Communication, Education, and Outreach

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SCEC CEO Planning Committee

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Chair & Advisory Council Rep.
Focus Area: Public Education and Preparedness
University of Central Florida

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Focus Area: Public Education and Preparedness
CalOES (Retired)

TBD
SCEC Planning Committee Rep.
Focus Area: Implementation Interface

Tim Dawson
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Focus Area: Implementation Interface
California Geological Survey

Danielle Sumy
Focus Area: K-14 Earthquake Education Initiative
IRIS

Sally McGill
Focus Area: Experiential Learning and Career Advancement
CSU San Bernardino
CEO Focus Areas

Knowledge Implementation
- Engagement of Practicing Professionals
- Engagement with Public and Private Decision Makers

Public Education & Preparedness
- National and Global Preparedness Drills and Resources
- Earthquake Country Alliance
- SCEC Public Relations and Risk Communication

K-14 EQ Education Initiative
- Quake Heroes Film and Toolkit
- Quake Catcher Network
- Educator Professional Development

Experiential Learning & Career Advancement
- SCEC Internship Programs
- Career Advancement / Transitions Program
CEO Funding Sources

- **NSF & USGS**: Overall
- **FEMA**: Great ShakeOut Earthquake Drills
- **CalOES/FEMA**: Earthquake Country Alliance
- **CalOES/NOAA**: TsunamiZone
- **AAA**: Great ShakeOut Earthquake Drills
- **State Farm**: Quake Heroes School Programs
- **California Earthquake Authority**: ShakeOut PSAs, etc.
SCEC Public Relations & Crisis Communications

- SCEC Media Relations (trainings, pitching)
- SCEC Social Media
  - Twitter.com/scec
  - Facebook.com/scec
  - Linkedin.com (search for SCEC)
  - Youtube.com/scecmovies
  - Instagram.com/SCECinsta
- SCEC.org website articles
- Crisis Communications Development
- USEIT Communications Work Group
GeoHazards Messaging Collaboratory (GMC)

- IRIS, UNAVCO, and SCEC communications collaboration
- Webinars for media and scientists, special outreach campaigns, and conference workshops/panels
- Messaging consistency and resource leveraging, rooted in social science research
- New involvement of USGS (Lisa Wald) and NOAA (Cindi Preller)
SCEC Communications Workshops

• 2nd Annual

• Public Communications Theory and Practice for Scientists

• Organized by Jason Ballmann and Dr. Zachary Hall, Cuesta College

• Presentations skills and press conference training
Earthquake Country Alliance

• Public-Private-Grassroots leaders
• Regional alliances organize local activities
• Statewide Sector-based committees develop resources and programs
• California’s Office of Emergency Services requests FEMA support for ECA activities
• Learn more and join today: EarthquakeCountry.org
Statewide messaging and resources: EarthquakeCountry.org

Support for Tsunami Prep. Week: TsunamiZone.org

The Great California ShakeOut: ShakeOut.org/california

Sector Based Committees
ECA Regional Alliance Activities

• Bimonthly meetings of Coordinating Committees

• Regional Workshops (3-4x/year)

• ShakeOut and Tsunami Preparedness Week recruitment, media events, and resource development

• ECA Mini Awards

• Participation in partner conferences & events
• ECA Bay Area participating in and supporting HayWired Coalition

• 2017-2018: Release of scenario chapters as they are completed & outreach to government/business

• Public release: April 18, 2018

• Basis for 2018 Bay Area ShakeOut drills: October 18, 2018
Great ShakeOut Earthquake Drills

• 2016: **55+ million** people worldwide

• Schools, organizations, and families practice earthquake safety and other aspects of emergency plans

• 2017 International ShakeOut Day: October 19

• Learn more and register: [ShakeOut.org](#)
What SCEC Provides

- Manages the California ShakeOut, and the websites of 27 other customized ShakeOut websites on behalf of state or regional partners
- Creates and distributes regionally customized monthly update emails
- Sends regular emails to people who haven’t renewed their registration
- Calls larger organizations nationwide to invite them to renew or register
- Posts frequent social media messaging, new content, etc.
- Provides resources and training to ShakeOut Regional Coordinators
- Coordinates Evaluation (via Michele Wood, CSU Fullerton)
2017 ShakeOut Regions

Participating States, Territories, Provinces, & Countries

- U.S. (October)
- U.S. (April)
- International

Multi-state regions:
- Central US ShakeOut
- Southeast US ShakeOut
- Northeast US ShakeOut

Great Upper MidWest ShakeOut

Plus participation in 70+ other countries that are not yet Official ShakeOut Regions
New ShakeOut Resources

Protect Yourself During Earthquakes

ShakeOut.org/messaging

Step 1:

ShakeOut.org/messaging
Higher Education ShakeOut Resources

Messaging templates, instructor’s guide, and PowerPoint slides (with link to Drill Broadcast): ShakeOut.org/colleges
**TsunamiZone.org**

- **Know Your Zone:** Maps for all coastal areas to know if you are in a tsunami inundation zone
- **Tsunami Preparedness Week:** Register your activities to be counted
- **Event Calendar:** Learn about drills, presentations, and other events near you
- **Resources:** Movies, manuals, posters, etc.
- **2017:** California (138K); Caribbean (470K)
Quake Heroes Documentary

