



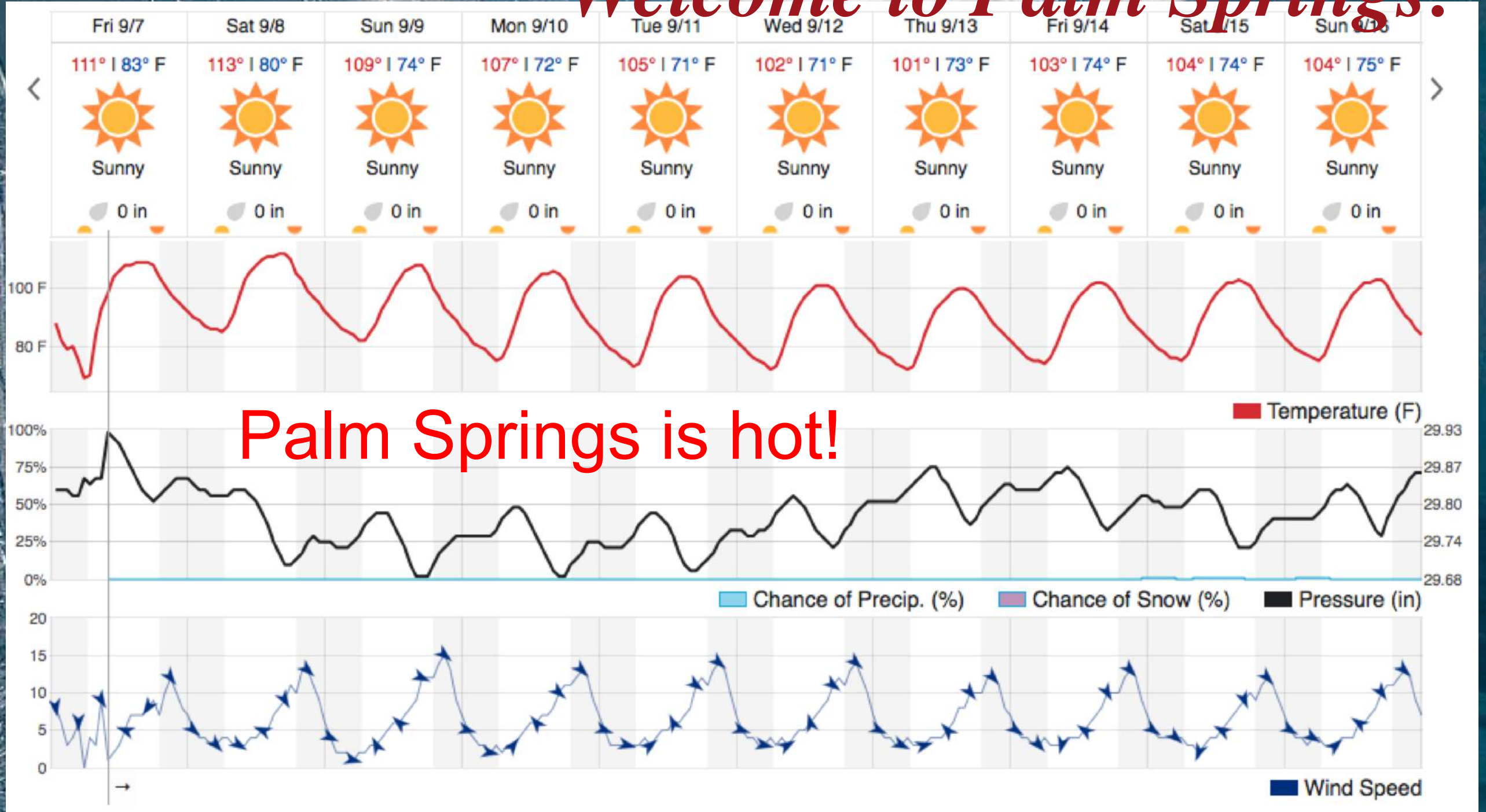
# *State of SCEC*

*John Vidale, director*

Palm Springs, California  
September 10<sup>th</sup> to 12<sup>th</sup>, 2018

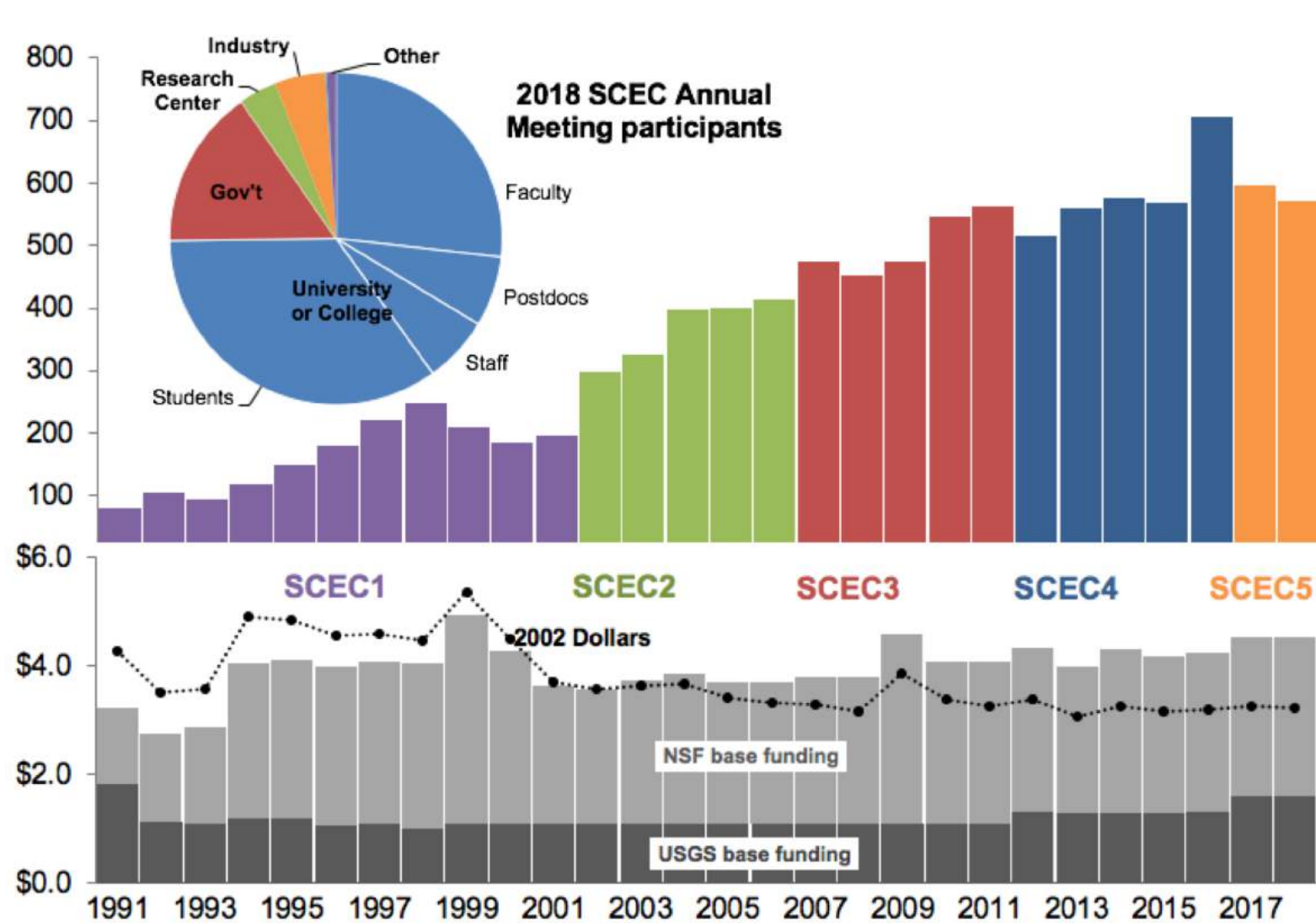


# Welcome to Palm Springs!



**Palm Springs is hot!**

# SCEC Participation and Core Program Funding

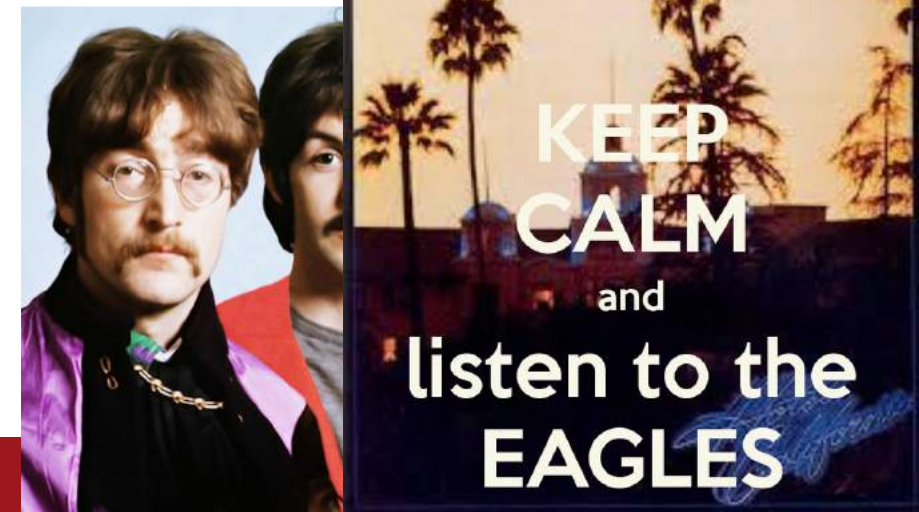


- 571 pre-registrants
- 314 poster abstracts
- 147 first-time attendees  
(104 students/postdocs)
- 284 early-career attendees  
198 students  
30 postdocs
- 18 core institutions
- 58 participating institutions  
44 domestic  
14 international

