Dear Colleagues

No doubt you are aware of the ICA’s Research Agenda (icaci.org/research-agenda/introduction/). It was written almost ten years ago and since we have witnessed so many changes in technology and society that influence our discipline, it is time to revisit the Agenda. This is an ongoing top-down and bottom-up process. Several ICA Commissions have recently published a number of articles concerning the future of cartographic research in our journal, a special open issue of the International Journal of Cartography, Vol 3, Supplement 1 (www.tandfonline.com/toc/tica20/3/sup1), and other Commissions are currently preparing similar contributions. The ICA Executive Committee will bring these together in an update of the current ICA Research Agenda.

Research is necessary to make sure our discipline remains relevant. However, the results have to be disseminated too. Education is one of the means to do so, although it might take a while before cutting edge research ends up in the educational curricula. New developments should be linked or incorporated into existing domain knowledge. This existing domain knowledge is sometimes typified as a domain’s Body of Knowledge (BoK) – the complete set of concepts, terms and activities that make up a professional domain, as defined by the relevant learned society or professional association.

In this context ICA sees it as its duty to help educators by defining a BoK for cartography. To do so the Executive Committee has decided to establish a new Working Group on the Body of Knowledge for Cartography (CartoBoK), to be chaired by ICA Vice President Lynn Usery, and

In 2017 the ICA Executive Committee introduced a new Publications Policy, which focuses on the conference proceedings. In order to give them an adequate visibility and reputation, a conference publication series has been established, which is administered and hosted by a professional publisher. There are three publication options, depending on the review and the extent of the papers (see below). The benefits of such arrangement will be manyfold:

- **Visibility** – one single point of contact for the publications of ICA events
- **Reliability** – the publications will be available at the time of the conference
- **Open Access** – the publications are published online and under the Creative Commons licence
- **Reputation** – the publisher will suggest the *Advances and Proceedings of the ICA* for inclusion in several data bases and indices (e.g. Scopus, Web of Science)
- **Standardisation** – one standardised format of the publications

The new policy will not interfere with publications in ICA related journals; in contrast, it will provide an excellent basis for developing high-level journal publications.

**New ICA Conference and Event Publications**

Starting from 2017, the ICA records their conferences like International and Regional Cartographic Conferences (ICC and RCC), as well as all other ICA events, in three official publication outlets which are hosted by a commercial publisher, Copernicus GmbH:

- **Advances in Cartography and GIScience of the International Cartographic Association** (in short: *Advances of the ICA*) – a single-blind peer review based on a full paper
- **Proceedings of the International Cartographic Association** (in short: *Proceedings of the ICA*) – a single-blind peer review based on submitted abstracts, developed to a full paper
- **Abstracts of the International Cartographic Association** (in short: *Abstracts of the ICA*) – a single-blind peer review based on submitted abstracts, publication of abstract only

With these three series, the ICA can offer excellent opportunities for the authors to present their work – full papers for more research-oriented work, abstract based full papers for advanced...
Recently, I have been researching ICA membership. At the first General Assembly in Paris in 1961, 26 member nations were ratified, 13 of which were the 1939 founding members. This number steadily grew over the years to 84 in 2007, with a record of 20 new members ratified at the 10th GA in Barcelona in 1995. At the last count in Washington, D.C., the ICA had 72 national members, being over a third of all sovereign states of the world. These numbers in themselves are a wonderful achievement.

But what does it really mean to be a member of the ICA? I wonder what sort of answer the ‘fathers’ of our Association gave when they were setting up the ICA almost 60 years ago... The statistics given above prove that the appeal of becoming an ICA member has not diminished, but is because of the rights, obligations and entitlements of the member nations listed in the ICA Statutes and By-laws that the ICA enjoys such an uptake, or is it for something else?

I tend to think about the ICA as a family of families. Cartographers become individual members of their national societies and organisations creating a community of like-minded professionals and enthusiasts who want to share, exchange, publish, create, organise and spend time together. Given time, mutual understanding and common drive, these communities transform into families, where members find support and encouragement, share willingly their talents and celebrate cartography. I am sure our ‘fathers’ had similar experiences back in Sweden, France, Switzerland or the USA, and wanted to take that experience to the next level! Perhaps family of families was their answer and the International Cartographic Association was born.

The new ICA Publication Policy is an important development reported in this issue of ICA News. We also learn about ICC 2019 preparations and are reminded about the beginnings of the Barabara Petchenik Children’s World Map Awards.

Thanking all contributors and readers for your continuous support.

Igor Drecki | Editor ICA News | ICA

The ICA News is published by the International Cartographic Association (ICA).

President: Menno-Jan Kraak | University of Twente | The Netherlands
Secretary General & Treasurer: László Zentai | Eötvös Loránd University | Hungary
Editor ICA News: Igor Drecki | The University of Auckland | New Zealand
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Supported by ICA Past President Georg Gartner and David Fairbairn, Chair of the ICA Commission on Education and Training. They are in the process of adding a few more members. The Working Group will report on the progress it is making at the 2019 International Cartographic Conference in Tokyo, Japan. Since cartography is not a standalone discipline, they will consult others in related disciplines who are also working on their respective BoKs and might have incorporated cartographic terms.

According to the Terms of Reference, the Working Group will start with an inventory of existing BoKs, such as those provided by the University Consortium for Geographic Information Science, the Association of Geographic Information Laboratories in Europe, the National Geospatial Intelligence Agency and the United States Geological Survey, the Association for Computing Machinery, and others relevant to CartoBoK. The next step will include top-down and bottom-up processes to define an initial set of topics to capture cartographic knowledge and concepts for the CartoBoK. This will be followed by soliciting, reviewing, and publishing individual contributions, and developing a procedure for updating and refining CartoBoK beyond the initial delivery so that it becomes a dynamic, living document that changes as the discipline of cartography is changing. A close link with the ICA Research Agenda will be maintained. A dedicated web page for the Working Group will be created soon to keep us all informed.

Menno-Jan Kraak | President | ICA

ICA publications cont...

Work-in-progress, as well as abstracts for practically oriented work or artwork, which typically are not adequately represented in a full paper.

For the ICCs and for the RCCs, Advances and Proceedings of the ICA are published; for other ICA events, either Advances or Proceedings of the ICA are published. Exceptions from this rule require prior approval from the Executive Committee. All other ICA events have the option of publishing the Abstracts of the ICA.

