

SCEC Advisory Council 2017 Meeting Report

M. Meghan Miller, Chair, UNAVCO

Rick Aster, Colorado State University

Susan Beck, University of Arizona

Roger Bilham, University of Colorado

*Donna Eberhart-Phillips, University of
California, Davis*

Yann Klinger, IPGP/Paris

Warner Marzocchi, INGV, Rome

Tom O'Rourke, Cornell University

Susan Owen, JPL

Tim Sellnow, University of Central Florida

Heidi Tremayne, EERI

Topics Explored:

- Affirmation of SCEC5 Structure and Vision
- Leadership
- Evaluation of Milestones
- Value of the Earthquake Gates (EG) Initiative
- Community Models
- Annual Meeting
- Communication, Education & Outreach
- Post-Earthquake Response
- Sponsorship
- SCEC5 as a Framework for Augmentation

Affirmation of SCEC5 Structure and Vision (1)

- At this critical transition to SCEC5 and new leadership, the Advisory Council commends the long-standing record of SCEC achievement and globally significant contributions to earthquake and Earth system science
- The AC sees a unique and healthy organization with strong prospects for continued world-class advances in the context of the ambitious 5-year plan

Affirmation of SCEC5 Structure and Vision (2)

- The SCEC small grants program is highly cost effective and provides an essential component of the collaborative structure; This success should serve as a model for other disciplines
- The leadership is well qualified to assess, negotiate, and manage SCEC funding and other external challenges

Leadership

- With gratitude and recognition, the Council **applauds Tom Jordan** for exceptional service to and leadership of SCEC and to the global Earth Science community!
- The Council commends **recruitment of John Vidale** as the new Director, and looks forward to working with John and the broader SCEC community in an advisory / support role
- The Council specifically notes the excellent ongoing work of **SCEC staff** and loyalty to the mission during this transition

Milestone Evaluation

- Further, we commend the broad SCEC5 science plan. The milestones provide a useful mix of developmental research, quantitative products, and consensus building activities
- The workshops are valuable and effective in engaging current and new researchers in SCEC components; we encourage the continued participation and support of early career scientists
- The milestones that support distribution of software and models beyond SCEC are important and appropriate

Value of the Earthquake Gates (EG) Initiative

- EG aligns with SCEC strengths in data set integration ranging from paleoseismology to rupture and ground motion simulation
- The Earthquake Gates focus at Cajon Pass addresses pivotal issues that affect the propagation of large earthquake ruptures, with some exciting early results on connectivity between the SAF and SJF
- Another SCEC5 focus EG site would indeed be useful in understanding fault segmentation, should resources allow

Value of the Earthquake Gates (EG) Initiative

- Some EG advancement may come from studies outside of Southern California - SCEC should continue to explore complementary site studies that have features not exposed in California to bring value to EG
- International Borders are not Earthquake Gates!

Community Models

- Levels of effort are appropriate, and community engagement is excellent
- Integration, querying and manipulation of models will facilitate addressing research questions that flow from model integration
- Progress on the (new) rheology component is particularly noteworthy

Community Models

- The SCEC5 focus on basin sediment velocity will clarify near-surface effects on ground motion - this is valuable
- The CRM promises to improve the CVM, as the rheology model may define deeper crustal features that influence overall viscoelastic response
- High-frequency modeling and validation within the ambitious goals of SCEC5 will necessitate massive new data collection, inversion, and data assimilation
- Validation of three-component seismic data is increasingly important

Annual Meeting

- The Council commends the SCEC leadership, support staff and organizing committee on a successful annual meeting
- The size and attendance is well aligned with meeting goals
- The emphasis on science communication (the Sunday Workshop and Monday Distinguished Speaker) builds on SCEC's strengths and furthers its societal impact and value

Communication, Education & Outreach

- The Council is impressed with several exciting new efforts, including:
 - Public Communications Workshop
 - Transitions Program
 - The new logic model that will guide and measure the success of SCEC5 CEO goals and activities
- CEO Assessment:
 - Focus targeted, detailed, nuanced assessments on critical activities
 - Use simple numerical metrics to track changes overall

Earthquake Response

- Post-Earthquake Response focus could cut across many areas of SCEC
- Any plan should articulate the SCEC role and detailed response capabilities to follow a significant event, including mapping collaborative relationships with many partners
- Leadership is encouraged to internally coordinate a SCEC vision with strategies to inform event or response planning

Sponsorship

- SCEC has built a commendable diversity of funding sources
- SCEC leadership clearly recognizes the need to cultivate funding diversity and is well poised to sustain and enhance SCEC resources
- The Council encourages SCEC leadership to continue to build relationships with infrastructure stakeholders
- Other potential sponsors might include NASA or DOE

SCEC5: Framework for Augmentation - 1

- Improved understanding of intermediate period fault behavior likely requires greater knowledge of hydrogeology, hydrogeochemistry, fluid pressure effects, and fluid sources. Work in this area may benefit from **new and/or smaller-scale simulations of fault-fluid interactions and studies of induced seismicity** outside of southern California.
- There may be valuable unrealized opportunities for SCEC programmatic involvement in **induced seismicity research and/or possible upcoming in-situ earthquake experiments** being considered elsewhere in the seismological community.

SCEC5: Framework for Augmentation - 2

- Dense portable seismic arrays have clear benefits for **high-resolution modeling of near-surface structures**, fault structures, and response, as well as for post-earthquake studies
- Coordinate with existing facilities that support instrumentation and data acquisition to ensure **SCEC's unique strengths benefit** these broad efforts

SCEC Advisory Council 2017 - Thanks!

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