- Interviews and reenactments of people who experienced the 1994 Northridge earthquake; how they helped others
- Earthquake science and its value/application highlighted with comments from Tom Jordan, Lucy Jones, and Ken Hudnut
- Key learning moments tied to the Seven Steps to Earthquake Safety
- Encourages everyone to become trained (CERT, CPR, etc.) and prepared
Quake Heroes Components

• Broadcast-quality documentary
  Interviews, live action re-enactments, archival news footage, and 3D motion graphics

• Classroom toolkit
  Earthquake science lesson plans, take-home preparedness guides, and Teen CERT materials

• Outreach campaign
  Social media, website, and additional video content

• Funding
  FEMA, State Farm, Simpson Strongtie, Safe-T-Proof, and other sponsors
Experiential Learning & Career Advancement

Undergraduate Studies in Earthquake Information Technology (USEIT)

- Continued NSF REU support, $120K/yr for 3-years, 12 interns/year
- Expanded focus on applications of high performance computing
- 25,000 hours on Blue Waters secured by Scott Callaghan
- Additional support from USC ($41K) and local community colleges ($30+K)
- Extensive involvement of all SCEC staff
- **2017:** 22 Interns
Cohort
• 22 interns
• Gender: 12 female/10 male
• Minority: 11
• 1st Generation: 11
• Community college: 7

Majors (some double major)
• Computer Science: 9
• Mathematics: 4
• Engineering: 7
• Geology: 5
Develop a computational system for the probabilistic forecasting of earthquake sequences using RSQSim simulated seismicity catalogs generated on the Blue Waters supercomputer.

Compare simulator-based probabilities for large aftershocks (M ≥ 7) of for three scenarios (M6 Parkfield, M7 Mojave, M6 Bombay Beach) with the values given by UCERF3.

Select multi-event scenarios that could threaten the Los Angeles region and illustrate their hazard and risk with sequence-specific maps of expected ground motions, economic losses, and human casualties.

Learn more: Visit Interns in Posters session or read article on SCEC.org
New SCEC-VDO Training Video

Youtube.com/scecmovies
scecvdo.usc.edu
Summer Undergraduate Research Experience (SURE)

2017: Program postponed due to overall funding delay

2018: Describe a project for a summer intern as part of your 2018 SCEC proposal

- Full stipends and travel support to SCEC Annual Meeting awarded directly to student as supplement to SCEC awards
- Number of SURE internships will depend on available funding
- CEO will coordinate recruitment with potential mentors
SCEC Transitions Program

• 2017-2018: Undergraduate → Graduate
  • Develop SCEC student network (e-mail list, webpage, other resources)
  • SCEC Annual Meeting Workshops and online webinars: advice for applying, info about SCEC institutions, SCEC research opportunities
  • Coordination with SCEC Core (2017) and Participating (2018) Institutions to learn about their diversity/transition programs

• 2019: Graduate → Post Doc / Early Career Opportunities
SCEC Transitions Program

The Breakfast Club—It's Never too Early to Start

Beyond the Baccalaureate—Charting a Course for Grad School  
Monday, September 11, 2017 (07:00-08:00)

Life After Graduate School—Now What?  
Tuesday, September 12, 2017 (07:00-08:00)
K-14 Education Initiative

- Resources:
  - Quake Catcher Network (with IRIS and USGS)
  - SCEC Plate Tectonics Puzzlemap
  - *Quake Heroes* Educational Toolkit and Lesson Plans

- NSF INCLUDES “Earth Connections” San Bernardino Alliance

- Inclusion of EEW education in all the above (CA, OR, WA, etc.)

- Partnerships with IRIS, USGS, UNAVCO, etc. for educator professional development

- Booth at 2017 NSTA and CSTA Conferences
Knowledge Implementation

Desired Outcomes

- *Increased attendance and interactions* at engineering meetings, webinars, etc
- *Engaged engineers*: get them involved in working groups/projects
- *Adoption of SCEC science* for better building codes, insurance rate setting, response, etc.
  - UGMS/CyberShake
  - Simulations (High-F, Broadband, CyberShake)
  - UCERF (Uniform California Earthquake Rupture Forecast)
  - OEF (Operational Earthquake Forecasting)
- *Improved articulation* of science process and results by SCEC Community, both internally and externally
Who to Involve

• Engineers
• Building officials and their staff
• Public officials and their staff
• Media and public
• Social scientists

Approaches

• Participate in ACSE / SEAOC / SEAOSC / AEG / CGS / EERI meetings
• Training webinars and in-person meetings for earthquake engineers, media, etc.
• Invite engineers and building officials to SCEC Annual Meeting
• Field Trips (also potential income source)
QuakeSmart Community Resilience Program

QuakeSmart Summits:
- April 16: Rancho Mirage
- May 16: Long Beach
- May 18: Los Angeles

QuakeSmart Mitigation Inspection Program
- Palmdale Pilot

QuakeSmartCommunity.org
11th National Conference on Earthquake Engineering

- June 25-29, 2018
- Downtown Los Angeles
- Integrating Earthquake Science, Engineering and Policy
- SCEC is a technical co-sponsor with EERI
- Goulet is Program Co-Chair
- Benthien is Publicity Committee Co-Chair

11NCEE.org