

International Federation of Surveyors  
Fédération Internationale des Géomètres  
Internationale Vereinigung der Vermessungsingenieure



ANNUAL  
REVIEW  
2009



## General Assembly – Eilat, Israel in May 2009

The General Assembly was attended by more than 120 participants representing 37 member associations and many other members. From the main decisions of the General Assembly it should be mentioned that the General Assembly confirmed the new finance reporting system for the Federation and to establish general and special reserves giving a possibility to help e.g. the poorest members associations and young surveyors. The membership fees were frozen for 2010 to 2009 level.

*Association des Géomètres Experts du Niger* (Association of Niger Surveyors) AGEN was admitted as a new member association. In addition 6 new academic members were endorsed from Egypt, Ethiopia, Israel, Mexico, Palestine and United Kingdom. Three new corporate members were approved including Magellan Navigation and Orbits Engineering Firm.

The General Assembly appointed **Ken Allred** as an Honorary Member of the Federation. The General Assembly endorsed two new task forces: Spatially Enabled Societies chaired by Dr. **Daniel Steudler** and the FIG Africa Task Force chaired by Dr. **Diane Dumashie**. Further the Young Surveyors Network was formally established. It is chaired by **Cecilia Lindén** from Sweden.

**Wafula Nabutola** from ISK, Kenya was elected to Chair Elect of Commission 8 at the only election at the Working Week. He thus became the first Commission chair from a developing African country. The input of Africa will further be increased in FIG when the General Assembly adopted the bid from the Nigerian Institute of Surveyors bid to host the FIG Working Week 2013 in Abuja, Nigeria.

President **Stig Enemark** made a presentation on the role of FIG in contribution to professional development and the global agenda.



FIG Working Week 2009 and General Assembly were arranged in Eilat at the Red Sea.



Member associations at the second session of the General Assembly at Dan Eilat Hotel.



Alabo C. D. Charles, Vice President of the Nigerian Institute of Surveyors making the NIS bid to host FIG 2013 in Nigeria.



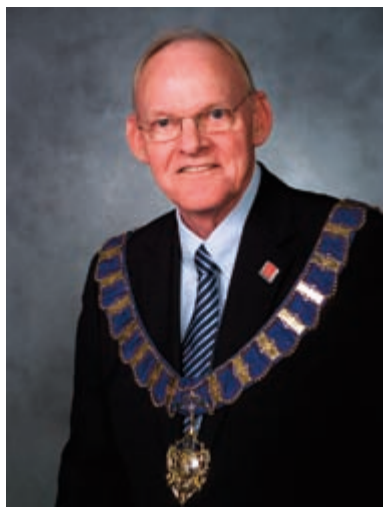
FIG Council members listening to reports at the General Assembly.



President Stig Enemark.

## Greeting from the President

by Prof. Stig Enemark, President of the International Federations of Surveyors



**“Surveyors should be proud of their crucial role as the key professionals in land management and administration in any society – the land professionals.”**

The third year of the current FIG Council has been very much concentrated around our three major events that have been significant to our own profession and activities, but they will also have a great impact to the society as whole in a longer perspective. The year started with the joint FIG/World Bank Conference in Washington DC in March. It was followed by the FIG Working Week in Eilat, Israel in May and concluded by the 7<sup>th</sup> FIG Regional Conference in Hanoi, Vietnam in October 2009. All these events are key elements in implementing the current FIG work plan “*Building the Capacity*”. They all emphasise the role of surveyors in building the society and the crucial role that land has in development.

I am proud to say that we (Council, commissions, and the FIG Office) have managed to implement almost fully the ambitious Council Work Plan that was adopted in Hong Kong in May 2007. The year ahead until the end of 2010 will be dominated by presenting the results and outcomes in terms of events and publications of which a range will be launched at the FIG Congress in Sydney in April 2010.

Parallel to implementation of the Work Plan 2007–2010 we have used a lot of resources in preparation for the FIG Congress in Sydney in April 2010 to guarantee an unforgettable experience and a high level congress. The theme of the upcoming congress “*Facing the Challenges – Building the Capacity*” in a sense mirrors what FIG is all about – namely develop-

ment. When elected President of FIG I introduced the phrase: “*Flying high and keeping the feet on the ground.*” This is related to the role of FIG in terms of *professional development; institutional development; and global development.*

The *professional development* in the FIG agenda is about providing a global forum for discussion and exchange of experiences between member countries and between individual professionals in the broad areas of surveying and mapping, spatial information management, and land management. This global forum is the very heart and the engine of FIG. In implementing this, the FIG annual and regional conferences and the work of the ten technical commissions offer opportunities for member associations and individual surveyors to take part in the development of all aspects of surveying disciplines and practice.

Conferences, Commission work plans and the role of national delegates in the commissions form a concept that allows in principle everyone to participate and contribute to professional development at a global scale. I think that this is a powerful concept. The annual conferences will ensure that a global platform is available each year for the commissions to deliver according to their work plans – and for the wider membership to participate and get involved and thereby making the FIG agenda relevant to the individual surveyors throughout the world. This role of FIG is very much about keeping the feet on the ground and focus on developing the core professional areas of the surveying profession.

The second pillar is *institutional development*, which is about providing institutional support to individual member countries or regions with regard to developing the basic capacity in terms of educational programs and professional organisations. Professional education should be at minimum bachelor level that includes the combination of surveying and mapping, spatial information management, and land management. Professional organisations must include the basic mechanisms for professional development, including standards, ethics, and a professional code of conduct for serving clients.

This is achieved partly through the commissions – especially Commission 1 (Professional Practice) and Commission 2 (Professional Education) – and also through Task Forces and through institutional support directly to especially developing countries. FIG has produced a range of publications providing standards and guidelines on education, ethics, mutual recognition, and capacity assessment and development. Several new publications will be launched in 2010.

In recent years and in 2009 in particular *global development* has been the third core issue on the FIG agenda. This has focused on co-

operation with the United Nations agencies such as FAO, UN-HABITAT and the World Bank, and also sister organisations such as GSDI, IAG, ICA, IAG, and IHO. The cooperation includes a whole range of activities such as joint projects and joint policy making addressing topical issues on the global agenda towards reduction of poverty and delivery of sustainable development.

We have focused on developing the role of the profession in relation to the global agenda such as the Millennium Development Goals (MDGs), Climate Change, Disaster Risk Management, etc. It is about getting the surveyors recognized as key players in meeting this global agenda. This is what I mean by “*flying high*”.

A good example of this global approach is the FIG /World Bank Conference in March 2009 with 200 invited experts from throughout the world. The overall objective was to emphasise the important role of land governance in implementing the MDGs and responding to the new challenges, and to show how FIG and the World Bank work in parallel to achieve these global aims. A publication analysing the key issues and possible ways forward will be launched at the FIG Congress in Sydney.

FIG also works closely with UN-HABITAT especially within the Global Land Tool Network (GLTN) focusing on development of pro-poor land management tools, gender equity, and building the capacity for implementing sustainable land policy strategies. The project on developing the Social Tenure Domain Model (STDM) – that will be launched at the FIG Congress in Sydney – is a good example of this cooperation. In the same way FIG works with FAO especially in the areas of land acquisition and the development of Voluntary Guidelines for Responsible Governance of Tenure of Land and Other Natural Resources that was part of the regional conference in Hanoi in October 2009.

This Annual Review covers all achievements of FIG over the last year. This includes in particular the ten commissions and the work they are doing by organising events and through their working groups and projects. This Annual Review also presents the highlights of visits to regional and national events that have given me and Council members an insight in the vital professional life that surveyors are having worldwide. I want to express my thanks to all those who have contributed to the various events, projects and publications.

Yours sincerely,



**Stig Enemark**  
President of FIG

## FIG Working Week and XXXII General Assembly in Eilat, Israel, 3–8 May 2009



Dance performance at the Opening Ceremony.



ALSI President Joseph Kraus, President Enemark and Congress Director Haim Srebro.



Welcome reception.

### Surveyors Have a Key Role in Accelerated Development

The FIG Working Week 2009 in Eilat in May 2009 gathered under the theme “Surveyors’ Key Role in Accelerated Development” more than 500 delegates – with exhibitors and accompanying persons about 650 participants from 65 countries. The selected theme is a hot topic worldwide but especially in Israel that is one of the most densely populated countries in the world. Among participants there were 60 students and more than 60 accompanying persons. The technical programme included almost 250 presentations in about 60 technical sessions and workshops. The conference was hosted jointly by the Association of Licensed Surveyors in Israel, ALSI and FIG in co-operation with the Survey of Israel.

At the Opening Ceremony at the Dan Eilat Hotel, President **Joseph Kraus** from ALSI welcomed the full hall of 450 participants to Eilat, a resort at the southernmost edge of Israel at the Red Sea. In his address he expressed the enthusiasm of the Israeli surveyors of getting this major FIG conference to Israel after many years’ preparations. The Working Week offered for the participants an excellent showcase of the development in different fields of surveying technology and the profession in Israel over the last 27 years that have passed since the previous FIG conference was held in Tel Aviv in 1972. Dr. **Ron Adler**, Chair of the Organising Committee of FIG 1972 made welcome greeting at the opening ceremony. The audience was also entertained with cultural programme focussing on traditional and modern dance from Israel and the region.

Dr. **Haim Srebro**, Congress Director had with his team put a lot of effort in the conference arrangements. In addition to the broad technical

programme covering all ten FIG Commissions – especially the programmes on valuation and environment topics were excellent – a special emphasis was put to show the rapid development of surveying profession in Israel. For many participants the professional highlight of the conference was the visit to the borders between Israel, Jordan and Egypt giving a showcase on the procedures

how surveyors can contribute, in this case in determining the border as part of the peace treaty.

FIG President **Stig Enemark** stated in his opening address that the world is currently facing two major challenges: The first is the global financial crisis and the second is climate change. “*They both require immediate as well as long term action. With regard to the financial crisis, nobody knows at this stage whether we have reached the bottom yet but the current recession will turn – eventually. FIG is well aware of the problems this crisis imposes on our members, but we should also look at the opportunities.*”

The keynote presentation at the opening ceremony was given by Dr. **Isaac Ben Israel**, Chairman of the Israel Space Agency, on Israeli space programme. He explained how a small nation with limited resources can achieve an important role in the modern technology by focussing on some key areas.

At the plenary sessions three hot topics were discussed: Geo-information management; Emergency and Natural Resource Management; and GNSS, Geo-sciences and Surveying.

The main outcome of the first plenary session was that geography has really gone mobile. **Lawrie E. Jordan**, Director of Imagery Enterprise Solutions at ESRI, talked on the geo information management perspectives for the future. He stated that GIS is addressing the challenges of our modern society and that GIS is changing the way we work and face these challenges. He continued with demonstrating several applications of the value of geospatial and GIS such as planning, land information systems, managing natural disasters and utilities and others. He also pointed out the importance to integrate imagery and GIS.

Dr. **Vanessa Lawrence**, Director General and CEO of the UK Ordnance Survey, focused on the role of a national mapping agency in geo-information management. She emphasized that the world is driven by community participation and that the geographic information community is playing a leading role on this matter. Geography is underpinning the nation in UK and elsewhere.

Dr. Haim Srebro, Director General of the Survey of Israel described the on-line geospatial information approach adopted by the Survey of Israel. He described the challenges and problems that Israel and the SOI as the governmental agency for mapping is facing, such as high population density, rapid urbanization, and severe shortage in land. Effective solutions to these issues require accessible online geospatial information and data integration and data sharing among agencies.

At the second plenary session on emergency and natural resource management Dr. **Avi Shapira** reported about the way Israel prepares for earthquakes. This is necessary because the Dead Sea fault is an active fault, with numerous little and stronger earthquakes. He stated that being prepared for an earthquake has everything to do with the way houses and buildings are constructed, as in his view dangerous earthquakes don't exist, only dangerous buildings. Here we meet social and political aspects, as there should be sufficient will to construct such houses.

Prof. **Orhan Altan**, President of ISPRS and Chair of the JB GIS Committee on Risk and Disaster Management spoke about the role of geospatial professionals in risk and disaster management.

Finally President Enemark took the floor to place the work of surveyors in the broad perspective of governance of land in his address "*Facing the Global Agenda – Focus on Land Governance*". Also the disaster risk management is based on the 4 p's of *people, places, politics* and *power*. Surveyors have to develop from measurement to management. This should contribute to a spatially enabled society, as everything happens somewhere. FIG is dedicated to support the profession adequately on this way forward.

At the last plenary session the first keynote presentation was given by Dr. **Ze'ev Begin** from the Israel Geological Survey and current Minister in the newly appointed Israeli government. The other two speakers were Dr. **Joseph Forrai** who talked about the permanent GPS network based measurement practice in Israel and Prof. **Rudolf Staiger**, Chair of FIG Commission 5 who in his presentation "*Push the Button – or Does the Art of Measurement Still Exist?*" argued that pushing the button is not enough, but we need to improve our capability to master the entire measurement process.

Further highlights of the conference included the Director General Forum of national mapping and cadastre agencies that in Eilat was attended by almost 30 national agencies. The Forum provides an opportunity for the DGs to network and to interact with the profession. The concept has been very well received and will be further developed towards the FIG Congress in Sydney.

