DESTRESS

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DESTRESS on Track

DESTRESS stands for a promising and future-oriented approach to demonstrate soft stimulation methods of EGS. We focus on solutions for the exploitation of underground heat which are economical, sustainable and environmentally responsible. Co-funded by the EU, we contribute to the European energy strategy, which targets renewable energy, greenhouse gas reduction and energy efficiency.

The primarily objective of DESTRESS is to develop a comprehensive compilation of good practices for successful geothermal projects through demonstration and research. Since its start in March 2016, DESTRESS can already show a series of achievements and successful collaborative activities illustrating that the project is on track: In March and July 2016, geochemists, reservoir engineers and rock mechanic experts from GFZ Potsdam visited the Klaipeda geothermal site to sample fluids, filter residuals and core pieces for analysis in the laboratory. Our Korean partners conducted a first stakeholder workshop, in which knowledge exchange on EGS was central, taking the Pohang site as an example. Furthermore, a risk assessment meeting in Germany compiled a top ten list of possible risks for soft stimulation

treatments. Last but not least, we held a successful side event at the European Geothermal Congress (EGC) in Strasbourg to identify and meet potential stakeholders. We experienced a strong interest in DESTRESS and held stimulating discussions.
By the way – have you ever wondered about the definition of soft stimulation? In the section Did You Know… we describe how we understand it within DESTRESS.

Stay on track with us: we publish latest news on our website and quarterly updates in this newsletter.

Ernst Huenges, Project Coordinator

Key Figures

DESTRESS involves 16 Partners (8 academic institutions and 8 industrial companies) from 7 countries including France, Germany, Lithuania, the Netherlands, South Korea, Switzerland and the United Kingdom. About 90 participants work on 35 tasks organised in 7 work packages. The project is funded by the EU Horizon 2020 programme for the duration of 48 month and started on 1 March 2016. The estimated project costs are about 25 Million Euro containing EU contribution in the amount of nearly 11 Million Euro.

News and Progress

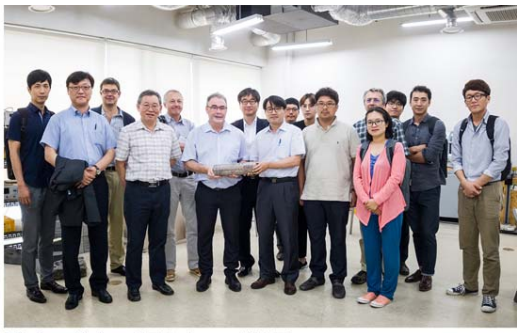
First DESTRESS Workshop for Stakeholders: Korea-Europe Knowledge Exchange on EGS (4-8 July 2016)

In July 2016, researchers and experts in geothermal energy from Germany, France, Switzerland and Korea conducted the first DESTRESS stakeholder workshop. In Seoul they discussed recent progresses of different EGS projects. The workshop started with a guided tour at the EGS site in Pohang, conducted by the operator NexGeo Inc. Afterwards, the experts presented and discussed the monitoring system, the use of drilling fluids and hydraulic pumps, as well as initial stimulation results. A session of the DESTRESS work package 5 followed, addressing different EGS sites and research results.
Further, the participants had the opportunity to visit the Pohang headquarters of POSCO, one of the largest steel-producing companies in the world. The program continued with a seminar at the Korea Institute of Civil Engineering and Building (KICT). Günter Zimmermann, Arno Zang and Ove Stephansson (GFZ), Albert Genter (ÉS Géothermie) and Kwang Yeom Kim and Li Zhuang (both KIGAM) talked about hydraulic fracturing experiments in the laboratory and at test sites. A visit of the CT lab of the Korea Institute of Construction Technology (KICT) followed lunch. A second seminar, focusing on the Soultz Project and led by Albert Genter, took place at the Seoul National University the next day.
The programme was completed by the "Korea-Europe EGS Deep Geothermal Energy Workshop". The attendees' discussions focused on current project activities, new results in the field of hydraulic fracturing and induced seismicity including data monitoring and Discrete Element Modeling (DEM).

