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European Energy Security Strategy Conference

The recent events in Ukraine confirm that it is Europe's strategic interest to further strengthen Energy security. In this context, the March European Council called on the Commission to present a comprehensive plan to reduce the EU's energy dependence. This was the reason to set up a High Level Conference «Paving the way for a European Energy Security Strategy» on the 21st of May in Brussels, to discuss possible elements of such a European Energy Strategy.

Representatives from Member States and third countries as well as energy companies, business and consumer associations attended the event. Mr. Luca Demicheli (Secretary General), Mr. Peter Britze and Mr. Serge van Gessel (respectively Chair and Deputy Chair of the EGS GeoEnergy Expert Group) represented EuroGeoSurveys at the Conference. The conference consisted of three technical sessions followed by the statements from the EU Commissioner for Energy, Mr. Günther H. Oettinger, the President of the European Commission, Mr. José Manuel Barroso, and the Prime Minister of Poland, Mr. Donald Tusk. The session focused on three main axes: Moderating energy demand and developing sustainable energy, Increasing EU energy production and market integration, and Diversification of sources and routes - Reinforcing the EU's external energy policy.

The debate analysed the current energy and climate trends. In particular, it was highlighted that there is a general awareness on how countries are variably affected by energy problems (i.e. dependency on Russian gas, access to domestic resources, maturity of renewable sector, etc.). The energy trade map is re-orienting as countries are switching roles (importers to exporters and vice versa) and new supply options are emerging. Other facts, as the current Ukraine crisis, confirm that further steps are needed for improving EU's energy security (and independency). This is really important considering that EU nuclear energy will

dramatically decline from 2020, unless existing units receive lifetime extensions, and it is predicted a sustained period of high oil prices and large persistent regional price differences for gas and electricity. Alongside with these trends, there is still a major disconnect between climate change goals and actions being taken.

In order to contribute to energy security and moderate energy use, it is important to increase energy efficiency in industry (by insulation) and further expand use of combined heating and power (CHP), both considered as quick wins and "lowest hanging fruits".

Regarding the need of diversifying supply, all options need to be regarded while striving to meet EU's energy and climate goals including renewables, conventional and unconventional hydrocarbons, CCS, nuclear, etc. Even if there is no miracle solution, some options can be wind energy, promoted as an important source for improving energy independency while reducing CO₂ emissions, and robust growth in Liquefied Natural Gas (LNG) supply around 2020 in order to accelerate and move towards a more interconnected global gas market. On one hand LNG will provide flexibility, growing capacity, and good transportability; on the other hand, we have to also regard the hurdles. Concerning the market for example, LNG is sold to the highest bidders (i.e. Asian region) and only what remains is pushed to the EU spot market.



José Manuel Barroso,
 President of the European Commission

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Also, it will take about 5 years to develop a green field liquefaction factory and the LNG-conversion/transport doubles the price of natural gas.

Regarding EU domestic production of fossil fuels, it was highlighted that nowadays fossil fuels still dominate the energy mix with large shares of coal; however, gas shares should increase in order to meet CO₂ emissions and air quality targets. At the moment, the North Sea region is the largest contributor to EU's conventional gas production, but between 2010 and 2030 a strong decline (31%) has been projected. The participants also identified several conditions needed to maximize domestic supply such as fostering initiatives to improve business, economical, fiscal aspects; addressing issues of increasing technical costs; exploration of mature and frontier basins; infill drilling; development of marginal satellite fields; production efficiency improvement and take maximum opportunity of existing infrastructures.

Despite EU exploration for shale gas started in 2007/2008, it has shown slow progress. EU still lacks a consistent and confident estimate of potential shale gas resources. As energy demand rises and domestic supply declines, shale gas may partly accommodate the increasing gap, although considered significant resources are yet to be proven. Shale gas production may not be a game changer in the way it has been in the US, but it still may have significant economic benefits, such as creating more jobs, reaching security of supply and enhancing a stronger industry. Finally, under the frame of EU Policy developments, the speeches by the Commissioners underlined that European collaboration is

essential in order to overcome the challenges of energy security and climate goals.

The European Commission will make clear proposals at the June EU Council. It is evident that for the improvement of EU energy security we have to create conditions to optimize domestic production from conventional oil & gas resources, encourage evaluation of potential unconventional oil & gas resources, diversify sources and routes of import, moderate energy demand through enhanced energy efficiency. Last but not least, it is important to keep developing renewable energy at competitive prices.

There is a strong notion the EU needs to increase domestic energy supply and further improve efficiency. Moreover, the Shale gas development requires social acceptance, encouragement of exploration, political support and adaptation of regulations.



Dominique Ristori, Director General for Energy

EuroGeoSurveys supports European Soil Partnership

In 2011, the Global Soil Partnership (GSP) was launched (www.fao.org/globalsoilpartnership/why-the-partnership/en/). Because of the crucial role of soils for food security and climate change, the GSP has developed actions plans to support the sustainable management of soils, research and information about the condition of soils in the world. The implementation of the GSP relies on regional partnerships. EGS, a registered partner of the Global Soil Partnership, has also been a founding member of the European Soil Partnership. On the 21st and 22nd of May 2014, the European Regional Partnership had its first meeting in Ispra, Italy (<http://eussoils.jrc.ec.europa.eu/InternationalCooperation/ESP/LaunchESP.html>).

The topics which were discussed followed the 5 Pillars of the GSP: soil management, soil awareness, soil research, global soil information system and soil data harmonization. EGS was represented by Rainer Baritz, Chair of the Task Force Superficial Deposits/Soil Resources (TFSD). The Global Soil Partnership has also successfully initiated the International Year of Soils 2015.

In that context, the European Commission will revise and publish a new European soil atlas. The EGS soil deposit task force was invited to contribute with the topic of parent material as a soil forming factor. The EGS Geochemistry expert group is also involved in the cooperation with soil scientists in Europe. As result of the meeting of the European Soil Partnership, several working groups were founded in line with the five pillars of the GSP, with a special focus on the status quo in Europe. EGS member Rainer Baritz was invited to present a key note on data harmonization.

Superficial deposits data (surface-close lithology) are likely to be important for higher resolution soil data sets especially for countries which lack full soil coverage of their territory in adequate resolution. Digital soil mapping relies - among others - on parent material data. The Task Force Superficial Deposits focuses on the development of a harmonized parent material data set for Europe based on existing national approaches.



Celebrations of the 95th Anniversary of PGI-NRI devoted to research infrastructure and laboratories

Celebrations of the 95th anniversary of Polish Geological Institute – National Research Institute (PGI-NRI) took place in Warsaw on 27 May 2014. The jubilee celebrations, opened by the PGI-NRI Director – Prof. Jerzy Nawrocki, were attended by a number of distinguished guests from Poland and abroad, representing the Chancellery of President of Poland, ministries and government agencies, academic and R&D centers and private companies as well as embassies and 11 European Geological Surveys. The ceremony took place in the Geological Museum of PGI-NRI.

This year the main theme of the celebrations was the role and importance of research infrastructure and laboratories for national geological surveys. The celebrations began with official opening of the PGI SHRIMP IIe/MC ion microprobe laboratory, the third in Europe and second in UE (after those installed in St. Petersburg, Russia, and Granada, Spain) and representing the latest development of an instrument invented and manufactured by Australian National University Canberra (ANU) and Australian Scientific Instruments (ASI).

The main presentation by Director Jerzy Nawrocki was devoted to attention paid to appropriate development and potential of research infrastructure and laboratories throughout the history of PGI-NRI, especially important in times of its establishment directly after the First World War and during restoration of the domestic economy after the Second World War. His presentation turned to be a touching and well-deserved tribute to the predecessors for understanding importance of the laboratory basis in fulfilling tasks entrusted to the national geological survey by the government and discovering mineral resources of vital importance for the national economy (copper and others), not to say about great contributions to the knowledge of geology of Poland and its region.

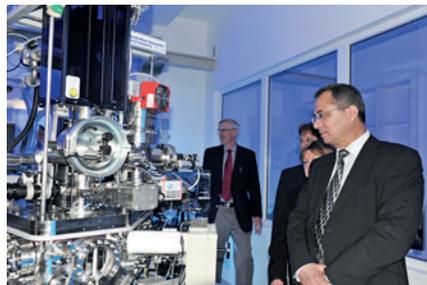
It is worth to note presentations of Dr Ewa Krzemińska on the road to establishment of the SHRIMP IIe/MC Laboratory in PGI-NRI and Prof. Ian S. Williams of ANU on "The Wonderful World of SHRIMP" and potential of that instrument for carrying cutting-edge scientific and applied research.

During the ceremony, Mr. Olgierd Dziekoński, Secretary of State in the Chancellery of President of Poland, decorated 18 employees of PGI-NRI, including a large group of infrastructure and laboratory staff, with Golden and Silver Crosses of Merit and other high state medals for meritorious service awarded by the President Bronislaw Komorowski. After the official part, the guests and PGI-NRI staff enjoyed the picnic in the PGI gardens, which was traditionally a networking event and time for cultivating contacts.

The celebrations were preceded by one-day EGS Workshop on sharing analytical capabilities and infrastructures, led by Director Jerzy Nawrocki and EGS Secretary General Luca Demicheli and attended by representatives of 8 EGS members. The workshop showed the need for integration and strengthening cooperation of the community of infrastructure and laboratory staff in the EGS, best expressed in willingness and readiness to establish a special EGS Expert Group or Task Force with the aim to join forces to increase effectiveness and carry out cutting-edge scientific and applied research.

It is also worth to note a very special event organized for participants of the celebrations. This was one more tribute to tradition - a unique opportunity to see the oldest geological prints from collections of the PGI-NRI Library, starting with over four centuries old book of Caspar Schwenckfelt's book published in Leipzig in 1601 and De Re Metallica of Georgius Agricola, regarded as „The Bible of Miners” (Basel, 1657).

Ilona Śmietańska and Wojciech Brochwicz-Lewiński



Official opening of the SHRIMP IIe/MC Laboratory



Special exhibition of the oldest geological books of the PGI-NRI collections: (l. to r.) Michael Watts (BGS), Wojciech Brochwicz-Lewiński (PGI-NRI) and Luca Demicheli, EGS Secretary General



Minister Olgierd Dziekoński passes greetings from the President of Poland



PGI-NRI Director Jerzy Nawrocki (left) receives congratulations from the Director of the State Geological Survey of Dionyz Stur (Slovak Republic) Branislav Zec and his Deputy Alena Klukanova

EuroGeoSurveys Workshop on Sharing Analytical Capabilities and Infrastructure

The Workshop on Sharing Analytical Capabilities and Infrastructures took place in the premises of the Polish Geological Institute (PGI-NRI) in Warsaw on 26 May 2014 and brought together 20 participants from 8 EGS members and EGS Office in Brussels. The workshop with the original idea put forwarded by PGI-NRI was organised as a satellite event of celebrations of the 95th anniversary of the PGI-NRI, also with the role of infrastructure and analytical potential as the main theme.

