign of a healthy organisation and certainly the geo community in Europe are in demand, active and increasingly engaged in research that underpins programmes of major political, economic, social, environmental and security importance.

Much of this activity is undertaken by members and laboratories working directly with their governments at a national level or through personal/professional networks perhaps formed through AGILE events but not necessarily involving the organisation in any direct context. This is as it should be. A professional organisation such as AGILE can realistically only have a light-touch at the day-to-day working level. It can (and does) stimulate a high-quality annual conference and set of workshops which provides a medium for publication of research papers, provide a forum for the exchange of ideas and the development of cross-European professional contacts and organises a series of events where younger researchers can test their research concepts and develop friendships that will be the basis of future collaboration and employment opportunities. These are all vital functions and are an essential element of the scientific process.

But AGILE can offer more than this to the community. Budgets are minimal, but a small cash surplus does currently exist and this can be used to help trigger collaborations in areas that may be new and so not have established networks or where the value of new techniques or research directions need to be given increased profile to raise the likelihood of attracting more substantial research funding. AGILE can also help researchers to broaden the audience for debate and development of new ideas through the organisation of workshops and meetings, perhaps in conjunction with other European or international scientific bodies. It can also take some of the burden of lobbying the political establishment to encourage strategically important research directions to be pursued and funded. It is often easier for a society operating at the European level and representing a community of interested parties to get a voice in such situations whereas the individual lobbyist would be seen as purely pushing a personal agenda.

With these thoughts in mind, the AGILE Council has been considering how it can best serve its members with the limited financial and personnel resources at its disposal. The current status of these discussions is a

commitment to maintain the value and high-quality of the annual conference together with the related publications opportunities and encouragement of young-researchers, e.g. through grants, to attend. Linked tightly to this is the maintenance of a vibrant workshops programme providing the opportunity for more in-depth debate on key themes and acting as a stimulus to engage at a somewhat wider community level than would probably be the case for the main Conference.

Next, the Council is keen to move forward with encouraging a number of special initiatives which are felt to be both core to the AGILE remit and of wider community relevance. Areas identified for support are the hosting of a PhD “summer school”, participation in the Body of Knowledge initiative in conjunction with the ICA and ISPRS and pursuit of two joint initiatives with EuroSDR and OGC – one in the area of crowd-sourcing and the other related to test-bed development. More details on each of these is included elsewhere in the newsletter. Finally, the Council believes that working more closely with the European Commission should be a long-term strategic objective. To be effective here we believe we need to work in conjunction with other European “geo” organisations and have had discussions in this respect with both the EuroSDR and EuroGeographics. The first outcome of these discussions has been a joint presentation by the three organisations to the Commissioner’s Office for Research in Brussels and the agreement to prepare a joint white paper to be submitted to the EC in the New Year.

The success of these initiatives and the vitality of the organisation in general is dependent on maintaining the relevance of our collective research to the governments, industry and citizens of Europe. We need to develop ways of working more closely with each area and ensuring we are first listening and then communicating back on the potential value of what we do. This requires both excellence in research *and* excellence in communications and marketing. We must engage these communities, we need the moral and financial support of industry and government and we need to deliver recognisable value to the citizens of Europe at a time when everyone is looking at pruning the important in favour of the essential.

The Council is still engaged in debating these issues. It needs the inputs and ideas from as many of the membership as possible and particularly from any of you who represents the “user” community in government and industry. Most of all it requires members or prospective members who are willing to engage by providing their time and energy and where appropriate in-kind or financial support to pursue the initiatives that are prioritised.

Mike Jackson
Chairman of the AGILE Council

AGILE-2011: Report from Utrecht



On April 18-21, 2011 the 14th AGILE International Conference on Geographic Information Science was held at Utrecht in the Netherlands. The theme of the Conference, organized by the Faculty of Geosciences of Utrecht University, was “*Advancing Geoinformation Science for a Changing World*”. The program offered parallel paper presentations sessions, keynote sessions, poster sessions and pre-conference workshops to share ideas, explore on-going research, future developments, including state-of-the art applications, and to network with professionals from academia, industry, and government interested in promoting GI teaching and research activities among GI laboratories at the European level.

A total of 152 papers were submitted. Seventy of these were long papers of which 26 were selected to be presented and were eventually published in the Springer Verlag series. That is an acceptance rate of



37%. Additionally 82 short papers and posters were submitted out of which 29 were selected for oral presentation and 24 for a poster. Seven papers originally submitted as full papers were resubmitted as short papers and accepted as such. The papers presented covered a whole range of geospatial research topics covering issues such as data modeling, analysis and visualization. The paper titled “*Modeling Umwelten*” by Jens Ortmann and Henry

Michels (U. Munster, Germany) was voted as the best paper of the conference.

There were three key note speakers. Prof. Helen Couclelis from the University of California in Santa Barbara, USA, Jos Anneveld from the Dutch company Fugro N.V. and Dr. Glen Hart from the Ordnance Survey, U.K.

The meeting was supplemented by 7 pre-conference Workshops dealing with very up-to-date topics. The workshops proved to be a complementary part to the

main conference. A detailed report on each of the workshops appears in another section of this newsletter.

A total of 180 people from 28 from different countries and more than 80 organizations attended the conference. Just above 50% were from The Netherlands (49 people) and Germany (43). France, Spain and UK with 11, 10 and 9 respectively people attending the conference were the next three countries in terms of people attending.

The **AGILE conference short papers and posters** were published on a USB stick and are also available on the web (click the underline above).

Stan Geertman, Wolfgang Reinhardt, and Fred Toppen, eds. *Proceedings of the 14th AGILE International Conference on Geographic Information Science - Advancing Geoinformation Science for a Changing World*, Utrecht, 2011. AGILE. ISBN 978-90-816960-1-2.

The **conference full papers** were published in a book: S.C.M. Geertman, W.P. Reinhardt, and F.J. Toppen, editors. *Advancing Geoinformation Science for a Changing World. Lecture Notes in Geoinformation and Cartography*. Springer Verlag, Berlin, 2011. ISBN 978-3-642-19788-8.

The social activities as is customary in AGILE conferences were very good. Utrecht is one of the oldest cities in The Netherlands with its history dating back to 47 AD. Utrecht's architecture with its old city centre with many buildings and structures from the Early Middle Ages coupled with the traditional Dutch canals, its booming nightlife and a very good weather permitted the conference's participants to complement the day's scientific arguments with relaxed evenings with good food and drinks and interesting discussions.

*Poulicos Prastacos
FORTH*

The Workshops in Utrecht

During the 14th AGILE meeting 7 different workshops were held. A brief review of these is provided below.

Edu-Mapping: The Co-operation and Strategy workshop

This report is not only about the AGILE workshop, but also about two closely related meetings that took place before and after the workshop. How to go about co-operation with other GI-domain organizations? The previous AGILE president Monica Wachowicz started this theme in September 2010 by arranging a meeting in Zürich, Switzerland. At that occasion AGILE (Monica Wachowicz, Frans Rip), ISPRS (Ian Dowman) and ICA (Georg Gartner) were at the table with the GI Body-of-Knowledge-2 team from the USA (Sean Ahern and André Skupin). After presentations by Frans Rip about EduMapping (based on BoK1) and by André Skupin about BoK2, it appeared that there was an interest to co-operate between the parties present. But how? This

was a matter for consideration. Later in 2010, based on this development and the shown interests, within AGILE the EduMapping Initiative was proposed and accepted.

In the context of this Initiative, the AGILE 2011 workshop on Co-operation strategy was organized. It had 8 participants from 6 different EU countries. It was intended to further develop ideas about the co-operation strategy. To trigger the minds of the participants, the day started with presentations about EduMapping (by FR) and JobMatching by Marinus de Bakker (Groningen University). The latter, like EduMapping, uses BoK to create a quantitative profile of GI-jobs. Having job profiles and education profiles both based on BoK makes them comparable. This comparability creates new strategic options for educational programme directors, and also for employers looking for GI-employees. Organizations for GI-certification and the national educational quality assurance bodies should also be interested.

Then the discussion changed to the question of how to continue, in the course of which Marco Painho (Universidade Nova de Lisboa, Portugal) demonstrated the ontological-GI-education-application, developed in his lab. The remainder of the day was spent on discussing the concept for a grant application, to be submitted to the EU FP7 COST-programme. Christoph Brox made some very useful suggestions for improving the concept application. COST key features are:

- building capacity by connecting high-quality scientific communities throughout Europe and worldwide;
- providing networking opportunities for early career investigators;
- increasing the impact of research on policy makers, regulatory bodies and national decision makers as well as the private sector.

