

president's corner



Dear Colleagues

This is a particularly special time as the ICA celebrates its 60th year as an international professional association. At the ICA General Assembly in July, the national members

elected the next ICA Executive Committee (EC) for the period 2019-2023. The new EC includes: Tim Trainor, President (USA); Thomas Schulz, Secretary General and Treasurer (Switzerland); Menno-Jan Kraak, Immediate Past President (Netherlands); and seven Vice Presidents – Andrés Aristegui (Spain), Temenoujka Bandrova (Bulgaria), Philippe De Maeyer (Belgium), Liqiu Meng (Germany), Terje Midtbø (Norway), Vít Voženílek (Czech Republic) and László Zentai (Hungary) – see page 3 for their profiles. We have a talented team with many years of experience and I look forward to working closely with each member of the EC during this four-year term.

In Tokyo, the General Assembly approved 28 Commissions and their terms-of-reference and

elected Chairs of each Commission. While we have a few positions to finalize for the ICA organization, we have a sound leadership team for this four-year term. Our first EC meeting is scheduled for Ghent, Belgium on November 22, followed by a meeting of the ICA Commission Chairs that weekend to inaugurate our program for the next four years. I would like to thank Menno-Jan Kraak and László Zentai for their help in assuring a smooth transition to the new EC for the 2019-2023 term. We are fortunate that both remain on the EC to offer their leadership experience as Thomas Schulz and I continue to benefit from their support.

I am certain that all will agree that the 29th ICC in Tokyo, Japan was a complete success. While the 18th General Assembly was held in the wings of the Tokyo ICC to conduct the business portion assuring the continuation of the ICA as an organization, one of the most important functions of the ICA, its International Cartographic Conference, offered a widely varied and robust program reflecting the diversity of our field. Our thanks to Takashi Morita, President of the Local Organizing Committee and former Vice President of the

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Approaching Mount Fuji on the bus from Tokyo (see page 19-20 for full story) | Photography Anton Thomas

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ica awards 2019

The International Cartographic Association (ICA) has instituted a number of awards for outstanding contribution to the ICA and to cartography worldwide. At the 29th International Cartographic Conference in Tokyo, Japan, the following awards were presented:

- The ICA Honorary Fellowship to **Prof Miljenko Lapaine** (Croatia) and **Prof Evangelos Livieratos** (Greece)
- Diploma for Outstanding Services to ICA to **Prof Takashi Morita** (Japan).



Citation for Professor Miljenko Lapaine

It is an honor and pleasure to address Prof Dr Miljenko Lapaine on the occasion of awarding the Honorary Fellowship of the International Cartographic Association (ICA).

Prof Lapaine is internationally recognized for his work in geodesy and map projections and he has made special and significant contributions to the ICA. He is a cartographer who understands the fundamental basis of mathematics and computer science for geodesy, map projections and cartography in general. His international reputation is among the best in the world and he has made numerous contributions through his work at International Cartographic Conferences, his support of ICA commissions and activities and as chair of the Map Projection Commission.

He was born in 1952 in Zagreb. In his college education, he studied mathematics graduating in 1976 from the University of Zagreb, Department of Theoretical Mathematics. He received a master's degree in 1991, with a thesis entitled *Contemporary Approach to Cartographic Projections*, and a PhD in 1996 with a dissertation, under the direction of Prof Dr Nedjeljko Frančula, on *Mappings in*

> 04

I am sure many of us would remember vividly the International Cartographic Exhibition held at the Telecom Centre in Tokyo in conjunction with the International Cartographic Conference. The spacious area bathed in light provided an ideal environment for a true celebration of world cartography at its best. I loved walking amongst the maps and charts, and marvelling at their beauty and variety, discovering their purpose and meaning, and simply getting inspired by them. No wonder many of us considers the exhibition as one of the most valuable aspects of every ICA conference.

However, the exhibition in Tokyo was a special one for me. On the one hand I was asked to join the prestigious International Cartographic Exhibition Jury, on the other I was given responsibility to cast my vote on the best three maps from the hundreds displayed at the exhibition. I took this responsibility very seriously and spent considerable time at the Telecom Centre to look at every map and make notes against the ones I wanted to revisit later. The process took two or three iterations with a list of maps eventually coming down to the final three. It was hard work, but incredibly rewarding.

The experience made me realise that the maps I looked at reveal the cartographers that made them. Suddenly I was no longer surrounded by hundreds of beautiful maps, but also by hundreds of incredibly talented, creative and sensitive people that manifested themselves, their knowledge and skills through these maps. The maps became the vessels holding their stories, their hidden qualities and imagination – a realisation I very much appreciated. I would like to thank wholeheartedly all those who thought of me when appointing the jury – you have given me the most wonderful gift.

This issue of ICA News introduces our new Executive Committee and the most recent recipients of the ICA Awards. It contains a number of reports, photos and statistics from ICC 2019 held in Tokyo and invites us to Florence in 2021. I hope you find it interesting.

Igor Drecki | Editor ICA News | ICA ■

The **ica news** is published by the International Cartographic Association (ICA).

President: **Tim Trainor** | *United States of America*

Secretary General & Treasurer: **Thomas Schulz** | *Swiss Federal Statistical Office | Switzerland*

Editor ICA News: **Igor Drecki** | *The University of Auckland | New Zealand*

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president's report cont...

ICA and his team for an exemplary effort in making our participation rich with experiences, ideas and memories.

Early in my career, I realized how important maps were in communicating information. Maps are the great equalizer. Maps share thoughts and ideas without a spoken word. They challenge us to think to ourselves first, perhaps discover a new perspective, voice an obvious revelation, or uncover an underlying meaning from the map author's graphic content.

My new duties are off to a vigorous start. Following the ICC in July, early August brought together nations in New York for the annual meeting of the UN Committee of Experts on Global Geospatial Information (UN-GGIM 9). During that week, I regularly conferred with Menno-Jan Kraak and asked our new Immediate Past President to continue his leadership role on the Geospatial Societies sector of the UN-GGIM. The meeting also allowed us to discuss transition plans as we begin the new ICA EC term.

In early September, I gave a presentation on the importance of the integration of statistical and geospatial information at the Third Annual Symposium of Survey and Geospatial Information Specialists in the Kingdom of Saudi Arabia. Later that month, I facilitated the opening session and made presentations during the Second International Workshop on Operationalizing the UN Integrated Geospatial Information Framework (IGIF) in Addis Ababa, Ethiopia. While there, I participated in a workshop by the Ethiopian Geospatial Information Institute where they outlined plans for establishing an IGIF for Ethiopia. You will learn more about the IGIF in the near future.

In October, at the invitation by the President of EuroGeographics, I made a presentation to the executives of European National Mapping and Geospatial Agencies on the important role of the ICA and benefits to their organizations. Two other events occurred in Manchester England during that week where I participated in a meeting of the UN Expert Group on the Integration of Statistical and Geospatial Information as well as the European Forum on Geography and Statistics. On October 22, the Swiss Cartographic Society celebrated their 50th anniversary where I offered a few remarks on their great achievements. Bern is not only the origin of the ICA ten years prior to the establishment of the Swiss Cartographic Society, but Professor Eduard Imhof from Switzerland served as the ICA's first President.

Lastly, I want to share with you remarks I made as the new ICA President as part of the Closing Ceremonies at the Tokyo ICC on 20 July 2019:

Dear ICA Colleagues,

My theme for the next four years is "The relevance and importance of cartography: a call to action." Maps and the ICA are more important now than ever before as users look to maps and mapping to navigate our increasingly complex

and demanding world.

Eight years ago, Georg Gartner was elected President and had as his theme: "It is OK to be a cartographer," and this was in the context that cartography was relevant and contemporary for our time. Four years later, Menno-Jan Kraak had as his theme "Make the World a Better Place with Maps," and this theme aligned well with the United Nations effort on the Sustainable Development Agenda.

We are in a different place today as we observe the changes around us, many of which are threatening our very existence. The coming generations will experience continued significant weather and climate change that could alter our lives in ways that we cannot imagine. Mass migrations of populations are increasing in number, civil strife continues to spread through fear and oppression, and the economic divide between those who have and those who have not still grows.

The agreement on the UN's Sustainable Development Goals (SDGs) is a gift to cartography. The SDGs are designed to address these challenges – aiming "to leave no one behind." However, on their own, they are difficult to comprehend and even more difficult to achieve. This is where cartography serves a critical role and why I am calling on all of us to respond to the theme for the next four years. "The relevance and importance of cartography: a call to action," is an opportunity for each of us to make a difference, no matter how insignificant we think it might be.

When you are faced with the question of what to do next, as a cartographer think about what you can do to make a difference. For those of us who engage with others in our work, always take a map with you that helps address a challenge or advance a good idea. Everyone loves maps. They change the conversation. They change the agenda. As cartographers, you are in control of that influence.

The success of the ICA is realized through our Commissions, our publications, and our international cartographic conferences. Get involved in the work of a Commission that aligns with your interests. Publish your work in one of the outlets available to you. In Tokyo, I had in my hand the current issue of the International Journal of Cartography that includes the 14 best papers from the Tokyo ICC. It's done. It's available. Order your copy.

And finally, it's wonderful, comforting, and exciting to be among colleagues who share a common interest in cartography. A cartographer is a Renaissance person, needing to know and understand different aspects of different topics in order to be able to tell a story through interesting content and an effective map design. Just imagine, as Renaissance people, we will have the opportunity to meet in two years in the heart of the Renaissance Period – Florence, Italy. I look forward to seeing each of you and your colleagues in two years in Florence.

Tim Trainor | President | ICA ■

profiles ica executive committee 2019–2023

tim trainor



I have been involved in cartography my entire professional life. In addition to a long career at the U.S. Census Bureau, I continue to work with the United Nations in advancing global geospatial information. Completing my postgraduate diploma in cartography, I joined the American Cartographic Association (now CaGIS). I have participated in every ICC since 1987 where I joined the Commission on Atlases and remained active until I was elected as a Vice President of ICA from 2007-2015. Now as President of the ICA, my theme is: *The relevance and importance of cartography: a call to action*. Now retired as a senior executive of a large geography and mapping program, I saw the intrinsic value of the map. It influences the conversation. It makes a difference. The map is powerful!

andr s ar stegui



My devotion to maps led me to become a Geographer as well as a Senior Engineer in Geodesy and Cartography. After some years working on different fields of cartography at various mapping agencies, I am currently working at the Department of National Atlas within the National Geographic Institute of Spain. Nevertheless I have also remained related to University and research thanks to my two degrees, my masters and PhD studies. In a global world, international organisations like ICA are crucial. And so, they must be attractive. Therefore I would like to promote the perception of ICA among young people and to foster their participation in the work of ICA so that this international organisation may enjoy a bright and successful future.

philippe de mayer



Since 1999, I am professor of cartography and GIS at Ghent University (Belgium). Prior to my appointment, I worked in the private sector as manager of a cartography and geographical information department for 12 years. My research focuses on cartography, 3D acquisition-modelling and visualization, but I am also researching the use of geographical information in risk calculation and mapping land cover/land use changes in Central Asia (in relationship to climate change). My interests extend to the historical cartography, map production, perception analysis and indoor routing in combination with accessibility studies. My broad research interests and involvement in many scientific associations provide a solid platform for fulfilling my tasks for the ICA.

terje midtb 



At the age of twelve, I was introduced to the sport of Orienteering. This initiated a lifelong interest in maps. It also led to a 'map-centered' education, and eventually to Professorship of Cartography at the Norwegian University of Science and Technology. My research interests are in the directions of web-maps, map animations, maps conveyed through new technologies and efficient maps by use of digital media. ICA is the international organization that best covers my academic interests. At my university I am director of the master's degree Programme in Engineering and ICT, which includes Geomatics disciplines. I am also Chairman of ICA's national membership organization in Norway, GeoForum. I have filled this position for almost 9 years altogether.

l szl  zentai



Fulfilling the role of a Secretary General and Treasurer of the ICA and serving the Association over the last two terms (2011–2019) is indeed something special, a privilege, but also a continuous commitment. My major international activities included organization of several joint ICA commissions' meetings and workshops, as well as meetings of the ICA Executive Committee in Budapest in 2003 and in 2017. I am Professor and head of the Department of Cartography and Geoinformatics at the E tv s Lor nd University in Budapest and I currently serve as a Vice-Rector of the University for the second time (2007–2010 and since 2017). I am also an active orienteer and serve on the International Orienteering Federation's Council.

thomas schulz



Maps are everything for me – in my profession and as my passion. As long as I can remember, I have always been using maps. There is no greater means of communication! To make sure that maps are relevant and based on facts is my profession. For twenty years, after graduating in cartography, I have been working for the Swiss Federal Statistical Office. My former roles with the Swiss Society of Cartography (president) and two ICA commissions (member), have allowed me to get closer to ICA and share my passion for maps and atlases with friends and enthusiasts around the world. Serving ICA as Secretary General & Treasurer is a duty and a privilege, a chance to help moving our wonderful organisation forward and let everyone discover that *maps are truly everything*.

temenoujka bandrova



I have been working for ICA since 1998. My involvement focused on the ICA Commission on Cartography and Children, where I served as Co-Chair from 2007–2011. I also contributed to the work of the ICA Commissions on Cartography in Early Warning and Crisis Management, and on Map Projections. As Vice President, my priorities include promoting cartography and the ICA, helping national mapping organisations, and highlighting cartography's key role in the geo-society. Currently I am Professor of Cartography, President of the Bulgarian Cartographic Association, Treasurer of International Society for Digital Earth, and DataMap-Europe project manager and author of 50 atlases and 200 wall maps. Since 2006, I am organising biennial International Conference on Cartography & GIS.

liqiu meng



With cartographic knowledge I learnt from textbooks in different languages, I have been committed to cartographic higher education and research for more than 30 years. With great enthusiasm I've experienced the transition from analog to digital cartography, and now I'm eagerly looking forward to a further transition from digital to ethical cartography. Going digital is a matter of survival with improved efficiency. But going ethical will make cartography thrive in a sustainable human society. To me, future maps will add values to our everyday life at four consecutive ascending levels: informing, enabling, engaging and empowering. This fascinating perspective urges me to serve the ICA as a bridge-maker for cross-cultural research, striving for scientific excellence and societal relevance.

v t vo en lek



Maps and atlases make me hot. In 2001, I established Department of Geoinformatics at Palack  University, the leading cartographic department in Czech Republic. As head and professor, I manage education, research and outreach activities in cartography and GIScience. I teach thematic and atlas cartography and undertake research in geosciences, where geovisualization plays a crucial role. I have been active in the Czech Cartographic Society and later in the ICA Commissions on Education and Atlases. I organized the Czech national cartographic conferences in 1997 and 2009. ICA provides a permanent source of knowledge and inspirations in my work and a community of similar, crazy friends. My aim is to serve ICA by dedicating my knowledge, experience, enthusiasm and my energy.

menno-jan kraak



Working with maps is my passion. As Professor at the University of Twente, I teach about maps and do research to find new cartographic representations to visualize time. Throughout my career, I have been active in professional organizations, first in the Netherlands only and later internationally. The ICA has been part of my professional life for a long time. I attended my first International Cartographic Conference in 1989. Since 1995 I have played a more formal role, first as Co-chair and later Chair of the Commission on Visualization. Between 2007 and 2015 I acted as Vice President of ICA. Between 2015 and 2019 I served as ICA President, and now started my final term as Past-President. My motto is: *Let's make the world a better place with maps*.

ica executive committee

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ica awards 2019

cont...

Cartographic Projection Theory from the same university. While still studying mathematics, he started working, first as a teacher at a primary school then at a high school in Zagreb. He later joined the Faculty of Geodesy at the University of Zagreb, where he was assistant professor, associate professor and eventually becoming full professor in 2003.

Prof Lapaine teaches courses in Cartography and GIS, Multimedia Cartography, Transformations in Cartography and History of Geodesy, and at a postgraduate level – Approximation Theory, Computer Graphics in Surveying, Surveying Cartography and Cartographic Heritage. He also teaches applications of digital cartography in the geography of littoral at the University of Zadar, and Geodetic Cartography at the Faculty of Civil Engineering, University of Sarajevo, both at a postgraduate level. In working with students, he is particularly committed to introducing them to scientific research, sharing his expertise and assistance in the preparation of diploma and seminar papers and leading some twenty students to receive The Rector's Award.

His scientific work is primarily in the application of mathematics and computer science in geodesy and cartography. He collaborated with surveyors where he worked on a variety of practical and engineering tasks in geodesy, equalization calculus, mechanics, hydrography, photogrammetry and cartography. One of the highlights is his computer system *Kartomatika* for removing deformities from drawings, plans or maps. He has published more than 450 articles in proceedings of scientific conferences and journals.

Prof Lapaine is the Project Manager of the State Border of the Republic of Croatia at Sea; Drawing in Science; Official Proposal on Cartographic Projections of the Republic of Croatia; and Cartography and New Technologies. His various roles included Head of the Department of Cartography, Faculty of Geodesy (1999-2000); Vice Dean for Geodetic Studies Faculties (2003-2005); and a library manager at the Faculty of Geodesy. He is an associate of the Lexicographic Institute "Miroslav Krleža" since 1999. He has been an Associate of the Croatian Academy of Engineering since 1998 and a major secretary since 2003; and a member of the Croatian Chamber of Architects and Civil Engineers since 2002. He is a founder and first President of the Croatian Cartographic Society and editor-in-chief of the journal *Kartografija i geoinformacije (Cartography and Geoinformation)* published in Croatian and English. He is a member of the Croatian Mathematical Society, the Croatian Society for Structural Geometry and Computer Graphics, Croatian Geodetic Society, Croatian Geographical Society and associate member of the International Association of Geodesy.

Prof Lapaine has participated in all International Cartographic Conferences since 1987. He has been a corresponding member of the ICA Commission on Spatial Data Infrastructures and Standards since 1995. He was elected chair of the ICA Commission on Map Projections in 2011 which he successfully led for two terms, facilitating numerous workshops around the world, and developing and publishing a book *Choosing a Map Projection*. He graciously agreed to continue with the Commission on Map Projections as its Vice Chair in the 2019-2023 term.

Prof Lapaine has labored to address misconceptions about map projections and distortion properties. He maintains a clear perspective that all map projections are mathematically based and understanding map projection concepts requires understanding of mathematics. He is truly a leader in the theory and development of map projections and continues to mentor students and others in the field with his knowledge.