The Workshop was aimed at discussing the ways to share infrastructure and analytical capabilities within the EGS, form consortia and/or scientific nets for dedicated infrastructural or other projects, and to develop and implement innovative analytical techniques and applications. This included mapping of infrastructure and analytical capabilities essential to the EGS community for strengthening basic and applied research and identification of research infrastructure resources available to the EGS members, that is tools needed to conduct cutting-edge research in a variety of areas of geological sciences.

The opening keynote address, delivered by Luca Demicheli, EGS Secretary General, was devoted to the crucial questions concerning European mechanisms for financing infrastructure. Integration and strengthening of the community responsible for laboratories and infrastructures of individual national geological surveys will markedly facilitate attempts of the EGS to match requirements to be met by the Pan-European geological service by strengthening third pillar in the EGS vision for that service. Here a special significance should be attributed to the developments, integration and creation of new research structures of the regional and national rank, well consistent with the current priorities of Horizon 2020. Luca Demicheli also emphasized possibilities to obtain co-financing from the European Regional Development Fund (ERDF) and other structural funds for regional research infrastructures as well as trainings and demo and innovative projects.

The keynote speech was followed by a series of presentations of infrastructure potential and needs of 8 national geological surveys (GSB, BGS, BRGM, GEUS, EKBAA-IGME, MFGI, NGU and PGI-NRI) as well as their plans for the future. These presentations gave a lot of interesting and, as it appeared, new information for the attendees on strong points of individual laboratories and current demands for services.

After these presentations, Jerzy Nawrocki summarized the results of overview of an infrastructure evaluation questionnaire filled-up by the above mentioned national geological surveys as well as AGS (Albania), GTK (Finland) and SGU (Sweden). He also proposed some actions to be taken by the national geological surveys to widen and strengthen the cooperation. The solutions proposed by him mainly included creation of centers of excellence or consortia specializing in isotope studies, 3D and 4D geological

modeling, geohazards monitoring and forecasting. He also proposed to design and develop web portal as an extension of the existing EGS web site, this time especially for the community of analytical laboratories and infrastructures. This portal would be specializing in dissemination of information on the existing laboratory potential of the EGS members, new technologies and trainings, offers of services, etc.

The last but most important point of the agenda was a concluding workshop panel moderated by Jerzy Nawrocki and Luca Demicheli. The panel also facilitated start of discussions on projects aimed at further upgrading and wider use of infrastructure and drawing a roadmap for sharing infrastructure and strengthening scientific potential of individual EGS members. The main conclusions were as follows:

1. In opinion of participants, the workshop turned to be the long-awaited first step towards integration of the community of infrastructure and laboratory staff of the EGS members
2. Therefore, the participants support the idea to ask the EGS ExCom to approve establishment of an EGS Expert Group (EG) or Task Force (TF) to coordinate the implementation of the Third Pillar of the EGS Strategy: Sharing knowledge, capacities and infrastructure



A group photo of participants of the workshop at the entrance of the Morozewicz Building of the PGI-NRI. In the first row: PGI-NRI Director Jerzy Nawrocki and EGS Secretary General Luca Demicheli. In the second row (l. to r.): Marek Barański (PGI-NRI), Edyta Majer (PGI-NRI), Iłona Śmietańska (PGI-NRI), Sophie Decree (GSB), Paweł Leśniak (PGI-NRI), Tomasz Nałęcz (PGI-NRI), Wojciech Brochwicz-Lewiński (PGI-NRI), Philippe Negrel (BRGM), Per Rosenberg (GEUS), Gyorgy Falus (MFGI), Kostas Laskaridis (EKBAA-IGME), Stanisław Mikulski (PGI-NRI) and Jan Cramer (NGU). Photo by Zofia Galas

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3. Such EGS EG or TF could run a portal at EGS web page to facilitate contacts and exchange of information and experience
4. Strengthening of contacts within the EGS EG/TF should be very helpful for compiling joint infrastructural applications or joint projects with substantial use of infrastructure of our NGSS
5. It would be desirable to analyse possibilities to come back to the idea of EU centers of excellence (for e.g. isotope studies, 4D modeling and other cutting-edge research fields)
6. Last but not the least, a proposal of organizing trainings for young staff (a postgraduate and/or Ph.D. level?) for the infrastructure and laboratories.

The workshop showed that the new initiative of the EGS is highly valuable as it meets the growing need for integration of community of infrastructure and laboratory staff of the EGS, especially if combined with opening wider possibilities to share infrastructure and strengthen scientific potential of individual EGS members.

Text: **Ilona Śmietańska & Wojciech Brochwicz-Lewiński**

Photos: **Zofia Galas & Barbara Ruskiewicz**

Translation: **Wojciech Brochwicz-Lewiński**



Sophie Decree presents infrastructure potential of the Geological Survey of Belgium. Photo by Zofia Galas



Welcome of participants of the workshop (l. to r.): PGI-NRI Director Jerzy Nawrocki, Kostas Laskaridis (EKBA-IGME, Greece), Jan Cramer (NGU, Norway) and Gyorgy Falus (MFGI, Hungary). Photo by Barbara Ruskiewicz

International strategic dialogues on Mineral Resources

European Commission promoting international dialogue in best practices on mining policies and technologies

The European Commission DG Enterprise and Industry hosted an international workshop on 'Best practices on mining policies and technologies' that took place in Brussels on 12th and 13th of June 2014.

Besides European participants, delegations from Australia, Brazil, Canada, Chile, Mexico, Peru, South Africa, and USA attended the workshop. The points of interest in the various sessions were on mining policies, (including exploration permits and exploitation licenses), environmental, security and health issues (including mining waste disposal, management and rehabilitation of mines), data acquisition, knowledge base and land use planning. The discussion was focused on the identification of topics of common interest for future cooperation and the search for potential financial instruments. The aim of the workshop was to assess the attractiveness of the present Member States' raw materials policies and share good practices, in order to identify the gaps and improve these policies where needed.

Within Europe minerals are essential to support economic growth and our quality of life. Europe has numerous raw materials at its disposal and could in many cases provide a self-sufficient supply, but in reality Europe is quite dependent on other countries. Europe has to be competitive in the global minerals and products markets and provide materials to meet its society's needs.

Due to this reason, the European Commission recently launched the Strategic Implementation Plan (SIP) of the European Innovation Partnership on Raw Material in order to drive forward innovation in the sector.

As international relations can have an effect on foreign investment and trade, one of the main pillars of the EC strategy is on international cooperation.

There are already several examples of mining cooperation between countries but increased coordination of these activities would benefit those involved. The situation varies depending on the element (specific raw material) and there are often different approaches, so sharing best practices and exchanging the information and experiences would serve to improve relations. In addition, the use of modern tools, latest technologies and improving relationships between public and private sector have emerged as priority needs.

The EC has begun its contribution by launching the biggest research and innovation funding programme of its kind, Horizon 2020, which is open to the participation of international partners and in which promoting international dialogues on raw materials is covered.

Conclusions

The exchange of international best practices should provide the mining sector with the best available minerals expertise and knowledge base for policy, industry, communication and education purposes at an international scale.

The difficulties identified during the workshop included the fact that each Member State has different technical and economic potential, as well as differing specific practices for extractive activities. Elsewhere hydrocarbons are treated separately, geological research has a distinct separate law, or are regulated by different bodies, etc. The need for specific mining policies to protect the environment was agreed on (efficiency in industrial activity and strengthening mining waste directives), but at the same time these policies should also allow for mining projects to move forward and continue to contribute towards economic development.

One of the key recommendations to emerge from the workshop covered the need for national mineral strategies which are aligned throughout Member States. For the successful development of this initiative and future dialogues, transparency and trustful exchange of information between the private and public sectors is essential.

Maximizing value: the importance of the extractive industry to growth in the EU economy and its regions

The "Raw Materials High Level Conference – Maximizing Value: The importance of the Extractive Industry to Growth in the EU Economy and its Regions" took place in Athens on the 19th – 20th of June and was welcomed by the Greek Minister and the Commissioner Maria Damanaki as well as Greek members of the EU parliament. The conference is included in the official programme of the Greek Presidency of the EU and is fully endorsed by the Greek Ministry of Environment Energy and Climate Change. The main work done was to define what are the critical raw materials that have high economic importance to the EU combined with high risk associated with their supply. The conference also examined the development of the 2nd Pillar of the Raw Materials Initiative.

The main discussions were focused on criticality of raw materials and the new list of these, but were also focused on the EIP SIP. The first review of the new list will be published this year and was presented by the European Commission during this Conference. There are 3 main aspects that can have been underlined regarding this review: 1) The new list has used a comparable methodology as the one used in 2010, 2) It has widened the scope of raw materials analysed (54 non-energy, non-food materials were analysed against 41 in 2010), 3) It has refined the analysis and using additional data (i.e. it has divided rare earths into 'heavy' and 'light' categories). The issue of the Critical Raw Materials List was officially in the Agenda of the European Council on Competitiveness which took place on May 26th.

Foundations laid for concrete cooperation between Ibero-American and European Geological Surveys

The Institute of Geology, Mining and Metallurgy of Peru (INGEMMET) hosted the XX General Assembly of the Ibero-American Geological Surveys (ASGMI) which took place on 16-18 June in Arequipa, Peru.

Sixteen Ibero-American Geological Surveys were present. EuroGeoSurveys was the only invited guest to attend the meeting and was represented by the Secretary General, Luca Demicheli. The technical sessions were oriented towards the existing geo-environmental base to address mining and groundwater issues. Each country shared and presented their experience and viewpoint on the topic. The discussion focused on the possible cooperation between Ibero-American countries, on a common procedure for collecting data to allow for benchmarking in the different areas: geochemistry, water resources, risk assessment, etc.

The discussion on cooperation with EuroGeoSurveys was very lively and showed a clear positive attitude by both parties.

In order to move forward with the several ideas developed, Mr. Jorge Civis, Director the Geological Survey of Spain (IGME), which is a member of both ASGMI and EGS, kindly and officially proposed that the next General Assembly of ASGMI be held in Madrid, hosted by IGME, concomitantly to the EGS General Meeting in October 2015. The motion was approved, and it is now expected that this will represent a first concrete step forward to initiate an effective Geological Surveys continental-scale cooperation between Europe and Latin America.

Over the next months EGS and ASGMI will work together to prepare the basis for an effective joint workshop in Madrid.



