IUGS President's address

Dear colleagues, during the 34th International Geological Congress in Brisbane I was elected president by your national committee members. It was the first open election of EC and bureau members with more than just one candidate per office task since many years. The fact that in the past this was not the rule has been a concern of many IUGS members for a long time. Being nominated as candidate needs national and international support before the election and of course I am grateful to all the national committees that supported my candidacy as well as to those who supported John Ludden who joined the "race" when Sospeter Mohungu stepped down due to his appointment as minister of energy and resources in Tanzania.

I am honoured that a large majority took a decision in my favour even though the other candidate is excellently networked in administration and international organisations. As already expressed in Brisbane, I consider the decision to select a university-based scientist as president of our international geologic union to be courageous.

This motivates me to introduce myself and briefly summarize my scientific activities.

I am Swiss and since more than 20 years have been well integrated in the German university and research system.

I studied hard rock geology at ETH-Zürich and was lucky to have teachers like Augusto Gansser and Rudolf Trümpy. During my doctoral thesis supervised by Volker Dietrich and Volkmar Trommsdorff on the metabasites of the Grisons in the Eastern Swiss Alps, I worked on the stability conditions of glaucophane. Based on studies of blueschist metamorphism in the 1970s I developed a geodynamic concept for the Valais trough, an oceanic realm with a subduction zone located north of the Piemonte high-pressure (HP) zone. During these studies, I recognized and demonstrated that minor differences in bulk rock composition such as the ferric-ferrous ratio or oceanic alteration are important factors for stabilizing metamorphic mineral assemblages. A short step into marine geology in the Eastern Pacific made me deepen my knowledge in geochemistry. This expedition almost changed my focus of

interests. But back in the Alps the observation that on Monte Mucrone metadiorites show the full transition from magmatic to eclogitic and then greenschist facies textures and mineral assemblages attracted my interests, and subsequently we, Hannes Hunziker and Giorgio Martinotti, proved that subduction of continental crust was possible. Our effort dating the HP events with methods available at the time started a vivid discussion.

In the 1970s it was an honourable duty for Swiss university scientists to map a quadrangle. Being a passionate mountain climber, together with Kurt Bucher we choose the Matterhorn for this task. We had great fun with many students who helped in mapping and are now holding University chairs in different countries. During a stipend sabbatical at the ENS in Paris with Bruno Goffé and Christian Chopin, I had the chance to focus again on low-grade high-pressure low-temperature rocks. We jointly worked on metapelites and their potential high-pressure index minerals. After taking a position in Germany, I focussed together with Osman Candan mainly on the metamorphic and geodynamic evolution of the Anatolides. Starting from the Cycladic units we described and dated units from the Western Menderes massif to the Bitlis complex in Eastern Anatolia. However, my heart is still beating for the Alps. I motivated many friends to join in and we compiled the map of the metamorphic structure of the Alps published by CGMW.

Of course I am not lacking experience working with national and international organisations. Presently I am president of the sub-commission on "Magmatic and metamorphic maps" of CGMW, the oldest international commission dealing with geoscience. This is a task that I will carry on besides my commitment with IUGS. I believe compilation and visualisation of geologic data and expressing geologic as well as geodynamic concepts on maps is art and science at the same time. It needs a long involvement and deep understanding of the topic to be presented on a map. Today such an endeavour can only be achieved by practicing teamwork. In addition to the CGMW commitment, I served as its Secretary General (SG) in the international lithosphere program (ILP), one of the scientifically very successful joint programs of IUGS with IUGG. The process of appointing a new SG is currently under way. I might stress that the ILP is the mother of the International Continental Drilling Program (ICDP). Over the last 20 years, this program was established and has become a grown-up partner of the DSDP-ODP-IODP program which started in the late 1960s. Since ICDP originated from the German KTB program under the guidance of Rolf Emmermann, I had the honour to be one of the German representatives of its science advisory group (SAG) at the international level. At the national level I am scientific coordinator of the ICDP priority program sponsored by the German National Science Foundation (DFG).