The intention of the group is to submit a proposal in the upcoming COST calls. Its focus will be on the preparation work, necessary for actual co-operation between GI subdomains based on the Body of Knowledge.

After the closing ceremony of AGILE 2011, a follow-up meeting of the Zürich session was held at Utrecht University's Geosciences faculty, initiated by Ian Dowman (ISPRS). Other attendants were AGILE's new president Mike Jackson, AGILE secretary Danny Vandenbroucke and Frans Rip on behalf of the AGILE EduMapping Initiative. The ISPRS Education & Outreach Commission was represented by Sander Oude Elberink (University of Twente). Sean Ahearn gave an interesting presentation about the intended structure for BoK2. In general terms the idea is to create an ontology-based application with a Wiki-type interface. Presently, four PhD's are working on the plans for that. The actual building of the software will start in 2013, depending on sufficient funding.

Next, the necessity of looking for funding for the collaboration between BoK2, ISPRS, AGILE and ICA

was discussed. As potential funders, EU, ESF, UN and World bank were mentioned. Possibilities will be explored. It was agreed to meet again in July, during the International Cartography conference in Paris, France. This would enable Georg Gartner from ICA to be present.

If funding can be found, we might be looking forward to a very international co-operation around the GI Body of Knowledge. This should result in better connections between the GI subdomains and consolidation of the knowledge core under the expanding GI application field.

Frans I. Rip

Higher-dimensional GIS, introducing PC Raster 3

Most GIS software packages are built around the concept of attribute information in two spatial dimensions. To represent time series of data and forward simulations in GIS it is needed to represent the time dimension in data and functions. Moreover, for dealing with uncertainty in spatial data, it is required to add a fourth dimension representing stochastic attributes. Although conceptual models for multi-dimensional GIS have been extensively described, the number of tools that can deal with multiple dimensions is still limited.

The workshop addressed this need and introduced the recently released PCRaster Version 3 software that incorporates data structures, data analysis functions and visualization routines for 5 dimensions, i.e. for stochastic spatiotemporal data. The workshop included a number of short presentations dealing with concepts and theory combined with short computer labs to introduce the software.

Integrating Sensor-Web and Web-based Geoprocessing

The ISW workshop included several papers on the sensor web and web based geoprocessing. These have been published as reviewed papers at the CEUR Publisher <http://ceur-ws.org/Vol-712/> while the original presentations can be found at <http://purl.net/ifgi/isw2011>

Presentations in the workshop included:

- Ingo Simonis (Invited Speaker): *The Sensor Web: Standardization efforts to convert the Internet into an active sensing macro instrument*
- Aengus McCullough, Stuart Barr, Philip James: *A Typology of Real-Time Parallel Geoprocessing for the Sensor Web Era, McCullough*
- Karthikeyan Bollu Ganesh, Patrick Maue: *Visualizing Uncertainty in Environmental Workflows and Sensor Streams*

- Xuelin He, Jeremy G. Morley: *LogicGeoObject -- A Client-side Architectural Model for Aggregating Geospatial Dynamics from Sensor Web*
- Alejandro Llaves: *A Theory For Event Processing Of Geosensor Data*
- Michael Bauer, Christoph Wosniok, Rainer Lehfeldt: *Marine Modeling as a Service*
- Simon Jirka, Stefan Wiemann, Johannes Brauner, Eike Hinderk Jürrens: *Linking Sensor Web Enablement and Web Processing Technology for Health-Environment Studies*
- Scott Fairgrieve, Christoph Stasch, Stefan Falke, Lydia Gerharz, Edzer Pebesma: *Error Aware Near Real-Time Interpolation of Air Quality Observations in GEOSS*
- Steven Smolders, Christian Alegre, Simone Gianfranceschi, Marc Gilles, Bernd Resch, Thomas Everding: *GENESIS Employing Web Processing Services and Sensor Web Technology for Environmental Management*
- Sandra Lanig, Georg Walenciak, Alexander Zipf: *Interoperable Processing of Sensor-data in Spatial Data Infrastructures - A Use Case for Wind Power Analysis*

Theodor Foerster



Workshop on Testbed Research: Testing Geospatial Web Services / Persistent Testbed (PTB)

Following the workshops on previous AGILE conferences the Persistent Test Bed group organized a workshop on Testbed Research: Testing Geospatial Web Services. The workshop was successful and was attended by more than 15 persons. This report covers only the most important aspects of the presentations. Details can be found in the full report and the respective presentation slides available on the website <http://sdi-testbed.eu>. The presentations in the conference included:

Stephan Schmid (UniBW): *The Agenda*

The presentation introduced the meeting and gave a brief overview of the events of the day

Stephan Schmid (UniBW): *Introducing the AGIS Testbed - Performance of Open-Source WCS server*

Although being thematically different and not part of the PTB, the military testbed from Universität der Bundeswehr in Munich deals with the same issues and is based on almost identical concepts. The AGIS Testbed is based on a three Layer Model. The Test Bed potentially facilitates the possibility to ensure an increasing interoperability between different (military) organizations. The objective will be to test Geo Web Services as they are used in different nations, share

geo services for military exercises; development of military profiles based on the OGC specifications and others.

Johannes Brauner (TUD / PTB): *An Introduction into the PTB*

The presentation by the PTB facilitator introduced the concepts of the PTB and invited attendants to spread the word and join the PTB. More information about the PTB can be found at <http://sdi-testbed.eu>

Tom Kunicki (USGS): *Geo Data Portal: An Open Standards Based Data Integration Framework and Interdisciplinary Environmental Data Web Processing Services*

This was a discussion of the Geo Data Portal the USGS Center for Integrated Data Analytics is currently working on. The presentation focused on their experience with using SDI services for operational purposes.

Jinsongdi Yu (Jacobs University, Bremen): *Specification-Based Geo Service Testing -Strategies for Increasing Confidence in Geo Services*

The presentation covered the new OGC WCS 2.0 standard which utilizes the core and extension modular mechanism, and each of its implementation follows the requirements in an abstract model as specified in core and realized by combining concrete extensions with specific functionalities to the WCS data and/or service model.

Stefan Wiemann (TUD), Johannes Brauner (TUD): *Web-services for spatial data transformation and exchanges in SDI: a prototypical implementation of the LPIS Test Bed services*

This presentation provided a general overview of the Land Parcel Identification System which represents the geographical module to support the Common Agricultural Policy (CAP) of the European Union. Technische Universität Dresden submitted a tender for the JRC for the development of such a system and the presentation covered various issues related to the design and prototyping of Web Services.

Xen He (GIS-Institutet Högskolan i Gävle): *Testing Download Services for INSPIRE Compliance and Usability Tests*

The results reported in these two presentations are from the GeoTest project, a project initiated by Future Position X (a GIS cluster organization in Gävle, Sweden), the National Land Survey of Sweden (NLS) and the University of Gävle. The project aims to test Swedish geodata, services and geoportals and to make sure they comply with the INSPIRE specifications. The first presentation focused on the testing of download services with respect to INSPIRE compliance. A suite of test tools have been developed based on open source components (SoapUI and LoadUI). The second presentation covered at length the tests that were carried with a test panel with respect how well the application can be used by its targeted users. Further

information can be found at www.geotest.se/downloads/ETF.zip and www.esdin.eu/project/summary-esdin-project-public-deliverables

Jiri Ardielli (VSB - The Technical University of Ostrava): *Quality of Network Services and testing of Inspire Requirements*

The presentation introduced the testing of availability and performance characteristics of the new WMS COSMC Server.

Bastian Schaeffer (52°North): *Cloud Computing as a means to reach Inspire Performance Requirements*

The presentation analysed INSPIRE performance requirements and discussed how they can be matched with Cloud Computing techniques. It was concluded that cloud computing is well suited for frequently used transformation service which need to be operational even in peak load times as requested by the INSPIRE QoS. Additionally, it was identified that in a cloud environment, the local infrastructure is efficiently used because the number of used instances is only based on the number of requests.

Chris Higgins (EDINA): *OGC IE Authentication*

The presentation covered the results of the OGC Interoperability experiment on authentication. User's authentication is relevant for SDIs because of the need to know who is accessing the data. The Shibboleth System, an open source software package that allows sites to make informed authorization decisions for individual access of protected online resources in a privacy-preserving manner was the focus for that experiment. The conclusion was drawn that Shibboleth can be used on the server side and for browser based clients. However, its use with desktop based clients requires some effort.

