Chemical & Physical Sciences
UNIVERSITY OF TORONTO
MISSISSAUGA

COLLOQUIUM

TUESDAY, JANUARY 24TH, 2012
12:00 NOON (SHARP) – 1:00 P.M.
CCT 2150

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"SIGNIFICANCE OF FAULT-SLIP ANALYSES IN ACTIVE AND FOSSIL OROGENS"

Small-scale shear faults are ubiquitous in deformed geological terrains. Inversion of brittle shear faults is routinely applied to unravel the kinematics of deformation in such terrains. Rudimentary tensors resulting from such analyses are interpreted either in terms of (paleo)-stress or strain, and in some cases, displacement and plate convergence directions. Challenges and limitations in the interpretation of fault-kinematic data concern mostly the variation and superposition of deformation (or stress) regimes as well as the spatial extent (scale) and density of data. A large spatial coverage of data is required to obtain geologically meaningful results and to distinguish between near-field and far-field strain (or stress) fields. Based on the acquisition of large sets of brittle fault data from the Paleoproterozoic Eastern Penokean Orogen, Canada, and the southern Central Andes, Argentina, conducted over a period of several years, the regional and local significance of fault-slip data in orogens is addressed.