



Welcome to the SMU Geothermal Lab update for September. We are excited to begin the new semester with a mix of familiar and new faces here in the Geothermal Lab. In this newsletter we have information on the launch of the SMU Node of NGDS, lots of congratulations, and information about upcoming events. Looking forward to seeing everyone at the GRC meeting!

## SMU Geothermal Laboratory Notes

Map Display of data on <http://geothermal.smu.edu>

The [SMU Node](#) of the [National Geothermal Data System \(NGDS\)](#) is up and running at <http://geothermal.smu.edu/gtda/>. The **SMU Geothermal Lab** contributed nationwide heat flow and gradient data on **>44,000** wells, **>6,000** related resources such as field notes and temperature depth curves tied to wells and **>900** publication PDFs and related links. Six other institutions also contributed data giving a total of over a **million sites** accessible that can be filtered via a **map display**, or **downloaded** as contributed data sets. Take a minute to read our [quicktips](#) at <http://geothermal.smu.edu/static/manual/index/GettingStartedSMUNodeofNGDS.htm> then see what you can find. Contact Cathy Chickering at 214-768-1510, [catherine@smu.edu](mailto:catherine@smu.edu) or [geothermal@smu.edu](mailto:geothermal@smu.edu) with your questions.

**Data Mining Services** – Looking for specific data or large data synthesis? The SMU Geothermal Lab knows the million pieces of data in the SMU Node of NGDS and how to access them. For example, we can research the quantity and locations of oil and gas wells meeting certain temperature criteria within

a specific area of interest. Contact Cathy Chickering Pace ([catherine@smu.edu](mailto:catherine@smu.edu) or 214-768-1510) to discuss service options and pricing.

We welcome two new graduate students to the Geothermal Lab this semester. *Casey Brokaw* is a recent graduate from SMU who began working in the lab as an undergraduate student. He is working on his Master's degree with a focus on shale thermal conductivity. *Mert Bolat* is joining us from Turkey and is working on his Applied Geophysics Master's degree. Welcome to you both!

We have updated our website <http://www.smu.edu/geothermal>. Take a look and email us at [geothermal@smu.edu](mailto:geothermal@smu.edu) to let us know what you think. Many thanks to *Kaylee Kaigler* who joined us as an intern from Lake Highlands High School last year and worked wonders to migrate and update our website. Good luck at Texas A&M Kaylee!

*Maria Richards* of the SMU Geothermal Lab was quoted in a recent article in the New York Times titled "Geothermal Industry Grows, With Help From Oil and Gas Drilling". Read the full story at <http://www.nytimes.com/2014/07/24/business/geothermal-industry-grows-with-help-from-oil-and-gas-drilling.html?ref=international&r=1>.

*Congratulations* to *Zach Frone* from the SMU Geothermal Lab and *Megan Farley* on their recent marriage over Labor Day weekend in Upstate New York. Our very best wishes to you both!

## **Congratulations**

*Congratulations* to **ElectraTherm** and **ConocoPhillips** on the successful installation of two **Green Machines** at a natural gas compression station in Cessford, Alberta, Canada. The Green Machines are producing electricity from waste heat. Read more at: <http://electratherm.com/docs/ConocoPhillips20140722final.pdf>.

*Congratulations* to **Langson Energy** and **People's Gas** on the successful installation of a **Gas Letdown Generator™** on a gas pipeline in Chicago, Illinois. The Gas Letdown Generator™ is generating power from pressure reduction on the gas pipeline. Read more about the technology at <http://www.langsonenergy.com/>.

*Congratulations* to **Perma Works** for being awarded a Department of Energy, Small Business Innovation Research grant to develop a **500°F camera** for inspecting inside **geothermal wells**. More information: <http://energy.gov/eere/articles/small-business-innovation-research-projects-make-big-impact-clean-energy-economy>.

*Happy Birthday* to **Charles Mac Arthur** who recently turned 86. Charles is interested in all forms of renewable energy and has built a solar-heated laboratory in Maine. Contact him at [altenergyinventor@gmail.com](mailto:altenergyinventor@gmail.com) if you would like to stop by and visit his lab.