Sven Schade (JRC): *Testing the INSPIRE Annex II/III data specifications - How the PTB community can get involved*

The presentation discussed many alternative opportunities for involvement of the PTB community with the testing of the INSPIRE data specifications.

Tomas Kliment (Slovak University of Technology): *Use case of public and academic sector organisations cooperation related to spatial data infrastructure components testing (remote Presentation)*

The presentation presented a testing use case from the Slovak Environmental Agency, a public sector organization providing geospatial information on the domain (environment), national (National Infrastructure for Spatial Information) and European (INSPIRE, GMES, SEIS) level. The goal was to identify levels of interoperability between INSPIRE & NSDI datasets and identify discrepancies between specifications, regulations and standards.

Johannes Brauner

Multi- and Interdisciplinary Research on Spatial Knowledge (Management) in the framework of Spatial Information Infrastructures (SII)

The objective of this AGILE pre-conference workshop was to explore the potential role of Spatial Information Infrastructures (SII) for spatial knowledge management. The workshop relates to two research programmes where participants from different disciplines study the role of SII for the public sector which potentially could benefit from SII for spatial knowledge management. The first programme, carried out by the Katholieke Universiteit Leuven and the Vrije Universiteit Brussel, is entitled "*Spatial Data Infrastructures and Public Sector Innovation*", funded by Institute for the Promotion of Innovation by Science and Technology in Flanders; the second programme, "*Using spatial information infrastructure in urban governance networks: reducing urban deprivations in Indian cities?*" is led by the University of Amsterdam, School of Planning and Architecture in Delhi and ITC of Twente University and funded by NWO-wotro.

The rationale behind the workshop was that while a lot of attention has been paid to SII as a technical platform to support sharing and accessibility of expensive geo-data collected by different agencies, its (social) relevance for production, use, exchange and integration of different spatial knowledge types is less prominent.

The workshop was opened by Prof. Isa Baud (UvA – University of Amsterdam) and was organized around two sessions. During the morning session we had presentations on:

- Christine Richter: *Spatial data integration in Indian cities: A problem of data content or power?*
- Tara van Dijk: *E-governance in Two Indian Cities: Taking hold, Spectacle or Feeble Panoptic Strategy?*
- Ezra Dessers: *Analyzing spatially enabled work processes: results of a multidisciplinary case study on spatial planning*
- Danny Vandenbroucke: *Case based research in the field of SDI: some lessons learned from its application to the SDI in Flanders (Belgium)*
- Gianluca Miscione: *Geo-location in open systems - reflection from a 'human sensor web*

The afternoon session was chaired by Javier Martinez, Karin Pfeffer and Danny Vandenbroucke and consisted of an interactive workshop where two groups discussed the integration of diverse knowledge sources, the role of volunteered geographic information and social implications of spatial knowledge production, use and exchange. One group worked from the perspective of "top-down" data construction and integration of official information sources (technical, sector, expert knowledge) with social knowledge (community, tacit) and scientific knowledge. The other group looked from a "bottom-up" data construction perspective and the integration/contestation through social knowledge and

volunteered geographic information.

The workshop ended with the presentation of the two groups and a general discussion on the challenges (e.g. access versus privacy issues) and new emerging practices (e.g. towards more collaborative ways of decision making) and implications in terms of inclusion and exclusion (e.g. ICT literacy and exclusion by design)

*Javier Martinez, Karin Pfeffer and
Danny Vandenbroucke*

Spatial Thinking

Spatial literacy, and associated ideas such as spatial thinking and spatial cognition, have been the focus of several recent and distinctive academic initiatives and programs around the globe (e.g. LENS, CSISS, SPLINT). Shared goals include a better understanding of the ways in which we think and learn spatially, and an application of that knowledge to educational domains. This understanding has implications for the ways in which we teach and learn GIS and the utility of GIS as a tool for addressing spatially-based problems in the world. The public's use of maps, through programs of citizen science, volunteered geographic information (VGI), GPS use for personal navigation, access of location-based services (LBS) via hand-held devices, and other neo-geography mapping applications all include expectations for people to use spatial modes of thinking and make decisions involving spatial information. Thus our understanding of how we develop and encourage good spatial practice is even more important. The workshop consisted of three major components:

- Short participant papers on the nature, implications or counteractions in regard to spatial thinking;
- A short webinar, led by colleagues in the US, providing an overview of current research in spatial cognition.
- Group discussions, comprising of a review of implicit spatial thinking by GI researchers through a top-down journal paper review exercise and discursive interactions bringing together viewpoints and issues raised by the short presentations and review exercise.

Participants were provided ahead of time with an annotated bibliography of published literature on the topic of spatial thinking, especially as it pertains to matters of maps and representations, mapping, and navigation. This collection reflects the most current and relevant research by an international group of geographers, geoscientists, and cognitive and developmental psychologist who are studying these topics.

Commercial and Open Source Tools in Geospatial Education and Learning

The objective of this workshop was to discuss the integration of commercial and open source tools and

how they could be used effectively in geospatial education and learning. The presentations can be found on the web:

- [Thomas Bartoschek: E-school](#)
- [Michael Gould: *Mixing Commercial and open source tools for Teaching and Research*](#)
- [ArcGIS editor for OSM](#)
- [ArcGIS Geoportal server](#)
- [Gunther Dagl, Manfred Mittlbock: *Near Real-Time Integration of Sensor Measurements for the Geographic Data Infrastructure 'National Park Berchtesgaden'*](#)
- [Arne Broering and Simon Jirka: *Sensor Web In Practice*](#)

Michael Gould

AGILE initiatives



Cooperation between EUROSDR and AGILE

AGILE and EuroSDR are together funding pilot project research into the use of crowd-sourcing in a national mapping context. The projects are to be carried out through university student internships in the summers of 2012 and 2013 with funding of €1,800 per internship (unless further funded by project partners). The intention is that the projects will pair a national mapping or cadastre agency (NMCA) with an academic partner(s). In order to set an agenda for the internships and to award at least three projects for the 2012 round of internships, the project organizers, Jeremy Morley (Nottingham Geospatial Institute, University of Nottingham) and Dr. Peter Mooney (National University of Ireland, Maynooth) invite participants from across Europe to a project development workshop to be hosted at the University of Nottingham on 19-20 January, 2012. More information on the workshop are available on the *AGILE website*.

First PhD Winter School in 2012

The AGILE council envisages an improved support to PhD students working on themes related to geoinformation, geographical information systems and services. Therefore, the council decided to carry out a PhD Winter school aiming at bringing together PhD students throughout Europe to discuss their projects and exchange knowledge and experiences.

The first AGILE PhD Winter School will primarily be steered by the PhD students themselves, however, some senior scientists will be present to answer questions and share experiences with the PhD candidates.

In "Call for Conferences" section of this Newsletter there is the CfP for the PhD School. It will take place on

March 13-14, 2012 in Wernigerode in Germany, an old, beautiful, middle-sized town in the Harz, one of the nicest mountainous regions in the middle of Germany. Students wanting to attend will have to submit a letter of motivation by December 30, 2011.

Further information can be obtained from the organizers, Lars Bernard (lars.bernard@tu-dresden.de) and Hardy Pundt (hpundt@hs-harz.de)



Castle of Wernigerode

Access of Academic Institutions to the Data of the European National Mapping and Cadastral Agencies

This Initiative started three years ago and the final report has been published and is available at AGILE's web (www.agile-online.org) (bottom of the initiatives page). The executive summary appears below.

The European National Mapping and Cadastral Agencies and Higher Education A Market for Geospatial Information – Myth or Reality

Access to core geospatial data sets (topographic digital map data, administrative units, hydrography, geology, etc.) is critical for academic research and teaching in almost every discipline.

Between January and April 2009, EDINA National Data Centre¹, based in the United Kingdom, carried out two surveys to explore '**Access to Geospatial Data for the European Higher Education Community**'. The first survey targeted the network of National Mapping and Cadastral Agencies (NMCAs); the second surveyed the European Higher Education community.

The surveys explored four main themes relating to the provision of data by the NMCAs to the European Higher Education Community. These were: the level of demand for data, data availability, accessibility, and the licensing programmes in place to satisfy demand.

The study revealed that:

- There is a 'healthy' demand for NMCA data from the Higher Education community. This demand is 'pan European' with many Higher Education users seeking to access data from countries other than the one in which they live and study or carry out research.

