

**25th ANNIVERSARY OF THE CONFERENCE
“NEW KNOWLEDGE AND MEASUREMENTS IN SEISMOLOGY, ENGINEERING
GEOPHYSICS AND GEOTECHNICS”**

**25-TÉ VÝROČÍ KONFERENCE
“NOVÉ POZNATKY A MĚŘENÍ V SEISMOLOGII, INŽENÝRSKÉ GEOFYZICE
A GEOTECHNICE**

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Abstract

Conferences of Czech, Slovak and Polish scientists and practitioners have been organized in Ostrava, Czech Republic, since 1992. These conferences have been the continuation of previous workshops focused on seismic data acquisition and computer processing organized by geophysical institutions of the Czechoslovak Academy of Sciences till 1989. At present, the main organizer is the Czech Association of Geophysicists; the co-organizers are: the Institute of Geonics of the CAS, the Faculty of Civil Engineering of the VSB – Technical University of Ostrava and the Faculty of Mining and Geology of the Silesian University of Technology. Main areas are defined by the name of the conference however, findings from other geoscientific disciplines are usually presented.

Abstrakt

Konference českých, slovenských a polských vědců a provozních geofyziků jsou organizovány v Ostravě, Česká republika, od roku 1992. Tyto konference navazují na předchozí workshopy v získávání seismických dat a zpracování dat na počítači, které organizovaly geofyzikální instituce Československé akademie věd od roku 1989. V současné době je hlavním organizátorem Česká asociace geofyziků; kooperují: Institut geoniky CAS, fakulta stavebního inženýrství VŠB- Technická univerzita Ostrava a fakulta hornictví a geologie Slezské technologické univerzity. Hlavní zájmové oblasti určují pojmenování konference, ale nové výsledky z jiných geologických oblastí se běžně objevují.

Keywords

geophysical conference, Czech Association of Geophysicists, current geophysical topic

Klíčová slova

Geofyzikální konference, Česká asociace geofyziků, aktuální geofyzikální téma

1 Introduction



Conferences of Czech, Slovak and Polish scientists and practitioners have been organized in Ostrava, Czech Republic, since 1992. More than 10 years they have kept the name “New knowledge and measurements in seismology, engineering geophysics and geotechnics”. The aim of the conference is to present and to acquire new knowledge that solves selected problems in the field of seismology, engineering geophysics and geotechnical engineering. Participants are not only professionals from academia, but a number of professionals is from large and/or small professional companies. Participants of the conferences present approaches and results of projects in the field of basic and applied research, as well as partial results and interpretation of measurements carried out in unusual geological conditions. At the conferences, space to present results and to discuss future work with experienced professionals is given to doctoral students and young researchers. Invited papers in the given topics presented by one or more leading scientists are usually an integral part of the conference. The occasion of 25th anniversary of these conferences in 2016 and brief history is mentioned in this article.

2 Previous research activities

It is possible to say that during the seventies and eighties of the last century seismological workshops were organised by the Geophysical Institute of the Czechoslovak Academy of Sciences and the Geophysical Institute of the Slovak Academy of Sciences. The first workshop was held at the Kašperské Hory in 1974. Some problems of seismological data recording and a possibility of joint digital processing were discussed at that time.

A quick exchange of seismological data, integrated interpretation and a definition of seismological databases were declared to be the main aim. There were also discussed other current topics, e.g. mining and dam induced seismic events, quarry blasts, checking of underground nuclear explosions, questions of natural hazard etc. A special workshop was dedicated to strong seismic swarm that occurred in the area of Kraslice, West Bohemia in 1985/86. During this swarm, significant seismic loading and material damage was detected (maximum local magnitude 4.6).

3 Conferences in Ostrava

The first conference was held in Ostrava, Northern Moravia, in May 12, 1992. Discussion about Regional Seismic Network (local network for detection and interpretation of the strongest mining induced seismic events in the Karviná part of Upper Silesian Coal Basin) was the topic and therefore workshops on “Computer processing ...” were not organized. The above- mentioned conference was organized by the Institute of Geonics of the Czech Academy of Sciences. The second conference was organized in 1993 concerning studies in seismology and the environment.



Fig. 1 Prof. Eng. Karel Müller, DSc, on the right, who debates issues with prof. Eng. Jiří Horký, PhD. being head of Department of Geotechnics, the VŠB, and the Faculty of Civil Engineering

the participants. From 2003 to 2010 papers were reviewed and then revised according to reviewers' comments and suggestions. Finally, the papers were accepted for publication in special issues of journal named "Transactions of the VŠB – Technical University of Ostrava, Civil Engineering Series". Since 2011, accepted papers have been published in reviewed non-impacted journal named "EGRSE - Exploration Geophysics, Remote Sensing and Environment". Since 2005 to the present, this journal has been issued in the electronic form. ISSN 1805-2266 holds for on-line edition (<http://www.caag.cz/egrse-en.php>), ISSN 1803-1447 holds for CD-ROM version. The journal EGRSE publishes original contributions dealing with:

- application of geophysical methods in geology, engineering geology, hydrogeology;
- environment and geothermal energy;