These publications are generated from all ICA events. Organisers will be required to provide Copernicus with camera-ready manuscripts in PDF format, together with the respective metadata, four to six weeks prior to the scheduled meeting, depending on the size of the event. For each published paper a moderate article processing charge (APC) has to be paid (as of 1 January 2018 it is €17.50). This sum should be included in the event fees.


Role of International Journal of Cartography

In order to promote the International Journal of Cartography (IJC), there is a special option for the International Cartographic Conferences (ICCs): the IJC can select 8-12 papers from the full paper peer-review track for a special issue published at the event.

In addition to the regulations above, all event organizers are expected to seek high quality papers at the conferences and meetings to be published in the International Journal of Cartography. Furthermore, they do always have the option to approach the IJC for a special issue.
Dear Colleagues

The 29th International Cartographic Conference (ICC) and 18th General Assembly of the ICA to be held in Tokyo, 15-20 July 2019, is just 12 months away! The Local Organising Committee meets regularly, at least once a month, to discuss progress being made and shortly will receive members of the ICA Executive Committee for the inspection of the conference site.

In accordance with the recently released new ICA Publications Policy (see pages 1-3), the ICC 2019 Proceedings will have three publication options based on the review and extent of accepted papers:

- **ICA Advances** (full paper)
- **ICA Proceedings** (abstract / full paper)
- **ICA Abstracts** (abstract)

The details will be announced on the conference website soon.

Call for Special Sessions

As with previous ICA conferences, the organisation of oral sessions into themes will be based on the subject areas of the ICA Commissions and Working Groups. However, the LOC may propose special sessions reflecting on the dynamic nature of cartography and the latest developments in related disciplines. We are considering important topics, such as for example Sustainable Development Goals, but we welcome proposals from enthusiastic cartographers that promote new approaches to advancing cartography and geographic information sciences. If you have any good ideas for a special session, please get in touch (icc2019.org/).

For your calendar, a call for papers opens on 1 August 2018. Looking forward to receiving your contributions and seeing you in Tokyo.

Takashi Morita | Conference Director | ICC 2019 Local Organising Committee | Japan

Monika Sester | Chair | ICA Publications Committee | ICA

ICA Publications Policy in a Nutshell

Here are the main changes introduced by the new ICA Publications Policy:

- one visible location (at Copernicus) and structure for all ICA event publications
- no longer the need for event organizers to arrange for their own publications because all go into one of the ICA series
- no longer ICA Springer books from our biennial International Cartographic Conferences (ICCs)
- ICA Springer books will be available for special events (old agreements will be honoured)
- Conference papers may be extended and handed in for a journal publication after the event

Monika Sester | Chair | ICA Publications Committee | ICA

ica news contributions

Please send your contributions to

Igor Drecki | Editor ICA News | i.drecki@auckland.ac.nz

Postal Address

Map Room
The University of Auckland Library
Private Bag 92019
Auckland 1142
New Zealand

Submission Deadlines

15 May for June editions
15 November for December editions
olawale oluwafemi

My passion for drawing and colouring started about 25 years ago. Growing up in the family where my parents are both teachers gave me an opportunity to learn arts even in a resource-constrained country like Nigeria.

As a teenager, I became espoused with atlases – an interest which later propelled my academic career towards BSc degree in Geography and two master degrees, one in GIS and another in Remote Sensing. My masters dissertation focused on using cartographic design tools to model the impact of artisanal mining in a traditional African city. My research interest in cartography grew stronger while working on my masters thesis.

The topics of my masters research projects captured the attention of my employer and consequently I was offered a Scientific Officer and Cartographer position at the Centre for Geodesy and Geodynamics of the Nigerian Space Agency in Toro, Bauchi State, Nigeria. I have been involved in several national cartographic and research projects within the West African sub-region. These projects were multidisciplinary and involved collaboration with researchers from many different scientific domains and industry such as health, security, geodesy, and environmental impact assessment.

In pursuit of showcasing my research and expanding my knowledge in Cartography and GIScience, I applied for the ICA scholarship and submitted two papers to the 28th International Cartographic Conference (ICC) in Washington D.C. I felt joyous to have received the ICC 2017 Young Scholarship award as the only recipient from West Africa. I am also pleased to be part of the team working on the Geohazard zonation mapping project of Nigeria which has been covered in a book publication.

Map of Nigeria showing location of natural hazards, such as volcanoes and faults. It identifies hazard potential classified into low, moderate, high and very high categories. State boundaries, major rivers and lakes are also marked. The map was produced in 2013 by the Centre for Geodesy and Geodynamics of the National Space Research and development Agency, Toro.

Olawale Oluwafemi | Centre for Geodesy and Geodynamics of the Nigerian Space Agency | Nigeria | walefemi007@yahoo.com

e-Perimetron (from Greek word for a map) is an open access “international web journal on sciences and technologies related to the history of cartography and maps”. Established in 2006, this innovative e-journal brings together map historians, scholars and experts in digital technologies to create a common platform for exchanging research ideas concerning cartographic and map heritage expertise.

The idea of creating a pluralist, peer reviewed international e-journal, which does not follow any particular ideological, theoretical or methodological approach in dealing with issues relating to cartographic and map heritage, was first presented in 2001 by Evangelos Livieratos (Aristotle University, Thessaloniki) to a small group of colleagues, representing humanistic, scientific and technological views of cartography: Piero Falchetta (Marciana National Library, Venice), Carto Monti (Politecnico, Milan) and George Tolias (National Research Foundation, Athens). The original idea was finally implemented in 2006 coinciding with the creation of the ICA Working Group on Digital Technologies in Cartographic Heritage a year earlier during the International Cartographic Conference in A Coruña, Spain.

e-Perimetron is published quarterly. Its unique content comes primarily from the work of the ICA Commission on Cartographic Heritage into the Digital (formerly ICA Working Group / Commission on Digital Technologies in Cartographic Heritage) and usually consists of a selection of papers presented at the Commission’s annual conferences. In the twelve volumes published between 2006 and 2017, there were 48 issues containing 254 papers – a total of 3,061 pages.

The journal accepts contributions in English and French on a wide range of topics covered by the Commission interests. Its target audiences are research communities, students and general public interested in cartoheritage and associated digital technologies. Accepted papers are published online without delay and are freely available.

Since December 2009, e-Perimetron was viewed, on average, more than 6,000 times per year, by around 10 visitors per day. Its readership comes from 145 countries, with the top ten countries being Greece (20.2%), USA (17.3%), Italy (7.6%), UK (4.6%), Germany (4.5%), France (3.7%), Spain (3.3%), Brazil (3.2%), China (2.7%) and Switzerland (2.6%).

e-Perimetron is administrated by members of the AUTH CartoGeoLab at Aristotle University, Thessaloniki.

