Statewide California Earthquake Center

2026 Community Science Plan

Proposals Due: **November 15, 2025**

1. SCEC Mission

The mission of the Statewide California Earthquake Center (SCEC) is to develop and share cutting-edge earthquake system science to enhance California's resilience and to educate and inspire future scientists. SCEC brings together experts across geoscience and related disciplines—from academia, government, industry, and other organizations—to collaborate and advance earthquake science, community resilience, and education by: (1) gathering and analyzing data from field observations and laboratory experiments, (2) developing system-level models and simulations of earthquake processes to synthesize knowledge as a physics-based understanding of seismic hazard, and (3) communicating that understanding to expand knowledge and reduce earthquake risk. SCEC's vision is to support a diverse community of scientists and students to develop better, data-validated models of earthquake processes and improve our understanding and ability to predict earthquake behavior. The SCEC collaboration welcomes new investigators with fresh perspectives and from diverse backgrounds to join our community and take advantage of our resources and opportunities.

2. SCEC Collaboration Planning

The Statewide California Earthquake Center sustains a dynamic research collaboration in fundamental and translational earthquake science. With agility to pursue emerging directions, openness to new investigators, and the convening power to support global, multidisciplinary efforts, SCEC advances earthquake system science, workforce development, and community engagement for societal earthquake resilience. This approach fosters a professional culture that values innovation and merit, and maximizes contributions from the next generation of scientists.

Each year, SCEC solicits proposals through a competitive process that attracts hundreds of investigators to contribute to the Center's programs and activities. SCEC's study area spans the Pacific–North American plate boundary—from western Nevada to the offshore Borderlands, and from Baja California to Cape Mendocino—providing access to extensive geophysical networks and major faults of the San Andreas Fault System, which enable numerous research opportunities.

The *SCEC Community Science Plan* offers a strategic roadmap for distributing efforts across southern, central, and northern California to advance statewide goals. In late spring, the SCEC leadership reviews current programs and research progress. Based on this review and community input at the SCEC annual meeting in September, the Science Steering Committee (SSC) drafts the annual *Science Plan*. A formal solicitation is typically released in October, with proposals due one month later. The SCEC Proposal Review Committee (PRC) evaluates submissions and recommends a balanced, impactful project portfolio to the Board of Directors. This portfolio—known as the *SCEC Collaboration Plan*—guides the Center's earthquake research, community engagement, and workforce development activities for the upcoming year to align with SCEC's mission, institutional composition, and budget that meets both short- and long-term goals.

New This Year. 2026 marks a pivotal transition for SCEC, as several prime awards that currently support Center programs and activities come to a close. A new phase will begin under the leadership of a new Center Director and with new funding sources. The 2026 Science Plan emphasizes sustaining the SCEC community and preserving core capabilities, while positioning the Center to pursue future opportunities in an evolving and challenging funding landscape for science. Departing from the traditional October call for proposals, SCEC will issue two phased calls designed to foster community building and allow additional time for coordinated efforts to emerge that will forge new research directions and maximize interdisciplinary collaboration within and beyond the SCEC community. The first call in October 2025 aims to sustain the SCEC community and preserve critical capabilities, rather than initiating new research projects. To support this goal, SCEC will host a series of workshops aimed at concluding major research initiatives, showcasing Community Earth Models, and strengthening the integration of data, simulations, and applications for hazard and risk reduction. The science priorities for this call are framed as target milestones under SCEC's four research thrusts from the initial 3-year phase of the statewide Center (see Section §6 SCEC Science Milestones). SCEC welcomes workshop proposals that advance these science goals, as well as those that promote community engagement and workforce development activities, as described below.

Looking Ahead. During the September 2025 SCEC Annual Meeting plenary session, "*The Path Ahead: Co-Envisioning SCEC's Next Phase*," incoming Director Ahmed Elbanna shared his vision for the future, which includes advancing SCEC through a "team science" approach to address complex challenges (see recorded presentation: youtu.be/aC0j9i63oC8). For more than 30 years, SCEC has supported collaborative, investigator-driven research across earthquake science and related fields. Building on this tradition, SCEC has encouraged the formation of Technical Activity Groups (TAGs)—open, self-organized collaborations initiated through proposals with clear coordination plans and timelines. TAGs sunset upon completing their milestones and are open to all SCEC members with relevant expertise. In the next phase, SCEC aims to launch new TAGs focused on integrative science with societal impact and strong community engagement. The process for selecting TAG leadership, membership, and funding will be developed in coordination with sponsors and informed by community input. Supported TAGs may receive funding for workshops, targeted research, and SCEC staff support—marking a shift from the traditional mini-grant model to a team science framework that strengthens transdisciplinary collaboration. A second call for proposals will be issued as early as possible in 2026 to recruit TAGs focused on cross-disciplinary efforts aligned with SCEC's goals and in alignment with sponsor priorities. Interested groups will be encouraged to submit a one-page letter of intent to the SCEC Science Steering Committee in November 2025. The SSC will provide feedback and help connect related team science efforts, in preparation for the second call for proposals in early 2026. Proposals will be due one to two months following the official announcement.

