




Facing the Challenges





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Tree of Open Learning 1996



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Brighton - 1998





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2006-2010

Report

- Commission 2 activities
- Lessons learned
- Conclusions



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Commission 2 - Events



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FIG 237



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The Role of

The three areas of e-Governance, Knowledge Management, and e-Learning are interdependent and constitute the key challenge of the future: "the e-Future Challenge".

 should develop ways and means to face this challenge.

The efforts of Commission 2, 3 and 7 in this area are very timely and most welcome.

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Digitalization: "e" Is Not Just Technology

Look at this from different perspectives:

It is people who make the change.
We Need to Focus on Collaboration


„e“ = ?
emotional and empowerment
with interoperability

Development of new "real e-Learning" and "blended learning" models... with a strong focus on collaboration!


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Jim Petch

- We already have most of what we need to start to meet the challenges of the changes in governance and education arising from ICT
- The problem is to get organised and focus on what we can do



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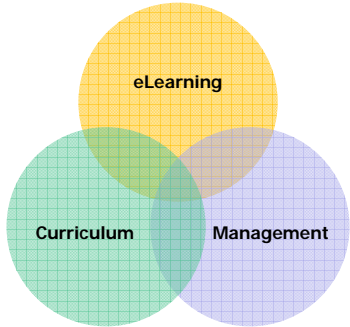


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FIG Commission 2 - Working Groups





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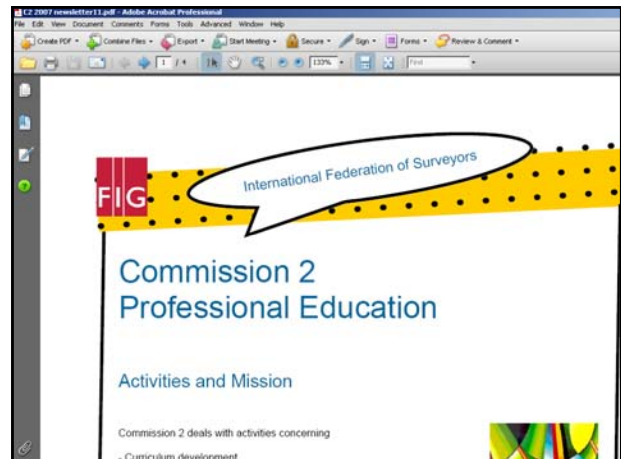
Workgroup 2.1: Curricula development

Chair: Bela Markus (Hungary)

- **Changing profession**
 - Surveying, Cadastre
 - Land Management
 - Participatory planning - GIS
 - Real Estate Management
- **Technology changes**
- **Teaching methods**
 - PBL
- **Bologna changes**
 - BSc / MSc / PhD / Professional masters
 - Credit Transfer
- **Quality Management**
 - Accreditation
- **Training**
 - Recognition

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International Federation of Surveyors

Commission 2 Professional Education

Activities and Mission

Commission 2 deals with activities concerning
- Curriculum development



www.geo.info.hu/fig2

Professional Education

Home | News | Newsletters | Event calendar | Mission statement | Work Plan | Working Group | Needs assessment | Links | Contact us | Search | FAQs

Latest News

- Book topic program - Friday June 8
- 9th South-East Asian Survey Congress
- Incorporating New Technologies
- Partnership Interactions

Latest Events

- FIG Conference June 27, 2007
- EE Conference June 10, 2007
- View Full Calendar

Welcome to FIG Commission 2 website

FIG Commission 2 - Professional education is dealing with the following main issues:

- Curriculum development
- Educational methods and technologies
- Educational management and marketing
- Continuing professional development
- Interacting in education and training

The aim of this website is to open a forum on our activities. You are able not only to read, but also to submit news, events, forum etc. Please register now. All the National Delegates, Academic Members and registered users could play an active leading role here.

• Read More...




What would you like to do on this site?

- To read news published by the Commission
- To search for educational materials
- To update news and announce our working
- To discuss questions
- To find people and institutions with similar interests

