

EGC 2013 in Pisa – the biggest European Geothermal Congress ever



The European Geothermal Congress EGC 2013 continued a series of “EGC”s, starting with a European Geothermal Conference in 1996 in Orleans, France, just after the pivotal World Geothermal Congress WGC 1995 in Firenze, followed by EGC 1999 in Basel, Switzerland, EGC 2003 in Szeged, Hungary, and EGC 2007 in Unterhaching (near Munich, Germany). The “EGC”s are organised under the auspices of the IGA European Regional Branch¹, and already in 2003 and 2007 EGEC had cooperated by organising the industrial and economic part of the conferences in the form of EGEC Business Seminars. In 2013, EGEC has taken the role of main organiser, with the Italian Geothermal Association UGI as local supporter and the IGA European Regional Branch being responsible for the scientific and technical programme. The size and success of the event was made possible by several sponsors, the main sponsor ENEL Green Power to be named explicitly.

During the days of June 3-8, 2013, the historic and modern city of Pisa, Italy, witnessed an event packed with information, discussion, promotion, learning, decisions, networking, enjoyment. More than 500 participants from at least 40 countries in Europe and overseas (including a delegation from China) attended the congress and side events.

- 146 oral presentations were given in 28 parallel sessions, 2 keynote sessions and the opening & closing session,
- ca. 120 posters were exhibited, explained and discussed.

The well-suited congress venue, the Palazzo dei Congressi in Pisa, added to the success, even if some of the shallow geothermal topics attracted such crowds that the modestly sized room assigned to these sessions could not hold them all. The electronic proceedings comprise a total of 277 papers covering topics from all aspects of geothermal energy use. Currently reserved for the congress participants, all papers will become freely available from autumn on through the IGA conference database.

The congress was accompanied by the final conferences of three EU-supported projects, which were run as well-attended side events, by two courses of the International Summer School on Geothermal Energy (ISS) of the IGA European Regional Branch, and by some events on invitation (IRENA workshop, EGEC annual general meeting, IGA-ERB annual general meeting).

Here some more details in chronological order:

June 3rd, a humid day with mixed weather, saw the first ISS Short Course (pre-conference course), dedicated to „Drilling, completion and testing of geothermal wells”, and the final conference of EU-project GROUNDMED, funded by the European Commission within the 7th Framework Programme. This 5-year project demonstrates the use of the next generation of geothermal heat pumps adapted to Mediterranean climates. During the project 24 European

¹ up to 2005 the IGA European Branch Forum

organisations have supported the development of eight demonstration sites located in Mediterranean EU member states (Portugal, Spain, France, Italy, Slovenia, Romania, Greece) with the goal to produce a measured seasonal performance factor higher than 5. The final conference looked at the project results and the future of geothermal heat pumps in general; the presentations can be found at:

www.groundmed.eu//ground_med_events/conferences_meetings/

Thankfully the rain showers stopped in the afternoon, just in time to enjoy a welcome cocktail to EGC 2013 in the courtyard of the Palazzo dei Congressi.(fig. 1).

June 4th was the first day of the main congress. In the opening, local hosts, politicians, policy makers shared their views on the further development of geothermal energy, among them the Minister of Energy of the Tuscany Region, Anna Rita Brammerini (fig. 2), and (via video from the European Parliament) Vittorio Prodi MEP. In the afternoon, the congress split into four threads of parallel sessions on topics like Geothermal Markets, Resource Assessment, Accessing the Reservoir, EGS, and GSHP Design.



Fig. 1: Icebreaker reception on June 3rd



Fig. 2: During the opening session on June 4th (from left): Ruggero, Bertani, ENEL / EGEC vice president; Walter Grassi, UGI president; Anna Rita Brammerini, minister for energy of the Tuscany region

In parallel, invited experts convened on the second floor of the Palazzo, away from the activity of the congress, for a meeting on geothermal energy within the activity for a Global Renewable Energy Atlas by IRENA, the International Renewable Energy Agency. The presence of so many geothermal experts at EGC 2013, together with some others having travelled just for the meeting, allowed IRENA and the local host, CNR-IGG, to bring together an impressive representation of the global geothermal family for a first brainstorming.

