

Final Report

## **Distinguished Speaker Program (DSP) and Annual Technology Workshop (ATW)**

VSoE Research Innovation Fund: Final Report

Fred Aminzadeh

Professor of Petroleum and Electrical Engineering

Executive Director, USC Center for Geothermal Studies (CGS.USC.EDU)

Executive Director, USC Reservoir Monitoring Consortium (RMCUSC.EDU)

University of Southern California

925 Bloom Walk HED 310

Los Angeles, CA 90089-1211

Tel. 213 821-4268

Fax 213 740-0324

Email [fred.aminzadeh@usc.edu](mailto:fred.aminzadeh@usc.edu)

## **Abstract**

The RIF funding was sought to ensure a steep increase in both the quality and the volume of R&D work and in geothermal energy. To leverage USC ongoing technical work, we developed a monthly **Distinguished Speaker Program (DSP)**. **CGS DSP** brings experts who are either carrying out technical and applied work in geothermal energy related disciplines or their scientific work has the potential for geothermal applications. The RIF funding accomplished the original objectives of the program by bringing internationally renowned experts from the academia, government and the industry to USC. We also expect to hold our **Annual Technology Workshop (ATW) in 20012**, **ATW** will help put USC on the map associated with excellence in Geothermal Technology research and training. Some of the side benefits of the RIF funding was securing gift contribution from the industry (eg ORMAT Technologies) and new government funding from USAID to help build educational programs for geothermal energy in Indonesia.

## **Introduction**

The USC Center for Geothermal Studies (CGS) has been established to promote excellence in research and development with practical focus and multi-disciplinary programs and education on geothermal energy. The activities of CGS span different technical and operational areas focusing on the challenges associated with geothermal energy. They include issues from exploration and production of geothermal resources to its usage and transmission in a safe and cost effective manner. CGS objectives include developing new research programs and initiatives as well as courses and workshops to help create new body of knowledge necessary to substantially increase the production of geothermal energy and transferring new technologies to the industry. We will facilitate multi-disciplinary research in collaboration with other institutes and departments at USC where we can identify potential applications to geothermal energy.

In what follows we highlight bot the direct accomplishments of the RIF and many indirect benefits we have already realized.

## **Accomplishments**

The original objectives of RIF funding were accomplished. A large number of monthly lectures under the **Distinguished Speaker Program (DSP)** were conducted. The complete collection of abstracts of the talks as well as some of the original presentations could be found at [CGS.USC.EDU](http://CGS.USC.EDU). The list below shows the diversity of the topics as wells as the speakers backgrounds.

### **DSP List of Speakers, February 2011- February 2012**

February 24 2011- Katie Boyle, Lawrence Berkeley National Laboratory  
**Seismicity at the Geysers**

March 23, 2011- Dr. Brigget Martini, Ormat  
**Bombs, Bears and Hot Water,  
Geothermal Prospecting at Mt. Spurr, Alaska**

May 17, 2011 Dr. Ernie Majer, Lawrence Berkeley National Laboratory  
**Induced Seismicity, Issues and Paths Forward**

June 30, 2011 Dr. Kurt Strack, KMS Technologies  
**Advances in Integrated EM for Geothermal Exploration**

July 25, 2011 Pablo Guitierrez, California Energy Commission, Geothermal Program  
Technical Lead  
**California Energy Commission- Geothermal Program**

August 23, 2011 James Slutz, Star Energy Limited  
**Overview of Star Energy: Focusing on Immediate and  
Future Geothermal Project Development**

October 6, 2011 Prof. John Louie, University of Nevada in Reno  
**Advanced Seismic Imaging for Geothermal Development**

February 27, 2011 Prof. Jesse Ivan Katz, Thermochem  
**Advancements in Tracer Flow Testing; Development of  
Real-Time Technology for Flow and Enthalpy  
Measurements**

We also expect to hold our **Annual Technology Workshop (ATW) in 2012**, ATW will help put USC on the map associated with excellence in Geothermal Technology research and training.

The RIF funding had many indirect benefits. Among those are:

- 1- Establishment and maintenance of our website, CGS.USC.EDU. This website highlights latest developments within USC Center for Geothermal Studies.
- 2- We received a sizable gift contribution from ORMAT Technologies. This contribution, among other things will help continue funding our DSP and ATW programs. We also secured some technical collaboration with Ormat technologies with new publications (see the website).
- 3- CGS secured a new funding from the USAID to help build educational programs for geothermal energy in Indonesia (about \$850K external funding)
- 4- We are submitting two new proposals one to the DOE and one to USAID with over \$26 million funding request.