Evangelos Livieratos | Editor | e-Perimetron | Greece

www.e-perimetron.org/
In 1950, within the framework of United Nations Technical Aid programmes for developing countries, Prime Minister Professor Schermerhorn established the International Training Centre (ITC) for Aerial Survey in the Netherlands. In 1971, a cartography department was set up with its own series of courses for mid-career professionals from all over the world. Ferdinand Jan Ormeling was ITC’s first cartography professor. At that time he was also ICA’s Secretary General and Treasurer, a function he occupied from 1964 to 1976; he later became ICA President (1976-1984) and Past President (1984-1987). Having such close links and international focus, both ITC and ICA supported each other and benefited from their coexistence.

Gradually, ITC’s focus changed to research and scientific education and since 2010 it is known as Faculty of Geo-information and Earth Observation of the University of Twente in Enschede. Masters degree (MSc) programme in cartography was first offered in 1977 and the first doctoral degree (PhD) was awarded in 1991. Shortly after, cartography became a specialization in the geoinformatics programme of the ITC’s MSc in Geo-Information Science and Earth Observation. This programme still exists today, but has just been overhauled and now has a 2-year duration. Also starting in September 2018 is a completely new MSc programme in Spatial Engineering.

The close ties between ITC and ICA still remain strong. ITC staff plays an active role in many ICA Commissions and serves in the ICA Executive Committee; ITC’s current cartography professor, Menno-Jan Kraak, is also ICA President. Through the links with ICA, ITC is again involved in an international MSc Cartography programme (www.cartographymaster.eu), together with our partners TU München, TU Wien and TU Dresden.

The mission of ITC is to develop global capacity, particularly in less developed countries, and to utilize geospatial solutions to deal with national and global problems, through education, research and project services.

Corné van Elzakker | University of Twente | Netherlands

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**World Wide Map Contest for Children**

In memory of Barbara Petchenik, who was a member of the Executive Committee and who passed away in 1992, the ICA is launching a world wide map competition for children under the age of 16. The theme is *A World Map* and the competition aims to promote a better understanding of the world in the 1990s as seen and portrayed in maps through the eyes of children internationally. Entries from around the world will be part of a special exhibition at the 16th International Cartographic Conference in Cologne, Germany in May. The selection will be made by international panel of judges, winners will be announced from each continent and prizes awarded. Then, the International Art Committee of UNICEF has agreed to consider five winning entries, one from each continent, as part of their greeting card collection. The competition is being organized in member nations through their ICA representative institutions.

As initiator of the idea for the contest, President [D.R. Fraser] Taylor is especially looking forward to the entries from the thousands of children who will participate. “It will be a unique opportunity to see how children from different countries and cultures view the world”.

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**ICA Newsletter, No 21, May 1993**

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**Profiles**

Faculty of Geo-information Science and Earth Observation, University of Twente

[www.itc.nl](http://www.itc.nl)
**Cartographic Heritage into the Digital**
cartography.web.auth.gr/ICA-Heritage/

### Conference in Madrid, Spain

The 13th Conference on Digital Approaches to Cartographic Heritage (cartography.web.auth.gr/ICA-Heritage/Madrid2018/) was held in Madrid, Spain, 18-20 April 2018. It was organized by the ICA Commission on Cartographic Heritage into the Digital and hosted by the Instituto Geográfico Nacional (IGN) of Spain, one of the affiliate members of ICA. The Conference was supported by the Sociedad Española de Cartografía, Fotogrametría y Teledetección (Spanish Society of Cartography, Photogrammetry and Remote Sensing), the Biblioteca Nacional de España (National Library of Spain), the Museo Naval (Naval Museum) of the Royal Spanish Navy, the Map Archive of the Geographical Centre of the Spanish Army, the Aristotle University of Thessaloniki (AUTH CartoGeoLab and AUTH Library and Information Centre), and the Map and Geoinformation Curators Group.

Almost 120 participants and contributors from 25 countries attended the Conference, in which 45 papers were presented on the following thematic areas:

- Cartoheritage in Digital Humanities
- Interconnection of cartographic archival sources, especially maps and textual data
- Interaction of cartoheritage with map and geoinformation curatorship of cartodiversity
- Digitisation and georeferencing
- Content analysis in terms of geometry and thematics of cartodiversity
- Landscape change studies based on map archival sources
- Visualisation of cartoheritage, including thematic portals
- Cartoheritage web providing issues
- Development of cartoheritage as a cultural issue in the context of GLAM (Libraries, Archives, Museums), addressed to education and to the general public

During the Conference, participants had the opportunity to visit a map exhibition in the IGN Map Library entitled Oikoumene: the evolution of the Image of the World, as well as participate in the guided tour of the National Library of Spain to see an important map exhibition Cartographies of the unknown. In addition, they visited the Naval Museum to see all its treasures of naval travelling, navigation and sciences, and an exhibition at the Cartographic Archive of the Spanish Army Geographical Centre (for more information about these visits, please see cartography.web.auth.gr/ICA-Heritage/Madrid2018/exhibition.html).

### Scientific event in Brescia, Italy

The Commission supported an important scientific event Il mappamondo cinese di Giulio Aleni (The Chinese World Map by Giulio Aleni) organized in Brescia, Italy, by the Fondazione Civiltà Bresciana and the University of Brescia, on 3 May 2018. The event was held on the occasion of the facsimile reproduction of the Vatican copy of Aleni’s map (cartography.web.auth.gr/ICA-Heritage/FCB-Mappa-Aleni) within a special occasion of the facsimile reproduction of the Vatican copy of Aleni’s map. The event focused on presenting to the public a rare world map made in China the first half of 17th century by the Brescia born scholar Giulio Aleni (1582-1649) and discussed two major versions of the map, one held by the Vatican Apostolic Library, Holy See, and the other by the Ambrosiana Library in Milan, Italy.

### Cartoheritage issues in the International Master of Cartography

Cartoheritage issues researched and examined by the Commission were presented to students enrolled in the Cartography Erasmus Mundus Master of Science Programme (cartography-master.eu) as part of the second semester teaching at the Technical University of Vienna (TUW). Between 14-16 May 2018, Professor Evangelos Livieratos, Commission Chair, delivered a series of lectures on Mining in Cartoheritage. He also delivered a presentation on Digitisation and comparison of old and modern maps (cartography.tuwien.ac.at/cartotalk-evangelos-livieratos-digitisation-and-comparison-of-old-and-modern-maps/) within a CartoTalk series organized by the TUW Cartography Research Group.