- The majority of the NMCAs surveyed had arrangements in place for Higher Education. However, for many, this arrangement is the provision of data at a discount and/or free samples of data rather than an agreement for access to national coverage.
- Around 50% of the Higher Education users found gaining access to NMCA data a problem, with the high cost, licensing and usage restrictions being the main barriers. The majority of users wanted access to data products with national coverage. The main datasets made available by the NMCAs are topographic data, aerial photography and historic maps. In some cases cadastre information is provided. However, there is a perception by the Higher Education community that a great many more types of data could be made available. This has the potential of leading to frustration especially when NMCAs are unable to meet requests for data they don't hold.

Of the countries who responded, only four countries had national agreements in place: Denmark, Norway, Great Britain and Sweden.

There are many benefits for NMCAs to gain from taking the Higher Education market more seriously. It can provide an opportunity to gather feedback on fitness for purpose of data products, innovative applications and uses as well as unearthing new business areas and applications. It provides a potentially extensive, geoliterate and motivated user base. It is an under exploited market and a potential source of income. Finally, many academic users subsequently enter employment and thus are the customers of tomorrow. However, much more needs to be done to improve the availability of geospatial data for the Higher Education community both within and between countries.

*David Medyckyj-Scott,
Emma Sutton,
Chris Higgins,
Ian Heywood*

Reports from AGILE sponsored Workshops



EUGISES 2010

September 9-12, 2010, Serres, Greece

EUGISES 2010 took place in Serres, Greece between the 9th and the 12th of September 2010. The conference

was hosted at the Elpida Resort Hotel in Serres and was jointly organized by the Department of Geoinformatics and Surveying, TEI of Serres, the Faculty of Geographical Sciences, University of Utrecht and the Faculty of Spatial Sciences, University of Groningen. The conference drew about 25 participants and had also an emphasis on the social aspect, as this was a meeting of old and new friends with a shared interest and passion. The conference was sponsored by an ESRI grant and was supported by AGILE.

The main focus of the conference was on the educational aspects of GI Science and many interesting papers were presented, as can be seen at: www.eugises.eu. The proceedings of the conference will be published as a separate volume with all contributions, expected to be available in the spring of 2012. During the conference and especially the last session the participants had the opportunity to discuss the major findings of the seminar and the outlook for the next one. The points that were highlighted are (in arbitrary order):

Teaching and Learning

- The role of GI as a science should be further explored and established; efforts of assessing teaching contents as well as methods in Europe and the world should be enhanced and at some extend homogenized.
- There is a need for a fresh view on what is needed as contents and methods for including GI education in other domains (e.g. like archeology, health, etc.). We should ask for more input about contents from these domains, instead of imposing our own lists of topics (e.g. Body of Knowledge). However it remains the responsibility of the GI education community that each (academic) course should be more than just software training.
- The advancements in technology, like the advancements in mobile technologies, make it possible to integrate those technologies into teaching. So best practices and the experiences on this subject should be exchanged and further enhanced.
- The diversity of the situations in the different countries, courses and programs makes exchange of information extremely important. Although we all differ (audience, education levels, needs) we can use different elements and translate these to fit our own situations.

GI and other sciences

- The relation between GI and cartography education should be more explored. Cartography as a communication science should be more visible. Exploring the International Cartographic Association (ICA) projects could be one possibility to reach this objective.
- Having GI as a curriculum part of other sciences is not enough, it remains though a major source of impact; we should think on how to proceed with this in the next period.

Quality Assurance

- Regarding the presentations of the Quality Assurance we propose to elaborate on this, specifically in an international setting. Job mobility and “portability” of skills are important driving factors. Skills could be defined in relation with the labor market (e.g. job descriptions of USA department of labor) and other stakeholders. Benchmarking and the development of tools are important topics.
- An invited speaker from a relevant organization could be discussed to be present at the next EUGISES as well. Major aim is to have an increased transparency in outcome of our education.

Students’ participation in the conference

- Regarding the positive experience of students’ participation in the seminar, we should actively invite students.
- Another course of action could be to invite some of the participants to present before or after the conference related subjects at the host institute (including a possibility to use a virtual lab environment). This happened with great success in Serres.

We are looking forward to seeing you in EUGISES 2012 which will take place in Leuven, Belgium, from 6 to 9-september-2012. 1st announcement at <http://ees.kuleuven.be/eugises12/>. The call for contributions is open now! Please keep also an eye at www.eugises.eu.

Dimitris Kotzinos

Positions Available



**University of Twente,
ITC, the Faculty of Geoinformation Science and
Earth Observation
Professor of Spatio-Temporal Information
Processing and Services Development**

<http://www.itc.nl>

ITC, the Faculty of Geoinformation Science and Earth Observation of the University of Twente, invites applications to fill a professorial chair in the department Geo-Information Processing (GIP). The GIP department deals with methods and techniques for the supply of spatio-temporal information (STI) products

and services in answer to the ever changing information demand. The candidate is expected to actively contribute to research, education and (overseas) project services and to direct and develop staff of the chair-groups in these activities. Additional responsibilities of the chair include cultivating multidisciplinary cooperation within the faculty, stimulating and maintaining external scientific networks, participating in the management of the department and contributing to the development of the faculty's policies on and quality assurance of, research and education.

The new professor will contribute to the academic domain of the department and (s)he will focus on two major questions a) How to represent our spatial environment and processes by spatio-temporal data in information systems, and b) How to design systems for the processing and management of spatio-temporal information and for services to access and use this information in spatial data infrastructure environments

Successful candidates should have relevant academic education, preferably in, or in a discipline related to, geo- informatics. Position requirements are as follows:

- A PhD on a topic relevant to one or more of the tasks listed above, and an outstanding track record in the field of large geospatial applications
- A vision on the role and place of large geospatial applications within the mission of ITC
- An international reputation and network and strong records of publication and funding acquisition
- A multidisciplinary approach, proven didactic qualities and evident management capacities

ITC offers a full-time structural appointment in an inspiring and challenging international environment. Salary and conditions will be in accordance with the Collective Labour Agreement (CAO) of the Dutch Universities. Gross monthly salary depends on qualifications and experience and ranges from € 4,904.- to € 7,142.- (exclusive of allowances) in accordance with the job profile 'Hoogleraar' 2 under the University System in Job Classification (UJC). Additional information can be obtained from Prof. M.J. (Menno-Jan) Kraak, Chairman of the Selection Committee, Professor of Spatio-Temporal Information Processing and Services Development, e-mail: kraak@itc.nl, phone: +31 (0)53 4874 463. Female candidates are strongly encouraged to apply. Interested candidates are invited to send their application and detailed curriculum vitae and a letter elaborating the motivation for the application before 18 January 2012.

Call for Nominations for first Peter Burrough Medal

The International Spatial Accuracy Research Association (ISARA) is accepting nominations for the 2012 Peter Burrough Medal for senior scientists. More

information is available at <http://spatial-accuracy.org/Medals>. The awarding of this medal recognizes sustained outstanding contributions by a senior scientist to the thematic area of the *International Symposia on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences*, namely how to measure, model and manage spatial uncertainty in natural resources or environmental data. The awardee will be invited as a keynote speaker, to deliver The Peter Burrough Lecture, for the 10th Spatial Accuracy symposium in Florianópolis, SC, Brazil, July 10-13, 2012 at which s/he will receive the medal (see <http://www.accuracy2012.ufsc.br/>). The 2012 ISARA Conference organizer, Carlos Vieira, will furnish the awardee the normal keynote speaker support for registration, travel and accommodations.

Any living person may be nominated. A nomination must take the form of a written letter (of no more than 750 words) from a scholar who is thoroughly acquainted with the nominee's work, stating in a well-structured, well-argued and convincing manner why the nominee deserves the medal. The letter must be signed by a total of three scholars, one of whom must have attended at least one of the Spatial Accuracy symposia (preferably one of the preceding three; this individual must identify which symposium s/he attended).

At the time of his/her nomination, a nominee must agree to receive the medal in person at the Florianópolis, SC, Brazil symposium (confirmation of this commitment needs to be conveyed to the Panel of Judges), and must furnish a current curriculum vitae to the Panel of Judges. If the nominee is a member of either the Panel of Judges or the ISARA Steering Committee, then s/he must excuse him/herself from that position through the end of July, 2012 in order to accept the nomination. Nominations were due before November 30, 2011.