A virtual town hall will be held in October 2025 to address questions about both calls for proposals and share details on the TAG letter of intent process. Sign up for the SCEC Community Mailing List to receive announcements of this and other events (scec.org/announcements).

3. Priorities for 2026: Community Workshops & Trainings

Sustained engagement within the SCEC community—and with partner communities—is essential to advancing earthquake science, education, and preparedness in California. The Center supports these efforts through technical activity groups, workshops, field activities, annual meetings, and preparedness drills, all of which foster long-term collaboration and build strong scientific and interpersonal networks. SCEC remains committed to cultivating a vibrant, inclusive community of researchers to lead the future of earthquake system science.

We invite proposals for community workshops and trainings (due November 15, 2025) that sustain the SCEC collaboration, synthesize statewide results, and engage students and early-career researchers in our multidisciplinary science collaboration. Workshops should involve investigators across disciplines and be designed to produce outcomes that inform future research planning. Proposals must clearly outline the science objectives, participant recruitment plan, and expected outcomes and deliverables (see §5 Proposal Submission Guidelines). We encourage submissions that bring ongoing research efforts to completion, foster broad participation, and prepare for new opportunities as the Center transitions to its next phase.

SCEC also welcomes workshop proposals focused on fundamental science, synthesis of Community Earth Models, strengthening links between data and simulations, and connecting earthquake science to societal resilience. Priority areas include advancing the statewide SCEC Community Fault and Velocity Models, updating geodetic and rheology models, and prototyping a Community Fault Zone Model that integrates multi-scale architecture and upper-crustal deformation. Additional emphasis includes methods to account for inelastic deformation, fluid effects, and spontaneous damage in rupture processes, as well as continued development of open-source software, reproducible workflows, and model verification and validation standards.

We encourage engaging key technical stakeholders that would advance the development and application of SCEC science products. Examples for proposed community efforts could include but are not restricted to:

- Utilizing Community Earth models and datasets for advanced ground motion simulations and seismic hazard analyses in California.
- Developing realistic earthquake scenarios for urban regions to strengthen the connection between SCEC's simulation studies and societal risk mitigation strategies for a more resilient California.
- Planning a special publication of the state-of-the-art research results by the SCEC community and identifying future research priorities to improve earthquake hazard, impact, and risk assessments along California's plate-boundary system.
- Clarifying and enhancing SCEC's role in public communication and post-earthquake investigations, including coordination with state and federal agencies to support scientific reconnaissance, data sharing, and real-time observations following significant seismic events.

- Exploring the ethical application of AI across earthquake science—including fault mapping, ground motion simulations, forecasting, and other emerging areas—while advancing AI frameworks for geophysical data and simulations.

4. Workforce Development Opportunities

SCEC develops the future workforce by providing transformative research experiences, building supportive communities, and helping students and early-career researchers navigate key career transitions. SCEC nurtures the next generation of researchers through mentorship training designed to strengthen research mentorship relationships. Strong mentorship is linked to enhanced science identity, sense of belonging, self-efficacy, persistence, research productivity, higher career satisfaction, recruitment, and retention. SCEC's summer internship programs and related experiences offer undergraduates authentic research experiences paired with professional development in core competencies like systems thinking and problem-solving.

SCEC supports student participation in research, workshops, fieldwork, and national meetings, and encourages our network of collaborators to engage in these activities:

- Support undergraduate research by mentoring a SCEC intern during the summer. Learn more at scec.org/internships. Applications typically open January–March.
- Participate in mentorship training to learn strategies for effective research mentoring. Contact gnoriega@usc.edu to learn more.
- Promote research skills through SCEC Research and Travel Awards, which help students and postdocs grow their professional profiles, networks, and research interests. Learn more at scec.org/research-travel-awards.

5. Proposal Submission Guidelines

Prospective investigators should read the SCEC Community Science Plan in its entirety, and understand the expectations for participation in the SCEC collaboration (see §5.D Investigator Responsibilities). Individual investigators should ensure they have a current SCEC.org account, have updated their profile information, and submitted any past due reports.

