

## president's report



### Dear Colleagues

Twice a year, our newsletter gives a fresh perspective on what happens in our cartographic community. This includes activities of our Commissions and

Working Groups, news about special events, individuals and organizations. One could argue that it is quite an inward-looking perspective. Nothing wrong with this, because this is the purpose of our newsletter; it gives an insight into what International Cartographic Association (ICA) is doing. However, in this contribution I would like to take you outside of our cartographic world. Do not worry, it is still very much about our discipline. ICA is part of two international networks, the International Science Council (ISC) and the UN-GGIM Geospatial Societies.

### International Science Council

Four years ago, we were voted in as a member of the International Council for Science (ICSU). This year ICSU merged with the International Social Science Council (ISSC) to establish the International Science Council (ISC) ([www.icsu.org](http://www.icsu.org)). The merger was thought to be necessary since global problems require all sciences to work together. For cartographers this even feels natural since maps can represent both issues related to natural and social phenomena. ICS consists of national scientific members and discipline oriented associations/unions like ICA. Being a member of such overarching international organization is prestigious for our discipline. It recognises cartography as a scientific discipline. Within ISC the associations/unions have organized themselves into clusters. ICA is a member of the Geounions cluster ([www.icsu-geounions.org](http://www.icsu-geounions.org)). The Geounion is much wider than we usually think of. Next to familiar associations like the International

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Pre-ICC 2017 Maps & Emotions Workshop, Washington D.C.: drawing the "map score" from memory after the blind and opened-eyes activity | Photography Julia Mia Stirnemann

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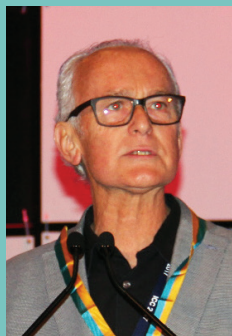
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## ica awards 2017

The International Cartographic Association (ICA) has instituted a number of awards for outstanding contribution to the ICA and to cartography worldwide. At the 28th International Cartographic Conference in Washington D.C., USA, the following awards were presented:

- The ICA Honorary Fellowship to **Prof William Cartwright** (Australia), **Dr Anne Ruas** (France) and **Timothy Trainor** (USA)
- Diplomas for Outstanding Services to ICA to **Cynthia A. Brewer** (USA), **Aileen R. Buckley** (USA), **Igor Drecki** (New Zealand) and **Matthew Rice** (USA).



### Citation for Professor William Cartwright

It is with great pleasure that I write in recognition of Professor William Cartwright's international status in the world of cartography and beyond.

Prof Cartwright has achieved an exceptional international reputation for his work in cartography and is highly regarded as a world leading expert in the field of cartography and GIScience in general. As President and Past President of the International Cartographic Association he has significantly contributed to the recognition and the respected position of modern cartography. Defining sustainable subject cores, in relation to rapidly changing innovations, needs internationally recognized and accepted experts being able to give orientation in this respect, Prof Cartwright is one such leading expert.

As we have been both members of the international expert group in the *Cybercartography and the New Economy* project, the Editorial Team of the Springer's Book Series *Lecture Notes on Geoinformation and Cartography*, and the Scientific Advisory Board of various conferences and symposia, I had the opportunity to get into close contact with the expertise of Prof Cartwright in many respects, which led also to his Guest Professorships at Vienna, joint projects and scientific publications. It was not only remarkable to see how Prof Cartwright guides scientific developments to international visible and significant outcomes, but also to witness his devotion to his work and discipline.

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When I arrived in Ottawa in August 1999 to attend the 19th International Cartographic Conference, I could not have predicted that my ICA adventure had just begun. I am certain that the past two decades were just an opening chapter to the fascinating journey my involvement with the ICA has lead me on. The recent ICC 2017 in Washington D.C. was a part of this journey where I could immerse myself in the world of cartography by experiencing captivating presentations, awe-inspiring exhibitions, engaging discussions and quiet admirations for the efforts of so many dedicated people.

The event reconfirmed for me that ICA is more than an ensemble of cartographers and map enthusiasts, more than exciting map exhibitions and conferences, more than prestigious awards and general assemblies. Like the scattered stones that are gathered and pieced together to build a house, the countless contributions and sacrifices of individuals over the last sixty years have built the ICA's heart. And, like the house is worth defending and caring for because it is where one finds shelter and safety, the ICA's heart is worth our compassion, devotion and yes, sometimes even a fight, because it delivers a new meaning for us, one which we are all drawn to and identify with, and one that makes us cartographers unique and our discipline recognisable. The more we invest in the ICA, the more we build our identity.

ICA is not immune to the pressures of the contemporary world with its fast paced technology, social challenges and economic uncertainties. The key is to preserve the heart while, at the same time, maintain our relevance in today's environment. No one can make the house beautiful if it is always built anew...

In this issue of ICA News, we farewell Don Pearce who was always full of energy and ideas to move the ICA forward, yet never lost the spirit of our Association. We look at ICC 2017 through the lens of various reports and statistics, and celebrate the achievements of our fellow cartographers. We are also invited to stay tuned to the summer events in Tokyo in two years' time.

**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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## president's report cont...

Society for Photogrammetry and Remote Sensing (ISPRS) and International Geographical Union (IGU), we also find soil scientists, geologists and astronomers. We meet once or twice a year and discuss strategy, specifically concentrating on the role and influence of Geounions in ISC. We also exchange practical information and experiences on how to run an association, such as ours. We do pay an annual memberships fee and attend ISC's general assembly every three years.

### UN-GGIM Geospatial Societies

The United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) Geospatial Societies ([ggim.un.org/ggim\\_committee.html](http://ggim.un.org/ggim_committee.html)) is also a new organisation that was established in August 2017 during the 7th UN-GGIM meeting at the UN headquarters in New York, a continuation of the Joint Board for Geographic Information Science, which existed for many years. Among the members are international organisations such as ISPRS, IGU, the International Federation of Surveyors, the International Association of Geodesy and Global Spatial Data Infrastructure. We function as an advisory board for the

UN-GGIM which consist of the UN bureau staff and national members. The chair of this organization rotates annually. Former ICA President Prof William Cartwright has fulfilled this role in the past. We usually meet once a year in New York as a side event of the main UN-GGIM meeting, and irregularly at one of the events organised by its members. We do not pay fees. Participation is very beneficial to ICA. We talk to our sister organizations and take opportunity to expand the visibility of cartography in the UN context. Our poster project on the Sustainability Development Goals (SDG) a year ago is one example. In addition to the New York meetings, the UN-GGIM organises so-called High Level Forums dedicated to a particular theme. In November 2017, I attended such event in Mexico where the link between geoinformation and the SDG was discussed. ICA, together with the UN Geospatial Unit, presented the follow-up to the poster project, a book titled *Mapping a sustainable world*. I will inform you on this project in the next newsletter. And please remember: let's make the world a better place with maps!

**Menno-Jan Kraak** | President | ICA ■

## ica awards 2017 cont...

I was impressed especially by his general understanding of science and research. He literally 'lives' interdisciplinarity and cross-subject knowledge finding, which makes him an outstanding person and researcher.

As Vice President (2003–2007), President (2007–2011) and then Past President (2011–2015) Prof Cartwright has steered the International Cartographic Association into a modern international organisation. He has established a number of innovative instruments and changes, which prove to be a benefit for the international community. His exceptional acceptance by the scientific community substantially helped to reach out to neighbouring disciplines, where – through his work – the respect and acceptance of cartography and ICA has been lifted. As Chair of the Joint Board of Geospatial

ICA President Menno-Jan Kraak (4th from left) with the recipients of the 2017 ICA Awards: (from left) Igor Drecki, Cynthia Brewer, Timothy Trainor, Anne Ruas, William Cartwright, Matthew Rice and Aileen Buckley | *Photography László Zentai*





# ica awards 2017 cont...

Information Sciences (2011–2013) he was actively involved in the United Nations Initiative on Global Geospatial Information Management and has been a member of the UN Committee of Experts.

In summary, I have deep respect for Prof Cartwright, as a professional and as a person. He is an exceptional researcher and scientist, and an extraordinary ambassador of Australia who has contributed to the International Cartographic Association in the most relevant way. It is a great pleasure for me to deliver in person the ICA Honorary Fellowship to Professor William Cartwright.

**Georg Gartner** | ICA Past President | *Austria* ■



## Citation for Dr Anne Ruas

It is a great pleasure to present the ICA Honorary Fellowship to Dr Anne Ruas. This award is for cartographers of international reputation who have made special contribution to the International Cartographic Association.

Dr Ruas fits this category well because during a long ICA career she has been active as Chair of the ICA Commission on Generalization and Multiple Representation (2003–2007) and Vice President of the ICA (2007–2015). She was also President of the organising committee of the International Cartographic Conference 2011 in Paris. Dr Ruas is still committed to ICA because of her current role as one of the two Editors of our *International Journal of Cartography* (from 2015).

But what many people do not know is that she is a very good football player! I remember playing with Anne in the red-team during the legendary ICA Commissions' match in Leicester many years ago.

Anne, I congratulate you on the occasion of receiving the ICA Honorary Fellowship.

**Menno-Jan Kraak** | ICA President | *Netherlands* ■



## Citation for Timothy F. Trainor

Timothy F. Trainor began his involvement in the International Cartographic Association in 1987 as an active member of the ICA Commission on National Atlases (later called National and Regional Atlases) and has participated in meetings, seminars, and workshops of the Commission. In 1995, he was selected Chair of the Commission and completed his term in 2007 in Moscow. Recognizing the importance of having ICA expertise, particularly the role of cartography, to support numerous forthcoming censuses worldwide, he proposed establishing a new ICA Working Group on Census Cartography. This Working Group was approved by the ICA Executive Committee in 2008 and run until 2011 with Trainor as Chair. In 2015, Trainor completed two terms as Vice President of the ICA. Since

then he continues to serve ICA as a member of the Statutes and By-Laws Committee.

Trainor encouraged the U.S. National Committee for the ICA to prepare a bid to host the International Cartographic Conference and the ICA General Assembly in 2015 in the United States (the bid was eventually successful in 2017). He was an active member of the Local Organizing Committee.

Timothy Trainor is Chief of the Geography Division of the U.S. Census Bureau. He is responsible for directing all aspects of the division's work related to development and implementation of geographic and cartographic activities for the United States and its territories. He actively represented ICA at the United Nations. In the last three years, he participated in the UN Regional Cartographic Conferences for the Americas, the UN Seminar on Emerging Trends in Data Communication and Dissemination, and the Conference of European Statisticians. Currently, he represents ICA at the United Nations Initiative on Global Geospatial Information Management. He was elected as Co-chair of the UN GGIM Bureau in 2016.

Trainor is a member of the Geography Commission of the United States National Section of the Pan American Institute for Geography and History. He has also cultivated a close collaboration with the International Geographical Union leadership which has helped to strengthen collaboration between the two associations.

**László Zentai** | ICA Secretary General & Treasurer | *Hungary* ■

## Awardees of Diplomas for Outstanding Services to ICA

The Diploma for Outstanding Services to ICA is presented to individuals and organisations for their exemplary service to the International Cartographic Association. Here are the 2017 recipients of the award:

- **Cynthia A. Brewer** – ICC 2017 Local Organising Committee
- **Aileen R. Buckley** – ICC 2017 Local Organising Committee
- **Igor Drecki** – Editor of *ICA News* (from 2007)
- **Matthew Rice** – ICC 2017 Local Organising Committee

# ica news

## harold moellering – a tribute



A tribute session entitled *Collaborative Reflections on Dr Harold Moellering's Contributions to Cartography and GIScience*, was convened at the International Cartographic Conference in Washington D.C., USA, on the afternoon of Thursday, 6 July 2017.

Colleagues, friends, family and former students gathered to reflect on decades of cartography and GIScience scholarly contributions made by Professor Harold Moellering to the realms of analytical cartography, spatial data standards, cartographic visualization, and spatial data infrastructure.

Professor Tim Nyerges, University of Washington, moderated a panel discussion among: Professor Keith Clarke, University of California, Santa Barbara; Robin Fegeas, Geographer, US Geological Survey (retired); Professor A. Jon Kimerling, Oregon State University, (retired); Antony Cooper, Principal Researcher, Council for Scientific and Industrial Research; and Professor Bengt Rystedt, University of Gävle, (retired).

Panelists discussed contributions within the four realms while synthesizing views among the realms. Members of the audience contributed their personal perspectives. Hal was provided an opportunity for 'final words', filling in the interpretation gaps as needed.

A reception followed the panel session enabling participants to imbibe in food and drink while reminiscing and continuing the reflective conversation. Event sponsors were the University of Washington's Department of Geography, Arizona State University's Department of Geographic Sciences and Urban Planning, The Ohio State University's Department of Geography, the Cartography and Geographic Information Science Society, and the ICA Commission on Spatial Data Infrastructures and Standards.

**Timothy Nyerges** | University of Washington | *USA* ■

# ica executive committee

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## ica news contributions

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## Submission Deadlines

**15 May** for June editions

**15 November** for December editions

## ica news world cartographic forum

[wcf.icaci.org](http://wcf.icaci.org)

Over 40 participants representing organisations from 20 countries joined the World Cartographic Forum on 3rd July, the first day of ICC 2017. The initiative by Dr Alex Kent (President of the British Cartographic Society) successfully brought together leaders of national cartographic societies from around the world to discuss common issues such as membership, collaboration, and fostering the learning of new mapping skills in our fast-changing field. At its inaugural meeting, Prof. Menno-Jan Kraak, President of the International Cartographic Association (ICA) and member of the Netherlands Cartographic Society, endorsed and welcomed the initiative.

The compilation and sharing of the societies' data from a pre-meeting questionnaire allowed their different characteristics to be compared, revealing the different approaches towards membership (particularly fees and benefits)

and providing much scope for discussion. The business of attracting and retaining members relied to some extent upon the relevance of activities and benefits to practising cartographers, with various approaches adopted. For some cartographic societies, publications were critically important, while for others, holding an annual conference was key to their success. In particular, societies which had invested in younger members by granting them more responsibility, such as leadership roles, had seen growth. Since it was agreed that the Forum had been beneficial, it will meet biennially at each International Cartographic Conference and to share resources such as constitutions, organisational information and strategies via the ICA website.

**Alexander Kent** | Chair | World Cartographic Forum |  
*United Kingdom* ■

World Cartographic Forum meeting at the ICC 2017 in Washington D.C., USA | *Photography László Zentai*



## ica news imy officially closed

The International Map Year (IMY) was officially closed by ICA President Menno-Jan Kraak during the closing ceremony of the International Cartographic Conference in Washington D.C., USA, on 7 July 2017. The IMY website ([mapyear.icaci.org](http://mapyear.icaci.org)) is now archived and the IMY e-book, *The World on Maps*, is available from the ICA website ([icaci.org/publications/](http://icaci.org/publications/)).

IMY was celebrated in nearly 40 countries that arranged National Map Days and other national events. The IMY Working Group is grateful to the writers of the various chapters of *The World on Maps* and to many translation teams that made the book available ultimately in six different languages (English, French, Hungarian, Italian, Portuguese and Spanish). We are also indebted to Manuela Schmidt for maintaining and updating the IMY website and designing the IMY logo.

Members of the ICA Executive Committee, the ICA Commission Chairs, as well as members of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM), and the former Joint Board of

Geographic Information Societies have also been very supportive. For example, during the UN-GGIM meeting in August 2017, Anthony Milne, Chair of the IEEE Geoscience and Remote Sensing Society, highlighted success of IMY:

*"The International Cartographic Association ran a very successful campaign on the International Map Year, which was endorsed by the UN-GGIM Geospatial Societies and the UN-GGIM Committee of Experts. This program aimed to make maps more visible to and understood by decision-makers, citizens and school children in the global context."*

One of the last events led by the ICA in conjunction with IMY was the production of the posters in support of the UN Sustainability Development Goals ([www.un.org/sustainabledevelopment/sustainable-development-goals/](http://www.un.org/sustainabledevelopment/sustainable-development-goals/)). In all, IMY has been a great success and we congratulate everyone for their participation in this worldwide effort to celebrate of maps and their unique role in our world.

