



president's report



Dear Colleagues

This is the last time I am addressing you with this regular report, as my 4-year presidential term comes to an end at the upcoming General Assembly of the International

Cartographic Association (ICA) in Rio de Janeiro in August 2015. The preparations for both, the General Assembly and the International Cartographic Conference, took quite some efforts and extensive considerations involving all members of the Executive Committee, but especially Professor László Zentai, Secretary General of the ICA. I would

like to thank him and all involved for their hard work.

In the context of the General Assembly, I am most happy to see that the spirit of ICA will keep on going with nominations of excellent candidates for the Executive Committee and Commission chair positions! While we might see a slight reduction in the number of Commissions, the overall 'bottom-up' philosophy of the ICA will continue to be visible in the Commissions' structure. Preparations for adapting operational guidelines, by-laws and statutes to ensure a smoother and more efficient operation of the Association have been undertaken, with a considerable input from members of the Statutes Committee, namely Bengt Rystedt, Ferjan Ormeling and David Fairbairn.

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16th general assembly of ica rio de janeiro · brazil

The 16th General Assembly (GA) of the International Cartographic Association will be held in conjunction with the 28th International Cartographic Conference (ICC) on 23rd and 28th August 2015 in Rio de Janeiro, Brazil. The Agenda of the GA is now finalised (see page 4).

An important part of the proceedings is to define the number of countries eligible to vote at the General Assembly. Some countries were not eligible to vote at the GA in Paris in 2011, but have since paid their membership, hence their eligibility to vote will be reinstated. Membership of some other countries will be recommended to be withdrawn, unless their membership dues are paid in full prior to the GA in Rio de Janeiro. There is also a number of new national and affiliate members to be ratified by the GA.

After adopting the Minutes of the 15th General Assembly, the next items of the Agenda are the reports from the President, the Secretary General and the Treasurer. The adoption of the 2011-2015 accounts will follow, together with a report from the honorary Auditors (appointed by the previous GA). The proposed budget for the 2015-2019 term will be presented next. The new budget includes extra expenditure associated with the office and travel costs that are expected of an international organisation such as ours. Website management costs, ICA membership fees of the international organizations (e.g. ICSU) and the financial support of the International Map Year will be presented, although the suggested budget is balanced.

The report of the Publications Committee will summarise the publication activities of the ICA. The first volume of the *International Journal of Cartography* (IJC) will hopefully be published in time for the ICC 2015. According to our Statutes "each national member organisation agrees to send a report to each General Assembly on the cartographic and GI science activities in the country during the previous four years". These reports will be progressively uploaded to icaci.org/national-reports/. The reports from the ICA Commissions are an important item of the Agenda. In the current term there are 28 Commissions, each will present a full report of their activities for the 2011-2015 term, and a poster summarising their achievements and displayed prominently to all ICC participants.

The *Statutes of the International Cartographic Association* is the most important document of the ICA. Several motions concerning changes to the *Statutes* have been received and will require an absolute majority vote from member nations to be accepted. Full details of these proposals, together

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A young visitor contemplates drawings displayed at the Lithuanian national children's map exhibition |
Photography courtesy of Giedre Beconyte



Not so long ago I was asked to prepare a set of maps highlighting vineyards in the context of the surrounding country. Conveniently I was able to use the national 1:50,000 topographic database for the task. The idea was to design a topographic map that emphasises vineyards applying a different colour scheme and symbolisation to the ones used on the national series. I was pleased with the first map and simply had to duplicate the same design specifications to complete the set. At that point I realised that I have not documented any of my design parameters and needed a few extra hours to do so!

The issue of proper documentation becomes increasingly important in cartography. Whether it is a design specification, a production workflow, a map series publication schedule, or simply a register of time spent on a cartographic project, good records are a key. The benefits are clear; they allow us to replicate map design and processes, achieve the completeness of a map series and assess production costs and market requirements. Good documentation is also indispensable in cartographic heritage research and quality assessment.

But how good are we really with records keeping? Is it still possible for a local council, or even a national mapping organisation, to provide a topographic dataset from five, ten or fifteen years ago? Are we not on the path of creating an information 'black hole'? It often feels that we produce far more maps and geospatial information than we are able to properly document. And lack of documentation might lead to non-existence...

In this issue of *ICA News*, Rio de Janeiro invites us to celebrate cartography at ICC 2015. This time, the Conference is coupled with the General Assembly of ICA and its Agenda is described in detail. The International Map Year is in full swing in a number of countries, while children's world maps are the subject of another Esri Press publication. Thank you for your continuous support.

Igor Drecki | Editor ICA News | ICA ●

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

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© International Cartographic Association (ICA) 2015

In the context of the International Cartographic Conference 2015 (ICC 2015), the final preparations are underway. The Conference Programme promises a huge variety of topics relating to contemporary cartography. You will be able to listen to the top researchers, developers, cartographers and GI scientists, and learn about their approaches, methods and results. You will get inspired by forums and discussions, where various perspectives are presented and argued. Exciting keynote presentations will provide details of a particular cartographic problem on the one hand, and try to answer why cartography is so important in the realm of global challenges facing our planet on the other. You will be able to follow the activities of various Commissions, the 'powerhouse' of the ICA, and use this unique opportunity for networking and getting involved. You will have the chance to reflect on why the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) have endorsed the International Map Year (IMY) and how you can contribute to make the relevance and importance of maps more visible in your context. You will be able to admire maps submitted to the International Cartographic Exhibition, giving a vote to the one you think is best, and visit the Technical Exhibition to learn about the latest products, solutions and technologies. You will be able to test your skills in reading maps (and running) in the traditional ICA orienteering event and socialise with colleagues, friends and other participants at a number of amazing accompanying events. And most importantly, you will have a chance to share your ideas, perspectives, thoughts, products, solutions, questions, methods or maps with the global community of cartographers attending the ICC 2015!

All those exciting opportunities are set in a breath-taking city and country. Brazil is a huge country with rich history, incredible potential and variety of challenges, something all of us can witness during our stay in Brazil in August 2015. It is not without reason, that Rio de Janeiro is frequently mentioned as one of the most exciting places in the world. It is great to see that ICC 2015 is a major event for Rio de Janeiro this year, positioned right between the last year's Soccer World Cup and the 2016 Olympic Games! This incredible result, being achieved in a unique Brazilian way, is a testimony to the tireless efforts of the Local Organising Committee, something we are all very thankful for!

ICA is very proud to report that the UN-GGIM endorsement of the International Map Year 2015-2016 has led to a number of significant activities. The UN-GGIM resolution reads:

The Committee endorses the International Map Year 2015-2016 as proposed by the International Cartographic Association as a valuable means to promote the importance of maps and Geoinformation.

The ICA Working Group on International Map Year, chaired by Bengt Rystedt, and consisting of Aileen Buckley, Serena Coetzee, David Fairbairn, Ayako Kagawa, Ferjan Ormeling and Vít Voženílek, has developed a unique concept for the IMY, as well as various resources and ideas for everyone to participate. Its members, with the help of several authors, edited a book *The World of Maps*, which is already available in three languages from the WG website (mapyear.org/) for free! It is great to see that so many countries have already signed up and participated by organising national networks and events. Several activities have already taken place, e.g. the opening of the IMY in South Africa organised by ICA Vice President Derek Clarke and attended by the South African Minister of Rural Development and Land Reform Mr Gugile Nkwinti, or the Cartographic Exhibition and Session at the FIG Working Week in Sofia, organised by Temenoujka Bandrova, President of the Bulgarian Cartographic Association.

I am very pleased to announce, that the first issue of the *International Journal of Cartography (IJC)* will be published as planned in conjunction with ICC 2015. At this point I would like to thank all of those who have helped in making the ICA scientific journal a reality, especially the Editors-in-Chief Prof William Cartwright and Dr Anne Ruas. We expect that the Journal will soon develop into a flagship publication on cartography, therefore we encourage contributors doing research in cartography, GIScience and related fields to consider publishing in the *IJC*.

Besides all those exciting developments, let me report briefly on other ICA activities:

- In preparation for the 16th General Assembly, every ICA Commission was asked to define a succession plan and renew Terms of References. As a result the EC was able to evaluate the alignment of Commissions' aims with the Strategic Plan of the ICA, as well as offer consultation regarding Commissions' operational goals.
- In an ongoing effort of communicating with potential members I am happy to announce that Trinidad and Tobago has decided to apply for the ICA national membership. This result is partly due to a capacity building ICA workshop run in 2013 in the Caribbean on *Modern Cartography and WebMapping* by Markus Jobst and Georg Gartner.
- I am happy to announce that the United Arab Emirates University has decided to join ICA as a new affiliate member. They are already actively working on incorporating the IMY framework for reaching out to schools in the context of maps.
- The Urban and Regional Information Systems Association (URISA), primarily active in the Americas and targeting GIS and cartography practitioners, have expressed their interest in cooperation with the ICA. This has led to signing a Memorandum of Understanding,

president's report cont...

which contains a number of concrete initiatives of mutual interests.

- The rapidly growing initiative of ICA-OSGeo-ISPRS Labs for OpenSource Geospatial Information is accompanied by further developments in areas of OpenEducation Materials, Open Data Initiatives and active participation in the Research Data Alliance (RDA). The trademark *Geo4All* is now adopted as an umbrella term for these initiatives and is developed further following strong leadership of Suchith Anand, Chair of the ICA Commission on Open Source Geospatial Technologies.
- Two books related to the Barbara Petchenik Children World Map Award have been published recently, one by the Chinese publisher SinoMap and one by ESRI Press. I would like to take this opportunity and congratulate members of the ICA Commission on Cartography and Children to overcome all kind of obstacles and see the books published.
- ICA is currently spreading news about modern cartography and ICA in two regular columns, one in *GIM International* (www.gim-international.com) edited and partly written by David Fairbairn, and the other in *ArcNews* (www.esri.com/esri-news/

arcnews/) written by me. Both have a high number of readers that allows ICA to reach out beyond our own community.

- ICA's full membership of the International Council for Science (ICSU) has lead to an invitation from the ICSU GeoUnions (www.icsu-geounions.org) to become their member, to which ICA responded with pleasure. This allows us to fully participate in the interdisciplinary and international research activities of global relevance.
- An intense Executive Committee Meeting in Cape Town, South Africa, in February 2015, was complemented by a one-day workshop on *Modern Cartography* to South African cartographers attended by William Cartwright, László Zentai and myself.
- I had an opportunity to discuss various issues related to modern cartography and ICA to a number of representatives from Arab countries at the GIS and Remote Sensing Annual Scientific Forum entitled *Towards Geo-Smart Development* in Dubai, United Arab Emirates, in February 2015.
- I actively contributed to the superbly organised *Power of Maps* Conference in Canberra, Australia in April 2015. The Conference was organised jointly by the Mapping Sciences Institute Australia, chaired

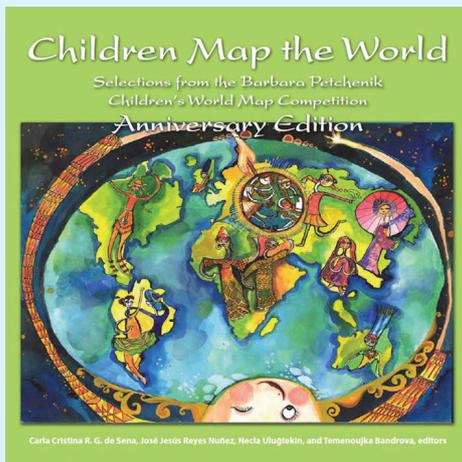
by its President Trisha Moriarty, and Australian and New Zealand Map Society.

- I represented ICA at the FIG Working Week in Sofia, Bulgaria, in May 2015, where cartography was not only prominently highlighted in my keynote address during the first plenary session, but also in a technical session on cartography and IMY, and at a map exhibition, both organised by Temenoujka Bandrova.
- The organisers of the UN-GGIM Asia Pacific Meeting at Jeju Island, South Korea have asked ICA to deliver a workshop on modern cartography and IMY, and highlighting the relevance of cartography in general. The workshop is intended for the NMAs and government representatives from Asia and the Pacific Region. It will take place in October 2015 with Menno-Jan Kraak and Yaolin Liu coordinating the event.

Concluding my report, I would like to acknowledge Professor László Zentai, ICA Secretary General and Treasurer for his generous support and incredibly efficient and close working relationship we developed over the years. He is a living proof that the true spirit of ICA is well!

Georg Gartner | President | ICA ●

ica news children map the world



In April 2015, Esri Press published the Anniversary Edition of the *Children Map the World* book series.

During the 26th International Cartographic Conference (ICC) in Dresden in August 2013, the International Cartographic Association (ICA) celebrated the 20th Anniversary of the Barbara Petchenik Children World Map Award, which was first organised at the 16th ICC in Cologne in May 1993. One of the special commemorative activities celebrating the contest was a retrospective display of winning entries from that first competition. Considering that the

majority of Conference participants did not attend the 1993 exhibition, the display gave a unique opportunity to see and experience these drawings for the first time in 20 years!

Jack Dangermond, Esri President and a keynote speaker at ICC 2013, visited the display and expressed his personal interest in continuation of the *Children Map the World* book series by Esri Press. A proposal to create a special volume dedicated to the 20th Anniversary of the Award was accepted and subsequently supported by Esri and ICA Presidents.

The editors of the volume are Carla Cristina Reinaldo Gimenes de Sena (Brazil), José Jesús Reyes Nuñez (Hungary), Necla Uluğtekin (Turkey) and Temenoujka Bandrova (Bulgaria), all members of the ICA Commission on Cartography and Children. They made a selection of 50 drawings from the 2013 competition, including 14 drawings awarded by the Jury and the public. The book content is complemented by a special selection of 20 drawings (never published before) from the competitions organised between 1993 and 2011. This Anniversary Edition is dedicated to all people who initiated and facilitated the Barbara Petchenik Children World Map Award, as well as to all those, who – during the last twenty years – contributed to the success of the competition at national and international level.

"These hand-drawn, sewn, or assembled maps convey powerful messages of optimism, anxiety, tolerance, and hope that reflect the competition's most recent theme My Place in Today's World."
Esri Press, April 2015

The first contact with Esri Press editors regarding this book was made in August 2013, a starting point of a very rewarding collaboration that continued for several months. ICA and the ICA Commission on Cartography and Children wish to express their gratitude to Esri Press representatives and editors for their hard and very valuable work, as well as for their efforts to have the book published in the first half of 2015.