5.A. Preparing Your Proposal for Submission

All proposals must be submitted to SCEC's online system, accessible via scec.org/scienceplan. The steps below outline the submission process.

Step 1. Proposal Information. Complete the online form using the same details as the cover page of the workshop proposal template provided in Step 4. Also enter the Project Abstract, not to exceed 250 words.

Step 2. Budget and Justification. Proposals must include a detailed budget and budget explanation, entered on the SCEC website and included in the uploaded PDF. Incomplete proposals will not be considered.

Step 3. Current and Pending Support. For workshop or training proposals, investigator current and pending (C&P) support is not required, as funding requests are limited to participant costs and meeting expenses paid directly by SCEC/USC.

Step 4. Proposal Content / Upload Single File. To be complete, your proposal must include all required information (a-d) and be submitted as a single PDF file to the SCEC website by the due date. Incomplete proposals will not be considered.

a. Cover Page: Please use the template provided at scec.org/scienceplan to prepare your proposal cover page. The template ensures all required information is included in a consistent format.

b. Project Description: The Project Description should clearly articulate the research to be undertaken, including the specific objectives, anticipated significance, and plans for future developments. Where appropriate, the work plan should include information about data management and sharing, contributions of named collaborators, and results of prior SCEC support. It should also justify the project both scientifically and in terms of its broader impacts, and explain how it achieves SCEC goals and priorities.

    - Format: The Project Description should not exceed 5 pages maximum (including figures), and follow NSF formatting requirements for font, spacing and margin (https://www.nsf.gov/policies/pappg/24-1/ch-2-proposal-preparation#ch2C2). Reference information is required, and is excluded from the 5-page limit.

    - Project Period: All SCEC-funded workshops and trainings must be held as early as possible and before September 15, 2026. **No-cost extensions will not be possible.** Final dates will be determined to best fit the SCEC calendar and the workshop/training needs. When feasible, workshops will be scheduled adjacent to one another or with the SCEC Annual Meeting to maximize budget efficiency, potentially enabling additional participants or workshops.

    - Project Abstract: The abstract is the most-read section of your proposal. It will appear as-is in the SCEC proposal review system and, if selected for funding, may be featured on the public SCEC website—so make it clear, purposeful, and engaging. The abstract should not exceed 250 words. See the workshop proposal template provided at scec.org/scienceplan for additional guidance.

    - Workshop or Training Description: A strong workshop or training description uses professional yet accessible language and maintains a tone that is both informative and inviting. It should include several essential elements (see the workshop proposal template provided at scec.org/scienceplan for additional guidance). Focus on the goals and objectives of the proposed workshop or training, the expected outcomes, and how the activities will advance research, practice, or collaboration. Clearly define the intended audience and explain how they will benefit or contribute. If the proposal continues a prior SCEC-funded effort, briefly summarize major findings from previous years, and emphasize the relevance and urgency of the work.

c. Budget and Justification: The proposal must include a budget table and justification in the uploaded PDF and also entered online to the SCEC website. Incomplete budgets will not be considered.

    - Budget Guidance: SCEC hosts 6–8 workshops and training sessions annually, selected through the collaboration planning process. Events may be in-person or virtual depending on scope, budget, and participants. Typical in-person workshop awards range from $10,000 to $20,000. These amounts are not fixed, but rather

to calibrate expectations for proposal budgets. Expenses related to workshops, trainings, and SCEC developer time requests are managed with SCEC funds managed at USC. Eligible costs include fixed expenses (e.g., room rental, A/V support, refreshments, field trip costs, laptop rentals, and speaker/trainer costs) and participant support (travel, lodging, meal per diem). Proposals should specify if some participants are expected to self-fund travel and define criteria for selecting those receiving SCEC travel support. Proposals requesting travel support for international participants must clearly explain how they are critical to the project. Before submitting, contact the SCEC Meetings Team (scecmeet@usc.edu) for guidance on scope, budget, and scheduling.

- Software Developer Support: SCEC technical staff maintain and enhance the Center's software ecosystem, services, and community engagement programs. The Research Computing team develops open-source tools and system-science products, supports technical activity groups, implements the data management plan, and coordinates with the SCEC Science Steering Committee to facilitate research, collaboration, data access, and post-earthquake response. If support from SCEC research computing staff is needed for the workshop or training, you may request developer time (in weeks) in your proposal. For guidance on how much time to request and how to enter it in the online budget form, please contact the SCEC Meetings Team at scecmeet@usc.edu.

d. Current and Pending Support: For workshop or training proposals, investigator current and pending (C&P) support is not required, as funding requests are limited to participant costs and meeting expenses.