**Evangelos Livieratos | Chair | ICA Commission on Cartographic Heritage into the Digital | Greece**

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**Cartography in Early Warning and Crisis Management**
comcewa.geogr.muni.cz/

The International Forum GEOBILDING 2018, incorporating the conference Geospatial Solutions for Structural Design, Construction and Maintenance and an exhibition, was held in Novosibirsk between 21–23 March 2018. The
The 14th International Exhibition and Scientific Congress INTEREXPO GEO-SIBERIA 2018 was held in Novosibirsk Expocenter between 25–27 April 2018. The event was organised by the Ministry of Education and Science of the Russian Federation and Siberian State University of Geosystems and Technologies (SSUGT). In his opening address, Rector Prof Alexander Karpik said: “Advanced scientific achievements in geosciences address the society with new challenges focused on systematic representation of surrounding reality, development of integral information and communication environment, satisfying the needs of the state in spatial data and electronic geospace, being a part of national informatization and digital economy programs”.

The conference programme included a Panel discussion Big Data and Real Estate, a Plenary session Digital economy and geospatial solutions, a Roundtable Remote sensing: data acquisition, processing and use, a Masters student scientific session First steps in science, and an international event Geospatial support of engineering constructions, road and transport infrastructure life cycles. An important part of the programme consisted of an international event Smart city, Internet of things and BIM technologies, a Plenary session Russian geodesy and cartography: history, current state and perspectives, an international forum Cross-border cooperation of Russia and Kazakhstan: creation of unified geoinformation support for rational environmental management system, and an information session about the Siberian State University of Geosystems and Technologies.

Our Commission organised its 9th International Conference on Early warning and Crises Management in the Big Data era on 26 April 2018, covering the following themes: role, present state and current achievements of Earth sciences (geodesy, remote sensing, satellite imagery, geophysics, geomatics etc.); use of geoinformation for monitoring, early warning and crises management; current solutions and achievements in the field of increased mobility, decision making, monitoring of disaster development, and reduction of negative effects of disasters in the era of Big Data; efficient management and analysis of Big Data in the theory and practice of crises management; analysis, interpolation, and visualization of big data; and extraction of useful information from Big Data databases and data flows.

The conference was moderated by Prof Milan Konečný, Commission chair, Prof Dmitry V. Lisitskiy and Assoc Prof Svetlana Yankelevich, both from SSGUT. The following papers were presented:

- Milan Konečný, Masaryk University, Czech Republic – Crises management: risk reduction, global challenges and Big Data
- Volker Schwieger, Stuttgart University, Germany – Integrated monitoring of a rock fall at the Yangtze River
- O. Gordeeva, I. Rublev, Siberian Center FGBU SRC Planeta, Russia – Detection of dangerous hydro meteorological phenomena using Earth remote sensing data
- Ammatzia Peled, University of Haifa, Israel – Automatic updating of spatial data bases
- T. Bugakova, Siberian State University of Geosystems and Technologies, Russia – Integrated algorithm for detection of spatio-temporal state of man-made objects based on geodetic data
- Katerina Morozova, University of Latvia and Riga Technical University, Latvia; Reiner Jäger, Hochschule Karlsruhe – University of Applied Sciences, Germany; Saandaar Mijiddorj, MonMap Engineering Services Co. Ltd, Mongolia; Gunars Silabriedis, University of Latvia, Latvia; Janis Balodis, University of Latvia, Latvia; Janis Kaminiskis, Rigta Technical University and University of Latvia, Latvia – Ulbaanbatar Q-geoid computation, parameter estimation and optimization concepts for gravity field determination.
Cognitive Issues in Geographic Information Visualization
cogvis.icaci.org/

Workshop on Reproducibility in Cartography, Olomouc, Czech Republic
(left) Researchers from Germany, Australia, the Netherlands, Malaysia/UK, and Ukraine discuss issues related to building and maintenance of a cartographic user studies database. (right); Arzu Çöltekin from Switzerland, introduces definitions of reproducibility in the scientific literature | Photography Viktor Cap Photography

Future plans
Our Commission is involved in two upcoming events. The first is a Seminar on Early Warning and Disaster Management being organised within the 7th International Conference on Cartography and GIS programme, Sozopol, Bulgaria, 18-23 June 2018 (iccgis2018.cartography-gis.com/). The second one is a joint conference organised by the Shenzhen University, our Commission and the Shenzhen City Hall – Early Warning and Disaster Risk Management for Urban Areas in Big Data Era: How to be part of Smart Cities Concept? The conference will be held in Shenzhen, China, at the beginning of December 2018.

Milan Konečný | Chair | ICA Commission on Cartography in Early Warning and Crisis Management | Czech Republic

Geospatial Analysis and Modeling
gam.icaci.org/

Commission activities
As part of the efforts to set research agenda, the ICA Commission on Geospatial Analysis and Modeling had a research agenda panel session at the American Association of Geographers Conference on 10 April 2018 in New Orleans, USA. This panel session was organized by the commission Research Agenda chair Clio Andrés. Panelists included Bin Jiang, Jean-Claude Thill, Xiaobai Angela Yao, Xinyue Ye, and Diasheng Guo.

It was a brainstorming session to discuss the frontiers of geospatial analysis and modeling within the context of GIS and cartography. The panel invited all Commission members to join, as well as any other interested participants of the AAG conference. The goal was to share cutting-edge research directions to promote new avenues and important debates in this field. The panel discussions were lively and inspiring. The contents of this panel are being solidified into a larger, more comprehensive research agenda for the commission.

Xiaobai Angela Yao | Chair | ICA Commission on Geospatial Analysis and Modeling | USA

Received a proposal to join this Commission, or would benefit from such an effort, so decided to organise a workshop to consider the matter in more depth.

This workshop was very productive and provided many perspectives on the topic of reproducibility and what can be done to support robust empirical cartographic research. We will not report on the full findings of the workshop in the newsletter, but interested readers can see an overview of what was discussed at docs.google.com/document/d/1eLGcT9e9Ish9uRAAgiy8sZncfIkV mJhOkUQFburo-24/edit?usp=sharing.