Since 1994, the Czech Association of Geophysicists (henceforth CAAG) has been the main organizer of conferences and the Institute of Geonics of the CAS (henceforth IGN) and the VŠB – Technical University of Ostrava (henceforth VSB) have become the co-organisers. Since 2005, the Polish co-organizer (the Faculty of Mining and Geology of the Silesian University of Technology in Gliwice - SUT) has taken part in scientific and local committees. The president of CAAG, the director of IGN and the deans of VSB and SUT open the conferences. Short cultural programme is usually a part of openings, for example instrumental music of handicapped children (Children Music School of Ostrava), songs performed by a student (M. Bosáková), dancing flamenco and singing (H. Iridiani & M. Garriga). I would like to recall one more point: We also celebrated significant birthday of our senior-geophysicist, the vice-rector of the VŠB – Technical University of Ostrava and a very good friend - prof. Eng. Karel Müller, DSc. – see Fig. 1 (*1929 – †2013).

Papers from presentations were published in proceedings till 2002. Those proceedings were not reviewed and they were distributed only to



Fig. 2 Participants during presentations in 2011

- remote sensing and its application in geology, geodesy, GIS and ecology;
- tectonophysics, physics of the interior of the Earth, seismology, seismotectonics and seismic hazard;
- problems of near surface geology.

4 25th anniversary of conferences in Ostrava

This year marked the 25th anniversary of conferences in Ostrava (April 12 – 14, 2016). Participants were welcome by the president of the CAAG (prof. Kaláb), director of the IGN (prof. Blaheta), vice-dean of the VŠB, the Faculty of Civil Engineering (assoc. prof. Řezáč), vice-dean of the VŠB, the Faculty of Mining and Geology (Dr. Király) and vice-dean of SUT, the Faculty of Mining and Geology (prof. Strzalkowski) – see Fig. 5. A part of welcome speeches included a “comical paper” presented by the significant geophysicist assoc. prof. Kněz (Charles University of Prague, the Faculty of Natural Sciences). The name of this paper was “New Knowledge in Geophysical Research of the Czech Inventor Jára Cimrman”.

Presented papers involving research, development and education in geophysics and related areas document the need of having close contacts. As usual, about 70 participants took part in the conference. Twenty-five oral and poster presentations were included in the programme in first two days. Presentations were in Czech, Slovak, Polish or English languages. This year, Dr. Kondracka was invited to give a paper dedicated to “Polish Research in High Arctic” (the Silesian University of Katowice, the Faculty of Earth Sciences). Discussions during breaks and especially during the social evening are usually a significant part of conferences. The third day, 9 presentations of doctoral students were scheduled. The conference proceeded in a nice and friendly atmosphere.

The most current geophysical topics, as is possible to derive from presentations and discussions, are:

- geothermal energy;
- storage of CO₂ in rock massif, characteristics of rock massif;
- geomechanical, geotechnical and other studies of rock massif of potential sites for the deep geological repository of the spent nuclear fuel;



Fig. 3 Participants of conference in 2012 in front of Institute of Geonics of the CAS, Ostrava



Fig. 4 Cultural programme: dancing flamenco and singing.
- H. Iridiani & M. Garriga, 2014

- new geophysical instrumentation with very high sensitivity and their benefit for geological interpretation;
- preparation of Czech standard for using of geophysical methods for civil engineering; supervisor will be CAAG

5 Conclusion

Dealing with the 25th anniversary in 2016, we can also mention some things that are - hard to believe - already 25 years old (according to <http://www.jenpromuze.cz/mixer/17832-22-veci-ktere-neuverite-ze-jsou-uz-25-let-stare>):

- creation of SMS;
- start of GPS;
- first close pictures of Neptune;
- end of cold war;



Fig. 5 Invitation speech in 2016; from the left: director of the IGN (prof. Blaheta), president of the CAAG (prof. Kaláb), vice-dean of the VŠB, the Faculty of Mining and Geology (Dr. Király), vice-dean of SUT, the Faculty of Mining and Geology (prof. Strzalkowski), and vice-dean of the VŠB, the Faculty of Civil Engineering (assoc. prof. Řezáč)

- start of Microsoft Office;
- first issue of the Simpsons;
- production of microprocessor Intel ser. 486;
- start of World Wide Web;
- ...

From my point of view, it also was 25 years of successful and friendly conferences on geophysical topic in Ostrava (some photos in Fig. 2 – Fig. 6). Presentations of related sciences, as e.g. geomechanics, surveying, geotechnical engineering, petrophysics, and engineering geology etc. have been beneficial to all. Journal EGRSE with conference papers can be found on CAAG web (<http://www.caag.cz/egrse-en.php>).

I hope that everyone has a memorable experience from both a business and social perspective. I would like to thank all the presenters, participants, and people of scientific and local organising committee for their work. And, special thanks to all the institutions that have supported our conferences.

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Fig. 6 Figure from comical paper “New Knowledge about activity of Czech inventor Jára Cimrman in geophysical research” – First Cimrman’s prototype of three-component magnetometer (2016)