

International Cartographic Association
Association Cartographique Internationale



Commission on Education & Training 2007–2011

Chairman: David Fraser
Vice-Chairman: László Zentai
<http://lazarus.elte.hu/cet>

CET membership



Australia



Hungary



Spain



The Netherlands



Indonesia



Great Britain



Russia



Turkey



France



Japan



Czech Republic



Brazil



Switzerland



New Zealand



Norway



Israel



USA

Commission meetings



2007, Moscow (ICC)

Commission meetings



2008, Prague (2009 January, Conference on Early Warning and Disaster Management)

ICA Commission on Education and Training, Business meeting, 5 July 2011, Paris

Commission meetings



2009, Santiago de Chile (ICC)

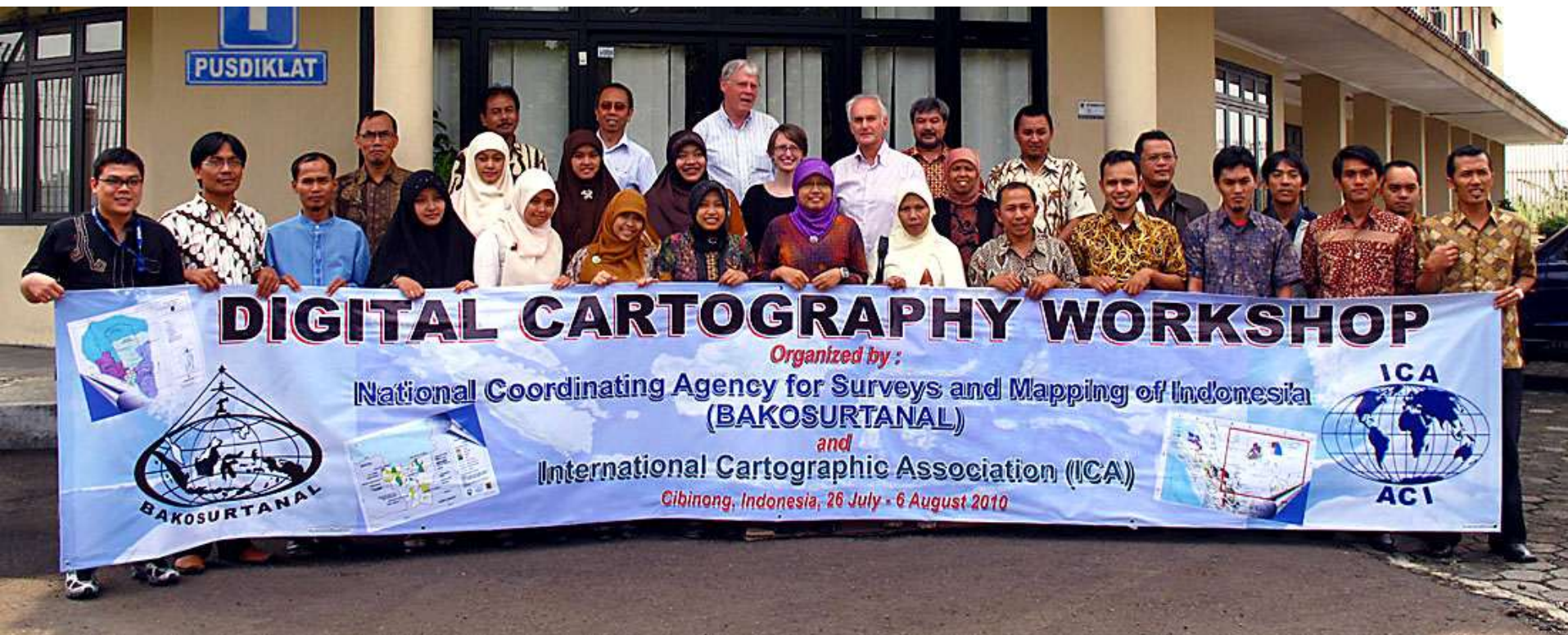
ICA Commission on Education and Training, Business meeting, 5 July 2011, Paris

Commission meetings



2010, Ho Chi Minh City (workshop)

Commission meetings



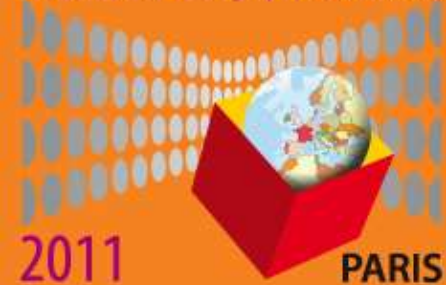
2010, Jakarta (workshop)

ICA Commission on Education and Training, Business meeting, 5 July 2011, Paris



Commission meetings

International Cartographic Conference



25th International Cartographic Conference

and the 15th General Assembly of the International Cartographic Association

3 - 8 July 2011 - Palais des Congrès - Paris

Enlightened view on Cartography and GIS

2011, Paris (ICC)

ICA Commission on Education and Training, Business meeting, 5 July 2011, Paris



CET sessions/papers on ICCs

ICC	Venue	Sessions	Papers
1999	Ottawa	2	6+?
2001	Beijing	5	19
2003	Durban	3	12
2005	A Coruña	5	22
2007	Moscow	6	23
2009	Santiago de Chile	NA	15
2011	Paris	6*	18