Raw materials supply: a bottleneck in the transition to a low carbon energy system

Demand for raw materials, including minerals and metals, has grown rapidly in recent years. The supply of some of these materials is constrained by the policies of major producers. This has caused concerns worldwide, especially in the EU, where many industries rely on materials that have an associated supply risk, such as lithium (batteries).

The energy sector is possibly the most vulnerable to the supply disruptions of raw materials. A number of studies have concluded that shortage of certain metals could be a potential bottleneck to the large scale deployment of low carbon energy technologies in the EU, limiting the ability to decarbonise its economy.

In particular 14 metals- including tellurium, indium or gallium- have been identified as critical or nearly critical.

These are essential to the solar photovoltaic, wind, lighting and electric vehicle industries. The Ad Hoc Working Group, composed by European Commission and Member States representatives, industry CEOs and other stakeholders, will assess the potential impact of specific raw materials supply disruption on the large scale deployment of power generating technologies that use renewable energy sources (in particular wind and photovoltaic technologies).

The Ad Hoc Working Group will discuss the future demand and supply potential for these materials based on the expected technological development and market shares of the two key energy technologies and the competing needs of other economic sectors. The Ad Hoc Working Group aims to cover the potential risk to the EU decarbonisation and mitigation options.

The University of Leiden launched the Massive Open Online Course “Wheels of Metals: The Global Metals Challenge”

The University of Leiden and the UNEP IRP (United Nations Environment Programme International Resource Panel), in collaboration with the Centre for Innovation in The Hague, launched the Massive Open Online Course (MOOC) on global metal flows – Wheels of Metals.

Wheels of Metals connects to the work of the UNEP International Resource Panel (IRP) – a scientific panel that produces reports bringing together generally accepted knowledge on resource issues to support resource policies.

Metals are ubiquitous – they are all around us – and provide a foundation upon which our economies are built. Economic development is deeply coupled with the use of metals. During the 20th Century the variety of metal applications in society grew rapidly. In addition to mass applications such as steel in buildings and aluminium in airplanes, more and more metals are required for innovative technologies such as the use of the specialty metal indium in LCD screens.

In particular in emerging economies, but also in industrialized countries, the demand for metals is rapidly increasing as these societies grow.

The IRP Global Metal Flows Working Group has produced a series of reports on the metals challenge: providing the world population with sufficient metals, also in the future, while remaining within planetary boundaries. These four reports will be the course material.

The Wheels of Metals MOOC will run for 5 weeks starting 13 October. Each week will address a different, yet crucial, topic for holistically understanding the complexity of global metals flows.

You can find the Wheels of Metals MOOC homepage and register to participate in the MOOC here: www.coursera.org/course/metals

For more information please contact Wesley Crock at crock@unu.edu



Universiteit Leiden



International
Resource
Panel



EFG Workshop and Council meeting

Palermo, Italy, 29 May - 1 June 2014

On 29 and 30 May 2014 the Italian National Council of Geologists (CNG) in collaboration with the European Federation of Geologists organised in Palermo the International Workshop on "Geologists of Europe in the 3rd millennium". The Workshop venue was the Norman Palace, seat of the Sicilian Regional Assembly. The workshop intended to be an open forum on current state of the geological profession for the various national organisations representing the profession within the European Federation of Geologists. The workshop program of the first day was covered by relevant speakers from nine European countries and the USA. The opening and closing ceremony of the workshop were honoured by the presence of regional authorities of the Sicilian Regional Assembly. The second day a visit to the Arabian Palermo was organised presenting an extensive underground cultural and naturalistic heritage, due to both human and karst activity. The presentations given are available at the EFG website.

Subsequent to the workshop, EFG celebrated its annual summer Council meeting at the Museum of Modern Art of Palermo.

During the meeting Vice-President Nieves Sánchez and Secretary General Domenico Calcaterra were re-elected for another two-year term. Moreover, EFG is glad to welcome two new members, the Polish Association of Mineral Asset Valuators (www.polval.pl) and the Czech Association of Economic Geologists (CAEG) (www.calg.cz).



8th GEO European Projects Workshop

The 8th GEO European Projects Workshop (GEPW-8) took place in Athens, Greece, on the 12th and 13th June, hosted by the Greek GEO Office - National Observatory of Athens. This eighth version of the annual series of GEO European Projects Workshops brought together all those interested in and actively contributing to the Global Earth Observations System of Systems (GEOSS) from around Europe, in order to present their work and discuss how Europe can contribute to this international effort, especially in the wake of the launch of the new EU Framework Programme for Research, Horizon 2020, and renewal of the mandate of GEO for another 10 years through the endorsement of the 2014 Geneva Declaration.

EuroGeoSurveys was represented at the event by Nikolaos Arvanitidis (Chair, EGS Mineral Resources Expert Group) and Eleftheria Poyiadji (Deputy Chair for GeoHazards, EGS Earth Observation and GeoHazards Expert Group). A presentation was made during the splinter session on "How GEOSS-related projects are responding to European challenges in different Societal Benefit Areas" in which the focus was on showcasing the progress European Geological Surveys are making towards a geological information system for Europe - namely via the EGDI-Scope project on designing a European Geological Data Infrastructure and the Minerals4EU project which aims to set up a European Minerals Intelligence Network and will produce the most comprehensive European Minerals Yearbook to date, developed with the contribution of all European Geological Surveys.

Throughout the two days of the workshop, numerous in depth discussions took place amongst the participants. One topic that drew the attention of many concerned the new Copernicus regulations, which seem to focus on environmental monitoring issues and particularly on emergency response downstream services related to natural hazards.



Nikolaos Arvanitidis, Chair of the EGS Mineral Resources Expert Group, Geological Survey of Sweden - SGU

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Another subject of great interest related to the ambition of having a new 10 year implementation plan for GEOSS – a Working Group of 20 members to work on its preparation has been set up. The previous implementation plan covered the period 2005-2014/15 and now the Working Group are preparing the succeeding plan in two phases; an exploratory phase will first look at what worked or did not work in the past 10 years, whilst a second phase lasting until the end of 2015 will focus on the synthesis and formulation of the implementation plan (the mission, added value, societal benefits, measurement of success, etc.). The Working Group will look at the key GEO milestones, annual work plans, how to reinforce national and regional capacity and engage governments further in the process (a political implementation plan).

The potential business exploitation of GEO and GEOSS was discussed, with the European Commission advocating increased engagement of the private sector. It was noted that in Copernicus there is involvement of private companies but it is somewhat lacking in GEO whilst there is potential that it could be an asset for society and useful to the ongoing economic recovery. The industry role in providing services, products and software is crucial to the downstream users. A workshop will be organised in September to encourage further private sector involvement.

Other topics discussed included the demonstration of applications and use (feedback) from citizens and authorities, better nation group coordination and implementation, user requirements and the continued efforts to harmonise geoportals including integration and dissemination of the data.

The workshop proceedings and conclusions will be made available on the GEPW-8 website: www.gepw8.noa.gr



GEPW-8 in session.



GEPW-8 group picture at the National Observatory of Athens during the observatory night.

Interview with Mr. Luca Montanarella

Leader of the Soil Data and Information Systems (SOIL) Action at the DG JRC, European Commission

Next year 2015 will be the International Year of Soil, as further recognition of the growing attention to soils as finite limited, but yet essential, resources. As Leader of the "Soil Data and Information Systems" (SOIL) Action at the DG JRC and founding member of the Global Soil Partnership (GSP) at the Food and Agriculture Organisation (FAO) of the United Nations, could you describe what are the main directions of soil research for the coming months?

There has been in the past years a remarkable increase of soil research initiatives on soils. Not only at EU level, thanks to the 7th FWP but also at National level. Main areas of research are related to the study of soil functions and the ecosystem services they deliver as well as the threats to those functions. The large number of project and activities requires a stronger coordination in order to achieve a more effective use of the available financial resources for soil research. In this sense the recent establishment of the Global Soil partnership is expected to deliver a major contribution. The GSP includes a specific pillar of activities (pillar 3) that aims towards the definition of a global research agenda related to soils. Such an agenda will be translated in a specific plan of action of the GSP and hopefully will allow for the development of synergies among the various initiatives as well as the limitation of the large overlapping activities causing unnecessary duplication of efforts and waste of scarce financial resources. A good example is the development of a Global Geochemical Database that could largely benefit from existing initiatives at Regional and national scale if sufficient coordination and cooperation could be provided. The GSP, as an open platform for all Governments and interested stakeholders provides the ideal instrument for developing such synergies and establishing cooperative system of data collection and management for global geochemical information and data on soils.

Could you summarise the European Soil Information System and explain what the long term impacts have been after its implementation period?

The European Soil Information System is the result of the development over the past 25 years of a common data and information systems across Europe. It is currently the only harmonized soil information available at European scale and beyond and is considered an example of successful collaboration among European countries towards a shared understanding of the respective soil resources. The value of the system resides more in the process than in the final product. As a fully participatory and shared system of data it has fostered over more than 25 years close collaboration among the National authorities in charge of soil survey and related data and has created a lasting platform for collaboration on many soil related issues. The European Soil Bureau Network (ESBN) is federating more than 50 National soil survey organizations in the EU and in the bordering countries and facilitates the data flow towards the European Soil Information System. Data are maintained and distributed over the European Soil Data Centre (ESDAC), operated by the DG JRC on behalf of DG ENV, DG ESTAT and the EEA. Full details are available at <http://eussoils.jrc.ec.europa.eu>

As an Action leader in SOIL, what is your vision for the future soil databases, GIS, soil protection, land degradation and the role the SOIL will play in their development?

Future developments are moving rapidly towards new tools and procedures for data collection and management. A rapid shift towards Digital Soil Mapping is already resulting in new high resolution data layers providing policy relevant information at very high resolution (100m). The best example is the GlobalSoilMap.net programme, operated by the major global players on soil data and information (European Commission, USDA, Chinese Academy of Sciences, EMBRAPA, CSIRO and others) and co-financed by the Bill and Melinda Gates Foundation. Another emerging trend is towards crowd-sourcing of soil data with an increased development of applications for mobile phones (mySOIL, SOILApp, etc...) that are paving the way towards a large flow of soil data and observations involving the citizens, especially the land users and farmers. Such innovative tools will make all previous traditional soil mapping and surveys very soon obsolete. The growing interest by the agro-industry in these developments demonstrates that there is a large commercial opportunity in gaining increased knowledge on soil properties at very detailed scales. In the EU, the framework provided by the INSPIRE directive and the related soil component will certainly facilitate the access to existing and new data in a clear regulatory framework.