Workshop 1: Curricula development

Prague, 7 -9 June 2007

Ales Cepek

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Knowledge Is Power

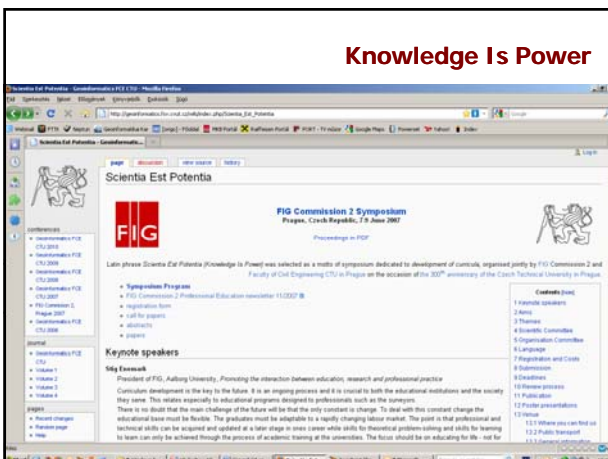


FIG Commission 2 Symposium
Prague, Czech Republic, 17-20 June 2007

Presenting in FIGP

Latin phrase *Scientia Est Potentia* (Knowledge is Power) was selected as a motto of symposium dedicated to development of curricula, organized jointly by FIG Commission 2 and Faculty of Civil Engineering CTU in Prague on the occasion of the 50th anniversary of the Czech Technical University in Prague.

Symposium Program

- FIG Commission 2 Professional Education seminar 11:00-12:00
- registration time
- call for papers
- abstracts
- dinner

Keynote speakers



Key Event

President of FIG, Aulung University, Promoting the interaction between education, research and professional practice

Curriculum development is the key to the future. It is an ongoing process and it is crucial to both the educational institutions and the society they serve. This relates especially to educational programs designed for professionals such as the symposium.

There is no doubt that the main challenge of the future will be that the only constant is change. To deal with this constant change the educational base must be flexible. The graduates must be adaptable to a rapidly changing labour market. The point is that professional and technical skills can be acquired and updated as a later stage in ones career while skills for theoretical problem-solving and skills for learning to learn can only be achieved through the process of academic training at the universities. The focus should be on educating for life - not for




„I suggest that we fly high and keep our feet on the ground at the same time.”


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Core Curriculum?

or Body of Knowledge
Ann B. Johnson,
 Higher Education Solutions Manager (ESRI):
 Meeting the Challenge –
 Incorporating New Technologies and Methods
 into a Curriculum for Surveying




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Body of Knowledge

Greenfeld, J – Potts, L. (2007):
 Surveying Body of Knowledge –
 Preparing Surveyors for the 21st Century.
North American Surveying Educators Conference,
 Big Rapids, MI, USA.



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The 21st Century surveyor must demonstrate

1. an ability to **apply knowledge** of mathematics, science and engineering/applied science/technology.
2. an ability to **design** and conduct experiments, as well as **analyze and interpret data**.
3. an ability to **design a system**, component, or process to meet desired needs.
4. an ability to function on **multi-disciplinary teams**.
5. an ability to identify, formulate and **solve** surveying (engineering) **problems**.
6. an understanding of professional and **ethical responsibility**.
7. an ability to **communicate** effectively.
8. a broad education necessary to understand the impact of surveying (engineering) solutions in a **global and societal context**.



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The 21st Century surveyor must demonstrate

9. a recognition of the need for, and an ability to engage in, **life-long learning**.
10. a knowledge of contemporary issues.
11. an ability to use the techniques, skills, and modern surveying (engineering) tools necessary for practice.
12. an ability to apply knowledge in a specialized area related to surveying.
13. an understanding of the elements of supervision and **project management**.
14. an **understanding of business** and public policy and administration fundamentals.
15. an understanding of the role of the leader and **leadership principles**.

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Competencies

Rob Mahoney and Prof. Frances Plimmer (United Kingdom), Prof. John Hannah (New Zealand) and James Kavanagh (United Kingdom):
 Where Are We Heading?
 The Crisis in Surveying Education and a Changing Profession

... the number of competencies in which surveyors might claim to be proficient now number over 200

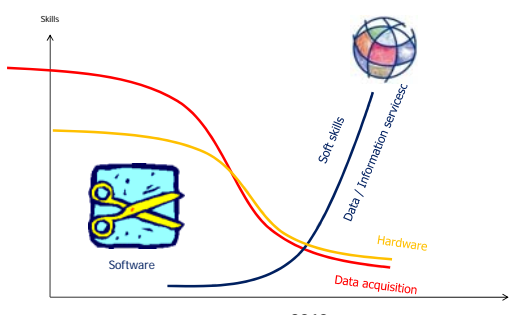



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New competencies



Based on: Mr. Rob Mahoney and Prof. Frances Plimmer (United Kingdom), Prof. John Hannah (New Zealand) and Mr. James Kavanagh (United Kingdom): Where Are We Heading? The Crisis in Surveying Education and a Changing Profession