We identified a number of potential activities that our commissions and the ISPRS working group could develop to support high-quality cartographic research and will be working on organising those future events and opportunities in the medium term. Please keep an eye on our respective list-servers and websites to find out about these opportunities.
Location Based Services

LBS 2018 Conference in Zurich, Switzerland

The LBS conference series started in 2002 in Vienna, Austria, initiated by Prof Georg Gartner from TU Wien. Since 2015, it has become the annual conference of the ICA Commission on Location Based Services. In the past years, the LBS conferences travelled around the world, with venues in Hong Kong, Salzburg, Nottingham, Munich, Shanghai, Vienna, and Augsburg.

In 2018, the 14th International Conference on Location Based Services (LBS 2018) was hosted by ETH Zurich in Switzerland, between 15-17 January 2018. More than 120 participants from all over the world gathered in the historical main building of ETH Zurich. The conference was opened by Rector Prof Sarah Springman and Conference General Chair Prof Martin Raubal.

The conference featured two keynote presentations by Johannes Schöning from University of Bremen and Michael Gould from Esri. A total of 28 oral presentations have been given in 8 single-stream sessions, together with 25 posters and 6 showcases. The conference also featured the Best Paper Session, in which 3 full papers and 2 ‘work in progress’ presentations were delivered. These oral presentations, showcases and posters provided a general picture of recent research activities related to the LBS domain. Such activities emerged in the last few years, especially concerning issues of outdoor/indoor positioning, smart environment, spatial modelling, personalization, context-awareness, cartographic communication, novel user interfaces, crowdsourcing, social media, big data analysis, usability and privacy.

The ICA kindly provided four ICA Scholarships for PhD/MSc students to attend the conference, together with another eight travel grants sponsored by Esri.

A selection of peer-reviewed full papers has been published in the book Progress in Location-Based Services 2018 within the Springer’s Lecture Notes in Geoinformation and Cartography series. Work in progress and showcase submissions are included in the conference online proceedings, published by the ETH Zurich Research collection (doi: 10.3929/ethz-b-000224043).

A pre-conference workshop on Eyetracking for LBS Research was organized by the local organizer ETH Zurich on 14 January 2018. The workshop attracted more than 50 participants. It covered different topics related to eyetracking methodology and applications.

More details regarding LBS 2018 can be found at lbsconference.org. The next LBS conference will be hosted by Prof Georg Gartner at TU Wien, Austria, in November 2019. We look forward to meeting you there.

Special issues of international journals

A special issue on Location-Based Services of the ISPRS International Journal of Geo-Information (IJGI) is being published in 2018. This special issue aims to provide a general research activities related to location-based services. Currently, 18 papers have been accepted following a peer-reviewing process. For more details, please refer to www.mdpi.com/journal/ijgi/special_issues/LBS.

A special issue on Representation and Analytical Models for Location-based Social Media Data and Tracking Data of the International Journal of Geographical Information Science (JGIS) is planned for 2018. It is a joint activity with the ICA Commission on Geospatial Analysis and Modeling. The special issue will contain invited submissions from the ICC 2017 Pre-Conference Symposium (LMTD 2017), as well as other relevant papers. All the submissions have been peer-reviewed, and initial decisions have been made.

LBS Research Agenda

To motivate further LBS research and stimulate collective efforts, the Commission started an initiative in 2016 to develop a cross-cutting research agenda, identifying key research questions and challenges that are essential for the LBS development in the next 5 or 10 years.

Based on the feedback, comments, and suggestions collected from the workshops in Vienna and Washington D.C., the Commission chairs together with several invited experts are now compiling and revising the LBS research agenda. During LBS 2018 in Zurich, a first draft of the research agenda paper was discussed and further constructive inputs were collected. These inputs will help to finalize the research agenda paper, which is expected to be completed soon.

Haosheng Huang | Chair | ICA Commission on Location Based Services | Switzerland / China

Map Design

mapdesign.icaci.org/

Commission activities

It’s been both a quiet and, yet, busy couple of years for the ICA Commission on Map Design. After being approved for a new four year term at the General Assembly in Rio in 2015 one of our first major projects was to initiate the creation of a series of design templates – style guides for cartographic design. The idea was to elicit contributions from the wider community and to use the Commission’s web site to share the results. These would be in the form of style guides that gave cartographers a one-stop-shop for resources that supported particular aesthetics. We created a demonstration style guide for an art deco aesthetic bringing together inspirational imagery, art, fonts and colour schemes. Despite some excellent feedback and interest after several...
conference presentations (on three continents!) no contributions materialized. We were disappointed in what was a good idea, and one that the general community were supportive of. However, it wasn't our intent for the Commission's core members to do all the work. We neither could, nor should. What concerns us, perhaps more than anything, is what this means for Commissions more generally. Are they simply mechanisms for those very closely involved to use as a vehicle to publicize their own work? They shouldn't be. Or are they a conduit to present work from a wide group of people? This, they should be. However, actually getting people to contribute, outside of their own busy schedules is difficult. It's certainly something for the ICA Executive Committee to consider when reviewing the role and purpose of Commissions.

The way people develop, share, and use resources these days has dramatically changed and there perhaps needs to be some review of how this affects the way in which Commissions operate and their value to the wider community. So, for the time being, the cartographic style guide idea is on hold. Just because it was a good idea does not mean it's viable if the wider community doesn't contribute.

In more positive news, Commission members have been busy preparing and delivering a MOOC (Massive Open Online Course) on Cartography through Esri's MOOC programme. The focus of the course is on map design and we designed and delivered short films (six in total) alongside workbooks, exercises and quizzes. The course was delivered entirely online (www.esri.com/training/catalog/5966584bb826875993ba4eb/cartography/) and provided free of charge to over 35,000 students who signed up. THIRTY-FIVE THOUSAND!!! The map we made to showcase the spread of our global classroom illustrated the way in which we touched all corners of the world. The feedback from the course has been extremely positive and we run a second offering in September 2018. Again, it’s free to enrol and take and provides a great entry point to digital cartography and many of the fundamental principles of cartographic work.

Kenneth Field and Ian Muehlenhaus | Chair / Vice Chair | ICA Commission on Map Design | United Kingdom / USA

**Maps and Graphics for Blind and Partially Sighted People**

internet.icaci.org/

**Commission activities**

The ICA Commission on Maps and Graphics for Blind and Partially Sighted People has published a new book *Teaching and learning about space through touch: methodological guidance*, as announced in the previous issue of *ICA News* (No 69, December 2017, page 12). On 13 December 2017, a launch event was held at the Metropolitan Technological University (UTEM) in Santiago, Chile, attended by the authors of and contributors, representatives of the relevant authorities in Chile, some of the book users and Commission Chair and Technical Secretary. This event heralded a completion of an important project undertaken in recent years by both, this Commission and the ICA. The book is published in two languages (English and Spanish) to provide a bilingual guide to teachers and educators about how to teach geography and cartography to blind persons.