Luca Montanarella :



- Working since 1992 as scientific project manager in the European Commission. Leading the Soil Data and Information Systems activities of the Joint Research Centre in support to the EU Thematic Strategy for Soil Protection and numerous other soil related policies, like the Common Agricultural Policy (CAP), the UNCCD, UNFCCC, CBD, etc..
- Responsible of the European Soil Data Centre (ESDAC), the European Soil Information System (EUSIS) and the European Soil Bureau Network (ESBN).
- Recently in charge of supporting the establishment of the Global Soil Partnership (GSP) at FAO.
- Currently chairing the Intergovernmental Technical Panel on Soils (ITPS).
- More than 200 publications, books and reports.
- Numerous awards and memberships.
- More details at http://eussoils.jrc.ec.europa.eu/esdb_archive/Staff/Montanarella.html

EGDI-Scope study for revitalising EU investments in geoscientific information

The EGDI-Scope final event was held in Brussels at the Royal Belgian Institute of Natural Sciences on the 20th of May. EuroGeoSurveys presented the main results of the EGDI-Scope project, feasibility study on the creation of a European Geological Data Infrastructure (EGDI). The study sets the basis for a Geological Service for Europe that will facilitate easy open access to digital geological data at the European scale. EGDI-Scope estimated the investments made in current and past EU-funded geoscientific research projects – for which results are no longer easily accessible – to be in the order of 400-700 million €, and proposes an e-infrastructure which gathers data from these projects, thereby contributing to European policies development in relevant domains such as mineral resources, soils, groundwater, energy and natural hazards.

The event was attended by European Institutions and EuroGeoSurveys representatives, as well as key stakeholders. Particularly, the Panel session engaged in a fervid debate on the benefits of an EGDI, the creation of a Geological Service for Europe, as well as the open access of geological data. Jérôme Béquignon, Senior Coordinator at the European Space Agency, highlighted that the reality is complex and the EGDI poses a technological challenge, but it represents indeed a strong contribution to EU earth observation programmes such as Copernicus. Luca Demicheli, part of the panelists, underlined the importance of making data accessible besides making them available. The Deputy Director of TNO Tirza van Daalen also remarked how the open data policy currently applied in The Netherlands increases business opportunities. Robert Tomas, Scientific Officer at DG JRC and Dumitru Fornea of CSN Meridian, said that from one side opening data helps to demonstrate the scientific expertise and on the other side it increases transparency. Finally, Iain Shepherd from DG MARE, highlighted that the benefits of data sharing are even more evident in the maritime environment: it favors the productivity of the operations by putting data together from different sources, it avoids mapping twice the same areas, it stimulates innovation by creating new products and open the market to new ideas, it reduces uncertainty.

The creation of a sustainable, long term European platform on geoscience disciplines (the EGDI), that will collect and provide high quality harmonized geological data for many cross-boundary applications, is seen as a necessity for the EU. In fact, despite the large investments made by the European Commission, the majority of the EU-funded projects and their resulting data have disappeared after only three years from completion, resulting in a huge loss of taxpayers' money. The EGDI will therefore facilitate continuity and sustainability of these EU projects by coordinating, collecting and archiving high quality data from geoscience disciplines making them available in the long term.

The EGDI will also set up an operational INSPIRE compliant EU Minerals Knowledge Data Platform that will allow all stakeholders to search, view and acquire standardised geo-resources and related data and foresight studies on non-energy raw materials.

The system will support strategic decision processes related to Europe's societal and growth challenges and international initiatives such as GEOSS, the Global Earth Observation System of Systems.

EGDI-Scope sets the basis for a common European Geological Service to support national and EU institutions in effective decision-making and strategic planning related to the subsurface.



Claudia Delfini, EuroGeoSurveys Communications Manager, delivering her presentation on EGDI-Scope communication activities.



Rob van der Krogt (TNO), Coordinator of the Project, giving a presentation on "EGDI-Scope: towards a European Geological data Infrastructure".



Panel Session, from left to right: Rob van der Krogt (TNO), Luca Demicheli (EGS Secretary General), Jérôme Béquignon (Senior Coordinator at the European Space Agency), Iain Shepherd (DG MARE), Robert Tomas (Scientific Officer at DG JRC) and Dumitru Fornea (CSN Meridian).

Interview with Mr. Dumitru Fornea

Head of International Relations of the National Trade Union Confederation MERIDIAN and Member of the European Economic and Social Committee

Mr. Dumitru Fornea, you are member of European Economic and Social Committee, a consultative body of the European Union legitimated by Treaty of Lisbon and which represents among others, employers, trade unions, farmers or consumers. Do you think that sharing data, as proposed by the EGDI, could represent a new tool to guarantee better transparency and improve the citizen's protection?

EU policies related to energy, transport, agriculture, environment protection or raw materials supply has to be placed on a solid analytical basis. It is therefore important to ensure that relevant knowledge is available and that it is subjected to analysis using the best possible methods. Mr. Patrice Chistmann, Former Secretary General of EuroGeoSurveys, which was one of our experts in drafting the EESC's Opinion on Non-energy mining industry in Europe, gave us enough arguments in order to introduce in our recommendation for the European Commission an entire chapter dedicated to the measures needed to be taken for reinforcing the mineral intelligence at the EU level. The core idea was the establishment of a European geological capacity and a European Mineral Resources Information System, on the basis of the capacities of the Member States' National Geological Surveys.

That was in 2008. Now in 2014, we can say that the EGDI might be the technological and cooperation platform which will facilitate the implementation and the advancement of that concept which has been proposed by EuroGeoSurveys now 6 years ago.

Well informed citizens and an active organized civil society are representing preconditions of democracy and good governance. Today, developing new infrastructure and industrial projects is becoming more and more complex and challenging, and therefore, I am convinced that all the stakeholders which are involved in advocacy campaigns will need for sure very strong arguments based on reliable information, as those available through EGDI.

What role do you think a consultative body like the EESC could or should play to facilitate the set up of the EGDI portal that EuroGeoSurveys proposes to build?

The Committee is the only institutional meeting-place and forum for dialogue at European level that enables a consensus to be reached between diverse interests. The EESC can play a facilitator role according to the Art.13.4 TEU (Treaty on European Union): "The European Parliament, the Council and the Commission shall be assisted by an Economic and Social Committee and a Committee of the Regions acting in an advisory capacity."

Up to now, at least in the three EESC's opinions for which I was rapporteur: "Non-energy mining industry in Europe", "The raw materials initiative: needs for growth and jobs in Europe" and "The processing and exploitation, for economic and environmental purposes of the industrial and mining waste deposits from EU", we endorsed already the proposals made by EuroGeoSurveys.

The projected functions of EGDI portal are in line with the principles and the measures that are tabled within the Athens Declaration on sustainable access to resources, which was adopted on June 20, 2014 during a Raw Materials High Level Conference, organized by EESC, Euromines and Greek Ministry of Environment, Energy and Climate Change.

Thanks to our direct contact and cooperation with Luca Demicheli, The General Secretary of EuroGeoSurveys, we are in due time informed by your initiatives and we are ready to do even more if our involvement will be requested. For example, EESC can host and organize various thematic events in partnership with you, within its premises or outside, can draft own-initiative opinions on subjects commonly agreed or can actively endorse your activities in the eyes of other European institutions through the EESC members that are involved in activities related with your concerns.



From your point of view, how do you think the possibility to have harmonised and comparable European data, in the field of mineral raw materials for example, can contribute to the growth of the European economy? In particular, could you explain what kind of information would be most useful for economic planning?

In the above mentioned EESC's opinions, we stressed that the sustainable local and regional development of the EU is directly influenced by those economic sectors which are able to turn to profit the potential of each area. Based on state of the art reserve calculation for each mineral deposit, the extractive economic activities may contribute to the development of local communities and also to the development of EU Member States, having as result more jobs created and an enhanced social cohesion. The local extracted minerals are playing an important role in developing the industrial production and providing the raw materials required by the industrial activities; in reducing the dependence on importation and ensuring a better use of resources; and in maintaining a reasonable number of skilled workers in this sector, in order to make possible that in the EU the exploration and extractive activities will continue.



Reinforcing the mineral intelligence at EU level will endow the relevant stakeholders with the suitable tools to take the right decisions for a better economic planning. The inter-institutional and interdisciplinary approach based on a modern administrative and R&D capabilities, should allow us to successfully realize the following tasks:

- better statistics regarding the minerals available in EU (geology, mining capacity, secondary raw materials from mining waste and urban mines) and studies to clarify how much minerals we use generally and for specific innovative products from our daily life (e.g. ICT applications, electric cars, wind power plants, solar panels, batteries, etc).
- the identification of strategic resources and recommending them to Member States as key priorities in land use planning
- integrating into the European Spatial Development Perspective the EU perspective on access to mineral resources and relating that to the EU Member States mineral planning policies
- analysing the impact of climate change policies on mineral supply and self-sufficiency aspects
- improving the knowledge of distribution and quality of mineral resources in the EU and their strategic importance and evaluating potential under Global Monitoring for Environment and Security (GMES)
- developing a pan-European geological database, built on the INSPIRE principle and on the assessment of the potential for concealed metallic and mineral deposits, in the main metallogenic/mineral rich areas
- gaining greater knowledge of the mineral potential of deeper parts of Europe's main metallogenic provinces
- collect enough mining data, spatially representative and predictable
- identify and quantify areas of open pit mining and/or mining infrastructures
- identify potential conflict areas (e.g. protected natural sites) or compensation areas
- monitor impacts on household water and effects of pollution
- monitor re-naturalisation process after site-closure.



Fornea Dumitru is Head of International Relations of the National Trade Union Confederation MERIDIAN from Romania and since 2007 is Member of the European Economic and Social Committee. Within EESC is an active member of the Consultative Commission on Industrial Change (CCMI), member of the Bureau of the TEN Section (Transport Energy and Information Society) and member of REX Section (External Relations). Rapporteur for the EESC's opinions on following topics: "Non-energy mining industry in Europe", "The raw materials initiative: needs for growth and jobs in Europe" and "The processing and exploitation, for economic and environmental purposes of the industrial and mining waste deposits from EU". In the period 2007-2010 he was member of the Governing Board of Eurofound. A graduated from the Faculty of Law, University of Bucharest, Faculty of Transport, Polytechnic University of Bucharest and a Master on «European Public Space», National School of Political and Administrative Studies, Bucharest.

Interview with Mr. Robert Tomas

Scientific - Technical Project Officer, European Commission

Mr. Tomas, you have followed the progress made by EGDI-Scope over the last two years as one of the principal stakeholders, could you explain how and why the results achieved by the scoping study could be important for the JRC?

First of all we (DG-JRC Digital Earth and Reference Data Unit) have accepted a kind invitation of the project consortium to the stakeholder panel to follow the project activity for three reasons.