Upper bar chart shows registrants at SCEC Annual Meetings 1991-2018. Pie chart shows the demographic profile for 2018 pre-registrants (571 total). The lower bar chart is the history of SCEC base funding in as-spent millions of dollars; the connected dots are the base-funding totals in 2002 dollars.

# *Goals of the Annual Meeting*

- Deep in 2<sup>nd</sup> year of 5-year SCEC5
- Discuss SCEC Collaborative Research:
  - Learn about new advances in earthquake science.
  - Share research results and collaboration plans.
- Assess progress on key objectives of the Science Plan.
- With an eye to longer-term hopes and plans.



# SCEC Activities Code of Conduct

## WHY

- To foster a more welcoming, inclusive, and diverse SCEC
- To encourage the free and open exchange of information
- To discourage behaviors that interfere with the above

## HOW

If you have a comment, concern, or incident to report, you may contact me or one of these folks:

- David Oglesby, SCEC Board, UCR
- Michele Cooke, SCEC PC, UMass
- Ruth Harris, SCEC Board, USGS
- Tom Herring, SCEC Board, MIT
- Rowena Lohman, SCEC Board, Cornell
- Deborah Gormley, SCEC Staff, USC
- Gabriela Noriega, SCEC Staff, USC



The SCEC Board has approved a code of conduct for SCEC activities.