**Bengt Rystedt** | Chair | Former ICA Working Group on International Map Year | *Sweden* ■



The 29th International Cartographic Conference (ICC) and the 18th General Assembly of the International Cartographic Association will take place in Tokyo, Japan, 15-20 July 2019.

The logo of the upcoming ICC 2019 represents, in fact, the shape of Mount Fuji, the highest mountain in Japan (3,776m) that can be seen even from Tokyo on a clear day. The logo was designed by extracting the contour lines of the mountain, duplicating them and then offsetting slightly in the direction of lighting north-west to south-east. This process created a pair of contour lines with a band-like space between them. By applying a light color to the resultant band for the illuminated side (north-west) and dark color for the shaded side (south-east), a concave form is created. This method of relief representation was proposed in 1932 by Kichiro Tanaka, a Japanese cartographer and engineer. If one reverses the illumination, the convex form will be achieved. Interestingly, in the northern hemisphere, sun light comes from the south! By rotating the figure of Mount Fuji, the concave form will gradually change to the convex one and vice versa. Enjoy!

The ICC 2019 website has been launched and contains an invitation to join us in Tokyo. Further information, including important dates, program, exhibitions and registration, will be progressively added. Please stay in touch by visiting our website regularly.

**Takashi Morita** | Chair | ICC 2019 Local Organising Committee | Japan ■



ICA International Cartographic Association  
Association Cartographique Internationale

**29th**

# International Cartographic Conference

**15th-20th July 2019**

National Museum of Emerging Science and Innovation (*Miraikan*) &  
Tokyo International Exchange Center\* TBD

<http://icc2019.org>

**【Contact】**  
The 29th International Cartographic Conference Secretariat (c/o ISS, INC.)  
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The mutual support of the ICA and the community of blind and partially sighted people that runs continually since 1984 – an establishment of the *ad-hoc* ICA Commission on Tactual Mapping – is truly unprecedented. Here is an excerpt from the ICA Commission on Tactile Mapping and Low-vision Mapping report acknowledging this incredible collaboration.

**Igor Drecki** | Editor ICA News | ICA ■

### ICA Newsletter, No 20, October 1992

#### Reports of ICA Commissions & Working Groups

##### COMMISSION ON TACTILE MAPPING AND LOW-VISION MAPPING

###### *Activities Report for 1991 – 1992*

At the 15th International Cartographic Conference held in Bournemouth, England, the Tactile Mapping Commission was able to advance significantly the cause of tactile mapping and the welfare of the blind and partially-sighted people throughout the world by agreeing with Dr. Zurita, Secretary General of the World Blind Union to pursue collaborative efforts in research and education. The fruits of this collaboration, which is yet in its infancy, will be harvested over many years.

[...]

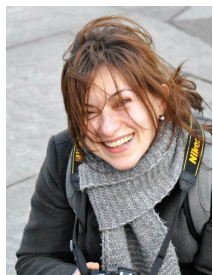
Individual members of the Commission continue to undertake research and production, recent examples of the latter being an Atlas of China by Professor Zhang Qingpu, maps of the Amazon Basin and educational materials by Dr. Vasconcellos, books and children's educational materials of Japan by Yuji Ishido, maps of the (former) Soviet Union, the Middle East, and South Asia and Australia by Professor Wiedel and of a local area in Perth, Western Australia by Don Pearce. Professor Don Parks continues to develop NOMAD, the audio-tactile device he invented, and researchers in the USA, Japan and the United Kingdom are using NOMAD to develop a wide variety of educational tools.

[...]

Members of the Commission appreciate greatly the continuing support of the blind community, national cartographic organisations and the International Cartographic Association in their work of assisting blind and partially sighted people become more fully integrated into their world.

*Joseph W. Wiedel, Chairman;  
Andrew F. Tatham, Co-Chairman / 21  
August 1992*

## irma kveladze



Maps caught my attention in my childhood when playing with my father's world atlases and enjoying colourful representations and symbols challenged me in imaging real

world objects. Later, it continued in school during geography lessons where I was drawing and painting maps for different purposes. That was probably the time when I made the decision to study geography and a few years later I enrolled at the Department of Geography and Geology at Tbilisi State University in Georgia.

Crafting maps continued with learning more about the cartographic language and various aspects of map design for a better understanding and representation of our world. After having acquired the bachelor's degree, I continued my master's to understand the relations between cartography and various specialisations. This resulted in my master's thesis devoted to the exploration of endangered species of plants in Georgia. Later, my interest continued at the World Wildlife Fund (WWF) where I studied the movement and change of wildlife in Georgia.

During my PhD research at the University of Twente in the Netherlands, I focused on the exploration of the cartographic design aspects and usability issues of the Space-Time Cube (STC). The idea was to systematically investigate the use of visual variables, depending on the nature of data characteristics and perceptual properties, to come forward with extensive usability recommendations.

Currently, I am affiliated as a postdoctoral researcher with the Department of Civil Engineering at Aalborg University in Denmark. My research interests focus on exploration and analysis of spatio-temporal aspects in relation to complex traffic movements. I enjoy interdisciplinary work and cooperation with scientists from various fields. During my scientific career, I have been actively participating in the International Cartographic Conferences (ICC). At ICC 2017, I had the opportunity to participate in the ICA General Assembly in Washington D.C. as a principal delegate representing Georgia.

**Irma Kveladze** | Aalborg University | Denmark | [ik@civil.aau.dk](mailto:ik@civil.aau.dk)

# profiles nigerian cartographic association

The Nigerian Cartographic Association (NCA) was founded in 1978 and is a formally registered professional organisation. From the days of inaugural President Prof Isaac Adalemo and Secretary General Yinka Balogun (now Prof Balogun), both from the University of Lagos, the Association has recorded steady growth through their courageous and vision-driven leadership. Prof Andrew A. Obafemi and Innocent Bello currently serve as National President and Secretary General respectively.

The 38th Annual Conference and AGM of the NCA was held from 6-9 November 2017. The conference provided the much needed platform to engage in robust interactions and knowledge sharing of the emerging development in mapping, and offered exchange of practical ideas, experiences and solutions confronting our joint pursuit of providing mapping services for planning and sustainable development in our nation. The conference provided the Association with a renewed vigour in our collective determination to further contribute to the surveying and mapping needs for sustainable development of our nation. At the event, 62 new members joined the Association.

NCA is developing new strategies to aid membership drive and to accelerate our activities at both the national level and state chapters. A new series of our quarterly newsletter is being launched, while the second issue of our journal *The Nigerian Journal of Cartography and GIS* is due to be out shortly. A 1-day colloquium and press conference are

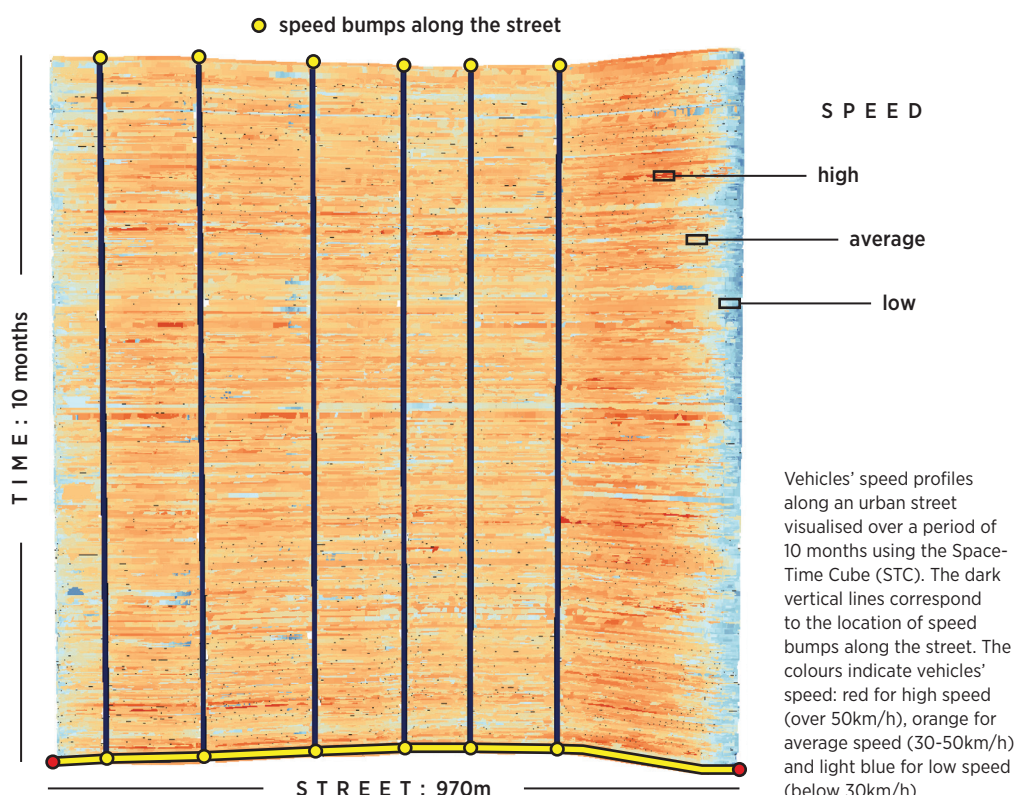
being planned for the first quarter of 2018 in preparation for the 40th Anniversary of the Association to be celebrated in the third quarter of 2018 in Abuja.

NCA acknowledges the current effort of the Office of the Surveyor General of the Federation at creating a more inclusive environment for surveying and mapping profession and practice in Nigeria. It is hoped that these ongoing reforms will address one of the major challenges confronting our Association, which is the lack of adequate recognition and promotion of our members, particularly in the civil service.

We aspire to make NCA stand tall amongst other organisations at both national and international level, and play a more proactive role in addressing national issues, especially through various engagements, newsletters and journal publications, workshops and conferences. NCA welcomes the support of the International Cartographic Association (ICA) to enable us to achieve these goals.

As the Association turns forty in 2018, we are planning a special anniversary conference (and AGM) that will meet international standard. We look forward to welcoming guests representing national and international community of surveyors, cartographers and geospatial professionals. The theme, date and venue will be posted on the ICA calendar soon.

**Andrew A. Obafemi** | President | Nigerian Cartographic Association | Nigeria





## Art and Cartography

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

## Cartographic Heritage into the Digital

[cartography.web.auth.gr/ica-heritage/](http://cartography.web.auth.gr/ica-heritage/)

### Conference in Madrid, Spain

The ICA Commission on Cartographic Heritage into the Digital is organising its 13th Conference on *Digital Approaches to Cartographic Heritage* to be held in Madrid, 18-20 April 2018. It will be hosted by the Instituto Geográfico Nacional of Spain with the support of the Spanish Society of Cartography, Photogrammetry and Remote Sensing. The meeting is coorganised with the Map & Geoinformation Curators Group and supported by the CartoGeoLab of the Aristotle University of Thessaloniki (AUTH) in cooperation with the AUTH Library and Information Centre. The Madrid Conference will deal with issues relevant to the Commission's Terms of Reference, namely:

- digitisation and georeferencing of cartoheritage
- content analysis in terms of geometry and cartodiversity
- landscape change studies based on map archival sources
- visualisation of cartoheritage, including thematic portals
- interconnection of cartographic archival sources, especially maps and textual data
- historical terrestrial and aerial photography, including photo-related postcards and relevant materials – cartographic parametrisation
- issues surrounding the provision of cartoheritage on the web

- interaction between cartoheritage, and map and geoinformation curatorship
- development of cartoheritage as a cultural issue, within the context of GLAM (Galleries Libraries Archives and Museums), addressing education and promotion to the general public
- other issues relevant to the cartoheritage ecosystem

The contribution of cartoheritage to Digital Humanities will be one of the focal points of the Madrid meeting.

For more information concerning the Conference, including call for papers, registration and important dates, please visit [cartography.web.auth.gr/ICA-Heritage/Madrid2018/](http://cartography.web.auth.gr/ICA-Heritage/Madrid2018/).

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

## Cartography in Early Warning and Crisis Management

[comcewa.geogr.muni.cz/](http://comcewa.geogr.muni.cz/)

### Workshop in Washington D.C., USA

On Sunday, 2 July 2017, just prior to the International Cartographic Conference (ICC), the ICA Commission on Cartography in Early Warning and Crisis Management (CCEW&CM) and GEO (Group of Earth Observations) organised a joint workshop entitled *Disaster Management, Big Data, Services, and Cartographic Representation*. This day-long meeting took place at Marriott Wardman Park Hotel in Washington D.C., USA. The Commission would like to acknowledge the support and cooperation of Barbara Ryan and Lucia Lovinson-Golob, both from GEO, and Lynn Usery, Cynthia Brewer, Eric Anderson and David Alvarez, all

from ICC 2017 Local Organising Committee, in making the workshop a success.

The programme followed the newest United Nation's (UN) efforts formulated at the UN Disaster Risk Reduction (DRR) conference in Sendai in 2015, the UN-GGIM activities supporting ICA, the latest data and technology improvements, as well as innovative projects, especially in developing countries. It was also concerned with communication between researchers and the public before, during and after disasters. Discussions were devoted to the concept of DRR and the role of cartography and GIScience in investigating the DRR solutions.

The workshop, attended by more than 40 participants including most members of the ICA Executive Committee, started with three keynotes:

- Milan Konečný, Commission Chair (Czech Republic): *Disaster Risk Reduction Agenda in Big Data Era: the Role of Cartography*
- Craig Fugate, former administrator at Federal Agency for Emergency Management (USA): *Think Big, Go Big, Go Fast, Be Smart*
- Barbara Ryan, GEO Secretariat Director (USA): *International Collaboration and Hyper-Partnering for Disaster Risk Reduction*

All keynotes talked about better, faster and smarter solutions in Big Data Era, and about international collaboration and 'hyper-partnerships' for DRR referred to in the agenda of the 2015 UN Conference in Sendai.

We also invited specialists and experts in cartography, GIScience and remote sensing, who investigate various topics relevant to the workshop theme. Here are the speakers and titles of their presentations:

- Sun Wei, Shenzhen Municipality (China): *Exploring Smart City Innovation: The Rise of Geospatial Information Platform for Early Warning*
- Temenoujka Bandrova, President of the Bulgarian Cartographic Association

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Participants of the pre-ICC 2017 joint workshop on *Disaster Management, Big Data, Services and Cartographic Representation* organised by the ICA Commission on Cartography in Early Warning and Crisis Management and the Group of Earth Observations (GEO) in Washington D.C., USA | *Photograph courtesy of Milan Konečný*





A keynote address by Barbara Ryan | Photograph courtesy of Milan Konečný

(Bulgaria): *Cartographic Visualization for Disaster Management Response*

- Liu Jiping, Vice Chair of CCEW&CM and Vice-President of CASM (China): *Web Information Acquisition, Data Integration and its Application in Crisis Management*
- Shen Jie, Nanjing Normal University (China): *High Performance Computing of Points Generalization and its Potential Application in Risk and Disaster Management*

The afternoon session started with a keynote address by Lucia Lovison-Golob from Afriterra/Sat-Drones (USA) titled *GEO Disasters Capacity Building Working Group Activity in Chile: Big Data, from Satellites, Drones and Others, to Products*. She reported on a number of papers devoted to web information acquisition and data integration, disaster risk, impact and recovery mapping supported by data and information from Space, capacity building dealing with Big Data from satellites, drones, and other attempts of new paradigm design. This research is accompanied by simple access and interactions with disaster related data services, and using data in new research approaches.