Workshops, symposiums

- ❖ CET workshop, May 2009, Tehran, Iran
 - David Fraser, Colin Arrowsmith (Australia)
 - László Zentai, Antal Guszlev (Hungary)
 - David Forrest, Mike Shand (Scotland)



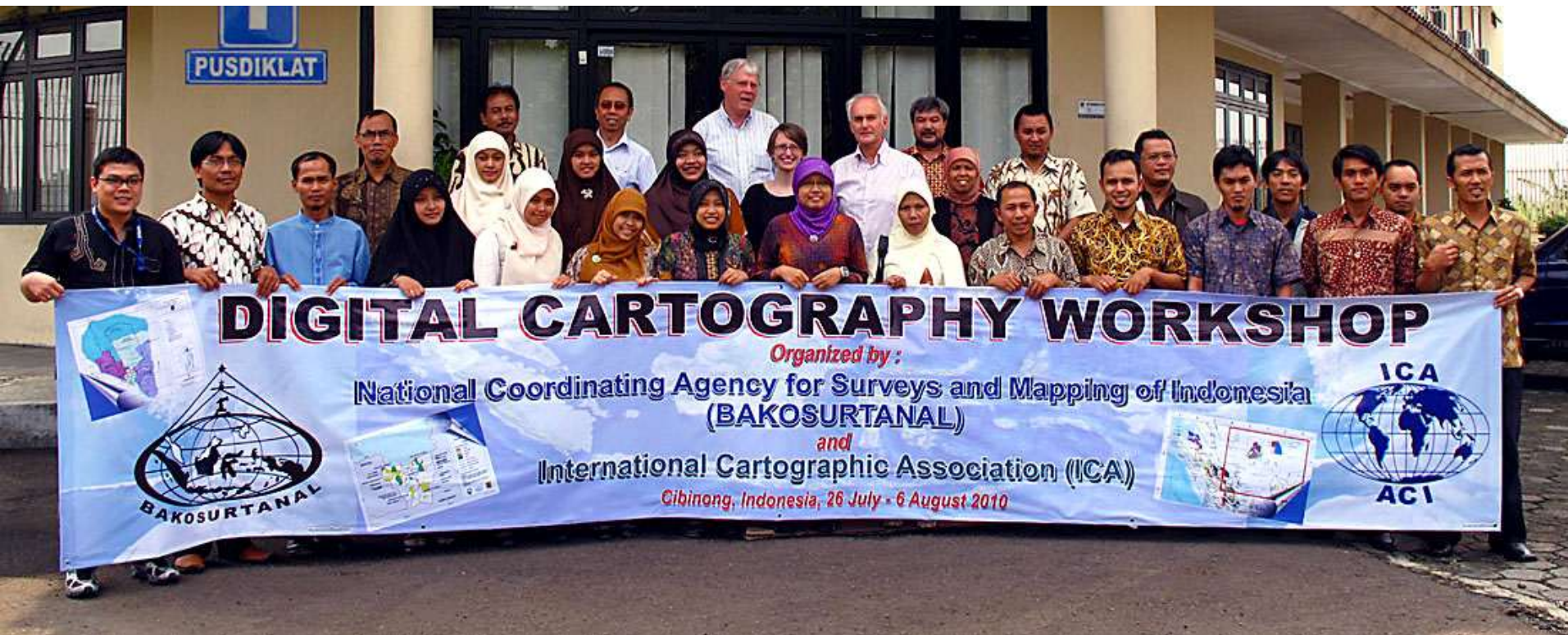
Workshops, symposiums

- ❖ CET workshop, July 2010, Ho Chi Minh City, Vietnam
 - László Zentai (Hungary), Vit Voženilek (Czech Republic)
 - William Cartwright (Australia), Manuela Schmidt (Austria)



Workshops, symposiums

- ❖ CET workshop, July-August 2010, Cibinong, Indonesia
 - William Cartwright (Australia), Manuela Schmidt (Austria)
 - Ferjan Ormeling (Netherlands), Gang-Jun Liu (Australia)



Workshops, symposiums

❖ Joint ICA Symposium on Maps for the Future, June 30-July 1, Orleans

- Commission on Cartography and Children,
- Commission on Education and Training,
- Commission on Maps and the Internet,
- Commission on Planetary Cartography
- Working Group on Cartography for Early Warning and Crisis Management



