

Draft Agenda

GeoPRISMS 2019 Synthesis & Integration TEI

February 26-March 1 | San Antonio, Texas

Tuesday February 26

Morning meeting of workshop conveners (including leaders of EC symposium).
12:30-17:00 Early Career Symposium.

Wednesday February 27

Breakfast (7:00-8:00).

Early morning session (08:00-10:00):

GeoPRISMS office welcome, status of the decadal program (15 min.).

Conveners overview of meeting objectives (15 min.).

NSF program managers update (15 min.).

Discussion (15 min.).

Summary of SCD Initiative (from past TEI conveners) (20 min.).

Summary of RIE Initiative (from past TEI conveners) (20 min.).

Coffee break (20 min.).

Late morning session (10:00-12:00):

Talks covering recently funded Research Coordination Networks (45 min.).

Discussion (15 min.).

Speakers from allied organizations can talk about opportunities in years ahead:

Presentation from NASA Earth Science (20 min.). *Disasters program?*

Vision talk from USGS (20 min.)

Vision talk from IODP (20 min.)

Possible agenda item: Coastlines and People (COPE). <https://coastlinesandpeople.org>

Lunch on your own (12:00-13:30).

Early afternoon session (13:30-15:20):

Theme 1: Deformation at all timescales Explain the first of three science themes (15 min.).

Topic 1a: *The role of structural inheritance in plate tectonic events.*

RIE: How does preexisting lithospheric structure control the architecture of rifted continental margins during and after breakup? (20 min).

SCD: What are common geological settings for subduction initiation, and what tectonic events precede the development of self-sustaining subduction? (20 min.).

Questions for both speakers (15 min.).

Topic 1b: *Reconciling strain budgets at different time scales.*

RIE: What is the role of discrete and transient events, including magmatic diking, in the breakup of continents and the onset of seafloor spreading? (20 min.).

SCD: How does deformation across the subduction plate boundary evolve in space and time, through the seismic cycle and beyond? (20 min.).

Questions for both speakers, and discussion of Theme 1 (20 min.).

Coffee break (20 min.).

Late afternoon session (15:20-17:30):

Breakout session 1: Deformation at all time scales

Instructions on first breakout session. (15 min.).

Dividing the participants in four groups and send them to breakout rooms (15 min.).

Breakout meetings (60 min.).

- Where do we have gaps in our understanding? What are remaining or emerging science questions?
- What kind of infrastructure does our community need to address current science questions? What data sets must we collect?
- Is an amphibious research program required to accomplish our goals? How do we maintain a cohesive community that conducts research across the shoreline?
- How do we capture the momentum of the GeoPRISMS community? Would a Research Coordination Network (RCN) serve this purpose?

Short, two-slide talks on new research initiatives, possibly highlighting posters (40 min.).

Poster session with cash bar (17:30-19:00).

Dinner on your own.

Thursday February 28

Breakfast (7:00-8:00).

Early morning session (08:00-10:30):

Summaries of Breakout session 1 (30 min.).

Outcome of Early-Career symposium, presented by ECS leaders (30 min.).

Theme 2: Mass fluxes. Explain the second of three science themes (15 min.).

Topic 2a: *Fluid and volatile fluxes at plate boundaries.*

RIE: What are the mechanisms and consequences of fluid and volatile exchange between the Earth, oceans, and atmosphere at rifted continental margins? (20 min.).

SCD: How are volatiles, fluids, and melts stored, transferred, and released through the subduction system? (20 min.).

Questions for both speakers (15 min.).

Coffee break (20 min.).

Late morning session (10:30-11:30):

Topic 2b: *Evolution of the volcanic arcs, and the composition of continental crust*

RIE: What does the crustal composition of volcanic rifted margins tell us about the dynamics of rifting? (20 min.).

SCD: How does the composition of island arc crust evolve as the convergent plate boundary matures? (20 min.).

Questions for both speakers, and discussion of Theme 2 (20 min.).

Lunch on your own (11:30-13:00).

Early afternoon session (13:00-14:50):

Breakout session 2: Mass fluxes

Instructions on second breakout session. (15 min.).

Dividing the participants in four groups and send them to breakout rooms (15 min.).

Breakout meetings (60 min.).

- Where do we have gaps in our understanding? What are remaining or emerging science questions?
- What kind of infrastructure does our community need to address current science questions? What data sets must we collect?
- Is an amphibious research program required to accomplish our goals? How do we maintain a cohesive community that conducts research across the shoreline?
- How do we capture the momentum of the GeoPRISMS community? Would a Research Coordination Network (RCN) serve this purpose?

Coffee break (20 min.).

Late afternoon session (14:50-17:30):

Summaries of Breakout session 2 (30 min.).

Theme 3: The stability of margins and geohazards. Explain the third science theme (15 min).

Topic 3a: *Feedbacks between tectonics, surficial processes, sediment transport and deposition*

RIE: How does sediment influx affect the structure and dynamics of active rift zones? (20 min.)

SCD: What are the critical feedbacks between surface processes, fluid flow, and subduction zone mechanics and dynamics? (20 min.).

Questions for both speakers (15 min.).

Topic 3b: *Geohazards*

RIE/SCD: How does the record of ancient landslides on continental margins inform us of geohazards at passive margins and subduction zones? (20 min.).

SCD: What governs the size, location and frequency of great subduction zone earthquakes and how is this related to the spatial and temporal variation of slip behaviors observed along subduction faults? (20 min.).

Questions for both speakers, and Discussion (20 min.).

Poster Session with cash bar (17:30-18:30).

Conference dinner (18:30-20:30).

Friday March 1

Breakfast (7:00-8:00).

Early morning session (08:00-10:20):

Breakout session 3: Geohazards

Instructions on third breakout session. (15 min.).

Dividing the participants in four groups and send them to breakout rooms (15 min.).

Breakout meetings (60 min.).

- Where do we have gaps in our understanding?
- How do we recognize geohazards in the geological record?
- Promote synthesis of data from field-based, geophysical, and laboratory studies
- Future community-based research

Legacy of MARGINS and GeoPRISMS data sets (30 min.).

Coffee break (20 min.).

Late morning session (10:20-12:00):

Summaries of Breakout session 3 (30 min.).

Archiving and distribution of MARGINS and GeoPRISMS legacy data sets (30 min.).

Panel discussion on Education and Outreach (40 min.).

Lunch on your own (12:00-13:30)

Early afternoon session (13:30-15:10):

Group discussion on outstanding research questions (30 min.).

Discussion on emerging science opportunities (30 minutes).

Discussion on synthesis of the GeoPRISMS program (40 min.).

Late afternoon session (15:10-17:00):

Coffee break (20 min.)

Discussion of strategies, themes and focus areas for future community research (30 min.).

Discussion on leveraging GeoPRISMS research in other NSF programs (PREEVENTS, Integrated Earth Systems) (30 min.).

Future plans for GeoPRISMS (GeoPRISMS chair and steering committee) (30 min.)

Meeting adjourned