The technical exhibition gathered a good selection of companies representing international and national companies. The FIG platinum corporate members played a key role at the exhibition. The main sponsors of the Working Week 2009 were in addition to Survey of Israel, Bentley Systems and Sivan Design.

The Working Week included several social events starting with the welcome reception at



**The open-air gala dinner at King Solomon's Pillars was a great experience.**

the Dan Eilat Hotel. The social highlight of the conference was the unforgettable gala dinner at the King Solomon's Pillars in Timna Park, where the unique surroundings and good music invited the 450 people to the dance floor until the early hours. This proved that FIG seems to be sexy even after 130 years.

The FIG Foundation Dinner gathered many delegates on the last evening to enjoy Eilat, good food and collect money to the FIG Foundation. The two scholarships given for Working Week 2009 participants were introduced during the evening: Dr. **Jayanta Kumar Ghosh** from India and **Habtamicael Weldegiorgis** from Eritrea.

Technical and social tours during the conference were well received and many participants took the opportunity to visit Petra in Jordan or other places of interest in Israel after the conference. Many took the journey back home via the Dead Sea and Jerusalem.

In his closing speech President Enemark summarised some key observations from the Working Week as "*the only constant is change – but the pace varies from "Accelerating Development" to 5 mm a year*". In finding solutions change management is the key tool and surveyors are the change agents. They have this



**The second Director General Forum was attended by almost 30 national mapping and cadastre agencies.**



**President Enemark following when Warwick Watkins and Craig Sandy from SSSI receiving the FIG flag from Haim Srebro and Joseph Kraus.**

role not only for managing within change – but managing the change itself. A good message for the future of the Federation is that at a time of global financial crisis, FIG is in fact more stable financially than ever before!

At the closing ceremony President Enemark expressed special thanks to ALSI and its President Joseph Kraus and to Survey of Israel and its Director General Dr. Haim Srebro, FIG 2009 Congress Director.

## 7<sup>th</sup> FIG Regional Conference in Hanoi, Vietnam, 19–22 October 2009



### FIG Regional Conference focuses on Good Governance in Tenure

The 7<sup>th</sup> FIG Regional Conference titled “Spatial Data Serving People – Land Governance and the Environment – Building the Capacity” was held in Hanoi, Vietnam 19–22 October 2009. This was the second time that the FIG regional conference was held in South East Asia. The conference was organised jointly by FIG and the Viet Nam Association of Geodesy, Cartography and Remote Sensing, VGCR. It gathered almost 400 participants from 52 countries to discuss land and surveying issues. 250 participants were coming from Asia, South-East Asian region and overseas while about 150 were coming from Vietnam.

The three themes of the conference were land governance; SDI and the environment; and capacity building. Specific focus was on good governance in tenure when this theme was strongly supported by the *Regional Consultation on Voluntary Guidelines for Responsible Governance of Tenure of Land and other Natural Resources* that the United Nations Food and Agricultural Organization (FAO) organised for the Asian countries as a fully integrated part of the regional conference. This two-day consultation attracted more than 80 people from 15 Asian countries to discuss the FAO voluntary guidelines.

FIG President **Stig Enemark** expressed in his opening address that “the design and building of appropriate land administration systems is a big issue in most developing countries. Vietnam and many other countries in the South East Asian Region are currently working on projects to get these systems in place. I am very happy that we will have the opportunity during this conference to get an overview of what is going on in the region. As an outcome or legacy of this regional

conference in Hanoi we intend to develop a publication that will focus on *Land Acquisition in Emerging Economies*, which is identified as the key professional issue in the region and there is a need for comprehensive guidelines to conduct these processes.”

The other presentations at the opening ceremony were given by Dr. **Dang Hung Vo**, President of VGCR who welcomed participants after many years preparations to Hanoi to the second FIG Regional Conference in the South-East Asia region, the first was held in October 2004 in Jakarta, Indonesia. Dr. Vo considered that conference was organised very timely because of the big land related projects in the country. Also the topic of land acquisition that has been selected as the topic for the Hanoi Declaration is a crucial topic in Vietnam and in the region.

Dr. **Mohamed El-Sioufi**, Head of Shelter Branch, UN-HABITAT and **Vu Ngoc Tien**, Assistant FAO Representative for Vietnam, presented their greetings to the conference. They were both very pleased on the initiative of combining the FAO consultation on voluntary guidelines to the FIG conference. The consultations were organised by FAO with strong support from Global Land Tools Network and UN-HABITAT. The formal opening address and keynote were given by Honourable **Pham Khoi Nguyen**, Minister of Environment, Vietnam Government.

In the first plenary session on land administration **Keith Bell** from the World Bank discussed the key issues in land issues in East Asia in relation to six WB funded projects that are worth of more than 180 million USD in 2009. His conclusions included that land sector reforms are complex and cross-sectoral and thus require broadly based development strategy that addresses the wider social, economic, natural resources and environmental agenda. Land sector reforms require long-term engagement,



President Stig Enemark, FIG and Minister Pham Khoi Nguyen.



Dr. Dang Hung Vo, President of VGCR making his welcome address.



President Stig Enemark happy at the end of the conference with UN Partners: Mohammed El-Sioufi, UN-HABITAT and Paul Munro-Faure, FAO.

but governments with a record of good governance and political will for reform are more likely to attract support.

The other two presentations in the first plenary session were presented by Dr. **Paul Munro-Faure**, Chief of the Land Tenure and Management Unit, FAO who discussed responsible governance of tenure and the FAO Voluntary Guidelines and **Ton Gia Huyen**, Former Director General, General Department of Land Administration who together with **Tran Thi Minh Ha**, Director, International Relation Department, MONRE explained the land administration in Vietnam, its past, recent and the future.

In the second plenary session on infrastructures for sustainable environment **Jude Wallace** from Australia challenged the participants to re-think how land acquisition policies should be linked to human rights and to find the right tools to do so. This plenary session included also a presentation on the climate change and its implications in Vietnam and the responses Vietnam has been creating. Vietnam and the South-East Asian region are hit with the natural disasters much more often than earlier as many unfortunate cases have proved already during this year. It was stated that SDI must be used as a tool for risk and vulnerability analysis and for preparing action plans to prevent natural disasters and for preparations for early warning and evacuation systems as well as for reconstruction and access to shelter. These are all crucial for regions like South East Asia that the strongly hit by the impacts of the climate change. This puts big demand for political will and management responsibility as well as for responsive professionals and organisations.

The last speaker in the second plenary session was Prof. **Chris Rizos**, President Elect of IAG who discussed the importance of geodetic infrastructure. FIG Commission 5 had a strong input in the conference programme with 11 own or joint sessions. One of the objectives for Commission 5 was to support the Permanent Committee for GIS Infrastructure Asia-Pacific (PCGIAP) initiative known as the Asia Pacific Reference Frame project or APREF.

The theme of the third plenary session was capacity building. Prof. **Holger Magel**, FIG Honorary President challenged surveyors to establish a Global Academic Partnership (GAP) with six targets for sustainable development. FIG Vice President **Teo CheeHai** discussed the code of ethics and urged FIG to revisit its ethical guidelines in relation to the recent development in the world. The Vietnamese contribution on this topic discussed innovations in surveying and mapping training for an integrated world.

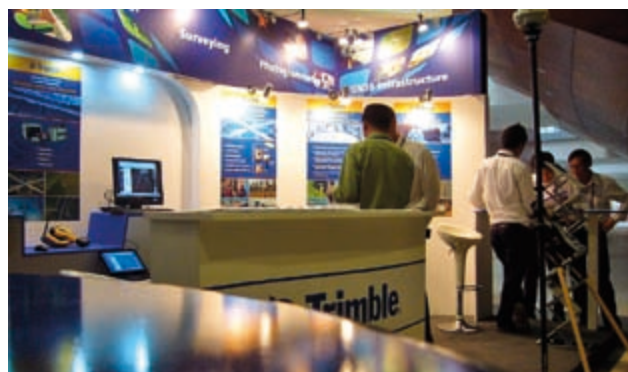
Technical programme in Hanoi included about 150 presentations in about 50 technical sessions and workshops. All FIG ten commissions contributed. The concept of the regional conference proved to be well functioning with good mixture of local and international presentations and good discussion.

The social events and visit to Ha Long Bay allowed excellent opportunities for networking. The conference was made possible by the financial support from the platinum sponsor Trimble, gold sponsor MoNRE (Ministry of Natural Resources and Environment) and silver sponsors ESRI and Intergraph and all exhibitors.

As outcome of the conference it was stated that knowledge transfer has to involve all stakeholders which GLTN and FAO provide good examples. As outcome of the conference the Hanoi Declaration on land acquisition in emerging economies will be launched at the FIG Congress in Sydney. This publication will identify the problems and issues related to land acquisition in Vietnam and the South East Asia region, analyses these problems in the context of best practice, and provides guidelines and recommendations and tools for good governance and practice. President Enemark summarised the findings of the conferences in his closing address.

At the FIG Council meeting new member associations were adopted from Cyprus and Nepal and affiliate members from Afghanistan, Italy, Switzerland as well as correspondents from Ethiopia and Eritrea and a new corporate member from Portugal. At the Commission Officers meeting (ACCO) the chairs elect discussed preliminary ideas for their work plans for 2011–2014.

**On the technical tour to Ha Long Bay it was also possible to enjoy the scenery and discuss business: Kauko Viitanen, Chair of Comm. 9, Chryssy Potsiou, Chair of Comm. 3 and Chris Paresi, ITC.**



**The Regional Conference in Hanoi was a big success, special thanks belong to sponsors and exhibitors Trimble: (platinum sponsor), MONRE (gold) and ESRI and Intergraph (silver).**



**During the conference dinner guests were entertained with Vietnamese and international music.**



## FIG – World Bank Conference “Land Governance in Support of the Millennium Development Goals: Responding to New Challenges” Washington DC, USA 9–10 March 2009

The FIG – WB Conference “Land Governance in Support of the Millennium Development Goals: Responding to New Challenges” took place at the World Bank Headquarters in Washington DC, 9–10 March 2009. The conference was organised by FIG and the World Bank. The general aim was to emphasise the important role of Land Governance in implementing the Millennium Development Goals (MDGs) and to show how FIG and the WB work in parallel in this regard.

The Conference was attended by about 200 invited international experts representing governments, UN agencies, development agencies, professionals, academia and private sector.

The conference was divided on six themes:

- Land governance for the 21<sup>st</sup> century
- Building sustainable, well-governed land administration systems
- Securing social tenure for the poorest
- Making land markets work for all
- Improving access to land and shelter
- Land governance for rapid urbanization.

Together with opening and closing sessions, donors session and country reports in total around 80 papers were presented in 20 sessions.

At the closing session of the conference President **Stig Enemark** concluded that “land governance is a crucial issue in meeting the MDGs and should be high on the global agenda. New challenges in relation to this (climate change, food security, energy scarcity, natural disasters, urban growth, and environmental

degradation) have to be met. This is only possible in a multi disciplinary approach – which calls for partnership. It can be observed that the technology tools as available today are far ahead compared to legal and institutional tools. For application of sophisticated technology tools a good partnership is needed. Capacity building and learning is also most relevant and urgent. In the process of land administration the continuum of land rights as developed by UN-HABITAT provides a good basis since this approach is socially embedded. Finding evidence on the ground remains a key issue, this is where the land professionals come involved. This process is expensive – a better monitoring of the money that is spent is most relevant. There are reasons to be optimistic looking at the strong demand

from the client countries to help addressing Land Administration.”

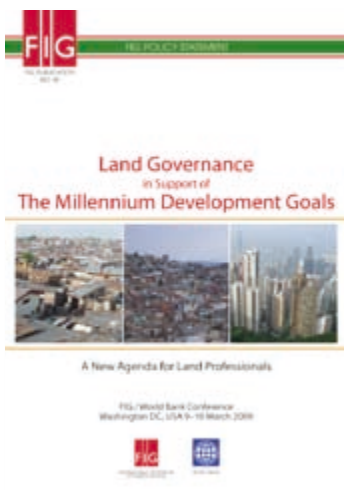
The main outcomes of the conference are published in the FIG policy statement “Land Governance in Support of the Millennium Development Goals: A New Agenda for Land Professionals”. This joint FIG/WB publication will be launched at the FIG Congress in Sydney.

Conference proceedings are now available both on the FIG and the WB web sites.

In the organising committee FIG was represented by President Enemark and **Paul van der Molen**. Leading from the World Bank was **Klaus Deininger**, Lead Economist, World Bank Land Thematic Group. The gold sponsors of the event were ESRI, Trimble, Dutch Kadaster and GTZ and silver sponsors Leica Geomatics and ITC.



FIG President Stig Enemark, Inga Björk-Klevby (Deputy Executive Director, UN-HABITAT, Mark Cackler, Director WB SDN, Klaus Deininger, WB and Paul van der Molen, FIG.



**Land Governance in Support of the Millennium Development Goals, FIG publication no. 45.**



Panel at the Closing Session: Joan Kagwanja, Economic Affairs Officer, UN-ECA, chair of the closing session (left), Paul van der Molen, the Netherlands, Clarissa Augustinus, UN-HABITAT, Cheryl Morden, IFAD, Jolyne Sanjak, MCC, Helge Onsrud, Norway and Alain Durand-Lasserre, France and Paul Munro-Faure, FAO.