The book *Children Map the World: Selections from the Barbara Petchenik Children's World Map Competition Anniversary Edition* (108 pages, ISBN 978-1589484221, paperback) will be officially launched at the 27th International Cartographic Conference in Rio de Janeiro, 23–28 August 2015.

For more information about the book, please visit Esri Press website: esripress.esri.com/display/index.cfm?fuseaction=display&websiteID=282&moduleID=0.

José Jesús Reyes Nuñez | Chair | ICA Commission on Cartography and Children | Hungary ●

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ica news contributions

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Submission Deadlines

15 May for June editions

15 November for December editions

16th general assembly of ica rio de janeiro · brazil cont...

with other relevant Agenda documents, are available from icaci.org/general-assembly-2015/.

The election of a new Executive Committee is the next item of the Agenda. The following valid nominations for the Executive were received: Menno-Jan Kraak (The Netherlands) for President, László Zentai (Hungary) for Secretary General & Treasurer, and nine nominations for Vice President positions (in the order of nomination date): Sara Fabrikant (Switzerland), Lynn Usery (USA), Vít Voženílek (Czech Republic), David Forrest (United Kingdom), Monika Sester (Germany), Masatoshi Arikawa (Japan), Pilar Sánchez-Ortiz (Spain), Yaolin Liu (China) and Igor Drecki (New Zealand). The last item of the Agenda will be the selection of the place of the 17th General Assembly and the ICC 2019. Two bids were received – Tokyo (Japan) and Florence (Italy). Both countries will present their bids on the first day of the GA, while the voting will take place on the second day.

The official nomination of national delegates is an important formal requirement from all member countries to take part and vote at the GA. Please make sure the nominations are with the Secretary General of ICA prior to the General Assembly.

László Zentai | Secretary General & Treasurer | ICA ●

General Assembly of ICA · First Session · Sunday · 23rd August 2015 · 08:30–16:30

01. Opening and addresses
02. Recognition of the memory of members of the ICA community
03. Roll call of members
04. Adoption of the Agenda
05. Nomination of two Scrutineers
06. Members ineligible to vote
07. Exclusion from membership
08. Adoption of the minutes of the 15th General Assembly, 2011
09. New member nations
10. New affiliate members
11. President's report 2011-2015
12. Secretary General's report 2011-2015
13. Treasurer's report 2011-2015
14. Auditors' report
15. Adoption of the accounts
16. Proposed budget 2015-2019
17. ICA Statutes
18. Publications report
19. National reports
20. Presentation of commissions and working group activities 2011-2015
21. Commission proposals 2015-2019 – presentation of nominations and terms of reference
22. Voting on the number of Vice Presidents; Presentation of nominations to the Executive Committee
23. Future conference proposals

General Assembly of ICA · Second Session · Friday · 28th August 2015 · 8.30–12:30

24. Roll call of members
25. Voting eligibility
26. *Voting on membership: exclusion, new member nations, changed member nation representative, new affiliate members (optional)*
27. Nomination of two Scrutineers
28. Vote on the 2015-2019 budget
29. Election of President 2015-2019
30. Election of Secretary General & Treasurer 2015-2019
31. Election of Vice Presidents 2015-2019
32. Election of Auditors 2015-2019
33. Commissions proposals 2015-2019 – election of Commissions Chairpersons
34. Selection of the place of the 17th General Assembly and the 29th International Cartographic Conference



It's International Map Year all systems go!

The International Map Year (IMY) has started well and anticipates further success with the organisation, by national IMY committees, of national and local Map Days. More and more countries are registered as taking part, including several who are not yet ICA members; many conferences are also including IMY in their programmes; cartographic journals and national cartographic societies are including news on IMY in their outreach. There are moves to establish links with important national and political bodies (for example, the US Department of Education) which may be able to implement changed agendas using IMY ideas and concepts in broader societal activities. The progress can be followed at the IMY homepage, an excellent resource for IMY advice and information. This site is managed by Manuela Schmidt at the Research Group Cartography of the TU Wien, Austria, who is also webmaster of the ICA homepage. ICA is thankful to her for taking on this task in her usual efficient manner, and also recognises the important groundwork laid in the previous year, by two PhD students, Domonkos Hillier and Ádám Bérces, from the Eötvös Loránd University in Budapest, Hungary. We are grateful for their assistance in developing ideas initially agreed by the IMY Working Group which met in March 2014.

The book *The World of Maps* has been translated to French and Spanish, and can be freely downloaded from the IMY homepage. The French version has also been printed as a special issue of the journal of the Comité Français de Cartographie (CFC) *Cartes & Géomatique* no. 221, available from the CFC website (www.lecfc.fr/index.php?page=publication). Recently, work has also been started for translation of the book into Arabic, Chinese and Indonesian.

IMY will be officially inaugurated at the Opening Ceremony of the International Cartographic Conference (ICC) in Rio de Janeiro in August 2015. The activities taking place since the start of 2015, will be reported to the ICA General Assembly being held at that event. Further, all attendees at the ICC and the General Assembly will have the opportunity to learn more about what IMY can involve in terms of activities at a national and local level, by visiting the dedicated IMY information desk in the ICC exhibit area. As IMY is scheduled to last into 2016, there is considerable scope to engage in activities such as Map Days, and also map exhibitions, visits to official or commercial mapping establishments, lecture programmes on cartography, all organised in possible collaboration with national mapping organizations, universities that offer cartography courses, and libraries with map collections. Suggestions for such activities are given on the IMY website, along with the downloadable logos, leaflets and on-line book.

It is important to note that IMY is directed towards four main audiences – school children, politicians and government decision makers, professionals in related fields, and the general



A Sudanese girl ready to take part in IMY | Photograph courtesy of Bengt Rystedt

public. This is a significant opportunity for ICA, and the individual cartographers, cartographic institutions and enterprises it unites, to reach out from internal business to show the power of maps and geographic information to the rest of society.

Bengt Rystedt | Chair | ICA Working Group on International Map Year | Sweden ●

Czech Map of the Year ♥ International Map Year

This year, the 17th annual Map of the Year contest organised by the Cartographic Society of the Czech Republic meets the International Map Year (IMY) 2015-2016!

In 1998, the Society decided to celebrate high-quality maps produced by Czech cartographers by introducing an annual professional competition for the best cartographic products in two categories – paper maps and digital products. The response from cartographic companies, government

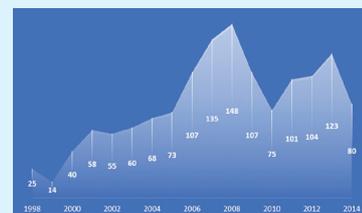
Recipients of the 2013 Map of the Year awards with organizers and the ICA Executive Committee members | Photography CARTOCON 2014



offices and academic institutions surpassed expectations of the organisers; soon after they had to increase the number of categories and... judges. Sixteen years later, the Map of the Year matured and became a popular professional competition, with annual attendance by more than 20 publishers and 100 products. The selection of entries from 17th edition of the Map of the Year will be displayed at the International Cartographic Exhibition in Rio de Janeiro in no less than five categories. Czech Republic promotes IMY through the Map of the Year competition. This year's winner, the company Geodesy On-Line Ltd, placed the IMY logo directly on their maps. Other participants of the competition also actively promote and support IMY. Information about the International Map Year and associated activities was distributed together with the notification and rules of the 2015 Map of the Year contest, with certificates bearing the IMY logo.

The Cartographic Society of the Czech Republic believes that quality and activity of Czech cartography will continue to grow and strengthen world cartography.

Vít Voženílek | Cartographic Society of the Czech Republic | Czech Republic ●



Number of entries in the Map of the Year contest 1998-2014

mátyás gede



Being an obsessed hiker and nature-lover since my early childhood (infected by my parents; many thanks for it), I grew up as a serious map user. Later my elder brother introduced me the world of

computer programming, and finally I've found the world where these two principles meet. I count myself really lucky as I haven't left the Department of Cartography and Geoinformatics at Eötvös Loránd University in Budapest since I enrolled as a student: after graduating I proceeded straight to PhD and as soon as I've finished it I was offered a job there.

My main field of interest is "anything that connects maps and surveying to maths and programming" so I soon found myself in various projects from web map games through globe digitising to visualization of cave surveys. As a teacher, I'm also trying to pass on the knowledge I've gathered to my students.

The subjects I teach at our Department are mostly programming and IT related (like SQL, webcartography, etc.), but I am also responsible for Map Projections classes and – which is always a relief after the hard semester work – I'm deeply involved in the summer map correcting field courses held in the mild forests of the northern Hungarian mountains.

Among the many projects I was involved in, maybe the most important is the Virtual Globes Museum – an online exhibition of 3D models of old globes. The background work of this project integrated many of my favourite fields: old maps, mathematical methods, programming. This project, apart from being the main subject of my PhD, inspired several bachelor and master theses and spin-off projects, such as digital globe restoration and the compilation of planetary globes.

Mátyás Gede | Department of Cartography and Geoinformatics | Eötvös Loránd University, Budapest | Hungary | saman@map.elte.hu

One of the first items in the Virtual Globes Museum: a 1645 Blaeu terrestrial globe from the Cistercian Abbey located in the small Transdanubian town of Zirc. The 68cm globe was made by mounting paper prints of 18 pairs of the spherical segments onto a supporting globe. Each segment is 20° wide and runs from the Equator to the pole. The virtual globe was made by taking a series of high resolution photographs of the actual globe and then georeferencing them into a seamless image. For more information, please visit: terkeptar.elte.hu/vgm/2/?lang=en&show=globe&id=1.

www.journalofmaps.com/

The Journal of Maps (JoM) was founded in 2003 out of the realisation that there were few peer-reviewed outlets for maps that were produced principally as outcomes of academic research. Map production is often seen as the drafting of figures to support academic manuscripts and so have to fit within the A4 publishing paradigm. Yet there are many academic subjects that have a close affinity to the "spatial domain", such as geology, geodemographics, geomorphology, archaeology, transportation to name but a few.

The JoM supports the publication of bespoke, research based maps. As an inter-disciplinary journal, JoM is split in to Science and Social Science sections in order to cater for the diverse range of maps we publish. A subject specialist Associate Editor assigns two external peer reviewers (operating an open review system) with an additional review by a professional cartographer (who is also an Associate Editor). As many of the maps submitted to JoM are designed by the authors their quality can be variable – the cartographic review often results in changes to the design of the map, significantly enhancing the quality of the final product.

With the first issue published in 2005, we have just celebrated our 10th volume - over that time we have grown from a self-published 5 articles over 56 pages to (last year) 62 articles over 639 pages published by Taylor and Francis. In 2009 it became citation listed and currently has an Impact Factor of 0.9. In



Cover of the *Journal of Maps*

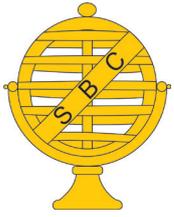
short, JoM is strong evidence for a desire in spatial disciplines to produce maps. With the proliferation of digital data, and the ability to manipulate them within a GIS, spatial communication has seen increased significance and resurgence.

Mike Smith | Editor-in-Chief | Journal of Maps | United Kingdom



profiles sociedade brasileira de cartografia

www.cartografia.org.br/



The Brazilian Society of Cartography, Geodesy, Photogrammetry and Remote Sensing (SBC) is a civil, non-government and apolitical association of members with technical and scientific background

representing a cross section of the Brazilian society. It was established on 28 October 1958 by 175 founding members and it is considered a public utility institution (Decree no. 88.747, 26 September 1989, signed by the Hon Mr President of Brazil).

At a national level, SBC maintains strong ties with all public organizations linked directly or indirectly with mapping, such as:

- Brazilian Institute of Geography and Statistics Foundation
- Brazilian Navy – Directorate of Hydrography and Navigation
- Brazilian Aeronautical Cartography Institute,
- Brazilian Army – Directorate of Geographic Service

It also maintains links with a number of Brazilian Universities that run courses in cartographic engineering and related fields, such as Geography, Geology and Surveying, and with the most important state and municipal agencies and organizations.

SBC also maintains relationships with large companies providing mapping equipment, as well as national aerial photogrammetry companies and prominent private organizations engaged in cartography and mapping work.

At an international level, SBC is associated with and represents Brazil at the following international organizations:

- International Federation of Surveyors
- International Cartographic Association (ICA)
- International Society for Photogrammetry and Remote Sensing

The Brazilian Society of Cartography is administratively responsible for the organization of the International Cartographic Conference (ICC) in Rio de Janeiro in August 2015. The General Executive Board of the Conference is chaired by Prof Dr Paulo Márcio Leal de Menezes, Vice-President of the ICA.

SBC publishes the *Brazilian Journal of Cartography*, which is a recognised and highly respected journal amongst the cartographic community of Brazil and South America. There are four regular issues published annually and at least two thematic ones. The Journal receives contributions in English, Spanish and Portuguese.

The SBC's ten Technical Commissions cover all subjects of cartography and related disciplines. There are Technical Commissions



(From left) Paulo César Teixeira Trino, President of SBC, Georg Gartner, President of ICA and Paulo Menezes, Vice President of ICA | Photograph courtesy of Paulo Menezes

on Cartography, Geodesy, Photogrammetry, Remote Sensing, Education, Cartography and Children, Cadaster, Hydrography, GIS, among others.

Members of SBC Executive Board are elected by the cartographic community; these are voluntary positions and their mandate lasts three years. The current Executive Board was elected during the 49th Ordinary General Assembly of SBC held on 16 July 2014 in Rio de Janeiro.

Paulo Márcio Leal de Menezes | Sociedade Brasileira de Cartografia, Geodésia, Fotogrametria, e Sensoriamento Remoto | *Brazil* ●

profiles bundesamt für kartographie und geodäsie

www.bkg.bund.de



observe.
survey.
understand.

The Federal Agency for Cartography and Geodesy (BKG) is the German federal government's central service provider and competence center for geoinformation and geodesy that focuses on earth observation (including remote sensing) and data management for the analysis, combination and delivery of geodata. As an agency of the Federal Ministry of the Interior (Bundesministerium des Innern), the work of BKG directly benefits federal institutions, public administration, business, science, and almost every person in Germany. Experts from fields such as transportation, disaster preparedness, homeland security, energy, environmental conservation and various other disciplines use the spatial data, maps, reference systems and information services provided by BKG for their plans and studies.

