

International Cartographic Association  
Association Cartographique Internationale



Commission on Education and Training **ACI**

<http://lazarus.elte.hu/cet/>

## Cartographic Workshop

*“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)*

The workshop:

- Is organised on behalf of the International Cartographic Association by the Commission on Education and Training.
- Is designed solely to benefit cartographers, GIS officers and students in the host country.
- Timing and content is flexible and is determined after consultation with the host organisation to ascertain their specific education and training needs.
- Is held in three, one week parts. Each part can be offered as a separate entity by up to two specialists in cartography and the geospatial sciences. Hands-on practical exercises can be undertaken by all participants using in-house software, if computer facilities are available.
- All expenses for presenters (travel, accommodation and subsistence) must be met by the host country. The host country, in return, will receive workshop presentations (oral and written) free of charge by two world experts per week for up to three weeks. The presenters will give of their time and expertise in cartography and the geospatial sciences to assist the development of knowledge in the host country.
- The International Cartographic Association has limited funds available solely to provide material support for the workshop.

## LOGISTICS OF THE WORKSHOP EVENT

### *Some guiding comments for the host and presenters*

The participants should be met at the airport and taken to their accommodation. There is no expectation that the accommodation is any different to what the local people would expect to stay in. In fact it is better if the participants mix culturally with the people of the nation being visited. The accommodation only needs to be clean, comfortable with single rooms, Internet provided and with breakfast included.

Expenses such as meals, air and land transport and accommodation costs will be covered by the host organisation. Presenters should be provided with enough cash to cover incidental expenses, with the amount being determined by the host organisation. Transport to and from the venue would be arranged by the host organisation. If the host organisation cannot fund the airfares of presenters then individual participants must be charge for the workshop to make up the amount required.

A briefing on the cultural sensitivities of the local people should be given to the presenters at the start of the workshop to avoid potential embarrassment.

Presenters should have access to a computer to check their emails. A means of communication for presenters to contact their families should be arranged. A SKYPE link would suffice or a local Sim card.

The workshop sessions each day may start at around 09:00 with lunch at 12.00 and a finish time of 16:30 in the afternoon. (*This is only indicative and should be altered to suit local expectations*)

Lunch would be provided at the venue each day.

A data projector needs to be provided and ideally each participant would have a computer on their desk. The computers should (*ideally*) be linked to a shared drive, providing participants with access to electronically stored course documents.

Presenters should provide the host organisation with copies of all relevant materials used in the presentations.

The host organisation can video record the sessions for future in-house training.

Information provided by presenters at the workshop must be designed to assist participants with their day-to-day activities, such as tasks associated with map production along with the underpinning theoretical concepts.

Graphics, examples, case studies and limited text should be used in the presentations. An interpreter should be used where applicable. Map examples from the host organisation should be used in the presentations wherever possible.

Formal presentation of theory should be done in the morning and practical exercises in the afternoon.

The presentation must be flexible as the view of the presenter on what is required may not always fit with the host organisations view of what is needed. To this end a member of the host organisation should frankly advise the presenters in the approach they should take and the content they should deliver.

Presentations to the heads of the different departments (*cartography, geodesy, photogrammetry, GIS, publishing*) of the local organisation outside of the workshop format is encouraged. Presentation for a local seminar, symposium or conference is also encouraged.

At the end of the workshop the presenters should meet with the director of the host organisation to present their reflections on the future directions for mapping undertaken by the host organisation. A written report on the workshop content and outcomes should be provided by the presenters to the host organisation at the end of the workshop.

## Workshop content details

The content for the workshop is determined by selecting from the topics listed below but other topics can also be delivered to suit the context of the host organisation. Specific detail relating to each topic can only be provided when the presenters are confirmed. This would happen closer to the date of the workshop.

An example of the workshop format is provided in APPENDIX 1 at the end of this report.

### **Workshop topics – standard list**

#### Workshop - Week one (*topics for selection*)

Geography (Physical / Quaternary)
Environmental sustainability
The Earth's geometry
Projection systems
Cartometry
Cartographic theory
Topographic maps
Map Design (Symbols and layout)

#### Workshop - Week Two (*topics for selection*)

Geographic Information Systems
Remote sensing
Internet mapping
Atlas production
Prepress and digital printing
Map Types
Map evaluation
Usability of cartographic products

#### Workshop - Week Three (*topics for selection*)

Digital Generalization
3D maps and Geovisualization
Multimedia products
Location Base Services
Cartographic animation and Dynamic maps
Navigational maps
Geovisualization techniques
Toponymy

## Available Interchangeable Topics

- Application of the mapping sciences to agriculture
- Atlas design and production
- Car Navigation
- Cartographic design
- Cartographic education
- Cartographic theory
- Computer assisted cartography
- Electronic battlefields
- Environmental sustainability
- Geographic/ Geospatial education using ICT
- Geography - Physical
- Geography - Quaternary
- Geospatial Information Science
- Geospatial information systems and nature-based tourism
- GIS and Cartography on the Web
- GIS design
- GIS theory
- GIS visualisation
- History of colonial cartography
- Internet applications of cartography
- Land capability assessment
- Map animations
- Map design
- Map production
- Map projections
- Orienteering maps
- Prepress design and layout
- Relief description
- Remote sensing
- Research methods
- Topographic maps
- Toponymy
- Triangular networks for digital terrain models
- Usability of cartographic products
- Web-based cartographic research
- Web-cartography
- WebGIS

## PROSPECTIVE PRESENTERS

The following is an example of the profile template which exists for all potential presenters. The profiles will be sent a nation once a commitment has been made to running a workshop in their country:

## PROFILES of PROSPECTIVE PRESENTERS (Example)

### David Fraser

**Title:** Dr.

**Name:** David Fraser

**Position:** Associate Professor (Geospatial Sciences)

**Qualifications:** BSc (Cartography - RMIT); MEnvSc (Monash). PhD (RMIT), Grad Dip Ed (Tertiary)

**Specialisation:** Application of the mapping sciences to agriculture

**Expertise in:** Map production, cartographic theory, basic GIS, remote sensing, environmental sustainability, land capability assessment, research methods

**Software (proficient in):** CorelDraw; Photoshop; ArcMap;

**Other:** Fellow and National President, Mapping Sciences Institute, Australia; Chair Commission on Education and Training, International Cartographic Association

### Summary of key workshop characteristics

- The workshop is coordinated at the International level by the chair of the Commission on Education and Training, on behalf of the International Cartographic Association.
- Two presenters would be selected for each week of the workshop based on their background.
- The same presenters may present for more than one week depending on expertise, time commitments and financial constraints.
- One, two or three, one week workshops can be configured.
- Each week can be presented as a stand-alone workshop with specific content selected by the host organisation.
- The workshop must be organised in cooperation with, and with the guidance of, a local organisation.
- The host nation provides the venue and most of the resources required for the workshop.
- The host nation pays for the travel, accommodation and subsistence costs of the participants.
- Workshop presenters provide their time, expertise and learning resources free of charge to the host organisation.
- The host organisation can video record the workshop sessions for future training purposes.

Other arrangements are addressed as they are identified.

The workshop format has proven very successful in the past (Iran - 2009, Indonesia and Vietnam – 2010) with participants gaining new knowledge through the theory presentations, tutorials, practicals and discussions.

Compiled by

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# APPENDIX 1

## Example of Workshop Format

### WORKSHOP TIMETABLE.

Day	Time	Topic
Saturday	09:00 – 09:30	Welcome and getting to know you – Introducing the ICA
	09:30 – 10:30	Introduction to cartographic research projects
	10:30 – 11:00	Coffee break
	11:00 – 12:00	Introduction to Earth's geometry
	12:00 – 13:00	Lunch
	13:00 – 14:30	Map projections <ul style="list-style-type: none"> <li>• Characteristics of spatial data</li> <li>• Shape of the Earth</li> </ul>
	14:30 – 15:00	Coffee break
	15:00 – 16:00	Map projections (continued) <ul style="list-style-type: none"> <li>• Geographic co-ordinates</li> <li>• Map projections</li> <li>• Scale, orientation (grid and true north) and legend</li> </ul>
Sunday	09:00 – 10:30	An introduction to cartographic/geographic information systems <ul style="list-style-type: none"> <li>• Overview of GIS</li> <li>• Conceptual model of GIS</li> <li>• Importance of GIS</li> <li>• Spatial data models</li> <li>• Raster elements</li> <li>• Vector elements</li> <li>• Comparison between the models</li> </ul>
	10:30 – 11:00	Coffee break
	11:00 – 12:00	Cartographic/geographic information systems (continued) <ul style="list-style-type: none"> <li>• Relational database management systems</li> <li>• Entity relationship modelling</li> <li>• Vector data models</li> <li>• Spatial objects</li> <li>• Input of vector data</li> <li>• Editing vector data</li> <li>• Storing vector data</li> <li>• Shapefiles, coverages feature classes and the geodatabase model</li> </ul>
	12:00 – 13:00	Lunch
	13:00 – 14:30	Introduction to GIS and Map Projections Practical – Prac 1 This prac introduces ArcMap and ArcCatalog as well as metadata, then explores manipulating the reference frame for different map projections for the world dataset.
	14:30 – 15:00	Coffee break
	15:00 – 16:00	Introduction to GIS and Map Projections Practical – Prac 1 (continued)
Monday	09:00 – 10:30	Data input, editing, quality, collection and sampling

		<ul style="list-style-type: none"> <li>• Positional accuracy</li> <li>• Attribute accuracy</li> <li>• Logical consistency</li> <li>• Completeness</li> <li>• Lineage</li> </ul>
	10:30 – 11:00	Coffee break
	11:00 – 12:00	Data uncertainty
	12:00 – 13:00	Lunch
	13:00 – 14:30	Data editing practical – Prac 2 This prac starts by defining a personal geodatabase, then taking a scanned image of Iran, transforming scanned co-ordinates into geographic co-ordinates and then projecting into a map projection co-ordinate system. From there students will digitise a series of geographic features using on-screen digitising (both point and stream), adding attribute information to the tables and then generating automatic cartographic representation of these features using ArcGIS. A final map will be produced.
	14:30 – 15:00	Coffee break
	15:00 – 16:00	Data editing practical (continued) – Prac 2
Tuesday	09:00 – 10:30	Map design – boundaries and borders, centres
	10:30 – 11:00	Coffee break
	11:00 – 12:00	Information of cartographic content and map design
	12:00 – 13:00	Lunch
	13:00 – 14:30	Cartographic content practical – Prac 3
	14:30 – 15:00	Coffee break
	15:00 – 16:00	Cartographic content practical – Prac 3
Wednesday	09:00 – 10:30	Other issues relating to spatial information and cartographic design – statistical techniques, spatial analyses <ul style="list-style-type: none"> <li>• Analysis and GIS – display and query</li> <li>• Vector operations – topological and non-topological overlays</li> <li>• Surface modelling (TINs and DEMs) and proximal regions</li> </ul>
	10:30 – 11:00	Coffee break
	11:00 – 12:00	Spatial analyses practical – Prac 4 This last prac will take students through spatial analysis including buffering and overlay procedures.
	12:00 – 13:00	Lunch
	13:00 – 14:30	Spatial analyses practical – Prac 4
	14:30 – 15:00	Coffee break
	15:00 – 16:00	Final overview