First the EuroGeoSurveys represents an important, well organized, thematic community that has not only been supportive to building of the European Spatial Data

Infrastructure (INSPIRE Directive) but also actively participated, right from the beginning that goes back to the year 2001, in the development of its legal and technical frameworks. Therefore we saw the vision of the European Geological Data Infrastructure (EGDI) as a real test of the INSPIRE implementation in the geological domain.

Second reason is that the EGDI goes "deeper" than INSPIRE requirements and therefore for us it is scientifically interesting to see and discuss with this community how you plan to integrate complex SDI aspects such as 3/4D data models – so important in geology, express data uncertainties as well as complex on-line visualization in the EGDI system.



Lastly there are several topics where JRC can benefit from the provision of harmonized geoscientific data and knowledge. The first list of potential topics was accepted by both partners in the new Collaborative Agreement signed in March 2013. These research topics include Groundwater, Soil, Mineral and Energy resources, Natural hazards and SDIs. There is no doubt that by realizing the vision of the EGDI the mutual benefits of scientific collaboration between JRC and EuroGeoSurveys will be more effective.

Sharing geological data is becoming more and more important. A first step has been achieved by OneGeology-Europe and EGDI is another step forward in this direction. Could you explain to our readers what is the importance and which are the benefits for the European Union to have harmonised and comparable data?

In general opening up the European public sector data represents one of the key pillars of the Digital agenda for Europe (Europe 2020 strategy) that foresees, among other things, creative and innovative re-use of data. The importance of this activity was even strengthened by the world political leaders signing the G8 Open Data Charter in June 2013. It should be seen as a big opportunity for our society to start using this important source not yet fully exploited in Europe.

Sharing of geological data, information & knowledge is an essential prerequisite for addressing several current European environmental / societal challenges e.g. protection and sustainable management of natural resources; sustainable supply and use of raw materials; prevention, mitigation, and management of environmental hazards and disasters. Since the environmental / natural phenomena are not divided by administrative boundaries (country, region, local) nor by edges of geological map sheets, the harmonization of the geological knowledge is another fundamental prerequisite to fully utilize the potential of geological information for addressing the above mentioned EU challenges.

The EU fulfills its needs by realization of several policies and their implementing working plans, e.g. Horizon 2020 addressing research and innovation needs. The Raw Material Initiative is addressing the challenge of increasing demand for primary and secondary raw materials in Europe to boost its economy as well as lower dependency on the import. The Strategic Energy Technology Plan addresses the energy efficiency, low carbon technologies etc. In all these policy drivers the demand for harmonized geological information is well recognized.

It needs to be mentioned that harmonizing scientific geological concepts across Europe to create for instance European Shale Gas or Geothermal potential maps is a challenge and follows longer term vision, taking into account the history of geological/mineral exploration, different scientific schools etc. but the opportunity for geologists to open their geological knowledge and share it with other communities should not be missed.

In 2010 the European Commission launched the EU Strategy for the Danube Region. The Strategy involved 14 countries and has the aim to address several challenges such environmental threats (water pollution, floods, climate change), untapped shipping potential and related lack of road and rail transport connections,

insufficient energy connections, uneven socio-economic development, uncoordinated education, research and innovation systems and shortcomings in safety and security. Better coordination and cooperation between the countries and regions is needed to address these challenges. In this framework, could you explain the role of geological data and how it can contribute to tackling these challenges?

The role of EuroGeoSurveys and geological / applied geological data held by the National Geological Survey organisations for the Danube Region could be very significant. Having a single point of contact for all 14 countries, not only EU members or candidates, but also for other countries covered by the Danube strategy, is already a big asset. Also the current EuroGeoSurveys SDI activities such as OneGeology – Europe plus project that brings the remaining countries (mainly from the Balkan region) to share on-line their basic geological data – harmonized - utilizing know how developed during the EU OneGeology-Europe project represents a very important capacity building factor that waits to be further exploited for more scientific – applied geology topics.

The Danube Region Strategy addresses a wide range of issues; these are divided among 4 pillars and 11 priority areas. The geological information & knowledge (e.g. Geothermal potential, Natural Gas Storage) is clearly needed for the Priority Area 02 Sustainable energy. Also the Priority Area 05 Environmental Risks is a domain where the knowledge of for instance historical flooded areas, susceptibility of land to mud/soil/rock slides is essential. Joint projects could also be related to e.g. groundwater or soil contamination.

These topics, and not only those, reflect the wealth of information and knowledge that is held by the national geological survey organizations. This fact together with the technological maturity in the field of SDI were the reasons for the JRC to invite the EuroGeoSurveys representatives to collaborate in the field of sharing of research data and information via the Danube Research Data and Information Collaborative Portal (07 Knowledge society priority area) that is being developed by JRC.



Robert Tomas, Scientific - Technical Project Officer, European Commission, DG Joint Research Centre Unit H06-Digital Earth and Reference Data.

GeoEnergy Expert Group

Energy security has become a more important economic and societal issue within the European Union, especially following the recent events in some countries and in the context of a world economic crisis.

In March 2014 the European Council called on the Commission to present a comprehensive plan to reduce the EU's energy dependence. This was the reason to set up a High Level Conference «Paving the way for a European Energy Security Strategy» on the 21st of May in Brussels, to discuss possible elements of such European Energy Strategy.

The GEEG was represented by Luca Demicheli (Secretary General), Peter Britze and Serge van Gessel (respectively Chair and Deputy Chair of the EGS GeoEnergy Expert Group). The mission of the GEEG between other speakers was to provide the best available GeoEnergy expertise and information based on the knowledge of European geological survey, for policy, industry, communication and education purposes at the European level (more information in the Announcements section pg ...).

Over 2014 the GEEG increased his cooperation with EU Institutions. The collaboration between DG JRC (DG Joint Research Centre) and EGS is moving forwards after the Collaboration Agreement signed in January 2014. In fact, on the 21st of March representatives of JRC (Arne Eriksson and Marcello Gandolfini) met with Peter Britze (EGS Chair Hydrocarbons) and Serge van Gessel (EGS co-Chair Geothermal Energy) at the TNO-offices to further discuss the collaboration between JRC – EGS on shale gas. EGS will further shape the shale gas work plan regarding resources assessment, geological risk/hazards and environmental matters. The work plan also represents a model for other collaboration topics in geothermal energy and CO₂ storage.

The GEEG Biannual meeting was held at the Netherlands Geological Survey-TNO during the 6th - 7th of March. This was the first meeting since the merger of the CCS expert group and Geo-Energy group. Chairs and co-Chairs presented and discussed the proceedings on their topics. Furthermore, the activities related to JRC and ERA-NET were discussed. The members were invited to a core-workshop at the TNO offices where many geological examples from the Dutch subsurface related to hydrocarbons & shale gas, geothermal energy and gas storage were presented.

Future activities of the GEEG are expected to be intense. Particularly the European Commission intends to review the CCS Directive and submit a review report to the European Parliament and to the Council by 31 March 2015. One of the main objectives under the review of the CCS Directive is to provide an assessment on how the enabling policy of CCS at European level has worked out so far. EGS will probably contribute to this assessment. The external evaluators plan to carry out a first workshop to present the results of the consultation and the preliminary evaluation results in September 2014.

Among the coming events involving GeoEnergy experts there will be the GEOSHALE Conference 2014 (Poland, 24-26 September) and the Inauguration Meeting of the European Science and Technology Network on Unconventional Hydrocarbon Extraction (date to be announced), in which the EGS GEEG co-Chair Serge van Gessel will be one of the speaker.

Interview with Ms. Lena Söderberg

Director of the Geological Survey of Sweden (SGU)

What is the Geological Survey of Sweden's role in Sweden?

We are the Swedish authority for matters of soil, rock and groundwater, but we also work in areas such as marine geology and contaminated land. In several areas, we have a prescriptive role as well as a role of monitoring compliance with rules and laws. This means that we have a uniquely broad range of skills that can assess and elucidate soil, rock and groundwater conditions from many perspectives. In comparison with our European sister organizations, the emphasis in the Swedish operations are to a greater extent on regulations and supervision, although geoscientific research of course has an important role.

Work is underway in the EU to make Europe more self-sufficient in critical minerals and metals. What is Sweden's role in Europe's future supply of raw materials?

Sweden is one of the leading European mining nations with a bedrock rich in many essential minerals and metals, where Sweden, as an example, accounts for 90 percent of Europe's iron ore production. In 2013, SGU developed a national mineral policy to secure and strengthen a sustainable mineral supply in the future. In this strategy we specify 19 action points in several areas, involving both the mineral industry as well as other sectors which indirectly affect the mineral industry. Some examples of this are measures to increase dialogue with local communities in mining regions and actions to solve housing shortages in mining communities, in order to prevent fly-in-fly-out.

Can you give some examples of how the Geological Survey of Sweden is working to secure access to EU's mineral resources?

Sweden has a mineral policy of openness and accessibility. In line with this, the mineral information office of SGU releases all exploration data, including cores from test drilling, to the public when the exploration licenses have expired. This year we have also started a drill scanning project where we are using photos and infrared equipment to digitize 200 km drill cores from northern Sweden. The result will later be available from our external website so that researchers and companies from all over Europe can access the data wherever they are. Another exciting project is the project EURare to pool Europe's resources around the rare earth elements (REE), which are used in much of today's high tech and therefore have enormous strategic importance. Members of the SGU staff are here taking inventories to coordinate Europe's collective REE knowledge base and mineral resources of REE. The goal is to eventually break Europe's dependence on imports, mainly from China which now dominates world production. In this perspective, the deposit in Norra Kärr near Jönköping, perhaps the world's most promising REE deposit outside China, may have great importance for Europe's future supply of REE's.

What do you see as the biggest challenges for the Geological Survey of Sweden in the future?

A key challenge is to get society to take greater interest in and use of geological information. The geological expertise of

Swedish authorities and decision makers are often limited. Because of this, physical planning sometimes lacks a sustainable and comprehensive decision basis. It may be a matter of providing correct ground condition expertise when new buildings are planned, or securing expertise on seabed conditions when designing sea-based wind mill farms. An important part of this process is our work is also to develop more accurate models for assessing and defining our groundwater resources.

Another challenge to overcome is the difficulty for the mining industry to be accepted by local communities. It can often be hard for the mining companies to keep an objective and fact-based dialogue with local interests when other competing stakeholders promote their, not always fact-based, messages. Without local acceptance, much time goes trying to resolve conflicts instead of doing business. Without society's approval, it is also difficult to attract the very best students and experts to the sector, which means that we could ultimately remain competitive in an international perspective.



Lena Söderberg
Director of the Geological Survey of Sweden (SGU)



Different weather conditions in Sweden demand field work in all conditions. Photo: Johan Jönberger, SGU



Aitek, the giant open pit copper and gold mine in the Skellefteå ore district, northern Sweden. Photo: Erik Jonsson, SGU.