In the evening the annual general meeting of EGEC for the year 2013 was held, including the elections for the EGEC board 2013-2016 (see separate note). For the EGEC members the day ended with a tasteful dinner near the Leaning Tower.

June 5th started with two plenary keynotes: a summary of the country update reports given by Miklos Antics (fig. 3), and a talk on thermo-active structures (where geothermal and

geotechnical technologies meet) by Lyessse Laloui. Concerning the country reports, the place is here to thank all the contributors from 33 European countries for their efforts, which allowed to achieve a complete update on what happened in geothermal Europe since WGC 2010. The summary and the individual update reports also will become available through the IGA conference database.

The keynotes were followed by a dedicated poster session, enabling intensive discussion in front of more than 120 posters (fig. 4). For the rest of the day the four threads of parallel sessions continued, focussing again on Geothermal Markets, Resource Assessment, and EGS, and in addition on Geothermal Applications, Power Plants, GSHP Case Studies, Ground Thermal Parameters, and Thermoactive Structures.



Fig. 3: Keynote on Country Updates by Miklos Antics, June 5th

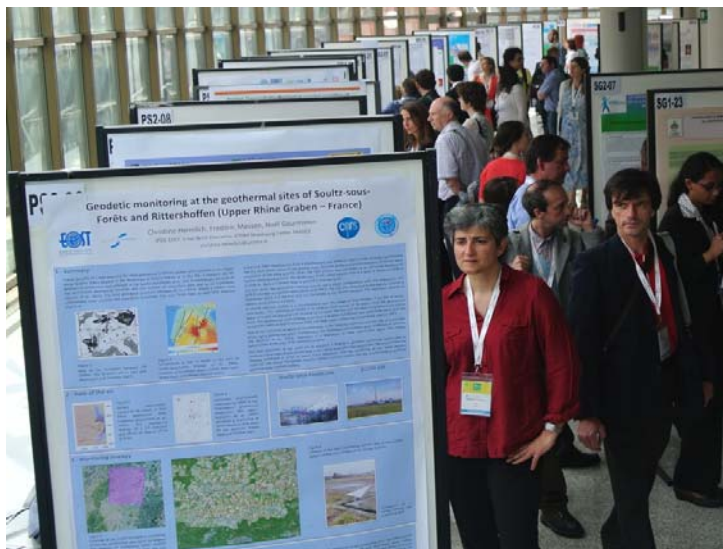


Fig. 4: Poster session on June 5th

As a side event starting in the afternoon of June 5th (and continuing the next day), the final conference of EU-project GEOELEC was held. This project, supported by the European Commission in the "Intelligent Energy Europe" Programme, investigates the geothermal electric power potential in Europe and the policy actions necessary to fully make use of it. June 5th saw roundtable discussions on the regulatory and financial frameworks, as well as the level of public acceptance required.

GEOELEC partners discussed project results with participants to agree on proposals for removing existing non-technical barriers. During the following day, key results of the project were presented: an employment survey, a report on grid access, software on financial feasibility, a proposal for a EU risk insurance scheme, an environmental study, a suggestion for a European geothermal reporting code, and the geothermal potential map to become available online. The presentations of the Geoelec conference are on www.geoelec.eu/.

A special highlight in the evening of June 5th was the congress banquet in the unique surroundings of the Certosa di Calci, a former monastery. It was opened, after some refreshment and drinks, with the colourful spectacle of the Sbandieratori di Pisa, matching the historic surroundings very well (fig. 5). The banquet in the wide rectangle of the cloister was a chance to talk to old friends and to make new acquaintances (fig. 6-9), until busses brought the participants back to the Pisa hotels around midnight.