Other presentations of the afternoon session included:

- Hiroshi Une, Director of GSI (Japan): *The Role of Geospatial Information for Disaster Risk Management - Disaster Responses of Geospatial Information Authority of Japan as Exemplified in Recent Large Earthquakes in Japan*
- Maryna Storie, Geographic Risk Management (South Africa): *Scalability of Data, Particularly Disaster Data, in the Developing Countries*
- Rodrigo Suarez from University of Federico Santa Maria (Chile): *Chilean GEO Client Application for Disasters*

The Workshop's programme also featured a number of inspiring talks on early warning, disaster management, recovery and civil protection:

- David Green, NASA (USA): *Disaster Risk, Impact and Recovery Mapping - Perspectives from Space*
- Harshadeep Rao Nagaraja, World Bank (USA): *A new Paradigm to Access and Interact with Disaster Related Data Services*

The program ended with the Round Table facilitated by Milan Konečný and attended by a panel consisting of Barbara Ryan, Craig Fugate, Lucia Lovison-Golob, David Green, Liu Jiping, Harshadeep Rao Nagaraja, Hiroshi Une, Maryna Storie and Rodrigo Suarez, with all other speakers and participants present.

Participants of the Workshop appreciated the international character of the meeting and an opportunity for sharing and exchanging information concerning the role of cartography and GIScience to support key efforts in improving effectiveness and quality of operations associated with DRR and Disaster Risk Management.

## Other Activities

Commission members served as reviewers of papers and abstracts submitted to the ICC 2017 scientific programme. Milan Konečný chaired two ICC sessions on Emergency Management.

The Commission Business Meeting was held on 4 July 2017 and attended by a large number of members, as well as people interested in the Commission and its future activities.

CCEW&CM also participated in two meetings. The first was the Czech-Chinese Seminar titled *Cutting Edge of Dynamic Mapping for Crises Management in Big Data Era*, with participation of European Union (EU) experts: T. Bandrova, M. Campagna and W. Reinhardt. It was held on 17 October 2017 at the Department of Geography, Faculty of Science, Masaryk University, in Brno, Czech Republic.

The other meeting took place at Nanjing Normal University, in Nanjing, China on 20-21 November 2017. This China-Czech workshop focused on *Dynamic Mapping for Risk and Crisis Management in Big Data Era*.

Another event our Commission participated in was the International 2017 Summit Forum for Urban Disaster Risk Management held in Shanghai, China, on 24 November. At the meeting, Milan Konečný delivered an address titled *Geospatial Data Support for Town Operations in Big Data Era*.

## Future Plans

CCEW&CM is organising a seminar on Early Warning and Crises Management in Novosibirsk, Russia. It is planned for 26-28 April 2018, as part of the InterExpo GeoSiberia 2018 trade fair and conference.

Another event is planned for 18-23 June 2018 in Sozopol, Bulgaria. The Early Warning and Disaster Management seminar, organised in cooperation with EU, will be held at the Cartography and GIS Conference ([iccgis2018.cartography-gis.com](http://iccgis2018.cartography-gis.com)). All are welcome!

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

## Cognitive Issues in Geographic Information Visualization

[cogvis.icaci.org/](http://cogvis.icaci.org/)

### Workshop in Washington D.C., USA

The *Maps & Emotions* Workshop organized jointly by the International Cartographic Association (ICA) Commissions on Cognitive Issues in Geographic Information Visualization, Topographic Mapping, and Art and Cartography was held at the Winston Churchill Library & Center, George Washington University, Washington D.C., on 1-2 July 2017.

For the last couple of decades, the importance of integrating emotions and affect in studying places has been broadly acknowledged, which led certain authors to talk about an "emotional turn" in geography. This emotional turn has also affected cartography where the relationships between maps and emotions have been explored from two different perspectives; scientific and artistic. A more scientific approach is characterized by the growing interest to study emotions generated by different types of cartographic designs and by the use of social media and digital technologies to collect and represent emotions generated by certain locations.

A more artistic approach is characterized by the will to capture and express cartographically the emotions associated with places in a sensitive way. Artists such as Christian Nold and Ariane Littman have been exploring alternative cartographic ways of capturing emotions and affects associated with certain places. This growing interest in mapping emotions is also reflected within the emergence of the concept of "deep mapping", which is based on the idea that we can truly understand places only by taking into account the memories, emotions, and perceptions associated with them. These different approaches have in common that they need to address the complex question of how to characterize affect and emotions and how to map them. These issues were at stake during the *Maps & Emotions* workshop.

About fifty persons, including practicing artists, university researchers and students from map design, geographic information science and the design community, attended the workshop during the two days, coming from all countries over the world. 25 papers were received by the organizers for review and 18 talks and 3 activities were given.

Three sessions of six talks were driven by the chair of each organizing ICA Commission: Alexander Kent chaired the first session on Mapping Memories, Sébastien Caquard chaired the second session on Tools and Representations, and Amy Griffin chaired the third session





Mapping the path activity during the first day of the *Maps & Emotions* Workshop in Washington D.C., USA | Photography Julia Mia Stirnemann

on Perception and Cognition.

A session dedicated to two parallel activities proposed a map experience activity based on a walk in the neighborhood with the help of three kinds of topographic maps (conducted by Alexander Kent and Anja Hopfstock), and, a map design activity about various ways to map a time path (conducted by Olga Kisseleva and Aleksandra Stanczak).

A specific on-site activity offering a sensible walk was held by Mathilde Christmann and Elise Olmedo at the Franklin Delano Roosevelt Memorial. In this activity workshop participant pairs, one of whom had their eyes closed while the other had their eyes open, explored a path around the Memorial. This was followed by participants mapping their path and their multisensory experience and then designing their own walk in a smaller section of the Memorial.

At the end of each day, wrap-up moments provided inspiring discussions mainly about art, design and cartographic notions and interactions, as well as the purpose of maps in terms of persuasion, based on both feelings and credibility. Finally, all the participants addressed this particular relation between maps, places, and emotions and tackled their knowledge and insights, during these thrilling and inspiring two days. Some of the papers and activities presented during the workshops have been turned into academic papers that will be part of a special issue on *Maps and Emotions of Cartographic Perspectives* co-edited by Amy Griffin and Sébastien Caquard

The program and related papers may be found at [cogvis.icaci.org/icc17\\_emotion.html](http://cogvis.icaci.org/icc17_emotion.html) and more photos may be found at [artcarto.wordpress.com/2017/07/01/maps-ans-emotions-workshop-day-1/](http://artcarto.wordpress.com/2017/07/01/maps-ans-emotions-workshop-day-1/).

**Sidonie Christophe and Sébastien Caquard** | Co-Chair / Chair | ICA Commission on Cognitive Issues in Geographic Information Visualization / ICA Commission on Art and Cartography | France / Canada ■

## Generalisation and Multiple Representation

[generalisation.icaci.org/](http://generalisation.icaci.org/)

### Workshop in Washington D.C., USA

The 20th ICA Commission on Generalisation and Multiple Representation Workshop was held in Washington D.C., USA, on 1 July 2017, prior to the International Cartographic Conference.

It has been a long time since the 1st Commission workshop was held in Barcelona, Spain in 1995. Research on cartography, and the use of maps have changed a lot since then, and the Workshop presentations illustrated this evolution. The meeting gathered more than 30 people from National Mapping Agencies (NMA), the industry and universities. During the day, ten presentations were given in three separate sessions. As usual, break out sessions were organised to discuss current and future research issues.

The five main issues for the future generalisation research were particularly discussed:

- **reintroducing art in automated cartography processes:** focusing on automation might make us forget how to create beautiful and meaningful maps
- **discuss if a 100% automation of generalisation is still a desirable goal:** is it always necessary to target 100% automation in a world where there are as many maps as users? But when maps cover the whole planet and change every day, automation is useful, and a balance needs to be found
- **thematic based generalisation:** topographic maps are now more used as background layers for topographic maps made by prosumers, and users need to become central in the map generalisation process
- **geographic modelling and generalisation:** better models of the geography behind the

map to guide the generalisation process, use of ontologies

- **the role of map generalisation in handling complex data:** use of map generalisation techniques to better handle spatial big data that has a huge heterogeneity in scale and level of detail

Map generalisation tools, and generalised paper maps were also presented in a demo session, showing that knowledge and techniques have progressed a lot since the first Commission workshop.

From the presentations, abstracts and fruitful discussions, several topics emerged or were confirmed in this workshop:

- **heterogeneous datasets and volunteered geographic information:** the emergence of open data and volunteered geographic information allow the creation of maps with multiple heterogeneous sources, and the automated processes developed for homogeneous NMA data need to be adapted to handle this new heterogeneity
- **new ways to convey cartography:** paper maps are no longer the main medium of diffusion of maps; researchers and practitioners now work on multi-scales online maps, and even on dynamic geovisualisation that combine scales and abstractions
- **patterns are still the key:** a good generalisation process has to preserve patterns and geographic structures, it is still a research problem to automatically detect these patterns and structures, and then to generalise them while preserving the structure; the new heterogeneous datasets and maps presentation do not reduce this importance

The Workshop proceedings are available from the Commission website.

### Change of Commission Chairs

After the Workshop in Washington D.C., Dirk Burghardt and Cécile Duchêne handed over the leadership of the Commission to Guillaume

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Participants of the 20th ICA Commission on Generalisation and Multiple Representation Workshop held in Washington D.C., USA | Photograph courtesy of Dirk Burghardt

Touya (Chair), and Pia Bereuter and Paulo Raposo (both Vice Chairs).

## Future Plans

A hackathon-like Workshop on the generalisation of volunteered geographic information will be held in Lund, Sweden, on 12 June 2018. Participants will be given a crowdsourced dataset and asked to submit a generalised dataset along with a description of the process, rather than a regular paper. For more information, please visit [generalisation.icaci.org/nextevents.html](http://generalisation.icaci.org/nextevents.html).

**Dirk Burghardt, Cécile Duchêne, Guillaume Touya, Pia Bereuter and Paulo Raposo** | Former and Current Chairs | ICA Commission on Generalisation and Multiple Representation | Germany / France / Switzerland / USA ■

## Location Based Services

[lbs.icaci.org/](http://lbs.icaci.org/)

### Symposium in Washington D.C., USA

Immediately before ICC 2017, the ICA Commissions on Location Based Services (LBS) and Geospatial Analysis and Modeling, organized an international Symposium on location-based social media and tracking data (LSMTD 2017), on 1-2 July 2017. The Symposium brought together researchers from various fields and perspectives to share ideas and findings of their research related to location-based social media data or location tracking and sensing data.

The symposium program featured 24 oral presentations, organized into 6 sessions, covering: theories and data models; participation and user tasks; traffic modelling; analyzing human dynamics; research applications using location-based big data; and place modelling. They provided a general picture of recent

research activities related to location-based social media and tracking data. Selected authors were invited to submit their full papers to be considered for a special issue in the *International Journal of Geographic Information Science*.

### LBS Sessions at ICC 2017

ICC 2017 program featured five oral sessions dedicated to Location-based Services, covering wayfinding, indoor and outdoor navigation, mobile cartography, mobility analysis and privacy. Furthermore, a dedicated session was held on 3 July, discussing the LBS research agenda. The current status of the research agenda was presented. The session participants actively discussed the draft and provided lots of feedback and suggestions for further improving the research agenda.

During ICC 2017, we also held our business meeting on 4 July at 12:30. At the meeting, we proposed some ideas for future Commission related activities, as well as collected suggestions and proposals for the coming years.

### LBS 2018 Conference in Zurich, Switzerland

The ICA Commission on Location Based Services and ETH Zurich are organizing the 14th International Conference on Location-Based Services (LBS 2018), which will take place in Zurich, Switzerland on 15-17 January 2018.

Built on the success of previous conferences in this series, LBS 2018 aims to offer a common ground to colleagues from various disciplines and practice where they can meet, interact and exchange knowledge, experience, plans and ideas on how LBS can and could be improved and how it could influence both science and society.

In total, we received 39 full papers and 33 work in progress submissions. After double-blind peer reviewing, we accepted 16 full papers to be included in a planned book in the Springer Series *Lecture Notes on Geoinformation and Cartography*. Out of the other submissions, 10 submissions were accepted as oral presentations and 27 as posters. The organizing team is currently compiling the Conference program.

The Conference is being sponsored by Esri Schweiz, Esri, and the Department of Civil, Environmental and Geomatic Engineering of ETH Zurich. In total, 13 travel grants, sponsored by the ICA and Esri, are offered to support masters and PhD students to attend.

More information regarding LBS 2018 can be found at [lbsconference.org](http://lbsconference.org). We are looking forwards to meeting you in Zurich!



Participants of the International Symposium on Location-based Social Media and Tracking Data (LSMTD 2017) held in Washington D.C., USA | Photograph courtesy of Jukka Krisp





## 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. We aim to publish the agenda as an open access white paper in a relevant journal in early 2018. For more details regarding the LBS research agenda, please consult [lbs.icaci.org/research-agenda/](https://lbs.icaci.org/research-agenda/).

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

## Map Production and Geoinformation Management

[mapproduction.icaci.org/](https://mapproduction.icaci.org/)

### Commission Activities

The Commission's particular emphasis on bridging research, government and commercial sectors in terms of map production and geoinformation management is driven by specific requirements coming from the sustainable development goals, spatial data infrastructures, service-oriented mapping, geospatial statistical frameworks, spatial semantic web and open knowledge as well as open source technologies. Several activities were conducted in the past six months.

We ran a pre-conference workshop at the 28th International Cartographic Conference (ICC) together with URISA. Partly this workshop was presented remotely from Austria as an online session, with hands-on examples, which showed that we are prepared for a wider audience, some of whom are possibly not able to visit the conference physically. The second part of the workshop was on the use of supply chain management to manage the production of geospatial data and maps.

The topic of the workshop at ICC 2017 was *Geoinformation Management and Modern Map Production: Aspects you hardly consider*. Whenever one is concerned with geoinformation management and map production procedures, questions for appropriate technologies arise. Is an aimed IT structure good for production? Can the sources be used, combined and analysed? Does the resulting geovisualisation reach the communication aim? Therefore the workshop focused on three parts, namely:

- service-oriented mapping

- supply chain for map production
- maturity assessment evaluation

Service-Oriented Mapping is one possible paradigm to embed big data and distributed sources in modern map production, without owning the sources. This architecture requires specific tools and procedures in order to be stable and reliable. Beside the technological structures, the aspects of supply chain and GIS capability maturity provide powerful tools to make modern geoinformation management successful, but are hardly considered.

The map production path is followed from establishing the production plans and how it fits within the organisation (**Plan**), identifying the sources of data, the acquisition of the data (**Source**), the creation of the various maps or geospatial data (**Make**), and to the final product (**Deliver**). Faulty data and maps or the maintenance thereof are dealt with the return process (**Return**). The production path is based on supply chains and supply chain management using the Supply-Chain Operations Reference (SCOR) model as a guideline. The aim of this part of the workshop is to illustrate the use of supply chains and supply chain management to guide the production of maps or geospatial data.

A program assessment evaluates a program's operations and helps managers redirect resources to improve performance. The URISA GMI GIS Capability Maturity Model (GISCMM) assessment tool and service enables organization to evaluate, visualize, and compare the capability maturity of their GIS programs and operations and understand which areas need improvement. In this workshop section we discussed and demonstrated the use and results of the GISCMM tool and service.

The Commission had an information session at the 28th International Cartographic Conference in Washington D.C. in July 2017 in order to introduce to its activities and to discuss on open topics.

A workshop called *Archaeological Geospatial Infrastructures* was held during the 22nd International Conference on Cultural Heritage and New Technologies from 8-10 November 2017 ([www.chnt.at/archaeological-geospatial-infrastructures/](http://www.chnt.at/archaeological-geospatial-infrastructures/)) in the city hall of Vienna with the following motivation: we are producing a variety of information in our daily work. Especially in archaeology the complexity of describing findings, their relation to time, culture, manufacturing and location leads to specific models that help to structure this information. The CIDOC Conceptual Reference Model (CRM) is one example for standard cultural heritage ontology. But what if, we know how to structure our information, but cannot easily distribute it with our colleagues and other experts in the community?

We assume that location is a key indicator in cultural heritage and mapping is a central concept for documenting, structuring and

communicating information. In order to make our information and knowledge structures accessible, metadata are needed to promote them. We do not only need to create descriptions of our information, but also need to publish these metadata in accessible online catalogues. These catalogues enable exploration of existing findings, publications, in situ characteristics and so on. If location is part of this information, we could easily create maps to transmit our knowledge.