The aims and tasks of the BKG are:

- to provide a uniform coordinate system for the whole of Germany
- to advise institutions of the federal government in the fields of geodesy and geoinformation
- within the framework of the INSPIRE project, to support the development and expansion of spatial data infrastructure with the goal of enhancing the usability of geodata currently offered in Germany
- to provide official current geodata about Germany via internet services
- to participate in international geodetic services by contributing its data and analyses
- to represent the German interests in international organizations and projects within the fields of geodesy and geoinformation

In terms of innovation, in 2014, the BKG successfully created a nationwide map series on a scale of 1:10,000 with the aid of the TopPlus technique. The new product, called "Presentation Graphics TopPlus 1:10,000" (TopPlus-P10), shows content similar to well-known city maps for the whole of Germany as well as the area of the neighbouring countries.

The raster data of the TopPlus-P10, due to their high resolution, are suitable for high-quality printouts and available exclusively to the German federal government's administration. Over the next few months, further area-wide map series will be generated at additional scales using this technique.

Plans for the future envisage development of a web-based application in order to allow individual users to create customized print quality TopPlus maps that can be obtained online.

In close cooperation with its European and international partners, BKG contributes to the establishment of a European and global geodata infrastructure. BKG is an affiliate member of the International Cartographic Association.

Hansjörg Kutterer | President | Bundesamt für Kartographie und Geodäsie | *Germany* ●

TopPlus-P10 product sample image



ica news 25 years ago...

It seems that even the passing of 25 years have not made the issue of inappropriate use of 'rectangular maps' go away...

Igor Drecki | Editor ICA News | ICA ●

ICA Newsletter, No 15, May 1990

MIS-USE OF RECTANGULAR MAPS

Rectangular world maps, such as the Mercator projection, should not be used for general purposes or artistic displays, according to a joint statement just released by six major professional organizations of geographers and cartographers. Although a globe is the only true representation of the round earth, and thus is the only way to show all shapes, relative sizes, and distances correctly, only half can be seen at once. The organizations point out that flat maps of the whole world "are more useful than globe maps, but flattening the globe surface necessarily greatly changes the appearance of the earth's features and coordinate system." However, "world maps have a powerful and lasting effect on people's impressions of the shapes and sizes of lands and seas, their arrangement, and the nature of coordinate system," and "frequently seeing a greatly distorted map tends to make it 'look right'."

"Therefore," the groups conclude, "we strongly urge book and map publishers, the media, and government agencies to cease using rectangular world maps for general purposes or artistic displays. Such maps promote serious, erroneous conceptions by severely distorting large sections of the world, by showing the round earth as having straight edges and sharp corners, by representing most distances and direct routes incorrectly, and by portraying the circular coordinate system as a square grid. The most widely displayed rectangular world map is the Mercator (in fact a navigational diagram devised for nautical charts), but other rectangular world maps proposed as replacements for the Mercator also display a greatly distorted image of the spherical earth."

The resolution originated with the Committee on Map Projections of the American Cartographic Association (ACA) and has the endorsement of the ACA, the Association of American Geographers, the Canadian Cartographic Association, the National Council for Geographic Education, the National Geographic Society, the American Geographical Society, and the Geography and Map Division of the Special Libraries Association.

[...]

ACSM Press Release / June 1989

icc 2015 thematic programme



	Mon, 24 Aug	Tue, 25 Aug	Wed, 26 Aug	Thu, 27 Aug	Fri, 28 Aug
	11:00 – 12:00 13:30 – 14:50 15:30 – 17:10	08:30 – 09:30 10:30 – 11:50 13:30 – 14:50 15:30 – 17:10	08:30 – 09:30 10:30 – 11:50 13:30 – 14:50 15:30 – 17:10	08:30 – 09:30 10:30 – 11:50 13:30 – 14:50 15:30 – 17:10	08:30 – 09:30 10:30 – 11:50 13:30 – 14:50 15:30 – 17:10
Keynote Speaker	P1	P1	P1	P1	P1
3D Cartography				R6	R6
Art & Culture		R3	R3	R3	
Atlases			R7		
Cadaster Mapping & Surveying			R5	R5	
Cartographic Heritage		R6		R6	R6
Cartographic Theory & Geoinformation Science					R5
Cartography & Children		R4	R4		
Cartography Applied to Geosciences					R4
Cartography for Sustainable Development				R7	
Collaborative Mapping & Social Cartography	R3		R3		R3
Data Quality			R5		
Education & Training	R4	R4	R4	R4	
Environmental Risks & Disasters Mapping		R7	R7	R7	
Generalization & Multi-scale Representation			R4	R4	
Geointelligence & Crime Maps	R5				
Geoservices		R5			
Geospatial Analysis		R4		R4	R4
Geovisualization	R2		R2	R2	R2
History of Cartography & Historical Cartography		R6	R6	R6	
Hydrographic Mapping					R3
Location Based Services & Ubiquitous Cartography			R6		
Map Design				R3	
Map Projections	R5				
Map Use, Users and Usability		R2	R2	R2	R2
Mapping & Spatial Awareness for Disabled People					R5
Open Data, Source & Standards				R5	
Orienteering Mapping			R3		
Remote Sensing & Image Processing	R7			R7	R7
Semiotics, Map Perception, Cognition & Knowledge		R2	R2	R2	R2
Spatial Data Infrastructure					R5
Thematic Cartography		R3	R3		
Topographical Mapping & Mountain Cartography			R5	R5	
Toponymy	R6	R6			
Web Cartography		R7	R7	R7	
Special Session : GeoDesign					R3

Source: ICC 2015 website www.icc2015.org.
Diagram by Igor Drecki.

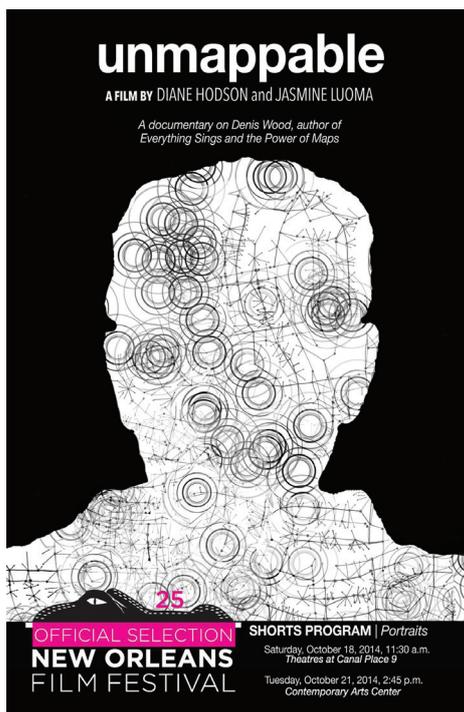
P1 Plenary Room 1 R2 — R7 Break-up Rooms 2–7

Art and Cartography

artcarto.wordpress.com/

Commission Activities

The ICA Commission on Art and Cartography is organizing two events at the upcoming 27th International Cartographic Conference in Rio de Janeiro. The first one (co-organized with the ICA Commission on Maps and Society) is a pre-conference workshop entitled *Mapping Ephemerality / Ephemeral Cartographies* that will take place on 21-22 August 2015 at the University of the State of Rio de Janeiro. The goal of this workshop is to provide an intellectual and creative space to share different ideas and methodologies about mapping evanescent elements such as memories, stories, sensations and perceptions about places, as well as a practical environment to learn how some of these methodologies and technologies can be used and adapted for designing (online) maps of ephemeral phenomenon. The full program of the workshop is now available online at artcarto.wordpress.com/2015/05/13/mapping-ephemeralities-program/.



The second event organized by the Commission is a screening of *Unmappable* at ICC 2015 in Rio de Janeiro. Directed by D Hodson and J Luoma (2014), it is a short documentary that weaves together the life and work of Denis Wood, one of the most influential and controversial critical cartographers. This documentary has already received several awards in film festivals (see www.facebook.com/unmappable-film). The date and the venue for the screening will be announced soon. Stay tuned.

Sébastien Caquard | Chair | ICA Commission on Art and Cartography | Canada ●

Atlases

www.univie.ac.at/cartography/karto/project/cnra/

Symposium in Rio de Janeiro, Brazil

A pre-ICC 2015 Symposium on Atlases, Toponymy and the History of Cartography will take place on 19-21 August at the Brazilian Institute of Geography and Statistics (IBGE) in Rio de Janeiro. It is organized jointly by the ICA Commissions on Atlases and the History of Cartography, and the Joint ICA Working Group / IGU Commission on Toponymy. The event will feature 23 oral presentations delivered by Brazilian and international experts, and technical visits to the National Library (Fundação Biblioteca Nacional) and the Navy Museum (Museu Naval). The Symposium is expected to attract about 60 participants.

Ana Cristina da Rocha Bérenger Resende | Local Organizing Committee | Brazil ●

Cartography and Children

lazarus.elte.hu/ccc/ccc.htm

Symposium in Niterói, Brazil

A joint Symposium on *Cartography Beyond the Ordinary World* will be held at the Institute of Geosciences of the Fluminense Federal University in Niterói, Brazil on 21-22 August 2015. Four ICA Commissions are organising the event:

- Cartography and Children
- Maps and Graphics for Blind and Partially Sighted People
- Planetary Cartography
- Cartography in Early Warning and Crisis Management

A total of 30 paper and poster abstracts have been received, with a strong Brazilian participation in each of the fields represented by the four Commissions. The Symposium's proceedings will be published digitally with an ISBN number. A visit to the Benjamin Constant Institute (IBC), the Brazilian institution founded in 1854 to support and promote educational activities for blind and visually impaired people is part of the programme.

The Symposium is part of the International Map Year celebrations organised prior to the ICC 2015 in Rio de Janeiro. It will provide an excellent occasion to share and exchange ideas and experiences of mutual interest to members of the four commissions. At same time, it will be a unique opportunity to develop a professional, constructive and innovative dialogue with colleagues representing Brazilian academic, research and educational community. The organisers welcome all individuals interested in

the relevant fields covered by the wide spectrum of research, teaching and development undertaken by our Commissions.

For more information about the Symposium, please contact Angelica Carvalho Di Maio (Brazil) dimaio@vm.uff.br or José Jesús Reyes Nuñez (Hungary) jesusreyes@caesar.elte.hu. The event's website is niteroi2015.elte.hu.

Children's Map Competition

An invitation to share and exchange opinions on the Barbara Petchenik Children's World Map Award has been sent out by the Commission, with the aim of improving this international competition. Submissions can be made by e-mail, or by leaving a comment on Commission's Facebook profile or ICA website. Our idea is to collect and analyse submitted opinions prior to ICC 2015, and then discuss the outcomes and results at the Commission business meeting during the ICA Conference. This will enable preparations for the next four year term 2015-2019.

For announcement about the *Children Map the World* book recently published by Esri, please refer to page 3.

José Jesús Reyes Nuñez | Chair | ICA Commission on Cartography and Children | Hungary ●

Cartography in Early Warning and Crisis Management

Workshop in Novosibirsk, Russia

The ICA Commission on Cartography in Early Warning and Crisis Management, together with Department of Cartography and Geoinformatics of the Siberian State University of Geosystems and Technology (SSUGT), the International Society for Digital Earth (ISDE), the International EuroAsian Academy of Science (IEAS), ISPRS, FIG and the Government of the Novosibirsk Region, organized the 6th International Workshop *Early Warning and Crises Management in the Big Data Era* on 21 April 2015. The Workshop was part of the InterExpo GeoSiberia 2015 program organized by the SSUGT and Exhibition Operator LLC *InterExpo GeoSiberia* within the XIth International Scientific Congress and Exhibition held on 20-22 April 2015 at the Novosibirsk Expo Centre, Russia.

The theme of the Workshop was inspired by the Commission's Research Agenda that considers Big Data as a new, ubiquitous term to describe large datasets that are challenging to store, search, analyse, share and visualize. Effective management and analysis of the Big Data in emergency management theory and practice brings great benefits for reducing



(From left) Prof Milan Konečný, Prof O Schuster and Prof Karpik at the InterExpo GeoSiberia 2015, Novosibirsk, Russia | Photograph courtesy of Milan Konečný

the consequences of natural and human disasters. Big Data mining is the capability of extracting useful information from large datasets or streams of data. The Big Data paradigm is also coming with new potential for handling and visualizing of data. The Big Data challenge is becoming one of the most exciting opportunities for the future.

The Workshop was opened by Milan Konečný who delivered a welcome address on behalf of the ICA President Georg Gartner. The main issues discussed at the Workshop were:

- Big Data theories and applications in early warning and crises management
- Collaborative emergency decision-making based on geoinformatics/geomatics and cartographic support
- Internet of things – from vertical development to horizontal integrations
- Emergency management information systems
- Geographic information science and technology for early warning, crisis response and management
- Modelling and simulation based on multimedia data
- Information acquisition and fusion of Big Data
- Analytical modelling and simulation
- Ubiquitous, adaptive and context-based mapping – determining and estimating future threats
- Foresight, planning and risk analysis integration
- Community policing in early warning and crisis management
- Media effectiveness analysis of crisis response

The one day program was attended by more than 100 participants, mainly young scientists and students. Amongst other, the following papers were delivered:

- *Big Data: The Geoinformatics and Cartographic Agenda* by Milan Konečný, Czech Republic
- *Big Data in Smart City* by Deren Li
- *Research in Cognitive Human-Computer Interactions for Decision Support in*

Emergency Situations Response by Eugene Levin *et al.*, USA

- *Russia Geoinformatics and Cartographical Support for Research of Preconditions of Hydro- meteorological Emergencies in the Charysh River Basin (Altai Krai)* by I N Rotanova, Russia
- *The Use of Space Imagery from Satellites of the Russian-Belarusian Spacecraft Constellation Intended to Control Natural and Industrial Disasters, Land Use, Forestry, Ecology and Provide Free Access to Geospatial Content* by Andrey V Danelyan, Russia
- *Relating Big Data to Local Natural Hazards: Lessons Learned from Data Mining the Twitter API for Volunteered Geographic Information on Earthquakes, Wildfires, and Prescribed Fires in the Contiguous United States* by Jessica L. McCarty *et al.*, USA
- *Assessment of MODIS Device Data for Flood Monitoring as an example of Flooding on the River of Chulyum in 2014* by M P Shagaev and E N Kulik, Russia
- *Integration of GIS Subsystems for Crisis Management at the Municipal Level* by A V Dubrovsky, E L Kim and Y K Mishustina, Russia
- *Development of Geospatial Solutions for Different Territorial Levels* by S Yu Katsko, Russia

The Workshop's program was chaired by Milan Konečný, Svetlana S Dyshlyuk, Dimitrij V Lisickij and Andrey V Demenev, last three from SSUGT in Novosibirsk.

