



Welcome to the SMU Geothermal Lab newsletter for February. This month we have congratulations, an obituary, summer internships and a list of geothermal energy resources.

SMU Geothermal Laboratory Notes

Maria Richards and **Matt Hornbach** will be speaking at the **SedHeat workshop** Unlocking the Energy Elephant: Science and Engineering for Geothermal Energy in Sedimentary Basins, **March 1-4, 2017** in Salt Lake City, Utah. More information: <http://www.unlockelephant.org>.

Congratulations

Congratulations to **Thermal Energy Partners** on signing a memorandum of understanding to provide geothermal energy and carbon sequestration at the proposed Raven Petroleum refinery in South Texas. More information: <http://www.thermalep.com/tep-signsagreement-with-raven-petro>.



From Left, Tommy Balke, CEO of BASIC Equipment, Christopher Moore, Managing Director of Raven Petroleum and TEP Chief Business Development Officer, James Jackson

Congratulations to **Turboden** for being awarded Best Innovation Prize 2016 by its mother company Mitsubishi Heavy Industries (MHI). The latest innovation from Turboden R&D is the 5-stages ORC turbine used with high-enthalpy geothermal sources. More information on Turboden: <http://www.turboden.eu/en/home/index.php>.

Obituary

John H Sass, who spent his life working in heat flow and geothermal energy, a friend a colleague (USGS) of many in the United States, Canada and throughout the world, passed away on January 16, 2017, at the age of 79. A memorial celebration will be held in the spring at John's Canadian residence, details later in The London Free Press (Canada). Please consider a donation reflecting John's concerns: Doctors Without Borders (MSF), climate change control, animal welfare and nature conservancy. http://azdailysun.com/news/local/obituaries/sass-john-harvey/article_7f04fe92-e1bc-11e6-8f83-17c405fa3823.html.

Job Openings

Calpine has **student internships** available for the summer of 2017 including a Geoscience Intern and a Geothermal Production Engineering Intern. Applications are due March 31, 2017 but you are encouraged to **apply ASAP**. The GRC Student webpage has more information at <https://geothermal.org/students.html#Internships> or you can contact Sam Escalante at samantha.escalante@calpine.com.

Learn Something New

Looking for an introduction to geothermal energy to share with someone? Dewhurst Group, LLC has posted **Geothermal 101 videos** online, <https://www.youtube.com/watch?v=5FURZu-HuX0> in English and <https://www.youtube.com/watch?v=-oyomRg6PBo> en Español.

Geothermal News and Notes

Thanks to **Peter Malin** of ASIR, we have an update on the **st1 Deep Heat project** in Finland available on our blog at <http://blog.smu.edu/geothermallab/2017/02/08/st1-deep-heat-project-update/>.

ElectraTherm, a leader in distributed waste heat to power generation, has been **acquired by BITZER**, the world's largest independent manufacturer of refrigeration compressors. ElectraTherm has more than 50 Power+ Generators™ installed in 12 countries. More information: <https://electratherm.com/bitzer-acquires-electratherm/>.

A **Geothermal Transparency Guide** has been compiled by Icelandic law firm BBA with contributions from law firms around the world. This handbook provides an insight into the legal frameworks governing exploration, exploitation and production of electricity from geothermal resources, in countries where geothermal capacity is being harnessed or is available for harnessing. More information: https://issuu.com/bba3/docs/geothermal-transparency-guide_web.

Applications are open for the **2017 Geothermal Resources Council (GRC) Scholarship Awards** with a total of 6 awards to graduate and undergraduate students available. Applications are **due May 5, 2017**. More information: <https://geothermal.org/students.html>.

GRC is currently looking for students to represent their peers on a **student committee** that will have a direct say in association matters. Email Anh Lay at alay@geothermal.org with your contact information and a copy of your current student ID with a valid date or class schedule.

Thanks to the **2016 GRC student committee** members:

- Burke Brunson (President) - University of North Dakota
- James Crowell (Past-President) - University of North Dakota
- Owen Callahan - University of Texas, Austin
- Cari Covell - Reykjavik University
- Mehet Z. Erincik - University of Texas, Austin
- Kirstin Hargie - Portland State University
- Angela M. Prieto - University of Auckland
- Bardhyl Rama - Czech Technical University in Prague

Geothermal Heat Pump News and Notes

IGSHPA is offering a number of **training workshops and short courses** in conjunction with their Dig In Conference and Expo March 14-16, 2017 in Denver, Colorado. More information:

<http://www.igshpa.okstate.edu/conf/#training>.

Jay Egg has an **article** in Renewable Energy World titled **Can Natural Gas Giants Switch to Geothermal?** The article discusses the idea of natural gas utilities supplying geothermal heat pump systems to consumers. Read more at <http://www.renewableenergyworld.com/articles/2017/01/can-natural-gas-giants-switch-to-geothermal.html>.