This hands-on workshop on Archaeological Geospatial Infrastructures led through the basic paradigm of these modern mapping technologies. Simple examples in a well prepared software framework (totally based on open source components) explained the basic methods of the Web, Service-Oriented Mapping and its services, metadata management, publishing of content and the creation of Spatial Data Infrastructures.

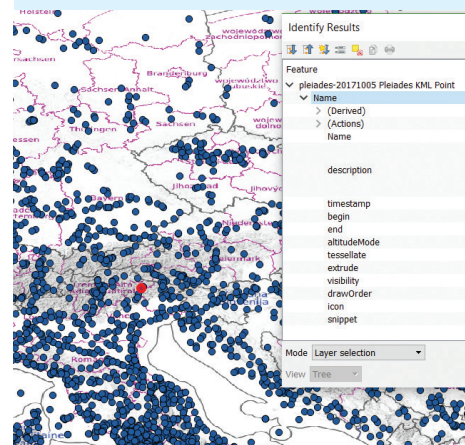
The aim of this workshop was to provide an easy access to Spatial Data Infrastructures for Cultural Heritage topics and to understand their impact for management issues as well as world-wide initiatives for infrastructure harmonisation (like INSPIRE, UN-GGIM or NSDI).

We were able to represent ICA at the ICSU-CODATA Commission on Standards ([www.codata.org](http://www.codata.org)) Inter Union Meeting at the Royal Society in London in order to discuss *Science and the Digital Revolution: Data, standards and integration*. This workshop focused on the digital revolution with its profound implications for natural and social sciences by deepening the potential for new understanding of complex systems at all scales and in all areas of human concern.

We wish you a successful and healthy New Year 2018 and hope to work together in near future activities!

**Markus Jobst** | Vice Chair | ICA Commission on Map Production and Geoinformation Management | Austria ■

Data integration of pleiades place names, an example of a spatial catalogue assessment in a GIS application | Image courtesy of Markus Jobst



## Maps and Graphics for Blind and Partially Sighted People

[visualdisabilities.wixsite.com/icahome/](http://visualdisabilities.wixsite.com/icahome/)

### Commission activities

At the International Cartographic Conference held in Washington D.C., USA, in July, 2017, Alejandra Coll, Chair of the ICA Commission on Maps and Graphics for Blind and Partially Sighted People participated in the various sessions and activities, presented a poster and set up, as part of the Cartographic Exhibition, a sample of Chilean tactile cartography.

In Pan American Institute for Geography and History (PAIGH) member countries, a number of projects related to blind persons and their learning and use of geo-cartographic information is coordinated by the Tactile Cartography Working Group. The activities led by this group have included:

- *Project Proposal to Standardize Tactile Symbolology for Latin America: Application in cartography for tourism:* this project has held a useful and productive meeting in the city of Sao Paulo, Brazil, attended by contributors from several countries of the Americas
  - *Workshop Teaching Geography through Tactile Maps and Multi-sensory Learning Material:* held in Costa Rica, oriented towards professionals at schools for geography, history and teacher training in the Americas
  - Continued production and assessment of tactile teaching products at the Tactile Cartography Center, which is attached to the Metropolitan Technological University of Chile (UTEM) and supported by the PAIGH
- The book *Teaching and Learning about Space through Touch: Methodological guidance* is now in the final stages of publication and printing, being the result of a project that is very significant for our Commission. The Chair and Commission members contributed to this project and the printing is being managed by the UTEM. The book is supported by the ICA and PAIGH and consists of a methodological guide intended for teachers and instructors who need to use tactile materials for teaching geographic and spatial concepts to visually disabled persons in schools and education centers.

Further information about our Commission's tasks, activities and general items can be found in our newsletters published and distributed since the current core team introduced it at the beginning of this term.

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

## SDI and Standards

[sdistandards.icaci.org/](http://sdistandards.icaci.org/)

### Joint ICA Commissions Workshop in Washington D.C., USA

The pre-ICC 2017 workshop on spatial data infrastructures, standards, open source and open data for geospatial, SDI-Open 2017, was jointly organized by the ICA Commission on SDI and Standards and the ICA Commission on Open Source Geospatial Technologies, 1-2 July 2017 at the George Washington University, Washington D.C., USA.

Spatial data infrastructures aim to make spatial data findable, accessible and usable. Open source software and open data portals help to make this possible. In this workshop, participants were introduced to SDIs, standards, open source and open data in an interactive and fun way. The workshop comprised invited presentations to provide an introduction and background to SDIs, standards, open source and open data. A number of hands-on introductions to open source geospatial software together with mapping tasks gave participants the opportunity to explore these tools. The programme included the following presentations:

- *Introduction to the ICA Commission on SDI & Standards* by Serena Coetzee, University of Pretoria, Chair of the ICA Commission on SDI and Standards
- *Collecting and Organizing a Global Address Dataset* by Ian Dees, OpenAddresses.org
- *Measuring the Quality of Address Data: Stakeholders, Challenges, and Approaches* by Sean Uhl, US Census Bureau
- *SDIs in Belarus and Neighbouring Countries* by Franz-Josef Behr, Elena Protasevich, Stuttgart University of Applied Sciences
- *Introduction to the ICA Commission on Open Source Geospatial Technologies* by Silvana

Camboim, Chair of the ICA Commission on Open Source Geospatial Technologies

- *What is Open Source and How Do Pay Models for Access /Use/Upgrade of Open Source Coexist* by Danny Sheehan, Carto Inc., USA
- *OpenStreetMap Hands-on Session: Its History, Data Structure, License and Ecosystem* by Franz-Josef Behr, Stuttgart University of Applied Sciences, Vice Chair of the ICA Commission on SDI and Standards
- *How and Why Open Source Software Has Become Mainstream for GIS* by Eddie Pickle, DigitalGlobe Radiant (formerly Radiant Blue).
- *OSGeo Live Introduction* by Vaclav Petras, Center for Geospatial Analytics, North Carolina State University, USA
- *Analytical Data Visualizations with GRASS GIS and Blender* by Vaclav Petras, Anna Petrasova, Payam Tabrizian, Brendan Harmon, Helena Mitsova, Center for Geospatial Analytics, North Carolina State University
- *Interactive Visualization of Open Data and Design Maps with Open Source Geospatial Tools, including the Tangible Landscape System* by Vaclav Petras, Anna Petrasova, Payam Tabrizian, Brendan Harmon, Helena Mitsova, Center for Geospatial Analytics, North Carolina State University

Presentations can be downloaded from the Commission's website at [sdistandards.icaci.org/sdi-open-2017-proceedings/](http://sdistandards.icaci.org/sdi-open-2017-proceedings/).

### Standards Wiki

The Commission on SDI and Standards has created a Wiki page with guidelines about for the implementation of geographical information standards – [wiki.icaci.org/](http://wiki.icaci.org/).

The Wiki provides background information on geospatial standardization (different types of standards; standards development process; standards implementation; and standards bodies for geospatial information). Standards relevant for the acquisition and maintenance of fundamental geospatial datasets are listed with

Participants of the SDI-Open 2017 joint workshop of the ICA Commissions on SDI and Standards, and Open Source Geospatial Technologies, held in Washington D.C., USA | Photograph courtesy of Serena Coetzee





links to implementation benefits and guidelines of individual standards used in the collection, maintenance and dissemination of geospatial data.

The Wiki is based on *Part C: Standards for fundamental geo-spatial datasets* of the *Guidelines of Best Practice for the Acquisition, Storage, Maintenance and Dissemination of Fundamental Geo-Spatial Datasets*. The guidelines are an initiative of UN GGIM: Africa, and are endorsed and supported by the ICA.

The original Part C was commissioned by Dr Derek Clarke, Chief Director: National Geo-Spatial Information in the Department of Rural Development and Land Reform of South Africa and a former ICA Vice President. The original document was prepared by Serena Coetzee, Antony Cooper and Victoria Rautenbach. Under the guidance of Franz-Josef Behr, Sajani Joshi and Tanzeel Ur Rehman Khan, alumni of the Stuttgart University of Applied Sciences, converted the document into a Wiki site.

The Wiki is maintained by the ICA Commission on SDI and Standards, the Advisory Group on Outreach of ISO/TC 211, *Geographic Information/Geomatics*, and other volunteers. For questions or more information, contact Serena Coetzee ([serenacoetzee@gmail.com](mailto:serenacoetzee@gmail.com)).

## International Workshop in Valletta, Malta

At the business meeting of the ICA Commission on SDI and Standards during the ICC 2017 in Washington D.C. in July, members of the Commission expressed their interest in working on quality management of geographic information. Subsequently, EuroGeographics invited the Commission to co-organise the 2nd International Workshop on Spatial Data Quality, to be held in Valletta, Malta on 6 and 7 February 2018, and the Commission Chairs are on the programme committee of the workshop.

Today's consumers of geospatial information range from highly skilled professionals to everyday users with little knowledge or experience of geospatial data. However, geospatial information has become more mainstream and today's user is faced with a plethora of data coming from a variety of sources. Few have the expertise to identify the suitability or relevance of a particular dataset, often basing their choices on cost and availability rather than quality.

Producers of traditional geospatial information need to be able to produce high quality, authoritative data and communicate the trust, quality, provenance, relevance and content to all potential users – not just those in the professional community. The two-day workshop aims at providing innovative and original contributions to the ongoing debate on spatial data quality.

The full workshop announcement, including registration details, is available at [www.eurogeographics.org/event/2nd-international-workshop-spatial-data-quality](http://www.eurogeographics.org/event/2nd-international-workshop-spatial-data-quality).

## CODATA Workshop and Conference in Paris, France

In June 2017, Franz-Josef Behr represented the ICA at the first Inter-Union Workshop organized by CODATA (Committee on Data of the International Council for Science – ICSU, recently renamed International Science Council – ISC) in Paris, introducing the work of our Commission and of the ICA. Afterwards he participated at the CODATA Conference *Global Challenges and Data-Driven Science* giving three presentations:

- *Concept and implementation of an architecture for immediate provision of geodata in disaster management*
- *Towards an Interoperability Manifesto*
- *Global Challenges and Data-Driven Science: An approach for raising awareness about Indicators for the Sustainable Development Goals*

Due to time constraints Marcus Jobst, Vice Chair of the ICA Commission on Map Production and Geoinformation Management represented the ICA and our Commission at the follow-up ICSU-CODATA Inter-Union Workshop on Data, Standards and Integration in London.

Serena Coetzee and Franz-Josef Behr | Chair / Vice Chair | ICA Commission on SDI and Standards | South Africa / Germany ■

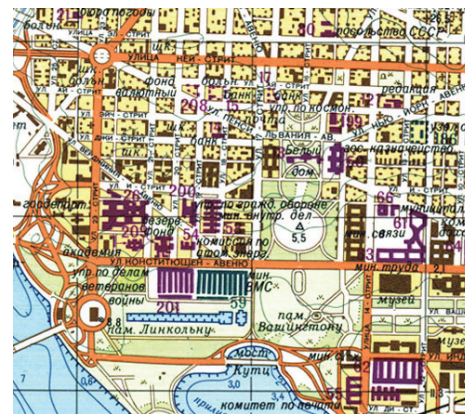
## Topographic Mapping

[topo.icaci.org/](http://topo.icaci.org/)

### Commission Activities

Together with the ICA Commissions on Cognitive Issues in Geographic Information Visualization and on Art and Cartography, the Commission on Topographic Mapping held a successful workshop *Maps & Emotions* at the George Washington University on 1 and 2 July 2017, just before the International Cartographic Conference (ICC). This included an excellent range of papers and hands-on activities and attracted a good number of participants (around 50), well exceeding expectations. Several papers were presented with direct relevance to topographic mapping and the outdoor activity on the first afternoon required participants to use different topographic maps (USGS, OSM, Soviet) to navigate around Washington, D.C., with a view to exploring how maps inspire users to see landscapes differently – despite the pouring rain! Participants' photographs from the activity are available via Padlet at [padlet.com/alexander\\_kent/ICC2017](http://padlet.com/alexander_kent/ICC2017).

The Commission participated in the Scientific Committee for the main ICC 2017 and was involved in reviewing over 30 papers associated with topographic mapping. Consequently, the ICC 2017 programme included a poster session and three paper sessions particularly relevant



Excerpt from a 1:25,000 Soviet military plan of Washington D.C. from 1975 that participants used in the *Maps and Emotions* workshop activity | Image courtesy of Alex Kent

to the Commission:

- Latest developments in National Mapping
- Research in Topographic Mapping
- New Initiatives in Topographic Mapping

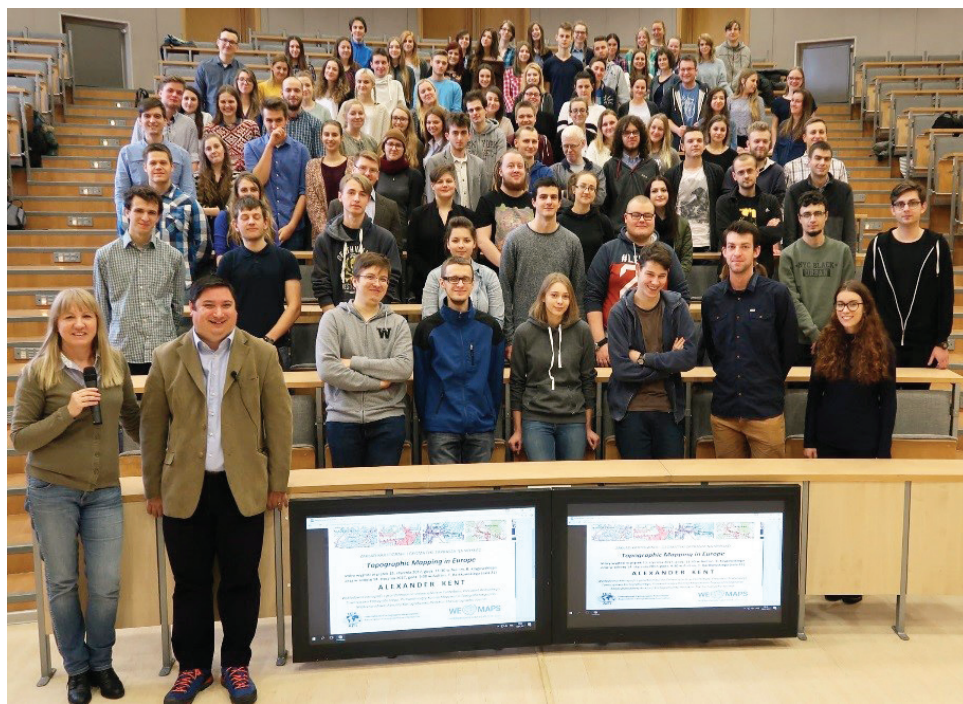
All of these, as well as our business meeting, took place on 5 July. The meeting was attended by around 50 delegates, with many signing up to our mailing list, and we encourage anyone interested in topographic mapping to join our Commission by registering on our website.

At the business meeting, we discussed our initiative to develop an interactive map for our website that supports our aim to provide a global reference point for information on the producers of topographic mapping, including their contact information, history, and their products. Ultimately, we hope to create a platform to encourage collaboration between the producers of topographic mapping and those undertaking research in their design and use. We therefore encourage organizations (whether state or commercial producers of topographic mapping) to get in touch via our website and to support this initiative.

The joint British Cartographic Society and the Society of Cartographers conference *Maps for Changing Reality* in September 2017 included a session devoted to topographic mapping (and in particular, the depiction of relief). Plans are well underway to hold a joint conference with the ICA Commission on the History of Cartography entitled *Mapping Empires: Colonial Cartographies of Land and Sea* in Oxford from 13 to 15 September 2018, with the call for papers available at [mappingempires.icaci.org/](http://mappingempires.icaci.org/). The conference will offer some focus on the role of topographic mapping in the pursuit of the colonial enterprise.