## Commission Activities

The Commission officers meet in 2009 in conjunction to the FIG Working Week in Eilat, Israel and at the regional conference in Hanoi, Vietnam in October 2009. During the Working Week all commissions had their annual or other administrative meetings and in Hanoi several working group and informal meetings. At the meetings organisation of FIG conferences, peer review process at the conferences and commission co-operation as well as preparation of the work plans for 2011–2014 were discussed.

### Commission 1 – Professional Standards and Practices

Commission 1 contributed to the Working Week in Eilat and to the Regional Conference in Hanoi with technical sessions such as “*Professional Co-operation at Regional Level and Experiences on Promoting Professional Ethics*” in Hanoi. The Annual Meeting was held in Eilat and an informal meeting with the working group chairs in Hanoi to discuss the policy issues and the new work plan of Commission 1 and how to activate the commission especially for young surveyors and how to promote the regional groups and associations.

Commission chair **Yaacoub Saade** organised the First Symposium of the Arab Union of Surveyors “*A Unique Map for the Arab World*” in Beirut, Lebanon 30 June – 2 July 2009 with participation from all Arab countries and some delegates from Europe. The symposium was also attended by President **Stig Enemark**.

Commission Chair participated also in preparations for establishing the Mediterranean Union of Surveyors and attended its meeting in Marrakech, Morocco in December 2009. Commission has also contributed to the work of the Federation des Geometers Francophones FGF.

The FIG Standards Network met at the 2009 Working Week and members have corresponded by email since then. Key activities undertaken by network members and other colleagues include e.g.:

- Maintaining a list of commission topics relevant to standardization
- Staying involved with ISO/TC 211 standardisation activity where **Christiaan Lemmen** and **Harry Uitermark** attended the ISO/TC 211 meetings in Norway in May 2009 and in Canada in November 2009
- Progressing ISO 19152 on the Land Administration Domain Model (LADM), a project that grew out of the Commission 7 work on the Core Cadastral Domain Model and was accepted into the ISO/TC 211 work programme in 2008. The LADM project team met in Norway in May 2009 and created an



**FIG Commission 2 WG 2.3 Workshop – “Navigating the Future of Surveying Education” in Vienna in February 2009.**

agreed version of the document to be voted on. This vote was successful and comments were reviewed and resolved in an Editing Committee meeting in Canada in November 2009. This marks significant progress for the work, about which a number of TC211 members had been sceptical. The team is maintaining close contact with UN-HABITAT concerning the Social Tenure Domain Model (STDM).

- Staying involved with ISO/TC 172 SC6 work on survey instrument standards where **Hans Heister** leads this work for FIG.

The network is starting to consider the areas of best practice guides, and accreditation, and which Commissions have interest in these areas. **David Martin** took over as Chair of the Network from **Iain Greenway** in October 2009. A key phase for 2010 for the Network will be determin-

ing its revised membership, and agreeing key issues in Commission work plans 2011–14 that are relevant to the Network.

Main event for the Young Surveyors Network in 2009 was the FIG Working Week in Eilat. At the General Assembly the FIG Young Surveyors Working Group was officially turned to the FIG Young Surveyors Network. With the new status the network hopes to engage more members and to put pressure on member associations to involve young surveyors in their work. The network organised two sessions during the Working Week discussing experiences on engaging students to national associations.

The second big event for the network was the FIG Commission 2 Workshop in Vienna in February 2009. The network was invited to host a part of the workshop under the theme “*Students today – status and vision*”.



**Young Surveyors Network core group at the Working Week in Eilat: Thorsten Schwing, Germany, Cecilia Lindén, Chair, Sweden, Kate Fairlie UK/Australia and Cemal Özgür Kivilcim, Turkey.**

## Commission Activities



Dr. Chryssy Potsiou, Chair of FIG Commission 3 making her opening address at the FIG Commission 3 Workshop on “Spatial Information for Management of Sustainable Urban Areas” in Mainz, Germany in February 2009.

### Commission 2 – Professional Education

Working Group 2.3 on Educational Management and Marketing and the Austrian Society for Surveying and Geoinformation (OVG) organised jointly the international workshop “*Navigating the Future of Surveying Education*” in February in Vienna lead by **Gert Steinkellner** and Dr. **Reinfried Mansberger**. At the Federal Office of Metrology and Surveying (BEV) in the centre of Vienna, more than 70 participants from 20 different countries discussed topics on marketing of professional education; availability of continuous professional development; educational networks and globalisation of surveying education; quality assurance in surveying education and training; new methods for knowledge transfer and scope of competences in professional education.

Keynote speeches were given by President Stig Enemark, **Michael Gould**, Director of Education at ESRI, Commission 2 Chair Elect **Steven Frank**, Prof. **Hans Sünkel**, Rector of the University of Technology in Graz, and by **Gottfried Bacher**, Austrian representative of the Bologna Follow Up Group. During the three plenary and eight parallel sessions 27 speakers shared their experiences. Two short-term working sessions hosted discussions on the status, position and future of surveying students and faculty. In the first working session the reasons for the decreasing number of students were analysed and proper strategies for the recruitment of students and the marketing of professional surveying education were elaborated.

The second session – performed by students – examined the situation of students in professional fields and tried to outline visions for an optimised professional education. The results of both working sessions were presented during the closing session, and further discussed during the Working Week in Eilat by the Young Surveyors Network. Proceedings including keynotes and papers are published as a special issue of the Austrian Journal for Surveying and Geoinformation. Results and key messages of this conference also will be presented at the FIG Congress 2010 in Sydney.

The *Working Week* in Eilat targeted many of the issues facing both our profession and educators in the next years. The main topics addressed by Commission 2 include the importance of changes in land surveyors education, the future directions of education to meet the challenges and opportunities, the role of surveying within the university curricula in general, outcome-based approach to teaching, learning and assessment, development of curricula and educational materials, the need of getting young people interested in surveying and geomatics, marketing of education, challenges and opportunities in learning management.

During the Working Week three Commission 2 technical sessions were organised, the main topics being: Needs of Changing Society – New Skills, Competences in Surveying, Good Educational Practices, Life-long Learning – Educational and Training Services.

At the *Regional Conference* in Hanoi Commission 2 focussed on education and training needs and responses and on capacity building. Among

others ITC presented a Worldwide Network of Academic Partners, a mechanism for improving capacity building in land administration. There was further a roundtable on professional education; where Steven Frank presented his ideas for the work plan for 2011–2014.

The main outcome of Commission 2 activities is *publication on enhancing surveying education through e-learning*. Commission 2 working group chairs have decided to summarise the experiences on e-Learning in a technical report (FIG publication no. 46). As chair of WG 2.2 **Liza Groenendijk** has guided this process and been editor of the report. The report that will be launched in Sydney in 2010 summarises the outcomes of symposia and workshops organised by Commission 2, and aims to develop an FIG policy on e-learning.

### Commission 3 – Spatial Information Management

The major activity of Commission 3 in 2009 has been the compilation of the FIG publication no 48 “*Rapid Urbanisation and Mega Cities: The Need for Spatial Information Management*”. A series of invited papers which were presented at the workshops through an open call for papers were edited and used for deriving specific experience and knowledge for the preparation of the research study. WG 3.2 continued its research in existing literature through Internet research, and on-site visits to specific mega cities, interviews with decision-makers, and editing of the replies to the questionnaire. Chair of WG 3.1 continued the research on e-government and good practice in establishing spatial data infrastructures. Chair Elect Prof **Yerach Doytsher** has supervised the work on behalf of WG 3.3. The authors met in a three-day expert group meeting in Paris in November 2009, organised by the Ordre des Géomètres Experts, to finalise the text. The report that will be launched at the FIG Congress in Sydney. The report addresses urbanisation and the emerging problems that need to be managed within mega cities, city governance aspects and the need for spatial information, the state of the art of using SDIs to more efficiently manage, access and use spatial information across mega cities, and innovative uses of spatial information tools and spatial information policy constraints.

All papers that have been used for the publication have been published. Those papers that passed the peer review from the Commission 3 organised a workshop in Mainz, Germany in 2009 were published in the *Nordic Journal of Surveying and Real Estate, special issue in 2009*. Peer reviewed papers of the previous workshops were published by Technika Chronika and SaLIS journals.



**Commission Chairs Elect for 2009–2010 in Hanoi in October 2009: Leonie Newnham (Comm. 1, on the left), Prof. Steven Frank (Comm. 2), Dr. Yerach Doytsher (Comm. 3), Dr. Michael Sutherland (Comm. 4), Mikael Lilje (Comm. 5), Dr. Gethin W. Roberts (Comm. 6), Daniel Roberge (Comm. 7, sitting on the left), Wafula Nabutola (Comm. 8), Dr. Frances Plimmer (Comm. 9) and Robert Sinkner (Comm. 10).**

Commission 3 has contributed to the preparation of the United Nations publication on *“Self-Made Cities – In search of sustainable solutions for informal settlements in the United Nations Economic Commission for Europe Region”*, May 2009. This publication provides a general overview of the phenomenon of informal settlements in the European region and identifies policy responses to address these challenges.

Commission 3 chair Dr. **Chryssy Potsiou** has prepared the Global Land Tool Network (GLTN) research study *“Informal Urban Development in Europe. A case study from Albania and Greece”*. The study makes an in-depth investigation of the current informal development in two European countries with different background and history. It provides lessons learnt and recommendations for both countries that are also useful to other countries facing similar problems. This research will be published by UN-HABITAT and GLTN as a joint publication with FIG. Dr. Potsiou undertook this study funded by GLTN by request of FIG Council.

Commission 3 has in addition to normal participation to FIG conferences supported the 2<sup>nd</sup> *Turkish GIS Congress “GIS 2009”* organized by the Turkish Chamber of Engineers and Architects (TMMOB). The theme of the congress was *“NSDI and working cooperatively for a livable future”* in November 2009.

Commission 3 is closely co-operating with UNECE Working Party on Land Administration especially on the issue of informal settlements and managing unplanned urban development in Europe. Commission supported the *UNECE WPLA*

*Workshop on “Experiences with Data Management to Improve Land Administration in ECE Countries”* held in Sofia, Bulgaria in April 2009.

Commissions 3 and 7 further supported the Conference on *“Citizens Rights to Real Property”* held in Chisinau, Moldova at the end of November 2009.

### **Commission 4 – Hydrography**

The main events for Commission 4 in 2009 were participation at Working Week in Eilat, the Regional Meeting in Vietnam and the IHO Conference in Monaco.

At the *Working Week* in Eilat Commission had its annual meeting and two technical sessions that were well-attended, the latter featuring a total of 9 presentations from Canada, Israel, Nigeria and the UK. Topics ranged from sea level monitoring to the measurement and monitoring of shoreline, marine cadastre and the acquisition of bathymetry and sea bed morphology from multi beam sonar.

In keeping with the MoU with the IHO, Commission 4 has sought to engage FIG delegates, hydrographic stakeholders and agencies in countries to which there is no representation in IHO. As a result Israel agreed to enter into dialogue with the IHO.

Commission 4 continued to support the IHO on matters pertaining to promoting hydrography as an investment (working group on the Economic Benefits of Hydrography) and hydrographic standards and training. **Gordon Johnston** (UK) attended the *IHO conference* on behalf of FIG. As an FIG representative and chair of the FIG/IHO/ICA International Advisory

Board on the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers, he submitted proposals to the IHO Inter Regional Coordination Committee (IHO-IRCC) for adoption including that IRCC adopts a cost recovery mechanism for the Board.

The relevance of this meeting for Commission 4 was in-line with the scope of commission work on the Administration of Marine Spaces and Capacity Building – The Economic Benefits of Hydrography.

WG 4.1 – Hydrographic Surveying in Practice in addition to sessions at the conferences has discussed with the International Federation of Hydrographic Societies (IHFS) in proceeding with a best practice document. At the Regional Meeting in Vietnam it was decided that a guide on port hydrography would be produced in 2010.

Working Group 4.4 – Capacity Building and the Economic Benefits of Hydrography has worked to develop links between hydrography and the benefits of having good quality up to date hydrographic data, charts and coverage. Initially there was a definite lack of publications, papers and articles that made the link and so the initial plan was to generate papers to promote the concept. It became soon clear that simply publishing some papers in proceedings would not be sufficient and so it was decided to go for a FIG publication that would cover the topic.

Commission has continued its co-operation with Hydro International where five newsletters were published. The publisher continued to provide a free subscription to all Commission 4 delegates.

## Commission Activities



Presenters at the FIG Commission 5 and 6 and SSGA Workshop in Lake Baikal in Russia in July 2009.



Mikael Lilje (left) and Rob Sarib attended the IAG 2009 conference in Buenos Aires on behalf of FIG Council and Commission 5.

### Commission 5 – Positioning and Measurement

Commission 5 has effectively used FIG events or symposia and existing relationship with sister or like organisations in 2009 to fulfil the objectives of the current work plan. The spaced based measuring techniques such as GNSS observations or satellite imagery continues to expand into non traditional surveying applications. For example, positioning and geodetic systems that were once specific for land administration are now emerging as integral infrastructure for other industries such as machine guidance, asset and resource supervision, and disaster

management. There is also a renewed vigour and interest into global observing systems to assist with the monitoring and measurement of the earth's dynamics and the changes that are occurring as a result global movement.