Prof Dr Miljenko Lapaine is an outstanding scientist, teacher, mathematician, cartographer, and friend and a true contributor to cartography and the ICA. My sincere congratulations on a well-deserved award for an outstanding scholar and person!

E. Lynn Usery | Chair | ICA Commission on Map Projections | *USA* ■

Citation for Professor Evangelos Livieratos

It is a real honor and pleasure to address Prof Evangelos Livieratos on the occasion of awarding the Honorary Fellowship of the International Cartographic Association. This award is bestowed on a cartographer of international reputation who has made special contributions to ICA.

These criteria are more than appropriately applicable to Prof Evangelos Livieratos. He is a cartographer in its core sense, understanding maps and cartography as a fundamental instrument of humankind, bridging skills, methods and knowledge from engineering to humanities. He has deservedly earned international reputation. He has shaped our understanding of "how we can see the maps of the past with the eyes of today" on an international stage, and made numerous contributions to ICA, allowing our Association to gain profile, benefit from his enthusiasm and capabilities, and establish new trends through the commission work, publications and networks.



Born 1948 in Greece, Prof Livieratos demonstrated a visionary interest beyond close domain borders. He graduated with Rural and Surveying Engineering (1970) and Doctor of Engineering (1974) degrees from the National Technical University of Athens (NTUA), and PhD (1976) in Mathematical, Physical and Natural Sciences from Uppsala University in Sweden. In 1978 he was awarded the academic title of Docent from NTUA and moved his interests from geodesy to cartography to combine engineering and humanities oriented scientific thinking. Several fellowships followed,

including the Smithsonian Research Foundation, USA; the Alexander von Humboldt Stiftung, Germany (twice); and the National Research Foundation, Sweden.

In his professional endeavours, Prof Livieratos contributed heavily to put the Aristotle University of Thessaloniki on the international map of leading cartographic institutions. He helped to establish the Hellenic Cartographic Society, initiate national cartographic conferences in Greece, and establish the National Center for Maps and Cartographic Heritage. One of his major career achievements, with reference to the history of Greek Cartography and of the Modern Greek Enlightenment, is his discovery of the existence of two versions of Rigas Velestinlis monumental *Charta of Greece*, by using comparative digital analytical and visualisation methods and techniques. This was very much in line with his core research in geospatial sciences and engineering, particularly in mapping, as his long-lasting interest in arts and humanities offered the base for developing a line of thought converging on cartographic heritage, a field coupling the historic and cultural heritage of maps and mapping with the so far integration into the dominant digital mainstream. The foundation of the open access journal *e-Perimtron* (see *ICA News*, No 70, June 2018, page 4 for a profile) is an important element of these activities, as well as his numerous efforts as a teacher, mentor, scientist and organiser. He serves not only the domain of cartography and various cartographic academic institutions, but also contributes to organizing higher education in general, as well as serves the society as Minister of Environment, Energy and Climate Change in the Greek government.

In respect to Prof Livieratos' ICA contributions he is an active participant and speaker at several ICA events, including International Cartographic Conferences. He served as chair of the ICA Commission on Digital Technologies in Cartographic Heritage (2005–2015; between 2005–2007 – ICA Working Group) and the ICA Commission on Cartographic Heritage into the Digital (2015–2019). He is a tireless organiser of the Commission's annual conferences since 2006. He was an active supporter of the UN-endorsed International Map Year 2015–2016 and a long-standing national delegate of Greece to the ICA.

In referring to his vision I am pleased to cite him as follows: *"My strong vision for 21st century is a creative rapprochement of engineering with humanities, and vice-versa, designed the rapprochement to be open-minded, tolerant, pluralist, extrovert, fresh and attractive in order to develop composite common areas of thinking, study, research and scientific growth for the benefit of both, humanities and engineering, in a world embedded more and more into the digital manifold."*

To me, this is both, a guideline for many of our activities in cartography as well as a template for scientists in general, that we need to look beyond discipline borders and that we should embed what we do in a bigger picture. My sincere congratulations to Prof Evangelos Livieratos, an outstanding scientist, teacher, cartographer and friend!

Georg Gartner | ICA Past President | Austria ■

Diploma 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. Prof Takashi Morita was the 2019 recipient of the award which recognises his outstanding contribution to the ICA:

Professor Takashi Morita

- Vice President of the ICA (1999–2003)
- Chair of the ICA Commission on Ubiquitous Mapping (2003–2011)
- Member of the ICA Commission on Theoretical Cartography
- Chair of the ICC 2019 Local Organising Committee
- President of Japan Cartographers Association
- Chair, National Committee for Cartography, Science Council of Japan

The 31st International Cartographic Conference (ICC) and 19th General Assembly of the International Cartographic Association will be held in Cape Town, South Africa, 13–18 August 2023. These events are being organised by the National Committee for ICA (National Research Foundation). Ms Sissiel Kay from the Chief Directorate of National Geospatial Information and a member of the National Committee for ICA has been appointed as the ICC 2023 Conference Director.

The Cape Town International Convention Centre located at the outskirts of the central business district has been selected as the conference venue.

The conference theme *Smart Cartography for Sustainable Development* recognises the great progress being made by the international cartography and geospatial information community in advancing our discipline, as well as in moving forward the 2030 Agenda for Sustainable Development.

Prof Serena Coetzee from the University of Pretoria and Chair of the ICA Commission on Spatial Data Infrastructures and Standards has been appointed Chair of the Scientific Programme. In addition to the General Assembly of delegates scheduled for 13 (first session) and 18 August (second session), the ICC 2023 will host the International Cartographic Exhibition, the Barbara Petchenik Children's World Map Exhibition, commercial exhibition, young researchers' programme, technical visits, social programme, accompanying persons' programme, orienteering event, and commission meetings and workshops. A number of tours to various spectacular destinations will complement the ICC 2023 offering.

Cape Town is the legislative capital of South Africa and one of Africa's most connected cities offering direct flights from Johannesburg, Durban and several international destinations in Africa, Asia and Europe.

Igor Drecki | Editor ICA News | ICA ■

Aerial view of Cape Town



javier a advis



I have always been interested in how people live, how they want to live and how they perceive their built and natural environment. That is the reason why I studied architecture.

During my time as a student at the Universidad Católica de Chile, I had a first encounter with cartography, especially during the urbanism lessons. There we used to analyse human needs, movements and built environment, using cartography and plans to visualise the real world and the planned concepts.

At this time, I studied and lived in Santiago de Chile, a metropolis with 6 million inhabitants, which had and still has transport problems. For that reason, I got interested in bicycles as a mean of locomotion in order to improve the city transportation. In the bigger city scale, the utilisation of maps was crucial. During this period, I got familiar with them and got fascinated by their beauty and multiplicity.

After a few years of traditional architecture practice, I decided to do a Master in Fine Arts Conception at the University of Reutlingen. It allowed me to get close to topics such as spatial and city perceptions, approaching them, not from a technical point of view but rather out of an artistic and more subjective perspective.

Besides being an independent artist, I currently also work as an art teacher. My artwork attempts to create a new map-narrative representing human movement, perceptions and feelings using traditional cartography tools such as lines, surfaces, symbols and colours in order to represent them. This work was made possible thanks to new GPS technology that opened up a whole raft of new possibilities, including online maps that allow us to "read" daily movements and "link" them with places and experiences.

As an art teacher, I am dedicated to educate children in spatial perceptions, orientation and architectural topics. In this regard, cartography is also essential to represent their environment and to localize their perceptions in space.

In my experience and within my work, I see cartography as a language full of beauty that communicates objectively a very large range of subjective experiences and perceptions.

Javier A. Advis | Architect | javier-a-advis.com | Chile / Germany | jadvis@javier-a-advis.com ■

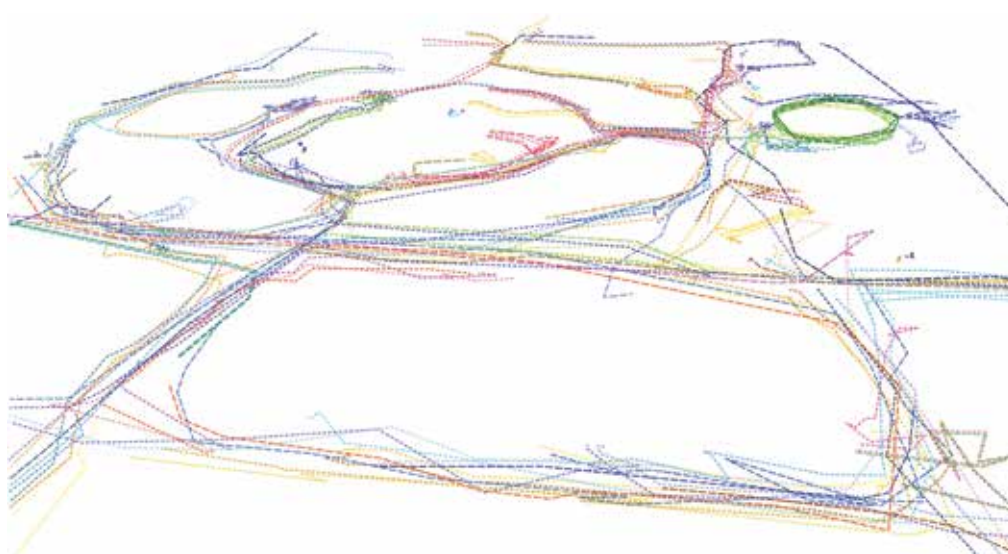
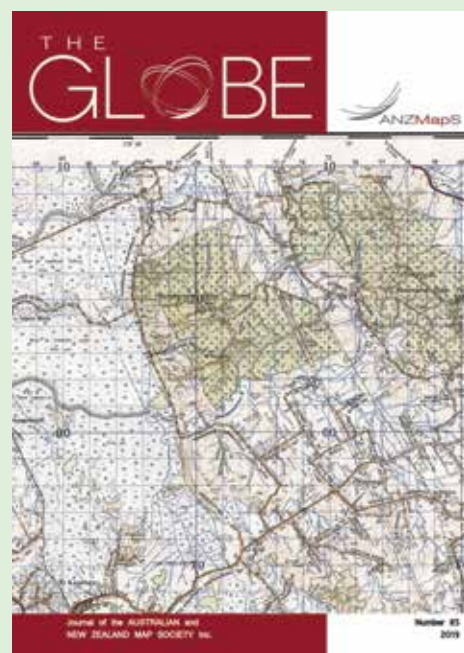
www.anzmaps.org/the-globe-journal/

The Globe is the journal of the Australian and New Zealand Map Society (ANZMapS). It originated with a 1973 meeting for 'map keepers' – i.e. map librarians at Australia's national, state, university, and government and military departmental libraries – held at the National Library of Australia in Canberra. From that initial meeting, the Australian Map Keepers' Circle was formed as a means to promote map librarianship and the exchange of information amongst its members on subjects such as map making, library classification schemes, acquisition, housing, preservation, and the significance of various historical Australian & Pacific maps. *The Globe* was established as the Circle's annual publication (along with more frequent newsletters), and included written versions of presentations made at the Circle's annual meetings.

By 1983, the Circle's membership had expanded to include surveyors, cartographers, map publishers, collectors, and scholars, so the society's name was changed to the more inclusive Australian Map Circle (AMC). *The*

Globe's contents likewise reflected the interests and contributions of the expanded society membership. The New Zealand Map Society, a smaller and similar trans-Tasman group, amalgamated with the AMC in 2009 to form ANZMapS. Over the last 10-15 years, many university and government departmental map libraries have closed, so the 'map librarian' segment of society membership has declined in importance. Now 45 years old, *The Globe* appears twice a year, as an A4 print journal of 60 pages or more, and is also available digitally through online consolidated subscription providers such as Ebsco, Gale-Cengage and InfoRMIT. It contains peer-reviewed papers and unrefereed reports, still in the main sourced from the Society's annual conference, as well as book reviews, and obituaries for departed members of the antipodean mapping community. Content generally focuses on Australasia and the Pacific, and to a lesser extent East and Southeast Asia, ranging from scholarly articles on the history of cartography, and Asia-Pacific exploration, to updates on the contemporary mapping activities and future directions of government mapping agencies and private cartographers. At only A\$60 per year (\$30 for students), including worldwide airmail postage of *The Globe*, society membership is excellent value.

Brendan Whyte | Editor | *The Globe* | Australia ■



City Movements (2014): Traces of movement of people on the Ludwigsburg marketplace during Christmas. To visualise the movement, the following rules have been set: one photograph every 7 to 8 seconds for 5 minutes, i.e. a total of 40 photographs; the angle of the photographs must always be the same; the photographs are taken in different situations, different times, and in different weather conditions. The photographs are then arranged chronologically and the position of the people is captured | Artwork by Javier A. Advis

ica news ica executive committee meets in ghent

On 22 November 2019, the newly elected Executive Committee (EC) gathered for the first time in the 2019-2023 term at a face to face meeting in Ghent, Belgium.

Following from a full day of intense discussions, a long list of tasks was recorded setting out the agenda for the next four years. Inspired by the ICA's Strategic Plan and the President's motto "*Maps make a difference*" and "*Cartography is more relevant than ever today in an increasingly complex world*", the EC discussed steps and necessary actions in order to reach these goals and make our discipline and our organisation visible and heard by decision makers and the public.

Achieving these goals is, of course, a collaborative effort that the EC, the ICA national and affiliate members, the ICA committees, and the ICA commissions and working groups need to undertake together. Every member of the Executive Committee has an important role to play in this context as a coordinator, enabler and facilitator. Hence, each EC member was given specific tasks and roles for the next four years. In addition, all Vice Presidents were assigned a liaison responsibility with commissions and working groups. The list of liaisons for all ICA commissions can be found on [icaci.org/executive-committee/](https://www.ica.org/executive-committee/).

Four new ICA Working Groups established

Since some of the strategic tasks, which the Executive Committee wants to address, are very specific or transversal in character and not necessarily fully covered by the existing commissions, four new working groups were established at the meeting. The EC members (in brackets below) will help with setting up and organisation of the working groups, finding members and supporters, and laying out the work schedule for the next four years. The four new ICA Working Groups are:

- Cartographic Body of Knowledge (Terje Midtbø)
- Cartography and Sustainable Development (Philippe De Maeyer)
- History of ICA (László Zentai)
- New Research Agenda in Cartography (Liqiu Meng)

Chairs of Committees and ICA Officers appointed

At the meeting in Ghent, the Executive Committee also appointed new chairs of the ICA Committees and Officers to the ICA Secretariat. They will help in running the Association and informing members and the public about various developments and initiatives by using various communication instruments available to the ICA. Congratulations to the following individuals for their appointments in the 2019-2023 term! It is a pleasure to work (or continue to work) together with this excellent team:

- Publication Committee: Georg Gartner (Austria)
- Statutes and By-laws Committee: Derek Clarke (South Africa) and Christine Zanine (France)
- Selection of Award Recipients Committee: Ferjan Ormeling (Netherlands)
- eCarto News Editor: David Fraser (Australia)
- ICA News Editor: Igor Drecki (New Zealand)
- ICA Webmasters: Manuela Schmidt & Felix Ortig (Austria).

Thomas Schulz | ICA Secretary General & Treasurer | *Switzerland* ■

The ICA Executive Committee at their meeting in Ghent, (from left) Vít Voženílek, Terje Midtbø, Menno-Jan Kraak, Andrés Aristegui, Temenoujka Bandrova, Thomas Schulz, Tim Trainor (with the banner), Philippe De Maeyer, Liqiu Meng, and László Zentai | *Photograph courtesy of Thomas Schulz*



ica news 25 years ago...

This rather short report below is very rich in ICA history. All members of the then awards committee are recipients of the ICA awards: Ferdinand Ormeling received the Mannerfelt medal in 1987, while Olof Hedbom (1987, presented in 1997), Helen Wallis and Joel Morrison (both 1991), and Yasuo Masai (2011) are recipients of the ICA Honorary Fellowship. In 2001, Morrison was awarded the Carl Mannerfelt Gold Medal.

The information concerning a proposal for 'transforming' the Mannerfelt medal into a gold medal makes Ormeling Sr the last recipient of the 'old' medal and Jacques Bertin the first to receive the 'gold' one twelve years later in Ottawa in 1999. The original medal was instituted by the ICA Executive Committee at their meeting in Stockholm (what a coincidence!) in September 1979. It was founded by and received the name of Dr Carl Mannerfelt, who is best known in the ICA community for his work on the establishment of our Association. Cast in bronze, it had the ICA logo and the text *Carl Mannerfelt Founder* underneath on the obverse, and on the reverse a full name of our Association in English and in French, and the words in Latin *Ob merita egregia* (*For outstanding services*).

The smaller bronze medal with a ribbon mentioned below is currently presented to the recipients of the ICA Honorary Fellowship, thanks to the approval of the EC back in 1994. The blue and yellow colours of the ribbon reflect the Sweden's national colours, a birthplace of both ICA medals.

Igor Drecki | Editor ICA News | *ICA* ■

ICA Newsletter, No 24, October 1994

5th Meeting of the Executive Committee, Stockholm, 3-5 July 1994

[...]

COMMITTEE FOR THE SELECTION OF AWARDS RECIPIENTS

Olof Hedbom, chair of the committee, reports. The committee members are Joel Morrison, Ferdinand Ormeling, Yasuo Masai and Helen Wallis. The committee proposes that the Mannerfelt Medal shall be transformed into a gold medal. It proposes to create a smaller bronze medal with a ribbon to be given to the main contributors to ICA conferences and general assemblies. The Executive Committee approves both proposals.

[...]

Jean-Philippe Grelot, Secretary General & Treasurer / September 1994



icc 2021 florence · italy

www.icc2021.net

The 30th International Cartographic Conference (ICC) will be held from 19-23 July 2021, at the Palazzo dei Congressi located inside the 19th century Villa Vittoria in Florence, the capital city of Tuscany in central Italy. The venue includes onsite exhibition area to support the International Cartographic Exhibition, the Barbara Petchenik Children's World Map Competition, and a trade exhibition, with ample space for lunches and coffee breaks. Conference rooms to accommodate all technical sessions, commission meetings and other events are located at the same venue. The ICC 2021 Local Organising Committee (LOC) will be delighted to support ICA commissions and working groups in organising their workshop.