October saw the publication by Chicago University Press of the first comprehensive book on Soviet topographic mapping, *The Red Atlas: How the USSR Secretly Mapped the World* (by John Davies and Alex Kent), and the publication of *The Routledge Handbook of Mapping and Cartography* (edited by Alex Kent and Peter Vujakovic). Earlier in the year,

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Commission Chair Alex Kent with Prof Beata Medynska-Gulij in a lecture to first-year Geography students at the Adam Mickiewicz University, Poznań, Poland in January 2017 | Photograph courtesy of Alex Kent

Alex Kent gave three lectures on stylistic diversity in European topographic maps at Adam Mickiewicz University in Poznań, Poland, to students on various geography and geomatics programmes. The visit also involved discussing research in topographic mapping that is being undertaken at the University, including new developments in the visualization of augmented reality.

## Future Plans

Looking ahead, the Commission invites papers for a Special Issue of *The Cartographic Journal* that is planned for November 2018 entitled *Topographic Mapping: Past, Present and Future*. Contributions should involve research on any aspect of topographic mapping and are especially encouraged from providers, from national and multi-national mapping organisations to community mapping groups. In particular, we welcome submissions relating to the following topics:

- Advances in production techniques
- Initiatives for topographic data interoperability and harmonisation
- History of topographic mapping
- Relevance and use of topographic maps
- National styles of cartography
- New methods of portrayal, especially involving non-representational approaches

A title and abstract of no more than 200 words should be sent to Alex Kent or Anja Hopstock (see our website for details) by 1 March 2018.

**Alexander Kent** | Chair | ICA Commission on Topographic Mapping | *United Kingdom* ■

## Use, User, and Usability Issues

[use.icaci.org/](http://use.icaci.org/)

### Commission Activities

We have hosted six sessions devoted to the commission's topics at the 2017 International Cartographic Conference (ICC) in Washington D.C., USA, focusing specifically on user issues, research methods, and usability issues in education, cartographic design, and dynamic products. Furthermore, a joined session with the three ICA Commissions, i.e. on Cognitive Issues in Geographic Information Visualization, Visual Analytics, and Map Design was organized during which the outline of the research agenda *Envisioning the Future of Cartographic Research* was presented. We are proud to announce that this research agenda is now published as a special issue of the *International Journal of Cartography*.

### Future Plans

We have made new plans for 2018, together with the ICA Commissions on Cognitive Issues in Geographic Information Visualization, and Atlases. We therefore cordially invite papers and attendance for a joint workshop in Olomouc, Czech Republic on 27-30 April 2018. The workshop sessions will be managed as either oral presentations of research contributions or discussions, where cartographers from each Commission can present their ideas to the members of all three Commissions and other

workshop participants and invite further discussion from the audience. The most recent information regarding these workshops can be found on the website of our Commission.

The joint workshop in Olomouc will be complemented by an additional workshop on Friday, 27 April, which aims at providing answers to a specific need that was identified during the business meetings of the Use, User, and Usability Issues and Cognitive Issues in Geographic Information Visualization Commissions at the ICC 2017: the reproducibility of cartographic (user) studies. During this workshop we would like to discuss where the issues are situated and how to move forward on this crucial topic.

Finally, we would like to point your attention to this Commission related opportunity: a special issue of the *Journal of Science Communication*, to capture the state-of-the-art on the *UX of Digital Citizen Science* and provide a starting point for discussions about the design and use of citizen science digital technologies. COST Action 15212 Citizen Science aims to promote creativity, scientific literacy, and innovation throughout Europe through its Working Group 4 – Enhance the Role of Citizen Science for Civil Society. For further information about the call and the deadlines, please visit [jcom.sissa.it/call-papers-0](http://jcom.sissa.it/call-papers-0).

**Kristien Ooms** | Chair | ICA Commission on Use, User and Usability Issues | *Belgium* ■

## Visual Analytics

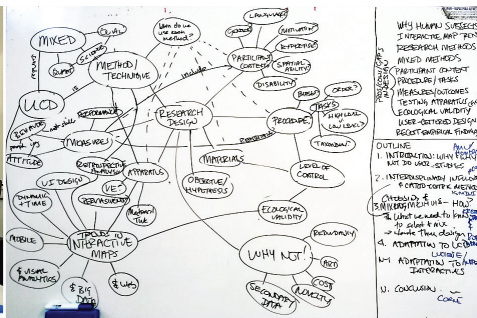
[vis.icaci.org/](http://vis.icaci.org/)

### New Research Agendas for Cartography

Beginning in 2015, the ICA Commissions on Cognitive Issues in Geographic Visualization, Visual Analytics, Map Design, and Use, User, and Usability Issues embarked on an effort to generate ideas for a series of new cartography research agenda papers. An initial phase of web-based ideation with input from Commission members was followed by the development of position papers, and an in-person agenda development workshop held in Curitiba, Brazil in advance of the 2015 International Cartographic Conference (ICC) in Rio de Janeiro.

Following the workshop in Brazil, international teams worked together to develop five new articles that were then published in the *International Journal of Cartography*, Volume 3, 2017, Supplement 1: Research Special Issue. They are available as Open Access for anyone to read ([www.tandfonline.com/toc/tica20/3/sup1?nav=tocList](http://www.tandfonline.com/toc/tica20/3/sup1?nav=tocList)). An overview titled *Envisioning the Future of Cartographic Research* written by Amy Griffin, Anthony Robinson, and Robert Roth introduces the special issue and the



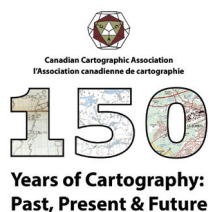


## reports ica working groups

## Marine Cartography



## 42nd Annual Conference of Canadian Cartographic Association



The 42nd Annual Conference of the Canadian Cartographic Association (CCA) was held between 31 May and 2 June 2017, at Carleton University, Ottawa, in conjunction

with the 150th confederation of Canada, and the guiding theme *150 Years of Cartography: Past, Present and Future*. The CCA designates the national delegate to the International Cartographic Association (ICA). The venue for the conference was Richcraft Hall, at Carleton University, overlooking the Rideau River, with students, researchers and educators, and professionals from different levels of government and the private sector participating.

The conference kicked off with a guided tour of the Canadian Museum of History, and closed with an orienteering contest on the Carleton University Campus, followed by drinks and dinner at the Barley Mow pub.

A highlight of the conference was the invited keynote speakers addressing each of the past, present and future themes. The conference sessions began with keynote speaker Ian Crain from the Orbis Institute, on the Canadian Geographic Information System (CGIS) and the

amazing story of rescue and recovery of the entire CGIS databank from the 1960s-80s. The morning continued with an introduction to the sequence and series of topographic mapping that laid the foundations for the thorough mapping of Canada, and then how historic topographic maps and historical spatial data have been made available for research as well as public use. The morning ended with a deep-dive into the techniques that enabled historians a clearer visualization of the battle for Vimy Ridge.

Keynote speaker for 'the present' Chris Brackley from As the Crow Flies cARTography / Canadian Geographic, demonstrated how the design of maps can enable map-readers to anchor to the sometime abstract concept of maps. Additional presentations addressed current techniques, research results and challenges regarding how maps are deployed. Natural Resources Canada provided an overview of their geospatial offerings and shared future plans.

On the last day, a prognosis was given on the future of mapping. The keynote presentation by Fraser Taylor from Carleton University challenged the audience to reflect on the need for cartographers to take control of their future destiny and not allow technology to drive their response. A quick snapshot of the afternoon presentations indicates a promising and abundant diversity of possibilities for the future, supported by an active and dynamic community of cartographers: i.e. Structure in Motion technology, the current approaches that employ Deep Learning Neural Networks, testing route-finding efficacy, mapping spatial patterns

of urban travel with open source tools, a new method for line simplification, investigations concerning impact of restaurant proximity on public health, and the potential as well as limitations of cartographic applications that are dedicated to the representation of stories and its use for mapping life stories of refugees. The day concluded with a technical session on Web Mercator Projection and Raster Tile Maps from Emmanuel Stefanakis (University of New Brunswick).

The map display on view during the conference included submitted student maps for the President's Prize competition and the national exhibit for the ICA congress in Washington D.C. in July. The conference included recognition awards to two long serving members, not coincidentally also having served the ICA. Janet Mersey received the award for Exceptional Service to the CCA – she was also the Canadian delegate to the ICA between 2003-2013, and remains the coordinator for the national map exhibit at the ICA. The second award was to Alberta Wood who was conferred as honorary member to the association; Alberta also served as ICA Vice President in the 1999-2003 term.

The full program is available from [cca-acc.org/wp-content/uploads/CCA-Conference-2017-Carleton-Program-O-V4.pdf](http://cca-acc.org/wp-content/uploads/CCA-Conference-2017-Carleton-Program-O-V4.pdf).

In 2018, the CCA conference will be held at Lawrencetown, Nova Scotia, at the Centre of Geographic Science (COGS), between 30 May and 2 June.

Els Aelvoet and Roger Wheate | Canadian Cartographic Association | Canada ■

(clockwise from top): CCA group photo in front of the Rideau River, Ottawa; Alberta Wood (left) receives the CCA Honorary Member award from Julia Siemer, CCA President; Janet Mersey receives her Award of Distinction | Photographs courtesy of Roger Wheate



## Mapping Events Organised by United Arab Emirates University

The United Arab Emirates University's (UAEU) Geography and Urban Planning Department, lead by department chair Dr Naeema Alhosani, organised the GIS Day event on 28 November 2017. The programme featured a number of activities including students displaying their course projects on the use the GIS as a tool to solve the real world problems.

On the same day, José Jesús Reyes Nuñez, Vice Chair of the ICA Commission on Cartography and Children, delivered a lecture entitled *Web-Base Map Services for Geography Teaching in Elementary and Secondary Schools* to the UAEU faculty, staff, and students. The lecture was very much appreciated and the audience asked the speaker many questions.

Naeema Alhosani | United Arab Emirates University | United Arab Emirates ■



## ICC 2017: Some personal views and experiences

This year the 28th International Cartographic Conference was held in Washington D.C., USA, from 2 to 7 July 2017. It was held at the Marriott Wardman Park Hotel located in northwest suburbs of Washington D.C.

Washington D.C. has always been on my list to visit so I managed to attend the conference during my family holiday travelling around the USA. I found the Metro quite efficient and easy to navigate, the conference venue was easily accessible from central Washington.

The venue was in a leafy suburb and walking distance to the National Zoo which I visited during one of the lunch breaks, it was a 20 minute train ride to the Capitol so you couldn't quickly pop in and visit one of the many museums or other tourist attractions during lunch. On the weekends either side of the conference I got to visit some of the great tourist attractions with my family such as the Arlington National Cemetery, Gettysburg National Cemetery, have a tour of the Capitol, and visit some museums and art galleries. I also really enjoyed going for a run in the morning around the Mall taking in the beautiful buildings and monuments. I have great memories of Washington D.C. and it has become one of my favourite cities in the USA. I think having conferences in beautiful cities really adds to the attendees' experience and makes them more memorable.

The Marriott Wardman Park Hotel was a large hotel with the conference being spread over different floors and areas but once you had worked out where all the rooms were it wasn't too hard to navigate around to the different parallel sessions. The only issue was as the

parallel sessions were spread over floors it took some time to go up two levels and get to different parallel sessions between talks within a session resulting in missing the start of some presentations.

The conference was very well organised and ran to schedule. The hardcopy conference handbook and program was clear and easy to use and allowed me to highlight the sessions I wanted to attend after having read the abstracts on the app and comprehensive website.

The breadth of topics at the conference was highlighted through the 40 conference themes and provided attendees with plenty of choice (probably too much). Topics included areas such as; data management, data quality, virtual reality, augmented reality, 3D mapping, usability, education, data sharing, map design, arts, history of cartography, ubiquitous cartography, web mapping, location based services, intellectual property, map publishing, big data, topographic mapping, mountain cartography, orienteering mapping, marine cartography, sustainable development, planetary cartography and more.

Most of the sessions I attended were good, high quality presentations with only a few presenters failing to show. With 11 parallel sessions it was impossible to get to everything you wanted to. I think fewer parallel sessions still would have given plenty of choice for attendees, as there were a few sessions I attended with only a couple of people in the audience. This is very difficult to determine prior to the conference but I think 8-9 parallel sessions would be plenty of choice for all attendees. Ideally rooms need to be within easy access of each other for those swapping sessions or a few minutes of time allocated between speakers.

Lunch on the first day after the opening ceremony was good with large round tables for

networking, it was one of the few times when all attendees were together for a social networking opportunity. It was a good time to meet new people who you would later cross paths with during the conference. Lunch wasn't included the rest of the week so that limited networking opportunities as people went off to a range of nearby venues or attended business meetings.

The highlight of the plenary sessions for me was 'Mapping the Grand Canyon National Park' by Tom Patterson. He included plenty of detail about the design process he undertook when creating the tourist brochures and had some great photos.

The map exhibition was located downstairs and as usual had an amazing display of maps, with atlases and interactive media in a separate room at the side. You could easily spend many hours viewing the maps.

The exhibitor booths had a wide range of technology and products to show case and I also enjoyed attending some of the scientific poster presentations during the breaks. There were some really great posters presented.

One of my favourite parts of any ICC is the Barbara Petchenik Children's World Map Competition. I love seeing the amazing maps that the kids have created. This year as we were travelling with our kids I got to bring them in so they could have a look and vote on their favourites. They were also amazed at the high quality of maps produced in the competition. The kids really enjoyed coming to the conference venue as part of our holiday.

There were a range of technical tours offered as part of the conference to learn about cartographic developments in government and private institutions. They included United States Geological Survey, Geography and Map Reading Room at the Library of Congress, National Geographic, National Oceanic and Atmospheric Administration and others. The social

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(from left): Washington Monument – built to honour George Washington, the United States' first president, it is the world's tallest stone structure and obelisk at 169 metres high; Arlington National Cemetery – the green rolling hills and majestic trees give a beautiful setting for this national cemetery, the Tomb of the Unknown Soldier and John F. Kennedy Grave site are popular sites to visit; U.S. Capitol – the iconic beautiful building is set on high ground at the eastern end of the National Mall | *Photography Maree Platt*



program included the Opening reception, Texas-Style Barbecue Dinner, and orienteering event. The conference finished earlier on the 4th July so delegates could join in with the Independence Day celebrations in the nation's capital.

On the weekend prior to the conference there were 12 separate pre-conference workshops run by ICA Commissions in and around the Washington area to highlight the work of each of the commissions. Unfortunately I was unable to attend any but from all accounts they were great events also.

I would like to thank the organisers, presenters, chairs, support staff, students, performers, attendees and hotel staff for a great week of learning, meeting new people, catching up with old friends and exploring a new city. As with any ICC there is so much to pack into just a week, the organisers should be very proud of all their efforts in organising such a great conference.

**Maree Platt** | Department of Environment, Land, Water and Planning | Melbourne, Victoria | *Australia* ■

## 17th General Assembly of ICA

The 17th General Assembly of the International Cartographic Association (ICA) took place in Washington D.C., USA, on Sunday, 2 July 2017 at 14:00. This was the second time in the history of the ICA that an Extraordinary General Assembly has been called by the ICA President. At this point the ICA wishes to thank national delegates for their attendance and for taking part in the important business of receiving reports of ICA officers, nominating scrutineers, adopting Minutes of the 16th General Assembly, and voting on ICA membership and proposed changes to the *ICA Statutes and By-laws*.

The General Assembly started with the opening address by ICA President Menno-Jan Kraak who welcomed all delegates and observers. He went on to explain that the main reasons for calling an Extraordinary General Assembly were proposed changes to the *ICA Statutes and By-laws* in order to improve organisational efficiency and allow for faster decision making.

Recognition of the memory of members of the ICA community that passed away since the last General Assembly in Rio de Janeiro in 2015 followed, with particular mention of Donald T. Pearce (Australia) (see obituary on page 26).