You carefully read and agreed to abide by it when signing up for this meeting

HOME | ABOUT SCEC | RESEARCH | LEARN & PREPARE | DASHBOARD Search SCEC.org GO

**SC/EC** Southern California Earthquake Center  
AN NSF+USGS CENTER Studying earthquakes and their effects in California and beyond

MY ACCOUNT LOG OUT

Home / SCEC Meetings and Workshops / SCEC Activities Code of Conduct

### SCEC Activities Code of Conduct

The Southern California Earthquake Center (SCEC) community takes pride in the depth and breadth of its collaborative efforts. We recognize that diversity in our community is critical to the robustness of our science. The Center's working groups, workshops, and meetings enable our community to collaborate over sustained periods, building strong interpersonal networks that promote scientific progress. The SCEC Activities Code of Conduct (Code) outlines specific expectations for participants at all SCEC events, including, but not limited to, meetings, workshops, and field trips. This Code applies to all SCEC events where the community is gathered, whether at the event venue or off-site.

**By accepting an invitation to participate in a SCEC event, you agree to abide by the SCEC Activities Code of Conduct.**

#### Expected Behavior

Acknowledging that the most valuable exchange of ideas occurs in a safe, productive, and welcoming environment, all participants are expected to maintain the following behaviors during all official and unofficial SCEC events:

- Treat all participants, attendees, SCEC staff, and guests with respect and consideration at all times.
- Be collaborative, recognizing the value of a diverse range of experiences, views, and opinions.
- Communicate openly with respect for others, critiquing ideas rather than individuals.
- Be mindful of your surroundings and of your fellow participants. Alert SCEC staff and/or leadership if you notice a dangerous situation or someone in distress.
- Follow the policies of the meeting venue, hotel, SCEC contracted facility, or any other location where your SCEC affiliation is likely to be displayed.

# *SCEC Institutions*



**Don't see your logo here? The process to join SCEC as a participating institution is very simple:**

*Submit a letter from a cognizant official (e.g., your department chair or dean) that requests participating institution status and appoints an institutional representative who will act as the point-of-contact with the Center.*