A wide range of technical, as well as pre- and post-conference tours is being organised including, in **Florence**: the Istituto Geografico Militare with its precious library, the Sala delle Carte geografiche in Palazzo Vecchio, the Gabinetto dei Disegni e delle Stampe in the Uffizi Museum, the Arcetri Astrophysical Observatory, and the Laurentian Library; **Tuscany**: Fiesole – Archaeological Civic Museum and Municipal Historical Archive, Pisa – the Tower and Campo dei Miracoli, Lucca – State Archive, and Carrara – Marble quarries. The social program will include events in Florence area, with various receptions and a Gala Dinner scheduled for 22 July 2021.

A variety of options is available to Commercial companies, government, academic, and non-government organisations to reserve exhibition booths at the International Trade Exhibition. ICC 2021 offers sponsorship opportunities at the Global (€16,800), Hemisphere (€8,800), Continental (€4,800) and Desk (€2,600) level, each with tailored facilities and services. The Palazzo dei Congressi is located in the city center just in front of the railway station and the Valfonda urban train stop, with direct connection to the airport (20 minutes). The central location affords the opportunity to reach several hotels and restaurants and the most important points of interest on foot.

At a walking distance from the Conference area you can visit Piazza Duomo, featuring the Cathedral of Santa Maria del Fiore and the majestic Brunelleschi's Dome, Giotto's Bell Tower, and the Baptistery of Saint John the Baptist, with its bronze gates. The square is surrounded by wonderful palaces, such as the recently renovated Museo dell'Opera del Duomo which houses the Deposition by Michelangelo. Piazza della Signoria is the heart of the socio-political life, as well as the seat of civil power with Palazzo Vecchio. The Uffizi Gallery, one of the most important museums in the world, hosts masterpieces by Cimabue, Giotto, Masaccio, Botticelli, Leonardo, Piero della Francesca, Michelangelo, Raffaello, Tiziano, Caravaggio, Dürer, and many others. The National Museum of the Bargello boasts some of the most important statues of the Renaissance by Ghiberti, Donatello, Verrocchio, the Della Robbia family, Michelangelo, Giambologna, and others.

Travel to Florence is via several international airports located in Florence, Pisa, Bologna, Rome-Fiumicino, and Milan. In addition, the city has excellent high speed train service connecting to Rome, Milan, Venice, Pisa, Bologna, Verona, Naples. Once in the Florence area, ICC 2021 participants can move easily and safely about the city on foot, by tram, bus and taxi.

The ICC 2021 LOC extends a warm welcome to all to join us for a wonderful conference and exhibition of cartography in the seven hundredth anniversary of Dante Alighieri's death.

E quindi uscimmo a riveder le stelle [Thence we came forth to rebehold the stars], a quote from Dante Alighieri's *Inferno* (*Inf.*, XXXIV, 139).

Giuseppe Scanu | Conference Director | ICC 2021 Local Organising Committee | Italy ■

(from top left to bottom right) The octagonal dome of the Baptistry of Saint John; Roman Catholic Cathedral of Santa Maria del Fiore; Ponte Vecchio, a medieval arch bridge over the Arno River; auditorium (left) of the Palazzo dei Congressi located in the Villa Vittoria (right), the venue of ICC 2021 | Photographs courtesy of ICC 2021 LOC





Participants of the ICA Commission on Art and Cartography pre-conference workshop in Tokyo, Japan (left); children's drawings exhibition coordinated by the ICA Commission on Cartography and Children displayed in the Telecom Center exhibition area, Tokyo, Japan | Photograph courtesy of Taïen Ng-Chan (left) and ICC 2019 LOC

Art and Cartography

artcarto.wordpress.com/

Commission Activities

The ICA Commission on Art and Cartography held a two-day pre-conference workshop and hosted five panels at the 29th International Cartographic Conference (ICC) in Tokyo, Japan, 15–20 July 2019.

The pre-conference workshop *Reclaiming Through Mapping: The Olympic Sites of Tokyo* began at the Tokyo Metropolitan University (thank you to Yoshiki Wakabayashi for providing the room) with presentations from Sharon Hayashi and the artist-research group Hamilton Perambulatory Unit (Taïen Ng-Chan and Donna Akrey), which gave contextualization, history and notes on the experimental mapping methodology that would be used on-site. The afternoon was spent on Harumi Island, where the Olympic Athlete's Village was being built, and the next day at Yoyogi Park, site of the 1964 Olympic Village.

During the ICC 2019, the Commission hosted 18 thought-provoking presentations, from historical map design and literary cartography to ephemeral, emotional, and acoustemological cartographies. The fascinating and wide range of art practices presented revealed the many different ways that mapping processes can produce alternative knowledge about space and place.

Longtime Commission Chair Sébastien Caquard stepped down and nominated the new Chair, Taïen Ng-Chan (York University, Toronto, Canada), who has been an active member of the Commission since 2012. Stepping up to share the Vice Chair position are Sharon Hayashi (also from York University) and Joanna Gardener (Swinburne University, Melbourne, Australia). The renewal of the Art and Cartography Commission and its updated Terms of Reference were ratified at the ICA General Assembly in Tokyo.

The Commission also held its Business Meeting during the Conference, with a small but enthusiastic gathering. Plans are to explore a publication on art and cartography, as well as further workshops and yearly events. We are also working on refreshing our website, where more details on our ICC 2019 activities can be found. We look forward to the next four years of our mandate!

Taïen Ng-Chan | Chair | ICA Commission on Art and Cartography | [Canada](#) ■

Atlases

atlas.icaci.org/

Workshop in Munich, Germany

The ICA Commission on Atlases is organising a workshop to discuss the idea of a United Nations (UN) Sustainability Atlas, as well as other initiatives relevant to our commission. The workshop will be held between 12–13 December 2019 at the Technical University of Munich, Germany.

Here is the programme:

1st Day (12 December 2019, 2–5 pm):

- UN Sustainability Atlas – Kick-off Workshop
- 17 Sustainability Goals
- Previous work (poster, book; World Bank Atlas 2018)
- Data (World Bank)
- Publication format (digital, print)

2nd Day (13 December 2019, 9–12 am):

- Atlas Definition / Atlas Cookbook / Varia
- Atlas Definition: Criteria
- Atlas Cookbook: Cover, layout, text, figures, references; doi/ISBN; schedule
- Varia: Commission of Atlases Meeting 2020 in Madrid

The idea behind the above schedule is to arrive in the morning of the first day to join the meeting (have a beer or two in the evening) and leave Munich in the early afternoon of the

following day. If you are interested in the workshop, please get in touch.

René Sieber | Chair | ICA Commission on Atlases | [Switzerland](#) ■

Cartography and Children

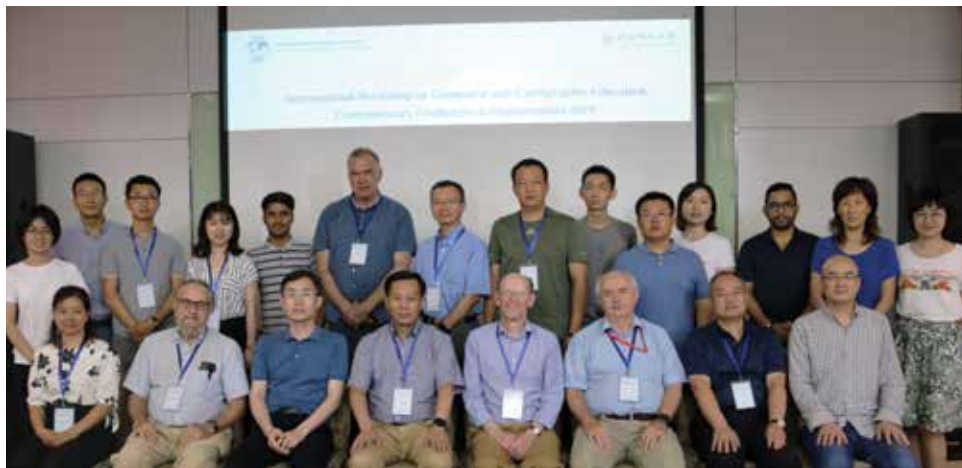
lazarus.elte.hu/cac/cac.htm

Commission Activities

Recent activities of the ICA Commission on Cartography and Children focused on the organization of the Joint ICA Workshop (together with the ICA Commission on Maps and Graphics for Blind and Partially Sighted People and the ICA Commission on Planetary Cartography) on *Cartography for Specific Users*. The workshop was held on 15 July 2019, prior to the 29th International Cartography Conference (ICC) in Tokyo. The programme included presentations by nine researchers.

At the ICC 2019, the Commission coordinated three technical sessions on 16 July devoted to cartography and children, which featuring nine papers. In addition there were eight posters presented at the poster session.

In addition, our Commission was heavily involved with the 2019 edition of the Barbara Petchenik Children's World Map Awards. Children's drawings were displayed at the exhibition area of the Telecom Center building during the ICC 2019 in Tokyo, 15 to 20 July 2019. We have also appointed the international jury to select winners in each of the age groups. The drawing that received the most votes by the public complemented the pool of winning entries. Additionally, a Creativity Award coordinated by the ICA Commission on Art and Cartography was announced (all winners are listed on page 23, with a selection of drawings reproduced on the back cover).



Participants of the International Workshop on Geospatial and Cartographic Education 2019 organised by the ICA Commission on Education and Training, Beijing, China | Photograph courtesy of David Fairbairn

The Commission's Instagram account (@[cartography_and_children](#)) was made public on 15 July 2019. It has been set up to share information and news related to Cartography and Children.

Carla Cristina de Sena and José Jesús Reyes Nuñez | Chair / Vice Chair | ICA Commission on Cartography and Children | *Brazil / Hungary* ■

Education and Training

education.icaci.org/

Workshop in Beijing, China

The ICA Commission on Education and Training organized the International Workshop on Geospatial and Cartographic Education 2019 in Beijing prior to the 29th International Cartographic Conference (ICC) in Tokyo, Japan. The workshop was hosted and sponsored by Capital Normal University (CNU), Beijing with support from the Cartography and GIS Committee of the Chinese Society of Geodesy, Photogrammetry and Cartography, the Education and Outreach Committee of the Chinese Professionals in GIS, and the Beijing Geographic Society. The SuperMap Software Company partly sponsored the workshop. Responses from the Commission members and others, ensured a balanced and lively set of sessions, organised with speakers and the workshop chair. This workshop addressed a range of issues related to education in the discipline of cartography and GIScience at levels ranging from high school to Master degree education.

The outgoing chair of the Commission, Dr David Fairbairn, introduced the workshop with the terms of reference of the commission and activities which had been organized. The Vice President of CNU, Prof Xiaojuan Li welcomed the workshop participants and introduced the university with emphasis on the programmes of GIS and geomatics at CNU.

There were twelve presentations organized into five sessions with themes on Programme Development and Experiences; Working with the Real World; Body of Knowledge (BoK); Classroom Content and Methods; and Educational Concepts. One discussion session, moderated by Prof Georg Gartner, was set on the topic of Body of Knowledge following Prof Harold Moellering's presentation on the BoK for Cartography.

Participants in the workshop were invited to the Land Satellite Remote Sensing Application Centre, Ministry of Natural Resources of the People's Republic of China, where enthusiastic demonstrations of modern visualisation of satellite orbits, remote data collection by specific Chinese satellite missions, and subsequent data and image processing, were made.

More details about the presentations and a summary by Dr David Fairbairn can be found at the commission's website.

David Fairbairn and Tao Wang | Former and Current Chair | ICA Commission on Education and Training | *United Kingdom / China* ■

Location Based Services

lbs.icaci.org/

Workshop in Beijing, China

Together with the ICA Commissions on Cognitive Issues in Geographic Information Visualization and User Experience, the ICA Commission on Location Based Services (LBS) organized a 2-day workshop on *Mobile Map UX*, in Beijing, China, 11-12 July 2019. The first day focused on student engagement and establishing common ground on topics related to Mobile Map UX. Commission Chairs, Robert Roth (User Experience), Amy Griffin (Cognitive Issues in

Geographic Information Visualization), and Haosheng Huang (LBS) gave three presentations related to mobile map design, cognition, and location based services. The second day started with a series of 10-minute presentations discussing "big problems" in mobile cartography. Afterwards, workshop participants were divided into three groups, aiming to identify key research challenges and opportunities, as well as to develop a working research agenda for mobile cartography.

Symposium in Tokyo, Japan

Immediately prior to ICC 2019, our Commission and the ICA Commission on Geospatial Analysis and Modeling organized an international symposium on location-based big data (LocBigData 2019) on 15 July 2019. This symposium provided a platform for researchers from various fields and perspectives to share ideas and research findings, and to discuss the open challenges and future research direction on location-based big data.

The symposium program featured 22 oral presentations organized into four oral sessions, covering Computational Place Modelling, Transportation Modelling, and Human Mobility Analytics themes. They provided a general picture of recent research activities related to location-based big data.

Authors of selected presentations have been invited to submit their full papers to be considered for a special issue of *Computers, Environment and Urban Systems (CEUS)* on Geospatial Big Data Analytics for Smart Cities.

LBS Sessions at ICC 2019

The ICC 2019 program featured four oral sessions dedicated to LBS, covering Wayfinding; Indoor and Outdoor Navigation; Mobile Cartography; Mobility Analysis; and Privacy. On behalf of the LBS Commission, Haosheng Huang gave a presentation on *Location Based Services: Research Trends and Open Challenges*, summarizing the key research challenges outlined in the research agenda paper, published in the *Journal of Location Based Services*.

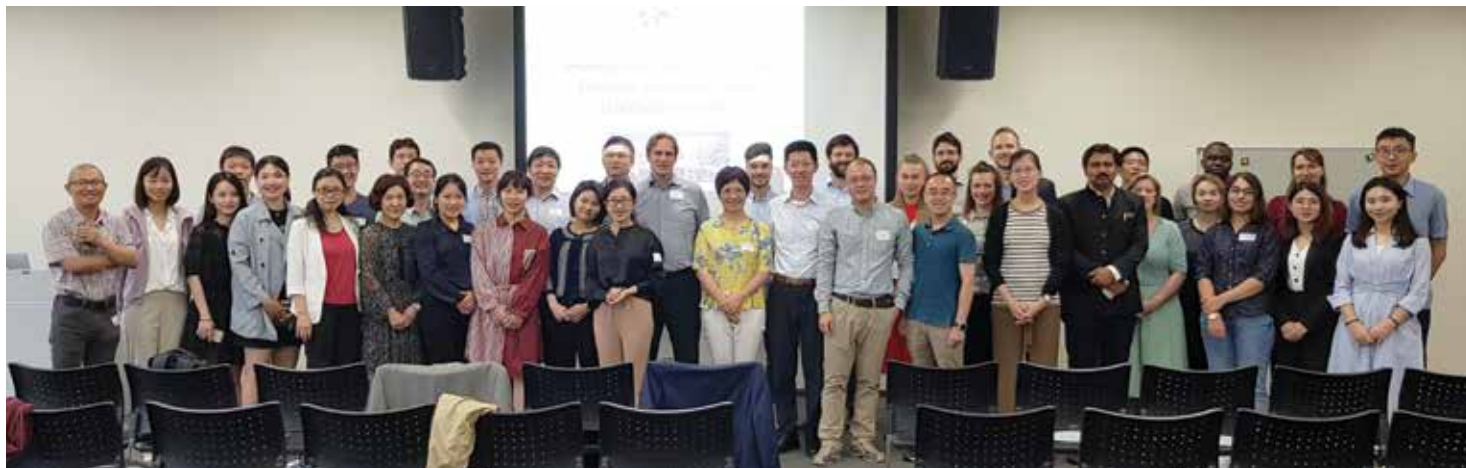
During ICC 2019, we also held our business meeting on 16 July at Uranus conference room. At the meeting, we proposed some ideas for future commission related activities, as well as collected suggestions and proposals for the coming years.

LBS 2019 Conference in Vienna, Austria



The ICA Commission on Location Based Services and Technische

Universität Wien are organizing the 15th International Conference on Location-Based Services (LBS 2019), which will take place in Vienna, Austria, 11-13 November 2019. Built on the success of previous conferences in this series, LBS 2019 aims to offer a



Participants of the LocBigData 2019, an international symposium on location-based big data organised by the ICA Commission on Location Based Services in Tokyo, Japan | Photograph courtesy of Haosheng Huang



common ground to colleagues from various disciplines and practices where they can meet, interact and exchange knowledge,

experience, plans and ideas on how LBS can and could be improved and on how it will influence both science and society.

After double-blind peer reviewing, we accepted 12 full papers to be included in a planned volume of the open access series *Advances in Cartography and GIScience of the ICA*. Out of the other submissions, 26 submissions were accepted as oral presentations, and 16 as posters. Furthermore, 3 showcases were accepted for the conference.

The preliminary program of the conference has been published online. It features a keynote by Prof Ioannis Giannopoulos (TU Wien), a panel discussion on *The Future of Mobile Cartography: Open Research Challenges*, nine oral sessions covering different aspects of LBS, and an interactive poster/showcase session. All these promise a very interesting conference.

More information regarding LBS 2019 can be found at lbsconference.org. We are looking forward to meeting you in Vienna!

LBS 2019-2023

On 20 July 2019, the ICA General Assembly at its session in Tokyo approved the new terms of reference for the ICA Commission on Location Based Services for the 2019-2023 term and re-elected Haosheng Huang as the Commission Chair and Jukka M. Krisp as Vice Chair. Based on our very successful work in the last four years, we will continue to provide a platform for anyone whose work is either focused on or relevant to LBS.

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

Map Projections

ica-proj.kartografija.hr/home.en.html

Commission Activities

The Terms of Reference for 2019 to 2023 for the ICA Commission on Map Projections were approved at the General Assembly in Tokyo in July 2019. E. Lynn Usery (USA) was elected Chair of the Commission and Miljenko Lapaine (Croatia) was elected Vice Chair. The Commission held a brief workshop at the 15th International Conference on Geoinformation and Cartography in Zagreb, Croatia, 26 September 2019. The workshop included an introduction to the Commission describing the Terms of Reference and goals for the Commission. Professor Miljenko Lapaine provided a technical presentation on *Standard, Equidistant and Secant Parallels*, and Tome Marelić presented *Evidence of Portolan Chart Loxodromic Geometry (the Example of the Adriatic Sea Basin)*. The workshop concluded with a brief presentation of future Commission and workshop meetings, the next of which will occur in May 2020 in Redlands, California, USA at AutoCarto 2020 and another at the 8th International Conference on Cartography and GIS in Nessebar, Bulgaria in June 2020.