Step 5. Summary / Acknowledgement. After completing all steps, review your proposal package and confirm that all information is complete and accurate before clicking "Submit." If awarded, the principal investigator must be prepared to demonstrate individual or institutional commitments to responsible research practices by providing, upon request, documentation such as fieldwork safety plans, postdoc mentoring plans, or data management plans.

5.B. Proposal Review Process

SCEC's review process is designed to be thorough, transparent, and responsive to community input. Proposals are independently reviewed by the SCEC Director, Co-Director, Vice-Chair of the Proposal Review Committee (PRC), and leaders of at least three relevant review groups. A subset of the PRC meets as a panel to construct and recommend the portfolio of proposals to fund to achieve a coherent science program that aligns with SCEC's mission, institutional composition, and budget that meets its short-term and long-term goals. The SCEC Collaboration Plan and budgets are approved by the Board of Directors and sponsoring agencies before investigators can be notified. The annual collaboration planning process supports SCEC's ability to remain adaptive to evolving scientific opportunities while ensuring coherence with sponsor priorities.

Proposals submitted to SCEC are evaluated based on (a) scientific merit of the proposed research; (b) competence, career level, and performance of the investigators; (c) alignment of the proposed project with SCEC priorities; (d) promise of the proposed project for contributing to long-term SCEC goals; (e) commitment of the investigators and institutions to the SCEC mission, (f) value of the proposed research relative to its cost; and (g) the need to achieve a balanced budget while maintaining reasonable scientific continuity with limited funding. Note

that proposals that receive a low rating or no funding are not necessarily scientifically inferior. Instead, they may not meet the criteria above.

5.C. Award Procedure

The University of Southern California (USC) serves as the lead institution for the Statewide California Earthquake Center (SCEC), receiving annual funding from the NSF, USGS, and other federal and non-federal sources. Because each sponsor has distinct priorities and terms, SCEC aligns funded proposals with the most appropriate prime award. All funding sources contribute to the development of the Annual Collaboration Plan, which supports interdisciplinary projects involving hundreds of active participants. SCEC's roster of investigators evolves annually as new individuals and institutions join the collaboration. This yearly review enables SCEC to adapt its research direction to meet program goals, milestones, and metrics—a flexible approach that distinguishes it from most other research centers.

Expenses related to workshops, trainings, and requests for SCEC developer time are managed with SCEC funds held at USC. Upon receiving an award notification, investigators will be asked to respond within 14 days to provide: (1) a designated point-of-contact who will coordinate workshop planning with the SCEC team and receive a follow-up email with detailed planning guidelines, (2) the confirmed date(s) for the event, and (3) confirmation that a workshop report will be submitted to SCEC no later than 30 days after the workshop or training concludes.

Funding is contingent upon the workshop or training being held before September 15, 2026.

The SCEC Meetings Team at USC will coordinate with the designated point-of-contact to support the funded workshop or training in the following ways:

- For all events: Collaborate with conveners to design an agenda aligned with workshop/training goals and SCEC priorities. Provide guidance on participant application and selection—including travel funding decisions—to optimize the budget, recruit effectively, and achieve desired outcomes. This input will inform the event webpage, online application, and registration process, all managed by the SCEC Meetings Team. If desired, the team can also support event announcements and handle communications with applicants and selected participants.

- For virtual events: Assist with Zoom meeting setup, hosting, and facilitation during the online sessions.

- For in-person events: Negotiate, contract, and coordinate with the venue to secure meeting space, A/V support, group meals, and lodging as needed. Support travel logistics for SCEC-funded participants, including booking flights, accommodations, and/or processing reimbursements.

5.D. Investigator Responsibilities

By accepting SCEC funding, investigators agree to the terms outlined. Failure to meet these conditions may result in ineligibility for future proposal submissions.

Community Participation. Principal Investigators will interact with other SCEC scientists on a regular basis and contribute data, results, and models to the appropriate SCEC resource.

1. SCEC Annual Meeting. The PI or delegated collaborator will attend the annual meeting and present SCEC-funded project results in the poster sessions, workshops, and/or working group meetings.

2. Data Sharing. Funded investigators are required to contribute data and results to the appropriate SCEC resource and/or shared facilities.

3. Code of Conduct. The Statewide California Earthquake Center is committed to providing a safe, productive, and welcoming environment for all participants. We take pride in fostering a diverse and inclusive SCEC community, and therefore expect all participants to abide by the SCEC Activities Code of Conduct (scec.org/meetings/code-of-conduct).