# *SCEC Board of Directors*



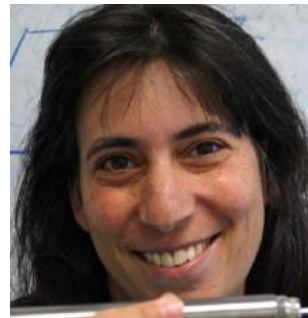
John Vidale  
USC, Chair



John Shaw  
Harvard, Vice-Chair



Peter Bird  
UCLA



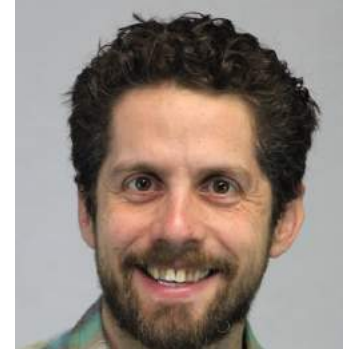
Emily Brodsky  
UCSC



Timothy Dawson  
CGS



Yuri Fialko  
UCSD



Patrick Fulton  
Texas A&M



Rachel Abercrombie  
Boston U, At-large



Ruth Harris  
USGS



Tom Herring  
MIT



Steve Hickman  
USGS



Graham Kent  
UN-Reno



Rowena Lohman  
Cornell, At-large



Nico Luco  
USGS



David Oglesby  
UCR



Tom Rockwell  
SDSU



Kate Scharer  
USGS



Paul Segall  
Stanford



Bruce Shaw  
Lamont



J-P Avouac  
Caltech



Toshiro Tanimoto  
UCSB

# *SCEC Planning Committee*



## **PC Chairs**

Greg Beroza, *Chair*

Judi Chester, *Vice-Chair*

## **Disciplinary Committees**



### **Seismology**

Yehuda Ben-Zion

Jamie Steidl



### **Tectonic Geodesy**

Gareth Funning

Manoochehr Shirzaei



### **Earthquake Geology**

Mike Oskin

Whitney Behr



### **Computational Science**

Eric Dunham

Ricardo Taborda

## **Interdisciplinary Focus Groups**



### **FARM**

Nadia Lapusta

Nick Beeler



### **SDOT**

Kaj Johnson

Bridget Smith-Konter



### **EFP**

Max Werner

Ned Field



### **GM**

Domniki Asimaki

Annemarie Baltay



### **EEII**

Jack Baker

Jon Stewart



### **CXM**

Liz Hearn

Scott Marshall



### **SAFS**

Michele Cooke

Ramon Arrowsmith



### **Special Projects**

Christine Goulet

Phil Maechling



# *SCEC Advisory Committee*



Meghan Miller  
UNAVCO, chair



Susan Beck  
Arizona



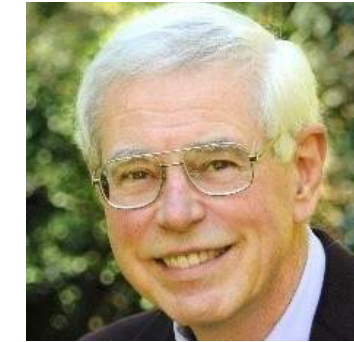
Louise Kellogg  
UCD



Yann Klinger  
IPGP



Warner Marzocchi  
INGV, Rome



Tom O'Rourke  
Cornell



Susan Owen  
JPL



Rick Aster  
Colorado College



Ellen Rathje  
UT Austin



Tim Sellnow  
UC Florida



Heidi Tremayne  
EERI

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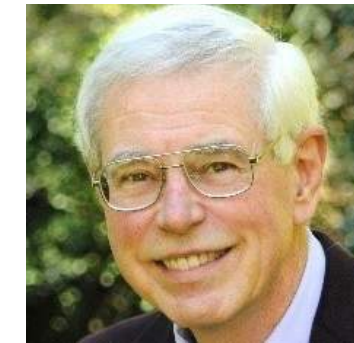
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Yann Klinger  
IPGP



