



2019 GeoPRISMS TEI Synthesis & Integration

Pre-meeting Early Career Symposium | February 26, 2019

TEI Synthesis & Integration | February 27 – March 1, 2019

Menger Hotel, San Antonio, TX

- Agenda -

Tuesday February 26 | Early Career Symposium | Ballroom A

Morning meeting of workshop conveners (including leaders of EC symposium)

12:00-12:30 | Registration for early career symposium attendees

12:30-12:45 | Welcome, Introduction (everyone) and outline of symposium | Demian Saffer, GeoPRISMS Chair; ECS conveners Taryn Lopez and Eric Mittlestaedt

12:45-13:05 | Deformation at all timescales: Background, methods & opportunities for advancing GeoPRISMS science

Presenters: Emishaw Luelseged, James Muirhead, Sarah Jaye Oliva, and Tianhaozhe Sun

13:05-13:45 | Lightning Talks in breakout groups

13:45-14:30 | Breakout session: Deformation at all timescales

14:30-14:45 | Coffee Break

14:45-15:05 | Mass fluxes: Background, methods & opportunities for advancing GeoPRISMS science

Presenters: Helen Janiszewski, Michelle Muth, and Richard Palin

15:05-15:50 | Breakout session: Mass Fluxes

15:50-16:10 | Geohazards and margin stability: Background, methods & opportunities for advancing GeoPRISMS science

Presenters: Christine Chesley, Connor Drooff, Hui Tang, and Mel Zhang

16:10 -16:55 | Breakout session: Geohazards and Margin Stability

16:55 -18:00 | Wrap-up and Synthesis

18:00-20:00 | TEI registration, reception and ice breaker – Minuet, Patio rooms and Tropical Garden

Dinner on your own

Wednesday February 27 – Day 1 | Ballroom AB

7:00-8:00 | Breakfast – Minuet & Patio Rooms

8:00-09:40 | Early morning session: moderated by Philip Skemer and Rob Harris

- 08:00-08:15 | GeoPRISMS office welcome, status of the decadal program | Demian Saffer, GeoPRISMS Chair
- 08:15-08:30 | Conveners overview of meeting objectives | Lead Conveners Katie Kelley and Harm Van Avendonk
- 08:30-09:00 | NSF program managers update | NSF Program Manager Jennifer Wade

08:45-09:00 | Discussion

09:00-09:20 | Summary of SCD Initiative | Sarah Penniston-Dorland

09:20-09:40 | Summary of RIE Initiative | Donna Shillington

09:40-10:00 | Coffee break

10:00-11:45 | Late morning session

10:00-10:30 | Outcome of Early-Career symposium. Taryn Lopez & Eric Mittelstaedt

10:30-11:30 | Allied organizations

- 10:30-10:50 | Presentation from NASA Earth Science | Ben Phillips
- 10:50-11:10 | Vision talk from USGS | Joan Gomberg & Nathan Miller
- 11:10-11:30 | Vision talk from IODP | Susan DeBari

11:30-11:45 | Discussion. Moderated by conveners

11:45-13:15 | Lunch provided – Minuet & Patio Rooms

13:15-15:25 | Early afternoon session

THEME 1: Deformation at all timescales

TOPIC 1a: The role of structural inheritance in plate tectonic events

TOPIC 1b: Reconciling strain budgets at different time scales

- 13:15-13:30 | Introduction of the science theme | Ikuko Wada-Phil Skemer
- 13:30-13:50 | How does preexisting lithospheric structure control the architecture of rifted continental margins during and after breakup? | Keynote 1a/RIE – Jolante van Wijk
- 13:50-14:10 | What are common geological settings for subduction initiation, and what tectonic events precede the development of self-sustaining subduction? | Keynote 1a/SCD – Mark Reagan
- 14:10-14:25 | Questions for both speakers. Moderated by Ikuko Wada-Phil Skemer

- 14:25-14:45 | What is the role of discrete and transient events, including magmatic diking, in the breakup of continents and the onset of seafloor spreading? | Keynote 1b/RIE – Cindy Ebinger
- 14:45-15:05 | How does deformation across the subduction plate boundary evolve in space and time, through the seismic cycle and beyond? | Keynote 1b/SCD – Jeff Freymueller
- 15:05-15:25 | Questions for both speakers, and discussion of Theme 1. Moderated by Ikuko Wada-Phil Skemer

15:25-15:45 | Coffee break

15:45-17:35 | Late afternoon session

15:45-16:05 | IEDA data repositories for the GeoPRISMS community - Suzanne Carbotte

Breakout session 1: Deformation at all time scales

16:05-16:20 | Instructions on first breakout session presented by Ikuko Wada-Phil Skemer

16:20-16:35 | Dividing the participants in four groups and send them to breakout rooms

16:35-17:35 | Breakout meetings – Cavalier, Renaissance, Patio rooms and Ballroom AB

- 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? Can a Research Coordination Network (RCN) serve this purpose?

17:35-19:30 | Poster session with cash bar – Ballroom C

Dinner on your own

Thursday February 28 – Day 2

7:00-8:00 | Breakfast – Minuet & Patio Rooms

08:00-09:40 | Early morning session

- 08:00-08:30 | Summaries of Breakout session 1. Moderated by Harm Van Avendonk and Katie Kelley. The breakout scribes present summaries

THEME 2: Mass fluxes

TOPIC 2a: Fluid and volatile fluxes at plate boundaries.