Project Reporting. Principal investigators must submit a project report within 30 days of the event date for funded workshops and trainings. These reports support SCEC's annual program review and help refine the Science Plan. Reports should be submitted via the investigator's dashboard at SCEC.org, where detailed instructions are provided.

Registration of Publications. Principal investigators must register all publications resulting wholly or partially from SCEC funding in the SCEC Publications System (scec.org/publications) to receive a contribution number. These publications should acknowledge SCEC and include the assigned contribution number.

Professional Standards. Principal investigators should be prepared to demonstrate individual or institutional commitments to responsible research practices by providing, upon request, documentation such as fieldwork safety plans, postdoc mentoring plans, and/or data management plans.

6. SCEC Science Milestones

Research milestones for the Statewide California Earthquake Center (SCEC) are organized by the four main research thrusts and listed by year. These milestones are used by SCEC and its sponsors as an indicator of research progress along conceptual pathways towards the goals of the Center, from 2024-2026. Some milestones are standalone efforts, others require year-by-year evolution, and others are better thought of as annual improvements. While the milestones are meant to be comprehensive in the sense that they span the activities of the Center, they are not intended to be exhaustive nor overly prescriptive on exactly how those goals should be achieved.

When submitting a proposal, you will be asked to indicate which SCEC Science Milestones the project will address. Use the designations listed below to select the appropriate milestones.

6.A. Improving observations and closing critical data gaps

Year 1

A1-1 Assess availability and quality of Community Earth Models (CEMs) for different regions of the SAFS.

A1-2 Create prototype labeled training data sets with metadata, for machine learning (ML) analyses of seismic, geodetic, and geologic observations.

A1-3 Identify fault zones across the entire San Andreas Fault System for which new paleoseismic or geologic slip rate data would significantly reduce uncertainty in seismic hazard determinations for both ground motion and surface rupture, including for time-dependent models. Use high resolution topography (lidar and photogrammetry) and imagery, geologic, and geomorphic tools to identify sites along these faults that are accessible and conducive to earthquake geology studies.

Year 2

A2-1 Develop spatially variable Sedimentary Velocity Models for major sedimentary basins. Merge multi-scale seismic velocity models across southern, central, and northern California. Test incremental resolution results via wave propagation simulations.

A2-2 Constrain updated versions of the Geological Framework (GF) and Community Thermal Model (CTM) using data and modeling. Work toward quantifying distributed upper-crust deformation including folding.

A2-3 Develop a high-resolution ML-based earthquake catalog with precise locations for the entire SAFS.

Year 3

A3-1 Establish a SAFS-wide Community Fault Model (CFM) that includes more realistic 3D geometry and reconciles inconsistencies between the existing CFM and the lower-resolution National Seismic Hazard Model (NSHM) faults.

A3-2 Extend the high-resolution earthquake catalog to include focal mechanisms.

A3-3 Integrate new data and simulation constraints into the Community Stress Model (CSM).

A3-4 Determine geologic slip rates and paleoseismic histories (particularly the date of the most recent earthquake) for faults currently lacking this information. Prioritize faults passing through populated areas and/or those for which geodetic slip rates are difficult to obtain.

A3-5 Develop new and/or improved geodetic-based fault slip rates with a focus on Northern California and poorly characterized fault systems. Compare with geologic slip-rate observations where available and use them to constrain the geographic extent of off-fault deformation.

A3-6 Establish preliminary SAFS-wide Community Velocity Model (CVM) and Community Geodetic Model (CGM). Curate a Unified Structural Representation combining the CVM and CFM for the entire SAFS. Establish a Community Rheology Model (CRM) that spans all principal fault systems of the plate boundary.

6.B. Developing rheologies that bridge scales and conditions for the San Andreas Fault System

Year 1

B1-1 Prototype rate-dependent constitutive models for gouge materials in crustal fault zones. Identify important minerals for which ductile flow laws are insufficiently characterized and develop a plan to remedy this situation.

Year 2

B2-1 Develop the first Community Fault Zone Model to curate data on multi-scale fault zone architecture. Extend the scope of the geological framework to cover the entire SAFS. Include elastic properties of compliant fault zones in the CRM.

B2-2 Incorporate fluid effects in models for inelastic response of rocks and gouge materials to illuminate the interplay between inelastic deformation and fluid flow, including the dependence of hydraulic parameters on mechanical deformation, localization and delocalization of strain, as well as generating a spectrum of slip phenomena.

Year 3

B3-1 Establish a SAF-wide Community Thermal Model and Geologic Framework Model.