Interview with Mr. Vincent Laflèche

Director of the Geological Survey of France (BRGM)

You have been recently appointed Head of the Geological Survey of France. Can you briefly explain the main aims and task of BRGM ?

As the French geological survey, BRGM (Bureau de Recherches Géologiques et Minières) plays an important role in responding to the key social and economic challenges by integrating information, knowledge and expertise in fields such as natural hazards, underground water, soils, geothermal energy, mineral resources, environmental monitoring, carbon storage, databases and infrastructures...

The BRGM was created in 1959. It operates as a public industrial and commercial institution, under the joint authority of the Ministry of Education, Higher Education and Research, the Ministry for Ecology, Sustainable Development and energy; the Ministry for Economy, Productive and Digital Recovery.

The BRGM obtained ISO 9001 Quality Certification in 2004, covering all of its activities. ISO 14001 certification was obtained in 2012. Our analytical laboratories are COFRAC-accredited for environmental matrices.

Key numbers :

- Over 700 engineers and researchers
- Total current operating income in 2013 : 143,28 M€

Can you tell us something about how BRGM operates and what will be the main strategies and approaches of BRGM during your mandate ?

We just signed the State-BRGM performance contract for 2013-2017. The scientific strategy for the next 4 years aims to consolidate the BRGM's position as France's national geological survey and a national targeted research institution in the geosciences.

This road map, built around three main themes - knowledge, sustainable resource use and risk prevention, all within the context of global change - provides the backbone for BRGM's activities to support the most effective responses to major geoscience challenges in the medium and long term. Each of these three main themes of activity is divided into three topic areas (see figure):

BRGM is known for its important International activity. Can you tell us a bit more?

With over 200 projects each year in more than 40 countries, the BRGM works on all continents for international development assistance institutions (World Bank, EU,...), States and major private-sector operators involved in environment, natural resources and planning in the following areas :

- geological infrastructure: geological mapping, development of information systems
- mineral resources, with a particular focus on the challenging issue of rare metals



- access to water: protection of water resources and prospecting for new resources, sustainable water management methods
- natural hazards and preventive action: seismic and coastal risks, planning and reconstruction programmes
- geothermal energy for heat and power production, as well as geological storage of CO₂, in the context of responses to climate change.

Key figures :

- Projects in 40 + countries
- 200 + international projects each year
- 10 000 working days on foreign missions each year

How important is Europe and EuroGeoSurveys to BRGM?

Since many years, BRGM is a driving force of European collaboration in the field of Earth Sciences. The West European Geological Surveys association was first created in 1971 in France and later on transformed into the Forums of European Geological Surveys after the fall of the wall. BRGM has then been actively involved in the creation of EuroGeoSurveys in 2004.

BRGM has been involved for many years in European research programmes, support to public policy development and international cooperation, thereby forging many enduring partnerships.



National Geological Surveys

The BRGM's involvement in Europe includes:

- Interfacing between governments, government departments, industries, local and regional authorities and research
- Providing decision support by delivering data, knowledge and expert tools to address complex systems at different scales
- Acting as a key networking operator at the national, European and international levels to initiate and build up research and development programmes and upgrade decision-support tools.

BRGM has been involved for many years in the European Union's Framework Programme for Research and Development (FP7). In the last 15 years, it has contributed to about a hundred projects under the 4th, 5th, 6th and 7th FP7.

BRGM is also involved in various interest groups and research networks in its areas of activity, such as CLORA, CEEP Europe, CO2GEONET, the European Network for Research in Geo-Energy (ENeRG) and the Common Forum on Contaminated Land in Europe.

Within EuroGeoSurveys, BRGM is actively participating to all Expert Groups and Task Forces. It is in particular chairing the Spatial Information Expert Group of EuroGeoSurveys. BRGM is in charge of the hosting and development of OneGeology-Europe, the EuroGeoSurveys portal to access pan-European data sets produced by the European Geological Surveys, and responsible for the technical design of EGD1, the future European Geological Data Infrastructure Project

Key numbers :

- Participation in 48 7th FP7 European research projects including 9 as coordinator



Vincent Lafliche was appointed by the Council of Ministers on the 3rd July 2013 as the new Chairman of the French geological survey (BRGM). He is a graduate of the Ecole Polytechnique Engineering School and a Chief Engineer of the French Corps des Mines. He was the Executive Director of INERIS since 2007.

Vincent Lafliche began his career in 1978 at the Directorate for Industry, Research and the Environment (DRIRE) for the Upper Normandy Region. In 1990, he joined the Environment Ministry's Risks and Pollution Prevention Directorate (DPPR) as Deputy Director for chemicals, petroleum and technological risks.

In 1998, he joined Euler-Hermès, the world's leading credit insurance firm, as Secretary-General before joining INERIS in 2003 as Deputy Executive Director. He was promoted to Executive Director of INERIS in 2007.

The technological progress of I²Mine: state of the art at the Aachen International Mining Symposia 2014



The I²Mine project is already about 2/3 of its way through and is currently organising and preparing for the foreseen demonstration activities to showcase its technological developments. The project is an initiative focused on the technological challenges the mining industry is currently facing including the exploitation of ever deeper deposits and the aspiration for an invisible, safe, zero impact mine. The project involves a consortium of 27 companies and academic institutions from 10 European countries led by LKAB over a period of 4 years.

During the Aachen International Mining Symposia (AIMS) 2014 held in Aachen, Germany on 11th and 12th June 2014, the project had been given the opportunity to present the current status of work in a special session during the conference.

The presentations given in the session covered a wide range of fields that are being investigated by the project and that are relevant for the deep mining sector. Significant progress has been made in the field of deposit characterisation. Particularly, an exploration toolbox has been developed that includes tools to obtain data on a deposit by geophysical and non-destructive methods, which can contribute towards securing the mine planning process – an important aspect for new mines or major extensions of existing mines.

Besides, also the social licence to operate is becoming more and more important for mining activities. In fact the project includes many initiatives aiming at improving the stakeholder's interactions and bringing a common understanding for the primary raw materials production. This field is also important for the planning process of mining activities which can be influenced by a change in philosophy, with the project perceiving the deep mine as a complex factory and adapting models and methods for lean production that are successful in aboveground industries. In order to positively influence the discussions about the social licence to operate, the topic of subsidence prediction. The project is investigating how backfilling may contribute to improvements in productivity and can reduce subsidence, which is an important result in the context of minimising the impacts of deep mining on the surface. It could also be an important argument in the growing competition for different land uses.

Safety is always an issue in underground mining. In this context a presentation was made about problems related to rock mechanics and ground control when going deeper, which was received with much interest. Even more interesting was to hear about the current status of knowledge in the field.

During the session it was also shown a particular example about how improved knowledge in gravity flow can contribute to improvements in productivity. New knowledge in, and improved understanding of gravity flow in sub-level caving operations and related measures are influencing the mining performance since it affects both ore recovery and waste dilution.

The progresses of the automation of underground machinery were presented, including a machine guidance system, a new system that can contribute to improve localisation and positioning of machines. This is one further step to automating machine based processes. A system for boundary layer detection was also described. For automating the extraction of ores it is important to automatically detect the boundary between the ore and the surrounding rock. A system that is able to reliably detect this is a condition for automation of the entire extraction process.

Finally, a presentation introduced the so-called sensor fusion technology. This technology may enable for the combination and proper cooperation of different sensors to optimally steer a process, taking into account all the information provided by the individual sensors.

The AIMS 2014 special session showed that I²Mine already today (1,5 years before its termination) can be seen as a successful project. The presentations gave an overview of the wide-ranging work of the I²Mine project and showed some preliminary but promising results. Horst Hejny of MIRO mentioned in his concluding remarks that the project will now concentrate on the planning of the foreseen demonstration activities, which will involve local communities and other stakeholders.

Further, the Consortium is planning to apply for a continuation of the research activities after the end of the currently running project. This potential I²Mine-2 will focus on topics in relation to the also planned I²Mine pilot activity. In this view, I²Mine is a vision for the future deep mining. Therefore I²Mine-2 and I²Mine-pilot would be consequent steps in fulfilling this vision.

For additional information about the I²Mine project: www.i2mine.eu and email: pm@i2mine.eu



Dr. Eberhard Falck (MIRO) discussing stakeholder engagement and social licensing

Raw Materials as a driving force for social change in Europe

Raw Materials as a driving force for social change in Europe
The Industrial Technologies 2014 Conference, an important event bringing together various sectors in society, took place in Athens from 9th to 11th April.

The importance of securing sustainable Raw Materials supply in Europe is becoming ever more important and this is being reflected both politically and within the research community. Industrial Technologies 2014 presented its Best Projects Award to the ProMine Project, which developed the first pan-European GIS-based database containing the known and predicted metalliferous and non-metalliferous resources, which together define the strategic reserves (including secondary resources) of the EU. The award was gratefully accepted by Juha Kaija, Project Coordinator from GTK, on behalf of the project consortium that included 26 other partners from industry, academia and geological surveys.

Also, the European Technology Platform on Sustainable Mineral Resources (ETP SMR) hosted a workshop on Raw Materials as part of the official programme.

The speakers included representatives of Euromines (European Association of Mining Industries, Metal Ores & Industrial Minerals), the European Technology Platforms on Construction and Steel, the Geological Survey of Denmark and Greenland and Umicore, a global materials technology company.

Discussions focused on the mineral resources value chain, from exploration through to recycling of products, and the link or need of Raw Materials in downstream sectors like construction, chemistry, green energies, infrastructure and so on – each with their own supply needs and varying supply chains.

The main outcomes showed that Europe has a viable resource of Raw Materials to provide much of our own supply needs. Education in our society is necessary to raise awareness on the long chain that is required from the exploration of the specific elements on the Earth through to the manufactured product in our hands without forgetting to take into account recycling necessities. As consumers we have to be consistent with our values and promote a sustainable use of the mineral resources in our own territories.

Minerals Intelligence Network

Minerals Intelligence Network (WP2) has as its main task to establish a sustainable network of partners and organisations, building on the Minerals4EU partnership, which will result in the creation of a permanent body thereby ensuring the continuation of the minerals intelligence network beyond the lifetime of the project. There will be a need to link to national networking, since national minerals intelligence is provided by various national players like mining authorities, mining companies, federations, geological surveys, statistical bureaus etc.

WP2 is divided into three tasks: firstly to establish the scope of the Network; secondly to define membership rules and related issues; and finally to determine the Network management criteria and operational rules including how to guarantee its long term survival through the establishment of a permanent body.