In April 2018, the fourth newsletter of the Commission was distributed to members and interested people. Anyone interested in receiving the newsletter may request a copy by contacting Technical Secretary on rriiisigm.cl.

The newsletter reports, among other matters, on the following:

- publication of the book and related launch event mentioned above
- a report by Prof Andrey Medvedev, Russia, about the tactile cartographic material intended for blind people and available from several centres nationally
- two reports about activities involving specialized learning projects in Brazil, obtained through the Commission Vice Chair, Prof Waldirene Ribeiro.

Alejandra Coll Escanilla and Edwin Hunt | Chair / Technical Secretary | ICA Commission on Maps and Graphics for Blind and Partially Sighted People | Chile

**Map Projections**

ica-proj.kartografija.hr/

**Commission activities**

The next meeting of the ICA Commission on Map Projections is planned in June 2018, as a part of the 7th International Conference on Cartography and GIS to be held in Sozopol, Bulgaria (iccgis2018.cartography-gis.com), 23-28 June 2018.

The 14th International Conference on Geoinformation and Cartography and the 10th SDI Days 2018 will be organized by the Croatian Cartographic Society, the State Geodetic Administration and the Faculty of Geodesy of the University of Zagreb in Zagreb between 27-29 September 2018. The main topics of the conference are going to be national spatial data infrastructure and geographical names. A meeting of the ICA Commission on Map Projections will be included in the conference program (www.kartografija.hr).

Miljenko Lapaine | Chair | ICA Commission on Map Projections | Croatia

Display of the book *Teaching and learning about space through touch: methodological guidance* | Photograph courtesy of Tactile Cartography Centre, Metropolitan Technological University, Santiago

Book launch event at the Metropolitan Technological University in Santiago, Chile | Photograph courtesy of Tactile Cartography Centre, Metropolitan Technological University, Santiago
The 11th ICA Mountain Cartography Workshop was held in Hvar, Croatia, from 21-25 May 2018. The workshop was organized by the ICA Commission on Mountain Cartography (CMC) and was held on the island of Hvar, off the Dalmatian coast. The workshop was attended by 44 participants from various countries, including the USA, Canada, New Zealand, Russia, Austria, Switzerland, Romania, Norway, United Kingdom, Germany, Philippines, Slovenia, and Croatia.

Workshop Goals:
- Mapping Mountains
- Automation
- Recreation
- Caves, Volcanoes, Islands, and Oceans
- Relief Presentation
- Glaciers
- Mountain Safety
- Education
- Visualization

The workshop featured 35 presentations divided into nine sessions on the following topics:

- Mapping Mountains
- Automation
- Recreation
- Caves, Volcanoes, Islands, and Oceans
- Relief Presentation
- Glaciers
- Mountain Safety
- Education
- Visualization

Participants came from various countries, including the USA, Canada, New Zealand, Russia, Austria, Switzerland, Romania, Norway, United Kingdom, Germany, Philippines, Slovenia, and Croatia.

The workshop concluded with a gala dinner and a hiking tour to Sveti Nikola peak, or to walk to the nearby Hvar Observatory. Participants also had the opportunity to visit Pakleni Islands and enjoy swimming in the famous beaches that attract many tourists.

For more information about the workshop, please visit the Commission website:
**SDI and Standards**

[www.iho.int/iho_pubs/IHO_Download.htm](http://www.iho.int/iho_pubs/IHO_Download.htm)

*Joint ICA Commissions Workshop in Pretoria, South Africa*

The ICA Commission on SDI and Standards and the ICA Commission on Map Production and Geoinformation Management are hosting a joint workshop on **Collaborative custodianship and collaborative cloud mapping – challenges and opportunities**. The workshop is co-organized with the South African Committee for Spatial Information Subcommittee on Education and Training and will be held between 14-15 September 2018 at the University of Pretoria in South Africa. Collaborative custodianship refers to an arrangement where a number of custodians collaborate to produce a national SDI dataset, e.g. local authorities contributing addresses or street data to a national SDI dataset. Collaborative cloud mapping allows for ubiquitous convenient on-demand configured and tailor-made mapping with shared resources between various entities collaborating on a specific initiative such as an SDI or for disaster management. The workshop will introduce attendees to collaborative custodianship and collaborative cloud mapping through presentations, demonstrations and case studies. Subsequently, challenges and opportunities for implementing collaborative custodianship through collaborative cloud mapping will be explored in discussions and work sessions. The results of the workshop will be presented at the AfricaGEO 2018 conference ([africageo.org.za](http://africageo.org.za)).

**Use, User and Usability Issues**

*see Cognitive Issues in Geographic Information Visualization for joint report*

**Marine Cartography**

*ICA Working Group on Marine Cartography*

*Working Group activities*

The primary focus of the ICA Working Group on Marine Cartography remains the consolidation of its membership as it strives towards achieving Commission status once again at the 18th ICA General Assembly in Tokyo in 2019. Close ties have been forged since ICC 2017 with the nautical cartography group within the U.S. National Oceanic and Atmospheric Administration’s Office of Coast Survey. Support from the group is strong and it is currently planned to conduct both a physical and a webinar-styled meeting of the Working Group (WG) members during the last week of July 2018. This is presently planned to emanate from Washington D.C. intending to provide access for WG members situated anywhere who are not able to travel. The Chair and Vice Chair have drafted suggested Commission Terms of Reference for consideration by the members. A priority issue remains the establishment of an active core of members to sustain Commission status, to address areas of research interest and to agree on a succession plan for the Chair and Vice Chair. Equally important is the future participation of at least two members with the required expertise on the FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) with details locatable at [www.iho.int/srv1/index.php?option=com_content&view=article&id=440&Itemid=396&lang=en](http://www.iho.int/srv1/index.php?option=com_content&view=article&id=440&Itemid=396&lang=en).