Future Plans

Currently, the Commission concentrates on organizing a joint Symposium of three ICA Commissions and a Working Group in Niterói, Brazil prior to ICC 2015 (niteroi2015.elte.hu) and finalising the Terms of Reference for the next term 2015-2019.

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

Cognitive Visualization

www.geo.uzh.ch/microsite/icacogvis/

Commission Activities

The ICA Commission on Cognitive Visualization (CogVis) was established at the last meeting of the General Assembly in Paris in 2011. Since that time, we have grown to be an active Commission, holding at least one event each year in a variety of locations across Europe and North America, typically in conjunction with at least one other Commission.

CogVis membership currently stands at 216 members, representing 31 countries. We welcome new members with an interest in cognitive issues and visualization. You can join by registering your interest at our website. In our next term, we hope to expand participation in our Commission from geographic areas that are currently under-represented, including South America, by holding several events in Curitiba before the upcoming ICC, and in Asia, where we plan to hold at least one event in our next term, should the General Assembly choose to renew our Commission.

Our achievements include the organization of sessions and scientific activities at nine meetings, conferences or workshops, and we have thus far produced special issues in three journals: *Cartographic Journal*, *International Journal of Geographic Information Science*, and *Cartographic Perspectives*. You can find a full listing of our activities at www.geo.uzh.ch/microsite/icacogvis/activities.html, and we invite you to visit our Commission webpage for the details of these publications www.geo.uzh.ch/microsite/icacogvis/publications.html.

Before ICC 2015, in cooperation with the ICA Commission on Use and User Issues, we are organizing a workshop in Curitiba on conducting empirical user studies. This workshop is directed to postgraduate students and early career researchers, or those who are new to user studies. We will present a range of modules we have developed over the last term, in addition to some new materials on eye tracking, which was the focus of a very well-attended workshop we co-organized with the ICA Commissions on Use and User Issues and GeoVisualization in Dresden in 2013. We hope to attract students from many countries, including Brazil, to this workshop.

A second pre-ICC 2015 event that we are co-organizing in Curitiba, again with the ICA Commission on Use and User Issues, but also in conjunction with the ICA Commissions on Map Design and GeoVisualization, aims to produce the first steps towards developing a research agenda for the area of Interactive Cartography.

We would like to acknowledge the excellent support we have received from our Brazilian colleagues at the Paraná Federal University, who have made organizing the logistics of this



First version of the Empirical User Studies workshop at AutoCarto 2012 in Columbus, Ohio, USA (top); GeoViz 2013 meeting in Hamburg, Germany in March 2013 (bottom left); Pre-ICC 2013 Eye-tracking Workshop in Dresden | Photographs courtesy of Amy Griffin

meeting possible. They have also helped us to organize some social events and the chance to see a bit of their wonderful city during our visit. We hope that many of you can join us in Curitiba for what promises to be a stimulating couple of days – it is only a short 1-hour plane ride from Rio de Janeiro. If you are interested in joining us for one or both events, please register your interest at www.cartografia.ufpr.br/home/?page_id=200.

As we mature as a Commission we have big plans for our next term, including cooperation with some Commissions with whom we have not yet worked, such as the ICA Commission on Art and Cartography, with whom we hope to organize a joint event in the near future. Sara Fabrikant, the current Commission Chair, will be stepping aside to run for the ICA Executive. Amy Griffin is nominated as Commission Chair, and Sidonie Christophe of France has been invited to join the leadership team as co-Chair.

Amy Griffin and Sara Fabrikant | Vice Chair / Chair | ICA Commission on Cognitive Visualization | Australia / Switzerland ●

Digital Technologies in Cartographic Heritage

www.web.auth.gr/ICA-Heritage/

Conference and Workshop in Corfu, Greece

The 10th Jubilee Conference of the series *Digital Approaches to Cartographic Heritage* organized by the ICA Commission on Digital Technologies in Cartographic Heritage since 2006, was held in one of the UNESCO's World Heritage sites, the Old Town of Corfu, on 27-29 May 2015. The hosting institution was the History Department of the Ionian University, a

unique small university specialising in history, translating and interpretation studies, information sciences and informatics, and music and audiovisual arts. The Conference was accompanied by two parallel events, the intensive tutorial *Georeferencing for Non-experts* and the Map Exhibition *Corfu: 18th Century Planimetries of Baronies*.

The History Department of the Ionian University (IU), the School of Rural and Surveying Engineering (AUTH-SRSE) / Cartoheritage Group of the Aristotle University of Thessaloniki, and the Hellenic Cartographic Society (HCS) sponsored the Conference in partnership with the General State Archives of Greece – Historical Archives of Corfu (GAK-IAK), the Map & Geoinformation Curators Group (MAGIC), the International Web Journal *e-Perimetron*, and the Commission's Supporting Institutions: Cartographic and Geological Institute of Catalonia (ICGC), University of Venice (IUAV), National Library of Scotland (NLS) and Eötvös Loránd University (ELTE).

Almost 150 participants from 25 countries attended the Conference, featuring 43 papers in eight plenary sessions within the following thematic groupings: GLAM (the established acronym for Galleries, Libraries, Archives, Museums), the digital and the web; issues on aerial photography; projections and georeferencing; old maps, texts and geoinformation; processing and interpretation.

At the opening ceremony in IU's Aula Magna, eight honorary awards were presented to colleagues representing institutions which actively support the Commission over the past 10 years. The awardees were:

- Dr Carme Montaner, Vice Chair of the Commission, representing ICGC
- Prof Francesco Guerra, IUAV
- Prof László Zentai, ELTE
- Prof Dimitrios Anoyatis-Pelé, IU

- Prof Dimitrios Tsoulis, AUTH-SRSE (provided resources to the Commission since its inception in 2005)
- Prof Lysandros Tsoulos, HCS (provided institutional support of the Commission in the ICA)
- Prof Nikos Karapidakis, GAK (provided resources to the Commission through the Archives of Cartographic Heritage in Thessaloniki)
- Dr Anastasia Tourta, Emeritus Director of the Museum of Byzantine Culture of Thessaloniki (hosted the first Commission conference in 2006 and sponsored the restoration of the third known, extant copy held in Greece, of the rare Anthonis Gazis World Map, Vienna 1800)

Admiral Rtr A Maratos, Rector of the IU, Dean of the Faculty of Information Sciences and Informatics, and former Director of the International Hydrographic Office; Prof Miljenko Lapaine, Chair of ICA Commission on Map Projections; Prof R Rubin from the University of Jerusalem; Prof L Rombai from the University of Florence; Dr P Buonora, Director of the State Archives of Rome; and Prof E Livieratos, Chair of the ICA Commission on Digital Technologies in Cartographic Heritage handed the honorary awards at a ceremony brightened by a musical intermezzo for two guitars and a flute played by students of the IU Department of Music.

The 6-hour *Georeferencing for Non-experts* intensive course was held at the GAK-IAK in the Old Fortress. The tutorial on georeferencing was especially designed for and addressed to participants, academics and professionals coming from non-technical backgrounds, i.e. history of cartography, map curatorship in libraries and archives, and affine fields dealing with historical maps and their reading, analysis and interpretation. The tutors presented georeferencing alternatives and relevant examples of good practices in digital transformations of historical maps, with the use of a freely available application platform. 25 participants from 14 countries attended the course facilitated by Prof E Livieratos, Prof C Boutoura, Prof V Tsioukas (AUTH-SRSE), Dr A Tzorlini (ETHZ-IKG), Dr P Pridal (KLOKAN) and Dipl Math F Makris (AUTH-SRSE).

The Map Exhibition organised by the Historical Archives of Corfu (GAK-IAK) displayed unique and rare manuscript plans and land registers of the island's Baronies, by known Venetian surveyors (e.g. Costantin Rosa Sicuro, Alessandro Ganassa, Girolamo Semitecolo) from the late Venetian domination of Corfu (18th century). The Exhibition was organised in cooperation with the AUTH-SRSE Cartoheritage Group. For more information about the Corfu Conference, please visit www.web.auth.gr/ICA-Heritage/Corfu.

Evangelos Livieratos | Chair | ICA Commission on Digital Technologies in Cartographic Heritage | Greece ●

Education and Training

lazarus.elte.hu/cet/

Commission Activities

Since the last report on the ICA Commission on Education and Training (see *ICA News*, No 62, June 2014, pp 13-14), we have been preparing our next formal meeting and contributing to discussion on issues related to the education of the next generation of cartographers. These activities have been undertaken in conjunction with other ICA entities (the Commission on Maps and the Internet, and the Working Group on International Map Year) and associated organisations (the US University Consortium on GIS (UCGIS), the North American Cartographic Information Society (NACIS)).

David Fairbairn, Commission Chair, presented a paper on accreditation of cartographic education at the Annual Meeting of the Association of American Geographers in Chicago in April 2015, and participated in a panel discussion on some of the practicalities of teaching cartography within a broader GIScience syllabus. A special issue of the journal *Cartographic Perspectives*, published by NACIS in the USA, will be devoted to cartographic education in late 2015, reflecting on the Chicago proceedings and considering the role of cartographic education in contemporary higher education. The US-led initiative (2006) in developing the *Body of Knowledge* for Geographic Information Science and Technology (GIS&T) has been instrumental in shaping education in the past decade. Along with European input from an AGILE-led initiative, the US UCGIS is looking at *Body of Knowledge Plus*, updating and extending the potential syllabus for education in GIS&T: ICA was invited to their meeting in Chicago and hopes to contribute in some way to this project.

In the tradition of collaboration with other ICA Commissions, the Education and Training Commission has planned a pre-conference workshop (before the main ICC in Rio) in Curitiba, Brazil, 20-21 August 2015. This will be jointly presented with the Commission on Maps and the Internet, and consist of a practical hands-on class, led by Prof Mike Peterson (University of Nebraska at Omaha, USA), addressing *Mapping in the Cloud*. Concentrating on developments in APIs for mapping and GIS, this class will be of significant benefit to those cartographers wanting to update their knowledge of this rapidly changing area, and particularly to students hoping to learn about contemporary cartographic practice in the context of their educational syllabus. The practical session will be complemented by talks by a range of international cartographers on issues and experiences in the classroom, primarily related to the influence of the Internet on such

practices. These presentations will stand alongside the accepted papers for those several sessions devoted to topics of education, and of Internet issues, which are already in the programme for the main conference in Rio, which starts one day later.

Reflecting the commitment of ICA to education in its broadest sense, a training workshop in the Indian Ocean nation of The Maldives will be offered under the auspices of the Commission later in 2015. As the successful architect of previous ICA training courses, in Iran, Vietnam and Indonesia, the former chair of the Commission, Dr David Fraser (Australia) has kindly volunteered to take on the significant task of organising this course, and continue the work of the Commission in expanding the role of ICA around the globe.

David Fairbairn | Chair | ICA Commission on Education and Training | *United Kingdom* ●

Generalisation and Multiple Representation

generalisation.icaci.org/

Workshop in Paris, France

The relationship between user, task and the design of maps is well known. In a technological deterministic world, the past 60 years has been spent trying to automate map generalization, and as part of that process, to model explicitly this critical triad of relationships. Ontological modelling has been held up as a medium through which such conceptualizations and their inter relationships can be modelled – a framework by which we might move from pen and ink diagrams through to a formal knowledge representation language such as

OWL (www.w3.org). Such formalism opens the door to machine learning and the idea that the geography of the landscape can play an integral part in the design process. But what are those conceptualizations? How do we step through this process? What might be the collaborative benefits of such an endeavour? These questions were explored through a two day workshop *Ontologies and Map Generalization* organised by the ICA Commission on Generalisation and Multiple Representations and held in Paris on 26-27 March 2015. Among the international participants were two ontology experts from the University of Manchester, Robert Stevens and Sean Bechhofer, who chaired the various discussions and steered the groups through various Agile (rapid prototyping) tasks.

The two days were intended to create common ground in both ontological methods and shared understanding of the many conceptualizations that relate to map generalization. The ambition of such work is to

1. create a framework through which open source solutions can be developed and shared
2. develop on-demand web based systems capable of producing thematic maps in response to user requests

The task is very much 'on going' and future events will hopefully present case studies illustrating the flexibility that ontological modelling affords. A more detailed report summarising the findings of the workshop can be found on the Commission website (generalisation.icaci.org/index.php/prevents).

Future Plans

Next activities of the Commission are the organization of ICA-ISPRS Workshop on Generalisation and Multiple Representation in Rio de Janeiro on 21 August 2015 together with

Participants of the *Ontologies and Map Generalization* Workshop organised by the ICA Commission on Generalisation and Multiple Representation in Paris, France | Photograph courtesy of Dirk Burghardt



ISPRS WG II/2 Multi n-dimensional Spatial Data Representations, Data Structures and Algorithms.

There are also concrete plans to have a follow up workshop to the ICA/EuroSDR – NMA Symposium (www.eurosd.net/workshops/2nd-ica-eurosd-nma-symposium) which was successfully carried out in Barcelona in 2013 on the topic *Designing MRDB and multi-scale DCMs: sharing experience between governmental mapping agencies*. Jantien Stoter (TU Delft, TD Kadaster) will be the contact person from the EuroSDR organization. The workshop will take place at the Kadaster office in Amsterdam on the 3-4 December 2015.

William Mackaness, Dirk Burghardt and Cécile Duchêne | Chairs | ICA Commission on Generalisation and Multiple Representation | *United Kingdom / Germany / France* ●

Geospatial Analysis and Modeling

sites.google.com/site/commissionofica/

Conference in Athens, Georgia, USA

We have successfully organized the International Conference on Location-based Social Media in Athens, Georgia, USA, 13-14 March 2015. More than 50 participants and three keynote speakers attended the event. Two pre-conference workshops, one focusing on hands-on social media data acquisition and visual analytics, and the other on a NSF project were held. For more information, please visit research.franklin.uga.edu/iclsm/.