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

- 08:30-08:45 | Introduction of the science theme | Harm Van Avendonk and Katie Kelley
- 08:45-09:05 | What are the mechanisms and consequences of fluid and volatile exchange between the Earth, oceans, and atmosphere at rifted continental margins? | Keynote 2a/RIE – Tobias Fischer



- 09:05-09:25 | How are volatiles, fluids, and melts stored, transferred, and released through the subduction system? | Keynote 2a/SCD – Terry Plank
- 09:25-09:40 | Questions for both speakers. Moderated by Harm Van Avendonk and Katie Kelley

09:40-10:00 | Coffee break

10:00-11:45 | Late morning session

- 10:00-10:20 | What does the crustal composition of volcanic rifted margins tell us about the dynamics of rifting? Keynote 2b/RIE – Donna Shillington
- 10:20-10:40 | How does the composition of island arc crust evolve as the convergent plate boundary matures? | Keynote 2b/SCD | Jim Gill
- 10:40-11:00 | Questions for both speakers, and discussion of Theme 2. Moderated by Harm Van Avendonk and Katie Kelley
- 11:00-11:15 | Presentation on SZ4D Research Coordination network (RCN) to develop an implementation plan and steering committee for a decadal SZ4D program | Harold Tobin
- 11:15-11:30 | Presentation on Planning for a Modelling Collaboratory for Subduction Zone Science. Groundwork to develop a multi-scale, multi-physics modeling framework | Gabriel Lotto
- 11:30-11:45 | Presentation on Community Network for Volcanic Eruption Response (CONVERSE) | Tobias Fischer

11:45-13:15 | Lunch provided – Minuet & Patio Rooms

13:15-14:300 | Early afternoon session

Breakout session 2: Mass fluxes

13:15-13:30 | Instructions on second breakout session; Dividing the participants in four groups and send them to breakout rooms. Presented by Harm Van Avendonk and Katie Kelley

13:30-14:30 | Breakout meetings - – Cavalier, Renaissance, Patio rooms and Ballroom AB

- What studies are necessary for synthesis what questions will be important beyond GeoPRISMS
- 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?

14:30-14:50 | Coffee break

14:50-17:30 | Late afternoon session

- 14:50-15:20 | Summaries of Breakout session 2. Moderated by Joe Dufek and Kyle Straub. The breakout scribes present summaries

Theme 3: The stability of margins and geohazards

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

Topic 3b: Geohazards

- 15:20-15:35 | Introduction of the science theme | Joe Dufek and Kyle Straub
- 15:35-15:55 | How sediment, subsidence, and sea level create geohazards on deltaic margins | Keynote 3a/RIE – Doug Edmonds
- 15:55-16:15 | What are the critical feedbacks between surface processes, fluid flow, and subduction zone mechanics and dynamics? | Keynote 3a/SCD – Juli Morgan
- 16:15-16:30 | Questions for both speakers. Moderated by Joe Dufek and Kyle Straub
- 16:30-16:50 | How does the record of ancient landslides on continental margins inform us of geohazards at passive margins and subduction zones? | Keynote 3b/RIE – Brandon Dugan
- 16:50-17:10 | 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? | Keynote 3b/SCD – Susan Bilek
- 17:10-17:30 | Questions for both speakers, and Discussion. Moderated by Joe Dufek and Kyle Straub

17:30-19:30 | Poster Session with cash bar – Ballroom C

19:30-21:30 | Conference dinner – Ballroom AB

Friday March 1 – Day 3 | Ballroom AB

07:00-08:00 | Breakfast – Minuet & Patio Rooms

08:00-09:45 | Early morning session

Breakout session 3: Geohazards

08:00-08:15 | Instructions on third breakout session; Dividing the participants in four groups and send them to breakout rooms. Presented by Joe Dufek and Kyle Straub

08:15-09:15 | Breakout meetings - Renaissance, Minuet, Patio rooms and Ballroom AB

- 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

09:15-09:45 | Education and Outreach – Julia Morgan

09:45-10:05 | Coffee break

10:05-11:45 | Late morning session

- 10:05-10:35 | Summaries of Breakout session 3. Moderated by Joe Dufek and Kyle Straub. The breakout scribes present summaries.
- 10:35-11:05 | Legacy of MARGINS and GeoPRISMS data



Last update 02/26/2019

- 11:05-11:45 | Discussion of Mid-Scale Research

11:45-13:15 | Lunch provided – Minuet & Patio Rooms

13:15-14:55 | Early afternoon session

- 13:15-13:45 | Group discussion on outstanding research questions
- 13:45-14:15 | Discussion on emerging science opportunities
- 14:15-14:55 | Discussion on synthesis of the GeoPRISMS program

14:55-15:15 | Coffee break

15:15-16:45 | Late afternoon session

- 15:15-15:45 | Discussion of strategies, themes and focus areas for future community research
- 15:45-16:15 | Discussion on leveraging GeoPRISMS research in other science programs
- 16:15-16:45 | Future plans for GeoPRISMS | Demian Saffer, GeoPRISMS chair, and steering committee

Dinner on your own

Meeting adjourned