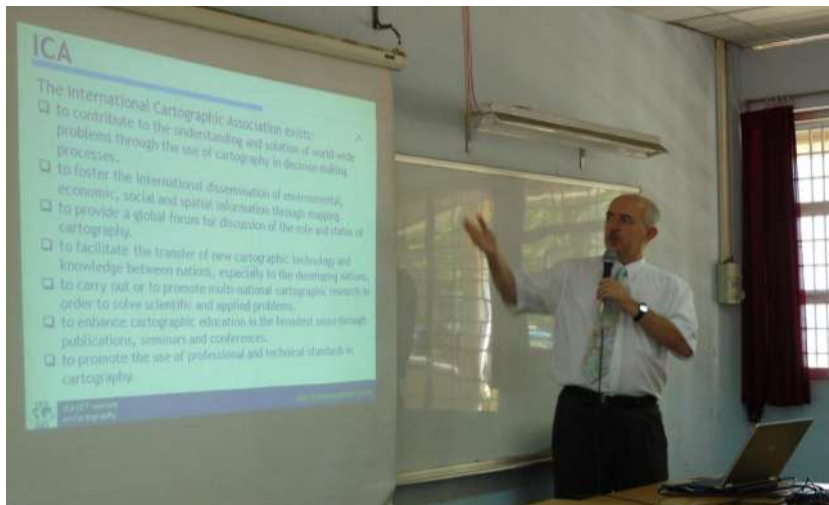
Workshops, symposiums

Joint ICA Symposium on Maps for the Future, June 30-July 1, Orleans







ICA Commission on Education and Training, Business meeting, 5 July 2011, Paris

CET Photographs



Undergraduate Cartography Courses

Undergraduate cartography courses							
<i>partly based on the results of the European Education in Geodetic Engineering, Cartography and Surveying (EEGECES), Socrates Thematic Network</i>							
ASIA - AFRICA - CENTRAL&SOUTH AMERICA - NORTH AMERICA - AUSTRALIA							
Last updated: 2 April 2008							
coordinator: David Fraser, vice-chairman							
Country	Institution	Faculty (Department)	Programme (curriculum)	Degree	Specializations	Duration (semesters)	Courses on other languages
EUROPE							
	Technical University Graz	Civil Engineering	Geomatics	Bach.techn. & Dipl.-Ing	No	6(B.Sc.) +4(M.Sc.)	M.Sc. (eventually)
	Vienna University of Technology	Mathematik und Geoinformation	Surveying and Geoinformation	Dipl.-Ing	No	9	no
	University of Vienna	Earth Sciences, Geography and Astronomy	Geography, Cartography	Mag.	Yes (Cartography and Geoinformation)	9	M.Sc. (planned, in English)
	University of Liege	Sciences	Geomatics & Surveying	BSc and MSc, Candidat, Licence	Bachelor in geographical sciences, general orientation, Master in geographical sciences, geomatics and geometrology orientation, specialised approach, "candidat" in geographical sciences (geomatics et geometrology option), "licencié" in geographical sciences (geomatics and geometrology option)	6(BSc), 4(MSc), 2(candidat), 4(licence)	no
	University of Applied Sciences Karelle Sint-Lieven	Industrial Sciences	Industrial Engineering	Master in industrial sciences in Surveying	No	8	no
	Universiteit Gent	Faculty of Sciences	Geography and Geomatics	BSc and MSc	No	6(BSc) +2(MSc)	no
	Vrije Universiteit Brussel	Faculty of Science	Cartography and GIS	BSc	Yes (Geowetenschappen, Stadsstudies of Geo-informatiekunde)	6	no
						Yes (Geodesy, Applied Geodesy, Photogrammetry and Cartography, Land management)	10
	University of Architecture, Civil Engineering and Geodesy	Geodesy	Geodesy	MSc	Yes (Geodesy, Applied Geodesy, Photogrammetry and Cartography, Land management)	10	no
	University of Zagreb	Faculty of Geodesy	Institute of Engineering Geodesy and Spatial Information Management			9	

Internet Cartography Project

Modules were used on workshops



**International Cartographic Association
Commission on Education and Training**

CARTOGRAPHIC EDUCATION FOR ISOLATED STUDENTS

On-line Professional Development Modules

It is with much pleasure that we are able to announce the introduction of the first stage of an Internet Cartographic Education Program open to registered individuals who do not have access to existing cartographic education programs.

This is the culmination of significant effort by many members of the Commission of Education and Training over many years to bring Professor Ferjan Ormeling's vision of such a program to fruition.

The program is aimed at encouraging individuals from around the world to be trained and educated in the mapping sciences, thus enhancing their ability to provide an efficient and effective service to their country, community and employer.

Using a staged progression through free on-line modules a participant can use this program for professional development.

All individuals who do not have access to local programs, no matter what their educational background, can and are encouraged to register and participate in the ICA on-line program. For those wanting further information, full details are available in the ICA CET On-line Cartography Booklet.

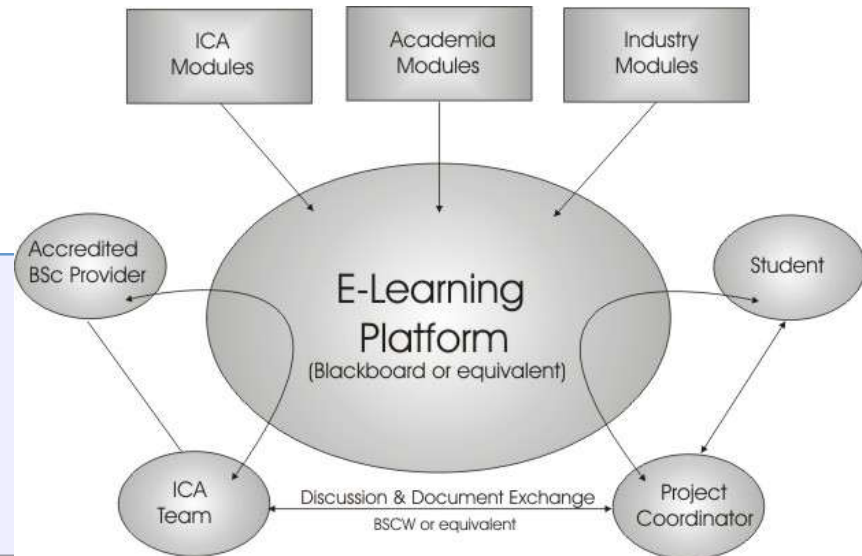
The Chair of the ICA Commission on Education and Training