A session at the International Conference on Location-based Social Media, Athens, Georgia, USA | Photograph courtesy of Bin Jiang

Future Plans

Currently, we are editing a special issue of the *Computers, Environment, and Urban Systems* international journal on *New Insights into Location-based Social Media Data*.

Bin Jiang and Xiaobai Yao | Chair / Vice-chair | ICA Commission on Geospatial Analysis and Modeling | *Sweden / USA* ●

GeoVisualization

geoanalytics.net/ica/

Introduction

The Commission on GeoVisualization of the International Cartographic Association (ICA) was established in 2007 by Gennady Andrienko (Fraunhofer Institute IAIS, Germany) and Jason Dykes (City University London, United Kingdom) to continue the work of the highly successful Commission on Visualization and Virtual Environments, which was key in establishing the emergent discipline of 'Geovisualization' since 1995.

The main focus for the period 2007-2015 was on the use of interactive maps and cartographic techniques to support interactive visual analysis of complex, voluminous and heterogeneous information involving measurements made in space and time.

In 1995 interactive maps were predominantly used by scientists involved in analysis and hypothesis generation in the private realm. Now interactive maps are being widely used for research, education and information consumption through a range of accessible media and technologies in a variety of disciplines and applications scenarios on all sorts of computers in all sorts of places. In this broad and evolving context there is a clear need for the cartographic community to contribute to and learn from the development and use of interactive maps and cartographic techniques that are designed specifically for visual analysis. These interactive maps are being used as flexible spatial interfaces and are being applied to data sets that were either unavailable in 1995 or that could not be visualized through existing technologies and techniques. They are being applied to data sets that are massive, collected in real time by advanced sensors, and not necessarily spatial. They are used increasingly in GIScience and beyond for knowledge building and theory generation, decision support, disaster management, information communication, education and learning.

Workshops, Special Issues and Research Agenda

During the eight-year period, the Commission has organized workshops on a regular basis as a focus and forum for research activity in which possibilities for geovisualization are explored and knowledge about geovisualization is established. Most of the workshops have been attached to major conferences (e.g. ICC, GIScience, AGILE), whilst several others have been organized as a successful stand-alone conference at HafenCity Universität Hamburg. Jochen Schiewe and his team at the g2Lab have established the GeoViz conference series as an innovative, original and inspiring forum for presenting and discussing new ideas in

geovisualization. The workshops have resulted in 11 special issues of established journals:

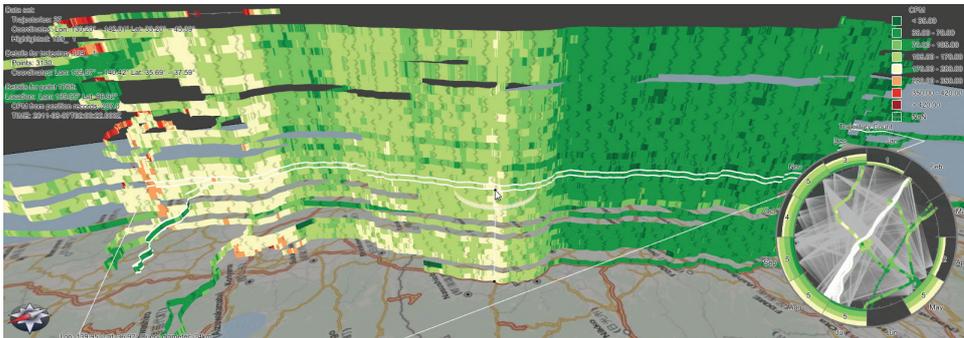
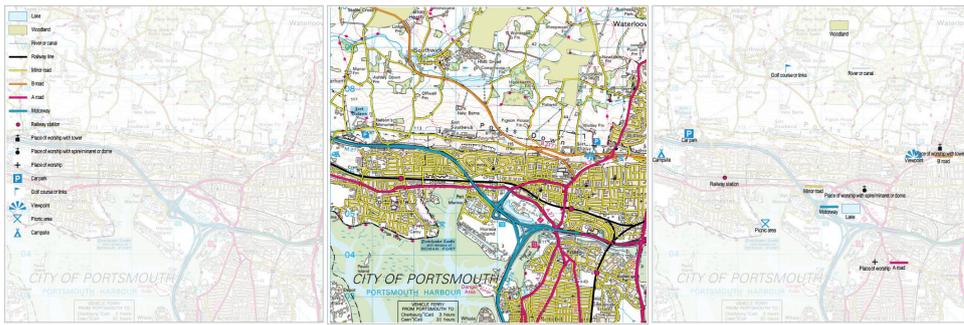
- GeoVisual Analytics: Interactivity, Dynamics, and Scale (*CaGIS* in preparation)
- GeoViz: Interactive maps that help people think (*JGIS* 2014)
- Geospatial Visual Analytics: Time to Focus on Time (*Information Visualization* 2014)
- GeoViz – Linking Geovisualization with Spatial Analysis and Modelling (*Cartographica* 2011)
- Challenging Problems in Geovisual Analytics (*JVLC* 2011)
- Geospatial Visual Analytics: Focus on Time (*JGIS* 2010)
- Geospatial Visual Analytics: Focus on Time (*JLBS* 2010)
- GeoVisualization and the Digital City (*CEUS* 2010)
- GeoSpatial Visual Analytics (*CaGIS* 2009)
- Geovisualization of Dynamics, Movement and Change (*Information Visualization* 2008)
- Geovisual Analytics for Spatial Decision Support (*JGIS* 2007)

The commission prepared several strategic papers associated with these activities and publications, including:

- *Geovisual Analytics for Spatial Decision Support. Setting the Research Agenda*, DOI [10.1080/13658810701349011](https://doi.org/10.1080/13658810701349011)
 - *Geovisualization of Dynamics, Movement and Change: Key Issues and Developing Approaches in Visualization Research*, DOI [10.1057/ivs.2008.23](https://doi.org/10.1057/ivs.2008.23)
 - *Space, Time, and Visual Analytics*, DOI [10.1080/13658816.2010.508043](https://doi.org/10.1080/13658816.2010.508043)
 - *Challenging Problems of Geospatial Visual Analytics*, DOI [10.1016/j.jvlc.2011.04.001](https://doi.org/10.1016/j.jvlc.2011.04.001)
- These papers received a large number of citations and have helped shape ongoing research in geovisualization.

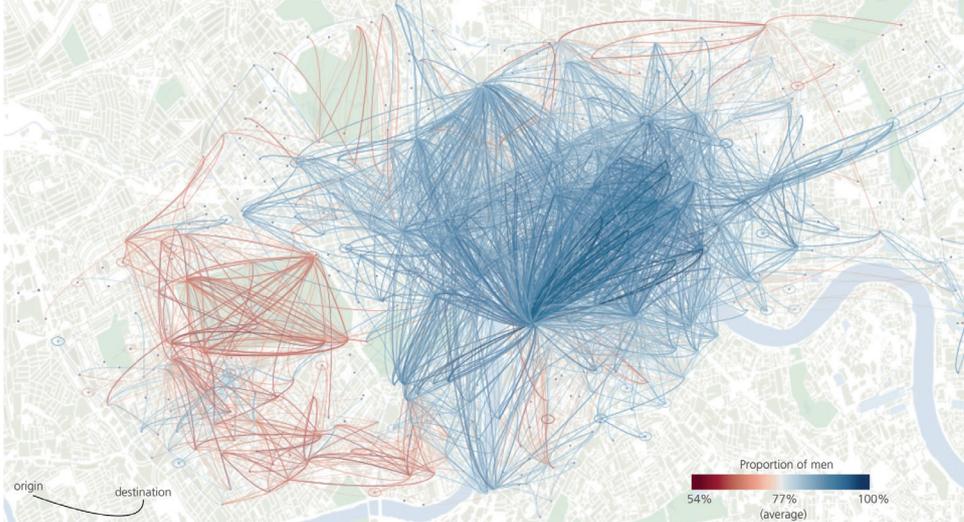
Cartography and Computer Science

An important achievement of the Commission is the cross-fertilization of geovisualization research activity in broader disciplines within computer science, including information visualization, data mining, and the important developing area of visual analytics. Commission members aim to contribute cartographic knowledge to these disciplines and learn from and take advantage of the knowledge and techniques that they offer. One particular focus has been the influential *IEEE VIS* conference series (rated A+ by CORE) and associated journal *IEEE Transactions in Visualization and Computer Graphics* (A). These high-ranking computer science conferences have seen a wide range of papers and presentations from Commission members and cartographers more widely since 2007. Cartographic ideas are informing and influenced by visualization – for instance Dykes *et al.* (2010) used the cartographic back-catalogue to create prototypes and establish guidelines for legends > 14



London Cycle Hire: Men's and women's journeys

Cycle journeys made by at least 50 people, Jan 2012-Feb 2013



(From top) Rethinking Map Legends with Visualization (Dykes et al., 2010): Exploring the use of interactive legends in cartography and information visualization; Myriahedral map projections (van Wijk, 2008): A projection that shows the Earth's oceans; Trajectory wall (Tominski et al., 2012): Interactive access to spatio-temporal data; Cycling Flow Maps (Beecham and Wood, 2014): Clear gender-related differences in cycling behaviour in London relate to workplace location, road layout and attitudes to cycling | Images courtesy of Jason Dykes

in visualization, whilst Bernhard Jenny (2012) developed adaptive composite map projections and an interactive interface through which these can be explored.

Citations of cartographic work in the visualization literature are increasing as the cartographic literature influences visualization. Several cartographers are now on the programme committees of VIS and IEEE TVCG and many cartographers review regularly to transfer knowledge of geovisualization to this broader community. Andrienko is now Associate Editor of IEEE TVCG and papers chair of the IEEE Visual Analytics Science and Technologies conference (VAST) at VIS – a role previously held by Alan MacEachren. Dykes has twice been papers chair of IEEE Information Visualization (InfoVis) and is now a member of the conference steering committee – the first member of the cartographic community to hold such a position at a major visualization conference. And this works both ways. Senior members of the visualization community are publishing innovative work in cartographic fora and developing interesting and informed cartographic techniques in the visualization conferences and journals.

Core research produced by Commission members has involved new methods of representation, knowledge about representation techniques, and models of interaction and for design.

EU Research Projects

Commission members have participated in several EU-funded projects that helped with this activity, including *VisMaster: Visual Analytics – Mastering the Information Age (2008-2010)*, *MODAP: Mobility, Data Mining and Privacy (2009-2012)*, *MOVE: Knowledge Discovery for Moving Objects (2009-2013)*, *Energic: Exploring Research into Geospatial Information Crowdsourcing: software and methodologies for harnessing geographic information from the crowd (2013-2017)*, *VALCRI: Visual Analytics for Sense-Making in Criminal Intelligence Analysis (2014-2017)*. The Commission has thus helped to promote the role of geovisualization through these projects and in these disciplines.

Commission on Visual Analytics

In 2015 the Commission will change focus and leadership after the ICA elections in Rio de Janeiro. Anthony Robinson (Pennsylvania State University, USA) and Urška Demšar (University of St Andrews, United Kingdom) will direct the next term of activity. As GIScience enters the big data era, new visual and analytical methods to extract knowledge and value from massive spatio-temporal data sets are in greater demand than ever, and we aim to bring the Commission closer to the established and influential field of Visual Analytics. To reflect this focus, we

propose clarifying the focus of the Commission's work on visual analytics for spatio-temporal data and to change its name to **Commission on Visual Analytics**. We will promote and support research that will address the challenges associated with new visual analysis of massive spatio-temporal data sources. To help users solve real world problems, we need new and improved approaches that facilitate analytical reasoning through interactive visual interfaces. As it has done for many years already in its previous incarnations, the Commission will foster interdisciplinary and international collaborations between potential users of map-oriented visual analytics and researchers, as well as between allied research communities in other disciplines and other ICA Commissions. It will build upon the relationships that have been established with Computer Science.

We plan to do this through three different pathways: events, dissemination and web presence. Firstly, we will continue to organise annual meetings, workshops and related events, either on our own or via linkages to related ICA Commissions and/or organisations from allied fields. We plan to develop the new research agenda for the spatio-temporal visual analytics through organisation of specialised expert workshops. We will co-locate some of these events with international conferences (for example, GIScience, Geocomputation, IEEE VIS, AGILE, and other series), to expand our reach beyond traditional cartographic audiences. As an example, our first two events under the umbrella of the new Commission will be the following (organised in collaboration with the Commissions on Cognitive Visualisation, Use and User Issues, and Map Design):

- ICC 2015 Pre-Conference Workshop *Envisioning the Future of Cartographic Research* on 21 August 2015 in Curitiba, Brazil
- The workshop *GeoVIS 2015: Rendering and Cognition with Images and Hybrid Visualizations*, co-located with the ISPRS Geospatial Week 2015, 28 September – 2 October 2015 in La Grande Motte, France

Secondly, we will promote dissemination of technical and methodological advances in spatio-temporal visual analytics by providing appropriate publication opportunities, such as special issues of journals on topics related to spatio-temporal visual analytics.

For the third pathway, we will maintain a dedicated web presence for the commission in order to reach audiences beyond attendance at in-person meetings. We plan to increase our engagement with members all over the world through social media, and will introduce new forms of distance participation in Commission activities, including online seminar series and regular twitter chats.

We encourage those with an interest in understanding, developing and applying

interactive analytical cartography to participate in Commission activities as cartography contributes to visual analytics.

Jason Dykes | Vice Chair | ICA Commission on GeoVisualization | *United Kingdom* ●

History of Cartography

www.ichistory.org/

Symposium in Ghent, Belgium

The ICA Commission on the History of Cartography held its 5th International Symposium at the University of Ghent in Belgium from 2-5 December 2014. The theme of the Symposium was *Cartography in Times of War and Peace*. The Symposium was jointly organised by the ICA Commission on the History of Cartography, the ICA Commission on Map Production and Geobusiness, and the Brussels Map Circle (BMC) in collaboration with the Department of Geography of Ghent University, and the Research Foundation Flanders (FWO). The various paper sessions were held at Ghent University Conference Centre Het Pand.

As a pre-symposium event, a Second EuroSDR Workshop on the *Preservation of the Geographical Production Process* took place at the Department of Geography of Ghent University. The initiative was supported by EuroSDR (EuroSpatial Data Research), EuroGeographics (the Association of European National Mapping and Cadastral Agencies), the ICA and the National Geographic Institute Belgium. The first workshop which took place in 2013 was organised by a consortium of Ghent University, Swisstopo and the National Geographic Institute of Belgium.