Prior to voting the Executive Committee (EC) recommended two individuals to act as scrutineers for the voting. Derek Clarke (South Africa) and Harold Moellering (USA) were elected by show of hands. Regrettably a number of national members have not paid

### National Members of the ICA – 2017-2019

<ul style="list-style-type: none"> <li>Algeria</li> <li>Argentina</li> <li>Australia</li> <li>Austria</li> <li>Bangladesh</li> <li>Belgium</li> <li>Benin</li> <li>Botswana</li> <li>Brazil</li> <li>Bulgaria</li> <li>Canada</li> <li>Chile</li> <li>China</li> <li>Colombia</li> <li>Croatia</li> <li>Cuba</li> <li>Cyprus</li> <li>Czech Republic</li> <li>Denmark</li> </ul>	<ul style="list-style-type: none"> <li>Ecuador</li> <li>Estonia</li> <li>Finland</li> <li>France</li> <li>Georgia</li> <li>Germany</li> <li>Greece</li> <li>Hong Kong-China</li> <li>Hungary</li> <li>India</li> <li>Indonesia</li> <li>Iran</li> <li>Ireland</li> <li>Israel</li> <li>Italy</li> <li>Japan</li> <li>Jordan</li> <li>Kenya</li> <li>Latvia</li> </ul>	<ul style="list-style-type: none"> <li>Lithuania</li> <li>Macedonia (FYROM)</li> <li>Madagascar</li> <li>Malaysia</li> <li>Mexico</li> <li>Mongolia</li> <li>Montenegro</li> <li>Morocco</li> <li>Mozambique</li> <li>Netherlands</li> <li>New Zealand</li> <li>Nigeria</li> <li>Norway</li> <li>Pakistan</li> <li>Poland</li> <li>Portugal</li> <li>Romania</li> <li>Russia</li> <li>Serbia</li> </ul>	<ul style="list-style-type: none"> <li>Slovakia</li> <li>Slovenia</li> <li>South Korea</li> <li>South Africa</li> <li>Spain</li> <li>Sri Lanka</li> <li>Sweden</li> <li>Switzerland</li> <li>Thailand</li> <li>Trinidad and Tobago</li> <li>Turkey</li> <li>Ukraine</li> <li>United Kingdom</li> <li>United States of America</li> <li>Uruguay</li> </ul>
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72 national members

their membership dues for some years. In accordance with the ICA Statutes, a proposal was tabled to revoke the voting rights of Kazakhstan, Serbia and Tanzania. At the same time, the ICA Executive Committee suggested reinstating the voting right of Benin. The proposal was accepted by show of hands.

Voting on ICA membership included exclusions, new member nations and new affiliate members. The vote on exclusion resulted in withdrawal of membership and all membership rights from the following nations: Kazakhstan and Tanzania. In addition, the following affiliate members had their membership withdrawn: Regional Centre for Training in Aerospace Surveys (Rectas) (Nigeria) and University of Balamand (Lebanon).

The unanimous vote on new member nations resulted in the election of **Bangladesh** (represented by the Survey of Bangladesh), **Estonia** (Estonian Geoinformatics Society) and **Georgia** (Department of Geography, Tbilisi State University) as new national members of the ICA. Overall the number of national members has increased from 71 in 2015 to 72 for the remainder of the current (2015-2019) term.

Finally, the vote on new affiliate members resulted in the following organisations being approved:

- **El Servicio Aerofotogrametrico del General Juan Soler Manfredini de la Fuerza Aerea de Chile (SAF)** (Chile)
- **Independent Institute of Lay Adventist of Kigali** (Rwanda)
- **Library and Archives Canada** (Canada)

A full list of the current National Members of the ICA is given above, while all current ICA Affiliate Members are listed on page 27.

Next, the ICA member nations voted on the adoption of the Minutes of the 16th General Assembly held in Rio de Janeiro, Brazil, in August 2015. Subject to minor changes in the record of Item 17 *ICA Statutes* of the Minutes

concerned with the procedure of accepting changes to Article 15 *Domicile of the Association* and Article 32 *Decisive Language* of the ICA Statutes (the requirement for having absolute majority to accept changes), the General Assembly approved the Minutes. The updated version is available from the ICA website: [icaci.org/general-assemblies/](http://icaci.org/general-assemblies/).

The final voting in Washington D.C. concerned the proposed changes to the *ICA Statutes and By-laws*. In total, changes to eight Articles and two By-laws were proposed by the EC and the ICA Statutes Committee:

- Article 3: *National representation and membership of the Association*
- Article 6: *Official organisations of the Association*
- Article 11: *Voting*
- Article 13: *Election of the Executive Committee*
- Article 14: *Authority of the Executive Committee*
- Article 19: *Use of funds*
- Article 24: *Commissions, Working Groups and Task Forces*
- Article 28: *Changes in the statutes*
- By-Law 7
- By-Law 9

After considerable debate, the result of the vote was that the changes to Article 3, Article 6, Article 19, Article 24, By-law 7 and By-law 9 were accepted, while changes to Article 11, Article 13, Article 14 and Article 28 were not accepted by the General Assembly. The updated *ICA Statutes and By-laws* are available from ICA website [icaci.org/ica-statutes/](http://icaci.org/ica-statutes/).

At the conclusion of the 17th General Assembly the President reported on the work of the Executive Committee over the last two years and presented a number of initiatives for the next two years, including release of a new ICA strategic plan by 2019 General Assembly in Tokyo. In addition, Bengt Rystedt presented the final report of the ICA Working Group on





ICA President Menno-Jan Kraak addresses delegates representing ICA member nations at the 17th General Assembly of the ICA, Washington D.C., USA | *Photography László Zentai*

International Map Year (IMY), highlighting the global success of IMY, particularly in the increased interest of school children and the general public in cartography and the use of maps. The President thanked Bengt Rystedt and the Working Group for their excellent work spanning six years and, by accepting the final report, he officially declared the International Map Year closed. He then thanked all national delegates, scrutineers and organisers for their involvement and concluded the General Assembly at 17:35.

The next 18th General Assembly of the ICA will take place in Tokyo, Japan, in conjunction with the 29th International Cartographic Conference, 15-20 July 2019.

At the time of the General Assembly, changes were made to the leadership of two ICA Commissions. Dirk Burghardt (Germany), Chair of the ICA Commission on Generalisation and Multiple Representation handed over the leadership of the Commission to Guillaume Touya (France). Similarly, Peter Jordan (Austria) replaced Paulo Menezes (Brazil) as Chair of the Joint ICA-IGU Commission on Toponymy.

Igor Drecki | Editor ICA News | ICA ■

## ICA Scholarships

The ICA Executive Committee (EC) updated the rules of the ICA Scholarships (previously called ICA Research Scholarships) at their meeting in Madrid at the end of February 2016 (see *ICA News*, No 66, June 2016, p 3). We have now scholarships available for young scientists and professionals from ICA member nations that wish to actively participate in the International Cartographic Conferences (ICC), the Regional Cartographic Conferences (to be established soon), and the ICA Commissions' and Working Groups' events. There is also extra funding available for cartographers and GIScientists from non-developed member states. Further information on ICA Scholarships is available from [icaci.org/scholarship/](http://icaci.org/scholarship/).

The EC allocated € 10,000 for scholarships related to the ICC 2017 (each scholarship has a maximum value of € 1,000, or € 1,500 if the applicant is from a non-developed ICA member nation). The ICA Secretary General received a large number of excellent applications and the EC decided to award more scholarships than

originally anticipated, resulting in some awardees receiving only a symbolic financial support. Listed below are recipients of the ICA Scholarships to participate in the ICC 2017, together with titles of their papers:

- Bosse Amber (USA): *For the Essentially Subjective Elements of Cartography, 1953-1995*
- Yvette Bevis (South Africa): *Expert opinions on using the third dimension to visualise wind speed uncertainty for wind farm planning*
- Sébastien Biniek (France): *Designing typefaces for maps. A protocol of tests*
- Jorge Chen (USA): *Rapid integration of indoor and outdoor coordinate reference systems using 3D point cloud data*
- Michele Denner (South Africa): *Assessing a potential solution for spatially referencing of historical aerial photography in South Africa*
- Song Gao (USA): *Identifying Geographic Features through Map Interpretation: A Case Study of Craters Using Controlling Variables*
- Katrin Glinka (Germany): *Psychogeography in the age of the quantified self – Mental map modelling with georeferenced personal activity data*
- Jelena Glisovic (Serbia): *The First Special Military Map Printed in Serbia*
- Andreas Keler (Germany): *Towards Traffic Bottleneck Visualization – Combining Traffic Congestion and Complicated Crossings*
- Lanfa Liu (China/Germany): *Feature learning for soil property mapping using Vis-NIR spectroscopy*
- Annita Lucchesi (USA): *Hóhta'hané: Mapping Genocide & Restorative Justice In Native America*
- Olawale Oluwafemi (Nigeria): *Effect of Sediment-Hosted Disseminated Gold Deposit Mining on the Landscape of Itaganmodi-Igun Basin, Southwest Nigeria*
- Jiří Pánek (Czech Republic): (1) *Crowdsourcing Mapping and Participatory Planning Support System: Case Study of Brno, Czech Republic;* (2) *Playing with maps – using geogames in geography field-courses;* (3) *Reflective 2D visualization of 3D objects using cartographic projection;* (4) *Psycho-*

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Recipients of the 2017 ICA Scholarships: (from left) Katrin Glinka, Jiří Pánek, Vít Pászto, Shahmy Said, Bosse Amber, Syed Attique Shah, Mateusz Pitura, Olawale Oluwafemi, Song Gao, Annita Lucchesi, Jelena Glisovic, Sébastien Biniek, Yvette Bevis, Michele Denner, Andreas Keler, Javiera Advis, Julia Mia Stirnemann and Jorge Chen; missing Lanfa Liu | *Photography László Zentai*





physics: *The Foundation of Cartography*; (5) *Research on Automatic Generation of Map Symbols based on Cognitive Semantics Analysis*; (6) *Exploring visual cognition efficiency in map handling ability based on the eye movement experiment*

- Vit Pászto (Czech Republic): (1) *Crowdsourcing Mapping and Participatory Planning Support System: Case Study of Brno, Czech Republic*; (2) *Playing with maps – using geogames in geography field-courses*; (3) *Reflective 2D visualization of 3D objects using cartographic projection*
- Mateusz Pitura (Poland): *Hebrus Valles – The Mars Exploration Zone Map*
- Shahmy Said (Malaysia/Great Britain): (1) *Classifying the Diversity of Bus Mapping Systems*; (2) *Mapping Landslides Susceptibility in a Traditional Northern Nigerian City*
- Syed Attique Shah (Turkey): *A Framework for Enhancing Real-time Social Media Data to Enhance Disaster Management Process*

The EC also supported two ICA Scholarships applications to participate in the pre-ICC 2017 Commission workshop (both for the *Maps & Emotions* workshop):

- Javiera Advis (Chile/Germany): *LINESCAPES: virtual and real experiences of cities*
- Julia Mia Stirnemann (Switzerland): *View-points evoke emotions*

We were delighted to welcome them all to Washington D.C., where they actively engaged with the ICC 2017 formal programme. We look forward to following their subsequent careers in cartography with interest.

László Zentai | Secretary General & Treasurer | ICA ■

## International Cartographic Exhibition

As Chair of the ICA Commission on Map Design I once again led the judging of the International Cartographic Exhibition held at the 28th International Cartographic Conference (ICC) in Washington D.C. in July 2016. I worked with a great team of judges representing cartography from around the globe. The judging team brought together academics, practitioners and industry experts.

The judges were:

- Kenneth Field (Chair), United Kingdom
- Margaret Pearce (Organiser), USA
- Antoni Moore, New Zealand
- David Fairbairn, United Kingdom
- Paulo Menezes, Brazil
- William Cartwright, Australia
- Lorenz Hurni, Switzerland
- Dirk Burghardt, Germany
- Dušan Petrovič, Slovenia
- Serena Coetzee, South Africa
- Rosemary Wardley (LOC), USA

## International Cartographic Exhibition – Winners

### MAPS ON PANELS

**1<sup>st</sup>** Relief MASSIF DU MONT BLANC, France: *A beautiful moulded model of Mont Blanc. The map content is well printed, avoiding significant stretching, yielding an evocative 3D, detailed product.*

**2<sup>nd</sup>** The Olivine Wilderness, New Zealand

**3<sup>rd</sup>** Jenny Lake Hiking Map, USA

*Public vote: Blue and White Dream, China*

### CHARTS ON PANELS

**1<sup>st</sup>** Zhenghe Navigational Chart with an Ancient versus Modern Comparison, China: *Innovative representation displaying two contrasting but exquisite cartographic styles, complemented by the rich, high quality materials.*

**2<sup>nd</sup>** Stavanger Harbor with Seaward approaches (Chart No. 455), Norway

**3<sup>rd</sup>** IFR Enroute Low Altitude – Alaska L-1, Esri

*Public vote: VFR Aeronautical Chart of the Republic of Slovenia, Slovenia*

### ATLASES

**1<sup>st</sup>** The National Atlas of Korea, Republic of Korea: *A comprehensive, large format and very detailed atlas. The maps are well proportioned, clear and discernible. The highest quality throughout, accompanied by considerable graphs, accompanying text and infographics*

**2<sup>nd</sup>** Tactile Atlas of Switzerland, Switzerland

**3<sup>rd</sup>** Grand Topographic Atlas of Catalonia 1:25,000, Institut Cartogràfic i Geològic de Catalunya

*Public vote: Swiss World Atlas 2017 Edition, Switzerland*

### DIGITAL PRODUCTS

**1<sup>st</sup>** Minecraft® on Demand, France: *A wonderful mix of the real world and the popular world of Minecraft. An innovative idea that is superbly executed. Intuitive and playable cartography!*

**2<sup>nd</sup>** Augmented Reality App Swissarena, Switzerland

**3<sup>rd</sup>** Atlas of Switzerland Online, Switzerland

*Public vote: Atlas of Switzerland Online, Switzerland*

### EDUCATIONAL CARTOGRAPHIC PRODUCTS

**1<sup>st</sup>** genderAtlas goes school, Austria: *A very well thought through mini-atlas that explores gender issues for women and men. This version specifically aimed at school children to promote understanding of equality and support research initiatives.*

**2<sup>nd</sup>** Historical Atlas of Poland for blind and visually impaired, Poland

**3<sup>rd</sup>** 3D Relief of Czechia, Czechia

*Public vote: 3D Relief of Czechia, Czechia*

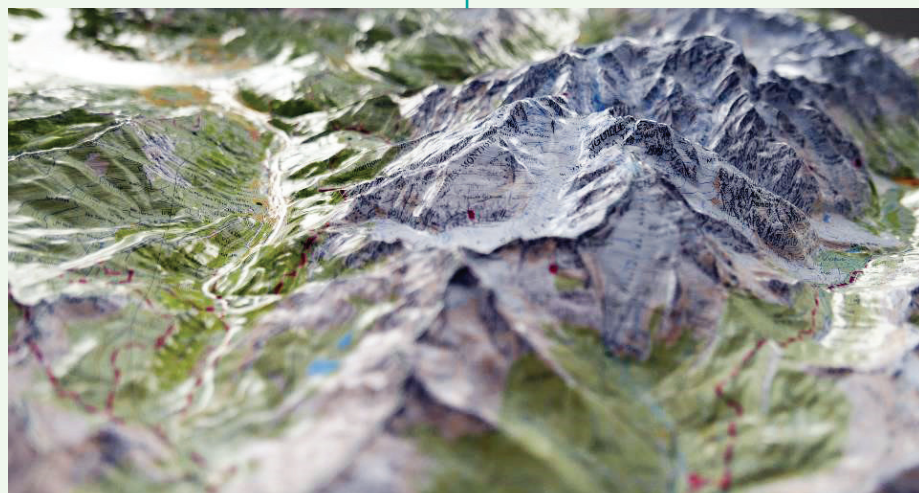
### OTHER CARTOGRAPHIC PRODUCTS

**1<sup>st</sup>** Psychogeography in the age of the quantified self, Germany: *Personal cartographies modelled from mental maps and movement data. A stylish form that builds art from the digital capture of our everyday activities.*

**2<sup>nd</sup>** Canal Full Map Long Scroll, China

**3<sup>rd</sup>** Canton Berne – 3D printed Terrain Model 1:25,000, Switzerland

*Public vote: Canal Full Map Long Scroll, China*





The exhibition comprised several hundred entries from over 30 different national member committees and portrayed many different cartographic styles from detailed navigational charts to beautiful works of cartographic art. The judges were impressed by both the variety and the quality of execution that demonstrated the very best of contemporary cartography. While paper maps and charts (on panels) continue to defy the myth that print cartography is dead, it's also clear that digital products are becoming more prominent.