Warner Marzocchi  
INGV, Rome



Tom O'Rourke  
Cornell



Susan Owen  
JPL



Rick Aster  
Colorado College



Ellen Rathje  
UT Austin



Tim Sellnow  
UC Florida



Heidi Tremayne  
EERI

# *CEO Planning Committee*



Tim Sellnow  
UC Florida, Chair



Ricardo Taborda  
U of Columbia



Sally McGill  
CSUSB



Timothy Dawson  
CGS

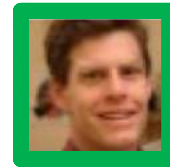


Kate Long  
Lucy Jones Fndtn



Danielle Sumy  
IRIS

# SCEC Management Teams



**John Vidale**  
*Director\**



**Greg Beroza**  
*Co-Director\**

## Comm, Educ, & Outreach



**Mark Benthien**  
*Associate Director\**



**Jason Ballmann**  
*Communications  
Manager*



**John Marquis**  
*Web Manager for C*

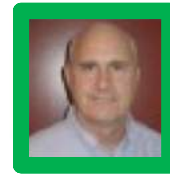


**Gabriela Noriega**  
*Manager of ELCA*



**Sharon Sandow**  
*Asst Dir of Strategic  
Partnerships for CEO*

## Community Modeling Env



**Phil Maechling**  
*Associate Director\**



**Scott Callaghan**  
*Research  
Programmer*



**Bill Savran**  
*Research  
Programmer*



**Fabio Silva**  
*Research  
Programmer*

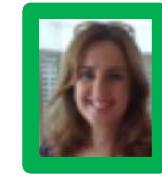


**Mei-Hui Su**  
*Research  
Programmer*



**John Yu**  
*Computing Services*

## Special Projects



**Christine Goulet**  
*Exec Sci Director\**



**Kevin Milner**  
*Research  
Programmer*

## Science Operations



**Tran Huynh**  
*Associate Director\**



**Deborah Gormley**  
*Business Operations  
Specialist*

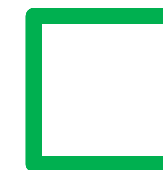


**Edric Pauk**  
*Research  
Programmer*

## Administration



**John McRaney**  
*Associate Director\**



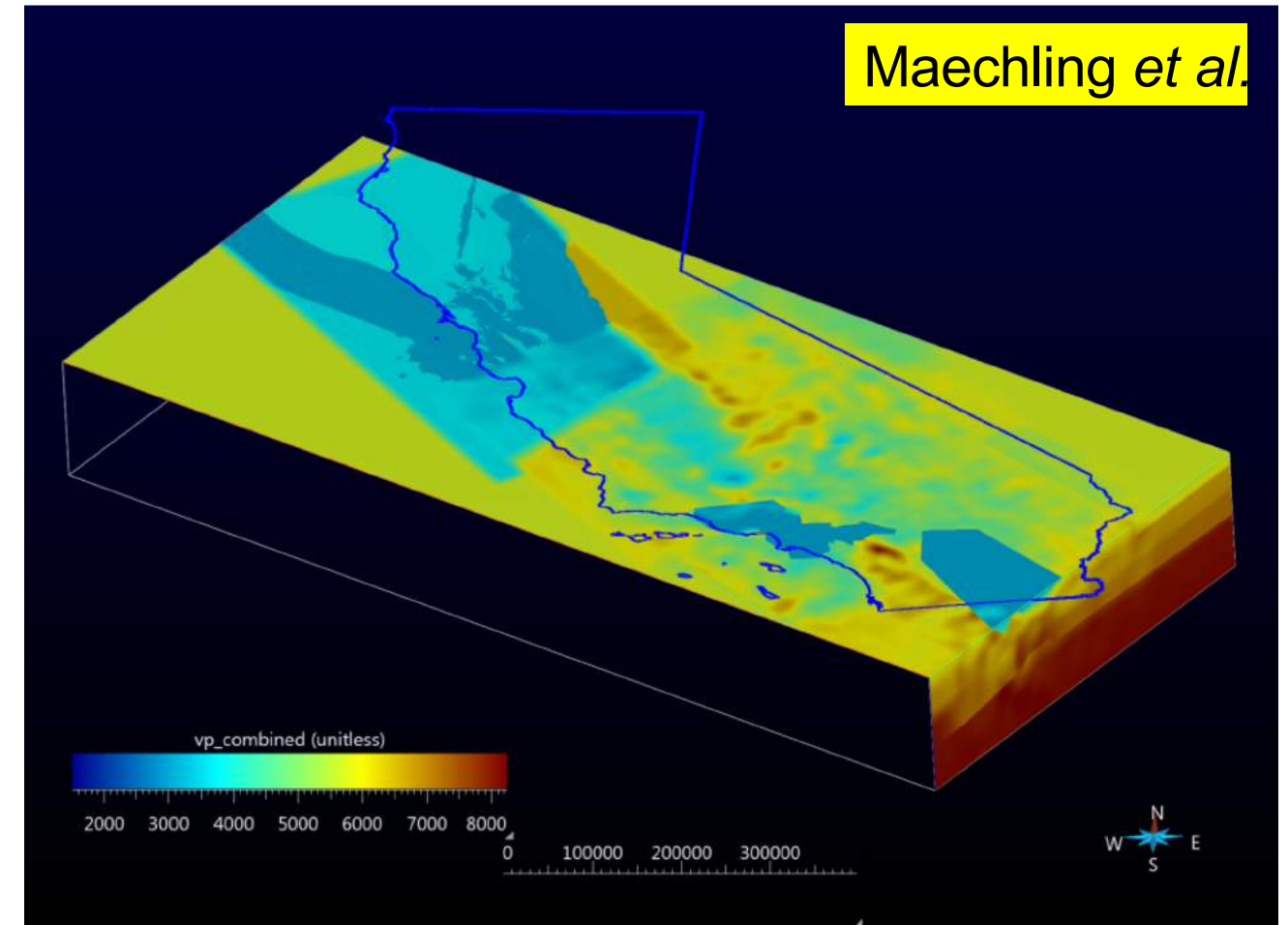
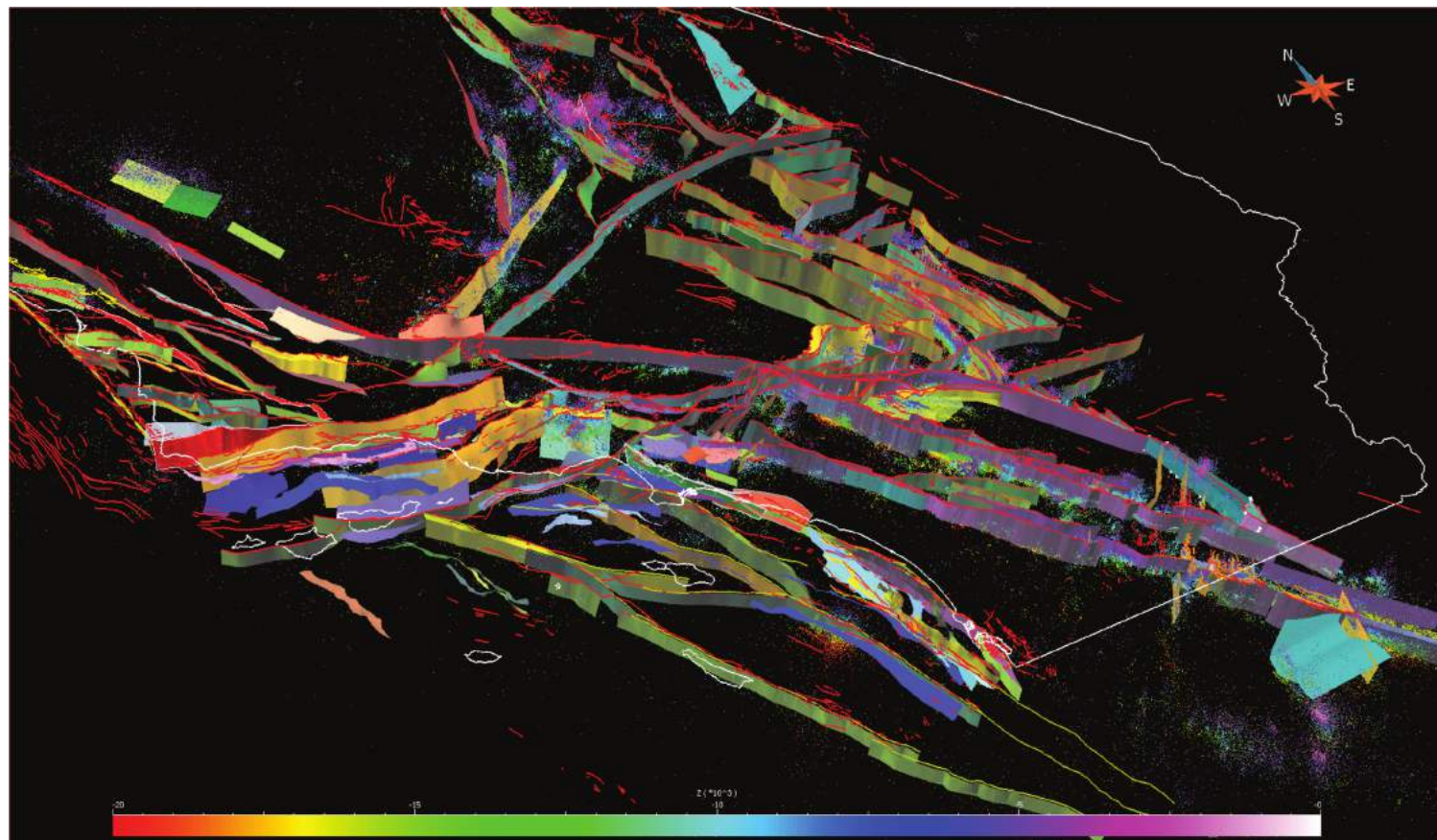
Executive  
committee  
members