The aim of the First Workshop (2013) was to bring the preservation problem to the attention of European National Mapping Agencies, academic institutions, museums, private companies, ICA members, and other interested parties and to ask for their cooperation in

addressing this situation. The aim of the Second Workshop was to create a European platform to investigate this matter and to propose a concrete plan to preserve and open up knowledge on cartographic production processes during the 20th century.

The ICA Commission on the History of Cartography pledged its support for this venture and undertook to investigate to what extent pre-digital map production processes and procedures have been archived and documented by National Mapping Agencies.

The Symposium was open to cartographers, geographers, historians, map collectors, academics and lay persons interested in the history of cartography. A total of 29 papers were presented and organized into 10 sessions. The Symposium was attended by approximately 55 people, with majority of participants coming from Europe (Finland, France, Belgium, the Netherlands, Germany, Austria, UK, Switzerland, Czech Republic, Croatia, Greece), whereas others came from as far afield as the USA, Australia and South Africa.

To complement the Symposium, the former Map Librarian of the Royal Geographical Society in London, Francis Herbert, kindly exhibited approximately 50 military maps from his private collection. The maps covered various military events such as the Crimean War, the Boer War, the First World War, and the Second World War.

The social aspect of the Symposium was well catered for with a guided visit to the In Flanders

Fields Museum in Ypres, which is dedicated to exhibits relating to the First World War, followed by dinner and the attendance of the daily Last Post Ceremony.

The conference dinner took place on Thursday 4 December after a guided visit to the Mercator Museum in St Niklaas.

Elri Liebenberg | Chair | ICA Commission on the History of Cartography | *South Africa* ●



The Symposium audience in Het Pand, Ghent University Conference Centre (*left*); Francis Herbert (*left*) explains some detail on a military map to Caroline de Candt (*centre right*), while Imre Demhardt (*centre left*) and Paul de Candt look on | Photograph courtesy of Elri Liebenberg



Map Design

mapdesign.icaci.org/

Commission Activities

The Commission's MapCarte series of daily blogs (at mapdesign.icaci.org) ended on 31 December 2014, concluding the 365 strong series of great examples of map design. The site has seen wide acclaim and acts as a repository of high quality cartography across the spectrum of products, both historical and contemporary. Each map includes an extract, links to larger or high resolution versions and a brief commentary outlining its merit in design terms. Occasional blog posts will continue to mark worthy maps going forward. The blog has 200 subscribers who have been following and sharing the MapCarte series. About 30 of the blogs have also been turned into contributions for a forthcoming book by Phaidon Press to celebrate the rich variety of cartography from a design perspective.

Chair Kenneth Field and Commission member Damien Saunder are working on a new cartographic design book with Esri Press that is well underway and should be published in 2016 to align with the ICA International Map Year. Additionally, Vice Chair Alexander Kent has recently published an edited book, entitled *Cartography: a Reader* alongside Steve Chilton to showcase some of the very best papers in *The Bulletin of the Society of Cartographers*. The book celebrates the 50th anniversary of the Society. Alex is also preparing another cartographic book along with Professor Peter Vujakovic, Canterbury Christ Church University, UK.

A number of members of the ICA Commission on Map Design helped organize and contribute to a range of sessions at the Association of American Geographers meeting in Chicago in April 2015. Collaborating with the Commission on Cognitive Visualization, Amy Griffin, Rui Li and Kenneth Field organized a series of sessions of well received talks on contemporary areas of map research. Sessions covered emerging themes in cognitive and behavioural assessment, pushing the boundaries with maps, uncertainty on maps and in spatial relations and cartographic education and practice. Sponsored by the AAG Cartography Speciality Group, Kenneth Field also took part in a panel discussion alongside Janet Speake (Liverpool Hope University), Chris Perkins (University of Manchester) and Doug Richardson (AAG Executive Director) on geographers, geography and the new cartography which precipitated interesting debate and discussions that will inform future meetings and research.

Preparations have been made with the UK Cartographic Committee to seek re-nomination of the Commission at the International Cartographic Conference in Rio de Janeiro in

August 2015. Kenneth Field (UK, Esri Inc) is seeking re-election as chair alongside new Vice-Chairs Ian Muehlenhaus (USA, James Madison University) and Damien Saunder (Australia, Esri Inc).

The Map Design Commission is working with the Commissions on Cognitive Visualisation, Use and User Issues and GeoVisualization to organize and deliver an ICC 2015 pre-conference workshop in Curitiba, Brazil. The focus of the workshop is to explore new agendas for cartographic research in the broad areas of the Commission's interests. Preparation work is well underway and white papers will be produced as a focus for discussions during the workshop. The outcome of the workshop will help to identify and drive forward research post ICC 2015. Further details are available from the workshop website www.geo.uzh.ch/microsite/icacogvis/icc15_ef.html. The Commission and its members also look forward to having a strong presence at ICC 2015 in Rio de Janeiro with many accepted presentations across the schedule. It's shaping up to be an exciting time for map design.

Kenneth Field | Chair | ICA Commission on Map Design | USA ●

Map Production and Geobusiness

mapproduction.icaci.org/

Introduction

The ICA Commission on Map Production and Geobusiness works within its Terms of References in order to address the requirements of service oriented map production, geobusiness, economy and logistics. All activities are based on special interests and bring together stakeholders from the academic, economic, authoritative, non-government and educational communities. Various communication tools, like publications, workshops and symposia, help to support the understanding of Service-Oriented mapping methodologies. In the past six months the Commission organised several meetings and workshops.

Workshops in Vienna, Austria

The *Hands-on Cultural Heritage Geospatial Infrastructures: A fundament for collaboration and exchange* workshop was held on 4 November 2014 during the 19th International Conference on Cultural Heritage and New Technologies, 3-5 November 2014, in the city hall of Vienna.

The workshop focused on geoportals and metadata as fundamental ingredients of map production. The main interest concerned the use of distributed data sources and their metadata access in archaeological excavations.



Dr Markus Jobst speaking at the International Symposium on Location-Based Services – LBS 2014, Vienna, Austria
| Photograph courtesy of Research Group Cartography, TU Wien

Archaeological excavations produce very detailed (georeferenced) excavation maps and a number of *in-situ* findings, which may be displayed in museums or available as digital objects from various webportals (e.g. www.europeana.eu/). Although all pieces are georeferenced in various ways – the place of manufacturing, trade or usage – and mapped, an overview and relationship with other geospatial information is missing. Spatial data infrastructure with a specific extension for cultural heritage may help in map production and therefore support any access to distributed thematic and location information. This short hands-on introductory workshop was a big success and will be organized again in 2015.

Another hands-on workshop *Open Source GIS and Modern Webmapping* was held in Vienna, Austria on 24-25 November 2014. It was organized on behalf of two ICA Commissions, i.e. Map Production and Geobusiness, and Open Source Geospatial Technologies (somap.cartography.at/?WS_Open_GIS_and_Modern_Webmapping).

This workshop focused on Open GIS, server-side mapping, SQL and spatial data infrastructures. The aim of the workshop was to introduce modern webmapping tools and methodologies in a comprehensive and understandable way. All exercises were well documented and followed a step-by-step approach to achieve their goal.

Symposium in Vienna, Austria

The second symposium on *Service-Oriented Mapping* took place between 26-28 November

2014 at TU Wien, Austria (somap.cartography.at), together with the International Symposium on Location-Based Services – LBS 2014.

This symposium was addressed to scholars, researchers, digital industry / market operators, and students with different backgrounds (scientific, engineering and humanistic), whose work is either focused on or relevant to location based services (LBS) and service-oriented mapping (SOMAP). The symposium offered sharing opportunities to colleagues from various disciplines.

Symposium in Ghent and Brussels, Belgium

The International Symposium *Cartography in Times of War and Peace* was held on 2-6 December 2014 in Ghent and Brussels.

Organizing partners were the ICA Commission on the History of Cartography, the ICA Commission on Map Production and Geobusiness and the Brussels Map Circle (geoweb.ugent.be/histocarto2014/).

Sessions hosted by our Commission focused on the influence of war on map production techniques. Through the ages the entire cartographic process, from initial concept, data collection, compilation and graphic design to publication and use, was affected by political motives and military needs. Therefore, the Commission accepted contributions on the deployment of cartographic expertise in wartime, the progress of mapping technology and printing methods (engraving techniques, lithographic processes, photomechanical techniques, aerial photographic surveying, photogrammetry etc.) in response to military needs and the emergence and development of national military survey and mapping institutions.

Future Plans

From the past activities and events organized by the Commission, partner organisations and companies we can observe, as a matter of course, the usage of Service-Oriented structures in geoinformation. Distributed systems and common methodologies of access and use, even help to follow the sustainable development goals of the UN (sustainabledevelopment.un.org/sdgsproposal/). Any expansion from cartography to IT and management methodology is useful and enhances a sustainable access and use of geoinformation. Therefore a cooperation with the GIS Management Institute of URISA is a logical step for our Commission.

Following from the URISA workshop in the Caribbean, we advocated for signing a Memorandum of Understanding between the ICA and the Urban and Regional Information Systems Association (URISA) (icaci.org/memoranda-of-understanding/). The MoU facilitates an exchange of GI management

methodologies and consideration of GIS maturity models. From the Commission's point of view existing maturity and competency models need to be adopted for Service-Oriented Mapping as well as for the "global view". These topics are the focus of trans-organisational exchange activities, especially with the help of workshops and surveys.

Indicators for the relevance of Service-Oriented Map Production (SOMAP) can be summarised as follows:

- Open Government Data and the free access to geoinformation concerns transparency and accessibility, which are main issues in SOMAP
- Big Data and the realtime processing, as well as information mining, makes use of SOMAP methodologies, which lead to expressive and effective maps in the end
- Interoperability and harmonisation are big issues for geoinformation and the combination of distributed sources (this is just the first step); we face map production problems, which are based on these distributed data sources
- New business models develop on the basis of distributed geoinformation sources, their realtime incorporation and required stewardship contracting; for this kind of map production we observe specific and adopted methods that enable us to calculate a return on investment, the maturity of MAP management and the maturity of spatial communication
- The state of earth dramatically changes (we know this from various sensor observations), therefore geospatial reporting is a big issue that uses maps or similar derivations of geoinformation intelligence; the fundament for this usage of geonetworks are Service Oriented Architectures and the body of cartographic knowledge, which is mainly used in environmental reporting
- Many applications develop in the framework of Service Oriented Architectures, therefore the Internet of things, geospatial objects and linked data lead to a loss of stewardship for the content of an cartographic application – what is the state-of-art of map preservation utilising these technologies? are there any? Our future work should focus on the

development of Service-Oriented Mapping (SOMAP) as the main link between GIS and cartography. The SOMAP paradigm, with its distributed information sources and decentralized responsibilities, could make map productions and its use much more efficient, profitable and widely acceptable. This Commission should take responsibility for addressing these issues, research them and make this knowledge publicly available

Markus Jobst and Philippe de Maeyer | Vice Chair / Chair | ICA Commission on Map Production and Geobusiness | *Austria / Belgium* ●

Mapping from Remote Sensor Imagery

mailer.fsu.edu/~xyang/ica/

Commission Activities



A major project of the ICA Commission on Mapping from Remote Sensor Imagery in the last couple of years was to produce an edited book with a collection of research papers discussing the development and use of remote sensing and geospatial information

technologies in environmental change studies. The book *Monitoring and Modeling of Global Changes: A Geomatics Perspective*, edited by Jonathan Li and Xiaojun Yang, Vice Chair and Chair of the Commission respectively, has now been published by Springer.

We have been collaborating with several peer remote sensing working groups within ISPRS (International Society for Photogrammetry and Remote Sensing) and EARSeL (European Association of Remote Sensing Laboratories). We are currently sponsoring two major conference events: the 2nd International Workshop on Temporal Analysis of Satellite Images (Stockholm, Sweden, 17-19 June 2015; led by Professor Yifang Ban, Commission Vice Chair) and the 5th International Conference on Earth Observation for Global Changes (EOGC 2015) (Al-Ain, United Arab Emirates, 8-10 December 2015; led by Professor Jonathan Li).

Xiaojun Yang | Chair | ICA Commission on Mapping from Remote Sensor Imagery | *USA* ●

Maps and Graphics for Blind and Partially Sighted People

visualdisabilities.wix.com/icahome/

Commission Activities

Researchers of the universities and institutions involved in studying the issue of visual handicap in Argentina, Brazil, Chile and Peru are working on the project *Proposal for Standardizing Tactile Symbolology for Latin America: Application in cartography for tourism*, led by the Tactile Cartography Centre Program (CECAT) of the Metropolitan Technological University (UTEM) of Chile and financed by the Pan American Institute for Geography and History (PAIGH-OAS). This research project, now in its second year, is aimed

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Meeting of experts at the Special Basic Education Centre (CEBE) in Cuzco, Perú, May 2015 | Photograph courtesy of Alejandra Coll Escanilla

mainly at standardizing tactile symbology for making cartography that enables knowledge of geography and resources for tourism in Latin American countries to be encouraged and distributed in such a way as to share a common tactile symbology. The project intends to consolidate the standard symbology that has been studied and designed between 1994 and 2013, plus that which is being studied and adapted especially for tourism during 2015.

The international team with expertise in cartography, design, geography, special-needs education and tourism, among other specializations, gathered together at the Special Basic Education Centre (CEBE) in the city of Cuzco, Perú, between 8-17 May 2015, to review the progress made in developing methodologies and summarising tasks undertaken during 2014 and to be done in the future. In particular, the geographic information of the sectors chosen by Perú for mapping was gathered; these sectors are to be portrayed in new cartography with tactile symbology for tourism being developed. Moreover, meetings were held with leaders of the Regional Office for International Trade and Tourism (DIRCETUR), the Inca Museum and of the Tourism Chamber of Cuzco.