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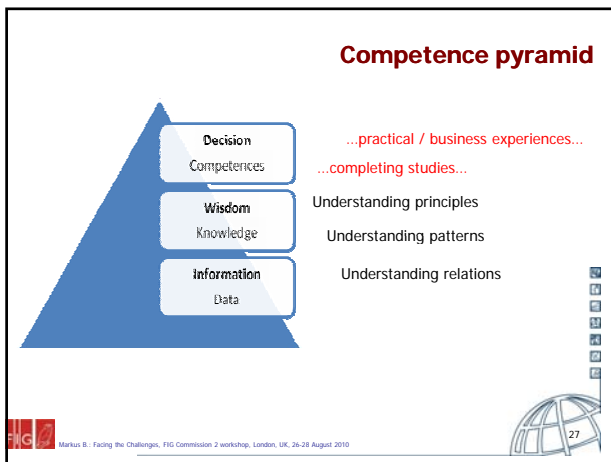
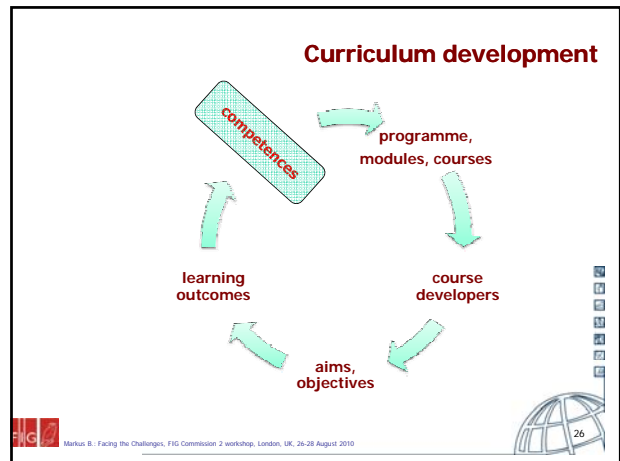



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Competence matrix

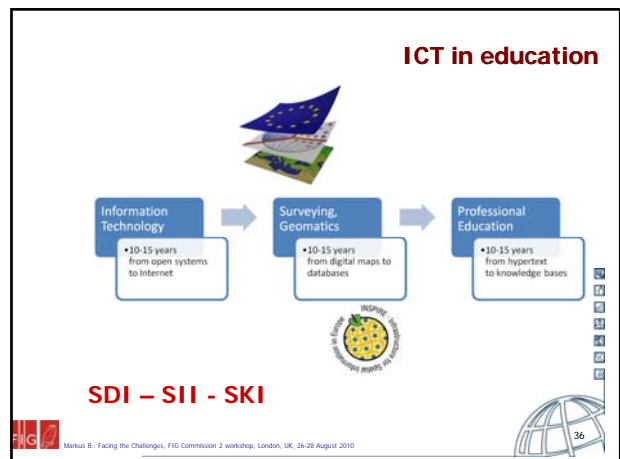
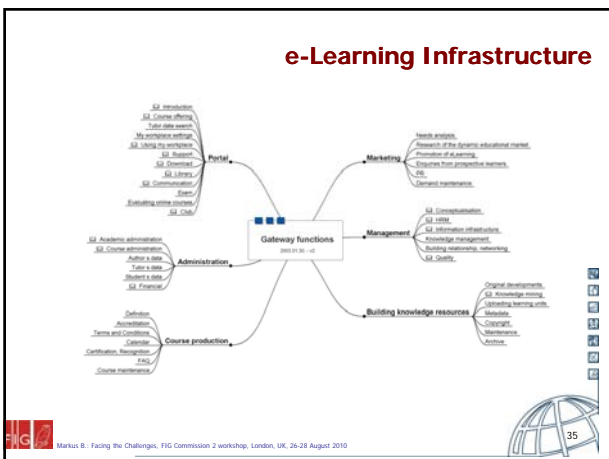
Modules	Competences					
	1	2	3	4	5	6
1		x				
2	x			x		
3		x	x			x
4	x		x			
5		x	x			x
6	x				x	