E. Lynn Usery | Chair | ICA Commission on Map Projections | USA ■

Marine Cartography

Commission Activities

It is pleasing to report that at the General Assembly of ICA held in Tokyo in July 2019, the ICA Commission on Marine Cartography (CMC) was re-established with the following Terms of Reference for the next four years:

- Disseminate information on Marine Cartography as the ICA Expert Marine Cartography Focus Group to ICA members and to other affiliated organisations, covering research on cartography relating to the visualisation and management of ocean data
 - Promote the establishment of a global network for marine cartographers using media to facilitate the strengthening of the access of interested communities to marine cartographic knowledge
 - When practicable, foster and support local meetings for workshops on Marine Cartography and assist in engaging appropriate recognised experts
 - Liaise and coordinate with other relevant ICA Commissions and Working Groups
 - Liaise and coordinate with relevant groups from other organisations and associations (e.g. IHO, FIG, IGU...)
 - Provide appropriate qualified members representing ICA membership on the FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC)
 - Encourage and promote policies of equal opportunity wherever possible within the Marine Cartography profession
- Chair is Ron Furness (Australia) and the Vice Chair is Emeritus Professor Lysandros Tsoulos (Greece).

Marine or nautical cartography is intrinsically present in the manifestation of visualized hydrographic data in general, which is typically published in the form of nautical chart images (paper and digital), as well as associated products, for the broadening uses of mariners and society. The rightly proud achievements of the International Hydrographic Organization's (IHO) Member States over the years in standardizing nautical charts, ENC's, RNC's and their production arguably has had an effect of rendering less visible to many the fundamental cartographic principles embodied within those products. It is suggested that familiarity of users and producers with such standardized > 12

images has led to a degree of unintentional insularity on the part of the IHO and ICA with respect to the other. Arising challenges from technological imperatives in the last few decades deriving from, for example, massive data collection abilities, use of statistical data quality analysis, visualization necessities, automation opportunities for product production methods, including printing and display efficiencies, increasingly suggest definite benefits from enhancing closer ties between the IHO and the ICA, thus building on potential synergies from the professional expertise that abounds in both organizations.

It was most pleasing to see many nautical charts displayed at the International Cartographic Exhibition 2019, which displayed overall, some 385 exhibits from 30 countries, and which was held in the vast public area of the Telecom Center Building in Daiba, Tokyo.

Cooperation between the IHO and the ICA has been variously consistent over many decades, at least for the last twenty years or so. This was solidified in the form of a Memorandum of Understanding (MoU) signed in 2012 by the then Presidents of ICA and of the IHO Directing Committee. The MoU document encourages regular contact between both organizations, especially through closer ties between their Commissions and Working Groups. This encouragement is promoted by the aim of this Note.

Senior officers of both organizations have attended the Conferences of the other organization and, at the committee level, the ICA has strongly supported the work of the FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC). This support is evident through the direct and continuous membership on the IBSC of two Members (Ron Furness and Professor Lysandros Tsoulos) since 2002, following an approach from the President of the then IHB Directing Committee and the Chairman of the IBSC in 2001 for ICA support for the development and introduction of what became the Standards of Competence for Nautical Cartographers. These Standards are currently promulgated by IHO as Publications S-8A and S-8B along with the Companion document *Guidelines for the Implementation of the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers* downloadable from www.iho.int/iho_pubs/IHO_Download.htm. Closer ties are presently being fostered between the CMC and the IHO Nautical Chart Working Group (NCWG). The Vice Chair will attend the next NCWG meeting in Stockholm later in 2019.

ICA support for IBSC and the work of IHO is thus channelled through its Commission on Marine Cartography. A significant and enduring responsibility of the CMC has been to liaise with the appropriate committees and groups that relate closely to cartography. This has been

IHO Body	Suggested compatible ICA Commission
Marine Spatial Data Infrastructures (MSDIWG)	Spatial Data Infrastructures and Standards Cartography in Early Warning and Crisis Management
Crowd-sourced Bathymetry Working Group (CSBWG)	Marine Cartography Ubiquitous Mapping
IHO Data Centre for Digital Bathymetry (DCDB)	Marine Cartography
FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC)	Marine Cartography Education and Training
IHO Nautical Chart Working Group (NCWG)	Marine Cartography
IHO Capacity Building Sub-Committee (CSBC)	Marine Cartography Education and Training
IHO S-100 Working Group (S-100 WG)	Spatial Data Infrastructures and Standards Open Source Geospatial Technologies
IHO History and Heritage (IHO)	Marine Cartography History of Cartography Cartographic Heritage into the Digital

done primarily by providing two members of the FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) over a period of almost eighteen years.

After their continuous contributions as members to the work of IBSC since 2002, the Chair and Vice Chair are presently focussed on achieving a succession plan for their replacements. Furthermore and noting that IHO and FIG are both represented on IBSC by four members and that IHO additionally provides the Secretary, the IBSC itself has mooted a need to consider expanding ICA representation to four members, thus the ICA Commission will additionally need actively to seek out additional contributors to the ongoing vital work of the IBSC. The need arises from the increasing general workload of the IBSC as well as increasing interest in the development and maintenance of programmes that comply with S-8A and/or S-8B, the Standards of Competence for Nautical Cartographers. This is in addition to the maintenance of the Standards themselves.

Partly to this end, any reader interested and who feels they are qualified and experienced to contribute through the ICA to the work of the IBSC is invited to make direct contact with either or both the Chair (Ron Furness: ron.furness.ibsc@gmail.com) or Vice Chair (Lysandros Tsoulos: lysandro@central.ntua.gr).

Much of the work of both IHO and ICA is conducted through their various Commissions and/or Working Groups. There is much to be gained from better cross-relationships and networking between the compatible groups and with each reaching out to at least achieving observer status between them. The table above identifies and suggests some potential liaisons.

The aim of this longer than normal contribution has been to bring to the wider notice of ICA readers the cooperative nature in the relationship between the IHO and ICA, with an objective of seeking to strengthen the relationship by building on opportunities

presented from closer ties between the existing Commissions and/or Working Groups of each parent organization. The members of the Commission on Marine Cartography look forward to promoting and supporting such enhanced cooperation. We stand by to facilitate cross relationships between the Commissions of both organisations.

Ron Furness and Lysandros Tsoulos | Chair / Vice Chair | ICA Commission on Marine Cartography | Australia / Greece ■

Mountain Cartography

www.mountaincartography.org/

Workshop at Snow Mountain Ranch, Colorado, USA

The ICA Commission on Mountain Cartography successfully concluded two decades of its work and activities. The highlights include the recognised series of Workshops in different mountain areas, publications in scientific journals, and participation at every International Cartographic Conference and other events. Many cartographers, from researchers to mapmakers, map users, employees in natural reserve areas or just mountain enthusiasts have been included in commission's activities over that period.

The next, 12th Mountain Cartography Workshop will be held at Snow Mountain Ranch, Colorado, 14-18 April 2020. The goal of the workshop, which is held every two years, is to bring together cartographers, geographers, and mountain mapping enthusiasts in a relaxed and inspiring setting to share new developments in cartography, design, and spatial analysis related to mountain environments. The Colorado workshop theme is *People, Maps, and Mountains*. All topics broadly relating to maps and mountains are welcome as are the variety of presentation formats – from full papers to

technical demos. For more details, please visit shadedrelief.com/workshop/.

Dušan Petrovič | Chair | ICA Commission on Mountain Cartography | *Slovenia* ■

SDI and Standards

sdistandards.icaci.org/

Workshop in Tokyo, Japan

The pre-conference workshop on spatial data infrastructures, standards, open source and open data for geospatial SDI-Open 2019 was held on 14 July, immediately before the 29th International Cartographic Conference started. The workshop was jointly organized by the ICA Commissions on SDI and Standards, Open Source Geospatial Technologies and Map Production and Geoinformation Management.

After the welcome by Serena Coetzee, Chair of the Commission on SDI and Standards, Reese Plews from Japan, who chairs the ISO/TC 211 Terminology Maintenance Group, explained how geospatial information terminology is standardized, harmonized and translated for standards development in ISO/TC 211 *Geographic information/Geomatics*. Franz-Josef Behr, Co-chair of the Commission, introduced delegates to the role of standards developed by the Open Geospatial Consortium (OGC) and ISO in an open architecture for serving geospatial information over the Web. In a follow-up presentation later in the day, he provided an overview of open source components that can be used to implement such an architecture.

Markus Jobst, Co-chair of the Commission on Map Production and Geoinformation Management, presented about the Global Statistical Geospatial Framework put forward by the United Nations Committee of Experts on Global Geospatial Information Management (UNGIM) towards the integration of statistics with geospatial information.

Ionut Iosifescu presented an interesting case study, EnviDat, from the Swiss Federal Institute for Forest, Snow and Landscape Research. Through EnviDat, research data, methods and code are made available. Standards play an important role in making this possible. Silvana Camboim, Chair of the Commission on Open Source Geospatial Technologies, related experiences from Brazil's REDE IDEA, an Academic SDI with the aim of promoting open science and FAIR (Findable, Accessible, Interoperable and Reusable) principles for data sharing.

Peter Schmitz, Chair of the Commission on Map Production & Geoinformation Management entertained the delegates with a student exercise of drawing a supply chain of geospatial information. Serena Coetzee, Chair of the



Serena Coetzee welcomes delegates to the SDI-Open 2019 organised by the ICA Commission on SDI and Standards in Tokyo, Japan | *Photograph courtesy of Serena Coetzee*

Commission on SDI and Standards, rounded off the day with an interactive and collaborative mapping discussion on crowdsourced collaborative mapping through OpenStreetMap.

Workshop presentations are available on the Commission website.

Serena Coetzee | Chair | ICA Commission on SDI and Standards | *South Africa* ■

Toponymy

www.igu-icatoponymy.org/

International Symposium in Clarens, South Africa

A small town of Clarens in South Africa, located in a fascinating scenery of table mountains near Lesotho, was again a host to the International Symposium on Place Names (ISPN) series organized by the Joint IGU/ICA Commission on Toponymy and the Unit for Language Facilitation and Empowerment at the University of the Free State (UFS), 18-20 September 2019. ISPN 2019 titled *Recognition, regulation, revitalisation: place names and indigenous languages*, aimed to explore the link between the processes of researching, maintaining and restoring indigenous place names, and the preservation and promotion of the indigenous languages from which these place names originate.

The symposium was attended by about 30 linguists, geographers and cartographers from ten countries, and featured 20 paper presentations. Keynotes were presented by Peter Jordan (Austria), who outlined the current geographical and cartographic research directions in toponymy, and Charles Pfukwa (Zimbabwe), who highlighted the toponymy of the indig-

enous languages in his country and beyond. Many papers touched on the tension between indigenous and colonial names. Placename changes and their political background with special reference to urban names was another major topic. Frédéric Giraut (Switzerland) presented the interesting initiative of an African neotponymy academic observatory network (neotopo.hypotheses.org/category/african-neotponymy-observatory-in-network). A final highlight of the symposium were papers on the use of place names in the South African sign language presented by Susan Lombard, Emily Matabane and Theodorus du Plessis (all South Africa). Sign languages describe prominent, widely known geographical features by the visual appearance of a landmark, e.g. Cape Town in South Africa by the Table Mountain, and smaller places by a sign for the first letter of their written name.

The symposium participants witnessed again a high concentration of toponymic issues in the southern part of Africa, but also the wealth of toponymic expertise available there. We plan to publish proceedings from the symposium and to have the next one, most likely in Clarens again, in two years time. For our Commission, events like this are a good opportunity to step away from the usual track of scientific events in the northern hemisphere and to draw attention to situations that are less regarded. A major attraction of this symposium series is also the perfect cooperation with the Unit for Language Facilitation and Empowerment at the University of the Free State as the local organizer, and facilitated by Theodorus du Plessis and Jani de Lange, with Carla Bester as a new team member.

Peter Jordan | ICA Chair | Joint ICA/IGU Commission on Toponymy | *Austria* ■



Participants of GI_Forum 2019 Symposium and Exhibit for Applied Geoinformatics held in Salzburg, Austria | Photography Hans-Christian Gruber and Simon Haigermoser, University of Salzburg; Creative Commons Licence CC-BY

GI_Forum 2019

THE spatial view

GIS has long been established in most of the traditionally *spatial* disciplines like planning, resource management and logistics. Other disciplines, such as social sciences currently experience an added value of a *spatial turn*. The explicitly spatial perspective of Geoinformatics generates better information and knowledge as a base for improved decision-making processes in areas of our economy, society and environment, and was the focus of this year's GI_Forum, which took place between 2-5 July 2019 in Salzburg, Austria.

Representatives from research and industry met with users to discuss current trends and today's significance of (geo)information in society. Participants of this year's GI_Forum discussed the various challenges related to food production, distribution, and consumption; the transition of the energy system towards more sustainability; and volunteered geographic information through citizen participation in (smart) city planning.

Josef Aschbacher extended the spatial perspective even further by presenting ESA's Earth Observation Programme. GI_Forum 2019 ended on a high note with Euro Beinath of Naspers Limited demonstrating how machine learning and AI works in the present and what's possible in the future.

GI_Forum is best known as a platform where representatives from research and development, industry leaders and users meet to exchange ideas and connect in an informal setting. This unique and balanced mix of participants was supported by communication-enhancing formats and thus created synergies

on many levels where participants of GI_Forum Symposium and Exhibit could connect and network. This interlinking also has a spatial component: lecture rooms are all under one roof and centered around the EXPO, taking place in the foyers of the Faculty of Natural Sciences at the University of Salzburg, an added benefit for all participants.

GI_Forum Journal publishes high quality original research across the transdisciplinary field of Geographic Information Science (GIScience) and implements the policy of **open access publication after a double-blind peer review process** through a highly international team of seasoned scientists for quality assurance (www.gi-forum.org/journal).

This year two contributions were awarded the Best Student Paper Award: Anita Graser's paper entitled *MovingPandas: Efficient Structures for Movement Data in Python*, as well as Maximilian Sesselmann's paper on *Einsatz von Deep Learning zur automatischen Detektion und Klassifikation von Fahrbahnschäden aus mobilen LiDAR Daten*. Kira Lappé from the University of Vienna won the Award for Best Poster.

Christoph Giger, Carrie Elizabeth Steves and Paul Gosling are the winners of this year's UNIGIS International Academic Excellence Prize; Carrie and Paul presented their papers in a special GI_Forum session. Carrie's paper is entitled *Trends in the Alaskan Bottom-Trawl Fishery from 1993-2015: A GIS-based Spatiotemporal Analysis*; Paul's paper was on *Automated Map Projection Selection for GIS* (to be published elsewhere); Christoph could not join us in Salzburg this year, his paper is entitled *Assessing Shrub and Tree Encroachment in Alpine Pastures from Airborne Laser Scanning Data* and will be published in Issue 2 of the GI_Forum Journal. Laura Knoth received the Esri

grant for her paper entitled *Anforderungsanalyse zur Integration von raum-zeitlichen Daten in 4D-Geodateninfrastrukturen (4D-SDIs)*.

At this year's Satellite Image Quiz only two participants knew all the answers: the lucky winner was decided by a draw – congratulations Mr Joachim Spors and congratulations to all winners of the GI_Forum 2019!

GI_Forum 2020 will take place in Salzburg, Austria, between 7-10 July 2020. For more information, please visit our website: www.gi-forum.org.

Julia Stepan | GI_Forum | University of Salzburg | Austria ■

15th International Conference on Geoinformation and Cartography

The 15th International Conference on Geoinformation and Cartography (ICGC) was organized by the Croatian Cartographic Society and the University of Zagreb, Faculty of Geodesy, 26-29 September 2019. The ICGC was endorsed and supported by the International Cartographic Association (ICA), the Croatian Academy of Engineering, the University of Zagreb, the University of Zadar and the Juraj Dobrila University of Pula. The conference partners included El Magazèin Gallery from Vodnjan/Dignano, Pučko otvoreno učilište – Università popolare aperta Vodnjan-Dignano, Tourist Board Zagreb, Tourist Board Pula/Pola and Tourist Board Vodnjan/Dignano.



A session at the 15th International Conference on Geoinformation and Cartography held in Zagreb, Croatia; a stop during a guided tour organised as part of the conference programme | *Photograph courtesy of Miljenko Lapaine*

The conference objective was to contribute to the development of geoinformatics, cartography, geodesy, geography and related fields, with a special emphasis on new achievements. A wide range of themes and renowned invited speakers guaranteed interesting talks on contemporary approaches. Keynote speakers were E. Lynn Usery (United States Geological Survey, USA), Adrijana Car (Carinthia University of Applied Sciences, Austria), and Hernik István Hargitai (Eötvös Loránd University, Hungary).

The first day of the conference was organized at the Faculty of Geodesy, University of Zagreb. In 2019, the Faculty of Geodesy celebrates the 100th anniversary of the establishment of the Royal High Technical School in 1919. The Opening Ceremony was followed by two keynotes given by E. Lynn Usery and Adrijana Car. Before lunch, the Solemn Session of the Faculty of Geodesy Council took place, because 26 September is the Day of the Faculty of Geodesy. The Faculty of Geodesy was established as an independent institution on that day in 1962. After lunch, the conference programme continued featuring a meeting of the ICA Commission on Map Projections.

Next day, we moved to Vodnjan/Dignano, where the conference continued in the El Magazèin Gallery. Vodnjan (Croatian) or Dignano (Italian) is a town and municipality in Istria County, Croatia, located about 10 kilometres north of the largest city in Istria, Pula. Within the historic core, the town preserved its characteristic medieval look with atria and narrow streets irregularly winding among houses, with cobble roads and façades, old streets still impressively recognizable by their Gothic, Venetian Renaissance and Baroque style and many churches rich with memories and art. The day started with guided sightseeing of Vodnjan. Our guide was Germano Fioranti, owner of the Gallery, where the conference program continued. Greetings by Vodnjan mayor were followed by a keynote

address given by Henrik Hargitai and several presentations. Before the dinner, we enjoyed a classical music performed by very young musicians Ana Kanižaj on violin, and Erin Bracovich, piano.