Although these were popular topics in 2009, the technical fundamentals of positioning and measurement such as instrument calibration, network adjustments, standards /best practice guidelines, transformations, and new observing or processing techniques were also prevalent themes at Commission 5 related conferences and workshops.

Working group 5.1 (Standards, Quality Assurance and Calibration) was active at the FIG Regional Conference in Hanoi, where one session was dedicated to GNSS CORS infrastructure and standards. Discussions regarding the pertinence of FIG publication No. 9 *Recommended Procedures for Routine Checks of Electro-Optical Distance Meters (EDM)* are ongoing. An effort will be made to re-edit this document after the revision of ISO 17123-4 Electro-optical distance meters (EDM instruments).

WG 5.2 (Reference Frame in Practice) was active both in Eilat and in Hanoi. Together with WG 5.4 sessions about GNSS CORS networks were successfully facilitated at both events. These sessions covered basics, research topics as well as case studies. At the regional conference co-operation in South-East Asia and in the Pacific region (which includes Australia and New Zealand) for a common Reference Frame was highlighted with several sessions including a panel discussion. The specific web page has been updated with more information concerning national or regional CORS networks. The new presentations have used the CORS template that was developed for

Stockholm as a basis.

WG 5.3 (Integrated Positioning, Navigation and Mapping Systems) participated in the 6<sup>th</sup> International Symposium on Mobile Mapping Technology, which was held in July 2009 at the São Paulo State University, Brazil.

WG 5.4 (Global Navigation Satellite Systems) organised sessions about GNSS CORS networks in Eilat and in Hanoi in partnership with WG 5.2. **Volker Schwieger, Mikael Lilje and Rob Sarib** presented a paper "GNSS CORS – Reference Frames and Services" in Hanoi that was also the FIG article of the month in December, 2009. At the two main FIG Commission 5 symposia in 2009, numerous sessions concerning engineering applications of GNSS were jointly convened with Commission 6. Additionally many presentations and papers regarding advances and applications in the GNSS domain were given and followed enthusiastically by the auditors. WG 5.4 also supported the German Aerospace Centre (DLR) to acquire kinematic GPS tracks that will be used to evaluate the TanDEM-X digital elevation model. To date the first tracks have been acquired and have been successfully evaluated. The work is ongoing and first results were presented in Hanoi.

The work on a "Report on possibilities of cost-effective GNSS techniques for developing countries" was completed at the end of 2009 and will be launched at the Sydney congress.

Commission Steering Committee made significant progress in 2009 to *consolidate and improve* our relationship with various sister organisations such as the International Association of Geodesy (IAG), Institution of Navigation (ION) and the Permanent Committee for GIS Infrastructure Asia-Pacific (PCGIAP). This was achieved by attending each other's symposia

and having joint technical sessions on common issues or topics. Chair Elect Lilje represented FIG and the Commission at the *ION International Technical Meeting* in Anaheim, 26–28 January 2009. At this event he presented information to the ION officials on the role of FIG and how FIG / ION can enhance co-operation. Several meetings were also held to discuss participation in 6<sup>th</sup> International Symposium on Mobile Mapping Technology (Brazil) and FIG regional conference.

In August-September both Lilje and Sarib participated in the *IAG Scientific Assembly “Geodesy for Planet Earth”* that was held in Buenos Aires, Argentina. At this event there were two technical sessions on positioning and applications that were co-sponsored by FIG, ION and ISPRS. They were also invited to contribute to several IAG meetings with the IAG Executive and Commissions.

Vice President **Matt Higgins** attended the *International Committee on Global Navigation Satellite Systems (ICG)* at its meeting in St. Petersburg in Russia, 14–18 September 2009 representing FIG and Commission 5. He convened an ICG WG 4 workshop on GNSS Compatibility and Interoperability at the *International GNSS Symposium* held on the Gold Coast, December 2009.

Commission 5 further contributions include the *South East Asia Survey Congress* in Bali, Indonesia in August 2009 where Matt Higgins and Rob Sarib attended representing FIG and Commission 5. Higgins gave a keynote address titled “Facing the Challenges Building the Capacity – Setting the Scene for the FIG Congress – Sydney 2010”, whilst Sarib chaired technical sessions.

Commission chair **Rudolf Staiger** attended INTERGEO 2009 in Karlsruhe, Germany in September 2009. Like in the years before INTERGEO was the worldwide largest trade-show regarding surveying equipment. From the FIG point of view it is interesting to note that this event is becoming more and more an international one.

### Commission 6 – Engineering Surveys

During 2009 Commission 6 working groups and their members organised and attended several events.

The 8<sup>th</sup> *Conference on Optical 3D Measurement Techniques*, 1–3 July 2009, was held in Vienna, Austria is well known within the engineering surveying community and was attended by high number of participants. Traditionally this event focuses in surveying, geodesy, machine-, computer- and robot- vision, spatial information systems from a variety of working areas to

discuss recent scientific and technical advancements and applications for optical static and kinematic 3D measurement techniques. The latest conference devoted to step-motor-driven and servo-controlled electronic theodolites and total stations, high resolution, low cost and smart digital cameras, capabilities for very fast or even real-time processing, visualization and animation. These are some developments leading to new procedures in photogrammetry and surveying.

Commissions 5 and 6 together with the Siberian State Academy of Geodesy (SSGA) organised a Workshop on “*Innovative Technologies for an Efficient Geospatial Management of Earth Resources*” on Lake Baikal in the settlement of Listvyanka, Russian Federation 23–30 July 2009. The conference was attended by more than 50 participants around the world.

Traditionally Commissions 5 and 6 and the German DWV Commission for Engineering Surveying and Photogrammetry organised a *seminar for terrestrial laser scanning*, which was held in Fulda, 19–20 November 2009. This seminar serves to show the stage of development of the sensors, processing as well as application, furthermore a view of future developments.

Commission 6 organised six sessions at the *FIG Working Week* in Eilat devoted to deformation and land slide monitoring and special engineering applications. Three sessions were organised jointly with Commission 5 focussing on terrestrial laser scanning, LIDAR and network and data analysis. Two sessions were organised in cooperation with ISM and ISPRS. Commission annual meeting was held in Eilat. At the meeting actual topics were discussed including deformation monitoring, analysis and interpretation using continuum mechanics, monitoring and analysis of crustal deformations, optimal use of InSAR

technology and application of automatic measuring systems multidisciplinary expertise and co-operation, which lead to integrated survey methods and systems.

Commission 6 participated in the FIG Regional Conference in Hanoi by organising ten sessions in cooperation with Commissions 5, 3 and 8. The discussed topics were disaster risk management, GNSS applications, mapping, area surveying and remote sensing, vision technology usage for monitoring also sensors and data processing in engineering surveying.

### Commission 7 – Cadastre and Land Management

Its work in 2009 Commission 7 followed its work plan 2007–2010 pointing out three specific topics: promoting the importance of development land administration world wide; supporting the development of Land Administration Domain Model and acceptance by ISO and Social Tenure Domain Model; and promoting the Open Source software for Cadastre applications. To achieve its goals Commission organised and co-organised several events and participated in major FIG conferences.

The *FIG Commission 7 Annual Meeting 2009* and *One-Day International Open symposium* on “Progressing Towards Ubiquitous Cadastre” was held in Kuala Lumpur, Malaysia, 12–16 October 2009. The Annual Meeting was organised in co-operation with the Association of Authorised Land Surveyors Malaysia. More than 40 delegates from 22 countries participated in the meeting. Commission chair **András Osskó** and working group chairs reported on Commission activities and all national delegates made country reports about the new developments in land administration matters in 2008–2009.



**One-day Open Symposium at the Commission 7 Annual Meeting in Kuala Lumpur, Malaysia in October 2009.**

## Commission Activities



**President Enemark at the Commission 7 annual meeting in Kuala Lumpur with young surveyors that had a key role in organising the conference.**

The international symposium on “Progressing towards Ubiquitous Cadastre” was a success. Apart from the delegates to the annual meeting more than 200 professionals from Malaysia and the neighbouring countries participated. President Enemark presented an excellent paper “Facing the Global Challenges: the Importance of Land Governance and the Significance of the Cadastre”.

Commission 7 was one of the main contributors to the FIG Working Week in Eilat and the regional conference in Hanoi. Commission played also a key role at the Joint FIG/World Bank Conference in Washington DC, USA in March 2009, where **Paul van der Molen** was one of the coordinators and that was attended by many Commission 7 delegates. **András Osskó, Daniel Roberge, Richard Grover, Odame Larbi, Christiaan Lemmen, Tommy Österberg** and **Daniel Steudler** participated actively in the event.

Commission also contributed to the Conference on “Citizens’ Rights to the Real Property” that was held in Chisinau, Moldova 30 November – 1 December 2009. The conference organised by the State Cadastre Agency of Moldova and supported by Commissions 7 and 3 concluded a three year project for technical assistance to support Moldova first cadastre project. The conference was participated by international organisations like FIG, WPLA, CLGE, representatives from World Bank, EU and donor agencies. The development of land administration is an important issue in Central Eastern Europe and thus many projects are going on in the region. More than 100 professionals attended the event from the host and neighbouring countries.

Using open source software in cadastre is key issue in the program of working group 7.3 supported by UN FAO and World Bank. There

were several workshops dealing with this issues. Daniel Steudler, chair of WG 7.3 participated these events and has been editor of publication that will be published by FAO and launched in Sydney.

There was a significant progress in the ISO acceptance of Land Administration Domain Model which is the main project of WG 7.1 chaired by Christiaan Lemmen who has a leading role in the process.

### Commission 8 – Spatial Planning and Development

Year 2009 has been an active and collaborative year for Commission 8. During the year the Commission has made significant strides to address land development and spatial planning issues confronting surveying profession both at the strategic level but also supporting the individual surveyor at the local level. This has been achieved by having a parallel emphasis on delivering technical platforms for commission delegates in visited member countries and by championing poverty alleviation at the strategic global level.

The big global challenges have each been addressed by Commission 8 over the last year. Reflecting thoughts that the economic and spatial surveyors role contributes towards social justice, economic growth and environmental sustainability, demonstrated by our activities covering the themes: partnerships between people; environmental resilience; and societal balance.

Over the past 12 months, the commission’s debates regularly highlights that land professionals do have the technical capacity to manage the emerging problems of the day, with solutions likely to be based through partnership. Commission 8 activities demonstrably highlights that it is the surveyor responsibility to overcome the politics of resources; but also the politics of

people. Surveyors as change agents can inform governance decision makers of the technical merits of a proposed way forward, but we also understand and communicate the balance of people’s agendas.

Given the increasing pressure of protecting our environment the contribution and focus arising from people and planning for environmental adaptations, as a multi-stage process, has enabled Commission 8 to deliver strong technical sessions at FIG conferences.

Land governance problems are clearly located at the intersection of the century’s greatest development challenges, urbanisation and climate change. These issues and how they relate to people and places are central issues for Commission 8. The discussions have often centred around economic development and spatial planning in a range of forums covering infrastructure, climate and disaster risk associated with urbanisation and informal settlements. Commission 8 has been very much involved in preparing special symposium for small islands development in Sydney with significant help from delegates and member association in Fiji, New Zealand and Australia.

Commission 8 WG 8.2 (Informal Settlements: Issues in Spatial Land Planning) chaired by Commission Chair Dr. **Diane Dumashie** work has positively resulted in a mandate from FIG Council to scale up its activities through the auspices of the FIG Africa Task Force continuing its work over to the next period.

Working Group 8.4 (Urban Planning Coastal Regions) chaired by Dr. **Isaac Boateng** has jointly with Commission 4 has focused on the adaptation, planning of marine administration in coastal development. The inter-disciplinary approach is likely to be taken forward into the next FIG term, but the WG will produce an FIG publication by the end of 2010.

The richness of the case study information presented in the technical sessions often contributes to the Commission and its working groups agenda, and reflects members’ locality. In Eilat and in Hanoi following subjects have been supported by papers planning strategy for urban development and regeneration and re-engineering of mega cities.

Commission 8 has continued to foster and hold strong relationships with other land professional groups such as the Commonwealth Association of Surveying and Land Economy (CASLE). Commission has also prepared a regional meeting in Ghana in February 2010. This seminar progresses the working group activities but also contributes to the up and coming Africa Task Force.

Commission 8 has engaged with a range of UN organisations including Chair and members



**Dr. Diane Dumashie, Chair of Commission 8 and Prof. Kauko Viitanen, Chair of Commission 9 have been very active in preparing special projects and events for 2009 and 2010, here at the General Assembly in Eilat together with Andrew Morley, Chair of Commission 10 and honorary president Robert W. Foster.**

invited to attend and contribute to the *FAO consultation meeting for the Private Sector on the Draft Voluntary Guidelines for the Responsible Governance of Land and Natural Resources* that took place in London in January 2010.

Commission chair delivered a paper at the FIG / World Bank conference in March 2009 presenting one of the Commission's key themes coastal communities.

Dr. Dumashie and commission members have continued to actively engaged throughout the year with the GLTN Secretariat by working with the LTPAS section, and participating in a Rights Workshop – an ingenious approach to gaining empirical evidence. The chair further reviewed and provided technical assistance to GLTN and its partner the Huairou Commission Grassroots organisation. The Huairou pilots were testing the Gender Land Tool Evaluation instrument in three countries (Ghana, Brazil and Nepal).