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- ### Workgroup 2.2: e-Learning
- Chair: Liza Groenendijk, ITC (Enschede, Netherlands)
- Tools
 - Innovations
 - Portals
 - Content development
 - Multimedia
 - CBT
 - Quiz
 - Student support
 - Club
 - Library
 - Communication
 - Teamwork
 - Metadata
- 
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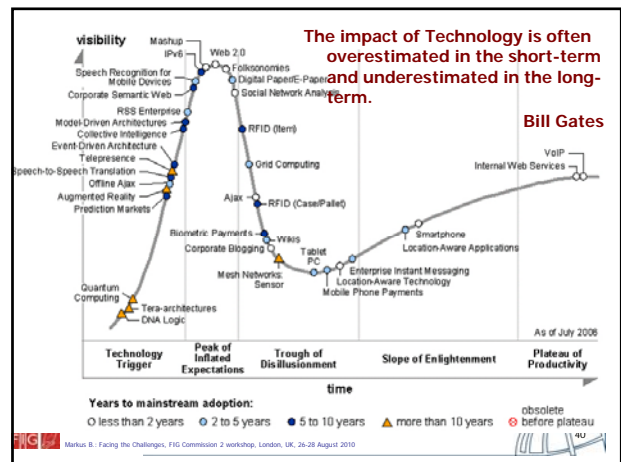
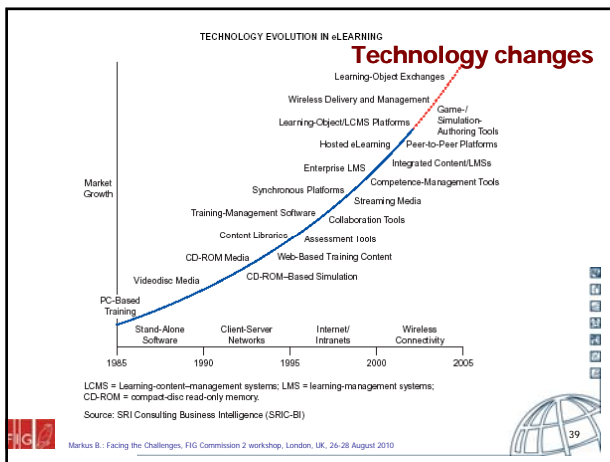
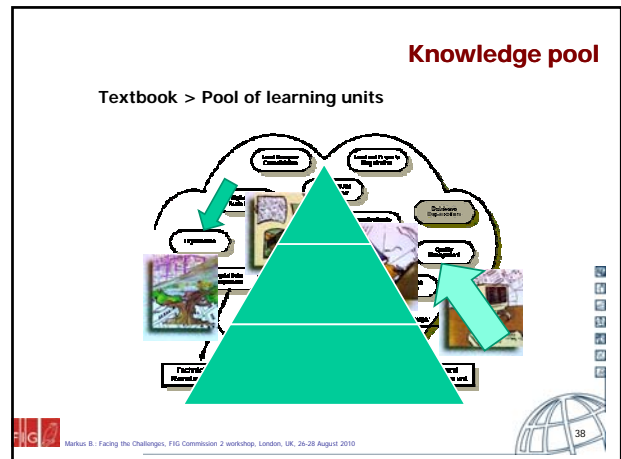




eLearning 2.0

	eLearning 1.0	eLearning 1.3	eLearning 2.0
Main Components	Courseware, LMS, authoring tool	Reference hybrids, LCMS, discussion groups	Wiki, Social Networking & Bookmarking, Add-ins, Mash-ups
Ownership	Top-down, one-way	Top-down, collaborative	Bottom-up, learner-driven, peer learning
Development time	Long	Rapid	None
Content Size	60 minutes	15 minutes	1 minute
Access time	Prior to work	In between work	During work
Delivery	At one time	In many pieces	When you need it
Content Access	LMS	Email	Search, RSS feed
Driver	ID	Learner	Worker
Content creator	ID	SME	User
Training's Role	Gourmet Chef	Short-order cook	Food critic

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Kurzweil (99): The Age of Spiritual Machines

2014

„Fifteen years in the future computers will enable the memory capacity and computational ability of the human brain, and interaction with computers will involve gestures and two way spoken communications. Most learning will be conducted through software-based teachers.“

„Twenty five years from now computers will have the capacity of 1.000 human brains, and the majority of communication does not involve a human. Computers will have read all available human- and machine-generated literature and will be learning on their own. Machines will claim to be conscious.“

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Tim Berners-Lee

- Anyone can say anything about anything
- No one knows everything about anything

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FIG FIG REPORT 2010

Enhancing Surveying Education through e-Learning

A publication of FIG Commission 2 – Professional Education

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FIG Policy on e-Learning

- FIG will stimulate e-learning by raising the awareness about the paradigm shift in education from teaching to learning, by communicating employability and life-long learning as the new requirements for an up-to-date academic professional education, and by incentivising teaching staff (e.g. FIG award for e-learning).
- FIG will distribute information on the topic of e-learning to the surveying community, e.g. by publishing conference papers, by this booklet on e-learning, by compiling a reference book about e-learning or by a register of "good practice".
- FIG will bring experts together to share their knowledge on the topic of e-learning. This can be done physically during conferences or workshops or virtually in form of electronic discussion forums.
- FIG promotes e-learning networks starting with FIG Commission 2 as a seed. But FIG will also increase cooperation on the topic of e-learning with other organisations in the field of geosciences, like ISPRS and ICA.
- FIG will encourage their members to develop and share e-learning contents within surveying education. This can be achieved by the establishment of a database with specific learning materials, such as literature, scripts, interactive learning tools, test questions, etc; and through development of a quality assessment guide for e-learning courses.
- FIG will influence and encourage governmental and administrative bodies to support the introduction of e-learning and life-long-learning.