Scope of the Network: The Minerals Intelligence Network will be supported during the project with data from the other WPs. The Network is intended to be a permanent system under a well-defined structure, so this means there has to be a clear dialogue between the network operators

and the suppliers of raw or processed data on which the network depends. The exact nature of the data concerning mineral and metal primary and secondary resources, anthropogenic sources, and supply and demand data, will be defined by the Network partners in consultation with the other project partners. The definitions of these data are really important to avoid misunderstanding and it must be defined precisely. It has also been discussed that there are 3 levels of data: free of charge – freely available, but must be paid – and confidential which cannot be accessed. The WP5 should decide about the kind of data included.

This point was mainly discussed during the meeting in Paris in November and in Cyprus in March.

Membership rules: Initially the network membership will be from the consortium, since the members are those supposed to be the data owners at EU level, and which in fact comprises mainly the National Geological Surveys and other key EU players, including all the main European raw materials industry associations. The network must also be extended to include academics, and the main technology and related platforms. The involvement of the European



Technology Platform on Sustainable Mineral Resources (ETP SMR), which brings together all the European industrial players, is guaranteed by EuroGeoSurveys, which sits in the ETP SMR Steering Committee and runs the ETP SMR Secretariat. At a later stage, stakeholders other than Geological Surveys will be taken onboard. The enlargement of the network will also strengthen it.

A major interest in the outcome of data processing is the European Commission itself. The network should therefore strive to become the authoritative source on which the European Commission can base its judgments and policy making.

Network structure and permanent body: The creation of a Network of the complexity and with the ambitious objectives defined by Minerals4EU needs a firm but also flexible organizational and managerial structure. Because of the structuring nature of any network and the tendency therefore for the participants or members to become mutually dependent, the network shall establish an effective system of governance that ensures the active engagement of its participant organisations at the policy-making level. The main scope will be to oversee the integration of the participants' activities and to ensure that, as well as strengthening excellence, the network will also fulfil its mission to spread excellence.

The next WP2 meeting will take place in Dublin, at the end of September, during the next M4EU progress meeting.

Secretariat's agenda

- **2 July** Luca Demicheli at European GEO (Group on Earth Observation) High Level Working Group meeting in Brussels
- **8 July** Mart van Bracht, EGS President, and Luca Demicheli at launch of the European Science and Technology Network on Unconventional Hydrocarbon Extraction in Brussels
- **10-11 July** Anthony Rizzo, Malta Resources Authority (MRA) Director, and Emile Elewaut (TNO) at the Malta Energy Conference 'Security of gas supply: the role of gas developments in the Mediterranean region' in St. Julians
- **21-26 July** Francois Robida at International Workshop on the Geological Map of South-America in Villa de Leyva, Colombia
- **11-16 August** Luca Demicheli and Marek Graniczny, Chair of the EGS International Cooperation and Development Task Force (ICDTF), at EGS-OAGS (Organisation of African Geological Surveys) Workshop during the joint 3rd Young Earth Scientists (YES) Congress and 25th Congress on African Geology (CAG) in Dar es Salaam, Tanzania
- **12-14 August** Karen Hangoj, Executive Secretary of the European Technology Platform on Sustainable Mineral Resources (ETP SMR) at 1st International Mining Congress in Managua, Nicaragua
- **8-9 September** EGS National Delegates Forum and Workshop in Utrecht, The Netherlands
- **17-18 September** EGS Geochemistry Expert Group (GEG) meeting in Dublin, Ireland
- **30 September - 2 October** EMODnet-Geology Progress Meeting and EGS Marine Geology Expert Group (MGEG) meeting in Malta
- **30 September - 2 October** Luca Demicheli at 2nd M4EU Progress Meeting in Dublin, Ireland

- **Public consultation on the Europe 2020 strategy**
(Research and Technology, Internal Market, Energy, Employment and Social Affairs, Education, Economic and Financial Affairs, Communications Networks, Content & Technology, Climate Action)
Open from 05.05.2014 to 31.10.2014

http://ec.europa.eu/europe2020/public-consultation/index_en.htm

- **Public consultation on transparency measures for nanomaterials on the market (Enterprise)**
Open from 13.05.2014 to 05.08.2014

http://ec.europa.eu/enterprise/sectors/chemicals/reach/nanomaterials/public-consultation_en.htm

- **Iceland and Norway sign up to join Horizon 2020** 16/05/2014

Iceland and Norway on Friday became the first non-EU countries to associate to Horizon 2020, the seven-year EU research and innovation programme launched in January. The decision, taken at a meeting of the European Economic Area (EEA) Joint Committee, takes effect from the beginning of Horizon 2020 allowing researchers and companies from these Scandinavian countries to participate in the Programme on the same basis as their counterparts from the EU. In return, Norway and Iceland will contribute financially to Horizon 2020. Association of both countries takes place through an amendment to Protocol 31 of the EEA agreement and is effective retroactively to the beginning of Horizon 2020.

Norway has been associated to EU research and innovation programmes since 1987 (FP2) and Iceland since 1994 (FP4). More than 2,350 Icelandic and Norwegian participants took part in the Seventh Framework Programme. Icelandic researchers were involved in 217 projects, receiving funding of nearly EUR 70 million while Norwegian researchers contributed to more than 1,400 projects, receiving a total contribution of EUR 712 million.

Source: EC Press Release

- **European Energy Security Strategy** 28/05/2014

In response to the political crisis in Ukraine and the overall importance of a stable and abundant supply of energy for the EU's citizens and economy, the European Commission has released an EU energy security strategy on 28 May 2014. This strategy is based on an in-depth study of Member States' energy dependence.

Short-term measures

In the short-term, the strategy proposes that the Commission launch energy security stress tests to simulate a disruption in the gas supply for the coming winter. The aim of these stress tests is to check how our energy system can cope with security of supply risks, and to develop emergency plans and back-up mechanisms which may include:

1. Increasing gas stocks.
2. Developing emergency infrastructure such as reverse flows.
3. Reducing short-term energy demand.
4. Switching to alternative fuels.

http://ec.europa.eu/energy/doc/20140528_energy_security_communication.pdf

Source: http://ec.europa.eu/energy/security_of_supply_en.htm

- **World Environment Day: Parliament's non-stop fight against climate change** 05/06/2014

"Raise your voice, not the sea level" is the motto of this year's World Environment Day, which calls attention to the impact climate change has on small islands. The day is held on 5 June every year to raise awareness and encourage people to act to protect the environment. The European Parliament has been at the forefront of the world's response to global warming, by adopting legislation to reduce greenhouse gas emissions and by guiding the EU towards a low-carbon economy.

Ambitious and binding climate targets

The Parliament has been calling for even more ambitious and binding climate targets for both the EU and the rest of the world. In February, MEPs called for a 40% cut in CO₂ emissions from 1990 levels, a 30% target for renewable energy and a 40% target for energy efficiency by 2030. They have also consistently called on the EU to show greater ambition in the talks for the new global climate change treaty that is expected to be adopted by the Paris Climate Conference in December 2015.

www.europarl.europa.eu/news/en/news-room/content/20140605STO49002/html/World-Environment-Day-Parliament%27s-non-stop-fight-against-climate-change



➤ **EU will finance projects worth \$68M in Moldova** 12/06/2014

The European Union says it will finance projects worth 50 million euros (\$68 million) in Moldova as the former Soviet republic prepares to sign an association agreement with the 28-nation bloc amid protests from Moscow.

During a visit to Chisinau Thursday, European Commission President Jose Manuel Barroso urged Russia not to punish Moldova for signing the trade agreement on June 27. In the past, Russia has taken punitive trade measures against neighboring Baltic states and Ukraine as those countries sought closer ties with the west.

Barroso said the EU money will be invested in energy and development of rural areas, as well as in reforming the Moldovan police. He said the bloc had doubled its import quotas for fruit and tomatoes from Moldova.

Source: www.mininggazette.com/page/content.detail/id/529220/EU-will-finance-projects-worth--68M-in-Moldova.html?isap=1&nav=5016

➤ **Climate: €44 million available under first call for climate-action projects** 18/06/2014

The European Commission today launched the first call for proposals under a new funding programme for projects dedicated to climate action on Wednesday 18 June. The LIFE Climate Action sub-programme will provide €44.26 million in 2014 to develop and implement innovative ways to respond to the climate change challenge across Europe.

European Climate Action Commissioner Connie Hedegaard said: "The new LIFE programme for Climate Action is making available more funds than ever before for innovative climate projects around Europe. This will help bring to life cutting-edge low-carbon technologies and scale-up the climate solutions already out there. These funds will also help achieve the EU's climate legislation and policy objectives. Today's call for proposals addresses pilot, demonstration and best practice projects."

The sub-programme is part of the EU LIFE Programme 2014-2020 and will provide €864m for climate action over the next seven years. It will also support better communication, cooperation and dissemination on climate mitigation and adaptation action.

Interested organizations are encouraged to start preparations as early as possible by developing their project ideas, forming partnerships with relevant stakeholders and identifying complementary financial support. Transnational projects are particularly welcome as cross border cooperation is essential to guarantee EU climate objectives.

The deadline for applications is 16 October 2014. The next call for LIFE proposals will target operating grants for non-profit organizations active at European level in climate and environmental issues and will be launched this autumn.

Source: www.eureporter.co

➤ **Maritime Strategy: Adriatic and Ionian Seas - Strategy and Action Plan** 18/06/2014

The European Commission officially launched on Wednesday 18 June a new EU Strategy for the Adriatic and Ionian Region in the form of a Communication and an Action Plan, to help its 70 million residents to reap the benefit of closer co-operation in areas such as promoting the maritime economy, preserving the marine environment, completing transport and energy links and boosting sustainable tourism.

The Strategy will also provide a valuable opportunity for would-be members and candidates of the EU to work alongside EU members, in particular contributing to the integration of the Western Balkans into the European Union.

This is the first EU 'macro-regional strategy' with such a large proportion of non-EU countries (Albania, Bosnia and Herzegovina, Montenegro and Serbia) co-operating with EU members (Croatia, Greece, Italy, and Slovenia). The strategy mainly revolves around the opportunities of the maritime economy – 'blue growth', land-sea transport, energy connectivity, protecting the environment and sustainable tourism – sectors that are bound to play a crucial role in creating jobs and boosting economic growth in the region. The starting point for this is the Maritime Strategy for the Adriatic and Ionian Seas, adopted by the Commission on 30 November 2012 and now incorporated into the Strategy.