The third day was a full-day guided tour of Pula and Brijuni Islands. Pula is the largest city in the Istria County, situated at the southern tip of the Istrian peninsula. It is known for its multitude of ancient Roman buildings, the most famous of which is the Pula Arena, one of the best-preserved Roman amphitheatres, as well as the beautiful sea. The city has a long tradition of wine making, fishing, shipbuilding, and tourism. The Brijuni Islands are a group of fourteen small islands in the Croatian part of the northern Adriatic Sea separated from the west coast of the Istrian peninsula by the narrow Fažana Strait. Famous for their scenic beauty, the islands are a holiday resort and a Croatian National Park.

A full-day guided tour of Venice was organized on the fourth day of the conference. Venice is a city in north-eastern Italy and the capital of the Veneto region. It is situated on 118 small islands separated by canals and linked with over 400 bridges. The lagoon and a part of the city are listed as the UNESCO World Heritage Site.

Conference program and abstracts were published in a printed volume, and all presentations, as well as many photos, are available from the Croatian Cartographic Society website www.kartografija.hr. Seventy participants attended the conference. We were happy to demonstrate Croatian hospitality to our guests from USA, Russia, China, Japan, Hungary, Czech Republic and Austria. We hope they will come to Croatia again next year to attend the 16th International Conference on Geoinformation and Cartography.

Miljenko Lapaine | Croatian Cartographic Society | Croatia ■

Swiss Society of Cartography Turns Fifty



Founded in 1969 in Berne, exactly ten years after the International Cartographic Association (ICA) was born in the very same city, the Swiss Society of Cartography (SSC) officially celebrated its 50th birthday this year. Both, ICA President Tim Trainor and Secretary General and Treasurer Thomas Schulz, were honoured to attend the anniversary celebrations organised by the Society on 25 October in the Swiss capital. Greeted by very warm and sunny late autumn weather, more than 100 guests – members of the Society, and delegates from various sister societies in Switzerland and neighbouring countries – came together not only to celebrate this amazing milestone, but also to talk about the past and the future of our great discipline and simply chat with friends and colleagues. Amongst the invited and distinguished guests were: Professor Ernst Spiess, long-time former President and current Honorary President of SSC, and recipient of the ICA's highest award – Carl Mannerfeldt Gold Medal; Professor Georg Gartner, former President of ICA; Jochen Schiewe, President of the German Cartographic Society; Wolfgang Kainz, President of the Austrian Cartographic Commission; and all honorary members of the SSC.

The SSC is not only proud that Switzerland will forever be the founding place of the ICA, but also of the fact that ICA's first President Professor Eduard Imhof came from here. The history of SSC and ICA are actually intertwined to some extent. When the ICA was founded in 1959, there was no national society existing in Switzerland at the time. However, the ICA statutes define the national representation and

membership as follows: “Each nation can only be represented by a single organisation, which should preferably be the national society or committee for cartography”. Furthermore, member nations must agree to participate financially in supporting the Association and in collaborating actively in its scientific and technical activities. In order to meet these requirements and become a national member of the ICA, the *Schweizerische Arbeitsgemeinschaft für Kartographie* was established as the first step. Membership of this working group was small and solicited by inviting persons, representing prominent groups of interest, who were willing to contribute to the annual fee for ICA. After ten years of organising local events and actively participating in the works of ICA, it was nevertheless felt, that a national society, open to all cartographers (and not only by invitation), companies, institutions and individuals alike, was necessary and more appropriate in many ways. Consequently, and with direct involvement of Prof Imhof, the Swiss Society of Cartography was founded on 22 March 1969 at 16:45, by around 50 volunteers gathered in the *Bürgerhaus* restaurant in Berne (following a preliminary meeting of interested and potential members in November 1968), who elected Prof Spiess as its first President.

The Society took off with 99 individual and 3 institutional members – already a large number compared to other societies at the time. To mark this event as precisely as possible and honour the founding members, the 50th General Assembly of the SSC took place exactly 50 years later in Berne, on Friday afternoon, 22 March 2019. It is worth mentioning with much pride, that three of the original founding members of 1969 are still active members today and were present at the 50th meeting – amongst them Prof Spiess!

As an idealistic society, the membership of SSC, according to its statutes, is open to everyone, from specialists and technicians to people from various professional and lay backgrounds, i.e. map producers, map users,

map researchers, map historians, map collectors and map enthusiasts who find joy in maps. The dominating theme for many of the biannual SSC meetings throughout the years was always education and training in cartography. Switzerland is one of a few countries in the world that is known for having a professional and officially recognized four-year apprenticeship in cartography, consisting of intensive on-the-job training in companies and government institutions, combined with theoretical courses one day per week. The SSC actively supports the development and upkeep of this apprenticeship through provision of courses, contribution to curricula and educational modules, as well as direct financial support for certain activities.

SSC members take active roles in the ICA Commissions, Working Groups and the Executive Committee, and frequently participate in the international cartographic conferences and exhibitions, including organisation of workshops and meetings. Switzerland is represented in many commissions each term and usually fields two or three commission chairs (currently the Commission on Atlases, the Commission on Location Based Services and the Commission on Visual Analytics).

The SSC enjoys a relatively high and stable membership – 331 in 2018. Out of this number, 29 are so-called institutional members comprising universities, companies, government offices, museums or other enterprises, which largely contribute to the finances and ongoing work of the Society.

The Society’s goals are: to promote all aspects of cartography for society and science; to foster cartographic education and training; and to build a network of exchange for all those active or interested in our discipline. To accomplish these goals, the SSC contributes to enhancing cartographic knowledge through publications, supports training courses and programmes, and regularly organizes national exhibitions and events, such as the annual cartographic symposium held in autumn, which

this year featured the Society’s 50th anniversary celebrations. The SSC publishes its own newsletter four to six times a year, a must-read source of news on cartography in Switzerland. Through its Commission on the History of Cartography, the Society publishes the leading German-speaking journal *Cartographica Helvetica* (see *ICA News*, No 59, December 2012, page 6, for a brief profile).

SSC relations with the German Society of Cartography and the Austrian Cartographic Commission are especially close due to the common language and many joint initiatives, such as regular contributions to the *Kartographische Nachrichten* journal (see *ICA News*, No 57, December 2011, page 8, for a profile). Many members also participate in the annual German Cartography Congress that is occasionally organised as a common conference for Germany, Austria and Switzerland. The SSC played host to two such meetings, in 1978 in Berne and 1996 in Interlaken. The Society is proud to co-organise the EuroCarto 2020, Central European Cartographic Conference and 68th German Cartography Congress (www.eurocarto2020.org) to be held in Vienna, Austria, in September next year.

The SSC’s 50th anniversary event was a great success and will long be remembered by local and international guests. Starting with a guided tour and a reception at the Alpine Museum, one of the Society’s dedicated institutional members, participants walked down towards the banks of the river Aare, where they were met by SSC Executive Committee at the *Schwellenmätteli* restaurant and event hall. The venue, situated by the river, offers a superb view of the old medieval city centre of Berne and the Swiss parliament across the water. SSC newly elected president Mark Wigley officially opened the event and presided over the five-hour programme. After welcome speeches by distinguished guests, including ICA President Tim Trainor, the programme continued with talks by former SSC presidents on the history and present state of the Society, and the

(clockwise from bottom left) Distinguished guests: Ernst Spiess (left) and Tim Trainor; Mark Wigley; and Georg Gartner; commemorative talks at the Schwellenmätteli restaurant; a beautiful autumn day in Bern, with Swiss Parliament towering over the River Aare | Photography Thomas Maag and Thomas Schulz





Participants of the 50th Anniversary of the Swiss Society of Cartography event | *Photography Thomas Maag*

evolution of cartographic training in Switzerland during the last 50 years.

After honouring the 2019 apprenticeship graduates, the 2019 PrixCarto (www.prixcarto.ch) awards were announced (all submitted maps and cartographic products were displayed at the International Cartographic Exhibition in Tokyo in July). The following entries were awarded in four categories:

- Education – to Lisa Stähli for her innovative web-based application, that turns traditional weather maps into 3D-spaces helping pilots to prepare better for flights through virtual reality weather conditions
- Digital – to John Nelson for his work on digital maps that are drawn in the style of Eduard Imhof's famous landscape maps drawn half a century ago
- Print – to Penan Community Maps of the Swiss Bruno Manser Fonds for a 24-sheet map series covering an almost impenetrable area of rain forest in Sarawak, which is settled by the endangered Penan people who use these maps to claim and document their rights to these indigenous lands
- Special Recognition (presented for the first time this year) – to Tim Boin's for his original and superbly executed relief furniture

The programme continued with an address by the former ICA President Georg Gartner who looked into the future of cartography and some challenges for our wonderful discipline, and encouraged participants to embrace them. Throughout the event, there were ample opportunities for networking and degustation of Swiss culinary delicacies.

The celebrations finally concluded at 23:00 by the SSC President Mark Wigley. For more information and pictures please visit the SSC website at kartografie.ch/veranstaltungen/archiv-veranstaltungen/50-jahre-sgk/.

Thomas Schulz | Swiss Society of Cartography | Switzerland ■

Training Events at United Arab Emirates University

The United Arab Emirates University's (UAEU) Geography and Urban Sustainability Department organised several training events for its students between September and October

2019. They were delivered by Dr Naeema Alhosani, Associate Professor in Cartography in the College of Humanities and Social Sciences:

- **11 September:** a brainstorming session entitled *Mapping your Project*; students enjoyed the session and benefited from this innovative idea.
- **30 September:** a workshop *Identify Your Goals and Priorities: Mapping your Future* and another workshop (in cooperation with Dr Khalid Hussin) *Exploring ArcGIS*.
- **3 October:** a training workshop entitled *Managing Enterprise GIS Geodatabases* (in cooperation with Eng Adham Makky, Geographic Information Systems expert from the Ras Al Khaimah Center for Statistics and Studies).
- **8 October:** the Sustainable Campus Initiative Training Workshops *Green Campus Audit*; the workshops' primary goal was to increase the understanding of the audit and environmental issues that faces the campus and to introduce and provide resources that will support the auditing; the workshop was found to be informative and worthwhile.

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

Training workshops at the United Arab Emirates University: Eng Adham Makky; Geography and Urban Sustainability Department students; Dr Khalid Hussin with students | *Photographs courtesy of Naeema Alhosani*



ICA Publications

A major effort in the last four years (2015-2019) was to establish a new publication policy. It was introduced in 2017 and specifically focused on the conference proceedings. In order to give them an adequate visibility and reputation, a conference publication series was established, which is administered and hosted by a professional publisher Copernicus GmbH (www.copernicus.org). There are three publication options, which are distinguished according to the review procedures and the extent of the papers:

- **ICA Advances** (full paper review)
 - **ICA Proceedings** (abstract based review, extended to full paper)
 - **ICA Abstracts** (abstract based review, publication of abstract).
- The benefits are manifold:
- **Visibility:** one single point of contact for the publications of ICA events
 - **Reliability:** the publications will be available at the time of the conference, and findable on the ICA webpages (as well as at Copernicus)
 - **Open Access:** the publications are published online and under the Creative Commons licence
 - **Reputation:** the publisher will suggest the ICA Advances and Proceedings for inclusion in several data bases and indices (e.g. Scopus Web of Science)
 - **Standardization:** one standardized format of the publications

From 2017, the ICA records the outcomes of their Conferences like International Cartographic Conferences and Regional Cartographic Conferences, as well as all other ICA events in the above three official publication outlets. The new policy replaces the Springer book series, which no longer serves as the publication outlet of the ICA conferences. This new policy does not interfere with publications in ICA related journals; in contrast, it will provide an excellent basis for developing high-level journal publications.

After the Washington meeting in 2017 it was decided to publish the papers which had been accepted, but which were not included in the Springer Book in the new series. This implied, that all 132 papers had to be typeset in the new template. Hence, the first publication in the new series are the Proceedings Volume 1 (www.proc-int-cartogr-assoc.net/1/index.html). For the ICC 2019 in Tokyo, papers were published in all three series (see page 27 for details).

The goal is that in the future, also workshops and other events will publish their papers in the new series.

International Journal of Cartography

Each year, three issues of the *International Journal of Cartography*, the official journal of the ICA edited by William Cartwright and Anne Ruas, have been published (www.tandfonline.com/loi/tica20). In 2019, issues 2 and 3 are devoted to 14 selected publications from the International Cartographic Conference held in Tokyo.

ICA News

ICA News is a biannual newsletter documenting the activities of the ICA and its members and commissions (icaci.org/ica-news/). It is edited by Igor Drecki. For financial reasons, but mainly also due to changing habits of readers, the Executive Committee decided to stop the printing and distribution of the newsletter for the remainder of the term. Thus, the *ICA News* published between No 68, June 2017 and No 72, June 2019, were only available in digital form. Also published in this form, this communication medium continued to be highly attractive.

Book Publications

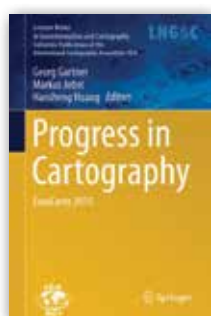
In the 2015-2019 term, Springer continued to publish books for the ICA in the ICA book series, a subseries of the *Lecture Notes in Geoinformation and Cartography* (www.springer.com/series/10036). The titles include proceedings that are peer-reviewed and published in association with ICA own or endorsed conferences and meetings, post-event proceedings consisting of thoroughly revised final papers, and research monographs that may be based on individual research projects.

Since the last report (see *ICA News*, No 65, December 2015, page 21), the following seven titles were published:

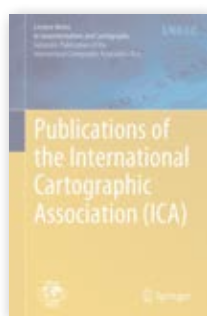
- *Progress in Cartography: EuroCarto 2015*; Georg Gartner, Marcus Jobst and Haosheng Huang (eds), 2016 ❶
- *Maps of Southern Africa, 1790-1914*; Elri Liebenberg and Imre Josef Demhardt (eds), 2017 (eBook only) ❷
- *Progress in Location-Based Services 2016*; Georg Gartner and Haosheng Huang (eds), 2017 ❸
- *Choosing a Map Projection*; Miljenko Lapaine and E. Lynn Usery (eds), 2017 ❹
- *Advances in Cartography and GIScience: Selections from the International Cartographic Conference 2017*; Michael P. Peterson (ed), 2017 ❺
- *Dissemination of Cartographic Knowledge: 6th International Symposium of the ICA Commission on the History of Cartography, 2016*; Mirela Altic, Imre Josef Demhardt and Soetkin Vervust (eds), 2018 ❻
- *Mapping Asia: Cartographic Encounters Between East and West: Regional Symposium of the ICA Commission on the History of Cartography, 2017*; Martijn Storms, Mario Cams, Imre Josef Demhardt and Ferjan Ormeling (eds), 2019 ❼

All books are available as ebooks and all but one (*Maps of Southern Africa, 1790-1914* ❷) in print, either as hardcover or softcover. There are further two titles in preparation.

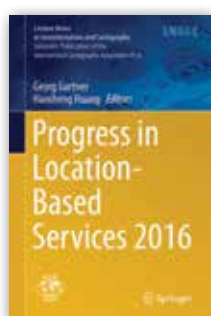
Monika Sester | Chair | ICA Publications Committee | Germany ■



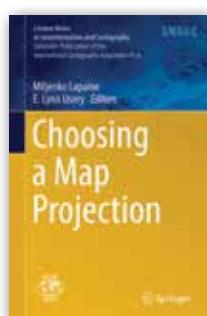
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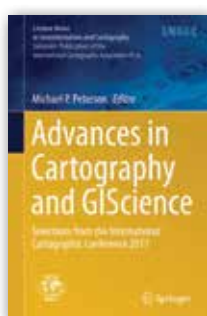
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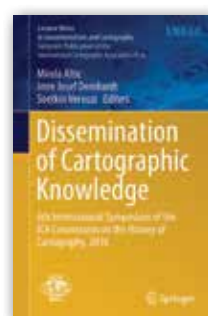
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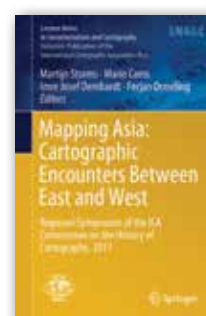
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ICC 2019: Some personal views and experiences

Earlier this year, the 29th International Cartographic Conference (ICC) was held in Tokyo, Japan, from 15 to 20 July 2019. The conference was held on Odaiba, an artificial island in Tokyo Bay known for its many attractions and shopping; a great place to admire the distinctly futuristic aesthetic of modern Japan. Wandering Odaiba will take you past dizzying loops of rail, a replica of the Statue of Liberty and even a giant robot called Gundam Unicorn. For those arriving in Japan the first time, as I was, the island was an intriguing place to get started. And in the gaps between Odaiba's colossal buildings one would catch glimpses of broader Tokyo, an intimidating view into the planet's largest megacity.

ICC itself was held between four adjacent buildings: the Plaza Heisei, the Miraikan museum, the Telecom Center and the Tokyo Metropolitan Industrial Research Center. As a venue this was a sprawling site to navigate, taking at least ten minutes to walk between some buildings, let alone get up to the floors where the presentations were. It sometimes made jumping between parallel sessions to be impractical, but generally it seemed worth it considering the high quality of the sites, especially the outstanding exhibition space we had in the Telecom Center.

The sprawling nature of Odaiba did prove difficult when it came to the weather, however. As any ICC 2019 attendee can tell you, it rained through much of the conference week. Japan's notoriously humid rainy season is usually finished a few weeks before ICC, but it went late this year. To walk between buildings or to the mall for lunch was to be drenched in sweat

and rain. Personally, I didn't mind the less-than-ideal conditions. I've attended conferences in amazing places with perfect weather and found it agonising to be inside instead of out exploring. And like many travelling all the way to Japan I built in extra time for sightseeing, and the conditions did improve by the end of the week. Still, Tokyo's infamous summer heat was intense and surprising for its latitude. ICC's July scheduling means encountering summer at any of its Northern Hemisphere events, and I don't doubt Washington D.C. had its hot moments too, but July in Tokyo was sweltering.

Fortunately, Japan is so endlessly fascinating and unique, the culture so rich and cuisine so delicious, that it's easy for one to shed those concerns and get lost in a mind-bending experience. I am sure I speak for many ICC attendees when I say it was an amazing place to visit, and that Tokyo (and Japan more broadly) is a worthy adventure for any geographer.