The categories for judging were:

- Maps on panels
- Charts on Panels
- Atlases
- Digital Products
- Educational Cartographic Products
- Other Cartographic Products.

The judges independently examined all of the entries in each category with the same criteria that we used in Rio de Janeiro in 2015 – we were simply looking for cartographic excellence. The map needed to catch our attention but, beyond that, to show excellence in form and function. Simply producing an eye-catching map did not mean the map was a contender and even those one might consider mundane often had a quality that made them best-in-class. A scoring system was used by each judge which was then collated to create an objective list of the top three winners in each category. These are listed on the left. Many congratulations to all the winners but, more than that, to all those who presented their work for critique by their peers. It takes a brave person or organisation to showcase often personal work amongst a body who will be looking for the absolute highest quality and so all should be congratulated and encouraged to submit their work to national committees and representatives ahead of the 2019 ICC in Tokyo.

**Kenneth Field** | Chair | International Cartographic Exhibition Jury | *United Kingdom* ■

## ICC 2017 Orienteering Competition

The ICC 2017 orienteering competition took place on 6 July 2017 at the Fountainhead Regional Park located alongside Potomac River in Fairfax County, Virginia, USA. Three courses were designed for event participants reflecting various levels of difficulty. The winners were:

### Course 1 – 1.7km | 95m

1. **William Mackaness** | Scotland | 28:43
2. **Maria Rühringer** | Austria | 43:55
3. **Marit Varmedal** | Norway | 49:47
4. **Dmitriy Loginov** | Russia | 1:06:15

## Childrens' Map Award – Winners

### UNDER 6 YEARS OLD

- 1<sup>st</sup> **Kenya Kesuma Dewi** | 5 | *Crafting Our Dreams on the Land of Indonesia* | Tk Al Falah: Kediri | *Indonesia* (ID-1)
- 2<sup>nd</sup> **Taja Koša** | 5 | *Map of Life* | Vrtec Lendava: Lendava | *Slovenia* (SI-3)
- 3<sup>rd</sup> **Alicia Fleming**, | 5 | *My Happy World* | –: Eastgardens, New South Wales | *Australia* (AU-1)

### 6–8 YEARS OLD

- 1<sup>st</sup> **Oh Eun Ju** | 8 | *Map, Communicate with the World* | Pa-jang Elementary School: Gyeonggi-do | *South Korea* (KR-1)
- 2<sup>nd</sup> **Preslava Ivanova** | 8 | *The World is in Our Hands* | Art School Zhivopis: Kazanlak | *Bulgaria* (BG-2)
- 3<sup>rd</sup> **Beatrice Leoutsakou** | 8 | *Drawing Maps* | Ekpedeftiki Anagennisi: Afidne | *Greece* (GR-2)

### 9–12 YEARS OLD

- 1<sup>st</sup> **Noemi Sanchez Avramova and Alba Serrano Suarez** | 12 | *Oronce Fine through Our Eyes* | Colegio Arturo Soria: Madrid | *Spain* (ES-2)
- 2<sup>nd</sup> **Okubo Kasumi** | 9 | *Happy Earth!* | Elementary School attached to Hiroshima University: Hiroshima | *Japan* (JP-4)
- 3<sup>rd</sup> **Klara Zagórska** | 11 | *We Love Maps* | Szkoła Podstawowa Tęcza: Zgorzelec | *Poland* (PL-2)

### 13–15 YEARS OLD

- 1<sup>st</sup> **Ioana Larisa Guriță** | 13 | *We Love Maps* | 'M'arta' Children's Art Studio: Focșani | *Romania* (RO-1)
- 2<sup>nd</sup> **Rebecca Kneale and Akira McTavish-Huriwai** | 15 | *Through a Child's Eyes* | Tauranga Girls' College: Tauranga | *New Zealand* (NZ-1)
- 3<sup>rd</sup> **Micaela Mendoz** | 15 | *World Map* | Colegio Nacional de Buenos Aires: Ciudad Autónoma de Buenos Aires | *Argentina* (AR-1)

### PUBLIC VOTE

**Champ Turner** | 15 | *Maps: Our Path for Exploration* | Liberal Arts and Science Academy: Austin, Texas | *USA* (US-6)

### CREATIVITY AWARD

**Urteja Kardašiusė** | 4 | *Friends* | Lopšelis-darželis 'Bangelė: Šiauliai | *Lithuania* (LT-1)

**Phoebe McClean** | 15 | *Trumps World* | Bishop Viard College: Porirua | *New Zealand* (NZ-2)

**International Jury:** Pilar Sánchez-Ortiz Rodríguez (Spain – Chair), Ana María Garra (Argentina), Paulo Márcio Leal de Menezes (Brazil), Temenoujka Bandrova (Bulgaria), Dariusz Dukaczewski (Poland), Necla Uluğtekin (Turkey), Naeema Al Hosani (United Arab Emirates) and Rob Edsall (USA); substitute members: Carla Cristina Reinaldo Gimenes de Sena (Brazil) and José Jesús Reyes Nuñez (Hungary).

**Thanks:** Peter van der Krogt (Netherlands – International Coordinator).

REPRODUCED ON THE BACK COVER

### Course 2 – 3.0km | 175m

1. **Terje Midtbø** | Norway | 40:08
2. **Markus Fuchs** | Switzerland | 48:26
3. **Georg Gartner** | Austria | 50:33
4. **Menno-Jan Kraak** | Netherlands | 51:28
5. **Kristoffer Kristiansen** | Norway | 1:02:36
6. **William Mackaness** | Scotland | 1:11:21
7. **Fabian Bock** | Germany | 1:24:11
8. **Rob Edsall** | USA | 1:39:01
9. **Sverre Iversen** | Norway | 1:45:31
10. **Roar Engell** | Denmark | 2:07:39
11. **Alika Jensen** | USA | 2:09:38

### Course 3 – 3.7km | 195m

1. **Zdenek Stachon** | Czech Republic | 31:54
2. **Pyy Kettunen** | Finland | 34:35
3. **Gian-Reto Schaad** | Switzerland | 38:13
4. **Roland Hansson** | USA | 39:13
5. **Dušan Petrovič** | Slovenia | 42:39
6. **Thorsteinn Sigurjonsson** | Norway | 48:12
7. **Trine Bjerva** | Norway | 48:43
8. **László Zentai** | Hungary | 48:57

**Igor Drecki** | Editor ICA News | ICA ■

## ICC 2017 – Facts and Figures<sup>1</sup>

<b>icc 2017 participants</b>	<b>866</b>
full	584
senior / student	216
one day	22
accompanying persons	20
other	24
<b>commercial exhibitors' personnel</b>	<b>41</b>
<b>participants at technical visits</b>	<b>230</b>
esri research and development center	25
geography and map reading room, library of congress	77
gis and mapping services, fairfax county	20
national geographic	32
national oceanic and atmospheric administration	26
smithsonian institution	23
united states geological survey	27
<b>meetings</b>	<b>34</b>
ica commission and working group business meetings	28
other meetings	6
<b>exhibits at international cartographic exhibition</b>	<b>479</b>
maps	295
charts	42
atlases	41
digital cartographic products	44
digital services	9
educational cartographic products	24
other cartographic products and globes	24
<b>maps at children's map exhibition</b>	<b>193</b>
less than 6 years old	16
6-8 years old	29
9-12 years old	75
13-15 years old	73

<sup>1</sup> Source: E. Lynn Usery, Aileen Buckley, Tim Trainor, Cindy Brewer, Matt Rice, Margaret Pearce, David Alvarez, Michael Peterson, and Eric Anderson: *A Report to the International Cartographic Association and the Cartography and Geographic Information Society*, Washington D.C., USA, November 2017, and associated spreadsheets.

<sup>2</sup> Source: *Abridged Scientific Program*, 28th International Cartographic Conference, July 2-7, 2017, Washington D.C.

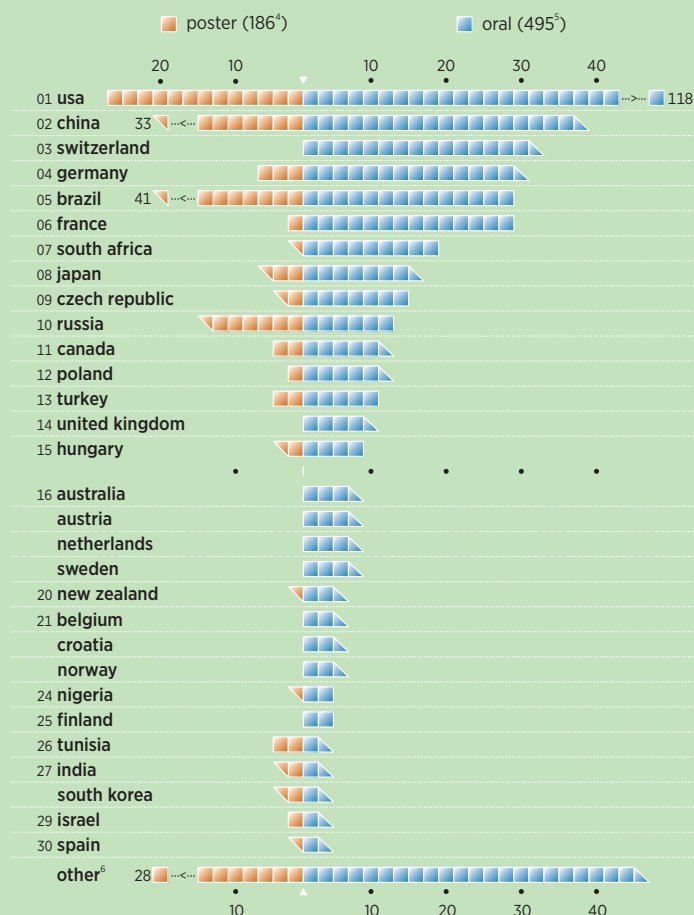
<sup>3</sup> Source: ICC 2017 List of Participants.

<sup>4</sup> 196 poster presentations were actually delivered at the conference<sup>1</sup>.

<sup>5</sup> 466 oral presentations were actually delivered at the conference<sup>1</sup>.

<sup>6</sup> Other countries include: Colombia, Greece, Italy, Mexico, Philippines (3 oral / 0 poster presentations each), Chile (2/2), Botswana, Cameroon, Iran (2/1 each), Argentina, Slovenia, Uruguay (2/0 each), Ukraine (1/4), Taiwan-China (1/2), Algeria, Bulgaria, Honduras, Malaysia (1/1 each), Bhutan, Denmark, Gambia, Ghana, Lithuania, Saudi Arabia, Serbia,

## ICC 2017 – Origin of Presentations<sup>1,2,3</sup>



Singapore, United Arab Emirates, Uzbekistan (1/0 each), Indonesia (0/5), Romania (0/3), Cuba (0/2), Hong Kong-China, Slovakia and Vietnam (0/1 each).

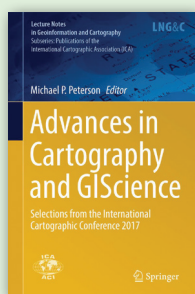
<sup>7</sup> Since 2009, *ICA News* presents statistics on scheduled papers and posters from the International Cartographic Conferences arranged by the conference themes. ICC 2017 featured 40 themes covering a wide range of topics (see *ICA News*, No

66, December 2016, p 5). However, based on authors' theme choices during the submission process, the ICC 2017 International Scientific Program Committee members associated presentations with ICA Commission and Working Group emphases and grouped them into sessions accordingly. This arrangement is reflected in the ICC 2017 statistics given here, which make them less compatible with the former records.

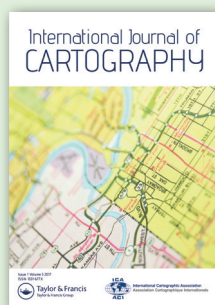
## conference publications



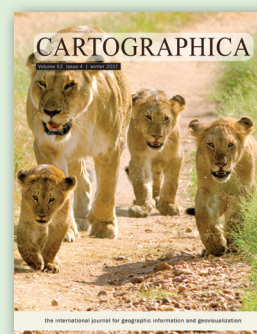
*Abridged Scientific Program*, 28th International Cartographic Conference, July 2-7, 2017, Washington D.C.



Michael P. Peterson (Ed), *Advances in Cartography and GIScience: Selections from the International Cartographic Conference 2017*, Springer-Verlag Berlin Heidelberg, 2017



*International Journal of Cartography*, Vol 3, Issue 1, 2017; Special Issue: International Cartographic Conference 2017



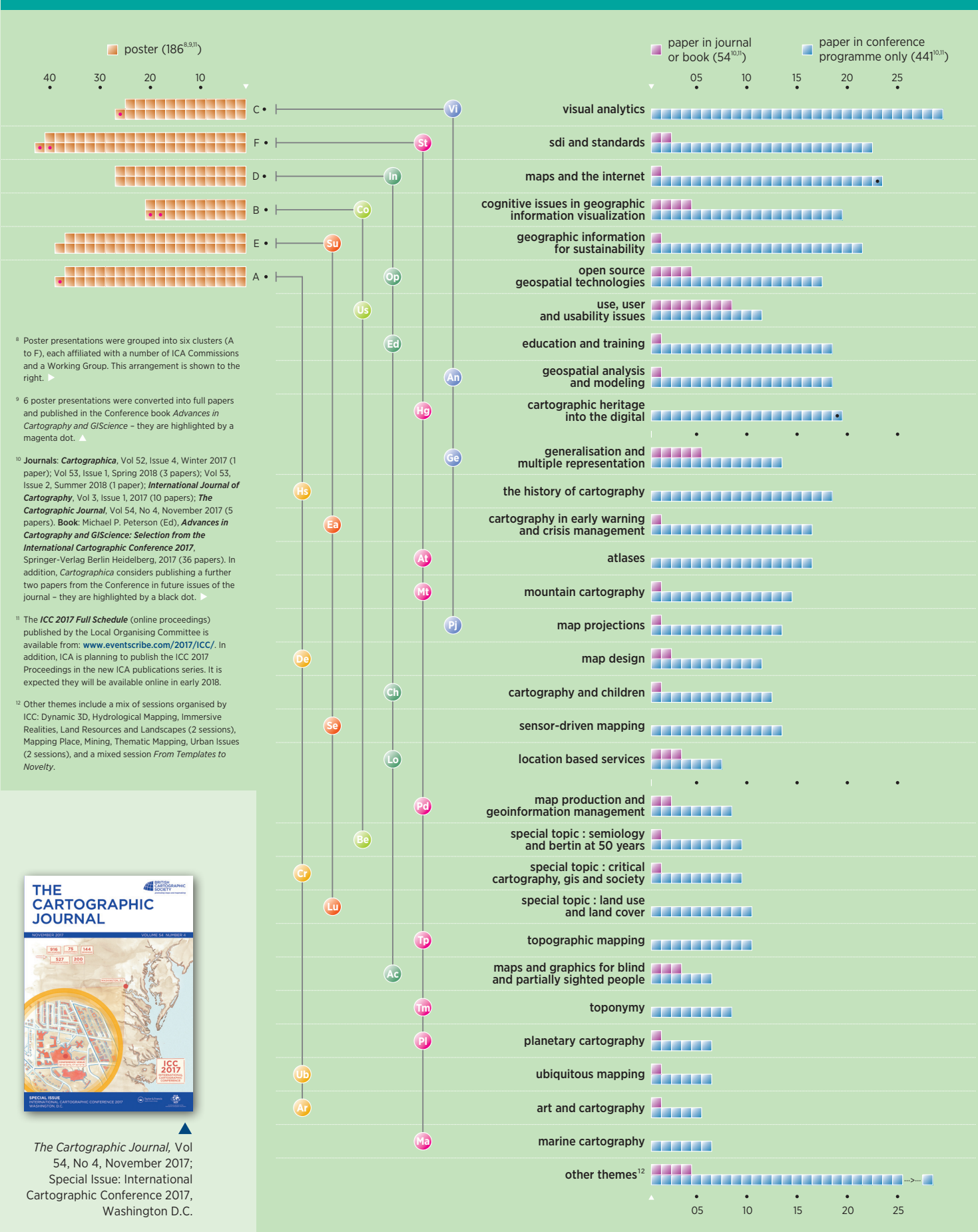
*Cartographica*, Vol 52, Issue 4, Winter 2017

*Cartographica* plans to publish a further two issues containing four papers from ICC 2017: Vol 53, Issues 1, Spring 2018 (3 papers) and Vol 53, Issue 2, Summer 2018 (1 paper). A further two papers are currently being considered for publication in the future issues.