Source: www.eureporter.co

Upcoming Events

➤ **European Science and Technology Network on Unconventional Hydrocarbon Extraction** Brussels, Belgium 8 July

The Commission Communication on the exploration and production of hydrocarbons (such as shale gas) using high volume hydraulic fracturing in the EU, issued on 22th January 2014, concluded that «in order to continue increasing the knowledge on unconventional hydrocarbon extraction technologies and practices as well as to further reduce potential health and environmental impacts and risks, the Commission will establish a European Science and Technology Network on Unconventional Hydrocarbon Extraction. The Joint Research Centre (JRC) has received a mandate to establish and manage this network in close cooperation with DG Environment and DG Energy and involving also DG Research & Innovation, DG Climate Action and DG Enterprise and Industry. The Network aims at «...bringing together practitioners from industry, research, academia as well as civil society. The Network will collect, analyse and review results from exploration projects as well as assess the development of technologies used in unconventional gas and oil projects».

Please find more information at <https://ec.europa.eu/jrc/en/event/conference/launch-event-european-science-and-technology-network-unconventional-hydrocarbon-extraction>

➤ **3rd Young Earth Scientist Congress and 25th Colloquium of African Geology-CAG25** Dar es Salaam, Tanzania 11-16 August 2014

The 3rd Young Earth Scientist Congress and 25th Colloquium of African Geology-CAG25 will be conducted at the Mwalimu Julius Nyerere International Convention Centre in Dar es Salaam, Tanzania from 11th - 14th August 2014 (3rd YES Congress) and 14th -16th August 2014 (25th Colloquium of African Geology). Both events will be organized jointly by the Tanzania YES National Chapter and the Tanzania Geological Society in cooperation with governmental and non-governmental organizations under the auspices of the YES Globally, Geological Society of Africa (GSAf), and other development partners. The theme for the 3rd YES Congress is: "Bridging Geo-Generation into Global Earth Science Integrations" and the theme for the CAG25 is "Earth Sciences for Improving Livelihood in Africa". Both events focus on the need of achieving sustainable development by promoting sustainable management of Earth resources for inclusive and equitable economic growth as well as creating greater opportunities for all.

This could be achieved through enhancing an active participation of geoscientists in decision-making processes on issues related to the earth resources exploration and extraction. The senior and early-career earth scientists from organizations, associations, mining companies, civil societies, politics, and media will be welcome from all over the world. The members, delegations from each National Commissions for UNESCO will also be invited, especially the new career scientists from African countries, South America and other developing areas. These representatives will be from different countries and will also be active at the national level. The participation of these individuals from different sectors and countries will enhance international collaborations and increase the involvement of the international community. The estimated participants will range from 300 to 600.

The websites for both events are www.cag25.or.tz and www.yescongress.org/2014

➤ **5th International Disaster and Risk Conference IDRC** Davos, Switzerland 24-28 August 2014

The 5th International Disaster and Risk Conference IDRC Davos 2014 is organised by GRF Davos in close cooperation with the United Nations Office for Disaster Risk Reduction (UNISDR). IDRC Davos 2014 attempts to find solutions to today's challenges by managing risks, reducing disasters and adapting to climate change. It will be held under the theme «Integrative Risk Management - The role of science, technology & practice» from 24 - 28 August 2014 in Davos, Switzerland. The Global Risk Forum GRF Davos invites you to submit an abstract for oral presentation, poster presentation, a session or a workshop on one of the conference topics by 28th February 2014.

<http://idrc.info/programme/conference-topics>
More information is available at <http://idrc.info>

➤ **21st General Meeting of the International Mineralogical Association** Sandton Convention Centre, Johannesburg, South Africa 31 August -5 September 2014

As a country with a large mining and mineralogical industry, as well as strong mineralogical, geological and geochemical research initiatives, South Africa is highly appropriate to host this meeting. Most of the mines and mineral occurrences are close to good infrastructure and easily accessible. Other easily accessible southern African countries also boast some outstanding geology and mineral fields. The content of the technical sessions will reflect all the traditionally most important topics of our science as well as other, locally and internationally relevant topics. During the meeting we aim to supplement the international contributions with a showcase of South African examples of excellent research in the field of mineralogy, whilst



Upcoming Events

simultaneously providing South African scientists with exposure to cutting edge research from the rest of the world. It would also be a wonderful, and affordable, opportunity to expose young scientists and students from southern Africa to both the local as well as the international mineralogical environment.

www.ima2014.co.za/welcome.php

http://g-ecx.images-amazon.com/images/G/29/images/FBA_JT_RateCard_EN_032014.pdf?id=NSGgoogle

➤ XII IAEG Congress Turin, Italy 15 - 19 September 2014

The XII IAEG Congress celebrates 50 years from the IAEG foundation. The aim of this Congress is to testify the fundamental scientific role of Engineering Geology in the last 50 years, through the contributions of successful, well-known researchers. At the same time, the congress aims to thrust forth the IAEG future role by involving young, enthusiastic scientists making them conscious of the challenges, sometimes hard, that the engineering geology is facing. We want them to be able to overcome future difficulties in geo-environmental management and habitat protection. An important goal of the XII International IAEG Congress is to promote and increase the relationships between scientists and Engineering Geology professional operators (Owners, Practitioners, Design Firms and Contractors). The integration of the two worlds will have helpful effects on surveys, design and construction procedures, and monitoring techniques. The Congress will also offer an extraordinary opportunity for scientists, companies and agencies to meet and improve together the current state of Engineering Geology. For this purpose keynote lectures will be delivered by both academic representatives and professional operators.

www.iaeg2014.com

➤ 2nd International GeoShale 2014 Conference on fine-grained sediments Warsaw, Poland 24-26 September, 2014.

The EuroGeoSurveys and Polish Geological Institute – National invites leading researchers, academicians and practitioners to the conference designed to provide a convenient opportunity for presentation of discussion on the latest developments and future of shale sedimentology, stratigraphy, physical and geochemical properties, and gas exploration and production. The conference is organized under patronage of the IUGS.

Fine grained sediments form approximately 70% of sedimentary record. Because of the wide spectrum of the application, the great increase of the interest in shale is observed. Shales are traditionally known as a source and seal rocks for the petroleum industry and become recognized nowadays as very important reservoir target in the shale gas/oil plays.

Their low permeability has also a major impact on waste storage planning, including CO₂ and nuclear waste.

The conference program includes three days of parallel sessions with several keynote addresses and poster sessions. The main topics are:

- Shale Basins Stratigraphy, Paleoenvironment and Paleoclimate
- Shale Geochemistry, Diagenesis and Reservoir Properties
- Shale Basins' Geophysics and Tectonics
- Shale Gas Exploration and Production

The Program also includes pre- and post-conference trips, and a short course – workshop on tectonics of gas-bearing shales.

For Important dates and Calendar see Conference website:

<http://konferencje.pgi.gov.pl/geoshale>

www.geoshale.com

➤ Eurogi's ImaGIne-2 Conference 2014 Berlin, Germany 8 - 9 October 2014

The key aim of the imaGIne-2 conference is to have presentations and panel and delegate4 discussions with a strong GI/GT user focus across a range of thematic areas (health, security, transport, agriculture etc) as well as to highlight best practice examples of the use of GI and GT in the areas which can highlight the good work taking place in Europe.

www.eurogi.org

➤ 2nd International Conference on Geoparks in Africa and Middle East (ICGAME2) Dakar, Senegal 9 - 12 October 2014

The AGN aims to identify, promote, and advise on the importance and preservation of geoheritage in Africa in collaboration with other stakeholders. In this framework, the AGN is organizing the 2nd International Conference on Geoparks in Africa and Middle East. All researchers in the fields of geoheritage, geotourism, conservation, environment and sustainable development, policy makers, economists, geopark and local community administrators and leaders, NGOs, business operators, Medias and individuals with interest in geoheritage development are invited to participate for making this event a success. Registration deadlines and abstract submission has been extended until July 30, 2014. More information about the conference is available on the website

www.africangeoparksnetwork.org



Upcoming Events

➤ **The Climate Symposium 2014** Darmstadt, Germany 13-17 October 2014

Satellite observations are a key element in an integrated and sustained climate observing system and have been critically important for monitoring and understanding the Earth's climate system during the past several decades. The expected completion of the IPCC Fifth Assessment (AR5) in 2013-2014 makes it timely to discuss these achievements, to assess future opportunities and challenges with satellite derived climate information, and to provide guidance on future priorities. The symposium will be an important step towards defining requirements, and the further development of an efficient and sustained international space-based Earth observing system. This symposium is intended to bring together the international experts in climate observations, research, analysis and modeling to present and discuss results from their studies, with a particular emphasis on the role of space-based Earth observations in improving our knowledge of the current climate at global and regional scales, and in the assessment of models used for climate projections.

www.theclimatesymposium2014.com

➤ **European Autumn Gas Conference (EAGC) 2014** 28-30 October London, United Kingdom

The European Autumn Gas Conference (EAGC) 2014 will attract business leaders operating within Europe's gas supply chain who are looking to adapt and overcome the commercial, geopolitical and macro-environmental challenges of working in the region. These include government officials, regulators, upstream and midstream companies, utilities, traders and originators, investors and large industrial energy users.

Specialists in Gas, Natural Gas, LNG, Origination, Trading, Gas Supply, Gas Marketing, Gas Procurement, Business Development will hear from confirmed speaking companies including Wood Mackenzie, BP, Petronas Trading, RWE Supply and Trading, BG Group and Centrica Energy.

www.theeagc.com

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"ONE YEAR COUNT DOWN" EARLY ANNOUNCEMENT



FUCINO 2015

**6th INQUA International Workshop on Active Tectonics,
Paleoseismology and Archeoseismology**

**19-24 April 2015,
Pescina, Fucino Basin, Italy**

Dear Colleagues and Friends,

we are pleased to announce that the 6th INQUA International Workshop on Active Tectonics, Paleoseismology and Archeoseismology will be held in Pescina (Abruzzo, Central Italy) in the period 19 - 24 April 2015.

We invite all scientists in the fields of earthquake geology, paleoseismology, archeoseismology, tsunami studies, earthquake engineering, seismic hazard assessment to join this event.

We will celebrate the centenary of the 1915 M7 Fucino earthquake, that has been one of the most devastating earthquakes occurred in the Apennines. The earthquake produced extensive surface faulting and left a strong imprint in the landscape giving rise to an incredibly rich seismological, geological and paleoseismological amount of studies in the last century.

Scientific sessions will be attended in the unique historical and cultural atmosphere of the Pescina village, followed by 2 days-field trip in the Fucino and L'Aquila area, retracing on the field the path of faults, landscapes, castles and ancient settlements. Moreover, a pre-congress archaeoseismic tour in Rome will be offered to all the participants.

FOR THE MOMENT, PLEASE MAKE A NOTE OF THIS EVENT IN YOUR AGENDA.

SOON a specific website dedicated to this event will be available, where you will find more detailed and updated information, including **NEW RELEASE** on the Participation, Travel Grants and Scientific Programme.

The FUCINO 2015 Organizing Committee



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e la Ricerca Ambientale



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