As a first-time ICC attendee, I was unsure what to expect. It is larger than the events I'm used to (in my case NACIS and GeoCart), and as a cartographic illustrator without an academic background in cartography, I wondered if I'd feel like an outsider. But these concerns evaporated immediately as I found the community to be welcoming and stocked with talented, friendly people. The international nature meant a great diversity of attendees, and I appreciated this exposure to an array of fresh perspectives. I came away feeling, as I always have at other cartographic events, that the world of mapping is a dynamic and open one, filled with people with a love of the subject.

The opening ceremony was highlighted by the attendance of the Prince and Princess Akishino from the Japanese royal family. This was no doubt a great honour for the ICA, and a meaningful gesture of interest in cartography from the highest level of Japanese society. And

the opening reception the following night was fun, getting to mingle with hundreds of fellow cartographers underneath the impressive (and mesmerising) "Geo-cosmos" globe in the Miraikan hall.

There was a full variety of presentations throughout the conference, and the dozens of different themes reflected the breadth of the field. Having so many sessions running concurrently made it hard to choose at times, but for an event of this size there is only so much that can be done. From experienced industry professionals to students giving their first talks, there was a broad mix of people at different stages of their careers.

A highlight of any map conference is always its exhibition, and the ICC 2019 exhibit did not disappoint. To start with, the floor of the Tokyo Telecom Center building was outstanding, with bright and vivid lighting that allowed every map to be showcased clearly and consistently. There were many stunning cartographic products on display, and it was easy to get lost in map heaven while perusing the exhibition. And the Barbara Petchenik Children's Map competition, an important staple of the ICC, had a range of beautiful maps that served as a reminder that cartography will continue to thrive in the next generation.

The Gala dinner on Friday was held at Happon-en, a stunning venue complete with serene Japanese gardens and a geisha performance. The band from the opening ceremony returned, an exceptional jazz ensemble headed by a world-class flautist. It's certainly a matter of taste, but I thought the music was wonderful. After a week of intensive conference proceedings, the Gala dinner offered a great opportunity for people to wind down and socialise, and the venue was a good place to do this.

Weather notwithstanding, I think Tokyo was a great location for ICC 2019. As cartogra-

> 20

(from left): Unicorn Gundam, the 19.7 metres giant robot parked in front of DiverCity Tokyo Plaza on Odaiba Island; Shinjuku Gyo-en, a large park and garden in central Tokyo – a welcome slice of tranquillity inside the megacity; looking down at the Aokigahara Forest, also known as the Sea of Trees, from a crater rim at the top of Mount Fuji (3,776 m) | Photography Anton Thomas





Sunrise from the summit of Mount Fuji | Photography Anton Thomas

phers it is important for us to always be exploring, always be expanding our experiences of place, and Japan is quite unlike anywhere else in the world. Just to explore the labyrinth of Shibuya, to get overwhelmed by the masses of people through the subways, to feel lost in translation in a city so massive it can make New York feel quaint, these are important life experiences for anyone.

After ICC, I ventured out to Mt Fuji with Igor and Tony from New Zealand to summit this most storied of mountains, and watched the sun rise over the western Pacific. Up there, all the intensity of the megacity and the heat and the rich, varied conference floated away and I could be one in the moment of that sunrise.

I hope that everyone had an excellent ICC 2019, and were able to find their own moments of peace in Japan to reflect on the experience. Location really matters, and Tokyo was an excellent choice. Thank-you to the ICA, the Japanese hosts, and the many dedicated organisers for putting together such a fantastic event.

Anton Thomas | Anton Thomas Art | Melbourne, Victoria | *Australia* ■

18th General Assembly of ICA

The 18th General Assembly of the International Cartographic Association (ICA) took place in Tokyo, Japan, on Monday afternoon, 15 July and Saturday morning, 20 July 2019. Delegates representing the ICA member nations took part in the important business of receiving reports of ICA officers, ICA Committees, honorary auditors and Commission Chairs for the 2015-2019 term, accepting national reports on cartographic activities from member nations,

approving the financial management of the Association and voting on proposed changes to the *ICA Statutes and By-laws*. On the second day, they voted on the 2019-2023 budget, the ICA Executive Committee election for the next term, establishment or continuation of ICA Commissions and their Chairs, and location of the next General Assembly in 2023.

The first day of 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 the role and responsibilities of national delegates, especially with regards to voting procedures. Recognition of the memory of members of the ICA community that passed away since the last General Assembly in Washington, D.C. in 2017 followed, with particular mention of Professor Waldo Tobler (USA).

After adoption of the Agenda, the Executive Committee (EC) recommended two individuals to act as scrutineers for the voting. Alexandra Koussoulakou (Greece) and Antoni Moore (New Zealand) were elected by show of hands.

Regrettably a number of national members have not paid their membership dues for some years. In accordance with the *ICA Statutes and By-laws*, a proposal was tabled to revoke the voting rights of Indonesia, Madagascar and Mozambique (Indonesia's voting right was reinstated on the second day of the General Assembly). 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 Serbia. In addition, the following affiliate members had their membership withdrawn: GeoTechVision Enterprise Limited (Jamaica) and Indian National Cartographic Association (India).

The unanimous vote on new member nations resulted in the election of **Oman** (National

Survey Authority) and **Armenia** (Real Estate Cadastre Committee of the Republic of Armenia) as new national members of the ICA. Overall the number of national members has increased from 72 in 2017 to 73 in the current term. Finally, the vote on new affiliate members resulted in the following organisations being approved: **Faculty of Geography, University of Belgrade** (Serbia) and **Australian and New Zealand Map Society** (Australia / New Zealand).

A full list of the current National Members of the ICA is given on page 21, while all current ICA Affiliate Members are listed on page 31.

Next, the ICA member nations voted on the adoption of the Minutes of the 17th Extraordinary General Assembly held in Washington D.C., USA, in July 2017. The Minutes were approved without modification; they are available from the ICA website: icaci.org/general-assemblies/.

The next point of the Agenda included receiving reports from the President, Secretary General & Treasurer and Honorary Auditors, as well as the adoption of the accounts. In a brief discussion that followed the Treasurer's report, South Africa asked the next EC to address the non-profit organisation status of the ICA in context of managing income and expenditure of the Association. In addition, New Zealand expressed disappointment with the mid-term withdrawal of the print version of *ICA News* by the EC despite having an approved budget for this purpose by the 2015 General Assembly. Both, the United States of America and New Zealand remarked on the necessity of having a print version of the *ICA News* available in the future. In conclusion, all reports and the accounts were accepted by the General Assembly.

The Proposed Budget 2019-2023 presented by the Secretary General & Treasurer László Zentai received considerable attention from the national delegates, in particular the increased budget for the 'website and social media management' item at the expense of the 'ICA Solidarity Fund' (which includes ICA Scholarships). The United States of America insisted on increasing the solidarity fund arguing for its importance in enabling wider participation of especially young cartographers in the works of the ICA. Following a brief discussion, the President proposed to adjust the budget by allocating extra funding for the ICA Solidarity Fund and reminded that national delegates will have an opportunity to vote on the revised budget on the second day of the General Assembly.

Voting on the proposed changes to the *ICA Statutes and By-laws* followed. In total, changes to five Articles and one By-law were proposed by New Zealand (one Article (20) and one By-law) and the EC (four Articles):

- Article 11: *Voting*
- Article 20: *Payment of subscriptions*
- Article 28: *Changes in the statutes*

National Members of the ICA – 2019-2023

• Algeria	• Denmark	• Latvia	• Russia
• Argentina	• Ecuador	• Lithuania	• Slovakia
• Armenia	• Estonia	• Madagascar	• Slovenia
• Australia	• Finland	• Malaysia	• South Africa
• Austria	• France	• Mexico	• South Korea
• Bangladesh	• Georgia	• Mongolia	• Spain
• Belgium	• Germany	• Montenegro	• Sri Lanka
• Benin	• Greece	• Morocco	• Sweden
• Botswana	• Hong Kong-China	• Mozambique	• Switzerland
• Brazil	• Hungary	• Netherlands	• Thailand
• Bulgaria	• India	• New Zealand	• Trinidad and Tobago
• Canada	• Indonesia	• Nigeria	• Turkey
• Chile	• Iran	• North Macedonia	• Ukraine
• China	• Ireland	• Norway	• United Kingdom
• Colombia	• Israel	• Oman	• United States of America
• Croatia	• Italy	• Pakistan	• Uruguay
• Cuba	• Japan	• Poland	
• Cyprus	• Jordan	• Portugal	
• Czech Republic	• Kenya	• Romania	

73 national members

- Article 29: *By-Laws*
- Article 30: *Dissolution of Association*
- By-Law 1

After considerable debate, the result of the vote was that the changes to Article 20 and By-law 1 were accepted, while changes to Article 11, Article 28, Article 29 and Article 30 were not accepted by the General Assembly. The updated *ICA Statutes and By-laws* are available from ICA website icaci.org/ica-statutes/.

Next, the General Assembly received Publications Report presented by Monika Sester, Chair of the ICA Publications Committee (see page 18), and the National Reports prepared by ICA member nations. At this point, the Secretary General & Treasurer stressed that the submission of a national report is one of the important responsibilities of the ICA member nations, and it was disappointing to see many countries (over 60%) not fulfilling their obligation.

The Swiss motion proposing critical evaluation of *ICA News*, the official newsletter of the Association, was covered by item 20 of the Agenda. The proposal was motivated by the

belief that the newsletter plays an important role in documenting and promoting the works of ICA amongst members and beyond, and deserves a proper evaluation of the output format to maximise its spread and impact. In response, the new EC was tasked by the General Assembly to examine and evaluate the newsletter's current delivery platforms, to revisit provision of print copies and find solutions to mitigate the costs of production.

The incoming EC was also asked to revisit the mechanism of appointing a domicile country of the ICA (item 21) and come with an appropriate proposal by the next General Assembly.

A brief presentation of the *ICA Strategic Plan 2019-2027* was delivered by the President, who summarised the plan's main sections: vision, value, definition, current status (SWOT analysis), mission, and implementation options. In a follow-up discussion Croatia raised a concern over the definition of a map included in the document. Austria and the United States of America agreed that the definition of a map (and of a cartographer) is serious matter that should be dealt with separately. Consequently, the President suggested to revisit this issue in

the next term, and with this provision the General Assembly accepted the *Strategic Plan*.

The first day of the ICA General Assembly concluded with presentation of the reports by ICA commissions and working groups, proposals for new commissions and their chairs for the 2019-2023 term, presentations of candidates to the Executive Committee, and proposals for future conferences and a place of the next General Assembly. The last item of the Agenda (any other business) included a suggestion by the United States of America to allocate exhibition space at the International Cartographic Exhibitions proportionally to the level of membership fees paid by member nations, i.e. the higher the fee, the more space allocated. In reply, the President proposed that the incoming EC should look into this suggestion.

The 18th General Assembly resumed its proceedings on Saturday morning, 20 July 2019. It started with the President's call for a minute of silence in memory of Godfried Theodore Toussaint from Canada, who had collapsed at the conference and subsequently died in Saint Luke's International Hospital.

The Agenda continued with voting on the ICA Budget 2019-2023, which was subsequently accepted by the General Assembly. Next, the election of the President, Secretary General & Treasurer and seven (a number agreed on the first day of the General Assembly) Vice Presidents took place. The vote for the position of President resulted in Timothy Trainor (United States of America) being elected and the vote for the position of Secretary General & Treasurer resulted in Dr Thomas Schulz (Switzerland) being elected for the 2019-2023 term. The result of the election of Vice Presidents was that the following candidates were elected:

- Andrés Aristegui (Spain)
- Temenoujka Bandrova (Bulgaria)
- Philippe De Maeyer (Belgium)
- Liqiu Meng (Germany)
- Terje Midtbø (Norway)
- Vít Voženílek (Czech Republic)
- László Zentai (Hungary)

Menno-Jan Kraak remains on the executive as Past President. For brief profiles of the elected ICA Executive Committee members refer to page 3 and for their current affiliations see page 4.

In addition, nominations had been received for two Honorary Auditors: Harold Moellering (United States of America) and Bengt Rystedt (Sweden). Subsequently, both nominations were elected by show of hands.

Next, the ICA Commission proposals for 2019-2023 term were put to the vote, together with Terms of Reference and nominations for Commission Chairs. The result of voting was that all Commissions and their Chairs were voted in. Here is the full list of the ICA Commissions and their respective Chairs:

First day of the 18th General Assembly held in Tokyo on 15 July 2019 | Photography László Zentai



- Art and Cartography, Chair: Taien Ng-Chan (Canada)
- Atlases, Chair: René Sieber (Switzerland)
- Cartographic Heritage into the Digital, Chair: Mátyás Gede (Hungary)
- Cartography and Children, Chair: Carla Sena (Brazil)
- Cartography in Early Warning and Crisis Management, Chair: Liu Jiping (China)
- Cognitive Issues in Geographic Information Visualization, Chair: Amy Griffin (Australia)
- Education and Training, Chair: Tao Wang (China)
- Generalisation and Multiple Representations, Chair: Guillaume Touya (France)
- Geospatial Analysis and Modeling, Chair: Xiaobai Angela Yao (USA)
- Geospatial Semantics, Chair: Dalia Varanka (USA)
- The History of Cartography, Chair: Imre Josef Demhardt (USA)
- Location Based Services, Chair: Haosheng Huang (China)
- Map Design, Chair: Ian Muehlenhaus (USA)
- Map Production and Geoinformation Management, Chair: Peter Schmitz (South Africa)
- Map Projections, Chair: E. Lynn Usery (USA)
- Maps and Graphics for Blind and Partially Sighted People, Chair: Waldirene Ribeiro (Brazil)
- Maps and the Internet, Chair: Otakar Čerba (Czech Republic)
- Marine Cartography, Chair: Ron Furness (Australia)
- Mountain Cartography, Chair: Dušan Petrovič (Slovenia)
- Open Source Geospatial Technologies, Chair: Silvana Comboim (Brazil)
- Planetary Cartography, Chair: Andrea Naß (Germany)
- Spatial Data Infrastructures and Standards, Chair: Serena Coetzee (South Africa)
- Sensor-driven Mapping, Chair: Jonathan Li (Canada)
- Topographic Mapping, Chair: Alexander Kent (United Kingdom)

- Toponymy, Chair: Peter Jordan (Austria)
- Ubiquitous Mapping, Chair: Yoshiki Wakabayashi (Japan)
- User Experience, Chair: Robert Roth (USA)
- Visual Analytics, Chair: Anthony Robinson (USA) and Arzu Çöltekin (Switzerland)

The ICA Commission on Toponymy is jointly run with the International Geographical Union (IGU) Commission on Toponymy.

The final voting in Tokyo concerned selection of the place for the 19th General Assembly of the ICA and the 31th International Cartographic Conference. The fact that there was only one bid – from Cape Town in South Africa – made the voting easy. For the record, Cape Town was selected as the host city (see the announcement on page 5).

The President thanked all national delegates, scrutineers and organisers for their involvement and concluded the General Assembly at 11:15.

Igor Drecki | Editor ICA News | ICA ■

ICA Scholarships

The ICA Scholarships are available to young scientists and professionals from ICA member nations that wish to actively participate in the International Cartographic Conferences (ICC), the Regional Cartographic Conferences (RCC), 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/.

Listed below are recipients of the ICA Scholarships to participate in the ICC 2019, together with titles of their papers:

- Malak Alasli (Morocco): (1) *Toponyms' contribution to identity: The case study of Rabat, Morocco*; (2) *Static Risk Mapping of Forest Fires - In the case of the Province of Chefchaouen, Morocco*
- Jagadish B (India): *Deriving Multiple*

Representation Database: A Model Generalisation Approach

- Radek Barvir (Czech Republic): (1) *The Specifics of Cartographic Semiology in Tactile Maps*; (2) *TouchIt3D: Technology (not only) for Tactile Maps*
- Harrison Cole (USA): *Toward Accessible Hazard Mapping: Tactile Risk Maps and Disaster Preparedness*
- Laure De Cock (Belgium): *Linking perception to decision point complexity for adaptive indoor wayfinding support*
- Carolyn S. Fish (USA): *Emotional responses to climate change map framing using facial emotion recognition technology*
- Ivan Evgenyevich Fokin (Russia): (1) *The automation of processes of atlas mapping*; (2) *Methods and algorithms for creation of structural schemes of rivers*
- Łukasz Halik (Poland): (1) *Teaching of geographical space relations for cartography – Academic Outdoor Station in Poznan, Poland*; (2) *Workflow for 3D geovisualization of the data obtained with the use of Unmanned Aerial Vehicle in Augmented Reality*; (3) *The visualization of the use of land on the basis of the dynamics of the pedestrian movement from the interval UAV imaging*; (4) *Measuring user preferences in virtual reality (VR): 2D versus 3D urban geovisualizations of topographic data*
- Xiao Huang (USA / China): *Linking picture with text: tagging flood relevant tweets for rapid flood inundation mapping*
- Maja Kalinic (Germany / Bosnia and Herzegovina): *Floating Car Data and Fuzzy Logic for classifying congestion indexes in the city of Shanghai*
- Nick Lally (USA): (1) *Mapping dynamic, non-Euclidean spaces*; (2) *Interactive & Multiscale Thematic Maps: A Preliminary Study*
- Pongpichaya William Limpisathian (USA / Thailand): *Representations of Place in the Human Brain*
- Márton Pál (Hungary): (1) *Digital cartography for geoheritage: turning an analogue*

Recipients of the 2019 ICA Scholarships: (from left) Márton Pál, Nick Lally, Pongpichaya William Limpisathian, Radek Barvir, Malak Alasli, Dr Alena Vondráková, Shyamanta Subasinghe, Ashna Kareem Zada, Harrison Cole, Maja Kalinic, Laure De Cock, Carolyn S. Fish, Nikola Yonov, Łukasz Halik, Ivan Evgenyevich Fokin, Jagadish B, Xiao Huang, Ross Thorn, and Aytaç Yürükçü | *Photography László Zentai*



geotourist map into digital; (2) Possibilities of high precision GPS data in autonomous driving