# *SCEC5 Framing Questions*

1. *Dynamics of fault systems*—how forces evolve within fault networks on time scales of hours to millennia to generate sequences of earthquakes.
2. *Dynamics of fault ruptures*—how forces produce fracture and slip on time scales of milliseconds to minutes when faults break chaotically during earthquakes.
3. *Dynamics of ground motions*—how seismic waves propagate from rupture volumes to shake the surface of the strongly heterogeneous, inelastic crust.
4. *Earthquake dynamics of the built environment*—how seismic phenomena cause damage to structures, lifelines, critical facilities, and other engineered systems.
5. *Social dynamics of communicating earthquake knowledge*—how to convey scientific information to society in ways that result in lowered risk and enhanced resilience.

# *Community Models in SCEC5*

- CVM - Community Velocity Model
- CFM - Faults
- CGM - Geodetic
- CSM - Stress
- CTM - Thermal
- CRM - Rheology
- GFCM – Geological Framework



# SCEC UseIT Intern Program

## The 2018 Grand Challenge

Develop a computational system for evaluating how well UCERF3, can predict long-term rates of  $M \geq 7$  ruptures on the southern San Andreas Fault.








Test the UCERF3 model against long synthetic seismicity catalogs for Southern California generated by running the RSQSim rupture simulator on the Blue Waters supercomputer.

Select scenarios on the southern San Andreas Fault that are among the most threatening in terms of annualized expected loss, and illustrate their hazard and risk with maps of expected ground motions, economic losses, and human casualties.

Investigate how machine learning might be used to derive a statistical earthquake forecast from deterministic RSQSim simulations. **NEW!**



*See the UseIT posters!*

 Cynthia Tong Geology PCC > CU Boulder	 Shalani Weerasooriya Comp Sci USC	 Lewis Wang Earth Sci & Math USC	 Varduhi Kababjyan Comp Sci USC	 Alejandro Narvaez Comp Sci So Illinois Univ	 Paige Given Geophys Univ of Houston
 Chrissy Polcino Geology PCC	 Anthony Guerra Comp Sci CSU Long Beach	 Katia Ascencio Math LA Har College > UCLA	 Jordan Cortez Physics Univ of North TX	 Anthony Lopez Mech Engineering PCC > Cal Poly Pomona	 Dian Zhu Comp Sci SF State Univ
 Brandon Ho Comp Sci USC	 Elvis Carrillo Earth Sci CSU Dominguez Hills	 Tomoe Misutani Comp Sci Yale	 Ashlee Trotter Geog & Earth Sci Carthage College	 Sebastien Rossouw Engineering PCC	 Jordan Wolz Electrical Eng PCC
 Shril Panchigar Comp Sci PCC > UCI	 Ramon Mei Comp Sci ELAC	 Tiffany Streitenberger Comp Sci Cañada College > UCSD	 Trent Jones Industrial Design USC	 Guillermo Beas Mech Engineering ELAC > Cal State LA	 Bill Addo Comp Sci Cornell
 Resherle Verna Program Support	 Jozi Pearson Program Supervisor	<b>USEIT 2018 Interns</b> <i>Undergraduate Studies in Earthquake Information Technology</i>		 Dr. Gabriela Noriega Program Manager	

# *Agenda*

## **Monday**

**08:30 State of SCEC**

**10:30 Community models**

**13:30 Rupture modeling**

**19:00 Banquet: John McRaney**

## **Tuesday**

**08:30 Distributed deformation**

**10:30 EQ simulators**

**13:30 HPC and ML**

## **Wednesday**

**08:30 Decade of ShakeOut**

**10:30 SCEC looking forward**

*Enjoy the Meeting!*

**SC<sup>1</sup>/<sub>2</sub>EC** *Southern California  
Earthquake Center*  
AN NSF+USGS CENTER



*Southern California Earthquake Center*