Argentina will make a *Tactile Plan of the Historic Circuit of Santo Tomé for Tourism* in Santa Fe; Brazil will prepare the *Tactile Plan of the Historic Center of the Centre of Sao Paulo City*; and Chile, for its part, will make the *Tactile Plan of Sotomayor Plaza* and its environs in the city of Valparaíso, together with the *3D Model of the 'La Campana' National Park* and the *Tactile Plan of the Granizo Sector* of the same park, which is a UNESCO Biosphere reserve. Finally, Perú will prepare the tactile plans for the *Tourist Route of the Historic Centre of Cuzco*, the *Tourist Circuit of Machu Picchu*, and the *3D Model of Machu Picchu*. These cartographic portrayals will contain tactile symbology adapted for tourism and the use of Braille for facilitating reading by blind people. For the four participating countries,

additional tactile sheets will be set up for places of greatest interest to tourism. Most of the production of the tactile cartography for the Project and all of tactile sheets will be designed and made at the CECAT in Chile.

ICC 2015

Alejandra Coll Escanilla (Chile) and Waldirene Ribeiro (Brazil), the Commission's Chair and Vice Chair respectively, will participate in the 27th International Cartographic Conference (ICC) with a poster *Experience with Tactile Maps: Towards a Standardization of Tactile Symbol*. The poster reports on the progress made with research on the standardization of tactile symbols for Latin America and its application to tourism. Some of the tactile sheets being developed for Argentina, Brazil, Chile and Perú will be shown.

The Commission will participate in running the Joint Symposium *Cartography Beyond the Ordinary World*, to be held in Niterói, between 21 and 22 August prior to ICC 2015. The Symposium is being organised in conjunction with the ICA Commissions on Cartography and Children, Planetary Cartography and Cartography for Early Warning and Crisis Management. As of May 2015, six presentations have been submitted. Alejandra Coll Escanilla and Waldirene Ribeiro will jointly give a talk on *Standardization of Symbology for Visual-tactile Cartography*.

Commission Newsletter

At the end of February 2015, the Commission published its second Newsletter, covering the activity of 2014, including a visit on 14 November 2014 to the CECAT-UTEM site made by leading figures of PAIGH and other members of their Council who attended a meeting held in Santiago immediately prior to the visit, as well as the preparations of the Commission for the ICC 2015 in Río de Janeiro, the review of the Conference submissions, and an update on the pre-conference event being set up with other ICA Commissions.

The newsletter also mentions the latest publications dealing with cartography and teaching materials for visually-handicapped persons, including:

- *Atlas of the World for the Blind and the Visually Impaired*, published by the Head Office of Geodesy and Cartography, Poland
- A French translation of the book *Images that we can touch* by Dr Pilar Correa, a contributor to CECAT-UTEM (published by Les Doigts qui rêvent, Dijon, France)
- An article *In search of a model for making and reading educational tactile images* by Dr Pilar Correa, published in the international journal *Terra Háptica*, September 2014
- A paper *A Contribuição da Cartografia Tátil para a Formação de Professores de Geografia* by Waldirene Ribeiro Carmo, C C R

G Sena and B G F Jordao, published in the Proceedings of a seminar hosted by the Federal University of São João, Brazil, October 2013

- A paper *Officinas de Cartografia Tátil: uma proposta metodológica para a formação de professores* by Waldirene Ribeiro Carmo and Regina Almeida, published in the Proceedings of the 7th NEPEG de Formação de Professores Forum held in Caldas Novas, Goiás, Brazil

The Commission noted the emergence of the Spanish firm Eye2021 (www.EYE2021.com) linked to the University of Valencia. Eye2021 provides products and services intended for the blind, including a personal navigation system for blind pedestrians and systems for recognizing text and symbols.

In October 2014, the Commission held the third meeting of its active nucleus, at the CECAT-UTEM offices in Santiago, Chile. Future actions for the Commission were defined, taking into account strategies for accumulating more contributors, and the intention to change the name of the Commission so as to include other handicaps besides blindness, and also elderly persons.

Alejandra Coll Escanilla | Chair | ICA Commission on Maps and Graphics for Blind and Partially Sighted People | Chile ●

Ubiquitous Mapping

<http://www.ubimap.net/>

International Symposium in Tokyo, Japan

The ICA Commissions on Ubiquitous Mapping, Maps and the Internet, and Theoretical Cartography organized a joint International Symposium on Cartography in Internet and Ubiquitous Environments (CIU2015) in Tokyo, Japan between 17-20 March 2015. The Symposium was sponsored by Center for Spatial Information Science (CSIS) of the University of Tokyo. The first and fourth day was spent on technical tours visiting Roppongi Hills (one of the largest integrated property development in Japan), Tokyo Traffic Control Center, the Geospatial Information Authority of Japan (GSI), and Geological Museum. The participants experienced various kinds of maps, influenced by the Japanese culture. The Seminar's sessions were held on the second and third day at Sanjo Conference Hall in Hongo Campus of the University of Tokyo. About 70 participants attended the event, coming from Japan, China, USA, Taiwan, Philippines, Vietnam, Indonesia, Australia, India, Bangladesh, Iran, Kuwait, Egypt and Germany. The ICA President Georg Gartner and the ICA Secretary General László Zentai gave great video messages during the opening session and stressed the significance of the



Participants of the International Symposium on Cartography in Internet and Ubiquitous Environments (CIU2015) technical tour in Tokyo, Japan in front of a 1:1,000 miniature model of Tokyo exhibited in Roppongi Hills | Photograph courtesy of Masatoshi Arikawa

Symposium. Professor Takashi Morita, a former Vice President of the ICA, gave a keynote talk on *Evolution of Cartography in Internet and Ubiquitous Environments*. The programme included 26 oral presentations and 6 poster presentations in eight sessions (A-H):

- A. Mapping in Social Media and Big Data
- B. Use of Maps and Mapping
- C. 3D and Real-Time Sensing
- D. Web Mapping and its Applications
- E. Theoretical Cartography for Geospatial IT Society
- F. Mapping and Knowledge Management
- G. Remote Sensing and Modelling
- H. Map Visualization

Papers and abstracts of the presentations and the keynote address are available from ubimap.csis.u-tokyo.ac.jp/ciu2015/.

In the closing session, we discussed the meaning and necessity of Cartography for maps and mapping in the modern environments. Emergence of web and mobile mapping is leading us to a less diverse world of Cartography, but they are not dominant and the diversity of maps and mapping remains, especially if we take into account a wide variety of modern environments, as experienced by the participants during the technical tours in Japan. We pointed out the urgency of developing a new theory of Cartography to involve new and diverse environments as a basis for collaboration among the three Commissions. Particularly, the meaning of maps for blind people and non-visual maps for conveying spatial information to humans must be a key concept to develop the new theory of Cartography for the new IT environments.

Masatoshi Arikawa | Chair | ICA Commission on Ubiquitous Mapping | Japan ●

Use and User Issues

www.univie.ac.at/icacomuse/

Commission Activities

As already announced before (*ICA News*, No 63, December 2014, p 14), after ten years this is my last contribution as Chair of the ICA Commission on Use and User Issues. This does not mean that the work in this booming corner of our cartographic discipline is done. Far from that! More than ever before, all questions related to the core issue of our Commission require answers – does this cartographic tool work? In order to help colleagues and students to find that out, there is a great need to further develop and test a variety of modern methods and techniques concerning use, user and usability research, embedded in the User-Centered Design approaches. There is a huge demand for knowledge on such research methods and techniques and this Commission must continue to develop and spread this knowledge. After all, the user is one of the essential corner-stones of the cartographic discipline and, therefore, of ICA.

I am very happy and proud to announce that Dr Kristien Ooms from Ghent University, Belgium, has been nominated as a new Chair of the Commission in the term 2015-2019 and I trust this nomination will be accepted by the ICA General Assembly in Rio de Janeiro. Many of you will know Kristien already because, since 2011, she is one of the current Commission's Vice Chairs and has published frequently in, for instance, *The Cartographic Journal*. Dr Robert Roth from the University of Wisconsin-Madison, USA is nominated as the new Commission's Vice Chair.

Rob became gradually involved in the work of the Commission in the past few years and is already one of the co-organizers of two pre-ICC 2015 workshops we are organizing together with other ICA Commissions at the Federal University of Paraná in Curitiba, Brazil.

Indeed, those two workshops and our activities at the International Cartographic Conference to be held in Rio de Janeiro in August 2015 kept us busy most of the time during the first half of this year. The two workshops in Curitiba will be held on 20 and 21 August 2015 and are of a different focus.

The first workshop is meant for researchers and students who want to know more about how to design and conduct user studies. This workshop will take place on 20 August 2015 and is being organized together with the ICA Commission on Cognitive Visualization.

The central theme of the second workshop is *Envisioning the future of cartographic research*. It will take place on 21 August 2015 and is being organized together with the ICA Commissions on Cognitive Visualization, Map Design, and GeoVisualization.

For more information about both workshops and to register, please visit www.cartografia.ufpr.br/home/. We hope to welcome you in Curitiba and in Rio de Janeiro!

To conclude, I would like to thank the Commission Vice Chairs Dr David Forrest and Dr Alex Pucher, who together with me are stepping down, for the fantastic and enriching cooperation in the past ten years and wish the 'young generation' as much rewarding experiences as we had.

Corné van Elzakker | Chair | ICA Commission on Use and User Issues | *The Netherlands* ●

reports cartographic meetings and events



Participants of the 147th Indian National Cartographic Association Executive Committee meeting, New Delhi, India | Photograph courtesy of Amod Srivastava

INCA General Assembly

The General Assembly of the Indian National Cartography Association (INCA) took place in Hyderabad, India, on 18 December 2014. Professor Anuradha Banerjee was elected President of the Association. Apart from other matters, the meeting approved last year's report and the plan for next year.

The 147th Executive Committee of INCA was held on February 21, 2015 in New Delhi. The meeting was chaired by INCA President. The Committee approved the theme of the 2015 Congress – Spatial Governance for Development, Planning Smart Cities and Disaster Management. The Congress is planned for 15-17 December 2015 in New Delhi.

The traditional Map Quiz for high school students will be discussed at the next meeting.

Amod Srivastava | Indian National Cartographic Association | India ●

Children's Map Contest in Lithuania

Since 2005, every second year the festival of children's maps takes place in Vilnius, Lithuania. It is the final of a national event, and

Members of the Lithuanian national children's map competition jury at work | Photograph courtesy of Giedre Beconyte



part of the biennial Barbara Petchenik Children's World Map Awards. The festival includes an exhibition of best maps and award ceremony, where about 100 awards and gifts are given to the young cartographers in the beautiful Botanical Garden of Vilnius University, accompanied by musical performances and talks about cartography. In 2015, the competition attracted almost 1,000 participants, of which 157 were selected for the national children's map exhibition. More than 200 people took part in the festival.

Giedre Beconyte | Lithuanian Cartographic Society | Lithuania ●

The Power of Maps Conference

The Power of Maps Conference was held at the National Library of Australia, Canberra from 29 April to 1 May 2015. The theme was used to emphasise how maps have shaped history and continue to empower and inform in a very powerful way. The conference was jointly organised by the Mapping Sciences Institute, Australia (MSIA) and the Australian and New Zealand Map Society. Close to 80 delegates attended each of the two days of presentations and around 40 delegates went on the excursion

Participants of *The Power of Maps* Conference organised by the Mapping Sciences Institute of Australia and the Australian and New Zealand Map Society and held at the National Library of Australia in Canberra, Australia | Photograph courtesy of David Fraser



on the final day. Three key note speakers presented thought provoking papers:

- Professor Georg Gartner, President of the International Cartographic Association
- Dr Chris Pigram, CEO of Geoscience Australia
- Mr Khin Maung Maung, Managing Director, Geocomp International

Twenty six papers were presented on topics ranging from military mapping and map curatorship to mapping technologies. In acknowledgment of the 100 year anniversary of the ANZAC Corps and the 100 year anniversary of the formation of the Royal Australian Survey Corps, two sessions were dedicated to military mapping. Delegates were informed that 2015-2016 is the ICA International Map Year. Banners were displayed and information was provided to indicate that Australia is an active participant in this international promotion of cartography. Maps from children around Australia, created for the 2015 edition of the Barbara Petchenik Children's World Map Awards, were on display. Doug Herrick (MSIA) organised the national competition and it was hugely successful. The children's works were explosively colourful, endlessly innovative and happily based on projections you won't have seen before. Many delegates took time out to complete the world map jigsaw on the table in the exhibition area; it was a great way for delegates to get to know each other.

The conference dinner was attended by around 75 people. They had a wonderful time and sung along to tunes played on the harmonica by Mr Les Isdale. Mr Isdale was also the official photographer for the conference. Delegates who stayed on for the excursion were informed by presentations at Geoscience Australia, the Australian National University, the National Arboretum, the Australian War Memorial, Red Hill Lookout and the Surveyor's Hut. It was a very successful conference which brought together cartography lovers from all sectors of the industry.

David Fraser | Mapping Sciences Institute of Australia | Australia ●



(From left) Participants of the 11th Conference on Cartography and Geoinformation in Buzet, Croatia; award ceremony for the Croatian children's map drawing competition; (airborne) László Zentai, ICA Secretary General, running the Sprint Orienteering event in Buzet with the course map in his hand | Photographs courtesy of Miljenko Lapaine

11th International Conference on Cartography and Geoinformation

The Croatian Cartographic Society organized the 11th Conference on Cartography and Geoinformation in Buzet, Croatia, between 8-10 May 2015. Organizing the conference during the International Map Year (IMY), allowed the Croatian Cartographic Society to contribute to the development of geoinformatics, cartography and related fields. A wide range of topics and a number of renowned speakers invited to the event guaranteed interesting talks and a contemporary programme.

The Conference was held in the Fontana Hotel, situated in the centre of Buzet, a city in Istria with approximately 6,000 inhabitants. Buzet is located in the northernmost continental part of Istria, between three large cities: Rijeka, Trieste and Pula. The area is very diverse, with altitudes ranging from 10m to more than 1,000m, resulting in a varied climate, from Mediterranean in the valley of Mirna River to continental in the mountainous part of Čićarija. The old city of Buzet is located on a hill, 150m above the valley of Mirna, while the newer part of the city, Fontana, lies below.

The Conference was endorsed by the International Cartographic Association (ICA), the Croatian Academy of Engineering and the Istria County, and attended by about 60 participants. The first day featured lectures on various cartographic and geoinformatic themes. Opening of the children's works exhibition was held in the evening in the National Home. The eight best drawings were awarded, two drawn by kindergarten children, four by elementary school pupils and two by high school pupils. The ceremony was followed by a banquet sponsored by the mayor.