László Zentai

Eötvös Loránd University, Department of Cartography and Geoinformatics, Budapest, Hungary,

H-1117 Budapest, Pázmány Péter sétány 1/A

laszlo.zentai@elte.hu



ICA Research Agenda – CET Contribution – Discussion Papers

The following paper was written for the ISPRS Commission VI, Mid Term Symposium, Enschede, June, 2010

THE ROLE OF INTERNATIONAL GEOMATICS ORGANISATIONS IN THE PROMOTION OF CONTINUING PROFESSIONAL DEVELOPMENT (CPD)

David Fairbairn , David Fraser

The nature of CPD is considered: the process is modelled and each component is examined in the context of geomatics. Firstly, the type of person and institution interested in CPD (the consumer) is addressed. Secondly, there is a range of suppliers of CPD resources including commercial companies, educational establishments or international learned societies. Thirdly, the material delivered also forms part of the model: there a wide range of content, available material, and dissemination method.

Cartographic Workshops

"One of the roles of the ICA, Commission on Education and Training is to provide member nations with cartographic workshop experiences that enhance the skills and knowledge of cartographers in the host nation, while minimising the cost to both the host and the ICA. This workshop model achieves this end through the mutual sharing of resources, which, in turn, enables cartographers from around the world to share their expertise with each other."

(A/Prof. David Fraser, Chair – Commission on Education and Training, July, 2009)



Cartographic Resources

International Cartographic Association Commission on Education and Training

CARTOGRAPHIC RESOURCES

Volume 1

MAPPING SOCIETIES

International Cartographic Association

The mission of the International Cartographic Association is to promote the discipline and profession of cartography in an international context.

ICA is the world authoritative body for cartography, the discipline dealing with the conception, production, dissemination and study of maps.

A map is a symbolised image of geographical reality, representing selected features or characteristics, resulting from the creative effort of its author's execution of choices, and is designed for use when spatial relationships are of primary relevance.

<http://cartography.tuwien.ac.at/ica/>

- Conferences
- Publications
- Mapping Societies
- News media articles
- Software
- Data sources
- Special features
- Technical details
- Cartographic education
- Websites
- National mapping organisations
- Map products
- Mapping tools

Academic Papers

Keogh-D. Fraser:

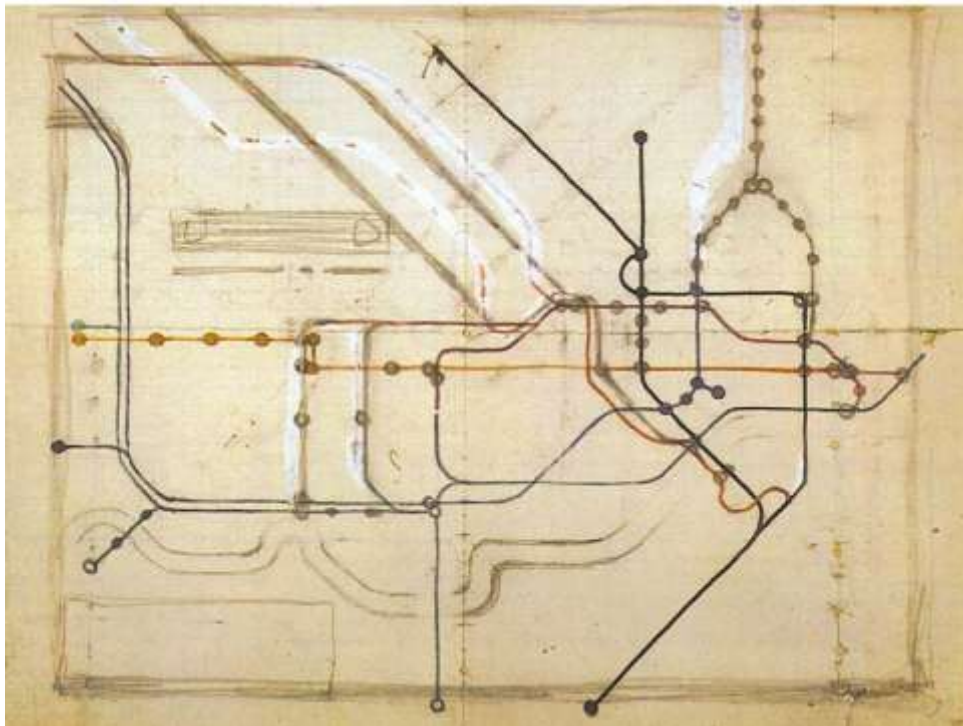
[Contemporary Map Products and Their Origins](#)

Danielle Cull:

[Applying Beck's tube map theories and conventions to non-geographic subject matter](#)

Monique Elsley:

[The Issue of Accessibility: Considerations when Designing for a Worldwide Audience](#)



*See the website for more papers
(including ICC CET papers).*

Generic Attributes of Cartographers

The CET discussed the merit of developing a generic attributes list for cartography graduates. The initial set is presented below.