### **Commission 9 – Valuation and the Management of Real Estate**

Commission 9's activities concentrated on the FIG Working Week in Eilat and the regional conference in Hanoi in 2009.

In Eilat Commission 9 had its annual meeting and the active working groups held their planning sessions. In addition, several papers on commission topics were presented in the seven technical sessions. In Hanoi Commission 9 had three technical sessions and a round table on compulsory purchase and compensation.

Working group 9.1 (Compulsory Purchase and Compensations in Land Acquisition and Takings) continued its work throughout the year, proceeding with the

draft for recommendations on *Compulsory Purchase and Compensations*. In addition, the chair of WG 9.1 has been preparing the Hanoi Declaration on land acquisition in developing countries based on presentations in Hanoi Conference. The Hanoi Declaration will be launched in Sydney. Working group has also continued the co-operation with UN FAO.

Working group 9.3 (Diagnostic Tools and Prescriptive Practices for the Valuation Profession) is preparing a diagnostic tool for analysing the practices of the valuation profession in different countries, being in the phase of acquainting oneself with the existing systems around the world and selecting case countries.

Working group 9.5 (*GIS-analyses in Real Estate Market Analyses and Valuation*) is focusing in identifying the effects and possibilities of digitalization for of the profession in real estate markets. The contact person of Commission 9 for IVSC has been **Brian Waldy**.

### **Commission 10 – Construction Economics and Management**

Commission 10 is working to the broad agenda set out in the paper an "*Explanation of the Present and an Agenda for the Future*" and in Commission work plan. Commission attended the FIG Working Week in Eilat and the regional conference in Hanoi with some sessions and discussion forums.

Commission chair **Andrew Morley** attended the PAQS meeting in Kuala Lumpur in August 2009.

In August the FIG Council appointed **Robert Sinkner** from Czech Republic as the acting Chair Elect of Commission 10.

## **Work Plan 2007–2010 – Building the Capacity**

### **Promoting and Enhancing the Role of FIG**

- Professional development
- Capacity building and institutional development
- Global development
- Linking the global agenda and individual surveyors

### **Continuing and Enhancing the Dialogue with the Member Associations**

- Promoting the benefits of being a member
- Increasing the membership base
- Ongoing implementation of the information and communication policy
- Establishing a forum for mapping agency chief executives
- Establishing a forum for corporate members

### **Promoting FIG as a Global Organisation**

- Encouraging global representation in Council and commission officers
- Encouraging global distribution of and representation at FIG conferences
- Interacting with regional organisations and respecting cultural diversity

### **Responding to the Millennium Development Goals**

- Developing an FIG policy on the MDGs in cooperation with the UN agencies and the World Bank
- High level FIG/WB conference in 2008 to promote the FIG global profile in this area

### **Revising the Conference Structure**

- Even years: Major conference such as the FIG Congress or a major Working Week
- Odd years: Working Week and regional conference in partnership with the UN organisations
- Council initiated expert symposia on topical issues e.g. linked to national events

### **Empowering ACCO and the Commission Activities**

- ACCO as a dynamic forum for strategic advice and professional development
- Enhancing the profile of the technical programme at the conferences including peer reviewed papers
- Establishing an online FIG journal
- Establishing Task Forces to deal with inter-commission activities and policy implementation

### **Sustaining the FIG Office Administration and Finances**

- Administration
- Finance
- Meetings
- Events

## Co-operation with United Nations



**The Meeting of the GLTN International Advisory Board in Nairobi in November 2009: From the left (seated) Danilo Antonio, UN-HABITAT Secretariat; Janice Peterson, Huairou Commission; and standing from the left Helge Onsrud, Statens Kartverk Norway; Clarissa Augustinus, Chief UN-HABITAT Land, Tenure and Property Administration Section; Michael Taylor, International Land Coalition; President Enemark; Mohamed El-Sioufi, Head UN-HABITAT Shelter Branch; Chris Paresi, Director ITC; Siraj Sait, University of East London; and Mercedes Strickler, World Bank (seated). The meeting was attended by videoconference from Stockholm (Mikael Atterhög, SIDA), and Washington (Klaus Deininger, World Bank).**



**FAO Consultation plenary sessions in Hanoi attracted more than 80 participants. Dr. Paul Munro-Faure (on the right) from FAO was in charge for the arrangements together with other FAO staff.**

FIG President **Stig Enemark** attended the 22<sup>nd</sup> session of the UN-HABITAT Governing Council Meeting in Nairobi 30 March – 3 April 2009 and the meeting of the International Advisory Board the Global Land Tool Network (GLTN) 4 April 2009 at the UN-HABITAT Headquarters in Nairobi, Kenya. The biennial Governing Council Meeting includes a number of plenary meetings discussing the overall UN-HABITAT agenda and setting the goals for future focus areas. In her opening statement **Anna Tibaijuka**, UN-HABITAT Executive Director addressed the global financial crisis and stated: “For the first time, two most salient global agendas – economic recovery and climate change – are inextricably linked with what was perceived until

now as a national or local agenda, namely our very own Habitat agenda”. In response to these challenges UN-HABITAT has launched two new initiatives: the World Urban Campaign and the Cities in Climate Change Initiative. The governing council meeting provides a unique opportunity to network with other NGO representatives and of course to meet with the GLTN staff and discuss about current future cooperation.

A wide range of parallel events were organised to address the ongoing activities. Two of these events were of specific interest to FIG. Firstly the session entitled “Achieving land and housing for all” was chaired by **Mohamed El-Sioufi**, UN-HABITAT Shelter Branch and provided an overall presentation of the UN-HABITAT land

policies. Secondly the event “GLTN partnership on developing and testing gender evaluation criteria in large scale land tool assessment” organised by **Asa Jonsson** on behalf of the GLTN secretariat. This event included commentaries from the GLTN partners including a presentation from President Enemark showing the FIG commitment as delivered especially by the Dr. **Diane Dumashie**, Chair of FIG Commission 8.

Following the Governing Council meeting President Enemark also attended the meeting of the GLTN International Advisory Board (IAB) that is established to provide objective advice on issues related to the GLTN policies, operational strategies and projects. IAB consist of representatives of the various 7 segments of GLTN partners, where FIG represents the international professional bodies. The meeting in Nairobi was the fourth of IAB. The key issues of the IAB meeting included a comprehensive evaluation the overall GLTN activities in 2008 as well as discussions on the future strategies. GLTN has been very successful in achieving their goals and the GLTN partners are very committed in their support.

President Enemark attended the 3<sup>rd</sup> UN Sponsored Land Administration Forum for the Asia and Pacific Region entitled “Re-Engineering the Cadastre to Support E-Government” in Tehran, Iran, 24–26 May 2009. The Forum was organised by the UN sponsored Permanent Committee on GIS Infrastructure (PCGIAP) together with Islamic Republic of Iran’s Deeds and Properties Registration Organization, FIG, the Global Spatial Data Infrastructure Association (GSDI) and the Centre for Spatial Data Infrastructures and Land Administration, University of Melbourne. The aim was to discuss land administration issues and the role of cadastre to support e-government in the Asia and Pacific region. The Seminar was Chaired by Prof **Ian Williamson** and co-chaired by Associate Professor **Abbas Rajabifard**. This initiative was the result of a Resolution passed by the 14<sup>th</sup> PCGIAP meeting in Malaysia in 2008 and a desire by many countries in the Asia and the Pacific region to have a forum to discuss and share land administration issues, best practice and experiences, in a similar manner to the Working Party on Land Administration (WPLA) for European countries, organised by the UN Economic Commission for Europe (UNECE). Over 410 people from 15 countries and 4 international organisations attended the forum. Ayatollah **Hashemi Rafsanjani**, Chairman of the Assembly of Experts of the Leadership, provided an excellent and inspiring opening address to the Forum. The Ayatollah pointed to the guidance in the Koran on land as a place for location and it is our obligation to



harness and exploit land in a responsible manner. The Ayatollah noted his role as President of the Islamic Republic of Iran in fostering the cadastre. The Forum included about a range of sessions with about 25 presentations, including invited papers from President Enemark, **Tony Burns** (Aus), Prof. **Bas Kok** (GSDI), **Peter Holland** (Aus), **Jude Wallace** (Aus), and **Daniel Steudler** (CH).

Vice President **Matt Higgins** attended the *Fourth Meeting of the International Committee on Global Navigation Satellite Systems (ICG)* in St Petersburg, Russian Federation 14–18 September 2009. The ICG has been formed as a result of recommendations of the UN Committee on the Peaceful Use of Outer Space (COPUOS), as ratified by the General Assembly of the UN. The United Nations Office for Outer Space Affairs (UN OOSA) acts as the secretariat for the ICG. It should be noted that FIG has an MoU with UN OOSA.

President Enemark attended the *Eighteenth United Nations Cartographic Conference for Asia & the Pacific (UNRCC-AP)* held in Bangkok 26–29 October 2009. The conference is convened every three years since 1955 the last one being held in Bangkok, September 2006. The conference was organised by the UN Statistics Division in Bangkok at the Economic and Social Commission for Asia and the Pacific (ESCAP) and headed by **Paul Cheung**, Director of the United Nations Statistical Division (UNSD). The conference provides a regional forum where approximately 200 participants (mostly heads of Mapping Agencies and Land Surveys and experts from Asia and the Pacific and other regions, as well as representatives from international organisations and NGO's meet to address the common needs, problems and experiences in the field of Geospatial Information Management and related institutional and capacity building issues. The conference provided a unique platform for discussion and understanding of the regional needs, and for networking with national agencies and other NGO's. The overall theme was "*Spatial Enablement and the Response to Climate Change and the Millennium Development Goals*". President Enemark presented the conference keynote "*Spatial Enablement and the Response to Climate Change and the Millennium Development Goals*". The paper included the role of land governance in response to climate change and natural disasters and in support of the MGDs. An invited pre-conference meeting was held 25 October to discuss the proposal of UNSD to establish a United Nations Committee on Global Geographic Information Management. A general consensus was reached for this idea and the first



**The conference organisers Prof. Ian Williamson (left) and Abbas Rajabifard, GSDI President (right) with Bas Kok, past President of GSDI, and President Enemark at the 3<sup>rd</sup> UN Sponsored Land Administration Forum for the Asia and Pacific Region in Tehran in May.**

UN global conference on Geographic Information Management will be organised in 2011.

President Enemark attended the *Global Land Tool Network (GLTN) Partners' Meeting* held 4–5 November 2009 at the UN-HABITAT Headquarters in Nairobi, followed by a meeting at the GLTN International Advisory Board (IAB) 6 November 2009. The GLTN Partners Meeting was structured around the theme "*Enriching Partnerships and Increasing Activities for Land Reform*" and attracted around 60 partner organisations and individuals from grassroots organisations, professional groups, training and research institutions, multilateral and bilateral organisations and civil society groups. The various organisations are organised within clusters such as civil society, professionals, education and training, and bilateral and multilateral organisations. The meeting was organised with cluster and cross-cluster group discussions to provide an assessment of the experiences and achievements of the network over the last three years and gather lessons from them, and discuss the ways forward. Discussions were also based on the preliminary findings of the



**Paul Cheung, Director UNSD, President Enemark, and Greg Scott, President of the 18<sup>th</sup> UNRCC-AP in Bangkok in October 2009.**

GLTN mid-term assessment report. At the end of the meeting partners perceive themselves as "owners" of the Network and the meeting created a significant momentum for taking the GLTN agenda forward.

Following the Partners' meeting President Enemark also attended and chaired the meeting of the *GLTN International Advisory Board (IAB)*. The key issues of the IAB meeting included a comprehensive evaluation the overall GLTN activities in 2009 as well as discussions on the future strategies based on the preliminary findings of the mid-term assessment report. Furthermore, the structure of IAB was discussed especially in relation to the cluster representation.

## Co-operation with Professional and Regional Organisations



**Meeting of the Arab Union of Surveyors in Beirut in June 2009: Dr. Dalal S. Alanaggar, FIG Vice President, Dr. Sarkis Fadous, President of AUS, President Enemark, Aziz Hilali, President of ONIGT, Morocco.**

President **Stig Enemark** attended the *GSDI-11 World Conference* entitled “Spatial Data Convergence: Building SDI Bridges to address Global Challenges” in Rotterdam, The Netherlands, 15–29 June 2009. The Global Spatial Data Infrastructure Association GSDI is an inclusive organisation of organisations, agencies, firms, and individuals from around the world. The purpose of GSDI is to promote international cooperation and collaboration in support of local, national and international spatial data infrastructure developments that will allow nations to better address social, economic, and environmental issues of pressing importance. GSDI-11 conference was very well attended by about 600 participants from all regions of the world. It included about 30 workshops, 9 plenary sessions and 70 technical sessions with about 350 presentations. President Enemark chaired

a joint GSDI/FIG session on land administration and presented a paper on “*Managing rights, restrictions and responsibilities in land.*” The GSDI-11 World Conference provided an excellent opportunity of networking and strengthening the cooperation between GSDI and FIG. This should lead to joint efforts and strategic cooperation towards a spatial enabled society. FIG and GSDI will sign a Memorandum of Understanding in this area at the FIG Congress in Sydney in April 2010.

