

First European Geothermal Review

Geothermal Energy for Electric Power Production



Congress Program – Tagungsprogramm

October 29 – 31, 2007

FAVORITE Parkhotel
City of Mainz, Rhineland Palatinate
Germany



MONDAY – October 29, 2007

Opening Session

Chairman: Jörg Baumgärtner

- | | | |
|---------------|---|---|
| 09:00 - 09:20 | Dr. Jörg BAUMGÄRTNER
BESTEC GmbH, Germany | W elcome, Background & Motivation for the First European Geothermal Review |
| 09:20 - 09:40 | Margit CONRAD
Ministerin für Umwelt, Forsten und Verbraucherschutz, Rheinland-Pfalz, Germany | R heinland-Pfalz als Referenzregion der Geothermie in Deutschland (Rhineland-Palatinate as reference region for geothermal in Germany) |
| 09:40 - 10:00 | Ullrich BRUCHMANN
BMU - Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany | D ie Forschungsförderung für die Tiefe Geothermie (Research Support for Deep Geothermal) |
| 10:00 - 10:15 | Dr. Werner HITSCHLER
Member of the Managing Board, Pfalzwerke AG, Germany | W achstumschancen für Energie-Versorgungsunternehmen im Geschäftsfeld Geothermie (Growth Opportunities for Utility Companies in the business field of Geothermal Energy) |
| 10:15 - 10:30 | Daniel F. JUNCKER
Member of the Managing Board, LRP Landesbank Rheinland-Pfalz, Mainz, Germany | T he financing of geothermal projects: a challenge for all parties involved |
| 10:30 - 11:00 | <i>Coffee Break</i> | |

Country Overviews

Chairman: John Garnish

- | | | |
|---------------|---|--|
| 11:00 - 11:25 | Allan JELACIC
U.S. Department of Energy - Geothermal Technologies Program, Office of Efficiency and Renewable Energy, USA | H istory and Status of Geothermal Research in the United States |
| 11:25 - 11:50 | Chris BROMLEY
International Energy Agency GIA GNS Science, New Zealand | S uccessful strategies for achieving sustainable geothermal energy utilisation, avoiding adverse environmental effects, and assessing potential energy reserves |
| 11:50 - 12:15 | Guido CAPPETTI
ENEL SpA, Italy | T he Italian experience in development and utilization of geothermal resources |
| 12:15 - 13:30 | <i>Lunch Break</i> | |
| 13:30 - 13:50 | Yan ZHU
Centre for Applied Geosciences (ZAG), University of Tübingen, Germany | G eothermal energy for electric power production in China |
| 13:50 - 14:10 | Michael ABRAHA
Director of the Ministry of Energy and Mines, Department of Mines, Eritrea | G eothermal Exploration Opportunities in Eritrea |

Engineered Geothermal Systems & HDR

Chairman: Roy Baria

- | | | |
|---------------|--|--|
| 14:10 - 14:35 | John GARNISH
European Commission (retired) | W hat have we learnt in 35 years? |
|---------------|--|--|

MONDAY - October 29, 2007

14:35 - 14:55	Barry GOLDSTEIN Primary Industries & Resources South Australia PIRSA, Australia	Hot Rocks in Australia - National Outlook
14:55 - 15:15	John BISHOP KUTh Energy Ltd, Australia	Exploration for Enhanced Geothermal Power in Tasmania, Australia
15:15 - 15:40	Florentin LADNER & Ulrich SCHANZ Geothermal Explorers Ltd., Switzerland	Geological and hydraulic evaluation of the geothermal reservoir Basel 1 & Microseismic evaluation and characterisation of the Basel 1 hydraulic reservoir
15:40 - 16:10	<i>Coffee Break</i>	
		<i>Chairman: Hiroaki Niitsuma</i>
16:10 - 16:35	Roy BARIA MIL-TECH UK Ltd, UK	Induced Seismicity in Geothermal Systems and Public Concern
16:35 - 16:55	Hiroshi ASANUMA Tohoku University, Japan	Current status of microseismic monitoring techniques of the stimulation of HDR/HFR/EGS reservoirs
16:55 - 17:15	Serge SHAPIRO Freie Universität Berlin, Germany	Kinematic and Dynamic Features of Earthquakes Induced by borehole Fluid Injections
17:15 - 17:40	Reinhard JUNG Independent Expert, Germany	Hot-Dry-Rock - Lessons Learnt from Different Locations
17:40 - 18:00	Kazuo HAYASHI Institute of Fluid Science, Tohoku University, Japan	Dynamics of a Fluid-Filled Crack with Application to Characterization of a Reservoir Crack in EGS
19:30 - open end	<i>Get-Together in the FAVORITE Palm Tree Garden</i>	

TUESDAY - October 30, 2007

Case Histories

Chairman: Jürgen Dornstädter

08:15 - 08:40	Jörg BAUMGÄRTNER BESTEC GmbH, Germany	The geox GmbH Project in Landau - The First Geothermal Power Project in Palatinate / Upper Rhine Valley
08:40 - 09:00	Ernst HUENGES GFZ Potsdam, Germany	A Geothermal Research Well in a Deep Sedimentary Reservoir
09:00 - 09:20	Albert GENTER BRGM - Bureau de recherches géologiques et minières, France	How a better characterization of a deep crystalline reservoir can contribute to improve EGS performance at Soultz
09:20 - 09:40	Christian PLETTL Stadtwerke München Services GmbH, Germany	Wirtschaftlicher Einsatz der Geothermie in der Fernwärme (Economic Use of Geothermal for District Heating)