Cartography courses are designed to provide the community with scientist who have:

- ❖ the ability to apply knowledge of basic cartographic fundamentals;
- ❖ the ability to communicate effectively, not only with other professionals, but also with the community at large;
- ❖ in-depth technical competence in at least one cartography sub-discipline;
- ❖ the ability to undertake cartographic problem identification, formulation and solution;
- ❖ the ability to function effectively as an individual and in multi-disciplinary and multicultural teams, with the capacity to be a leader or manager as well as an effective team member;
- ❖ an understanding of the principles of cartographic design and development;
- ❖ an understanding of professional and ethical responsibilities and commitment to them;
- ❖ an expectation of the need to undertake lifelong learning, and the ability to do so.

Monthly Newsletter

International Cartographic Association
Association Cartographique Internationale
Commission on Education and Training
SEPTEMBER 2009



An occasional electronic newsletter for members of the Commission.

If you have any brief items of interest to fellow CET members then please email them to david.fraser@rmit.edu.au. for eCET. If you have more substantial articles please send them to Igor Drecki at i.drecki@auckland.ac.nz for the ICA newsletter.

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"More than 99.9 percent of all the maps that have ever existed have been made in the last 100 years"
(Denis Wood, Cartographer, 2007)

Conferences Update

ICA CET Newsletters

2004 [February](#); [October](#)

2006 [October](#)

2008 [February](#)

2008 [October](#)

2009 [April](#), [May](#), [June](#), [July](#), [August](#), [September](#), [October](#), [December](#)

2010 [January](#), [February](#), [March](#), [April](#), [May](#), [June](#), [August](#), [September](#), [December](#)

2011 [February](#), [April](#), [May](#)

National reports: Czech Republic

18th Czech and Slovak Cartographic Conference

The Czech and Slovak cartographers met on the traditional Cartographic Conference on September 30th to October 2nd 2009.

The Palacky University, Department of Geoinformatics organised a very successful professional and social meeting for more than 170 attendees.



Children and present cartographic products

(photo by O. Ruzicka, UP Olomouc)

National reports: Hungary

Descriptio Transylvaniae

An **International Conference on History of Cartography and Historical Geography** was organized in Cluj-Napoca (Romania) by the Society of Geography "Jenő Cholnoky" Babes-Bolyai University. The conference concentrated on the following topics: Map Collections in Transylvania, Transylvania represented on Maps, Changes of the Landscapes, Changes in the Perception of the World, The Language of the Maps, The Linguistic Maps. The conference proceeding was published. See <http://cholnoky.ro/content/view/202/193/lang,en/> for more details.

International Conference on Orienteering Maps (ICOM)

The **13rd International Conference on Orienteering Mapping** was organized in Miskolc, Hungary in August. The conference was connected to the World Orienteering Championships. There were about 30 participants from 12 countries. The main topics were the new orienteering map specifications, the laser scanning technology, internet map portals for orienteering maps. More details on <http://lazarus.elte.hu/mc/13icom/13icom.htm>.

Alexander Radó Conference

110 years Anniversary of **Alexander Radó's** birth was celebrated on a Conference organized by the War History Institute and Museum. Alexander Radó was the first cartographer who got the ICA Honorary member award. He was the chairman on Commission on Thematic Cartography between 1972-76 and a chairman on Commission on Mapping of Natural Resources between 1976-80. It was decided by the ICA in 1974, but it was presented only on the 80th birthday of Radó, in 1979.

Biannual Awards on Educational Cartographic Resources

Aim

The competition aims to promote good practice in relation to the design and realisation of cartographic resources produced in an educational context.

Competition categories

Paper medium

Primary (*elementary*) School (3 – 12 years)

Secondary (*middle; high*) School (12 to 18 years)

Tertiary (*university undergraduate*) (18+ years)

Digital medium

Primary (*elementary*) School (3 – 12 years)

Secondary (*middle; high*) School (12 to 18 years)

Tertiary (*university undergraduate*) (18+ years)

Continuing Professional Development Project

BACKGROUND:

Not all International Cartographic Association (ICA) member nations have the educational and training facilities, and opportunities, that many ICA member nations have. However there may be cartographers in these nations who are deserving of recognition and would benefit from international accreditation (or certification?) for the efforts they put in to improve their education and training by various means. The proposed Continuing Professional Development (CPD) program would allow individuals to accumulate professional development points which would lead to international accreditation by the ICA.

It is not anticipated that large numbers will join the CPD program but for those that do this may provide a way for them to break through any financial, political, educational or social constraints they may face in their country.

AIMS:

To provide the International Cartographic Association with a Continuing Professional Development program for all member nations.

To enable member nations of the ICA to remain at the forefront of the practice of geographic information management and presentation, thus enhancing their ability to provide an efficient and effective service to the international and national communities of cartographers.