The Joint Board of Spatial Information Societies had its annual meeting during the GSDI-11 congress. At this meeting **Mark Cygan** from the International Map Trade Association (IMTA) was appointed as the new chair of JB-GIS. The JB-GIS organised also an informal meeting during the UN Regional Cartographic Conference in Bangkok in October 2009.



**FIG President Stig Enemark, President FGF Alain Gaudet and Daniel Roberge, Chair Elect of FIG Commission 7 at the FGF meeting in Prague in October 2009.**

President Enemark attended the *First Symposium of the Arab Union of Surveyors* “A Unique Map for the Arab World” in Beirut 30 June – 2 July 2009. The Symposium was attended by participants from all Arab and from some European countries.

**Mikael Lilje**, Chair Elect of Commission 5 and **Rob Sarib**, Vice Chair of Commission 5 represented FIG at the International Association of Geodesy (IAG) organised conference “*Geodesy for Planet Earth*” in Buenos Aires, Argentina 31 August – 4 September 2009. This scientific symposium is a biannual IAG event and attracted approximately 500 delegates from 65 different countries. There were 500 technical/scientific papers submitted and 280 of them were delivered as oral presentations. The technical program was run in two parallel sessions with numerous business meetings held in the evenings outside the ordinary technical program. There was also a poster program prepared for this event and it was open to delegates for two days. Lilje and Sarib participated at several IAG Commission and Executive meetings and held numerous formal/informal discussions. A presentation on previous and future FIG and IAG liaisons was delivered to the IAG Executive Committee (EC). The outcomes of this discussion were to update the existing “liaison document” that is based on the MoU. Professor **Chris Rizos**, incoming President of IAG, takes the lead on this document. It was clear that IAG would like to see more co-operations with FIG and for the Commissions of IAG and FIG to identify some specific projects that will produce tangible outcomes.

President Enemark attended the *First Conference of the Federation of French-speaking Surveyors* (Fédération des Géomètres Francophones) – FGF in Prague, Czech Republic 8–9 October 2009 just prior the FIG Regional Conference. This FGF meeting was attended by representatives from ten countries. The discussion focussed on land problems in the attending countries, particularly in Africa, as well as problems related to the organisation of the surveying profession (géomètre-expert). President Enemark made a keynote presentation and participated in the discussions including the future co-operation between FIG and FGF. During the conference the second General Assembly of FGF was held. At the meeting President **Alain Gaudet** left his presidency and the new Council was elected. The new President is **François Mazuyer** from France. **Aziz Hilali** from ONIGT, Morocco continues as the Vice President and **Francis Gäbele** from Belgium was appointed as FIG liaison person. It was agreed that FIG and FGF will organise some joint session in French during the FIG Congress in Sydney.

## Visits to Members

Commission 3 Annual Meeting and Workshop on “Spatial Information for Management of Sustainable Urban Areas” was arranged in Mainz, Germany, 2–4 February 2009. FIG Council was supposed to be presented by Vice President **Dalal S. Alnaggar** who had to cancel her attendance on the last minute. Her greeting was presented by **Chryssy Potsiou**, Chair of Commission 3.

President **Stig Enemark** visited Hyderabad, India, 10–12 February 2009, during the *Map World Forum Conference*, being the key biannual regional event on Geo Spatial Information. The inaugural address was given by the Hon'ble Vice President of India **Shri M Hamid Ansari** followed by a guest address by Hon'ble Minister for Science & Technology and Earth Science **Kapil Sibal**. Other Guest Addresses were given by Dr. **Jane Goodall** and Prof. **C. K. Prahaled**. A total of 3 symposia, 6 seminars, 4 forums, and 8 technical sessions concluded a very comprehensive program with about 250 presentations. The conference was attended by more than 1,000 participants. The overall conference theme was entitled “*Geospatial Technology for Sustainable Planet Earth*”. President Enemark was invited as keynote speaker for the seminar on Land Administration. During the conference President Enemark had the opportunity to discuss with key players in the surveying field in India, in order to invite the Institution of Surveyors to become a member of FIG and thereby join the international surveying community. The response to this was very positive and promising. President Enemark also visited in Delhi to discuss with **Sanjiv Nair**, Joint Secretary at the Ministry of the Ministry of Science and Technology, about the Survey of India becoming an affiliate member of FIG.

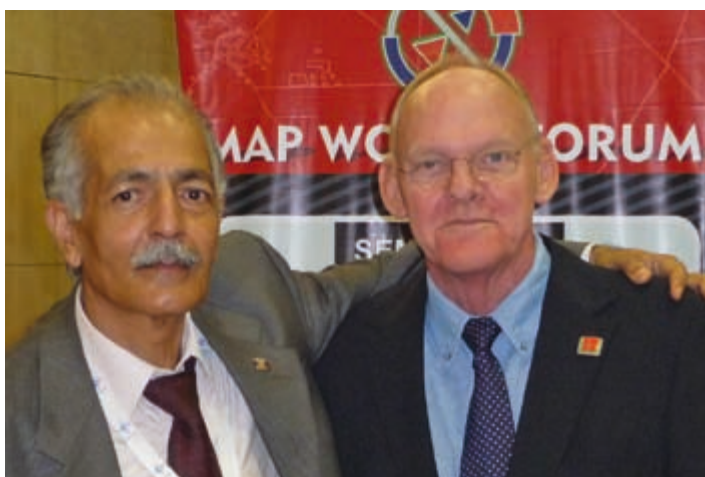
President Enemark visited Nepal Survey Department and the Land Management Training Centre, Ministry of Land Reform and Management 14–18 February 2009, in Katmandu and Dhukliikhel. The visit was hosted by **Raja Ram Chhatkuli**, Director General of the Survey Department and **Babu Ram Acharya**, Secretary of the Office of the Prime Minister. The visit included a general introduction to the activities of the Department and the overall approach and problems related to surveying and land management in Nepal following the recent change of status from a monarchy to federal republic. The visit also included a dinner function for key invited people where President Enemark gave a presentation on land management on support of sustainable development. Further, half a day was used for visits at Ministry of Land Reform and Management for discussion of the current land reform process. The meetings in Kathmandu also included the opportunity to meet with **Buddhi N Shrestha**, President of the Nepal



**Ariel Ivanier, UNECE WPLA (on the left) with Steven Nystrom, Dr. Chryssy Potsiou and Dr. Jens Riecken, Vice President of DVW at the Commission 3 workshop in Mainz, Germany in February 2009.**



**Raja Ram Chhatkuli, President Enemark and Babu Ram Acharya in Katmandu during the visit to Nepal in February 2009.**



**Maj Gen R. S. Tanwar Addition Surveyor General, Survey of India, and President Enemark discussing membership of India in FIG at the World Map Forum.**

## Visits to Members



**Rector Alexander Karpik, President Enemark, Governor Viktor Tolokonsky, and Deputy Governor Gennady Sapozhnikov at the Geo-Siberia 2009 in Novosibirsk, Russia in May 2009.**



**President Enemark together with Presidents from the Nordic associations: Leiv Bjarte Mjoes (NJKF, Norway, left), Henning Elmstroem (DdL, Denmark), Svante Astermo, Past President, SLF/ASPECT, Sweden) and Pekka Halme (MIL, Finland) in Aalborg, Denmark in August.**



**Organisers of the 13<sup>th</sup> Annual PAQS Conference in Kuala Lumpur after the successful event.**

**During his visit to Tehran, Iran 24–26 May 2009 President Enemark met with Parvin Gharibavaz, President of the Iran Society of Surveyors.**



Institution of Chartered Surveyors who will now become a member of FIG. President visited also the Land Management Training Centre (LMTC) in Dhuklikhel where he gave a presentation to lecturers and students on surveying education and the need for interaction between education, research and professional practice.

President Enemark represented the FIG Council and gave a keynote presentation at the *Commission 2 Working Group 2.3 Workshop "Navigating the Future of Surveying Education"* in Vienna, Austria, 26–28 February 2009.

During his visit to UN-HABITAT 30 March – 4 April 2009 President Enemark visited the Institution of Surveyors Kenya (ISK) to discuss with the Council and Chairman **Mwenda Makathimo** about the significant role of ISK in contributing to the National Land Policy Formulation Process.

President Enemark attended *Geo-Siberia 2009*, the Fifth International Exhibition and Scientific Congress, Novosibirsk, 20–24 April 2009 – invited by **Alexander Karpik**, Rector of the Siberian State Academy of Geodesy being the organiser of the conference. The *Geo-Siberia 2009* attracted about 1,500 participants from about 130 organisations and companies and from 15 foreign countries. The technical programme of *Geo-Siberia 2009* included a range of plenary sessions, round tables, and about 20 technical sessions with about 150 presentations in total. In the first plenary sessions President Enemark gave a keynote address on *"Surveyors facing the global agenda"*. Furthermore a special seminar addressed the issue of *"Integrating land management, cadastre and geodesy in the Central Asian Countries"*, where President Enemark gave the keynote presentation to address this core issue for both Russia and the Commonwealth of Independent States. Unfortunately representatives of the CIS could not attend the seminar due to financial constraints. But FIG will still aim to support the CIS countries in Central Asia to join the global surveying community.

President Enemark attended the *XXI Congress of Nordic Surveyors* in Aalborg, Denmark, 5–7 August 2009. This four-yearly congress of Nordic surveyors was organised for the 21<sup>st</sup> time. The conference rotates between four Nordic countries (Denmark, Finland, Norway and Sweden) and was this time arranged in the west coast of Denmark. The keynote address *"From Measurement to Management – Toward a Spatial Enabled Society"* was given by President Enemark. The other sessions discussed digital administration, preparations to climate change, surveyors' changing role to advisors and surveyors role in construction projects in digital era. The Nordic congress has a tradition as a family event and is held in Scandinavian languages.

To increase co-operation with other quantity and cost engineering associations FIG accepted the invitation from the *Pacific Association of Quantity Surveyors* (PAQS) to attend its 13<sup>th</sup> Annual Congress in Kuala Lumpur, Malaysia, 17–18 August 2009. FIG was represented at this congress by **Andrew Morley**, Chair of FIG Commission 10 and Vice President **Teo Chee-Hai**. Over 450 delegates attended the Congress coming from over 20 countries with substantial delegations from Brunei, Singapore, PR China (including Hong Kong SAR), Japan, Australia, New Zealand, Sri Lanka and host Malaysia. On the sideline of the Congress was the inaugural World Summit of Construction Economist, Cost Engineers and Quantity Surveyors attended by the President of African Association of Quantity Surveyors, President of the European Council for Construction Economists, Chairman of the International Cost Engineering Council, Chairman of Pacific Association of Quantity Surveyors, Vice President of the Royal Institution of Chartered Surveyor and FIG facilitated by the Board of Quantity Surveyors Malaysia. The outcome of the summit was the signing of an “in principle agreement” by these six organisations.

Vice President **Matt Higgins** and FIG Director attended *INTERGEO 2009* in Karlsruhe, Germany 22–24 September to promote FIG 2010 and to meet with DVW and FIG corporate members. The attendance to Intergeo exceeded all expectations of the organiser DVW attracting over 16,000 visitors including a further rise in the proportion of international visitors to a total of 22 per cent, and 1,450 congress participants. Themes of the conference were early warning systems in risk and disaster management; sustainable construction in finance and bank crisis; and energy and environment issues with a view in the European environment policies.

President Enemark participated the Annual Conference “*Areal og Ejendom*” (Land and Property 2009) in Son in Akershus, Norway 24–25 September 2009. This conference was at the same time the General Assembly of NJKF (profession group in TEKNA), which is the FIG member in Norway (together with GeoForum Norway they form the FIG Norway). About 100 participants attended the conference with a professional program addressing land information systems; coastal zone management; and power line developments. President Enemark made a keynote presentation on “*Global Trends towards a Spatially Enabled Society*”.

Vice President CheeHai Teo attended the South Luzon Area Assembly of the Geodetic Engineers of the Philippines in Quezon City, The Philippines, 7–8 November 2009. “Accelerating the Development of Cadastral Spatial Data Infrastructures Towards Sustainable Good



**Dr. Atilola Olusola, President of The Nigerian Institution of Surveyors, President Enemark, and A. C. P. Njepuome, Surveyor General of the Federation of Nigeria in Abuja in November 2009.**



**Vice President Teo CheeHai being presented with a plaque after his keynote presentation by the Chairperson of SLA and flanked by Randolf S Vicente, President of NCR and Cecilio C Reyes, National President of GEP in Quezon City Philippines in November.**



**Chryssy Potsiou together with the President of the Chamber of Surveying Engineers of Turkey, Ali Fahri Özten at the 2<sup>nd</sup> Turkish GIS congress in Izmir.**

## Visits to Members



President Pierre Bibollet, OGE, President Enemark, and President François Mazuyer, FIG at the OGE headquarters in Paris in December 2009.



Geom. Antonio Benvenuti, CNG Councillor (left), Geom. Enrico Rispoli, Hon. Secretary of CNG President Geom. Fausto Savoldi, Maria Scorza, International Relations and FIG Director at the balcony of CNG in Piazza Colonna in Rome in December to discuss the FIG Working Week 2012 in Rome.



FIG Honorary President Prof. Peter Dale and President Enemark met in Scotland in November 2009.