- Nargiz Safaraliyeva (Azerbaijan): *Teaching basic map concepts in three countries: Azerbaijan, Hungary and United Arab Emirates*
 - Shyamantha Subasinghe (Sri Lanka): *Urban Growth: From pixel to reality*
 - Ross Thorn (USA): *How to Play with Maps*
 - Dr Alena Vondráková (Czech Republic): (1) *TouchIt3D: Technology (not only) for Tactile Maps*; (2) *The Specifics of Cartographic Semiology in Tactile Maps*
 - Nikola Yonov (Bulgaria): *School Atlas with Augmented Reality*
 - Ashna Kareem Zada (Iraq): *Testing Maps for Visually Impaired People in Kurdistan*
- The EC also supported four ICA Scholarships applications to participate in the pre-ICC 2019 Commission workshops:
- Aytaç Yürükçü (Turkey): *How East and West Cartographic Studies Influenced the Most Important 16th Century Ottoman Cartographer of Piri Reis and His World Maps* (workshop of the ICA Commissions on the History of Cartography, and Topographic Mapping held in Tokyo)
 - Dr Lei Zou (USA): *Leveraging Location-Based Social Media for Smart Emergency Management* (workshop of the ICA Commissions on Location Based Services, and Geospatial Analysis and Modelling held in Tokyo)
 - Christian Röger (Germany): *Visualizing the Complexity of Crossings using Star-Plot Maps* (workshop of the ICA Commissions on Location Based Services, and Geospatial Analysis and Modelling held in Tokyo)
 - Wangshu Wang (Austria): *Towards a Functional Ontology for Mobile Map Applications* (workshop of the ICA Commissions on Cognitive Issues in Geographic Information Visualization, Location Based Services, Visual Analytics, and Use, User and Usability Issues held in Beijing, China)

László Zentai | Vice President | ICA ■

Recipients of the 2019 ICA Scholarships (cont...): (from left) Christian Röger, Wangshu Wang, Nargiz Safaraliyeva, and Dr Lei Zou | *Photography László Zentai*



Childrens' Map Award – Winners

UNDER 6 YEARS OLD

- 1st** Bianca Belović | 5 | *The Queen of the World* | -: Lendava | *Slovenia* (SI-1)
- 2nd** Ye Shangke | 5 | *A Bird Symbolizing Peace* | -: Taizhou, Zhejiang | *China* (CN-2)
- 3rd** Tara Dibbaratana Jayamanggala Suprato | 5 | *Map is the Most Beautiful Flower in the World* | -: West Jakarta | *Indonesia* (ID-1)

6–8 YEARS OLD

- 1st** Liepa Jokubaitytė | 7 | *Between the Clouds* | -: Vezaiciai | *Lithuania* (LT-3)
- 2nd** Micah Allen Setianto Moore | 8 | *Treasure Map of My Dog* | Sinai College: Brisbane, Queensland | *Australia* (AU-1)
- 3rd** Luca Kunos | 7 | *My Imagination* | Üjpesti Szűcs Sándor Elementary School: Budapest | *Hungary* (HU-4)

9–12 YEARS OLD

- 1st** Kim Min-Chan | 12 | *Dreaming of the Blue Self of the World* | -: Gyeonggi | *South Korea* (KR-6)
- 2nd** Barnaby Blampied | 9 | *A Turtle's Tear: Our Plastic Oceans* | -: Wellsford | *New Zealand* (NZ-4)
- 3rd** Hande Körbalta | 9 | *World of Colour Lines* | -: - | *Turkey* (TR-6)

REPRODUCED ON THE BACK COVER

13–15 YEARS OLD

- 1st** Rada Skumova | 15 | *Creating Worlds* | -: Sofia | *Bulgaria* (BG-6)
- 2nd** Agata Filipiak | 14 | *We Love Maps* | -: Książ Wielkopolski | *Poland* (PL-5)
- 3rd** Katarína Šáleková | 15 | *Hemispherical Understanding* | -: Rajec | *Slovakia* (SK-6)

PUBLIC VOTE

Noemí Sánchez | 14 | *Good Morning World* | Colegio Arturo Soria: Madrid | *Spain* (ES-4)

SPECIAL MENTION

Robert Hopjan | 11 | *The Map Shows Me the Way* | -: - | *Czech Republic* (CZ-3)

CREATIVITY AWARD

Ugnė Rimkutė | 15 | *It Is All in Our Hands* | -: - | *Lithuania* (LT-6)

International Jury: Pilar Sánchez-Ortiz Rodríguez (Spain – Chair), Ana María Garra (Argentina), Temenoujka Bandrova (Bulgaria), Simon Catling (United Kingdom), Koji Ohnishi (Japan), Dariusz Dukaczewski (Poland), Necla Uluğtekin (Turkey), and Naeema Al Hosani (United Arab Emirates); substitute members: Carla Cristina Reinaldo Gimenes de Sena (Brazil) and José Jesús Reyes Nuñez (Hungary).

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

Members of the 2019 Barbara Petchenik Children's World Map Awards international jury: (from left) José Jesús Reyes Nuñez, Carla Cristina Reinaldo Gimenes de Sena, Pilar Sánchez-Ortiz Rodríguez (Chair), Temenoujka Bandrova and Dariusz Dukaczewski | *Photography ICC 2019*



International Cartographic Exhibition – Winners

MAPS ON PANELS

- 1st** **Fimbulheimen in Dronning Maud Land, Antarctica, Norway:** *A huge map portraying a 600km Antarctic mountain range. The size of the map juxtaposes the sparse, barren, yet stunning landscape that skilfully combines satellite imagery with exquisite typography. Beautiful cartography.*
- 2nd** **Ecological Area Map of the Estuary Wetland of Dagu River, China**
- 3rd** **The Melbourne Map, Australia**

CHARTS ON PANELS

- 1st** **The map of Northern Sea Area, China:** *Highly colourful and visually stunning, this 3D depiction uses novel technology to provide a rich, immersive experience. Symbols are clear and the depth cues work well at different viewing angles.*
- 2nd** **Tokyo Wan, Japan**
- 3rd** **Abords et port de l'île Saint-Pierre, France**

ATLASES

- 1st** **National Atlas of Hungary, Hungary:** *A comprehensive, and detailed atlas. The cartography is lavish and sets Hungary's natural environment in its human context. The maps are accompanied by numerous well presented graphs, text and infographics.*
- 2nd** **Graphical Statistical Atlas of Switzerland 1897-2017, Switzerland**
- 3rd** **Atlas of Poland's Political Geography, Poland**

DIGITAL PRODUCTS

- 1st** **Politics of Remembrance. 1945-2015, Austria:** *A rich map-based portal to explore the memorial landscape of Vienna. The maps are beautifully designed and positioned within a very well constructed application to give the user multiple ways to interact.*
- 2nd** **Caydence, United Kingdom**
- 3rd** **Water Rhyme in Gusu, China**

EDUCATIONAL CARTOGRAPHIC PRODUCTS

- 1st** **Cartography., Esri:** *A comprehensive and well-illustrated modern guide to the theory and practice of making maps, combining classic cartographic ideas with contemporary design. Also a bit big to take on a plane.*
- 2nd** **Touclit3D Tactile Maps, Czech Republic**
- 3rd** **Statistical Maps: Data Elaboration and Presentation, Poland**

OTHER CARTOGRAPHIC PRODUCTS

- 1st** **Map Data Provision Products, Japan:** *Incorporating maps into the design of various products is not new but when done well, creates interesting and attractive items. Cartographers will certainly be keen to be seen in these shoes!*
- 2nd** **Transparent Globes, China**
- 3rd** **3D model of Domnica Cave, Czech Republic**

International Cartographic Exhibition

As outgoing and incoming Chair of the ICA Commission on Map Design, Kenneth Field and Ian Muehlenhaus led the judging of the International Cartographic Exhibition held at the International Cartographic Conference (ICC) in Tokyo, Japan in July 2019. The judges represented all aspects of cartographic expertise from around the globe, and brought together academics, practitioners and industry experts. The judges were:

- Ian Muehlenhaus (Co-Chair), USA (non-voting)
- Kenneth Field (Co-Chair), United Kingdom (non-voting)

- Antoni Moore, New Zealand
 - David Fairbairn, United Kingdom
 - William Cartwright, Australia
 - Dušan Petrovič, Slovenia
 - Serena Coetzee, South Africa
 - Amy Griffin, Australia
 - Anja Hopfstock, Germany
 - Georg Gartner, Austria
 - Hiroshi Une, Japan
 - Igor Drecki, New Zealand
 - Lorenz Hurni, Switzerland
 - Nonoko Tsukada, Japan
 - Temenoujka Bandrova, Bulgaria
- The categories for judging were:
- Maps on panels
 - Charts on Panels
 - Atlases
 - Digital Products
 - Educational Cartographic Products
 - Other Cartographic Products

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.

The judges independently examined all of the entries in each category with the same criteria that we used in Rio de Janeiro in 2015, and Washington D.C. in 2017 – we were simply looking for cartographic excellence and that could be defined in many different ways because comparing one product to another can be difficult if the maps are fundamentally different. Judges submitted their top three choices in each category, ranked. A scoring system was applied to the results from each judge and then collated to create an overall,



PUBLIC VOTE

Water Rhyme in Gusu, China



objective list of the top three winners in each category.

Separately, the attendees of the conference were invited to vote for their favourite map by way of a public ballot.

The judges offer their warm congratulations to all those that won an award. The work was

exemplary. But awards are really only a small part of any exhibition and there were many maps and cartographic products that were worthy of winning. The quality on display was extremely strong and demonstrated the very best of work from the world cartography. We hope to see even more people submit their work via national committees for display at the next ICC in Florence, Italy, in 2021.

Ian Muehlenhaus and Kenneth Field | Co-Chairs
| International Cartographic Exhibition Jury | USA /
United Kingdom ■

ICC 2019 Orienteering Competition

In last decade an orienteering event became a traditional activity in the schedule of International Cartographic Conferences, which is quite understandable for the most 'cartographic' sport out there. But Tokyo 2019 Orienteering Event will be for sure remembered to all participants as the very special one.

At first, it was an unusual hour of the event, as we were running in Kiba Park in Koto-ku District early in the morning, between 7am and 9am. Given the high daytime temperatures and high humidity, this decision was welcomed and rewarded by a short rainfall during the already humid morning as an additional 'refreshment'. More than 20 competitors from over ten countries were orienteering on three tracks with distances of 1.9 to 3.3 km. Another, even bigger surprise, was participation of the Japanese Crown Princess in the event.

The ICC 2019 Orienteering Competition was superbly organised by Taketo Kobayashi, Jörg Vetter and Professor Shin Murakoshi, with the

help of others enthusiastic orienteers from local clubs and associations. This time the competitors were able to run the course using a smartphone application available for orienteering. The winners were:

Short course (women) – 1.9km | 10m

1. **Suzuki Noriko** | Japan | 17:40
2. **Marit Varmedal** | Norway | 26:25

Short course (men) – 1.9km | 10m

1. **Menno-Jan Kraak** | Netherlands | 17:15
2. **Jukka Krisp** | Germany | 18:19
3. **Dmitrii Loginov** | Russia | 19:31

Middle course (women) – 2.8km | 30m

1. **Kjersti Elisabeth Midtbø** | Norway | 19:59

Middle course (men) – 2.8km | 30m

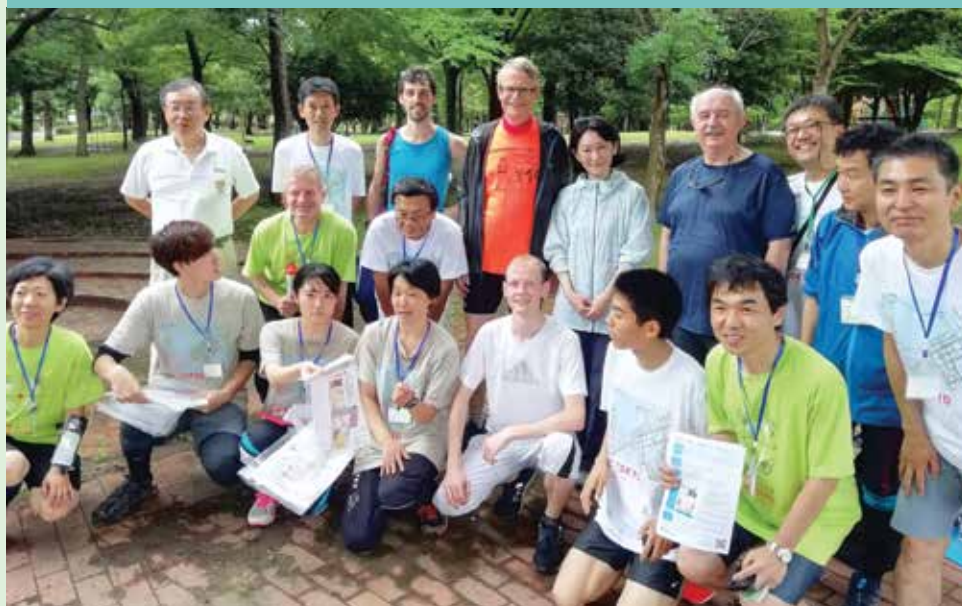
1. **Gáspár Albert** | Hungary | 16:32
2. **Terje Midtbø** | Norway | 20:18
3. **Georg Gartner** | Austria | 20:32
4. **Sebastian Hennig** | Germany | 21:36
5. **Primoz Kete** | Slovenia | 23:32
6. **William Mackaness** | United Kingdom | 24:08
7. **Kristoffer Kristiansen** | Norway | 25:07
8. **László Zentai** | Hungary | 25:46

Long Course (men) – 3.3km | 35m

1. **Dušan Petrovič** | Slovenia | 19:51
2. **Asbjørn Magnus Midtbø** | Norway | 20:27
3. **Zdeněk Stachoň** | Czech Republic | 20:45
4. **Johannes Karstein Midtbø** | Norway | 21:15
5. **Pyy Kettunen** | Finland | 22:44
6. **Mátyás Gede** | Hungary | 24:25

Dušan Petrovič | Participant of the ICC 2019 Orienteering Event | Slovenia ■

Participants and organisers of the ICC 2019 Orienteering Competition | Photograph courtesy of László Zentai



ICC 2019 – Facts and Figures^{1,2}

icc 2019 participants	1017
full	697
senior / student	218
one day	52
accompanying persons	50
commercial exhibitors' personnel	27
organisers/visitors/press/volunteers	140
participants at technical visits	214
geospatial information authority of japan / japan aerospace exploration agency	47
national diet library / koga historical museum	9
hydrographic and oceanographic museum, japan coast guard	27
national diet library	8
roppongi hills mori tower / diorama model of downtown tokyo	27
tokyo <i>suribachi</i> topography / <i>cartographic night</i> at shibuya town	34
<i>the canal and rivers create tokyo</i> – discovery cruise	51
high school in tokyo / cartographic education class	11
meetings	31
ica commission and working group business meetings	28
other meetings	3
exhibits at international cartographic exhibition	389
maps	228
charts	25
atlases	41
digital cartographic products	37
digital services	6
educational cartographic products	29
other cartographic products and globes	23
maps at children's map exhibition	188
less than 6 years old	14
6-8 years old	29
9-12 years old	82
13-15 years old	63

¹ Source: ICC 2019 Report (abridged), ICC 2019 Local Organising Committee, Tokyo, Japan, October 2017, and associated spreadsheets.

² Source: *International Cartographic Exhibition Catalogue*, 29th International Cartographic Conference, 16-19 July 2019, Tokyo, Japan.

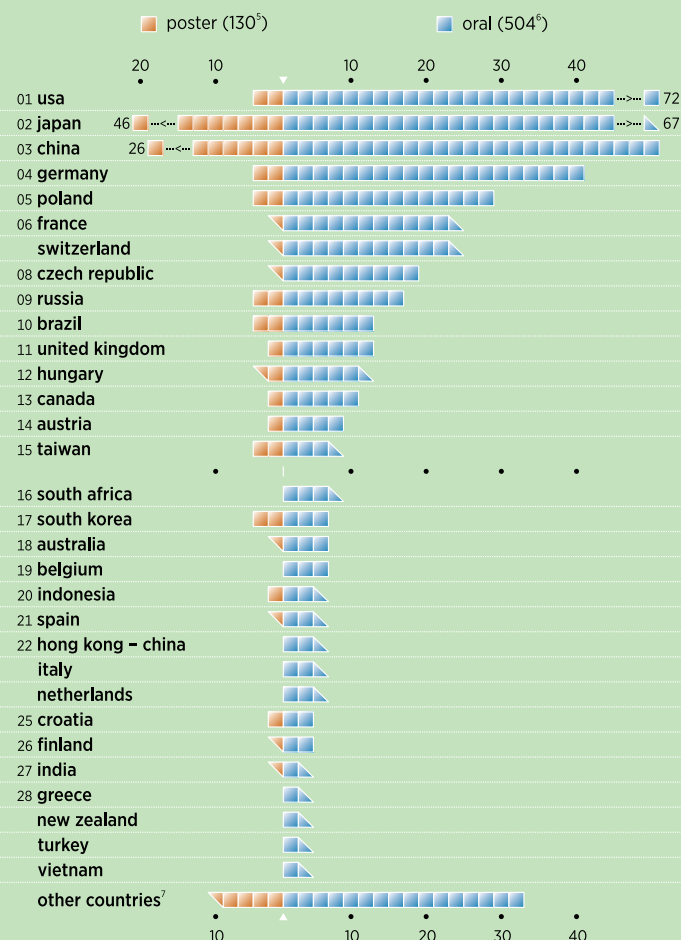
³ Source: *Program*, 29th International Cartographic Conference, 15-20 July 2019, Tokyo, Japan.

⁴ Source: ICC 2019 List of Participants.

⁵ 134 poster presentations were actually scheduled in the ICC 2019 Program; the 4 not reflected here were presented within the *Asia GIS* theme¹.

⁶ 532 oral presentations were actually scheduled in the ICC 2019 Program; the 28 not reflected here were: 20 (19 oral and 1 panel) delivered within the *Asia GIS* theme; 1 presented at the Special Session *Cartography in the Age of Big Data*; 1 panel facilitated at the *Waldo Tobler Memorial Session*; 4 keynote addresses; and 2 presentations omitted from the ICC 2019 publications^{1,8}.

ICC 2019 – Origin of Presentations^{1,3,4}



⁷ Other countries include: Philippines (2 oral / 1 poster presentations), Bulgaria, Morocco, Nigeria, North Macedonia, Portugal, Saudi Arabia, Singapore, Slovenia, United Arab Emirates (2/0 each), Chile (1/2), Iran, Kenya, Mexico, Slovakia (1/1 each), Belarus, Iraq, Israel, Lebanon, Malaysia, Norway, Romania, Rwanda, Sweden (1/0 each), Algeria, Sri Lanka and Tunisia (0/1 each).