B3-2 Update the flow laws used to model bulk deformation and ductile shear zones for a broad range of relevant minerals. Incorporate grain size in CRM definitions.

B3-3 Create prototype bulk damage rheology for long- and short-term deformation in the upper crust including the sediment velocity model. Validate long-term stress field simulations conducted with the CRM against CSM observations.

6.C. Developing advanced modeling frameworks

Years 1-3

C1,2,3-1 Develop, extend and maintain code training, benchmarks, verification (inter-code comparison) and validation (comparison with observations) standards and exercises in seismic cycle, dynamic rupture and ground motion modeling, as well as earthquake forecasting and testing.

Year 1

C1-1 Develop and utilize existing and emerging cyberinfrastructure to allow for 3D visualization and data (and model data) access. Work towards integration of different Community Earth Models into an integrated web-based Community Earth Model Framework.

C1-2 Create workflows for unifying and curating simulation results following FAIR best practices to be used in ML analysis, observational validation and to better link existing modeling capabilities and bridge time and space scales

Year 2

C2-1 Apply new capabilities to model spontaneous generation of localized and distributed damage features along with tectonic deformation.

C2-2 Develop, verify and validate open-source algorithms and prototype solvers promoting reproducible research through support of open data access and public software infrastructure for simulations of earthquakes, large scale fault slip, rock damage and deformation and their coupled evolution. Work on improved solid flow and temperature solvers for tectonic deformation.

Year 3

C3-1 Develop prototype 2D and 3D simulations of coupled evolution of earthquakes, faults, and tectonic deformation within an integrated Model/Software Ecosystem.

6.D. Improving predictive analyses of seismicity and ground motion

Year 1

D1-1 Assess space- and time-dependent geophysical variables that influence seismicity rates and occurrence patterns across the SAFS, such as heat flow, slow slip and fault network characteristics.

Year 2

D2-1 Improve clustered seismicity forecasting models for California for evaluation within CSEP. Identify and promote benchmarks to compare the performance of various machine learning and other new algorithms to standard models such as ETAS.

D2-2 Determine signals (e.g., localization, accelerated activity, quiescence) preceding M>7 earthquakes in California and large events in lab experiments.

Year 3

D3-1 Create frameworks for seismicity forecasting as alternatives to ETAS (the Epidemic Type Aftershock Sequence model) for CSEP evaluation. Develop methodology for detecting localization and other transient signals of shear deformation in geophysical observations.

D3-2 Combine high resolution Sediment Velocity Models with high resolution spatio-temporal physics based simulations in 3D (AWP-OCD) and perform systematic validation studies against observations and ergodic ground motion models. Quantify the implications of improved crustal models for ground motion characterization.

D3-3 Develop a library of California-wide ground motion simulation scenarios to provide input for median scaling of non-ergodic ground motion models. Illuminate path effects through the basins of the statewide Sediment Velocity Model.

SCEC Review Groups

The **Seismology** disciplinary group collects data on seismic phenomena in the plate boundary system of California, develops new techniques to extract detailed and reliable information from the data, and integrates the results into models of velocity structures, source properties, and seismic hazard. The group fosters innovation in network deployments, data collection, and data processing, especially those that fill important observational gaps and provide real-time research tools.

The **Tectonic Geodesy** disciplinary group uses geodetic measurements to study crustal deformation over the earthquake cycle along the San Andreas Fault System. They aim to determine how faults are loaded and the role of off-fault deformation. The group monitors and responds to earthquakes, tracking surface deformation changes, measuring coseismic displacements, and contributing to the Community Geodetic Model.

The **Earthquake Geology** disciplinary group focuses on the Late Quaternary record of faulting and ground motion, including data gathering in response to major earthquakes. The group fosters research on outstanding seismic hazard issues, the geological framework and earthquake history of faults in California, and contributes significant information to the Community Earth Models. The group manages the SCEC geochronology infrastructure, which provides ^{14}C and cosmogenic dating for SCEC-funded research.

The **Research Computing (RC)** disciplinary group develops research software and uses advanced modeling, data-intensive computing, and high-performance computing to address emerging needs of SCEC users. They work with SCEC scientists to leverage rapidly changing computer architectures, algorithms, and software technology, and engage with academic and national high performance computing (HPC) resource providers to facilitate large-scale and data-intensive research computing. The group also supports students in the geosciences and computer science to develop valuable research computing skills.

The **Plate Boundary System (PBS)** group studies earthquake history to clarify and refine hazard assessments throughout the entire transform plate boundary between the Pacific and North American Plates from western Nevada to the Borderlands offshore, and from Baja California to Cape Mendocino. They develop projects to collect and analyze data on the timing and size of large earthquakes along the San Andreas Fault System and to investigate fault features that may halt or permit continued rupture.