Land Governance". The Geodetic Engineers of the Philippines Inc (GEP) is Philippines' sole member association in FIG. The event had a record attendance of about 500 people, more than doubling previous averages. The event was attended by all of the three Regions' Presidents, the Chairman of the South Luzon Area, the congress director **Randolf S Vicente** and their GEP President **Cecilio C Reyes**. Vice President Teo delivered a keynote presentation entitled "*Keeping Pace with the Times*". In the presentation, he stressed on the importance of Good Land Governance and Spatial Data Infrastructure in sustainable development and disaster risk management.

President Enemark was invited by the Nigerian Institution of Surveyors (NIS) to give the *27<sup>th</sup> Olumide Memorial Public Lecture* in Abuja, 29 October 2009. The visit was hosted by Dr. **Atilola Olusola**, President of the Nigerian Institution of Surveyors (NIS). The Olumide Memorial Public Lecture is held every year in honour of late surveyor **Cyprian T. Olumide** being the first President of NIS and a pioneer of modern surveying in Nigeria. President Enemark presented a lecture on the theme: "*Land Governance: Supporting the Global Agenda and Serving Society*". The lecture looked at the linkage between land governance, land reform, and climate change adaptation. It argued that measures for adaptation to climate change and disaster risk management must be integrated into strategies for poverty reduction to ensure sustainable development meeting the Millennium Development Goals. The lecture is public and announced with full page advertisements in the national newspapers and thereby attracting attention to the important role of the surveyors in society. The lecture attracted about 500 participants and was followed by a question/answer session and press interviews etc.

The visit to Nigeria provided a great opportunity to meet with the very active community of Nigerian Surveyors and, at the same time, to announce and promote the election of NIS to host FIG Working Week in Abuja 2013. The facilities and the institutional support look very promising.

The *2<sup>nd</sup> Turkish GIS Congress "GIS 2009"* was organised by the Turkish Chamber of Engineers and Architects (TMMOB) in Izmir, Turkey, 2–6 November 2009. The theme of the congress was "*NSDI and working cooperatively for a livable future*". About one thousand Turkish participants from various surveying disciplines attended the Congress. FIG was represented by Dr. Chryssy Potsiou, ACCO representative in the FIG Council. The title of her keynote presentation was "*Spatial Data Infrastructures in Support of Land Governance and Natural Disaster Prevention and Management – The FIG Commission 3 Activity*".

## Permanent Institutions and Communication

President Enemark met with President **Pierre Bibollet**, *Ordre des Géomètres Expert*, France and **François Mazuyer**, 1<sup>st</sup> Vice President of OGE and President of FGF (Federation of Geometre Francophone) at the OGE headquarters in Paris 8 December 2009. The visit was arranged in combination to President Enemark's attendance to a brief UN-HABITAT partners' meeting in Paris and offered good opportunity to exchange ideas on a range of subjects such as the idea of establishing the Mediterranean Union of Surveyors (UMG) proposed by OGE, the increased participation of OGE within the FIG Commissions, and participation of the Federation of the French-speaking Surveyors (FGF) in the FIG Task force on Africa and FGF involvement in FIG Congress 2010 in Sydney.

President Enemark attended the *Annual Geomatics Christmas Lecture* at RICS in London 10 December 2009. This year's Christmas Lecture was given by Prof. **Mike Cooper**, (previous Chair of FIG Commission 5 and well-known to FIG members) who spoke about 'Who did they think we were?'. The lecture provided a very interesting insight in the role of surveyors through history. President Enemark had a breakfast meeting with **Max Croft**, President of RICS the following morning. This meeting was attended also by **Ken Hall**, ICES President, **Diane Dumashie**, RICS FIG delegation chair, and **James Kavanagh**, Director RICS Land Group. The purpose of the discussion with RICS was to continue the high-level liaison, to further clarify the complementary aims of the two organisations, and to engage in joint activities where this is appropriate. The key issues discussed at the meeting were: the global profile and reach of the surveyor; marketing of surveyors skill sets, capacity building in the developing world and poverty alleviation, co-operation in Africa; and co-operation with United Nations and FAO on land tenure policies.



**John Hohol, President of the FIG Foundation, making the report on the Foundation activities.**

### Permanent Institutions

FIG has two permanent institutions: *The International Office of Cadastre and Land Records – OICRF*, and *The International Institution for the History of Surveying and Measurement – Permanent Institution of FIG (IIHSM)*. The *FIG Foundation* is in addition an independent body within the Federation.

OICRF maintains a digital library that contains approximately 8,650 publications (1<sup>st</sup> of January 2010), which include things such as conference documents, magazine articles and reports on land administration. All of the available documents and the most recent publications can be downloaded and accessed electronically at [www.oicrf.org](http://www.oicrf.org). In 2009 the digital library got more than 28,000 visitors from 147 countries and about 8,300 papers have been downloaded. This number is based on the application of Google Analytics; visits from search engines are excluded in this. OICRF is hosted by the Netherlands Cadastre, Public Registers and Mapping Agency.

*The International Institution for the History of Surveying and Measurement* prepared one day workshop on history of surveying at the FIG Working Week in Eilat. In three sessions 7 papers were presented.

**Jim Smith**, together with **Alan Wright** and **Brian Sturman** has produced another book. It is *The Tellurometer: From Dr. Wadley to the MRA7*. This tells the story of the first 50 years of one of the earliest forms of electronic distance measurement. Jim Smith was also involved in a companion volume written by one of the sisters of Dr. Wadley, **Mary von Hirschberg – Trevor Lloyd Wadley: Genius of the**

*Tellurometer*. The 50<sup>th</sup> anniversary of the Tellurometer, and the launch of the books, were celebrated in May in Cape Town and in October in Johannesburg. Both Jim Smith and Alan Wright attended both of these events and both presented papers at the latter event which was sponsored by the South African Institute of Electrical Engineers.

In early 2009 IIHSM prepared in Braine-l'Alleud (Belgium, south of Brussels near Waterloo) an exhibition "From the local foot to the metre and the early days of the Belgian Cadastre" which, although it was wintertime, was quite successful.

An FIG publication on history of surveying and IIHSM will be launched at the FIG Congress in Sydney.

### Communication

The main tools for communication of the Federation are the *FIG web site* [www.fig.net](http://www.fig.net) and different newsletters (both as soft and hard copies) and printed material and publications and CD-ROMs.

The web site includes e.g. the work plan of the Council and the commissions; contact details of Council members, member associations, affiliates, corporate members, academic members, commission officers and commission delegates; forthcoming events; and FIG publications and conference reports.

*The FIG annual review* – an overview of major activities and achievements and the main medium of external communication.

This is supported by a monthly e-Newsletter which is sent free of charge to all subscribers. All commissions have also their newsletters that are published 1–2 per year and posted on the commission's web site.

In the *FIG publications* series the federation publishes formal policy statements and ethical, educational and technical guidelines, these are also available on the FIG home page.

Proceedings of FIG conferences and of selected technical seminars sponsored or co-sponsored by FIG's commissions and member associations are published normally on a CD-ROM and they are also available on the FIG home page.

FIG publishes also on the web site a monthly article that is selected from a conference or event and that is of general interest.

# The FIG Foundation

## The FIG Foundation – Building a Sustainable Future



The *FIG Foundation* is an independent body under the International Federation of Surveyors.

- The Foundation has been established for the purpose of raising funds to finance surveying education development projects and supporting young surveyors in order to build a sustainable future.
- The Foundation funds shall not be used to support the normal activities of FIG.

- The Foundation is administered by the FIG Office in Copenhagen and directed by a Board of five Directors appointed by the FIG Council.
- The Directors of the Foundation will announce every year the scholarships and grants available.

The first grants were given in 2002 and there after each year. In 2009 the Foundation offered two scholarships to attend FIG Working Week in Eilat. These were given to **Jayanta Kumar Ghosh** from India and **Habtemicael Weldegiorgis** from Eritrea. In addition the Foundation gave a grant to **William Kalande** from Kenya and supported the International Geodetic Students Meeting in Zürich, Switzerland.

### The FIG Foundation – How can I contribute?

Companies, associations, institutions, events, surveyors' groups and individuals may contribute to the Foundation by:

- Donations which will be recognised by a plaque or a certificate of different categories reflecting the sum of donation as follows:
  - platinum plaque EUR 25,000
  - gold plaque EUR 10,000
  - silver plaque EUR 5,000
  - bronze plaque EUR 1,000.
- Donations to support specific projects or by offering scholarships. Donors and Benefactors may use the FIG Foundation logo to promote their project donations or scholarships.
- Voluntary donation when registering to FIG events.
- Attending social functions such as the FIG Foundation Dinners held during every FIG Congress and Working Week and other events.



**Habtemicael Weldegiorgis** from Eritrea and **Dr. Jayanta Kumar Ghosh** from India.

## FIG Definition of the Functions of the Surveyor

The definition of the functions of the surveyor as adopted by the FIG General Assembly in 2004:

### Summary

A surveyor is a professional person with the academic qualifications and technical expertise to conduct one, or more, of the following activities;

- to determine, measure and represent land, three-dimensional objects, point-fields and trajectories;
- to assemble and interpret land and geographically related information,
- to use that information for the planning and efficient administration of the land, the sea and any structures thereon; and,
- to conduct research into the above practices and to develop them.

### Detailed Functions

The surveyor's professional tasks may involve one or more of the following activities which may occur either on, above or below the surface of the land or the sea and may be carried out in association with other professionals.

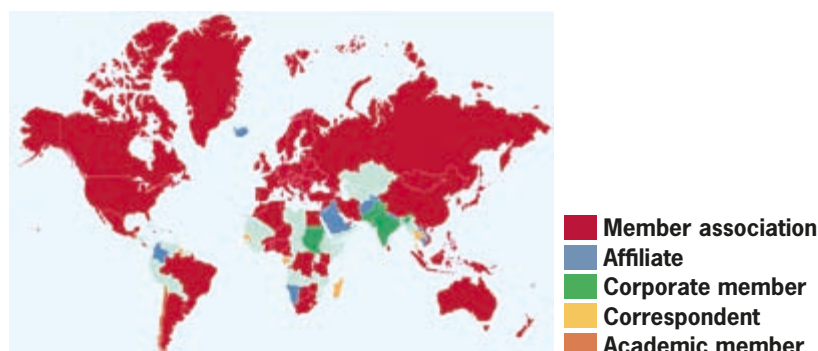
1. The determination of the size and shape of the earth and the measurement of all data needed to define the size, position, shape and contour of any part of the earth and monitoring any change therein.
2. The positioning of objects in space and time as well as the positioning and monitoring of physical features, structures and engineering works on, above or below the surface of the earth.
3. The development, testing and calibration of sensors, instruments and systems for the above-mentioned purposes and for other surveying purposes.
4. The acquisition and use of spatial information from close range, aerial and satellite imagery and the automation of these processes.
5. The determination of the position of the boundaries of public or private land, including national and international boundaries, and the registration of those lands with the appropriate authorities.
6. The design, establishment and administration of geographic information systems (GIS) and the collection, storage, analysis, management, display and dissemination of data.
7. The analysis, interpretation and integration of spatial objects and phenomena in GIS, including the visualisation and communication of such data in maps, models and mobile digital devices.
8. The study of the natural and social environment, the measurement of land and marine resources and the use of such data in the planning of development in urban, rural and regional areas.
9. The planning, development and redevelopment of property, whether urban or rural and whether land or buildings.
10. The assessment of value and the management of property, whether urban or rural and whether land or buildings.
11. The planning, measurement and management of construction works, including the estimation of costs.

In the application of the foregoing activities surveyors take into account the relevant legal, economic, environmental and social aspects affecting each project.



## FIG Members (December 2009)

\*) Membership to be decided by the General Assembly in April 2010.