Call for Papers, Conferences of Interest



Workshop on Crowd-sourcing in national mapping

University of Nottingham, UK

January 19-20, 2012

<http://www.nottingham.ac.uk/grace/events/eventsarticle/s/crowd-sourcing-in-national-mapping.aspx>

AGILE and EuroSDR invite researchers, national mapping & cadastre agencies and GIS professionals to participate in a 1½ day workshop to discuss the role of

crowd-sourcing in the context of national mapping. This practically focused workshop will start with scene-setting presentations on the rise of crowdsourced geographic information before inviting participants to group together to discuss the challenges of using crowd-sourced data in a national mapping context, and to develop short project plans. At least three projects will be funded as student internships in Summer 2012. More information on the collaboration between EUROSDR and AGILE are available in this newsletter under the Initiatives section. More information on the workshop can be obtained at <http://www.nottingham.ac.uk/grace/events/events.aspx>.



1st PhD Winter School

1st PhD Winter School in 2012

Wernigerode, Germany

March 13-14, 2012

www.agile-online.org

For the first time, AGILE will carry out a winter school dedicated to PhD students who are currently working on their theses. The winter school is aimed at bringing PhD students together to give them a platform to present their work in progress, and discuss critically approaches, methodologies, and goal-settings. The 1st AGILE PhD Winter School will primarily be steered by the PhD students themselves, however, some senior scientists will be present to answer questions and share experiences with the PhD candidates.

The participation in the Winter School requires a position paper, for which the following items give an orientation:

- Title of the PhD thesis (if not fixed yet, a “working title” is adequate)
- Motivation for the PhD project
- A brief explanation of the aims, methodologies, and expected results
- Motivation to participate in the winter school

Based on the position paper a program committee will select the participants of the Winter School. If selected, every participant will have the opportunity to write a publication on the theme or a sub-theme within the framework of her/his PhD project. It will be published in a universities’ book series. Eventually, best papers will be published as part of a special issue in a well known journal.

AGILE will support the selected participants financially in form of a subsidy; therefore a special request would be necessary. The amount depends from the number of participants.

The location of the Winter School will be Wernigerode in Germany, a middle-sized town in the “Harz” which has got a widely known, and beautiful old town. The Harz, however, is one of the nicest mountainous regions in the middle of Germany. The event takes place on March 13 -14, 2012. The deadline to send a position paper is December 30, 2011. Please send your abstract to one of the following email addresses which you can also use for any further information and questions: Lars Bernard (lars.bernard@tu-dresden.de), Hardy Pundt (hpundt@hs-harz.de)



9th Workshop on Positioning, Navigation and Communication 2012 (WPNC'12)

Dresden, Germany

March 15-16, 2012

<http://www.wpnc.net/cfp2012.html>

Localization is touching every aspect of our everyday life. Advanced location aware services are enabled by ranging and positioning techniques attracting great attention from scientists and industry alike. Recent advances in heterogeneous sensor fusion, p2p-networks, context awareness, privacy and security are enabling new system solutions and bring in new challenges to be solved at the same time. WPNC, the premier event on Positioning and Navigation in Europe, continues to provide an international platform for exchanging latest research results and inputs from the industry.

The 9th Workshop on Positioning, Navigation and Communication 2012 (WPNC'12), will take place at the University of Applied Sciences (HTW) in Dresden on March 15-16, 2012. The Call for Papers can be downloaded [here](#). Authors are invited to submit papers presenting scientific work, practical implementations or application scenarios addressing, but not limited to the following topics:

- Context awareness in localization
- Ranging/Positioning techniques
- Navigation
- Localization related R&D projects
- Location aided Communication and Applications
- Robust and Secure Positioning
- Energy efficient localization

Full Papers (max. 6 pages) or Extended Abstracts (2-5 pages) must be submitted in PDF-format in English language to <http://wpnc12.trackchair.com> until December 16th, 2011. The workshop proceedings will be published electronically on data storage device at the event in Dresden and online in the IEEE Xplore database (pending).



The 20th annual GIS Research UK (GISRUk)

Lancaster, U.K.

April 10 -13, 2012

<http://www.geo.ed.ac.uk/gisruk/gisruk.html>

The GISRUk conference series is the UK's national GIS research conference, established in 1993. GISRUk conferences are primarily aimed at the academic community. They attract delegates from all parts of the UK, together with the European Union and North America and from disciplines including Geography, Computer Science, Planning, Archaeology, Geology, Geomatics and Engineering.

The GISRUk conferences have the following aims:

- to act as a focus for GIS research in the UK
- to provide a mechanism for the announcement and publication of GIS research
- to act as an interdisciplinary forum for the discussion of research ideas
- to promote active collaboration amongst researchers from diverse parent disciplines
- to provide a framework in which postgraduate students can see their work in a national context

This year the conference will be hosted by Lancaster University. The conference will follow its usual format of pre-conference workshops (starting on 10th April), plenary sessions from invited keynote speakers, and oral presentation of papers in a series of parallel themed sessions.

Additionally in the GISRUk 2012 conference a special session is being arranged for the work and career of Stan Openshaw who retired from his post as a professor of human geography at the U. of Leeds back in 2000 following a severe stroke. Stan will attend the special session and ideas for contribution to the special session should be sent to Andy Turner (a.g.d.turner@leeds.ac.uk).



7th International Workshop on Digital Approaches to Cartographic Heritage

Barcelona, Spain

April 19-20, 2012

http://xeee.web.auth.gr/ICA-Heritage/2011_2015/BARCELONA_2012/

The ICA Commission on Digital Technologies in Cartographic Heritage and the Institut Cartografic de Catalunya (ICC) organize the 7th International Workshop on Digital Approaches to Cartographic Heritage in association with the 18th Conference of the LIBER Groupe des Cartothécaires / Maps Expert Group (Barcelona, 17-18 April 2012).

The conference will focus on issues related to:

- Digital map libraries and map collections: Archiving, matching, management, networking and accessibility in-situ and in the web
- Development of methodologies and standards applied on proper two- and three- dimensional digitisation of Cartographic Heritage objects, materials and documents. Digital map restoration
- Digital technologies in map collections, including the digitisation of collections
- Online presentation of maps in georeferenced and ungeoreferenced forms
- Discovery, accessibility and retrieval of materials through a range of portals, INSPIRE and SDIs
- New opportunities for cooperation and partnerships using digital technologies
- Developing tools for the long-term preservation of digital map content
- Open data relevant issues

The full papers will be included in the Workshop's CD-ROM, available to all participants. Selected papers will be also published in *e-Perimtron*, the international web journal on sciences and technologies affined to history of cartography and maps [ISSN 1790-3769] according to the journal's editorial policy.

Paper abstracts should be submitted by January 15, 2012. Full papers, not exceeding 5.000 words, should be e-mailed by March 10, 2012. In this conference there are no fees for registration.



Workshop: Sensing a Changing World

May 9-11, 2012

Wageningen, The Netherlands
<http://www.grs.wur.nl/UK/Workshops/scw2>

Three years ago the first workshop on Sensing a Changing World was held in Wageningen bringing together 80 researchers from 12 countries (information [here](#)). Now, three years later, developments in sensor technology have advanced rapidly. Technological

platforms matured, standards are accepted, and various (mobile) sensors become widely available. As a result the number of applications which implement sensors (including human-sensors) and sensor web concepts are increasing, leading to new research challenges. Current developments in sensor technology provide increasing opportunities to analyze human behavior and monitor environmental processes of a changing world. Access to vast amounts of data from mobile (e.g., GPS, mobile phones), in situ (e.g., meteorological, groundwater, seismic) and remote sensing sensors provides scientific researchers with interesting spatial-temporal data sets.

The main goal of this second edition, which is organized with support of the MODAP project (<http://www.modap.org>), is to present and explore the current state-of-the-art developments, impacts and research challenges for sensor web technology in the context of environmental monitoring and analyzes.

To allow participants to present their research in a way that fits the status of their research 3 different type of sessions are organized:

- **Present & Feedback:** a session aimed for short presentations (10 min) about a research proposal and first research results. The presenter may expect some constructive feedback from the audience that will help progress.
- **In-depth & Discuss:** a session aimed at the presentations of more matured research and projects (20 min). There will be enough time for questions and discussions.
- **See & React:** a session to present research ideas and results on posters and informally discuss with the participants.

During the workshop key-note speakers will provide an overview state-of-the-art developments, impact and challenges for sensing the world in different application fields: urban, water, environment, transportation, agriculture, tourism etc. A selection of the presented work will be published in a special issue of a journal (to be announced).