The second day featured a demonstration of Buzet imaging by unmanned aircrafts, a workshop on producing a city map of Buzet for Open Street Map, and an orienteering competi-

tion held in the old part of Buzet. Numerous people from Croatia and abroad participated in the competition including the ICA Secretary General and Treasurer Professor László Zentai, who also participated in the medal award ceremony. The exhibition *Maps of Istria and Buzet* was opened in the Homeland Museum in the evening. The exhibition included 50 plans and maps, several books and atlases and a couple of geodetic instruments. Istrian specialities were served during a gala dinner in the Roko restaurant.

The third day featured a conference tour, which started with a visit to Roč and Hum. Afterwards, we went to Pazin, capital of the Istria County, where we visited the State Archive and the Pazin Cave. The Karlič family served us a great truffle lunch at the Paladini village. After the lunch, the hosts demonstrated "hunting" for truffles with specially trained dogs. The tour ended with a visit to the water processing facility at the Butoniga Lake.

The conference program, proceedings and exhibition catalogues were published in a printed publication and are available from the Croatian Cartographic Society website (www.kartografija.hr).

Miljenko Lapaine | Croatian Cartographic Society | Croatia ●

ICA Session at FIG Working Week

The FIG Working Week was held at the National Palace of Culture in Sofia, Bulgaria between 17-21 May 2015, and attended by 1,000 participants from 68 countries. ICA contributed a keynote address by ICA President Professor Georg Gartner on *Modern Cartography* at the first plenary session of the event. The ICA Session was organized on the occasion of the International Map Year (IMY) and attended by President Georg Gartner, former ICA President and Chair of the ICA Commission on Cartography in Early Warning and Crisis Management Professor Milan Konečný, Chair of the ICA Commission on Map Production and

Geobusiness Professor Philippe de Mayer, Professor Bashkim Irdisi and members of the Bulgarian Cartographic Association (BCA), who presented their latest cartographic achievements. All papers and presentations are available from www.fig.net/resources/proceedings/fig_proceedings/fig2015/techprog.htm.



One of the most interesting events during the FIG Working Week was the Cartographic Exhibition of wall maps, prepared on the occasion of the International Map Year.

Many participants have been very impressed to see such an exhibition and congratulated ICA and BCA for the organization. Countries, such as Croatia, FYR Macedonia and Bulgaria, participated in the exhibition represented by the following companies and organizations:

- Bulgarian Cartographic Association (Barbara Petchenik Competition – national level), Bulgaria
- Cartographic Studio DavGEO, Bulgaria
- Croatian Cartographic Society, Croatia
- DataMap-Europe, Bulgaria
- GEOPAN Ltd, Bulgaria
- GIS-Sofia Ltd, Bulgaria
- KartGeo Ltd, Bulgaria
- Military Geographic Service, Bulgaria
- University of Pristina
- University of Tetovo, FYR Macedonia > 22

Professors Georg Gartner and Temenoujka Bandrova at the FIG Working Week, Sofia, Bulgaria | Photograph courtesy of Temenoujka Bandrova





The wall map Cartographic Exhibition at the FIG Working Week, one of the International Map Year events in Bulgaria (left); winners of the Bulgarian national children's map competition | Photograph courtesy of Temenoujka Bandrova

The exhibitors received certificates of participation, while at the ICA Session many people received a special calendar with IMY logo produced by the BCA and the Military Geographic Service. For more information, please visit www.facebook.com/pages/Bulgarian-Cartographic-Association/616356255141246.

Temenoujka Bandrova | Bulgarian Cartographic Association | Bulgaria ●

Doctor Honoris Causa for Prof Ferjan Ormeling

On 7 May 2015, Professor Ferjan Ormeling, the former Secretary General and Treasurer of the ICA and recipient of the Carl Mannerfelt Gold Medal, was awarded a degree of *Doctorate Honoris Causa* in Cartography from the Aristotle University of Thessaloniki (AUTH) for

his outstanding and long contribution to international cartography. The nomination prepared by Professors Evangelos Livieratos, Chrysoula Boutoura and Alexandra Koussoulakou from the AUTH Cartoheritage Group, School of Rural and Surveying Engineering, Faculty of Engineering was accepted unanimously by the University.

Professor Livieratos, Chair of the ICA Commission on Digital Technologies in Cartographic Heritage read the *laudatio*, highlighting Professor Ormeling's career and achievements in cartography at home and internationally, as well as his support and contribution to contemporary Greek cartography, which was also acknowledged in 2008 by the Hellenic Cartographic Society honorary membership. In response, Professor Ormeling gave a talk on *Ptolemy's Heritage: the Atlas as an ordering device* recalling, with a series of selected illustrations, the impact of Ptolemy's *Geographia* in the development of the atlas



Professor Ferjan Ormeling addresses the audience after receiving *Doctorate Honoris Causa* from the Aristotle University of Thessaloniki, Greece | Photograph courtesy of Evangelos Livieratos

legacy in the Low Countries starting with Erasmus in 16th century. He then demonstrated how the conceptual and contextual structure logic and sequential patterns introduced by Ptolemy are still followed in modern atlases with regards to the hierarchy of content and ordering. His lecture was attended by the Rector of AUTH, faculty deans, school chairs, professors, the Hellenic Cartographic Society President Lysandros Tsoulos and a large number of mainly engineering students; it is available online at www.auth.gr/node/18744 (from ~52 minute onwards).

Professor Ormeling gave an interview to the Greek press agency speaking about challenges of modern cartography in the era of distributed networks.

Evangelos Livieratos | Aristotle University of Thessaloniki | Greece ●

icc 2017 washington · dc · usa



The Cartography and Geographic Information Society invites the world of cartography and GIS to come to Washington, DC, July 2 to 7, 2017 for the 28th International Cartographic Conference (ICC) of the International Cartographic Association. We are planning a fantastic Conference that will draw upon all the resources of the nation's capital.

The National Galleries of Art, the Smithsonian Institution, the National Geographic Society, and the Library of Congress will all play a role in making this a great conference. In addition, the Conference coincides with the national celebration of independence, which will make it a very festive time.

ICC 2017 offers a superb opportunity for organizations to display their products and services and to promote their unique role in international cartography. The ICC 2017 exhibition will occupy approximately 30,000 square feet (2,800 square meters) at the Marriott Wardman Park Hotel, between the meeting rooms and the Posters and Map Exhibition. There will be approximately 50 booths available in three sizes, i.e. 6m x 6m, 3m x 6m and 3m x 3m. The 6m x 6m booths will be isolated from other booths and not share any adjoining walls. Booths will include normal

facilities including power, curtains and lighting.

Sponsorships are an opportunity to highlight your organization's commitment to cartography and ICC 2017. Sponsors will receive appropriate recognition throughout the Conference. There are three levels of sponsorship – Global, Hemisphere and Continental – each coming with a wide range of privileges, including complimentary booths and attendee registrations. ICC 2017 offers opportunities to sponsor key visible events such as dinners, lunches, receptions, and coffee breaks, as well as key attendee items such as conference bags, lanyards, pens, notepads and other items.

Promote your organization with your custom advertisement in the official ICC 2017 program – advertising is available in the Program's outside back cover, inside front and inside back cover, and full page interior. Provision for Internet space ad and Internet link is also available.

For more information, please visit our website at www.icc2017.org or contact us by emailing info@icc2017.org.

We look forward to hosting your exhibit and featuring your sponsorship at ICC 2017. Come and join us for a great celebration of cartography!

E Lynn Usery | Conference Director | ICC 2017 Local Organising Committee | USA ●

calendar

july 2015

07-10: GI_Forum 2015 | *Geospatial Minds for Society* | Salzburg | *Austria* | www.gi-forum.org/

august

19-21: ICA Commissions on Atlases & the History of Cartography & ICA Working Group / IGU Commission on Toponymy Joint Symposium | *Atlases, Topography and the History of Cartography* | Rio de Janeiro | *Brazil*

20: ICA Commissions on Use and User Issues & Cognitive Visualization Joint Workshop | *Designing and Conducting User Studies* | Curitiba | *Brazil* | www.cartografia.ufpr.br

20-21: ICA Commissions on Maps and the Internet & Education and Training Joint Workshop | *Advances in Cartographic Practice in the Classroom and on the Web* | Curitiba | *Brazil* | lazarus.elte.hu/cet/announcement.htm

21: ICA Commissions on Cognitive Visualization, Use and User Issues, GeoVisualization & Map Design Joint Workshop | *Envisioning the Future of Cartographic Research* | Curitiba | *Brazil* | www.cartografia.ufpr.br

21: ICA Commissions on Geoinformation Infrastructures and Standards & Open Source Geospatial Technologies Joint Workshop | *Spatial data infrastructures, standards, open source and open data for geospatial (SDI-Open 2015)* | Rio de Janeiro | *Brazil* | sdistandards.icaci.org/

21-22: ICA Commission on Art and Cartography & Maps and Society | *Mapping Ephemeralities / Ephemeral Cartographies* | Rio de Janeiro | *Brazil* | artcarto.wordpress.com/2014/11/10/mapping-ephemeralities/

21-22: 18th ICA Workshop on Generalisation and Multiple Representation | Rio de Janeiro | *Brazil* | generalisation.icaci.org/index.php/nextevents/

21-22: ICA Commissions on Cartography and Children, Maps and Graphics for Blind and Partially Sighted People, Planetary Cartography & Cartography in Early Warning and Crisis Management Joint Workshop | *Cartography Beyond the Ordinary World* | Niteroi | *Brazil* | niteroi2015.elte.hu/

23-28: 27th International Cartographic Conference | Rio de Janeiro | *Brazil* | www.icc2015.org/

september

16-18: 12th Symposium on Location Based Services (LBS) | Augsburg | *Germany* | www.lbs2015.tum.de

november 2015

10-12: 1st ICA European Symposium on Cartography | Vienna | *Austria* | eurocarto.org

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United Nations Geospatial Information Section | *United Nations* | www.un.org/depts/cartographic/english/htmain.htm

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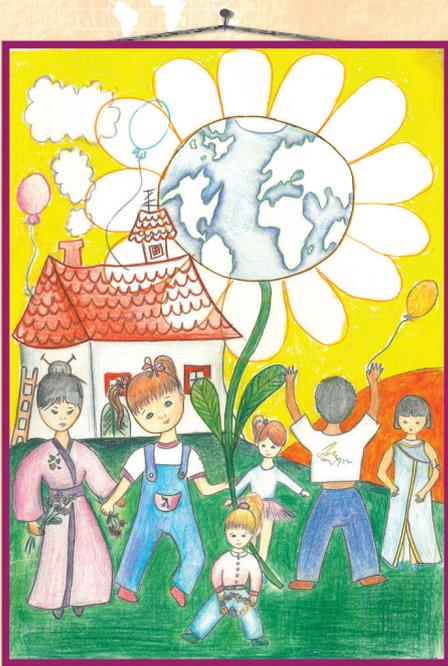
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László Zentai | Secretary General & Treasurer | *ICA* | sg@icaci.org

children's map gallery 1997 participants



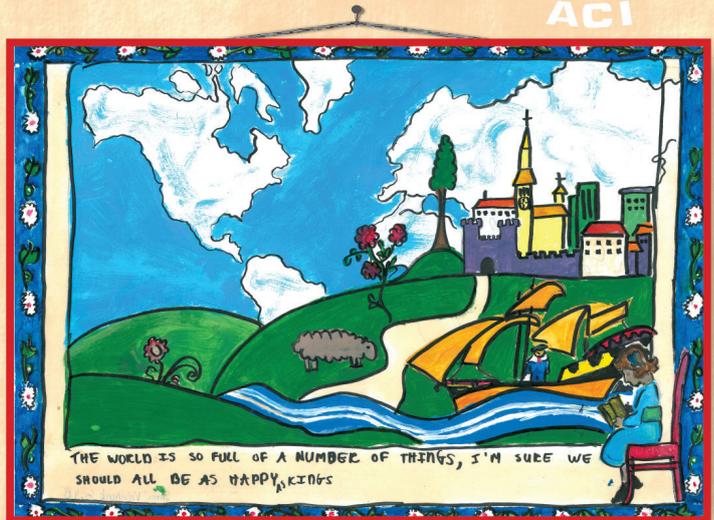
Jana Slancikova | 13 |
A World Map | Laerskool
 Základná Škola: Zarnovica |
 Slovakia

Solomia Kostyrka | 13 | *Our Planet* |
 School No 30: Trynchenka Street, Lviv
 | Ukraine

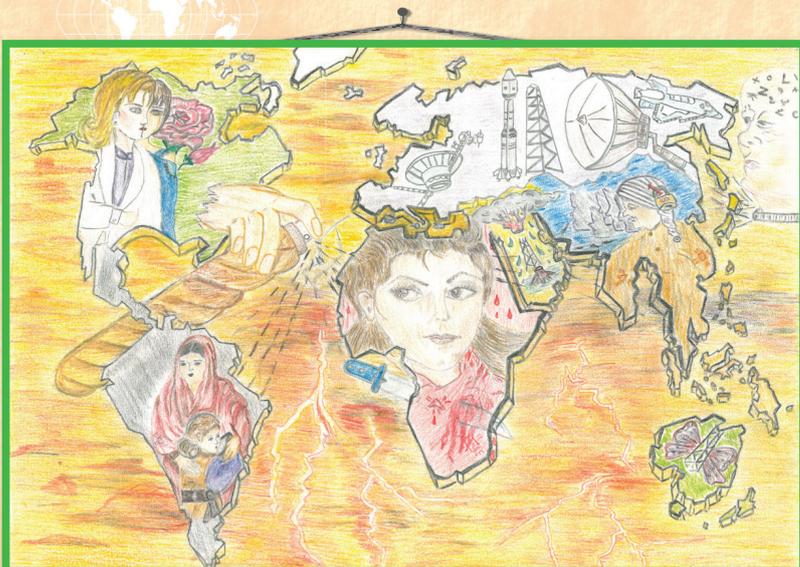
Shene Volschenk | 14 | *My Dream
 World* | Menlopark High School:
 Pretoria | South Africa

Amina Megbed | - | Ecole
 Fondamentale: Nouvelle Netlili,
 Ghardaia | Algeria

Alexandros Rembis-Kopanas | 10 |
The Continent-Storks of Peace | Ano
 Ilisia-Zografou: Athens | Greece



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