This Month's Highlighted Resources

Geothermal Resources

- The Geothermal Technologies Office (GTO) has information on all forms of geothermal energy including Enhanced Geothermal Systems, Hydrothermal Resources, Low-Temperature and Coproduced Resources. <http://energy.gov/eere/geothermal/geothermal-energy-us-department-energy>
- The National Renewable Energy Laboratory (NREL) offers tools such as [Geothermal Prospector](#) which will guide you through the geothermal development process, and [System Advisor Model](#) which will estimate your project cost based on fluid flow, temperature, etc. <http://www.nrel.gov/>
- The U.S. Department of Energy Information Administration (EIA) has a vast amount of data, reports, forecasts, analytical content, and documentation to assist researchers working on energy topics. <http://www.eia.gov/>
- The Geothermal Resources Council (GRC) has a number of resources available including a [blog](#), [Bulletin](#) and [Geothermal Library](#). <http://www.geothermal.org/>
- Geothermal Energy Association (GEA) has a number of resources including geothermal basics, a [newsletter](#) and [reports](#). <http://www.geo-energy.org/>
- National Geothermal Data System (NGDS) gathered and cataloged a wide variety of geothermal and oil & gas information and made it accessible for end users. <http://geothermaldata.org/>
- The International Heat Flow Commission has a global heat flow database. <http://www.heatflow.und.edu/index2.html>
- International Geothermal Association (IGA) website contains extensive information about geothermal energy around the world. A great source for finding publications, photographs, and data about geothermal efforts world-wide. <http://www.geothermal-energy.org/>
- Canadian Geothermal Energy Association (CanGEO) is the collective voice of Canada's geothermal energy industry with a focus on power generation from geothermal energy resources and industry-scale direct use. <http://www.cangea.ca/>

- ThinkGeoEnergy has geothermal news from the US and around the world.
<http://thinkgeoenergy.com/>

Other Event Details

Call for Papers due April 1! The **GRC Annual Meeting** and GEA GEOEXPO+ will be held in Salt Lake City, Utah, October 1-4, 2017. More details at <https://geothermal.org/meet-new.html>.

Registration is open for the U.S. Department of Energy and Institute of the Americas **Mexico Geothermal Opportunities Workshop**, April 4, 2017 in La Jolla, California. More information: <https://www.iamericas.org/en/events-sp-1138149363/2267-mexican-geothermal-opportunities-workshop>.

There will be a session on **geothermal resource investigations** (T14) and a fieldtrip to explore the structural geology and **geothermal energy of Kilauea Volcano** as part of the 2017 GSA Cordilleran Section meeting on May 23-25, 2017 in Honolulu, Hawai'i. More information: http://geosociety.org/GSA/Events/Section_Meetings/GSA/Sections/cd/2017mtg/techprog.aspx.

Calendar

March 1-4, 2017 - SedHeat workshop Unlocking the Energy Elephant: Science and Engineering for Geothermal Energy in Sedimentary Basins, Salt Lake City, Utah. More information: <http://www.unlockelephant.org>.

March 7, 2017 - Geothermal Energy Association's **International Geothermal Forum**, Washington, DC. More information: <https://www.gifttool.com/registrar/ShowEventDetails?ID=1872&EID=23494>.

March 14-16, 2017 – Dig In 2017 IGSHPA Conference & Expo, Denver, Colorado. More information: <http://www.igshpa.okstate.edu/conf/>.

March 21-22, 2017 - SPE/GRC Workshop **High-Temperature and Corrosion in Drilling and Production: Exploring Geothermal and Oil and Gas Synergies**, San Diego, California. More information: <http://www.spe.org/events/en/2017/workshop/17jsnd/about.html>.

March 26-29, 2017 - **Sixth Annual Conference for the Development and Utilization of Deep Geothermal Energy**, Beijing, China. More information: geopowerchina@163.com.

April 4, 2017 - **Mexico Geothermal Opportunities Workshop**, La Jolla, California. More information: <https://www.iamericas.org/en/events-sp-1138149363/2267-mexican-geothermal-opportunities-workshop>.

April 5-7, 2017 - **EMR2017** in Lisbon, Portugal. More information: <http://emr2017.org/>.

April 11-13, 2017 - **NSF – IODP workshop** “Drilling strategies for assessing links between Quaternary Gulf Stream dynamics, pore pressure evolution, and slope stability on the Western North Atlantic Margin,” Dallas, Texas. More information: <http://usoceandiscovery.org/workshop-slope-stability/>.

April 13-14, 2017 - **NREL Industry Growth Forum**, Denver, Colorado. More information: <http://www.nrelforum.com/Home>.

April 25-27, 2017 - AAPG **Geothermal Cross Over Technology Workshop**, Durham, United Kingdom.
More information: <http://www.aapg.org/global/europe/events/workshop/Articleid/32280/geothermal-cross-over-technology-workshop#151742122-details>.

October 1-4, 2017 – **GRC Annual Meeting and GEA GEOEXPO+** Salt Lake City, Utah. More information: <https://geothermal.org/meet-new.html> and <http://geothermalexpo.org/>.

Watch for our **SMU Power Plays** conference details coming soon. January 8-10, 2018 are the dates we have penciled in.

Suggestions for an upcoming newsletter? Email geothermal@smu.edu.
To unsubscribe, email geothermal@smu.edu.