Fig. 5: The “Sbandeiratori di Pisa” performing for the EGC 2013 banquet at La Certosa di Calci near Pisa, 5th June 2013



Fig. 6 (above): “Icelandic-Ethiopian delegation” and fig 7 (left) “Turkish delegation” at EGC 2013 banquet, June 5th



Fig. 9: The Honorary Scientific Advisory Committee of EGC 2013 and the EGECE president (from left: Rybach, Passaleva, Carella, Sanner, Fridleifsson, Zheng; missing is John Lund, who had to cancel his participation)



Fig 8: Geothermal musician— from Hungary, of course! Gabor Szita, president of the Hungarian Geothermal Association, at the EGC 2013 banquet, June 5th

On **June 6th** the congress continued with a plenary keynote on Induced Seismicity, given by Stefan Wiemer (fig. 10). This topic is extremely important for the future development of EGS technology. The EU-supported project GEISER had looked into ways of determining and limiting the risk of induced seismicity,



Fig. 10: Plenary keynote on Induced Seismicity, given by Stefan Wiemer from Zurich, Switzerland, June 6th

and the final conference of that project was held a week before EGC 2013 (see www.geiser-fp7.eu). The short discussion in the plenary showed that the interpretation of induced seismicity still is controversial (fig. 11).

After a second dedicated poster session, the congress again split into four parallel sessions with the topics: Induced Seismicity / GEISER, Environmental Issues, Communication and Acceptance, Wells and Production, as well as the continuation of Resource Assessment and Geothermal Applications and the shallow geothermal topics UTES and Shallow Geothermal



Fig. 11: Discussion after the plenary keynote on Induced Seismicity (Roy Baria at the microphone), June 6th



Fig. 12: Ruggero Bertani presented an update on global geothermal power production at the closing session, June 6th

Markets and Regulation. In the closing session in the late afternoon, talks were given on the global perspective (fig. 12), and an introduction to the excursion. The closing ceremony ended with an invitation to WGC 2015 in Melbourne.

Beside the continuation of the GEOELEC final conference, another EU-supported project, THERMOMAP, invited to its final conference on June 6th. This project, supported through an ICT programme of the European Commission, aims to map the very shallow Geothermal Potential (vSGP) across Europe using soil and groundwater data. As a main result of THERMOMAP, an interactive map was presented allowing users to produce a report on the potential for very shallow (up to 10m) horizontal and vertical installations in certain test

areas, and to get a rough estimation of the geothermal potential across Europe. The information provided is based on the harmonisation of pre-existing data sets, and from data collected in test sites. Where external data is available, a calculator is available to give more precise localised information. The presentations (and the map) can be found at www.thermomap-project.eu/.

In the evening, the IGA European Regional Branch had its annual general meeting for the year 2013.

On **June 7th**, after three intense congress days, participants had the opportunity to stretch their legs with a trek across the geothermal fields of the Larderello area (fig. 11) and visits to a geothermal power plant. The excursion, benefiting from good luck with the weather, was extremely informative; the natural geothermal phenomena as well as the powerful steam flash from a geothermal well made everybody feel the power of the earth!



Fig. 13: Excursion to the Larderello geothermal area, June 7th

June 8th was the last day, with the second ISS Short Course (post-conference course), this time on geothermal heat pump systems. The engineering building of the University of Pisa hosted the course, with lecturers from Germany and, mainly, from Italy, among them UGI president Walter Grassi. With the two courses at EGC 2013, the ISS continued the educational work of many years, as envisioned by the late Kiril Popovski. IGA contributed with some funds that allowed for granting fellowships to young scientists for attending the courses. The ISS activity now is fully in the hands of the IGA European Regional Branch (currently under the responsibility of its educational officer, Beata Kepinska), and we hope it will be able to serve the geothermal community also in the future.

As EGECE president, I like to thank all those who contributed to the success of EGC 2013: the members of the Scientific Committee, the authors and presenters (both oral and poster), UGI and the young UGI group providing local assistance, the staff of local congress organiser DGMP and of the Palazzo dei Congressi, the sponsors Atlas-Copco, Exergy, Turboden and ENEL Green Power, and many more. Special thanks go to the EGECE staff (fig. 12) doing a tremendous job and working overtime to get EGC 2013 going.

EGECE now looks forward to organising the next European Geothermal Congress in 2017, keeping the established series alive and providing a platform for exchange in science and business for all the European geothermal actors, and colleagues from overseas.

Burkhard Sanner



Fig. 14: EGECE staff and president at Palazzo dei Congressi, Pisa (from left: Angelino, Latham, Dumas, Sanner, Mihaila)