

Technical Commission 2 on Theory and Concepts of Spatial Information Science

1. State of science and technologies

2. TCII Activities

TCII is actively engaged in the preparation of the next ISPRS congress. 151 abstracts were submitted to the commission and reviewed by Working Groups.

3. Working group activities

a. WG II/1 Cognition and Modeling of Space and Time

Accomplishments

The WG II/1 provided an excellent opportunity to follow the developments of cognition and modeling of space and time.

In May 2011, our workgroup was invited to deliver a keynote speech on mapping with mobile LIDAR at the 1st International Conference on LIDAR&RADAR, which was held in Nanjing, China. Dr. Bisheng Yang gave a report named dynamic mapping with mobile LIDAR. The LIDAR & RADAR 2011 symposium in Nanjing is the first time of this type of event on this active remote sensing subject in Asia. It is designed to promote the development and applications of LIDAR and radar mapping technologies in Asia, to meet the scientific, technical, and business needs of the remote sensing and photogrammetry, surveying and mapping, as well as geosciences, forestry, renewable energy, environment, transportation, and disaster management communities. Sessions are also being organized around special themes, such as sensors and platforms, data processing methodologies and innovative applications. Our workgroup reviewed a number of papers for the ISPRS Congress 2012.

Planned activities

Our workgroup have submitted an international workshop proposal (together with UCSB and the University of Edinburgh) to be held in conjunction with the Conference on Spatial Cognition, Bad Seon, Germany, 31 August 2012. WGII/1 may become an active contributor. The title of the workshop will be "Place-related knowledge acquisition research".

We will participate in the XXII Congress of the ISPRS in Melbourne, 25 August - 1 September 2012.

b. WG II/2 Multi-scale Representation of Spatial Data

State of science and technology

WGII/2 developed regular collaborations with other organisations on web cartography and map on demand and co-organised several events mainly with ICA but also with Agile, DGfK and EuroSDR.

Accomplishments

A EuroSDR-ISPRS-ICA workshop on web cartography was co-organised in Lund, Sweden on 5-6 May 2011.

WG II/2 co-organised with ICA a workshop on “Geographic Information on Demand” at the ICA conference in June 2011 in Paris. Proceedings are available at http://aci.ign.fr/2011_Paris/workshop_program.php

The WG also published with WGII/4 a special issue on “Scale, quality, and analysis aspects of city models” in ISPRS journal vol. 66, no 2.

Planned activities

WG will participate to the organization of the next SDH conference in Bonn with IGU.

c. WG II/4

Accomplishments

The Spatial Statistics conference (www.spatialstatisticsconference.com) was held with active participation of the WG members as chair (Alfred Stein) and members of advisory board members (Hande Demirel and Mahmoud R. Delavar). The conference held during March 23-25, 2011 in University of Twente, Enschede, The Netherlands. Joint International Conference and exhibitions on Geomatics-2011 and ISPRS Conference on Data Handling and Modeling of Geo Spatial Information for Management of Resources was held during 15-16 May 2011, Tehran. The conference was held with the collaboration of ISPRS Working Groups WG II/7 and WG II/4 at the National Cartographic Center of Iran (<http://geoconf.ncc.org.ir/EnglishFiles/Home.aspx>).

An International Conference on Sensors & Models in Remote Sensing & Photogrammetry (SMPR 2011) was held with the collaboration of University of Tehran, ISPRS WG I/1, WG II/4 and ICWG V/1 during May 18-19, 2011 (www.smpr2011.com). The selected papers from the Symposium held in May in SMPR conference and NCC-ISPRS conference have been revised and will be published in JAG supplement special issue.

The 7th International Symposium on Spatial Data Quality was held in Coimbra, Portugal during Oct.12-14, 2011. The event was organized jointly with ISPRS Working Group II/4 and ISPRS IC WG II/IV. (<http://www.mat.uc.pt/issdq2011/>).