GIM International Newsletter

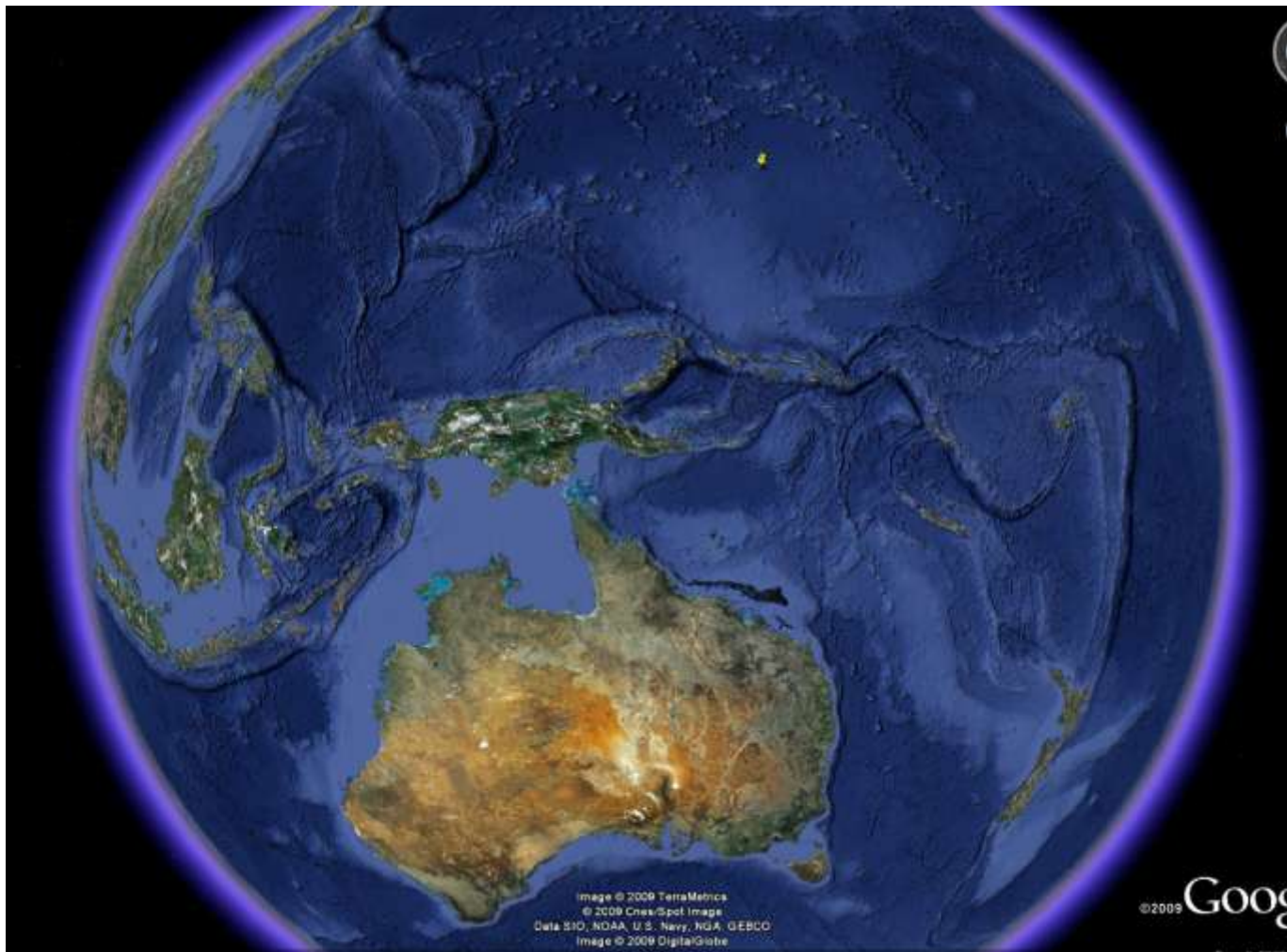
Article

A World of Cartographic Education

12/01/2009 The ICA Education Commission reported last year in these pages on educational resources for cartography on the web. The ongoing project of creating material, summarising and presenting links to worldwide initiatives in cartographic education forms part of the commission's website at [1](#) Further content includes a regularly updated list of conventional cartographic courses in higher education around the world, and a set of academic papers relevant to education and training.

January 2009, Volume 23, Issue 1

Cartography Island



Cartography Island



CET poster (ICC 2011)



Commission on Education & Training 2007-2011



TERMS OF REFERENCE – 2007 TO 2011

- 1. Work for reaching the general aims conceived in the ICA Statutes.
- 2. Develop the existing EU-sponsored internet cartography teaching programme (modules), with regional workshops for training the teachers.
- 3. Produce an ICA-sponsored internet programme for continuing professional development, with regional workshops for training the teachers.
- 4. Support cartography and cartographic education in developing nations by holding seminars in these nations.
- 5. Promote integration by establishing linkage with the committees on education of sister learning and mapping disciplines, by maintaining the list of institutions providing cartography course programmes, and interact as much as possible with other ICA commissions and working groups (organise joint meetings).
- 6. Produce appropriate publications for dissemination of results of the above efforts and publish it in proceedings or on the CET website according to the ICF publication policy.
- 7. Promote joint project cooperation between participating nations represented on the commission.
- 8. Contribute to international forums where applicable.
- 9. Develop mapping awareness competitions.
- 10. Investigate the role of emerging technologies for use in education and training.

