

13th Congress of Hungarian Geomathematics and 2nd Croatian-Hungarian Geomathematical Congress

Mórahalom, May 21-23, 2009

The 13th Congress of Hungarian Geomathematics and the 2nd Croatian-Hungarian Geomathematical Congress were held from May 21 to May 23, 2009. The title was *Applications of geostatistics, GIS and remote sensing in the fields of geosciences and environmental protection*.

Traditionally, the main organizer has been the Geomathematical Section of the Hungarian Geological Society, supported by following sponsors:

- Croatian Geological Society (with special participation of the Geomathematical Section)
- Hungarian Oil and Gas Company (MOL Group)
- "Mecsekérc" Environmental Protection Company

- *Chairman* - Prof. Dr. János Geiger, university professor in Szeged;
- *Co-chairmen* – Prof. Dr. Laslo Mucsi, university professor in Szeged; Dr. Tomislav Malvić, advisor in INA and guest lecturer in Zagreb;
- *Secretary* – Ms. Ágnes Krivánné Horváth, the Hungarian Geological Society.

This committee, authors and all participants gave their best to continue the congress tradition, which has lasted over 20 years, in the best possible manner. The comprehensive program included both lectures and posters in two categories:

- a) Models of recent processes
- b) Models of subsurface processes.

A total of 31 lectures and 11 posters was presented. It is important to point out that 7 lectures were given by members of the IAMG (International Association of Mathematical Geosciences) Student Chapter in Szeged. As usual, the conference program encompassed a workshop, which had a very interesting (considering geological analytical tools) title *Fractal patterns in geology, and their application in mathematical modelling of reservoir properties*. It was moderated by Tivadar M. Tóth (University of Szeged) and Tomislav Malvić (INA & University of Zagreb).

The Croatian participants (8 people this year) presented 2 lectures with following titles:

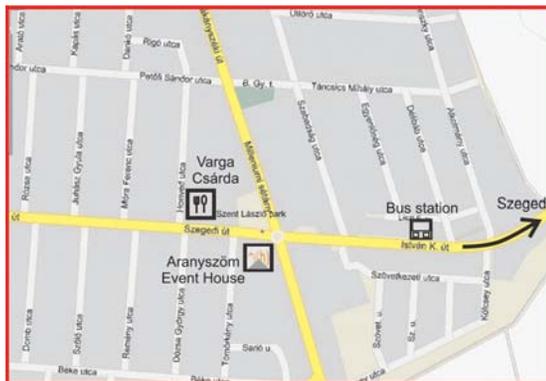
- Marko Cvetković and Marija Bošnjak: Successfulness of different neural network algorithms for missing well log data prediction – Example from the Sava Depression
- Tomislav Malvić: Application of stochastic approach in deterministic calculation of geological risk; Case study from Drava depression.

They also presented 6 posters with topics encompassing simple, ordinary and indicator kriging theory, statistical analysis of former Zrinski (Zrinyi) mine on Mt. Medvednica as well as loess and palaeosols in the Eastern Croatia, palinspastic reconstruction of the hydrocarbon field in the Sava depression and finally the Croatian geomathematical section.

Moreover, Croatian representatives had the honour to co-moderate the workshop and chair one session with the lectures coming from IAMG student chapter members.

All readers interested in the complete congress program as well as the abstract book can find these sources at the homepage of the Croatian Geological Society (www.geologija.hr). The next year, in 2010, the annual meeting of the International Association for Mathematical Geosciences (IAMG) is going to be held in Budapest. It is going to be extraordinary event, and Prof. Dr. János Geiger is one of its chief organizers. Due to this event, the next Hungarian and Croatian geomathematical congress in Mórahalom is going to be held in 2011. I wish to meet some of the readers as new participants at that geomathematical meeting.

Tomislav Malvić



- Local Council of Mórahalom
- Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb (for the first time).

The overall quality of the conference was high, and organizers successfully maintained a scientific, friendly and easy-going approach. As always, the main “engine” of entire event was one of the founders and most prominent people in Hungarian geomathematics, Prof. Dr. János Geiger. He is a university professor at the Department for Geology and Palaeontology of the University of Szeged, and the person who kindly cared about each participant and every formal and informal event during the three days of the conference.

He is also the head of the congress organization committee, which was formed by:

These categories are divided into ten additional detailed sections:

- 1) *Applied geomathematics, geostatistics, integrated geoscience models*
- 2) *Geophysical applications*
- 3) *Theoretical approaches of geomathematics and geostatistics*
- 4) *Hydrological, hydrogeological applications*
- 5) *Environmental protection / Nuclear waste disposal*
- 6) *Petrology*
- 7) *Meteorological, climatological, and landscape ecological models*
- 8) *Stratigraphical applications, basin analysis, and correlation*
- 9) *Hydrocarbon geology and engineering*
- 10) *GIS applications.*

13. kongres mađarske geomatematike i 2. hrvatsko-mađarski geomatematički kongres

Mórahalom, 21-23. svibnja 2009.

Već 13. po redu kongres mađarske geomatematike te 2. hrvatsko-mađarski geomatematički kongres održan je od 21. do 23. svibnja 2009. Naziv kongresa bio je *Primjena geostatistike, GIS-a i daljinskih istraživanja u području geoznanosti i zaštite okoliša*.