09:40 - 10:00 C. SCHÖNWIESNER-BOZKURT
Rödl & Partner GbR, Germany
Development and consequences out of concrete project experiences Unterhaching - legal, economic and organizational -

10:00 - 10:30 *Coffee Break*

Geology

Chairman: Albert Genter

10:30 - 10:50 Eva SCHILL
Institut für Geothermisches Ressourcenmanagement IGeM, Germany
First results of the Geothermal Resource Analysis in Rhineland-Palatine

10:50 - 11:10 Christian HECHT
HotRock Engineering GmbH, Germany
Geological Chances and Risks in the Upper Rhine Graben URG Geothermal Province

11:10 - 11:30 Nury SIMFORS
Santa Anna IT Research Institute, Sweden
Integrated geo-information (GIS and RS) for assessment of exploration potential for geothermal systems in Malawi

11:30 - 11:50 Jan F. WELLMANN
Institut für Geothermisches Ressourcenmanagement IGeM, Germany
New Concepts in 3D Geological Modeling for Geothermal Exploration - Tracking Uncertainties during Model Evolution

11:50 - 13:00 *Lunch Break*

Power Production

Chairman: Barry Goldstein

13:00 - 13:20 Hilel LEGMANN
ORMAT Systems Ltd., Israel
Efficiencies, Availabilities, Reliabilities and Environmental impact of Commercial Geothermal Power Plants

13:20 - 13:40 Roland LUTZ
Siemens AG, Industrial Solutions and Services, Germany
Geothermiekraftwerke von Siemens: Effiziente Strom- und Wärmeversorgung durch Erdwärme (Geothermal Power Plants from Siemens: Efficient power and heat supply from Geothermal Sources)

13:40 - 14:00 Frédéric MARCUCCILLI
CRYOSTAR SAS, France
Radial in-flow turbines in geothermal ORC and Kalina plants

14:00 - 14:20 Dariusz SZABLINSKI
Pfalzwerke AG, Germany
Geothermal Power Plant Technologies

14:20 - 14:40 Yosuke NAKADA
Tohoku University, Japan
Development of Thermodynamics Performance Analysis Simulator for Geothermal Power Plant and the Evaluation of the Plant Operational Characteristics

Field Trip

Chairman: Thomas Hettkamp

14:40 - 15:00 Thomas HETTKAMP
BESTEC GmbH, Germany
A Multi-Horizon Approach for the Exploration and Exploitation of a Fractured Geothermal Reservoir in Landau/Palatinate

15:30 - open end *Field Trip to the Geothermal Project Landau & Dinner at a Medieval Castle*

Financing

Chairman: Jörg Baumgärtner

08:30 - 08:50 Daniel M. HAMBLIN
Dan Hamblin & Associates, Inc., USA
Testing a Real-Time Geothermal Power Brokering
Contract for Principal-Agent Problems

Geochemistry

Chairman: Jiri Muller

08:50 - 09:10 Polona KRALJ
Geological Survey of Slovenia, Slovenia
Zeolites and related authigenic silicate minerals
developed in regressive stage hydrothermal systems: a
case study of Pauzhetka (Kamchatka) and Oligocene Mt.
Smrekovec (Slovenia)

09:10 - 09:30 Jiri MULLER
Institute of Energy Technology, Norway
Corrosion Testing for Hot Dry Rock geothermal wells in
Soutz-sous-Forêts - Preliminary Results

09:30 - 09:50 David GRAUBARD
Gas Technology Products, USA
LO-CAT H₂S Oxidation Process in Geothermal
Applications

Exploration & Exploitation Technologies

Chairman: Reinhard Jung

09:50 - 10:10 Patrick NAMI
Leibniz Institute for Applied Geosciences,
GGA Hannover, Germany
Hydraulic and chemical stimulation experiments in deep
crystalline formation for power production

10:10 - 10:30 Hans SULZBACHER
Leibniz Institute for Applied Geosciences,
GGA Hannover, Germany
Numerical Simulation of the Heat Recovery from
Hydraulic Fracture by Cyclic Injection and Production

10:30 - 11:00 *Coffee Break*

11:00 - 11:20 Sergei N. RYCHAGOV
Institute of Volcanology and Seismology
FED RAS, Russia
Modern Hydrothermal-Magmatic Systems of Island
Arches as Probable Analogue of Super-Deep
Hydrothermal Systems on Ancient Platforms:
Permeability, Sources of Heat

11:20 - 11:40 Rafael A. HERNÁNDEZ
Halliburton Energy Services, USA
Reverse circulation of foamed cement in geothermal
wells

11:40 - 12:00 Georg PINGITZER
Smith International Deutschland GmbH,
Germany
Drilling bits and the specific requirements for geothermal
industry

12:00 - 12:20 Michael LENZ
Uraca Pumpenfabrik GmbH & Co. KG,
Germany
Uraca's development of a Re-Injection Pump for
Geothermal Application

Closing Session

Chairman: Jörg Baumgärtner

12:20 - 12:40 Jörg BAUMGÄRTNER
BESTEC GmbH, Germany
Closing Remarks

12:40 - 14:00 *Lunch Break & END*



The First European Geothermal Review...

...is kindly supported by:



Federal Ministry for the
Environment, Nature Conservation
and Nuclear Safety



PFALZWERKE
Gute Ideen voller Energie.



Rheinland-Pfalz
Ministerium für Umwelt, Forsten
und Verbraucherschutz

LRP Landesbank
Rheinland-Pfalz

Ein Unternehmen der LBBW-Gruppe