Planned activities

10th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences (Accuracy 2012) will be held during July 10-13, July 2012 in Florianópolis, SC, Brazil (<http://www.accuracy2012.ufsc.br/>). Spatial Accuracy 2011 will be held with the collaboration of WG member (M.R. Delavar) as the scientific committee.

ISPRS Congress 2012, Melbourne Australia will be held with active cooperation and participation of the WG.

ISSDQ 2013 will be organized in Wuhan, China with the collaboration of the WG.

Upcoming scientific output

A special issue of the International Journal of Applied Earth Observation and Geoinformation on Spatial Statistics, following the conference in Enschede, the Netherlands. Editors: G. Heuvelink, E. Pebesma and A. Stein.

A supplement of the International Journal of Applied Earth Observation and Geoinformation on Spatial Decision Support Systems and Location Based Services,

and SMPR 2011 following the conferences in Tehran, Iran. Editors A. Sharifi, M. R. Delavar and M. Ehlers.

A special issue of Spatial Science following the meeting in Coimbra, Portugal. Editors: Gil Gonçalves, Cidalia Fonte and Luísa Gonçalves.

d. WG II/6 Geographical Visualization and Virtual Reality

State of science and technology

This year has been a very busy for WGII/6. Firstly we have a new co-chair – Dr Bo Wu and new Scientific Secretary – Dr Arzu Coltekin. We have increased our total membership from approximately 20 to now 34. Our online Special Issue of the Future Internet Journal now has 3 accepted and another 2-3 forthcoming. We have had dozens of postings of events, digital resources, available jobs and other interesting information to members and subscribers via the working group blog <http://www.casa.ucl.ac.uk/geoviz/>. Also, we have had renewed interest in the ISPRS Blog which was established from an ISPRS Science Initiative proposed by Dr Andy Hudson Smith and Dr Chris Pettit, which received initial funding in 2009.

Accomplishments

We co-organized an international conference called "Spatial Thinking and Geographic Information Sciences" in Tokyo, Japan, 14th to 16th of September, 2011. More information can be found here:

<http://curricula.csis.u-tokyo.ac.jp/stgis2011/>

Proceedings of the conference are published in Procedia - Social and Behavioral Sciences, Vol 21 and can be reached here:

<http://www.sciencedirect.com/science/journal/18770428/21&cHubEid=1-s2.0-S1877042811X00149>

We co-organized a full-day pre-conference workshop prior to 25th International Cartographic Conference on July 1st 2011 titled "Persistent Problems in Geovisualization" with the sister group of International Cartographic Association (ICA Commission on GeoVisualization). The program and the abstracts as an 'online proceeding' can be found here: <http://geoanalytics.net/ica/icc2011workshop.htm>

More than 100 experts in spatial information science and technology gathered at The Hong Kong Polytechnic University on September 30 to participate in the 2011 Annual Seminar on Spatial Information Science and Technology. This seminar brought together scientists, engineers, and research managers from government and industry. WGII/6 was involved in the organization. The proceedings of ASSIST 2011 can be found at: <http://www.lsgi.polyu.edu.hk/staff/Bo.Wu/event/ASSIST2011/index.html>.

Planned activities

A Virtual Geographic Environment (VGE) workshop will be held on June 14, 2012 in Hong Kong. ISPRS Working Group II/6 "Geo-Visualization and Virtual Reality" is one of the sponsors of this workshop. Detailed information about the VGE Workshop can be found at: <http://www.iseis.cuhk.edu.hk/GeoInformatics2012/vge/index.htm>

ISPRS Working Group II/6 "Geo-Visualization and Virtual Reality" has had 25 abstract submitted for ISPRS Congress. Selected papers will go into a special edition

of the International Journal of Digital Earth. The working group is also planning on running a workshop on GeoVisual Analytics. The first half of the workshop consists of four lectures approaching geovisual analytics from four different perspectives. The second half of the day will consist of hand-on demonstrations and interactions with a range of Geovisual analytical tools.