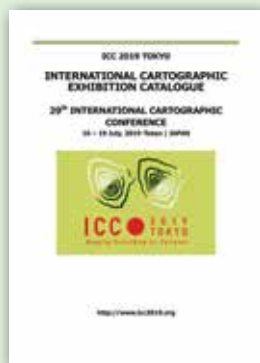
⁸ Journal: *International Journal of Cartography*, Vol 5, Issue 2-3, 2019 (14 papers). ICA Series: *Advances in Cartography and GIScience of the International Cartographic Association* (20 papers / 1 poster); *Proceedings of the International Cartographic Association* (131 papers / 26 posters); and *Abstracts of the International Cartographic Association* (339 papers / 103 posters).

⁹ Other themes included four sessions: *Mapping Geospatial Data, Maps and Society*, and *Miscellaneous Maps* (2 sessions). These sessions were made up by 14 oral and 5 poster presentations in the ICC 2019 Program¹, however they contained five oral presentations belonging to other themes: *Planetary Cartography* (2), *Geospatial Analysis and Modeling*, *Sensor-driven Mapping*, and *User and Usability Issues*¹. The statistics given here re-allocated these presentations according to their corresponding theme.

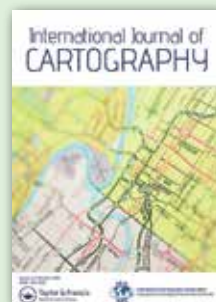
conference publications



Program, 29th International Cartographic Conference, 15-20 July 2019, Tokyo, Japan



International Cartographic Exhibition Catalogue, 29th International Cartographic Conference, 16-19 July 2019, Tokyo, Japan



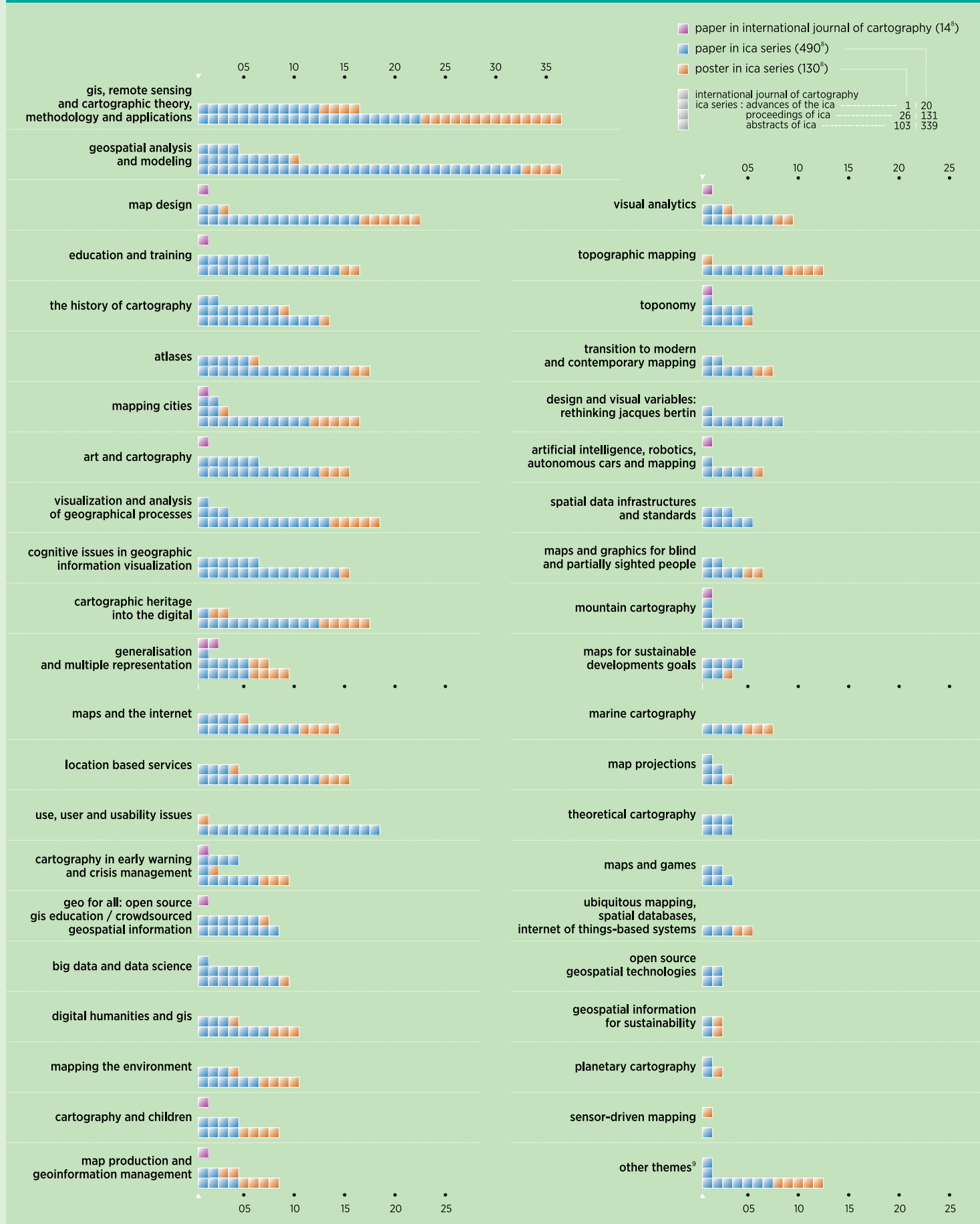
International Journal of Cartography, Vol 5, Issue 2-3, 2019; Special Issue: International Cartographic Conference 2019, Tokyo

ICC 2019 Online Publications

The ICC 2019 conference publications are available online in three ICA series:

- *Advances in Cartography and GIScience of the ICA* (Vol 1): www.advances-in-cartography-and-gis-science-of-the-ica.net
- *Proceedings of the ICA* (Vol 2): www.proc-int-cartogr-assoc.net
- *Abstracts of the ICA* (Vol 1): www.abstracts-of-the-ica.net

ICC 2019 – Papers and Posters by Theme^{1,3}





ICC 2019 in Pictures: Opening Ceremony; Opening Reception; International Technical and Commercial Exhibition; International Cartographic Exhibition; Barbara Bartz Petchenik International Children's Map Competition and Exhibition | *Photography ICC 2019, László Zentai, Thomas Schulz*



ICC 2019 in Pictures (cont): Young Cartographers Social Gathering; a poster session; International Cartographic Exhibition; ICC 2019 volunteers; orienteering event, Closing Ceremony; passing of the ICA flag from Japan to Italy | Photography ICC 2019, László Zentai, Thomas Schulz



march 2020

▼ **13: Workshop on Automatic Vectorisation of Historical Maps** (organised by the ICA Commission on Cartographic Heritage into the Digital) | Budapest | Hungary | lazarus.elte.hu/avhm/

april

14-18: 12th Mountain Cartography Workshop (organised by the ICA Commission on Mountain Cartography) | Snow Mountain Ranch, Colorado | USA | www.shadedrelief.com/workshop/

21-23: 8th International Symposium on the History of Cartography | Mapping the Ottoman Realm: Travelers, Cartographers and Archaeologists (coorganised by the ICA Commission on the History of Cartography) | Istanbul | Turkey | history.icaci.org/istanbul-2020/

22-25: ICA Commissions Joint Symposium | Atlases in Time – National and Regional Issues (organised by the ICA Commission on Atlases and the ICA/IGU Commission on Toponymy, in collaboration with the National Geographic Institute of Spain) | Madrid | Spain | map-service.de/madrid2020/

may

10-14: FIG2020 Working Week | Smart Surveyors for Land and Water Management (organised by the ICA Commission on Mountain Cartography) | Amsterdam | Netherlands | www.fig.net/fig2020/

19: ICA Commission Workshops (AutoCarto 2020 pre-conference workshops) | Redlands, California | USA | cartogis.org/autocarto/autocarto-2020/program/workshops/

▲ **22-25: AutoCarto 2020** | Redlands, California | USA | cartogis.org/autocarto/

26-27: 6th Interdisciplinary International Conference on RISK Information Management, Risk Models and Applications (coorganised by the ICA Commission on Cartography in Early Warning and Crisis Management) | Berlin | Germany | rimma2020.org

june

10-12: ICA Commissions Workshop | Indoor Cartography (coorganised by the ICA Commissions on User Experience; Cognitive Issues in Geographic Information Visualization; and Location Based Services – part of the 20th Annual Cognition and Artificial Life Conference) | Znojmo | Czech Republic | www.phil.muni.cz/cal2020/en

▲ **15-20: 8th International Conference on Cartography & GIS** | Nessebar | Bulgaria | iccgis2020.cartography-gis.com



july

06-08: SilkGIS2020 | Ghent | Belgium | geoweb.ugent.be/silkgis2020/

07-10: GI_Forum 2020 | Connecting Spatially | Salzburg | Austria | gi-forum.org

august

▼ **26-28: GeoCart'2020 | Uncharted Frontiers: Cartographic Innovation and Discovery** | Wellington | New Zealand | cartography.org.nz/geocart2020/

september

09-12: 20. Kartographiehistorisches Colloquium | Basel | Switzerland | www.kartengeschichte.ch/dach/

14: CartoVis20: ICA Commissions Joint Workshop on Analytical Reasoning | Cartography, Visualization, Design (coorganised by the ICA Commissions on Cognitive Issues in Geographic Information Visualization; Visual Analytics; and User Experience) | Warsaw | Poland | carto-vis-workshop.uw.edu.pl/

20-22: EuroCarto 2020 – Central European Conference / 68. Deutscher Kartographie Kongress | Vienna | Austria | www.eurocarto2020.org

24-26: 15th ICA Conference on Digital Approaches to Cartographic Heritage / 22nd Conference of the Map & Geoinformation Curators Group | Challenges in Modern Map Librarianship (organised by the ICA Commission on Cartographic Heritage into the Digital) | Cluj-Napoca | Romania | cartography.web.auth.gr/ICA-Heritage/Cluj-Napoca2020/

november 2020

11-13: 16th International Conference on Location Based Services (coorganised by the ICA Commission on Location Based Services and the University College London) | London | United Kingdom | lbsconference.org

july 2021

▼ **19-23: 30th International Cartographic Conference** | Florence | Italy | www.icc2021.net

august 2023

19-23: 31th International Cartographic Conference and 19th General Assembly of the International Cartographic Association | Cape Town | South Africa



ica affiliate members

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

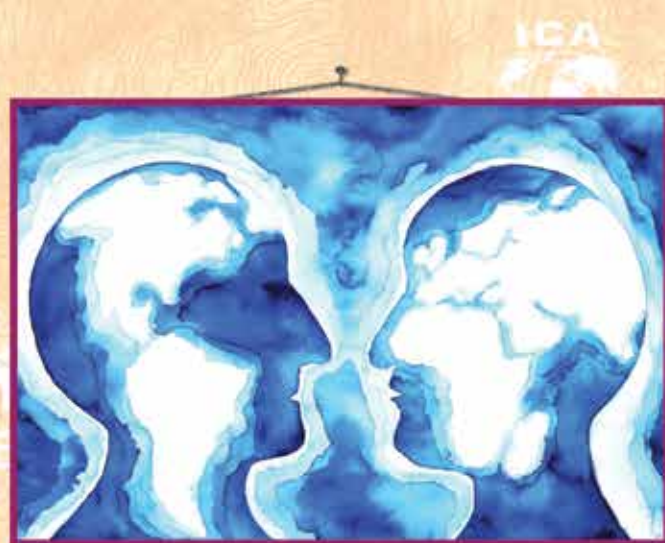
- 2011** **Association of Polish Cartographers** | *Poland* | www.polishcartography.pl
Attn: Assoc Prof Joanna Bac-Bronowicz | joanna.bac-bronowicz@pwr.wroc.pl
- 2019** **Australian and New Zealand Map Society** | *Australia / New Zealand* | www.anzmaps.org
Attn: Dr Martin Woods | mwoods@nla.gov.au
- 1999** **Centro Argentino de Cartografía** | *Argentina* | www.centroargentinodecartografia.org
Attn: Jorge Horacio Machuca | cac@centroargentinodecartografia.org
- 2011** **Chinese Cartographic Association (Chinese Taipei)** | *Taiwan-China* | www.ccartoa.org.tw
Attn: Dr Ching Jen Kao | ccartoa@gmail.com
- 2007** **Dubai Municipality** | *United Arab Emirates* | www.dm.gov.ae
Attn: Hussein Mohammed Abdulmuttalib | huseinma@dm.gov.ae
- 2007** **East View Geospatial** | *United States of America* | www.geospatial.com
Attn: Kent Lee | geospatial@eastview.com
- 2005** **Eko-Graf Publishing House** | *Poland* | www.ekograf.pl
Attn: Roman Janusiewicz | ekograf@ekograf.pl
- 2017** **El Servicio Aerofotogrametrico del General Juan Soler Manfredini de la Fuerza Aerea de Chile (SAF)** | *Chile* | www.saf.cl
Attn: Viviana Barrientos Lardonis | viviana.barrientos@saf.cl
- 2003** **Esri** | *United States of America* | www.esri.com
Attn: Mark Cygan | mcygan@esri.com
- 1995** **Geospatial Information Authority of Japan** | *Japan* | www.gsi.go.jp
Attn: GIA Secretariat | gsi-intex@ml.mlit.go.jp
- 2007** **German Federal Agency for Cartography and Geodesy** | *Germany* | www.bkg.bund.de
Attn: Dr Paul Becker | vorzimmerpraesident@bkg.bund.de
- 2015** **HERE** | *Germany* | www.here.com
- 1995** **Hexagon Geospatial** | *United States of America* | www.hexagongeospatial.com
Attn: Jon Thies | jon.thies@hexagongeospatial.com
- 1991** **Institut Cartogràfic i Geològic de Catalunya (ICGC)** | *Spain* | www.icgc.cat
Attn: Jaume Massó i Cartagena | direccio.icgc@icgc.cat
- 1991** **Institut National de l'Information Géographique at Forestière (IGN)** | *France* | www.ign.fr
Attn: Dr Sébastien Mustiere | sebastien.mustiere@ign.fr
- 2007** **Instituto Geográfico Nacional España** | *Spain* | www.ign.es
Attn: Francisco Javier González Matesanz | fjgmatesanz@fomento.es
- 2011** **Land Information New Zealand** | *New Zealand* | www.linz.govt.nz
Attn: Melissa West | mwest@linz.govt.nz
- 2017** **Library and Archives Canada** | *Canada* | www.bac-lac.gc.ca
Attn: Sebastien Daneau | sebastien.daneau@canada.ca

- 1995** **Moscow State University of Geodesy and Cartography** | *Russia* | www.miigaik.ru
Attn: Prof Vasily A. Malinnikov | lgm@miigaik.ru
- 1991** **National Hydrographic Office** | *India* | www.hydrobharat.nic.in
Attn: Vice Admiral Vinay Badhwar, NM | ia-inho@navy.gov.in
- 2011** **National Land Survey of Finland** | *Finland* | www.nls.fi
Attn: Heli Ursin | heli.ursin@nls.fi
- 2007** **Ordnance Survey** | *United Kingdom* | www.ordnance-survey.co.uk
Attn: Paul Naylor | paul.naylor@ordnancesurvey.co.uk
- 2003** **Regional Centre for Mapping of Resources for Development (RCMRD)** | *Kenya* | www.rcmrd.org
Attn: Dr Hussein O. Farah | rcmrd@rcmrd.org
- 2015** **Surveying and Spatial Sciences Institute (SSSI)** | *Australia* | www.sssi.org.au
Attn: Kerry Smyth | chair.sicc@sssi.org.au
- 2015** **UNIGIS International Association** | *Austria* | www.unigis.net
Attn: Prof Dr Josef Strobl | josef.strobl@sbg.ac.at
- 2003** **Union of Chambers of Turkish Engineers and Architects, Chamber of Surveying and Cadastre Engineers (UCTEA-CSCE)** | *Turkey* | www.hkmo.org.tr
Attn: Prof Dr Necla Uluğtekin | hkmo@hkmo.org.tr
- 2015** **United Arab Emirates University** | *United Arab Emirates* | www.chss.uaeu.ac.ae/en/
Attn: Dr Naeema Alhosani | naeemam@uaeu.ac.ae
- 2011** **United Nations Geospatial Information Section** | *United Nations* | www.un.org/depts/cartographic/english/htmain.htm
Attn: Ayako Kagawa | kagawa@un.org
- 1991** **United States Geological Survey** | *United States of America* | cegis.usgs.gov
Attn: Dr E. Lynn Usery | usery@usgs.gov
- 2007** **University of Architecture, Civil Engineering and Geodesy** | *Bulgaria* | www.uacg.bg
Attn: Assoc Prof Peter Penev | ppenev@gmail.com
- 2019** **University of Belgrade, Department of Geography** | *Serbia* | www.gef.bg.ac.rs/en/
Attn: Dr Aleksandar Đorđević | adjordjevic@gef.bg.ac.rs
- 2017** **University of Lay Adventists of Kigali** | *Rwanda* | www.unilak.ac.rw
Attn: Dr Gabriel Habiaryemye | research@unilak.ac.rw
- 1995** **University of Twente, Faculty of Geo-Information Science and Earth Observation (ITC)** | *The Netherlands* | www.itc.nl
Attn: Prof Menno-Jan Kraak | m.j.kraak@utwente.nl
- 2015** **Wuda Geoinformatics** | *China* | www.geostar.com.cn
Attn: Song Aihong | songaihong@geostar.com.cn

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

- 1995** – year of ratification by the ICA General Assembly
65 – affiliate member's profile published in *ICA News* (issue number)

children's map gallery 2019 winners



Ye Shangke | 5 | *A Bird Symbolizing Peace* | -: Taizhou, Zhejiang | China

Katarína Šáleková | 15 | *Hemispherical Understanding* | -: Rajec | Slovakia

CREATIVITY AWARD

Kim Min-Chan | 12 | *Dreaming of the Blue Self of the World* | -: Gyeonggi | South Korea

Ugnė Rimkutė | 15 | *It Is All in Our Hands* | -: - | Lithuania

Micah Allen Setianto Moore | 8 | *Treasure Map of My Dog* | Sinai College: Brisbane, Queensland | Australia