### Member associations

<b>Algeria</b>	Ordre des Géomètres-Experts Fonciers
<b>Argentina</b>	Federación Argentina de Agrimensores
<b>Armenia</b>	Association of Private Surveyors
<b>Australia</b>	Surveying and Spatial Sciences Institute
<b>Austria</b>	Austrian Society for Surveying and Geoinformation
<b>Belarus</b>	Land Reform Association
<b>Belgium</b>	Union Belge des Géomètres-Experts Immobiliers
<b>Benin</b>	Syndicat National des Géomètres-Topographes et Assimilés du Bénin
<b>Bosnia-Herzegovina</b>	Geodetic Association of Herceg-Bosnia *)
<b>Botswana</b>	Botswana Surveying and Mapping Association
<b>Brazil</b>	Brazilian Society of Cartography, Geodesy, Photogrammetry and Remote Sensing FENEA – Federação Nacional dos Engenheiros Agrimensores
<b>Brunei Darussalam</b>	Brunei Institution of Geomatics
<b>Bulgaria</b>	Union of Surveyors and Land Managers in Bulgaria Chamber of Graduate Surveyors
<b>Burkina Faso</b>	Association des Geometres et Topographes du Burkina
<b>Cameroon</b>	Ordre National des Geometres du Cameroun
<b>Canada</b>	The Canadian Institute of Geomatics
<b>China P.R.</b>	Chinese Society of Geodesy, Photogrammetry and Cartography China Institute of Real Estate Appraisers and Agents CIREA
<b>Congo D.R.</b>	Federation des Ingenieurs Geometres-Topographes
<b>Costa Rica</b>	Colegio de Ingenieros Topógrafos de Costa Rica
<b>Croatia</b>	Croatian Geodetic Society
<b>Cyprus</b>	Association of Rural Surveying Engineers of Cyprus Cyprus Association of Property Valuers *)
<b>Czech Republic</b>	Czech Union of Surveyors and Cartographers Czech Association of Certified Property Appraisers
<b>Denmark</b>	Den danske Landinspektørforening
<b>Egypt</b>	Egyptian Committee of Surveying and Mapping
<b>Estonia</b>	Association of Estonian Surveyors

<b>Fiji</b>	Fiji Institute of Surveyors
<b>Finland</b>	The Finnish Association of Surveyors Maanmittausalan ammattikorkeakoulu- ja opistoteknisten Liitto MAKLI ry
<b>France</b>	Ordre des Géomètres-Experts Association Française de Topographie
<b>Georgia</b>	Society of Professionals of Land Information Technologies
<b>Germany</b>	DVW – Deutscher Verein für Vermessungswesen – Gesellschaft für Geodäsie, Geoinformation und Landmanagement
<b>Ghana</b>	Ghana Institution of Surveyors
<b>Greece</b>	Technical Chamber of Greece Hellenic Association of Rural and Surveying Engineers
<b>Hong Kong SAR, China</b>	The Hong Kong Institute of Surveyors The Hong Kong Institution of Engineering Surveyors
<b>Hungary</b>	Hungarian Society of Surveying, Mapping and Remote Sensing
<b>Indonesia</b>	Ikatan Surveyor Indonesia
<b>Iran, Islamic Republic</b>	Iranian Society of Surveyors
<b>Ireland</b>	The Society of Chartered Surveyors The Irish Institution of Surveyors
<b>Israel</b>	Association of Licensed Surveyors in Israel
<b>Italy</b>	Consiglio Nazionale Geometri e Geometri Laureati
<b>Jamaica</b>	The Land Surveyors Association of Jamaica
<b>Japan</b>	Japan Federation of Surveyors
<b>Kenya</b>	Institution of Surveyors of Kenya
<b>Korea, Republic of</b>	Korea Confederation of Surveyors
<b>Kosovo</b>	Kosova Surveyors Association
<b>Latvia</b>	Latvian Associations of Surveyors
<b>Lebanon</b>	Ordre des Géomètres-Topographes du Liban
<b>Lithuania</b>	Lithuanian Association of Surveyors Lithuanian Association of Property Valuers
<b>Luxembourg</b>	Ordre Luxembourg des Géomètres
<b>Malaysia</b>	Association of Authorised Land Surveyors Malaysia
<b>Malta</b>	The Malta Institution of Surveyors
<b>Mexico</b>	Colegio de Ingenieros Topógrafos A.C.

## FIG Members (December 2009)

\*1 Membership to be decided by the General Assembly in April 2010.

<b>Mongolia</b>	Mongolian Association of Geodesy and Cartography
<b>Morocco</b>	Ordre National des Ingénieurs Géomètres-Topographes
<b>Nepal</b>	Nepal Institution of Chartered Surveyors *1
<b>Netherlands</b>	Geo-informatie Nederland
<b>New Zealand</b>	New Zealand Institute of Surveyors
<b>Niger</b>	Association des Géomètres Experts du Niger
<b>Nigeria</b>	Nigerian Institution of Surveyors The Nigerian Institute of Quantity Surveyors
<b>Norway</b>	Norges Jordskifte kandidatforening (NJKF), faglig gruppe af Tekna and GeoForum
<b>Palestinian Authority</b>	Licensed Surveyors Association in Palestine
<b>Papua New Guinea</b>	Association of Surveyors of Papua New Guinea
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<b>Puerto Rico, USA</b>	Colegio de Ingenieros y Agrimensores de Puerto Rico
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<b>Iceland</b>	The Land Registry of Iceland
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<b>Republic of Iraq</b>	General Directorate for Surveying, Ministry of Water Resources
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<b>Macedonia (FYROM)</b>	State Authority for Geodetic Works
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<b>Sweden</b>	Lantmäteriet
<b>Switzerland</b>	Swiss Federal Office of Topography, swisstopo
<b>Tajikistan</b>	Agency for Land Management, Geodesy and Cartography under the Government of Tajikistan
<b>United Arab Emirates</b>	Surveying Department, Dubai
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	RMIT University, Department of Geospatial Science		University of Applied Sciences Oldenburg/Ostfriesland/Wilhemshaven, Department of Surveying Engineering
	University of New South Wales, School of Surveying and Spatial Information Systems		Center for Soil Protection and Land Use Policy
	University of Southern Queensland, Department of Surveying and Land Information		
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<b>Austria</b>	University of Agricultural Sciences Vienna, Institute of Surveying, Remote Sensing and Land Information	<b>Greece</b>	National Technical University of Athens, School of Rural and Surveying Engineering
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	University of New Brunswick, Department of Geodesy and Geomatics Engineering	<b>Lithuania</b>	Vilnius Gediminas Technical University
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<b>West Indies</b>	University of the West Indies, Department of Surveying and Land Information

## Correspondents

Bahrain, Benin, Bhutan, Eritrea, Ethiopia, Gabon, Guyana, India, Lesotho, Madagascar, Peru, Saint Lucia, WI, Senegal, Tanzania (Zanzibar), Thailand, Tonga, Tunisia and Tuvalu.

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	<b>OTHER SPONSORSHIP:</b> Den danske Landinspektørforening (DdL), <a href="http://ida.dk/sites/ddl/">http://ida.dk/sites/ddl/</a>

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**Members of FIG Council 2009–2010 at the first Council meeting in the FIG Office in February 2009: Vice President Teo CheeHai (Malaysia, left), ACCO Representative Dr. Chryssy Potsiou (Greece). President Prof. Stig Enemark (Denmark), Vice President Iain Greenway (United Kingdom) and Vice President Matt Higgins (Australia). Vice President Dr. Dalal S. Alnaggar (Egypt) was not able to attend this meeting.**

## Vice Presidents



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## Commission Chairs 2006–2010



Commission chairs at the FIG Regional conference in Hanoi, Vietnam in October 2009: Yaacoub Saade (Comm. 1, on the left), Bela Markus (Comm. 2), Chryssy Potsiou (Comm. 3), Andrew Leyzack (Comm. 4), Rudolf Staiger (Comm. 5), Alojz Kopacik (Comm. 6), András Osskó (Comm. 7, sitting in front on the left), Diane Dumashie (Comm. 8), Kauko Viitanen (Comm. 9) and Andrew Morley (Comm. 10).

### Commission 1 – Professional Practice

Chair: Mr. **Yaacoub Saade** (Lebanon)

Perception of surveying profession; professional practice, legal aspects and organisational structures; standards and certification; code of ethics and applications; under-represented groups in surveying; students and young surveyors; information technology management and professional practice; project management, quality and best practice.

### Commission 2 – Professional Education

Chair: Professor **Bela Markus** (Hungary)

Curriculum development; learning and teaching methods and technologies; educational management and marketing; continuing professional development; networking in education and training.

### Commission 3 – Spatial Information Management

Chair: Dr. **Chryssy Potsiou** (Greece)

Management of spatial information about land, property and marine data; spatial data infrastructure – data collection, analysis, visualisation, standardisation, dissemination, and support of good governance; knowledge management for SIM; business models, public-private-partnerships, professional practice and administration.

### Commission 4 – Hydrography

Chair: Mr. **Andrew Leyzack** (Canada)

Hydrographic surveying; hydrographic education, training and CPD; marine environment and coastal zone management; data processing and

management; nautical charting and bathymetric maps – analogue and digital, including electronic navigational charts.

### Commission 5 – Positioning and Measurement

Chair: Professor **Rudolf Staiger** (Germany)

The science of measurement including instrumentation, methodology and guidelines; the acquisition of accurate and reliable survey data related to the position, size and shape of natural and artificial features of the earth and its environment and including variation with time.

### Commission 6 – Engineering Surveys

Chair: Professor **Alojz Kopacik** (Slovakia)

Acquisition, processing and management of topometric data; quality control and validation for civil engineering constructions and manufacturing of large objects; modern concepts for setting-out and machine guidance; deformation monitoring systems; automatic measuring systems, multi-sensor measuring systems; terrestrial laser systems.

### Commission 7 – Cadastre and Land Management

Chair: Mr. **András Osskó** (Hungary)

Cadastre, land administration and land management; development of pro poor land management and land administration; development of sustainable land administration as infrastructure for sustainable development to underpin economic growth; applications of innovative and advanced technology in cadastre and land

administration; promoting the role of surveyors in land administration matters to the public and stakeholders.

### Commission 8 – Spatial Planning and Development

Chair: Dr. **Diane Dumashie** (United Kingdom)

Regional and local structure planning; urban and rural land use planning and implementation; planning policies and environmental management for sustainable development; re-engineering of mega cities; public-private partnerships; informal settlement issues in spatial development, planning and governance.

### Commission 9 – Valuation and the Management of Real Estate

Chair: Professor **Kauko Viitanen** (Finland)

Valuation; investment in real estate and investment planning; real estate investment vehicles; real estate, development finance and land use feasibility planning; real estate economics and markets and market analyses; management of property and property systems; management of public sector property.

### Commission 10 – Construction Economics and Management

Chair: Mr. **Andrew Morley** (United Kingdom)

Construction economics, including quantity surveying, building surveying, cost engineering and management, estimating and tendering; commercial management including procurement, risk management and contracts; project and programme management including planning and scheduling.

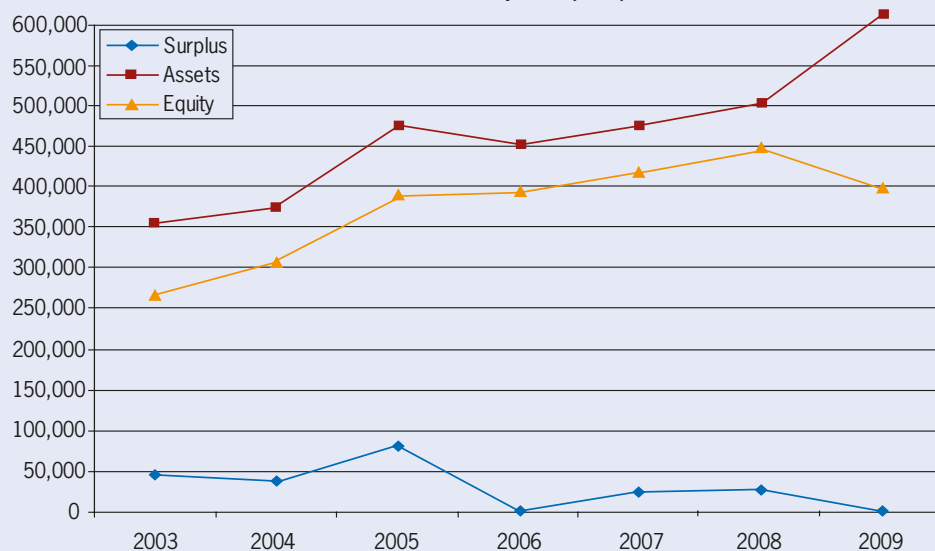
## Income and Expenditure Account 2008–2009

REGULAR INCOME	Result 2009 <sup>*)</sup> Euro	Budget 2009 Euro	Result 2008 <sup>*)</sup> Euro
<b>Subscriptions</b>			
Member associations	285,572	279,643	275,757
Affiliates	16,361	17,040	15,385
Corporate members	109,667	112,880	108,794
Academic members	17,895	17,845	17,463
Less bad debts	11,794	10,000	12,875
	<b>417,702</b>	<b>417,408</b>	<b>404,524</b>
Financial income	4,856	13,000	13,422
Less banking costs	294	0	0
<b>Total regular income</b>	<b>422,273</b>	<b>430,408</b>	<b>417,946</b>
<b>REGULAR EXPENDITURE</b>			
Administration	241,423	207,100	207,882
Marketing and publications	11,232	20,000	25,169
Council and executive management	207,762	204,600	184,127
Commission support	25,986	35,000	31,489
<b>Total regular expenditure</b>	<b>486,403</b>	<b>466,700</b>	<b>448,667</b>
<b>Surplus/deficit of regular income over regular expenditure</b>	<b>-64,130</b>	<b>-36,292</b>	<b>-30,721</b>
<b>PROJECTS</b>			
<b>Events – funds received by FIG</b>	<b>41,657</b>	<b>38,000</b>	<b>68,366</b>
<b>Other projects</b>	<b>22,853</b>	<b>10,000</b>	<b>-9,616</b>
<b>RESULT</b>			
<b>Overall surplus/deficit in the year – normal activities</b>	<b>380</b>	<b>11,708</b>	<b>28,029</b>
<b>Exceptional items</b>	50,713		
<b>Items funded from reserves</b>	2,123		
<b>Total reserve at the year end</b>	<b>450,997</b>		<b>503,453</b>
Specific reserves	8,548		11,428
General reserves	442,449		492,449
General reserve as a % of regular annual expenditure	91%		110%

<sup>\*)</sup> The accounts for 2009 will be finally adopted by the General Assembly in April 2010. The income and expenditure presentation follow the template approved by the General Assembly in 2009.

## FIG Balances 2003–2009

Development (in €)



Iain Greenway, Vice President in charge of finances.

# The XXIV FIG International Congress 2010



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