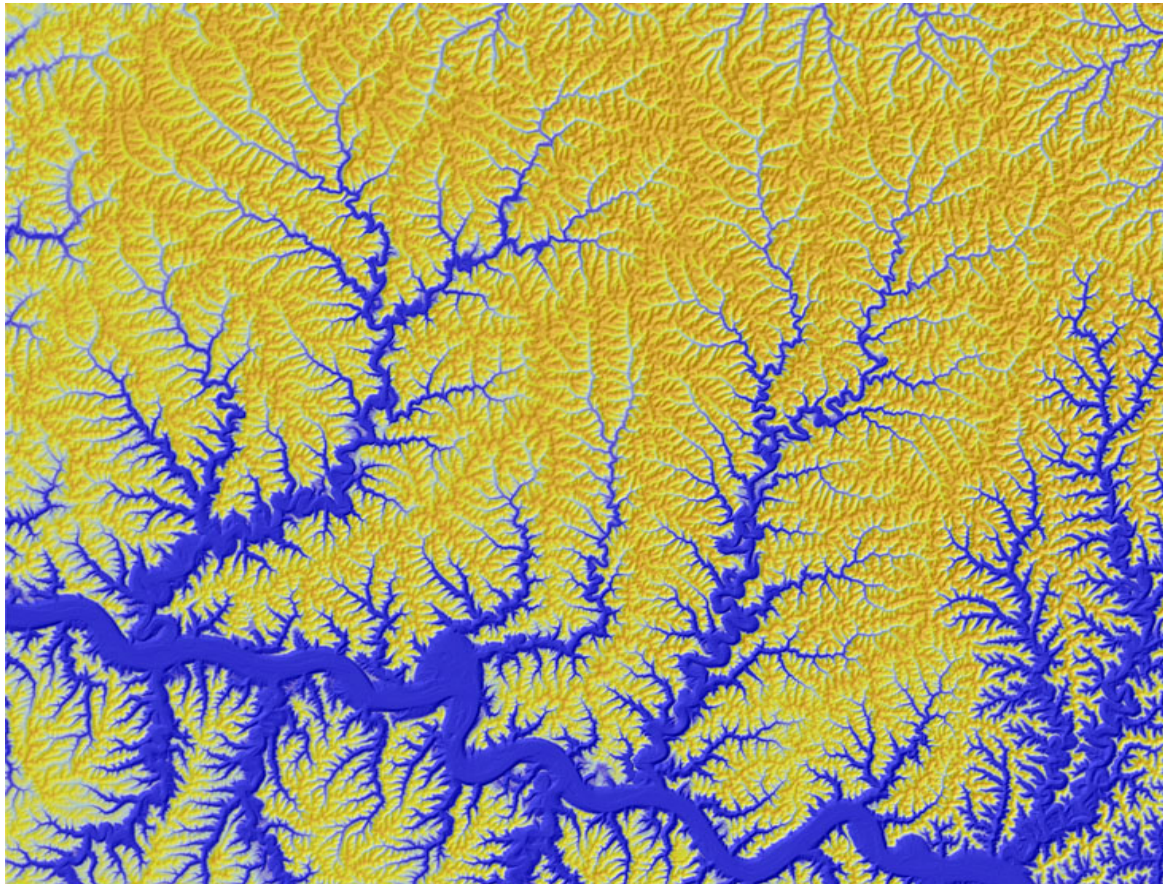


Earth System Initiative Young Faculty Seminars:

Pattern formation in river networks



4:00 pm Tuesday, May 4th

MIT Building 48-316

Reception to Follow

Taylor Perron

Assistant Professor

Earth, Atmospheric & Planetary Sciences

Branching river networks are one of the most widespread features of Earth's surface, and their self-organized structure controls the transport of water and sediment across the continents. Dr. Perron will present a framework for interpreting these prominent landscape patterns. A numerical model of the dominant erosional mechanisms shaping soil-mantled landscapes predicts the emergence of patterns ranging from the spacing of sub-kilometer valleys to the hierarchical structure of hundred-kilometer river networks. Field measurements and high-resolution topography from laser altimetry provide a dataset for testing these model predictions, and yield insight into how landscape patterns record the influence of climate, rock type and life.



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Earth System Initiative