The **Fault and Rupture Mechanics (FARM)** group uses field, lab, and theoretical studies to (1) constrain the properties, conditions, and physical processes that control faulting in the lithosphere throughout the earthquake cycle; and (2) develop physics-based fault models at various scales, such as for earthquake nucleation, propagation, and arrest, or long-term earthquake sequences. They aim to understand earthquakes in the San Andreas Fault System and contribute to seismic hazard estimates and physics-based ground motion predictions.

The **Stress and Deformation Over Time (SDOT)** group studies lithospheric processes in the San Andreas Fault System to understand how faults are loaded and evolve over time on timescales from tens of millions of years to tens of years. They use geodynamic modeling to characterize present-day stress and deformation, and to tie this to long-term lithospheric evolution. SDOT also develops system-wide deformation models to contribute to physics-based probabilistic seismic hazard analysis.

The **Community Earth Models (CEM)** group develops, refines and integrates community models describing a wide range of features of the California lithosphere and asthenosphere. These features include: elastic and attenuation properties (Community Velocity Model, CVM), temperature (Community Thermal Model, CTM), rheology (Community Rheology Model, CRM), stress and stressing rate (Community Stress Model, CSM), deformation rate (Community Geodetic Model, CGM), and fault geometry (Community Fault Model, CFM). Their ultimate goal is to provide an internally consistent suite of models that can be used together to simulate seismic phenomena in California.

The **Earthquake Forecasting and Predictability (EFP)** group coordinates research on: developing earthquake forecast methods; evaluating earthquake forecasts; expanding knowledge of earthquake processes relevant for forecasting; developing and using earthquake simulators; and understanding the limits of earthquake predictability. Through the Collaboratory for the Study of Earthquake Predictability (CSEP), the EFP group supports a wide range of scientific prediction experiments worldwide, including those involving geographically distributed fault systems in different tectonic environments, through international collaboration.

The **Ground Motions (GM)** group studies ground motion data and models wave propagation mechanisms, including nonlinearity and scattering effects. They develop and validate physics-based simulation methodologies to predict strong-motion broadband waveforms and permanent ground deformation. The group also studies how regional nonlinear effects can be modeled to produce simulated ground motions that are valid across a range of magnitudes, distances, and frequencies, especially for large magnitudes at close distances.

The **Applied Science Implementation (ASI)** group connects SCEC scientists and research results with practicing engineers, government officials, business risk managers, and other professionals, as well as computer scientists, to improve the application of earthquake science and take advantage of emerging technologies to perform research. The ASI group engages with communities that interface with the Center, such as technical stakeholders and downstream users, to apply geoscientific knowledge to hazard quantification, validate ground motion simulations and earthquake rupture forecasts, and integrate and use SCEC science products.

The **Community Capability Building (CCB)** group focuses on activities that train researchers at all career levels in multidisciplinary research and the skills needed to engage in the SCEC collaboration, including new technical skills that emerge and/or are needed for research. They support efforts that maximize the contributions from the next generation of earthquake scientists by providing opportunities to learn from and collaborate with experienced researchers, develop new skills, and build networks. This enables a diverse group of researchers to collaborate over time, building deep scientific collaborations and interpersonal networks to advance earthquake science.

SCEC Workshop Proposal Template

SCEC Identifier	26123 (*provided by the online proposal system)*
Project Title	*Enter proposal title*
Project Period	January 1, 2026 - September 15, 2026
Proposal Category	*Select one from below:* Community Workshop Community Technical Skills Training
SCEC Science Milestones Addressed	*See §6 Science Milestones. List all the milestones this proposal might address. For example:* A1-1, A1-2, B1-2
Total Budget Request	$##,### *For specific budget guidance, see §5.A Preparing Your Proposal for Submission in the Community Science Plan.*
Target Event Date(s)	Month Day–Day, Year *The event must occur between January 1 and September 15, 2026. No-cost extensions are not allowed.*

Investigators	**Institutional Affiliation**
First Lastname 1 First Lastname 2	Institution Name Address, City, ST
First Lastname 3	Institution Name Address, City, ST

About Participants	
How many people will be involved in the project (including PIs, and those directly funded or otherwise)?	##
Will the project funds support Early Career faculty or postdoctoral researchers?	yes / no
Will the project funds support Graduate Students?	yes / no
Will the project funds support Undergraduate Students?	yes / no
Are any of the collaborating institutions a Regional Public University (RPU), Minority Serving Institution (MSI) or Primarily Undergraduate Institution (PUI)?	yes / no

