

**3<sup>rd</sup> EFUC International Conference**

# **Dimensions of Lithosphere**

**Strategies for Disposal of Nuclear Waste in Europe  
Geothermal Energy**

**Technical University of Košice, Slovak Republic**

**January 29-31, 2007**

## **Welcome Addresses**



Message from His-Magnificence Dr. h. c. mult. Prof. Ing. Juraj SINAY, DrSc., Rector of the Technical University of Košice,

I am much honored yourself to welcome you to our Alma Mater, the Technical University of Košice Slovakia, the disciple of educational, technical and scientific activities based on famous Mining Academy established in 1762 by Maria Theresia in Schemniz (now Banská Štiavnica, Slovakia). The Technical University of Košice with nine faculties (including Mining now Faculty BERG), one of the most active academic organisations of our country, welcomes the honorable guests and distinguished participants in the capacity of the organizer of the 3<sup>rd</sup> European Forum of Underground Conference (EFUC). This Forum taking place in Košice the second largest city in our country, the historical and socio-economical centre of Eastern Slovakia.

The 3<sup>rd</sup> EFUC Conference, themed „Dimension of Lithosphere“ with two main topics: Strategies for disposal of nuclear waste in Europe and Geothermal energy is an important event, and I hope, it will have valuable contributions towards the global trends and development of mineral resources (including nuclear) with reduced waste as well as the optimal geothermal energy utilization. It is hope that this Convention of the academics, experts and scientists in related fields from the world-over and the exchange of information and transfer of new technologies, all aimed at the sustainable development of future generations and their continuing efforts for the benefit of mankind, lead the way towards environmental protection of the Earth.  
I am enclosing my heartiest wishes for the 3<sup>rd</sup> EFUC Conference as well as to all participants.

Good Luck !  
Juraj S i n a y



The Earth now has a population of six billion people. As early as 2043, nine years sooner than previously assumed, that number will probably have increased to nine billion, with more and more of them crowding into the cities. That is good reason to think about how to develop urban areas. It will be necessary to use not only the surface, but also underground construction space, for example for protection of the environment, protection of the cultural heritage, and for comfort and safety.

That means engineers and architects have to do more to develop the underground spaces. A new model is needed for spatial planning, to correct today's conditions and change the balance between new construction and consumption of landscape resources. It will be necessary to transfer facilities underground, e.g. transport, production, utilities and waste disposal systems, communication facilities, cultural, sport and shopping centres. That can make space for housing that is appropriate to people's needs, and conditions of life that conserve natural resources. At present we are using only a fraction of the potential for use of underground space. Priorities for the future include:

- To make use of the far reaching technical, commercial and environmental opportunities for the future, arising from use of underground spaces;
- To create the conditions for exchange of ideas and experience for scientists, engineers, industry representatives, architects, urban planners and environment experts in government;

- To encourage the decision makers in government to recognise and use underground construction space as a potential for urban development;
- To conduct research and development for underground construction.

Future research work should include technical, economic and environmental feasibility studies, to examine issues such as:

- Can geothermal energy systems can be used on a cost-effective and competitive basis to substitute for conventional energy resources, either now or in the foreseeable future?
- Can the current primary obstacle in drilling technology be overcome by using alternative methods, e.g. based on flame melting technology?
- Can greater drilling depths be used, with simultaneous solution of the search for a final repository for radioactive waste?

Expectations for the international conference in Košice, Slovakia are correspondingly high.

Dipl.-Ing. Rolf Bielecki, PhD  
Chairman of EFUC and WSDTI