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Workgroup 2.3: Marketing & Management

Chair: Gert Steinkellner, BEV (Vienna, Austria)
 Vice Chair: Reinfried Mansberger, BOKU (Vienna, Austria)

- Perception of profession
- Awareness building
- Marketing
- Recruiting
- PR
 - Brochures
 - Newsletters
 - Web
- Networking
- LLL

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Professional Education 2009

The FIG Commission 2 and the Austrian Society for Surveying and Geoinformation (OVG) are inviting You to the Workshop

Navigating the Future of Surveying Education

26 – 28 February, 2009
 at the Federal Office of Metrology and Surveying (BEV)
 Vienna – Austria

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Professor, rektor , surveyor

The professor is a person, who knows almost everything about almost nothing.

The rector is a person, who knows almost nothing about almost everything.

Hans Sünkel

The surveyor is a person, who knows almost everything about almost everything.

Bela Markus

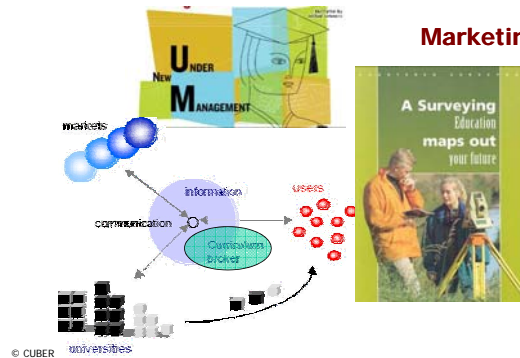
Steve Frank – chair elect



Vienna - 2009



Marketing



Workgroup 2.4: Real Estate Valuation and Management Education

Joint WG with Commission 9

Policy Issues

- Surveyors are traditionally well educated to basics of real estate legislation and markets. In the present world requirements for knowledge in real estate are expanding fast. It is not anymore possible to educate surveyors to all traditional tasks in unified programs but the programs have to have real options where students can really specialise in real estate economics. This is needed in the market (thousands of new jobs) and examples of some countries show that this kind of education is possible and also very attractive for students and markets.
- Chair: Prof. Arvo Vitikainen (Helsinki, Finland),
- e-mail : arvo.vitikainen@tkk.fi



Learning@organizations

- Daily tasks evolving faster than universities can produce qualified experts, many employers apply constant, on-the-job training to remain competitive. E-learning programs help staff members to obtain new skills and critical improvements quickly and efficiently.
- Companies integrate e-Learning into mainstream. They can easily integrate learning modules into staff communications, and can add similar tools to web-based systems.
- e-Learning open the world. Likewise, small businesses can access the same level of knowledge and insight that was earlier only available to large companies.
- Mobile technology helps e-Learning initiatives. Wireless technology allows educators to reach learners in their working environment.
- Computer Supported Ubiquitous Learning is defined as a ubiquitous learning environment that is supported by embedded and invisible computers in everyday life.

We need learning solutions that were:

- quick response time
- fast to develop, on low costs
- require short timeslots from learners without leaving their workplace
- increasing effectiveness

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Open education

... is a collective term that refers to forms of education in which knowledge, ideas or important aspects of teaching methodology or infrastructure are shared freely over the internet.

It was inspired by related concepts like Creative Commons, open source, open data and open Access, and expands them to include lectures and other courseware.

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International Summer School

- The aim of the **Urban 3D modeling** summer school organised by the University of West Hungary, Faculty of Geoinformatics is to give an overview of modern data acquisition, data processing and modeling methods related to 3D modeling in urban environments.
- The study area is the historical town center Székesfehérvár (Alba Regia), the town where Hungarian kings were crowned. During the summer school students can take part in lectures, practical hands-on exercises and fieldwork.
- Date: 23-29. August 2008. (Saturday to Friday)



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Conclusions

- Change your mind
- Communication between events (Skype, etc)
- Activate Academic members
- International Summer Schools
- Coordinated marketing
- Joint projects
- Joint (MSc) courses
- Global knowledge management

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- when it has to be right **Leica**
Geosystems



Thanks

Proceedings and Publication : 77.7 MB