Suggested Review Groups	*Select the three most relevant review groups based on the descriptions provided above. For example:* Seismology, Plate Boundary System, Community Earth Models

Abstract

The abstract is the most-read section of your proposal. It will appear as-is in the SCEC proposal review system and, if selected for funding, may be featured on the public SCEC website—so make it clear, purposeful, and engaging. Focus on the goals and objectives of the proposed workshop or training, the expected outcomes, and how the activities will advance research, practice, or collaboration. Clearly define the intended audience and explain how they will benefit or contribute. If the proposal continues a prior SCEC-funded effort, briefly summarize major findings from previous years. Conclude with a compelling call to action that emphasizes the relevance and urgency of the work. Use accessible language to appeal to a broad, multidisciplinary audience. The abstract should not exceed 250 words.

Elements of a Workshop or Training Description

A strong workshop or training description uses professional yet accessible language and maintains a tone that is both informative and inviting. It should include the following essential elements:

- **Engaging Title:** A clear and descriptive title that reflects the workshop topic or technical skills training. It should attract attention and invite participation.
- **Clear Purpose and Relevance:** Explain *why* the event is being held. Highlight the importance of the topic and its relevance to current challenges or advancements in the field. Clearly state how the objectives align with **SCEC's mission and annual priorities**.
- **Context and Background:** Provide a brief overview of the topic area, including recent developments or ongoing efforts. Mention any organizations, initiatives, or collaborations that lend credibility or continuity to the event.
- **Goals, Objectives, and Outcomes:** Clearly state what the event aims to achieve. Identify specific challenges or questions the workshop will address. Highlight anticipated results, insights, or contributions. If the work is in progress, describe expected outcomes by the time of the event and beyond.
- **Target Audience:** Specify who should attend (e.g., students, researchers, practitioners, policymakers). Encourage participation from diverse but relevant fields to foster interdisciplinary dialogue. Identify any key presenters or trainers essential to achieving the stated objectives. Summarize the recruitment strategy to reach the target audience.
- **Structure and Format:** Outline the overall format (e.g., in-person, virtual, hybrid), including start/end times, duration, and planned activities (e.g., invited talks, group discussions, breakout sessions, poster sessions, field trips, software demonstrations, hackathons). Mention any pre-meeting activities (e.g., webinars, planning sessions) that support the main event.

Budget Plan

The proposal must include a budget table and justification in the uploaded PDF and also entered online to the SCEC website. Events may be in-person or virtual depending on scope, budget, and participants. Typical in-person workshop awards range from $10,000 to $20,000. These amounts are not fixed, but rather to calibrate expectations for proposal budgets. Expenses related to workshops, trainings, and SCEC developer time requests are allocated to SCEC funds held at USC.

Eligible costs include fixed expenses (e.g., room rental, A/V support, refreshments, field trip costs, laptop rentals, and speaker/trainer costs) and participant support (travel, lodging, meal per diem). Proposals should specify if some participants are expected to self-fund travel and define criteria for selecting those receiving SCEC travel support. Proposals requesting travel support for international participants must clearly explain how they are critical to the project. SCEC research computing staff may be needed to support the workshops or training, and their time may be requested (in weeks) through the proposal submission process.

Before submitting your proposal, contact the SCEC Meetings Team (scecmeet@usc.edu) for guidance on scope, budget, scheduling, and developer time.

Budget Table. Example fixed costs for a hypothetical 1-day, 1-night workshop for 35 participants in the Sacramento area. Flight estimates are based on round-trip economy fares into SMF airport, with lodging and meal rates using GSA rates.

Group Meeting Expenses	per Person	# People	Subtotal
Meeting package (AV, lunch, breaks, room rental) for 1 day	$150	35	$5,250
Additional group meals	$0	35	$0
Other meeting expenses (e.g. supplies, bus rental)			$0
		Estimated Group Meeting Expenses =	$5,250

Travel Expenses	Flights	Ground	Lodging	per Person	# People	Subtotal
from Eastern Time	$600	$100	$300	$1,000	5	$5,000
from Central Time	$400	$100	$150	$650	4	$2,600
from Mountain Time	$350	$100	$150	$600	4	$2,400
from Pacific Time	$250	$100	$0	$350	10	$3,500
from Local Area	$0	$0	$0	$0	10	$0
from Foreign Country	$1,350	$100	$300	$1,750	2	$3,500
					Estimated Travel Expenses =	$18,500
					Total Workshop Expenses =	$23,750