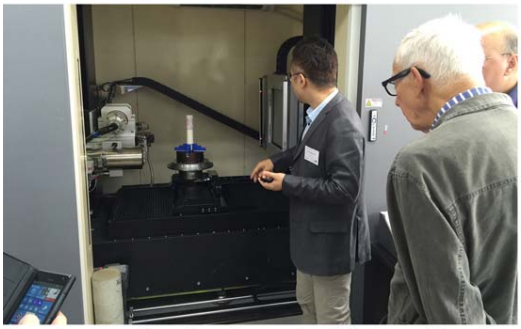
Peter Meier, Geo-Energie Suisse AG

PS: For physical access, DESTRESS offers workshops for knowledge exchange and in-depth training courses combining them with a visit to a P&D site whenever possible. The next opportunity to participate will be in 2017. Detailed information will be published on our website at least two months in advance and advertised in the DESTRESS newsletter. The programme takes place in DESTRESS´partnering countries.

Visitors at the Pohang EGS site.



Visit of the CT lab at KICT.



Seminar on the Soultz project led by Albert.

SNU Lab visit after seminar: Albert Genter and Ki-Bok Min holding the core from Pohang deep EGS well 2.

Top Ten List of Possible Risks for Soft Stimulation (12-13 July 2016)

One aim of DESTRESS is to bring together social and economic challenges related to soft stimulation. An initial step for this task is to investigate possible risks: even though soft stimulation aspires to reduce the environmental impact of a reservoir enhancement, not every risk can be excluded. Therefore, thirteen experts from various DESTRESS project partners gathered at Energie Baden-Württemberg (EnBW) research campus in Karlsruhe, Germany.
They identified and described 37 risks that were prioritized by conducting a worst case evaluation, in which different monetary and probability categories were assigned. As one of the main results, a preliminary list of the top 10 risks is available now consisting of blow out, fluid-fluid interactions (thermal brine and chemicals), fluid-rock interactions, induced seismicity (with time delay after injection), induced seismicity exceeding threshold, lack of information, loss in hole (measuring tool), political instability, public acceptance

and unwanted subsurface hydraulic connections. The risk assessment results will be further evaluated and serve to prioritize the research efforts in the years to come.

Sören Reith, EnBW

Glimpse into the risk assessment workshop in Karlsruhe.

Did You Know...

... How We Define Soft Stimulation?

Soft stimulation is a collective term for geothermal reservoir stimulation techniques. It aims to achieve enhanced reservoir performance while minimizing environmental impacts including induced seismicity. Soft stimulation includes techniques such as cyclic / fatigue, multi-stage, chemical and thermal stimulation.

Miscellaneous

Recommend the DESTRESS Newsletter!

The DESTRESS newsletter informs quarterly about news and project progresses aiming to reach a community interested in enhanced geothermal systems (EGS). To spread the word about our project, we invite you to forward and recommend this newsletter. Find the link to sign up for the newsletter on our website.

Services

Talking about DESTRESS

Article about DESTRESS by Stefan Wiemer and Michèle Marti on the SCCER-SoE-Blog
How to use the Earth's interior heat in an environmentally friendly, economically successful and sustainable way? Switzerland is considering this question in its Energy Strategy 2050, and it's far from alone – the wider European community is also making sure geothermal energy is part of the future energy mix. The international project DESTRESS will evaluate methods and feasibility.
Read article

Call for Papers

25.-26.06.2017 Paris, France
ICRERA 2017: 19th International Conference on Renewable Energy Resources and Applications
Submission: 25.10.2016

Conferences

16.-19.10.2016 in Antwerp, Belgium
I-SUP2016 on sustainable industrial innovation

25.10.2016 London, United Kingdom
5th UK Deep Geothermal Symposium

17.-20.11.2016 Chiangmai, Thailand
The 11th Asian Geothermal Symposium (AGS11)

23.-25.11.2016 Auckland, New Zealand
38th New Zealand Geothermal Workshop "Innovat!on"

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DESTRESS
Demonstration of soft stimulation treatments of geothermal reservoirs

DESTRESS demonstrates methods of enhanced geothermal systems (EGS). The aim is to expand knowledge and to provide solutions for a more economical, sustainable and environmentally responsible exploitation of underground heat.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 691728