



Navigating the Future of Surveying Education

**Outcomes and Conclusions of the
FIG-Comm2-Workshop 2009 in Vienna**


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& Key Note Speakers, Speakers and Participants*

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Overview

- Introduction
- Key Notes
- Core Messages
- Outcomes of Workshops
 - “Students Where Are You”
 - “Students Today – Students Tomorrow”
- Summary

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Introduction

- FIG-Commission 2 (*Chair Bela Markus*) established 4 Working Groups for the term 2006 – 2010
- FIG-Working Group 2.3 (*Chair: Gert Steinkellner*) “Educational Management and Marketing”
 - Networking, Presentations, Commission Meetings,
 - ...
 - Organising a Workshop (Vienna, 26-28 February 2009) “Navigating the Future of Surveying Education”




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Figures

74 participants from 20 countries
5 keynotes - 28 presentations - 2 workshops



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Keynote Stig Enemark (FIG-President)

Surveying Education: Facing the Challenges of the Future



“Professional and technical skills can be acquired and updated later in ones carrier, while skills for problem solving and skills for learning to learn can only be established through the process of academic training at the universities (Skills of dealing with the unknown problems of the future)”

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Keynote Michael GOULD (ESRI)

The Marketing of Spatial Thinking, Professional (Surveying) Education and GI Science

“Capture interest of young students”

“Provide information on careers including income and benefits”



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Keynote Steve FRANK (Incoming Chair Commission 2)

Surveying Student Recruitment: A US Perspective



„Pennsylvania coloring book“



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Keynote Hans SUENKEL (Rector TU Graz)

The Future of Surveying Education: Committed to Excellence



C³redo

- Competence
- Competition
- Cooperation

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Keynote Gottfried BACHER (Bologna Follow Up Group)

The European Higher Education Area –
Goals Achieved & Outlook towards 2010 and Beyond



“The path towards internationalization is a rocky one - Bologna provides us with the four-wheel vehicle to master it!”

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Core Messages 1: Problems

- Low number of students
- Closing of several surveying courses
- Large number of surveyors will retire within the next 10 years (demographic time bomb)
- Aging teaching profession is a visible barrier to attracting young people




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Core Messages 2: Challenges

- Professional involvement in student recruitment
- The “Big Swing”: From Measurement to Management
- The “Global Drivers”:
 - Technological development
 - Micro-economic reform
 - Globalization
 - Sustainable development
 - Changing demographics and
 - Changing times

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Core Messages 3: Adequate Education

- New teaching methods
 - to keep students interested
- Teach the teachers
- Focus on “work-based learning”
- Skills for problem solving & for learning to learn
- Learning by “Good Examples”
- Continuous Professional Development
e.g. via distance learning courses



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Core Messages 4: Creating Quality Culture

- Excellent teachers for excellent students
appropriate curricula & proper infrastructure
- Quality management tools have to be used
 - Evaluation of courses
 - Integration of incentive systems
 - Implementation of mentoring concepts
 - New teaching and learning methods
 - Assignment of international reviewers/examiners
- Including project work

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Core Messages 5: Globalization-Harmonization-Mobility

- Bologna Communiqué to create a European Higher Education Area
 - Mobility
 - Full recognition
 - Quality
 - Transparent study cycles, ...
-  Young Surveyors Network
- International projects (between professional companies)

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Core Messages 6: Professional Competence

- Mix of general competence & knowledge competence (professional & social point of view – visions)
- Employability-oriented education towards a “Global Surveyor”
 - Hand-in-hand training for general and professional skills
 - As well as lifelong learning
- Additionally interdisciplinary cooperation
 - Interdisciplinary knowledge transfer
 - New fields of work

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Core Messages 7: Marketing

- **Definition of the Surveying Profession:**
 - Very complex
 - National and regional variations
 - Near invisible profile of a “Surveyor”
 - Poor local and international perceptions
- Review the definition towards a set of core competences
- Need of focused and coordinated marketing
- International network of young surveyors
Mentoring & networking across generations, disciplines, cultures

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Core Messages 8: Recruitment

- In the past: through universities – need to get the professionals more involved
- Key client group within higher education
 - No longer 18 to 25 years old
 - Towards more experienced people (Changing circumstances and future needs)
- The goal is not only to attract a big amount of students but also quality students

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Workshop “Students Where Are You” (1)

Five questions – Key points of discussion:

- 1. Attractiveness for today's young people?**
 - Negative image, outdoor activity with low salary
 - Lack of awareness, what studying involves
 - Need for promotional material, networking sites
- 2. Is the education insufficient and inadequate?**
 - Maths and Physics are too complicated
 - Need for links to schools







