

# Introduction and Overview

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SCITS Affiliates Meeting May 25-26, 2016

# Welcome to SCITS – May 2016

FOR TECHNICAL ASSISTANCE DURING THE MEETING  
CALL, OR EMAIL CLAUDIA BARONI

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SCITS Affiliates Meeting May 25-26, 2016

# Personnel Changes:

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## The Dear Departed:

- Randi Walters, formerly PhD student with Mark Zoback, now working at Boise State University
- David Dempsey, former Post Doctoral Fellow with Jenny Suckale, now a Lecturer (Assistant Professor) at University of Auckland, New Zealand

# Personnel Changes:

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## Soon to be Dear Departed:

- Nori Nakata, Thompson Post Doctoral Fellow at Stanford with Greg Beroza, soon to be an Assistant Professor at the University of Oklahoma
- Yihe Huang, Post Doctoral Fellow at Stanford with Greg Beroza, soon to be an Assistant Professor at the University of Michigan
- Jack Norbeck, PhD student with Roland Horne, soon to be a USGS Mendenhall Post Doctoral Scholar
- Kim Torberntsson and Vidar Stiernström visiting MS students from Uppsala University, Sweden, working with Eric Dunham

# Personnel Changes:

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## New Arrivals:

- Matthew Weingarten, working with Mark Zoback and Steve Gorelick on developing hydrogeomechanical models of the time evolution of induced earthquake sequences.
  - PhD from University of Colorado, Boulder
- Nana Yoshimitsu, working with Bill Ellsworth and Greg Beroza, on Spatio-temporal evolution of induced seismicity sequences in space and time and source parameters of induced earthquakes.
  - PhD from Ritsumeikan University
  - JSPS Research Fellow for Young Scientists.

# Personnel Changes:

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## New Arrivals:

- Martin Schoenball, Feodor Lynen Research Post Doctoral Scholar working with Bill Ellsworth and Greg Beroza  
PhD from University of Karlsruhe
- Rob Skoumal, USGS Mendenhall Post Doctoral Scholar working with Greg Beroza and Bill Ellsworth (summer)  
PhD from Miami University of Ohio

# Personnel Changes:

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## New PhD Students:

- Ayaka Abe, working with Roland Horne
- Gemma Cremen, working with Jack Baker
- Ankush Singh, working with Mark Zoback

# Agenda

## SCITS Affiliates Meeting May 25-26, 2016

### Wednesday, May 25<sup>th</sup>

**08:00 Continental Breakfast**

**08:30 - 08:40 Mark Zoback - Welcome, Personnel Changes, Introduce Agenda**

**08:40 - 09:10 Jack Baker - Comparison of ground motions from natural and potentially triggered earthquakes**

**09:10 - 09:40 Sam Bydlon - Ground motion simulations using dynamic rupture modeling**

**09:40 - 10:05 Nori Nakata – Ground motion prediction using dense arrays**

**10:05 - 10:30 Break**

**10:30 - 10:40 Claudia Baroni - SCITS Administrative Overview**

**10:40 - 11:00 Eric Dunham - Earthquake nucleation and rupture in a poroelastic medium**

**11:00 - 11:20 Yihe Huang - Stress drops of potentially induced earthquakes in the central U.S.**

**11:20 - 11:40 Clara Yoon - The initial stages of the Guy-Greenbrier sequence using FAST earthquake detection**

**11:40 - 12:00 Jenny Suckale - Spatiotemporal and magnitude frequency distributions of injection-induced earthquake sequences applied to Groningen**

**12:00 - 01:00 Lunch**



# Agenda

## SCITS Affiliates Meeting May 25-26, 2016

Wednesday, May 25<sup>th</sup>

- 01:00 - 01:20** Bill Ellsworth - Using local seismic networks to improve earthquake magnitudes and stress drops: application to hazard forecasts
- 01:20 - 01:40** Jack Norbeck - Hydromechanical faulting response during the Prague sequence: Implications for fault zone hydrology
- 01:40 - 02:00** Bill Ellsworth - Constraining pore pressure changes and earthquake triggering potential using deformation data in east Texas
- 02:00 - 02:20** Rall Walsh - Probabilistic assessment of potentially active faults in north-central Oklahoma
- 02:20 - 02:40** Jens-Erik Lund Snee - Update on the Texas Stress Map Project
- 02:40 - 03:00** Greg Beroza - Seismic network optimization for earthquake detection
- 03:00 - 03:20** Break
- 03:20 - 03:40** Cornelius Langenbruch – How will induced seismicity in Oklahoma respond to decreased saltwater injection rates?
- 03:40 - 04:00** Jeremy Maurer - Predicting earthquake magnitudes from injection-induced seismicity
- 04:00 - 04:20** Abhineet Gupta – Change point analysis applied to Oklahoma seismicity
- 04:20 - 04:40** Jenny Suckale - The Oklahoma ice storms: Were there statistically significant changes in seismicity?
- 04:40** Adjourn
- 05:00 - 07:00** Reception at Mary Lou and Mark Zoback's home (433 Gerona Rd., Stanford)

# Agenda

## SCITS Affiliates Meeting May 25-26, 2016

### Thursday, May 26th

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|-----------------------|--|
| <b>08:00</b>          | <b>Continental Breakfast</b>   |
| <b>08:30 - 08:45</b>  | <b>Mark Zoback - Collaboration with CISR on Dallas Ft Worth Seismic Hazard and Collaboration with ExxonMobil related to SCITS Online Fault Slip Potential Software</b> |
| <b>08:45 - 09:15</b>  | <b>Darren Pais and Rall Walsh - Introduction to SCITS Fault Slip Potential Software</b>  |
| <b>09:15 - 10:15</b>  | <b>“Open Mike” for Sponsors<br/>Needs and Opportunities<br/>Follow-up on issues that arose at the SEG/SPE and SSA Meeting<br/>Feedback on USGS 1-Year Hazard Model</b> |
| <b>10:15 - 10:40</b>  | <b>Break</b>   |
| <b>10:40 - 11:00</b>  | <b>Matt Weingarten - Preliminary hydrologic modeling in the vicinity of the Fairview, OK earthquakes</b>   |
| <b>11:00 - 11: 20</b> | <b>Greg Beroza – Using local seismic networks to constrain deep hydrology using time-dependent seismology</b>  |
| <b>11:20 - 11:40</b>  | <b>OPEN</b>  |
| <b>11:40 - 12:00</b>  | <b>Wrap Up and adjourn</b>   |