Glavni organizator, već tradicionalno, bila je Geomatematička sekcija Mađarskoga geološkog društva, a ostali pokrovitelji toga događaja bili su redom:

- ❑ Hrvatsko geološko društvo (suradnjom Geomatematičkog odsjeka)
- ❑ Mađarska naftno-plinska tvrtka, grupa MOL
- ❑ "Mecsekérc" tvrtka za zaštitu okoliša
- ❑ Gradsko vijeće Mórahalmoma
- ❑ Rudarsko-geološko-naftni fakultet Sveučilišta u Zagrebu (po prvi puta).

Razina skupa bila je ponovno vrlo visoka, a organizatori su održavali jedno prijateljsko, znanstveno i opušteno okruženje. Kao i uvijek do sada, glavni pokretač cijeloga događanja bio je jedan od utemeljitelja i najistaknutijih osoba mađarske geomatematike, prof. dr. sc. János Geiger, sveučilišni profesor u Zavodu za geologiju i paleontologiju Sveučilišta u Szegedu. On je ljubazno, kroz cijelo vrijeme skupa, brinuo za svakoga sudionika te sve formalne i neformalne događaje tijekom trodnevnoga programa.

Također, vodio je Organizacijski odbor skupa u sljedećem sastavu:

- ❑ *predsjednik* – prof. dr. sc. János Geiger, sveučilišni profesor u Szegedu
- ❑ *supredsjednici* – prof. dr. sc. Laslo Mucsi, sveučilišni profesor u Szegedu i dr. sc. Tomislav Malvić, savjetnik u INI te gostujući predavač u Zagrebu
- ❑ *tajnica* – gđa Ágnes Krivánné Horváth iz Mađarskoga geološkoga društva.

Članovi organizacijskoga odbora, autori te svi sudionici pružili su maksimum kako bi se skup, s tradicijom dužom od 20 godina, održao na najbolji način. Opsežan program uključio je predavanja i postere koji su se mogli predstaviti kroz dvije kategorije, tj. kao:

- a) Modeli recentnih procesa
- b) Modeli dubinskih procesa.

Te dvije kategorije podijeljene su u deset sekcija i to:

- 1) Primijenjena geomatematika, geostatistika i integrirani geoznanstveni modeli
- 2) Primjena geofizike
- 3) Teorijski pristupi geomatematici i geostatistici
- 4) Primjena u hidrologiji i hidrogeologiji
- 5) Zaštita okoliša / odlaganje nuklearnog otpada
- 6) Petrologija
- 7) Meteorološki, klimatološki i ekološki modeli
- 8) Primjena stratigrafije, analize bazena i korelacije

- ❑ Marko Cvetković and Marija Bošnjak: Successfulness of different neural network algorithms for missing well log data prediction – Example from the Sava Depression
- ❑ Tomislav Malvić: Application of stochastic approach in deterministic calculation of geological risk; Case study from Drava depression.

Također su prikazali 6 postera čije su teme obuhvatile teorije jednostavnoga, običnoga i indikatorskoga kriginga, statističke analize bivšega rudnika Zrinski na Medvednici te lesa i paleotla u Istočnoj Hrvatskoj, palinspastičku rekonstrukciju ležišta ugljikovodika u savskoj depresiji te konačno hrvatsku geomatematičku sekciju.



- 9) Geologija ugljikovodika i inženjerska geologija
- 10) Primjena GIS-a.

Ukupno je bilo izloženo 31 predavanje i 11 postera. Važno je istaknuti kako su 7 predavanja održali članovi studentske udruge IAMG-a u Szegedu (IAMG skr. od engl. *International Association for Mathematical Geology*). Nadalje, i ove godine program kongresa uključio je radionicu s vrlo zanimljivim naslovom (s obzirom na analitičke alate u geologiji): *Fraktalni uzorci u geologiji i njihova primjena u matematičkom modeliranju ležišnih svojstava*. Moderatori radionice bili su Tivadar M. Tóth (sa Sveučilišta u Szegedu) i Tomislav Malvić (iz INE i sa Sveučilišta u Zagrebu).

Hrvatski sudionici skupa (bilo ih je 8 ove godine) održali su 2 predavanja:

Nadalje, hrvatski sudionici imali su čast sudjelovati u vođenju radionice, te predsjedati jednom sekcijom predavanja koju su održali članovi studentskog odsjeka IAMG-a.

Svi čitatelji zainteresirani za detaljni program kongresa i knjigu sažetaka mogu pronaći te podatke na naslovnoj internetskoj stranici Hrvatskoga geološkog društva (www.geologija.hr). Sljedeće godine (2010) u Budimpešti će se održati svjetski godišnji skup Međunarodnog udruženja za matematičke geoznanosti (International Association for Mathematical Geosciences - IAMG). Stoga će se sljedeći mađarsko-hrvatski geomatematički kongres u Morahalomu održati 2011. godine, gdje bi me veselilo susresti neke od čitatelja ovoga prikaza kao nove sudionike.

Tomislav Malvić