## **Geothermal News and Notes**

The **Federal Energy Management Program** (FEMP) is offering an **eTraining course** Titled "Distributed-Scale Renewable Energy Projects: From Planning to Project Closeout". More information: [http://apps1.eere.energy.gov/femp/training/course\\_detail\\_ondemand.cfm/CourseId=2188](http://apps1.eere.energy.gov/femp/training/course_detail_ondemand.cfm/CourseId=2188).

The **Energy Department** has announced commercialization of a **rechargeable energy storage device** capable of operating in the **extreme temperatures** necessary for geothermal energy production. Read more at <http://energy.gov/eere/geothermal/articles/energy-department-announces-first-its-kind-high-temperature-downhole>.

The **Energy Department** has announced up to **\$31 million** to establish the initial phases of the Frontier Observatory for Research in Geothermal Energy (FORGE), a **field laboratory** dedicated to cutting-edge research on **enhanced geothermal systems** (EGS). Learn more at: <http://www.energy.gov/eere/forge/forge-home>.

The **Energy Department** has announced up to **\$18 million** for 32 projects that will **advance geothermal energy development** in the United States. The projects include integrated Enhanced Geothermal Systems Research and Development (<http://www.energy.gov/eere/geothermal/downloads/integrated-egs-rd-foa-selections>), Play Fairway Analysis (<http://www.energy.gov/eere/geothermal/downloads/play-fairway-analysis-foa-selections>), and Low-Temperature Geothermal Mineral Recovery (<http://www.energy.gov/eere/geothermal/downloads/low-temperature-mineral-recovery-program-foa-selections>).

The **National Renewable Energy Laboratory** (NREL) has issued a **report** that highlights findings from a review of **five policy mechanisms** that have been successfully applied to **hydrothermal exploration** activities around the globe – loan guarantees, drilling failure insurance, lending support, grants, and government-led exploration—and their applicability to the **U.S. geothermal market**. Read more at <http://www.nrel.gov/docs/fy14osti/61477.pdf>.

Three reports from the **Energy Department** addressing **water impacts in geothermal energy production** are now available. Two are available in the Energy Department's **Geothermal Data Repository** at <http://gdr.openei.org/>. These reports are titled [Geothermal Water Use: Life Cycle Water Consumption, Water Resource Assessment, and Water Policy Framework](#) and [Life Cycle Water Consumption and Water Resource Assessment for Utility-Scale Geothermal Systems](#). The third report is titled The Water-Energy Nexus: Challenges and Opportunities and is available at <http://energy.gov/downloads/water-energy-nexus-challenges-and-opportunities>.

## **Event Details**

**Abstracts** are due for the **Stanford Geothermal Workshop 40<sup>th</sup> Annual** Tuesday **September 30, 2014**. Session Topics are available [online](#).

The **Renewable Energy Roundup & Sustainable Living Expo** is moving to a new location this year in **Belton, Texas**. The 14<sup>th</sup> Roundup will be held on **September 26-28, 2014**. More information: <http://www.cvent.com/events/renewable-energy-roundup-sustainable-living-expo-2014/event-summary-119b5e9c582b4ba39e28b0e5ec115c00.aspx>.

The **Geothermal Technologies Office** (GTO) is holding a free **workshop** immediately prior to the Geothermal Resources Council Annual Meeting in Portland, Oregon on the GTO **Resource Reporting Metric/Methodology** effort. The workshop will be held on Sunday, **September 28, 2014**. Register at <https://www.eventbrite.com/e/grc-pre-meeting-workshop-us-reporting-methodologies-for-geothermal-energy-tickets-12613538433>.

There will be a **Dave Blackwell Special Session** during the **GRC Annual Meeting** in Portland, Oregon on **Tuesday September 30 from 8 to noon**. Thanks to our session breakfast sponsors: Chena Hot Springs, Perma Works, Joe Moore, Susan Petty, Steve Ponder, Jeff Tester, Al Waibel! Tuesday evening you can join Dave and Marianne for **dinner** at **Alexis Restaurant** near the convention center. Let Maria Richards or Al Waibel know if you're going to be attending the dinner. GRC has a [program of events](#) online.

