

GeoPRISMS Planning Workshop for the East African Rift System
Hyatt Morristown, NJ
October 25-27, 2012

Final Agenda

Wednesday, Oct 24

- 8:00 – 5:00 Graduate Student Symposium & Field Trip
5:30 Workshop Registration & Ice Breaker (with Cash Bar)
7:00 Graduate Student Dinner

Thursday, October 25

Moderators: Maggie Benoit, Tyrone Rooney

- 8:00 Opening remarks (30 min)
- Welcome from NSF – B. Haq, J. Wade
 - Introduction to GeoPRISMS – Julie Morgan
 - Goals of meeting – Conveners
- 8:30 Introductory Talk: Overview of the EAR (30 min) - Cindy Ebinger (U. Rochester)
- 9:00 *Plenary Topic 1: How does the presence or absence of an upper-mantle plume influence extension? (15 min each.)*
- a. Seismological imaging of plumes and associated magmatism in rifts – Gabriel Mulibo and JP O'Donnell (Penn State U.)
 - b. Origin of magmas from geochemical perspective – Tyrone Rooney (Michigan State)
 - c. Plume dynamics and surface uplift – D. Sarah Stamps (Purdue U.)
- 9:45 *Plenary Topic 2: How does the mechanical heterogeneity of continental lithosphere influence rift initiation, morphology, and evolution? (15 min each)*
- a. Mechanisms for thinning the lithosphere, including thermal/chemical erosion, and interaction with large scale lithospheric structures. Ben Holtzman (LDEO)
 - b. Control of pre-existing structures on early rifting. Aubreya Adams (Wash. U)
 - c. Geochemical heterogeneity of the lithosphere – Wendy Nelson (U. Houston)

10:30 Coffee Break & Poster Session

Moderators: Matt Pritchard, Rob Evans

- 11:00 *Plenary Topic 3: How is strain accommodated and partitioned throughout the lithosphere, and what are the controls on strain localization and migration? (15 min each)*
- a. Magmatism during rifting events - David Ferguson (LDEO)

- b. Modeling and observations of faulting and magmatism during rifting - Juliet Biggs (U. Bristol)
- c. Active deformation processes – Becky Bendick (U. Montana)

11:45 *Plenary Topic 4: What factors control the distribution and ponding of magmas and volatiles, and how are they related to extensional fault systems bounding the rift? (15 min each)*

- a. Geochemical studies of magmas and volatiles: Tobias Fischer (U. New Mexico)
- b. Geophysical imaging of magmas and fluids (MT, seismic): Derek Keir (Natl. Ocean. Centre, Southampton)
- c. Shallow dynamics of magma chambers/dikes and eruptions – Manahloh Bechalew (U. Rochester)

12:30 LUNCH

Moderators: Andrew Cohen, Estella Atekwana

1:45 *Plenary Topic 5: How does rift topography, on either the continental- or basin-scale, influence regional climate, and what are the associated feedback processes? (15 min each)*

- a. Climate and tectonics and feedbacks - Manfred Strecker (U. Potsdam)
- b. Modeling perspective - Joellen Russell (U. Arizona)
- c. Tectonics and sedimentation at basin scale - Chris Scholz (Syracuse U.)

2:30 Pop-ups by Graduate Students – TBA

3:00 Introduction to BREAKOUT 1 – **Prioritizing science objectives.** Divide into groups based on science questions in the draft implementation plan. What are the highest-priority questions? What kinds of observations do we need to address them and what are the characteristics of places where they should be made? What kind of modeling/experimental work is needed?

3:15 Break & Poster Session

3:45 BREAKOUT 1 – Round 1

4:30 BREAKOUT 1 – Round 2

- *How does the presence or absence of an upper-mantle plume influence extension?*
 - Leader: Rob Moucha
 - Scribe: Sara Mana
- *How does the mechanical heterogeneity of continental lithosphere influence rift initiation, morphology, and evolution?*
 - Leader: Anne Egger
 - Scribe: Kate Selway
- *How is strain accommodated and partitioned throughout the lithosphere, and what are the controls on strain localization and migration?*
 - Leader: Roger Buck
 - Scribe: Andrew Katunwehe
- *What factors control the distribution and ponding of magmas and volatiles, and how are they related to extensional fault systems bounding the rift?*

- Leader: Laurent Montesi
 - Scribe: Dorsey Wanless
- *How does rift topography, on either the continental- or basin-scale, influence regional climate, and what are the associated feedback processes?*
 - Leader: Naomi Levin
 - Scribe: Gail Ashley