ICA RESEARCH AGENDA CONTRIBUTIONS

- 1. **THE ROLE OF INTERNATIONAL GEOMATICS ORGANISATIONS IN THE PROMOTION OF CONTINUING PROFESSIONAL DEVELOPMENT (CPD)** David Fairbairn (Secretary-General, ICA), David Fraser (CET Chair)
- 2. **THE CHANGING FACE OF CARTOGRAPHIC EDUCATION AND TRAINING** David Fraser, IMAT University, Australia, László Zentai, Eötvös Loránd University, Hungary, Maria Cecilia Bonatto Brandalise, Universidade Federal do Paraná, Brazil

COMMISSION MEETINGS

- 1. **Commission meeting Prague** – A face-to-face CET meeting was held in 2009 as part of the symposium on Cartography and Geoinformatics for Early Warning and Emergency Management.
- 2. **Face-to-Face Commission meeting at the ICC2009 in Chile** – The Commission on Education and Training held a face-to-face meeting during the ICC2009 conference in Chile. The Chair of the CET also participated in the symposium, "The Future of Maps and the Internet" (on prior to the conference on November 13 - 15, in Valparaiso, organised by the Maps and the Internet Commission).

WORKSHOPS

- 1. **Iran – 2009** - 9th to 13th May – Thirty participants attended a three week hands-on Workshop on Cartography in Tehran, Iran. The workshop was presented by David Fraser and Colin Arrowsmith from Australia, László Zentai and Antal Gábor from Hungary and David Forster and Mike Shand from Great Britain.
- 2. **Vietnam – 2010** - 19th to 30th July – Presenters: Professor László Zentai (Hungary), Professor MICH VU (Vietnam), CSC (Czech Rep.), Professor William Cartwright (Australia) and Marcella Schmidt (Australia).
- 3. **Indonesia 2010** – 26 July - 6 August – Presenters: Professor Ferjan Oosting (The Netherlands), Dr Gang-Jin Liu (Korea), Professor William Cartwright (Australia) and Marcella Schmidt (Australia).
- 4. **Symposium (workshop) – Paris 2011** – a workshop "Maps for the Future: Children, Education and the Internet" was held prior to the ICC2011 at the University of Orleans, June 30 - July 5. The Commission on Cartography and Children, the Commission on Education and Training, the Commission on Maps and the Internet and the Commission on Planetary Cartography along with the Working Group on Cartography for Early Warning and Crisis Management were partners. Dr. Issak Reiss and Dr László Zentai were the key organizing team.



PUBLICATIONS

- 1. **Academic Papers** - A webpage devoted to student cartographic papers was created.
- 2. **CET newsletters** - A regular newsletter (eCET) has been produced in 2009, 2010 and 2011.
- 3. **Cartographic Resources** - A list of cartographic resources for those involved in cartographic education and training has been compiled and placed on the CET website.
- 4. **ICA Newsletter** - CET contributions - Reports were prepared for each ICA newsletter.
- 5. **GIM Magazine Contributions** - Articles have been produced for GIM magazine during 2007-2011.
- 6. **CET Website** - The Commission website is regularly updated by Professor László Zentai (<http://azarus.elte.hu/cet/>).



OTHER CONTRIBUTIONS TO THE ICA

- 1. **Commission members reviewed papers** for the ICC2009 and ICC2011.
- 2. **Biennial Awards on Educational Cartography** - The commission aims to promote good practice in relation to the design and realisation of cartographic resources produced in an educational context.
- 3. **Cartography Island** - Cartography Island is a virtual island in the Pacific. On this island is placed information about different aspects of cartography (http://www.elte.hu/azus/cac/cartography_island.html).
- 4. **Generic Guidelines for Continuing Professional Development** - The Continuing Professional Development program developed by the CET and accepted by the Executive, was revised to provide member nations with a generic set of guidelines, should they wish to develop a CPD program for their nation in the future. These guidelines will be placed on the CET website.
- 5. **Generic Attributes of Cartographers** - The CET discussed the merit of developing a generic attributes list for cartography graduates.

TERMS OF REFERENCE – 2011 TO 2015

1. Work for reaching the general aims conceived in the ICA Statutes.
2. Support Cartography and cartographic education in developing nations by holding seminars in these nations.
3. Develop the existing ICA sponsored internet cartography teaching programme (modules), with regional workshops for training the teachers.
4. Produce an ICA-sponsored internet programme for continuing professional development, with regional workshops for training the teachers.
5. Produce appropriate publications for dissemination of results of the above efforts and publish it according to the ICF publication policy.
6. Promote integration by establishing linkage with the committees on education of sister learning and mapping disciplines, by maintaining the list of institutions providing cartography course programmes, and interact as much as possible with other ICA commissions and working groups (organise joint meetings).
7. Improving dissemination of information on educational theory and practice of cartography to the members across the world.
8. Contribute to international forums where applicable.
9. Investigate the role of emerging technologies for use in education and training.
10. Develop mapping awareness competitions.