**Maria Richards** of the SMU Geothermal Lab will be speaking at the **Earth, Wind, & Fire Energy Summit** to be held in **Dallas, Texas** on **October 4-5, 2014**. The summit provides a global view of America's

energy portfolio, discussing not only traditional and renewable forms of energy, but also new, emerging energy technologies – and the potential for these sources in the future. More information: <http://earthwindfiresummit.org/>.

**Registration is open** for the **Texas Renewables Conference 2014**, to be held in Dallas, Texas on **November 3-6, 2014**. More information: <http://www.cvent.com/events/texas-renewables-2014-font-size-2-i-shaping-texas-evolving-energy-markets-i-br-strong-nov-3-6-sherat/event-summary-c2fc6bcb4ec24beda6e872b465338ea7.aspx>

**Save the date** for the SMU Huffington Department of Earth Sciences Friday Seminar speaker on **November 14, 2014**. The **SMU Geothermal Lab** will be hosting **Rob Podgorney** from the **Idaho National Laboratory** on the SMU Campus in **Dallas, Texas**. Rob's talk is titled "A Snake River Plain Field Laboratory for Enhanced Geothermal Systems". More information [geothermal@smu.edu](mailto:geothermal@smu.edu) or <http://www.smu.edu/Dedman/Academics/Departments/EarthSciences/EventsSeminars>.

## **Calendar**

**September 25, 2014 - Houston Renewable Energy Network** breakfast meeting, Houston, Texas. More information: <http://houstonrenewables.org/event/renewable-energy-finance-today/>.

**September 26-28, 2014 - Renewable Energy Roundup & Sustainable Living Expo 2014**, new location Belton, Texas. More information: <http://www.cvent.com/events/renewable-energy-roundup-sustainable-living-expo-2014/event-summary-119b5e9c582b4ba39e28b0e5ec115c00.aspx>.

**September 28, 2014 - Geothermal Technologies Office** workshop on the Resource Reporting Metric/Methodology, Portland, Oregon. More information: <https://www.eventbrite.com/e/grc-pre-meeting-workshop-us-reporting-methodologies-for-geothermal-energy-tickets-12613538433>.

**September 28-October 1, 2014 - GRC Annual Meeting & GEA Geothermal Energy Expo**, Portland, Oregon. More information: <http://geothermal.org/meet-new.html>. *There will be a special session highlighting the research related to Dave Blackwell's career on Tuesday morning, September 30.*

**October 4-5, 2014 - Earth, Wind, & Fire Energy Summit**, Dallas, Texas. More information: <http://earthwindfiresummit.org/>.

**October 28-29, 2014 - NREL's 27th Industry Growth Forum**, Denver, Colorado. More information: <http://www.industrygrowthforum.org/>.

**November 3-6, 2014 - Texas Renewables Conference**, Dallas, Texas. More information: <http://www.cvent.com/events/texas-renewables-2014-font-size-2-i-shaping-texas-evolving-energy-markets-i-br-strong-nov-3-6-sherat/event-summary-c2fc6bcb4ec24beda6e872b465338ea7.aspx>.

**November 14, 2014 - SMU Huffington Department of Earth Sciences Friday Seminar**, speaker Rob Podgorney (INEL), Dallas, Texas. More information [geothermal@smu.edu](mailto:geothermal@smu.edu) or <http://www.smu.edu/Dedman/Academics/Departments/EarthSciences/EventsSeminars>.

**December 9 - 11, 2014 - PowerGen and Renewable Energy World Conference & Expo North America**, Orlando, Florida. **Maria Richards** will be presenting in the Hybrid Solutions session on Dec. 10. More information: <http://www.renewableenergyworld-events.com/index.html?ID=40164>

**January 26-28, 2015 - Stanford Geothermal Workshop 40<sup>th</sup> Annual**, Stanford, California. More information: <https://pangea.stanford.edu/researchgroups/geothermal/stanford-geothermal-workshop>

**February 25-27, 2015 - GeoProc 2015**, Salt Lake City, Utah. More information: <https://secureweb.inl.gov/geoproc2015/Default.aspx>.