Moderators: Donna Shillington, Ramon Arrowsmith

5:30 *Plenary Topic 6: Hazards and Resources in the EAR and Links to Rifting (15 min each)*

- a. Seismic hazard – Ataley Ayele (Addis Ababa U.)
- b. Volcanic hazard – Nicolas d’Oreye (Natl. Museum of Nat. Hist. Lux.) & Lukawa N’yombo (Goma Volcanic Observatory)
- c. Oil/gas exploration – Dozith Abeinomugisha (PEPD Uganda)

6:30 Adjourn for Day

7:00 Conference Dinner

8:00 Poster Session

8:00 GeoPRISMS Data Resources Mini-workshop – Andrew Goodwillie

Friday, October 26

Moderators: Rob Evans, Donna Shillington

8:00 Report from breakouts & plenary discussion

9:00 *Plenary Topic 7: Synergies with other agencies / international projects (5 min overview for each, followed by plenary discussion)*

- NSF/USAID PEER Program Annica Wayman (USAID) and DeAndra Beck (NSF)
- Overview of recent and funded NSF programs (Rob Evans (WHOI) and Donna Shillington (LDEO))
- New NSF-IES (Integrated Earth Systems) and other programs – Leonard Johnson and Jennifer Wade (NSF)
- AfricaArray – Andy Nyblade (Penn State U.)
- Hominin Sites and Paleolakes – Andy Cohen (U. Arizona)
- Lake Drilling Project - Chris Scholz (Syracuse U.)
- Afar consortium - Kathy Whaler (Edinburgh)/Derek Keir (NOCS)
- Summary of French programs - Cecile Doubre (U. Strasbourg)
- NASA – Simon Carn (Mich. Tech. U)
- GEOBSNET - François Kervyn (Royal Museum for Central Africa, Belgium)
- Others - TBA

10:30 Coffee Break & Poster Session

Moderators: Andrew Cohen, Rob Evans

- 11:00 *Plenary Topic 8: African partnerships panel. (5 min presentations how to build successful, mutually beneficial collaborations in Africa, followed by plenary discussion)*
- 12:30 LUNCH
- 1:30 Quick Pop-Ups and Plenary Discussion
- 2:30 Introduction to BREAKOUT 2 – **Implementation strategies**. Divide into groups based on science questions in the draft implementation plan. In the context of high-priority science and critical observations/modeling from BREAKOUT 1, discuss implementation strategies for each question, including the best places in the EAR to implement science questions, opportunities to leverage other activities, and high-priority thematic studies.
- 2:45 BREAKOUT 2, Round 1
- 3:30 BREAKOUT 2, Round 2
- a. *How does the presence or absence of an upper-mantle plume influence extension?*
Leader: Jim Gaherty
Scribe: Maryjo Brounce
 - b. *How does the mechanical heterogeneity of continental lithosphere influence rift initiation, morphology, and evolution?*
Leader: TBA
Scribe: Julie Elliot
 - c. *How is strain accommodated and partitioned throughout the lithosphere, and what are the controls on strain localization and migration?*
Leader: John Nabelek
Scribe: Erin DiMaggio
 - d. *What factors control the distribution and ponding of magmas and volatiles, and how are they related to extensional fault systems bounding the rift?*
Leader: Adam Soule
Scribe: Brandon Chiasera
 - e. *How does rift topography, on either the continental- or basin-scale, influence regional climate, and what are the associated feedback processes?*
Leader: Ramon Arrowsmith
Scribe: Amy Morrissey
- 4:15 Coffee Break
- 4:45 Reports from Breakout 2
- 5:30 Plenary Discussion
- 6:00 Adjourn for the Day
- 7:00 Dinner on your own
- 8:00 Poster Session

Saturday, October 27

Moderators: TBA

- 8:00 Reports from Breakout 2
- 8:30 Plenary Discussion
- 9:00 Introduction to BREAKOUT 3 – **Finalizing implementation plan**. Divide into groups that represent the spectrum of science for the EAR. Discuss integrated strategies to accomplish the highest impact in the EAR, including the best locations for focused, multidisciplinary study, key observations, thematic studies and leveraging opportunities.
- 9:15 BREAKOUT 3
- 10:15 Graduate Student Perspective & Implementation Plan
- 10:45 Coffee Break and Poster Session
- 11:15 Reports from BREAKOUT 3 and final plenary discussion with decision making on areas for focused research and highest priority thematic studies.
- 11:45 Wrap-up discussion
- 12:00 Meeting Adjourns