ICC 2017 Full Schedule (online proceedings) is available from:  
[www.eventscribe.com/2017/ICC/](http://www.eventscribe.com/2017/ICC/)



ICC 2017 – Papers and Posters by Theme<sup>1,2,7</sup>







ICC 2017 in Pictures: Opening Ceremony; commercial exhibition; *Rising Tides* exhibition of Mary Edna Fraser's artworks; International Cartographic Exhibition; Barbara Bartz Petchenik International Children's Map Competition and Exhibition, artwork *Dream Big* by Vera Perecárová (14), Základná Škola Narnia, Banská Bystrica, Slovakia (SK-6).





ICC 2017 in Pictures (cont): pre-conference workshop; ICC 2019 stand; opening reception; orienteering event; Washington D.C. Mall and city attractions; passing of the ICA flag from USA to Japan at ICC 1978 in College Park, Maryland, and at ICC 2017 in Washington D.C. | Photography Dierdre Bevington-Attardi, Igor Drecki, Alberta Wood, László Zentai



## Donald Trevor Pearce

17.05.1931 – 21.06.2017



We record with great sorrow the passing of Donald Trevor Pearce, former Secretary General & Treasurer and Vice President of the International Cartographic Association (ICA).

Don Pearce started his cartographic career in 1947 as a cadet draftsman in the Lands and Survey Department, Western Australia. In 1959 he transferred to the Mines Department and was tasked to set up a Cartographic Section to produce new mining and geological maps. In 1985 he became Assistant Director, Surveys and Mapping.

He was elected to the Council of the then Australian Institute of Cartographers (AIC) as a representative of the Western Australian Division in 1979. His contribution was immediate: in cooperation with the National Secretary, Don took a leading role in formulating the corporate plan for AIC, which has formed the basis of its management system that is still in place today.

However, Don's international involvement started a year earlier when he had attended the 9th International Cartographic Conference (ICC) in College Park, Maryland, USA. He was very much impressed with the event and decided, there and then, that he would bring a future ICC to Australia. This he achieved in 1984 with the staging of the 12th International Cartographic Conference and 7th General Assembly of ICA in Perth, Western Australia. The event was a huge success and proved to be a watershed for cartography in Australia. At the General Assembly in Perth, Don was elected Secretary General & Treasurer, the position he held for two terms until 1991. In 1986, Don attended the Auto-Carto meeting in London at a time when

cartographers were beginning to embrace the computer as a serious tool in the map-making process. From London, he travelled to Prague to meet with ICA representatives from Europe. A year later he attended the 13th ICC and 8th General Assembly in Morelia, Mexico, where he presented his Secretary's and Treasurer's reports.

Between 1984 and 1991 he wrote 20 reports to the ICA Newsletter on ICA business, finances, Executive Committee meetings, as well as reports from various events where he represented ICA. In 1991 he was elected Vice President at the 9th General Assembly in Bournemouth, United Kingdom, and continued to represent Australia with distinction. At the conclusion of his third and final term on the Executive Committee, Don Pearce was awarded an Honorary Fellowship of the ICA in 1995, at a ceremony held during the 17th ICC in Barcelona, Spain.

Back at home, Don established Promaco Conventions in 1987, a leading event organiser in Australia. He served as Chair of the Perth Convention Bureau and was a co-founder of the Meeting Industry Association of Western Australia and subsequently the national Association.

At the national conference of the Mapping Sciences Institute, Australia (MSIA, formerly AIC) held in Melbourne in 2002, Don was presented with the Institute's gold medal for his outstanding contribution to Australian cartography and to the MSIA. His extraordinary energy and dedication to his beloved science of cartography was fittingly acknowledged. Don was elected National President of MSIA in April 2013 for the ensuing twelve months. As expected, he carried out this leadership role with enthusiasm and wisdom, and readily agreed to serve on Council, when his term expired. He remained on the Council to the end until his passing on 21 June 2017.

Farewell friend and inspiration.

**Keith Smith** | Mapping Sciences Institute, Australia | Australia ■

## CARTOGRAPHICA

### CALL FOR PAPERS – Special Issue: Discrete Global Grid Systems

The editorial team of *Cartographica* invites paper submissions of original research from the communities focusing on the development and application of Discrete Global Grid Systems (DGGs). The papers will be peer-reviewed. Accepted papers will be published in a special issue of the *Cartographica* in Spring 2019. Topics include but not limited to:

- Cartographical aspects of DGGs
- Advances in Geovisualization using DGGs
- Modelling spatio-temporal data using DGGs
- Interoperability within and between different DGGs implementations
- Evaluation and comparative analysis of DGGs
- Query processing and indexing mechanisms of DGGs resources
- Applications of DGGs in various domains
- Digital Earth and DGGs Software tools

**Important dates:** paper submission – 1 May 2018; decision to authors – 15 July 2018; revised paper submission – 1 September 2018; publication of Special Issue – Spring 2019.

More information: [utpjournals.press/journals/cart/cfp](http://utpjournals.press/journals/cart/cfp)

## january 2018

**15-17: 14th International Conference on Location-Based Services** (organised by the ICA Commission on Location Based Services) | Zürich | Switzerland | [lbsconference.org](http://lbsconference.org)

**16-19: Geospatial World Forum** | Hyderabad | India | [www.geospatialworldforum.org](http://www.geospatialworldforum.org)

**19: EuroSDR-AGILE-ICA Seminar | Mapping Places for Digital Natives** | Paris | France | [www.eurosdrr.net/workshops/mapping-places-digital-natives-literature-practical-experiences-perspectives/](http://www.eurosdrr.net/workshops/mapping-places-digital-natives-literature-practical-experiences-perspectives/)

## march

**18-21: GeoInformation for Disaster Management (Gi4DM 2018)** | Istanbul | Turkey | [www.gi4dm2018.org](http://www.gi4dm2018.org)

## april

**09-11: Research@Locate** (part of Locate 2018) | Adelaide | Australia | [www.asiera.org.au/r118.html](http://www.asiera.org.au/r118.html)

**18-20: 13th Conference Digital Approaches to Cartographic Heritage** (organised by the ICA Commission on Cartographic Heritage into the Digital) | Madrid | Spain | [cartography.web.auth.gr/ICA-Heritage/Madrid2018/](http://cartography.web.auth.gr/ICA-Heritage/Madrid2018/)

**27: Workshop on Lessons Learned from Volunteers' Interactions with Geographic Citizen Science Applications** (organised in collaboration with the ICA Commission on Use, User and Usability Issues) | London | United Kingdom | [ucllexcites.wordpress.com/2017/12/12/workshop-on-lessons-learned-from-volunteers-interactions-with-geographic-citizen-science-applications-27-april-2018-london/](http://ucllexcites.wordpress.com/2017/12/12/workshop-on-lessons-learned-from-volunteers-interactions-with-geographic-citizen-science-applications-27-april-2018-london/)

**27: Workshop on Reproducibility of Cartographic (User) Studies** (organised by the ICA Commissions on Use, User and Usability Issues, and Cognitive Issues in Geographic Information Visualization) | Olomouc | Czech Republic | [cogvis.icaci.org/18\\_reproducibility.html](http://cogvis.icaci.org/18_reproducibility.html)

**27-30: ICA Commissions Joint Workshop | Atlases, Cognition, Usability** (organised by the ICA Commission on Atlases in cooperation with the ICA Commissions on Cognitive Issues in Geographic Information Visualization, and Use, User and Usability Issues) | Olomouc | Czech Republic | [spring2018.upol.cz](http://spring2018.upol.cz)

## may

**21-25: 11th Mountain Cartography Workshop** (organised by the ICA Commission on Mountain Cartography) | Hvar | Croatia | [science.geof.unizg.hr/cmc2018/](http://science.geof.unizg.hr/cmc2018/)

## june

**18-23: 7th International Conference on Cartography & GIS** | Sozopol | Bulgaria | [iccgis2018.cartography-gis.com](http://iccgis2018.cartography-gis.com)

## july 2018

**03-06: GI\_Forum Symposium 2018** | Salzburg | Austria | [www.gi-forum.org](http://www.gi-forum.org)



# 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](http://www.polishcartography.pl)  
Attn: Assoc Prof Joanna Bac-Bronowicz | [joanna.bac-bronowicz@pwr.wroc.pl](mailto:joanna.bac-bronowicz@pwr.wroc.pl)
- 1999** **Centro Argentino de Cartografía** | *Argentina* | [www.centroargentinodecartografia.org](http://www.centroargentinodecartografia.org)  
Attn: Jorge Horacio Machuca | [cac@centroargentinodecartografia.org](mailto:cac@centroargentinodecartografia.org)
- 2011** **Chinese Cartographic Association (Chinese Taipei)** | *Taiwan-China* | [www.ccartoa.org.tw](http://www.ccartoa.org.tw)  
Attn: Dr Ching Jen Kao | [ccartoa@gmail.com](mailto:ccartoa@gmail.com)
- 2007** **Dubai Municipality** | *United Arab Emirates* | [www.dm.gov.ae](http://www.dm.gov.ae)  
Attn: Ali Mohammed Alameri | [aamalik@dm.gov.ae](mailto:aamalik@dm.gov.ae)
- 2007** **East View Geospatial** | *United States of America* | [www.geospatial.com](http://www.geospatial.com)  
Attn: Kent Lee | [geospatial@eastview.com](mailto:geospatial@eastview.com)
- 2005** **Eko-Graf Publishing House** | *Poland* | [www.ekograf.pl](http://www.ekograf.pl)  
Attn: Roman Janusiewicz | [ekograf@ekograf.pl](mailto:ekograf@ekograf.pl)
- 2017** **El Servicio Aerofotogrametrico del General Juan Soler Manfredini de la Fuerza Aerea de Chile (SAF)** | *Chile* | [www.saf.cl](http://www.saf.cl)  
Attn: Viviana Barrientos Lardonis | [viviana.barrientos@saf.cl](mailto:viviana.barrientos@saf.cl)
- 2003** **Esri** | *United States of America* | [www.esri.com](http://www.esri.com)  
Attn: Mark Cygan | [mcyan@esri.com](mailto:mcyan@esri.com)
- 1995** **Geospatial Information Authority of Japan** | *Japan* | [www.gsi.go.jp](http://www.gsi.go.jp)  
Attn: Secretariat of ISCGM | [sec@iscgm.org](mailto:sec@iscgm.org)
- 2015** **GeoTechVision Enterprise Limited** | *Jamaica* | [www.techvisionenterprise.com](http://www.techvisionenterprise.com)  
Attn: Valrie Grant | [valrie@techvisionenterprise.com](mailto:valrie@techvisionenterprise.com)
- 2007** **German Federal Agency for Cartography and Geodesy** | *Germany* | [www.bkg.bund.de](http://www.bkg.bund.de)  
Attn: Prof Dr Ing Hansjörg Kutterer | [hansjoerg.kutterer@bkg.bund.de](mailto:hansjoerg.kutterer@bkg.bund.de)
- 2015** **HERE** | *Germany* | [www.here.com](http://www.here.com)  
Attn: Astrid Dawson | [astrid.dawson@here.com](mailto:astrid.dawson@here.com)
- 1995** **Hexagon Geospatial** | *United States of America* | [www.hexagongeospatial.com](http://www.hexagongeospatial.com)  
Attn: Vince Smith | [vince.smith@hexagongeospatial.com](mailto:vince.smith@hexagongeospatial.com)
- 2003** **Indian National Cartographic Association (INCA)** | *India* | [www.incaindia.org](http://www.incaindia.org)  
Attn: Shri Rabindranath Nanda | [secretarygeneralinca935@gmail.com](mailto:secretarygeneralinca935@gmail.com)
- 1995** **Institut Cartogràfic i Geològic de Catalunya (ICGC)** | *Spain* | [www.icgc.cat](http://www.icgc.cat)  
Attn: Jaume Massó i Cartagena | [directio.icgc@icgc.cat](mailto:directio.icgc@icgc.cat)
- 1995** **Institut National de l'Information Géographique at Forestière (IGN)** | *France* | [www.ign.fr](http://www.ign.fr)  
Attn: Dr Sébastien Mustiere | [sebastien.mustiere@ign.fr](mailto:sebastien.mustiere@ign.fr)
- 2007** **Instituto Geográfico Nacional España** | *Spain* | [www.ign.es](http://www.ign.es)  
Attn: Sebastian Mas Mayoral | [smas@fomento.es](mailto:smas@fomento.es)
- 2011** **Land Information New Zealand** | *New Zealand* | [www.lin.govt.nz](http://www.lin.govt.nz)  
Attn: National Topographic Office | [media@lin.govt.nz](mailto:media@lin.govt.nz)
- 2017** **Library and Archives Canada** | *Canada* | [www.bac-lac.gc.ca](http://www.bac-lac.gc.ca)  
Attn: Sebastien Daneau | [sebastien.daneau@canada.ca](mailto:sebastien.daneau@canada.ca)
- 1995** **Moscow State University of Geodesy and Cartography** | *Russia* | [www.miigaik.ru](http://www.miigaik.ru)  
Attn: Prof Vasilii A. Malinnikov | [lgm@miigaik.ru](mailto:lgm@miigaik.ru)
- 1995** **National Hydrographic Office** | *India* | [www.hydrobharat.nic.in](http://www.hydrobharat.nic.in)  
Attn: Rear Admiral S.K. Jha, NM | [ia-inho-navy@nic.in](mailto:ia-inho-navy@nic.in)
- 2011** **National Land Survey of Finland** | *Finland* | [www.nls.fi](http://www.nls.fi)  
Attn: Heli Ursin | [heli.ursin@nls.fi](mailto:heli.ursin@nls.fi)
- 2007** **Ordnance Survey** | *United Kingdom* | [www.ordnance-survey.co.uk](http://www.ordnance-survey.co.uk)  
Attn: Paul Naylor | [paul.naylor@ordnancesurvey.co.uk](mailto:paul.naylor@ordnancesurvey.co.uk)
- 2003** **Regional Centre for Mapping of Resources for Development (RCMRD)** | *Kenya* | [www.rcmr.org](http://www.rcmr.org)  
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- 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



Micaela Mendoza | 15 | *World Map* |  
Colegio Nacional de  
Buenos Aires: Ciudad  
Autónoma de Buenos  
Aires | Argentina

Oh Eun Ju | 8 | *Map, Communicate  
with the World* | Pa-jang  
Elementary School: Gyeonggi-do |  
South Korea

## CREATIVITY AWARD

Klara Zagórska | 11 |  
*We Love Maps* | Szkoła  
Podstawowa 'Tęcza':  
Zgorzelec | Poland

Phoebe McClean | 15 |  
*Trumps World* | Bishop  
Viard College: Porirua |  
New Zealand

Taja Koša | 5 | *Map of Life* | Vrtec  
Lendava: Lendava | Slovenia

