How do fundamental rifing processes (such as tectonics, magmatism, and erosion, transport, and sedimentation), and the feedbacks between them, evolve in time and space?
What is the relationship between deformation and magmatism at all levels of the lithosphere?

Partial melting and dynamic upwelling beneath the Gulf of California

Wang et al., Nature, 2009
Magma-compensated rifting beneath Lake Baikal

What controls the evolution of segmentation and along-strike variations in extensional style and magmatism in rifts?

Magmatic segmentation in Ethiopia

Keranen et al., *Geology*, 2004
Changes in magmatism and deformation style in the Gulf of California

Lizarralde et al., *Nature* 2007
What is the relative importance of discrete rifting events versus continuous deformation in accounting for plate divergence?

Diking event in Afar in September 2005

Wright et al., Nature, 2006
Lateral dike injection events along segment in Afar in June and July 2006

Keir et al., Geology, 2009
How do erosion, sediment transport, and deposition vary with climatic and tectonic forcing in rifts?

Dorsey, Geology, 2010