The 41st meeting of IBSC has recently been conducted at the Institute of Technology Bandung, Indonesia hosted by the School of Geodesy and Geomatics Engineering, Faculty of Earth Sciences and Technology. The Chair and Vice Chair attended this, their 17th consecutive meeting representing ICA on this important body. The meeting is convened annually and meets to review and consider recognition of educational/training programmes submitted against the published Standards of competence: S-5 (Hydrographic Surveyors) and S-8 (Nautical Cartographers) and update the Standards where there is a need for. The existing versions of the Standards, at both levels of Category A and B, can be downloaded from [www.iho.int/iho_pubs/IHO_Download.htm](http://www.iho.int/iho_pubs/IHO_Download.htm).

The sixteen submissions considered during this two-week period of intense evaluation included cartographic programs from China and Argentina. It is inconceivable that ICA might not continue to be represented on the IBSC as the international authoritative voice of Cartography. It is of some note that one ICA representative has served as Chair of IBSC while the second is about to serve. We are both keen to hear from those ICA members interested in nautical cartography and the IBSC: the intangible rewards for those who serve as members of IBSC are immense. Contact either author through [ron.furness@gmail.com](mailto:ron.furness@gmail.com) if you require more information.

Ron Furness and Lysandros Tsoulou | Chair / Vice Chair | ICA Working Group on Marine Cartography | Australia / Greece

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**FIG/IHO/ICA International Board on campus at the Institut Teknologi Bandung Opening Ceremony for IBSC 41 with orange-jacketed students’ welcoming committee | Photograph courtesy of Ron Furness**
13th International Conference on Geoheritage, Geoinformation and Cartography

The Croatian Cartographic Society and the Faculty of Geodesy of the University of Zagreb, organised the 13th International Conference on Geoheritage, Geoinformation and Cartography in Selce, Croatia, between 7-9 September 2017. The aim was to contribute to the development of geoinformation, cartography, geography and related fields, with a special emphasis on geodiversity. A wide range of topics and well-known invited speakers ensured the sessions were interesting and a contemporary approach was taken to discuss issues raised. The conference was held under auspices of the International Cartographic Association (ICA), the Croatian Academy of Engineering, the University of Zagreb, and the University of Zadar. Seventy participants attended the event, which lasted three days.

Miljenko Lapaine | Croatian Cartographic Society | Croatia

International Scientific Conference in Perm, Russia

Between 28-30 November 2017, the Department of Cartography and Geoinformatics of Perm State National Research University, Russia, hosted the International Scientific Conference From the maps of the past – to the maps of the future. The Grant of the Russian Geographical Society for the preservation, study and popularization of the heritage of the Ural cartographers in the mid 18th to early 20th century supported the conference.

The purpose of the conference was to provide a forum for the exchange of experiences and demonstrations of scientific and practical achievements in the creation and maintenance of digital data banks of cartographic sources in Russia between 18th and 20th century, as well as modern possibilities of creating web-mapping services based on historical information and popularization of cartographic activity in general.

More than 130 delegates from four countries – Russia, Czech Republic, Germany and Armenia – attended the conference. The International Cartographic Association was represented by Prof Milan Konečný, Chair of the ICA Commission on Cartography in Early Warning and Crisis Management. The conference proceedings consist of three volumes of more than 650 pages and contain around 90 contributions.

The conference programme was varied and included a large number of activities, such as plenary and paper sessions, discussions, open lectures, practical workshops, and a geo-quest for Komi-Permyak district school children. This allowed participants to take full advantage of the conference and bring scientific achievements closer to the practical activities of state authorities and businesses, as well as to show the students modern technological solutions in the field of digital mapping.

The research and academic institutions, industry, state government of Perm Krai and the representatives of archives, museums, libraries and other cultural institutions of various levels (federal, regional and local) showed interest in the conference.

During the conference (both in Perm and Kudymkar) there was a mobile exhibition. It included a number of themes:

- Preservation, study and popularization of the heritage of the Ural cartographers in the mid 18th to early 20th centuries
- The heritage of Ivan Yakovlevich Krivoshchekov
- Ivan Yakovlevich Krivoshchekov: the topography of life
- Three stages in the life of Leo S. Bagrov (1881-1957)

The participants had a chance to participate in associated events, including a tour of literary places in Perm, a visit to the exposition The Book Treasures of the First in the Urals at PSU Scientific Library, get a taste of the traditions and culture of Perm Krai and Komi-Permyak region at the Perm Branch of the Institute of History and Archeology of the Ural Branch of the Russian Academy of Sciences, an excursion
Mapping Events Organised by United Arab Emirates University

Listed below are several events organised or coordinated by Dr Naeema Alhosani from the College of Humanities and Social Sciences of the United Arab Emirates University’s (UAEU), an affiliate member of the International Cartographic Association.

6 February 2018: Symposium on Big Data Application in Urban Planning and Geospatial Workshop, Living Lab Experience in Geospatial Science, and Students’ Geospatial Innovative Research Exhibition, as part of celebrating the month of innovation in United Arab Emirates.

21 February 2018: Workshop on Creating Spatial and Tabular Data in ArcGIS for geography and urban planning students, and Brain storming session to UAEU students entitled Innovative Map Ideas, contributing to celebration of the month of innovation in United Arab Emirates.

11 April 2018: Seminar session entitled The Geographical Book Review to discuss books in the fields of Cartography, Urban Planning, and Environment; the students enjoyed the session and found it helpful.

8-10 May 2018: GISWORX Conference, which was attended by UAEU geography and urban planning students. GISWORX is an annual GIS conference which also serves as gistec’s proactive technical support delivery system. This event provided a unique, in-depth learning environment on the different aspects of GIS to beginners and advanced users through several technical workshops.

Tribute to Professor Waldo Rudolph Tobler

One of the most famous cartographers of our epoch, Professor Emeritus Waldo Rudolph Tobler, passed away on 20 February 2018. He used computers in geographic research for over fifty years, with emphasis on mathematical modelling and graphic interpretations. Well known for his publications, he formulated the First law of geography in 1970 while producing a computer movie, and was the inventor of novel and unusual map projections, including the first derivation of partial differential equations for area cartograms. He also invented a method for smooth two-dimensional mass-preserving area data redistribution. According to Tony Campbell, Waldo was a major figure in the analysis of the mathematics underlying cartography. He was the most distinguished member of the ICA Commission on Map Projections. Let his work inspire us all!