CET Website >>>>> <http://azarus.elte.hu/cet/>



CET poster (ICC 2007)


COMMISSION ON EDUCATION AND TRAINING (CET)
<http://lazarus.elte.hu/cet>
INTERNATIONAL CARTOGRAPHIC ASSOCIATION
 2003-2007
 

MEMBERS



CORRESPONDING MEMBERS



CET terms of reference - 2003-2007

- To work for the general also covered in the ICA Statute.
- To produce an ICA-sponsored internet cartography teaching programme (academic), with regional workshops for training the teachers.
- To produce an ICA-sponsored internet programme for continuing education, with regional workshops for teacher training.
- To support cartography and cartographic education in developing nations by holding seminars in-termining nations.
- To promote cooperation for establishing links with the Committee on Education of Latin America and helping to organize, by providing a list of institutions providing cartographic programmes, and interest as much as possible with other ICA Commissions and working groups (organize joint meetings).
- To produce appropriate publications for dissemination of results of the above efforts and publish it in proceedings or on the CET website according to the ICA publication policy.





Undergraduate cartography studies

Country	University	Programme	Programme	Specialisation	Number of students	Year of start
Germany	University of Applied Sciences	Cartography	Cartography	Cartography	15	2003
	University of Applied Sciences	Cartography	Cartography	Cartography	15	2003
Belgium	University of Applied Sciences	Cartography	Cartography	Cartography	15	2003
	University of Applied Sciences	Cartography	Cartography	Cartography	15	2003
Belgium	University of Applied Sciences	Cartography	Cartography	Cartography	15	2003
	University of Applied Sciences	Cartography	Cartography	Cartography	15	2003
Belgium	University of Applied Sciences	Cartography	Cartography	Cartography	15	2003
	University of Applied Sciences	Cartography	Cartography	Cartography	15	2003

1. Report on Willem Semken, June 2004







1. Short visit of the ICA Secretary General in Budapest







CET poster (ICC 2003)



ICA Standing Commission on Education and Training



Chairmen of the ICA Standing Commission on Education and Training

1999 - 2003 Vladimir S. Tikunov (M.V. Lomonosov Moscow State University, Russia)
1987 - 1999 Ferjan Ormeling (University of Utrecht, The Netherlands)
1980 - 1987 Karl-Heinz Meine (Bodenvermessung, Hannover, Germany)
1964 - 1972 Stéphane de Brommer (IGN, France)

ABOUT THE COMMISSION

The Commission on Education and Training (CET) of the International Cartographic Association (ICA) is the standing commission designated to help improve and further cartographic education and training worldwide. Its membership consists of ICA member nation representatives engaged in cartographic education.

According to its current program it tries to reach the goals stated in the terms of reference by organizing seminars and workshops, by producing publications, lists of cartographic course programmes, and structures for continuing education in cartography.

During recent years the work of the commission has primarily been to develop modules for an Internet cartography teaching program.

Commission on Education and Training

Proposed TERMS OF REFERENCE 2003-2007

- To work for the general aims conceived in the ICA Statutes.
- To produce an ICA-sponsored Internet cartography teaching programme (modules), with regional workshops for training the teachers.
- To produce an ICA-sponsored Internet programme for continuing education, with regional workshops for teacher training.
- To support cartography and cartographic education in developing nations by holding seminars in developing nations.
- To promote integration by establishing linkage with the committees on education of sister surveying and mapping disciplines, by producing a list of institutions providing cartography course programmes, and interact as much as possible with other ICA commissions and working groups (organize joint meetings).
- To produce appropriate publications for dissemination of results of the above efforts and publish it in proceedings or on the CET website according to the IOF publication policy.



Location of Member Nations

Seminars and workshops (1999-2003)



Budapest, Hungary, 2000 February



Almaty, Russia, 2000 August



Beijing, China, 2001 August



Helsinki, Finland, 2002 May

Mvoroozaji, Russia, 2002 June

Durban, South Africa, 2003 August

CET future (2011–2015)

This is a nomination for continuation of the 2007-2011 Commission with a different Chair.

Proposed Chair: László Zentai (Hungary)

Proposed Vice-Chair: David Fraser (Australia)



CET future

Terms of reference (2011–2015)

- ❑ Work for reaching the general aims conceived in the ICA Statutes.
- ❑ Support cartography and cartographic education in developing nations by holding seminars in these nations.
- ❑ Develop the existing ICA-sponsored Internet cartography teaching programme (modules), with regional workshops for training the teachers.
- ❑ Produce an ICA-sponsored Internet programme for continuing professional development, with regional workshops for training the teachers.
- ❑ Produce appropriate publications for dissemination of results of the above efforts and publish it according to the IOF publication policy.
- ❑ Promote integration by establishing linkage with the committees on education of sister surveying and mapping disciplines, by maintaining the list of institutions providing cartography course programmes, and interact as much as possible with other ICA commissions and working groups (organize joint meetings).
- ❑ Improving dissemination of information on educational theory and practice of cartography to the members across the world.
- ❑ Contribute to international forums where applicable.
- ❑ Investigate the role of emerging technologies for use in education and training.
- ❑ Develop mapping awareness competitions.

CET future – meetings

- ❑ March 2012: ICA Regional Cartographic Conference (CCEE), Budapest (planned)
- ❑ 2013: ICC Dresden