Submission of either conceptual and/or application oriented contributions for the following topics (but not limited to) are invited:

- Knowledge discovery from sensory data sets.
- Scale issues in processing and application of spatial temporal sensory data.
- Real-time and on-demand representation and visualization of sensor data.
- Information extraction from (informal) sensor network data.
- Integration of sensor webs and dynamical modeling.
- Development of location and movement based services.
- Standardized access to sensor data and the linkage to spatial data infrastructures.

- Application of mobile sensor based applications (transportation, urban, tourism, cellular census, location based services etc.).
- In situ and earth observation sensor applications (groundwater, air-quality, river management, agriculture, extreme events etc.).

Deadline for submission of abstracts is on January 15, 2012.



4th International Conference on Cartography & GIS and Seminar with EU cooperation on Early Warning and Disaster / Crisis Management

Albena, Bulgaria

June 18-22, 2012

<http://cartography-gis.com/4thConference/Index.html>

The International Conference on Cartography and GIS (ICC&GIS) is the fourth of this bi-annual conference and this year will be held in Albena, a major Black Sea Resort, 30 km from Varna, Bulgaria. The conference is organized under the endorsement of the International Cartographic Association.

The event aims to collect knowledge and information about the latest achievements of cartography and GIS in the region of the Balkan Peninsula, Europe and at the global level. Another purpose of the conference is to discover and offer satisfactory decisions of the ever increasing demands for analyses and visualization of geo-spatial data in the area of science, economy, management, ecology, crises situations and others at national, regional and global scale. During the conference, ICA commissions will hold their annual meetings.

During the same period a two-day Seminar with EU Cooperation on Early Warning and Disaster / Crisis Management organized by Prof. Dr. Milan Konecny, Chair of ICA Commission on CEWCM and Past-ICA President will be held

Conference Topics:

- GIS Technologies and Related Disciplines
- Cartography and GIS in Education
- Internet Cartography and Digital Atlases
- Planetary Cartography (if ICA commission on PC will participate)
- Map Design and Production
- Cartographic Visualization
- Virtual Geographic Environment
- GIS for City Traffic
- GPS Technologies

- Remote Sensing Technologies

Seminar with EU Cooperation on Early Warning & Disaster / Crisis Management Topics

- European Concepts for Crises Management (CM) and Early Warning (EW)
- Visualization of Geodata and Geoinformation in CM and EW
- GIS in Early Warning and Crises Management
- User Needs and Context Mapping
- From Discovery to Full Interoperability in CM and EW
- SDI and CM: INSPIRE Influence
- "Speaking the Same Language - Semantic Aspects of CM"
- Sensor Mapping for EW and CM

Papers must be submitted by January 10, 2012 and a final versions of accepted papers on May 1, 2012.



6th International Congress on Environmental Modelling and Software (iEMSs)

Leipzig, Germany

July 1 – 5, 2012

<http://www.iemss.org/sites/iemss2012/>

In almost all our decisions we make use of models that reflect the simplified understanding of our environment. Every model and every decision has uncertainties. Recent decline of environmental resources and the ecosystem services our environment provides are a consequence of managing a considerably complex system: our environment and our planet.

How can researchers and scientists that professionally deal with complex systems cope with the questions of environmental resource management that our societies are faced with? These and many other related questions will be discussed at this conference. The aim of the meeting is to enhance understanding of environmental processes and decision making by fostering the discussion and interchange of challenges, solutions, ideas, new methods and techniques, and future research lines in environmental modelling and software.

The congress will take place at the "Leipziger KUBUS", the conference venue of the Helmholtz Centre for Environmental Research - UFZ.

Meetings of iEMSs are joint events integrating different research groups, such as BESAI, ERCIM, ISEM, ISESS, MODSS, TIAS, etc. This diversity among

people devoted to environmental research is one of the added values of iEMSs congresses. So, we are looking forward to fruitful exchange in the sessions.

All proposed sessions of the iEMSs 2012 are integrated into the nine thematic streams:

- Environmental Information-, Decision Support-, and Software Systems
- Human Health and Environmental Risks
- Climate Mitigation and Adaptation Strategies
- Model Development, Analysis and Application: Methodological Aspects
- Participatory Modelling and Stakeholder Involvement
- Resource Management and Sustainability
- Knowledge, Data and Semantic Processing for Environmental Research
- Socio-Environmental Systems
- Issues in Water Resources Management

Information on each thematic area are available on the web of the conference and/or clicking on the above descriptions.



The Tenth International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences

Florianopolis, Brazil

July 10 – 13, 2012

<http://www.spatial-accuracy.org/>

The 10th international Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences will be the first time co-organized by The ISARA Steering Committee and The Commission on Modeling Geographical System of the International Geographical Union (IGU-CMGS) in Florianópolis, Brazil, on 10-13, 2012.

All topics concerned with spatial accuracy and uncertainty in a natural resources and environmental sciences context are appropriate, for example:

- Semantic uncertainty and vagueness
- Modelling uncertainty using geostatistics
- Propagation of uncertainty in GIS
- Visualizing spatial uncertainty
- Uncertainty in Remote Sensing
- Spatio-temporal uncertainty
- Accuracy and uncertainty of DEMs
- Modelling scale in environmental systems
- Positional uncertainty

Authors are invited to submit abstracts for presentation or posters. For both modes of presentation authors must submit abstracts of no more than 500 words in English on original research. Papers accepted will be presented at the symposium and published in the symposium proceedings (ISBN listed). Accepted authors will be invited to submit a full paper for consideration towards a special issue of an international journal.

The last day for abstract submission is on December 9, 2011. Accepted papers to be included in the proceedings will have to be submitted by May 11, 2012



**International Symposium on SDH 2012
Geospatial dynamics, geosimulation and
exploratory visualization**

Bonn, Germany

August 22-24, 2012
<http://www.sdh2012.org/>

The International Symposium on Spatial Data Handling (SDH) is the biennial international research forum for Geospatial Information Science (GIScience), co-organized by the Commission on Geographic Information Science and the Commission on Modelling Geographical Systems of the International Geographical Union (IGU).

The 15th SDH aims to bring together scholars and professionals from the international GIScience community to present the latest research achievements in geospatial dynamics, geosimulation and exploratory geovisualization. The Symposium program will feature keynote speeches delivered by leading scholars, technical sessions with reports of the latest research results, pre-conference workshops and a post-conference student forum.

Paper selection is based on full paper double blind peer review. Accepted papers will be published in the symposium proceedings (Advances in Spatial Data Handling, Springer). Selected papers may be published in a special issue in the *International Journal of Geographical Information Science*.

The focus topics for the upcoming SDH 2012 are in the fields of geospatial dynamics, geosimulation and exploratory visualization. Papers are solicited in the following themes:

- Modeling and Analysis of Movement data
- Geosimulation
- Spatiotemporal Data Structures and Algorithms
- Spatiotemporal Modeling and Analysis
- Modeling Spatial Dynamics

- Spatial Process Models
- Location-Based Services
- User-Generated Content
- Geospatial Data Integration
- Spatio-temporal Information Acquisition
- Geosensor networks
- Multi-scalar Modeling and Analysis
- Geographic Information Retrieval and Dissemination
- Geographic knowledge discovery and data mining
- Spatial Decision Support Systems
- Spatial Data Mining
- Spatial Data Quality and Uncertainty
- Visual Analytics
- Exploratory Visualization of spatiotemporal data

Last day for paper submission is on December 15, 2011. Final versions of accepted papers are due on March 1, 2012



**The 2012 AutoCarto International Symposium on
Automated Cartography**

Columbus, USA

September 16-18, 2012
<http://www.cartogis.org/autocarto.php>

The Cartography and Geographic Information Society (CaGIS) is pleased to announce AutoCarto 2012, an international research symposium on computer-based cartography. The nineteenth in the AutoCarto series, the symposium will be held in Columbus, Ohio on September 16-18, 2012 immediately prior to the GIScience 2012 meeting (also in Columbus).

CaGIS invites cartographers, geographers, geospatial analysts, GIScientists and others conducting research on the cutting edge of the geospatial sciences to submit papers. Abstracts of a maximum of 300 words are due in PDF or Word format. Abstracts should also include 3-5 keywords. Abstracts should be submitted to autocarto-papers@cartogis.org by February 1, 2012 at the latest. Camera ready copies of accepted papers to be included in the proceedings are due on August 15, 2012. Selected papers from the AutoCarto proceedings will be published in a special issue of the *Cartography and Geographic Information Society* journal.