Miljenko Lapaine | Croatian Cartographic Society | Croatia

(Left) Participants of the Symposium of Big Data Application in Urban Planning; (right) Dr Naeema Alhosani (left) with her colleagues at the Geographical Book Review session | Photographs courtesy of Naeema Alhosani
ica affiliate members

Organisations, institutions and companies wishing to support the mission and activities of the International Cartographic Association can become affiliate members. The following organisations support the ICA:

2011
Association of Polish Cartographers | Poland | www.polishcartography.pl
Attn: Assoc Prof Joanna Bac-Bronowicz | joanna.bac-bronowicz@pwr.wroc.pl

2011
Centro Argentino de Cartografía | Argentina | www.centroargentinodecartografiam.org
Attn: Jorge Horacio Machuca | cac@centroargentinodecartografiam.org

2011
Chinese Cartographic Association (Chinese Taipei) | Taiwan-China | www.ccarto.org.tw
Attn: Dr Ching Jen Kao | ccarto@gmail.com

2007
Dubai Municipality | United Arab Emirates | www.dm.gov.ae
Attn: Hussein Mohammed Abdulmuttalib | husseinma@dm.gov.ae

2007
East View Geospatial | United States of America | www.geospatial.com
Attn: Kent Lee | geospatial@eastview.com

2005
Eko-Graf Publishing House | Poland | www.ekograf.pl
Attn: Roman Janusiewicz | ekograf@ekograf.pl

2017
El Servicio Aerofotogramétrico del General Juan Soler Manfredini de la Fuerza Aérea de Chile (SAF) | Chile | www.saf.cl
Attn: Viviana Barrientos Lardonoi | vivina.barrientos@safl.cl

2003
Esri | United States of America | www.esri.com
Attn: Mark Cygan | mcygan@esri.com

1995
Geospatial Information Authority of Japan | Japan | www.gsi.go.jp
Attn: Secretariat of ISCGM | gsi-sec@icsgm@mlit.go.jp

2015
GeoTechVision Enterprise Limited | Jamaica | www.techvisionenterprise.com
Attn: Valerie Grant | valgie@techvisionenterprise.com

2007
German Federal Agency for Cartography and Geodesy | Germany | www.bkg.bund.de
Attn: Prof Dr Ing Hansjörg Kutterer | hansjoerg.kutterer@bkg.bund.de

2015
HERE | Germany | www.here.com
Attn: Astrid Dawson | astrid.dawson@here.com

1995
Hexagon Geospatial | United States of America | www.hexagongeospatial.com
Attn: Jon Thies | jon.thies@hexagongeospatial.com

2003
Indian National Cartographic Association (INCA) | India | www.incaindia.org
Attn: Shri Rabindranath Nanda | secretarygeneralinca935@gmail.com

1995
Institut Cartogràfic i Geològic de Catalunya (ICGC) | Spain | www.icgc.cat
Attn: Jaume Massó i Cartagena | direccio.icgc@icgc.cat

1995
Attn: Dr Sébastien Mustiere | sebastien.mustiere@ign.fr

2007
Instituto Geográfico Nacional España | Spain | www.ign.es
Attn: Sebasitán Mas Mayoral | smas@fomento.es

2011
Land Information New Zealand | New Zealand | www.linz.govt.nz
Attn: National Topographic Office | media@linz.govt.nz

2017
Library and Archives Canada | Canada | www.bac-lac.gc.ca
Attn: Sebastien Daneau | sebastien.daneau@canada.ca

1995
Moscow State University of Geodesy and Cartography | Russia | www.miigaik.ru
Attn: Prof Vasily A. Malinnikov | igm@miigaik.ru

1995
National Hydrographic Office | India | www.hydrobharat.nic.in
Attn: Rear Admiral S.K. Jha, NM | ia-inho-navy@nic.in

2007
Ordnance Survey | United Kingdom | www.ordinatesurvey.co.uk
Attn: Paul Naylor | paul.naylor@ordnancesurvey.co.uk

2003
Regional Centre for Mapping of Resources for Development (RCMRD) | Kenya | www.rcmrdr.org
Attn: Dr Hussein O. Farah | rcmrd/rcmrdr.org

2015
Surveying and Spatial Sciences Institute (SSSI) | Australia | www.sssi.org.au
Attn: Penny Baldock | chair.scci@ssi.org.au

2015
UNIGIS International Association | Austria | www.unigis.net
Attn: Prof Dr Josef Strobl | josefstrobl@sbg.ac.at

2003
Union of Chambers of Turkish Engineers and Architects, Chamber of Surveying and Cadastre Engineers (UCTEA-CSCE) | Turkey | www.hkmo.org.tr
Attn: Prof Dr Necia Ulutğecin | hkmo@hkmo.org.tr

2015
United Arab Emirates University | United Arab Emirates | www.chss.uae.ac.ae/en/
Attn: Dr Naem Alhosani | naem@auae.ac.ae

2011
Attn: Ayako Kagawa | kagawa@un.org

1995
United States Geological Survey | United States of America | cegis.usgs.gov
Attn: Assoc Prof Peter Penev | ppenev@gmail.com

2007
University of Architecture, Civil Engineering and Geodesy | Bulgaria | www.uacbg.bg
Attn: Assoc Prof Peter Petev | petnov@gmail.com

2017
University of Lay Adventists of Kigali | Rwanda | www.unilak.ac.rw
Attn: Dr Gabriel Habiyaremye | research@unilak.ac.rw

1995
University of Twente, Faculty of Geo-Information Science and Earth Observation (ITC) | The Netherlands | www.itc.nl
Attn: Dr Corne van Elzakker | c.vanelszakker@utwente.nl

2015
Wuda Geoinformatics | China | www.geostar.com.cn
Attn: Song Alhong | songalhong@geostar.com.cn

ICA welcomes new affiliate members; for more information, please visit icaci.org/membership-types or contact László Zentai, ICA Secretary General & Treasurer (sg@icaci.org).

1995 – year of ratification by the ICA General Assembly
65 – affiliate member’s profile published in ICA News (issue number)
children’s map gallery   2017 winners

Noemi Sanchez Avramova and Alba Serrano Suarez | 12 | Grones Fine through Our Eyes | Colegio Arturo Soria: Madrid | Spain

Preslava Ivanova | 8 | The World is in Our Hands | Art School Zhivopis: Kazanlak | Bulgaria

Urteja Kardašiute | 4 | Friends | Lopšelis-darželis Bangelet: Siauliai | Lithuania

Alicia Fleming | 5 | My Happy World | . Eastgardens, New South Wales | Australia

Kenya Kesuma Dewi | 5 | Crafting Our Dreams on the Land of Indonesia | Tk Al Falah: Kediri | Indonesia

CREATIVITY AWARD