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Workshop "Students Where Are You" (1)

Five questions – Key points of discussion (...cont.):

- 3. The lack of active marketing?**
 - Direct marketing as the most successful approach
 - Example France: visit to schools, presenting a "comic/cartoon" video
 - Considerable variation of the need for 3- or 5-year degree
 - Need of an attractive name for degrees
 - **FIG should take a leading role in developing templates for schools!**
- 4. How to enhance technical interest?**
 - Engagement with teachers is essential
 - Example US Military: material "The Live Accelerator"
 - Promote the involvement in global problems by surveyors

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Workshop "Students Where Are You"

Five questions – Key points of discussion (...cont.):

- 5. How to encourage LLL, PM & QM?**
 - Chambers/ Professional bodies are involved in CPD
 - Chambers/ Professional bodies should monitor CPD, LLL



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WS “Students Today – Students Tomorrow” (1)

Getting to University (Key messages)

- The personal contact with a surveyor/university representative is very important
- There is a lack awareness what surveyors do
- Different outlook on “university lifestyle”
 - Students coming straight from high school
 - “Mature-aged” students




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WS “Students Today – Students Tomorrow” (2)

At University (Key messages)

- Structure of studies vary regionally
- Bologna Structure: overall positive response
- More information about surveying in secondary education is required
- Good workplace accessibility like in Australia & UK should be replicated elsewhere







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WS “Students Today – Students Tomorrow” (3)

Networking and Beyond University (Key messages)

- Networking and mentoring are key factors to produce a well-rounded surveying graduate
- Professional bodies struggle to attract active students participation
- Most students find work through their network
- Soft Skills are important - but more a domain of professional bodies (post graduate)


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WS “Students Today – Students Tomorrow” (4)

Surveying student life (views limited by attendees)

	EU (without UK)	UK	US	Australia
Pre-university awareness of surveying	Low	Low	Low	Low
University attendance	Straight after high school.	>20% mature aged	>20% mature aged	>20% mature aged
Scholarships	Few surveying-specific scholarships.	Few scholarships	Some scholarships; surveying specific are based on competitions.	Several significant scholarships, some surveying specific.
Fees	Low	Medium	High.	Medium; some govt support
Structure	Bologna.	Bologna	See Other.	4 year undergraduate, 1-2 year masters
Work during study	Limited and discouraged	Limited to uni. breaks	Unknown.	Common and encouraged
International exchange	ERASMUS	ERASMUS	Unknown	International exchange is passively encouraged, some scholarships available.

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Summary and Recommendations

The Conference addressed:

- What is the profession really today & how is it recognized in today's society
- The need for realistic expectations/ carriers for young people
- The importance of social networks and electronic communication channels
- Students and young surveyors must be involved in marketing initiatives, helping to address any image problems
- New methods of knowledge transfer are required to bridge the gap between developed and developing countries

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See You in Vienna in July 4th 2010 ??

ISPRS	VENUE	FIRST ANNOUNCEMENT
<p>On July 4, 1910 the International Society of Photogrammetry, now the International Society of Photogrammetry and Remote Sensing (ISPRS) was founded in Vienna on initiative of Prof. Eduard Sjöedal. The ISPRS is a non-governmental organization devoted to the development of international cooperation for the advancement of photogrammetry, remote sensing and their applications. The Society operates without any discrimination of race, religion, nationality, or political philosophy.</p> <p>The Society's scientific interests include photogrammetry, remote sensing, spatial information and related disciplines, as well as applications in cartography, geodesy, surveying, natural, Earth and engineering sciences, and environmental monitoring and protection.</p> <p>The Society's centenary will be celebrated on July 4, 2010 at its origin, the Vienna University of Technology. The festivities include an extraordinary General Assembly, an afternoon Kollaboration, and a Gala Dinner. The centenary celebration is framed by the ISPRS Commission VII Symposium right after the celebration and right before by the German-Swiss Austrian meeting for photogrammetry, remote sensing, and spatial information science.</p>	<p>Vienna University of Technology Karlplatz 13 A-1040 Vienna, Austria</p> <p>Registration will be open from February 1, 2010</p> <p>Hotel Information http://www.wien.info</p> <p>Social activities Apart from the social events within the conferences sight-seeing tours will be offered at the registration as well as at the conference bureau during the event.</p> <p>More Information http://www.isprs100vienna.org</p>	 <p>1910 - 2010 CENTENARY CELEBRATION July 4, 2010 Vienna - Austria</p> <p>3 - Ländertagung (3 Countries Congress) DGPF, SGPBF, ÖVG July 1 - 3, 2010</p> <p>Symposium ISPRS Commission VII July 5 - 7, 2010</p> 



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