GIScience 2012

Seventh International Conference on Geographic Information Science

The 7th International Conference on Geographic Information Science

Columbus, USA

September 18 – 21, 2012
<http://www.giscience.org/>

The next GIScience meeting will be hosted in Columbus, Ohio, continuing the highly successfully conference series that attracts leading researchers from a wide spectrum of scientific research areas such as cognitive science, computer science, engineering, environmental sciences, geography, information science, mathematics, philosophy, psychology, social science, and statistics. The conference has a tradition of focusing on emerging topics and basic research findings across all sectors of the field, and submission of pure application papers is discouraged.

The conference has two refereed paper tracks: full papers that will be published in a Lecture Notes in Computer Science volume by Springer and extended abstracts. In addition, the conference also includes a variety of workshops and tutorials on September 18, covering cutting-edge topics in related fields of GIScience.

Deadline for Workshop/tutorial proposals is on January 9, 2012; February 6 for full papers and May 4 for extended abstracts. Camera ready manuscripts of the accepted full papers will have to be submitted by April 30.

Agenda	
January 19-20, 2012	<i>Workshop on Crowd-sourcing in national mapping</i> , University of Nottingham, UK
January 23-25, 2012	<i>GIS Ostrava 2012 – Surface models for Geosciences</i> , Ostrava, Czech Republic
January 30 - February 4, 2012	<i>The Fourth International Conference on Advanced Geographic Information Systems, Applications, and Services GEOProcessing 2012</i> , Valencia, Spain
March 13-14, 2012	<i>1st PhD Winter School in 2012</i> , Wernigerode, Germany
March 15-16, 2012	<i>9th Workshop on Positioning, Navigation and Communication 2012</i> , Dresden, Germany
April 10 -13, 2012	<i>The 20th annual GIS Research UK (GISRUK)</i> , Lancaster, U.K.

April 12-13, 2012	<i>11th International Symposium on Web and Wireless Geographical Information Systems</i> , Naples, Italy
April 19-20, 2012	<i>7th International Workshop on Digital Approaches to Cartographic Heritage</i> , Barcelona, Spain
April 23-27, 2012	<i>Geospatial World Forum 2012: Geospatial Technology and World Economy</i> , Amsterdam, The Netherlands
April 25-27, 2012	<i>15th AGILE International Conference on Geographic Information Science - Bridging the Geographic Information Sciences</i> , Avignon, France
May 9-11, 2012	<i>Workshop: Sensing a Changing World</i> , Wageningen, The Netherlands
June 18-22, 2012	<i>4th International Conference on Cartography & GIS and Seminar with EU cooperation on Early Warning and Disaster / Crisis Management</i> , Albena, Bulgaria
July 1 – 5, 2012	<i>6th International Congress on Environmental Modelling and Software (iEMSs)</i> , Leipzig, Germany
July 10 – 13, 2012	<i>The Tenth International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences</i> , Florianopolis, Brazil
July 23-27, 2012	<i>Special GIScience Research Session at the ESRI International Users Conference</i> , San Diego, USA
August 22-24, 2012	<i>International Symposium on SDH 2012 Geospatial dynamics, geosimulation and exploratory visualization</i> , Bonn, Germany
August 25-September 1, 2012	<i>XXII International Society for Photogrammetry & Remote Sensing Congress</i> , Melbourne, Australia
September 16-18, 2012	<i>Autocarto 12: 19th international research symposium on computer-based cartography</i> , Columbus, USA
September 18-21, 2012	<i>The 7th International Conference on Geographic Information Science</i> , Columbus, USA

Ongoing and new activities

Take the 'Business Value of OGC Standards' Survey

The OGC Business Value Committee is conducting a survey on the effectiveness of open standards. The survey is a joint effort by two academic researchers, OGC members, and by the OGC Business Value Committee. Mu Xia at Santa Clara University and Kexin Zhao at the University of North Carolina at Charlotte developed the survey based on requirements from the

OGC Business Value Committee. The OGC Business Value Committee will use a summary of the results to help the OGC better understand the value of the OGC's open standards and improve its programs for geospatial standards development, compliance testing and outreach.

Everyone involved with geospatial or location data, software and services is encouraged to complete the survey. This is an opportunity for technical and commercial colleagues to work together and highlight their business needs and requirements around open standards. OGC membership is not a requirement, and individuals can participate even if the software they use or provide does not implement OGC standards.

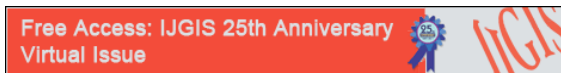
The survey takes about 10 to 15 minutes to complete. Individual responses will be seen only by the researchers and OGC staff. The researchers will summarize the data gathered from the survey, removing all references to individual responses, and make the summary available to OGC Business Value Committee members. An executive summary will be provided to survey respondents.

There are two versions of the survey. One is for *user organizations* and the other for *technology providers* (vendors, system integrators, consultants). The survey period is from November 1 through December 18, 2011 and prizes will be awarded at random to three participants.

Urban Atlas

As part of the GMES program the European Environmental Agency has released the *Urban Atlas*. The Urban Atlas is providing for all EU countries comparable land use data for Large Urban Zones with more than 100.000 inhabitants as defined by the Urban Audit. The land use data can be downloaded together with a map for each urban area covered and a report with the metadata. The datasets can be used freely.

25th Anniversary issue of the International Journal of Geographical Information Science



IJGIS has been running for 25 volumes now, initially as the International Journal of Geographical Information Systems, then as the International Journal of Geographical Information Science. To commemorate this a virtual issue of the journal has been published containing a group of papers, some of which are classics, and some of which will become so and is available free on the web. The topics are deliberately diverse but they all have something in common, they are all pivotal in the discussion that the journal hosts. The issue can be accessed on the [web](#). Brian Lees

from the University of New South Wales, Australian Defence Force Academy, Australia is the editor of this special issue.

"Geospatial Analysis" available on the web

The 3rd edition of the book "Geospatial Analysis - a comprehensive guide", by Smith, Goodchild and Longley is available as a free web version <http://www.spatialanalysisonline.com/>.

Additionally, ESRI has made available a free course *Turning Data into Information Using ArcGIS 10* that can be used as a companion to the course.

AGILE members

AGILE has presently 89 members coming from 23 different countries. The distribution of these members among the different countries is as follows:

Country		Country	
Austria	3	Italy	4
Belgium	4	Netherlands	7
Bulgaria	1	Norway	1
Czech Republic	2	Portugal	3
Denmark	3	Romania	1
Finland	4	Serbia	1
France	5	Slovenia	1
Germany	16	Spain	6
Greece	7	Sweden	3
Hungary	2	Switzerland	4
Ireland	2	UK	8
Israel	1		

New developments within INSPIRE



<http://inspire.jrc.ec.europa.eu/>

In Europe a major recent development has been the entering in force of the INSPIRE Directive in May 2007, establishing an infrastructure for spatial information in Europe to support Community environmental policies, and policies or activities which may have an impact on the environment.

INSPIRE is based on the infrastructures for spatial information established and operated by the 27 Member States of the European Union. The Directive addresses 34 spatial data themes needed for environmental applications, with key components

specified through technical implementing rules. This makes INSPIRE a unique example of a legislative “regional” approach.

Other INSPIRE news

- **Detailed Implementing Rule Development Timetable for Annex II and III:** A revised and detailed timetable for the next phase of Implementing Rule Development for INSPIRE Annex II and III was published.
- **Call for participants for data specifications testing of INSPIRE Annex II and III:** This call addressed the [INSPIRE Spatial Data Interest Communities \(SDICs\) and Legally Mandated Organisations \(LMOs\)](#). By the end of June 2011, more than 180 experts organized in [19 Thematic Working Groups](#) were asked to provide their proposals for the draft INSPIRE data specifications of 25 data themes. These proposals, along with the results of the stakeholder consultation and testing, will be the basis for proposals for the INSPIRE Implementing Rules Legal Act. Forty five SDICs and LMOs registered for the testing and testing was carried out in two phases: a) the feasibility of making data available in compliance with the proposed data specifications (published in June 2011) and b) fitness for purpose testing, checking if the INSPIRE-compliant data can be used for relevant use cases.
The [Thematic Working Groups \(TWGs\)](#) and INSPIRE Consolidation team (CT) will use the results of the testing as input for the work on version 3.0 of the specifications. This process can also provide the first test bed for interaction between INSPIRE stakeholders and can allow them to team up to collaborate on the testing and exchange experiences. The testing activities lasted 4 months and were concluded on October 21, 2011.
- **Review of Guidance and Good Practice documents:** Stakeholders were invited to comment by June 17, 2011 on all aspects of [Guidance on the Regulation](#) and a [Good Practice Guide](#) that were published in March 2010. The focus of the review was on Suggestions for improvement of the current Guidance, topics missing from the current Guidance which should be covered and new examples of good practice. Templates were provided for submitting the comments.
- **Consultation on the draft legal act on the harmonization and interoperability of environmental information (as defined in Annexes II and III of the INSPIRE Directive (2/2007)):** The INSPIRE Thematic Working Groups (TWGs), Data Specifications Drafting Team and INSPIRE JRC Data Specifications Team finalized the draft Data Specifications of the

Spatial Data Themes referred to in Annex II and III of the INSPIRE Directive. [Their work is now available for public view and consultation by the INSPIRE Stakeholder Community as draft Guidelines.](#)

Based on all the comments received, the INSPIRE TWGs will issue a new version of the Data Specification – Draft Guidelines, while the European Commission will prepare the amendment proposal for the Implementing Rules on interoperability of spatial data sets and services, which will be submitted to the INSPIRE Regulatory Committee in 2012.