Besides these geoscientific tasks, I had the great opportunity to live through the unification of the two Germanys and to be appointed to build up a new institute of geosciences at the new

university in Potsdam. Living through these times, difficult for many colleagues from the eastern part of Germany, as a foreigner and getting trust and support from these colleagues was and is an experience that goes far beyond professional work. So that is a glimpse into my personal and scientific experience.

Considering IUGS, I will first express my gratitude to the former EC and bureau for their work and commitment for the union. I appreciate the voluntary work and efforts that these colleagues offered to our community. I cannot yet say whether the transition from the old to the new EC ran smoothly since not only a transition of officers took place but major transitions regarding the IUGS office are ongoing at this time. The IUGS office, which was hosted for a long time by the Norwegian survey, had for an interim been run by the USGS, and is now about to be transferred to the Chinese Academy of Geological Sciences in Beijing. It is foreseen that this transition will be completed by the end of 2012. Right now we still get support from the USGS on a completely voluntary basis. I thank the Geological Survey of the United States and am grateful to Nancy S. Zeigler and Richard Calnan for taking care of the affairs of IUGS and for their valuable and ceaseless support. At the same time as the change of our treasurer, a second critical transition, is ongoing. Transfer of banking matters from the European system to the Chinese banking system although smooth is far more time consuming than anticipated. Again, we have to thank the former treasurer William Cavazza for his patience and his willingness to run the business *ex officio* until the financial transfer is legalized.

Before I look forward, it remains to congratulate Neil Williams and his team for the excellent organisation of the 34th IGC in Brisbane, conducted with a high scientific standard. The congress united delegates worldwide and had many new facets amongst which hosting the Young Earth Scientists (YES) congress and bringing the private sector into focus were most remarkable. Keeping on the topic of IGC, I am looking forward to the next congress in Africa. The colleagues in South Africa have already started with the organisation and, to my delight, discussions on the scientific program have already begun.

Regarding our union, an outlook towards new frontiers is early but of course discussions among the members of the EC have already started. It seems clear that after a long period

focussing on applying the plate tectonic paradigm, the last decades focussed on System Earth. Process oriented understanding, was and is achieved, based on global observations with satellites, global networks and thermo-mechanical and thermodynamic modelling, enhancing understanding geodynamics of the system Earth.

This understanding of processes in action gives us the option of modelling the future, and making sound predictions seems to be within our reach. However, even if our predictions are precise at scales of ± 50 years they lay beyond human time scales. This might not be tenable for socio-economic actions or reactions. Therefore, we must focus not only on further study of the basic, fundamental processes changing our planet but also examine access to raw materials and mitigation of geo-hazards. Discourse with society is one of our greatest challenges. Access to alternative energy, exploration of raw materials, water and sewage management, climate change, ecosystem services, mitigation of hazards such as earthquakes, tsunamis, landslides and storms or waste management all ultimately rely on processes or actions that run over several election periods and thus point to a need for political as well as socio-economic stable situations. This can only be achieved with a well-educated society. It is our challenge to run and promote education, not only for geosciences *sensu stricto* but also with regard to socio-economics and humanities in a sense of geo-governance. Not fear, but knowledge enables society to prepare for risks and handle adverse consequences as it is always necessary for human kind to adapt, survive and to (re-) establish conditions for well being. IUGS is well prepared with many commissions, joint programs, task groups, and initiatives to launch discussions at different levels with respect to our challenging global problems. The new EC works on proposals on scientific collaboration with IUGG, ILP and ICSU regarding hazard and tsunamis, focuses on educational programs both societal such as the Geopark initiative and scientific to support emerging regions and will develop further scientific proposals for global sponsors.

It is my intention to guide IUGS, with your help, from the era of System Earth studies towards the era of Future Earth studies.

Roland Oberhaensli
President, IUGS