Stakeholders were invited to comment by October 21, 2011 on the following documents and files:

- Data Specification on INSPIRE Annexes II and III – Draft Guidelines
- Proposed updates to the Generic Conceptual Model and Encoding Guidelines
- D2.9 Guidelines for the use of Observations & Measurements and Sensor Web Enablement-related standards in INSPIRE Annex II and III data specification development

To assist stakeholders, the UML data models were provided in different formats and views at <http://inspire.jrc.ec.europa.eu/index.cfm/pageid/2/list/datamodels>

News from our Sponsors



Special GIScience Research Session at the ESRI International Users Conference: In the upcoming ESRI Users conference to be held in San Diego, USA on 23-27 July, 2012 there will be a special session with peer reviewed research papers that focus on cutting-edge research in GIScience. The papers will be published in a special issue of *Transactions in GIS* that will be distributed during the conference.

Esri Virtual Campus news: Esri is dedicated to supporting both education and training, which are intimately related. A Memorandum of Understanding signed by AGILE and Esri allows AGILE member labs to gain access to the Esri Virtual Campus online courses. This gives both teachers and students the opportunity to keep updated on the same Esri technology being used by thousands of businesses and government agencies. Universities possessing Campus Site Licenses already have free access to almost all Virtual Campus courses, but even those AGILE labs without Esri campus site license can, as part of the MOU, obtain \$10,000 in credits (annually) to access Virtual Campus courses.

Esri's "Training Matters" blog is a good place to get news about changes and other pertinent news regarding the Virtual Campus.

A list of all [Virtual Campus courses](#) updated to ArcGIS version 10 can be obtained on line.

ArcGIS Online Subscription for Organizations: All universities with ESRI campus licenses will be receiving free access to "ArcGIS Online Subscription for Organizations", which provides a higher level of functionality compared to the public free version. It will become available at the beginning of 2012.



So far, AGILE has signed Memorandum of Understandings (MoU) with some corporate AGILE members. When signing a Memorandum of Understanding, the parties involved agree to cooperate in a group of activities that are of mutual benefit. See www.agile-online.org for detailed information. In the course of the last year, several of these agreements were renewed.

Bentley – AGILE

Bentley Systems offers to AGILE members subscription to the Bentley Education Network, BEN, at 30% discount from the list price of Euro 110 per seat per year (Minimum is 15 seats). For more information on Bentley Education Network, BEN, please visit <http://www.bentley.com>. Also, Bentley Systems will offer free training on MicroStation for one person from each institution, AGILE member, who subscribes to BEN.

Other MoUs

AGILE has also signed **MoU's** with the following associations for pursuing common objectives and increasing collaboration: Open Geospatial Consortium (OGC), Geographic Information System International Group (GISIG), International Postgraduate Course on GIS (UNIGIS) and University Consortium for Geographic Information Science (UCGIS).

News from AGILE

The new Council Officers

In the recent elections Maribel Yasmina Santos and Martin Raubal were elected as members of the council. Lars Bernard was re-elected. A brief presentation of the re-elected and new officers appears below.

Lars Bernard holds the position of Associate Professor of GIS at the Technical University Dresden since 2007. He holds a Ph.D. in Geoinformatics from the University of Münster (2001) and a Diploma in Geography (1995).

From 1992 to 2001 he worked as researcher at the Institute for Geoinformatics at the University of Münster. In 2001 he became an assistant Professor in Geoinformatics and in 2003 he stood in for a full professorship in Geoinformatics. End of 2003 he moved to the Joint Research Centre (Italy) to participate in the development of guidelines for the Infrastructure for Spatial Information in Europe (INSPIRE). His research and teaching activities focus on design, development and application of component based GIS and component based spatio-temporal simulation systems as well as their linkage and the realization of Spatial Data Infrastructures. He acts as a German SDI expert within the INSPIRE drafting teams. Lars Bernard has been invited for a number of national and international keynotes and served as chair and co-chair and in several program committees of national and international GI conferences and workshops.



Martin Raubal is Professor of Geoinformation-Engineering at the Swiss Federal Institute of Technology Zurich (ETH Zürich, Institute of Cartography and Geoinformation). He was previously Associate Professor and Vice-Chair at the Department of Geography, University of California, Santa Barbara, and Junior Professor at the University of Münster.

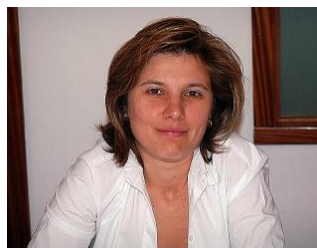


Martin received his Ph.D. in Geoinformation from Vienna University of Technology in 2001 with honors. He holds a M.S. in Spatial Information Science and Engineering from the University of Maine and a Dipl.-Ing. in Surveying Engineering from Vienna University of Technology. Martin's research interests lie in the area of cognitive engineering for geospatial services, more specifically he focuses on representing and modeling people's cognition and spatio-temporal behavior, and the integration of such models into geospatial applications for the enhancement of people's decision-making support. His teaching includes courses on GIS, cartography, geovisualization, location-based services, temporal aspects of GIS, spatial cognition and wayfinding, and research methods.

Martin was a board member of UCGIS (University Consortium for Geographic Information Science) from 2008-11 and a council member of AGILE from 2005-06. He serves on the editorial boards of *Transactions in GIS*, *Journal of Location Based Services*, *Journal of Spatial Information Science*, *Geography Compass*, and the *Semantic Web Journal*. He has authored and co-authored more than 70 books and research papers published in refereed journals and conference proceedings.

Maribel Yasmina Santos is Assistant Professor at the Information Systems Department of the University of

Minho in Portugal. Maribel has a degree in Informatics and Systems Engineering from the University of Minho (1991), an MSc in Informatics and a Ph.D. in



Information Systems and Technologies, both from University of Minho (1996 and 2001, respectively) (<http://www3.dsi.uminho.pt/maribel/>). Since 1997, her research work has integrated decision support systems with GI Science,

given particular emphasis to the development of spatial decision support systems, spatial data mining algorithms, spatial databases, spatial data warehousing and spatial on-line analytical processing systems, among others.

Maribel has participated in several research projects funded by national and international institutions. Maribel has authored and co-authored more than 60 international publications, including papers in journals, book chapters and papers in international conferences. Since May 2010, Maribel is sub-director of the Information Systems Department of the University of Minho in Portugal.

News from your lab?

If you want to present your lab and its research activities, or if you want to announce a conference or workshop, or if you have vacancies eligible for international candidates, please contact the secretariat to get it in this newsletter and/or on the AGILE website. Both are consulted by a broad scientific public!

Future AGILE conferences

AGILE is seeking statements of interest for hosting future AGILE conferences. AGILE members are invited to prepare their candidature for 2014 or beyond, by preparing a formal offer using the forms that can be obtained through our Secretariat.

Join AGILE!

Is your lab or institute active in the field of GI research and/or education? Then your place is at AGILE! As a member of AGILE you have: reduced fees for our annual conference and pre-conference workshops, easy access to the AGILE network for joint research proposals and European collaboration in general, the possibility to influence the GI research agenda, proposing of and participation in one or more AGILE initiatives, better access to products offered by our MoU-partners and access to database on research activities in Europe.

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- Maribel Yasmina Santos, Information Systems Department, U. of Minho, Portugal
- Martin Raubal, Institute of Cartography and Geoinformation, Swiss Federal Institute of Technology Zurich (ETH) Switzerland

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Photos from the LEGIO workshop "GIS-education in a changing academic environment", Leuven, November 2011 (Koen Van Balen)