

16th DEFORMATION MECHANISMS, RHEOLOGY AND TECTONICS (DRT) CONFERENCE 2007

Deformation Mechanisms, Rheology and Tectonics (DRT) conferences are held once every two years and the 16th DRT conference was held from 27-29 September 2007 at the University of Milan (Italy). Earth scientists specializing in various aspects of Structural Geology and Tectonics from different countries presented 50 oral and over 120 poster presentations.

A wide range of topics were covered and deliberated upon. These included, amongst many others, (a) EBSD and X-ray texture goniometry in inferring deformation mechanisms in different minerals (b) experimental studies in minerals such as olivine, micas etc. to better understand deformation mechanisms (c) interaction between brittle and ductile deformation in the lithosphere (d) evolution of boudins (e) rheological properties of crust, lithosphere and mantle system (f) landscape evolution modeling with respect to India-Asia collision (g) instabilities development in partially molten rocks (h) experimental modeling of magma controlled tectonics (i) rheological implications of grain boundary sliding related microstructures and (j) application of stylolites in gauging stress. The presentations were made in 10 different sessions viz. Crust and mantle rheology from micro- to mega-scale, Numerical and analogical modeling of deformation processes, Absolute dating vs deformation the rate of tectonics, Deformation-metamorphism interaction: what does condition the memory of a rock? Insights from natural data, experiment and modeling, Interaction between magmatism and deformation: field studies, numerical

models and analogic experiments, Palaeorheology, The geophysical signature of deformation processes in crust and mantle, Quantitative microstructure, Brittle and ductile reactivation of compositional and structural heterogeneities, Interaction between climate, erosion and tectonics. From India, the author was the sole participant and he made an oral presentation entitled "Fractal analysis of quartz grain boundaries in a syntectonic granite - implications for evaluating temperature/strain-rate in a cooling granite".

The conference ended with a discussion that was jointly chaired by Guido Gusso (University of Milan, Italy), Bruce Hobbs (Australian National University, Australia), Paul Williams (University of New Brunswick, Canada) and Ernie Rutter (University of Manchester, U.K.). During the discussion, it was agreed that microstructural studies should continue to be a priority in future DRT conferences. Along with the former, numerical and analogue modeling should also continue to be given importance. Moreover, need for including more regional geological studies as well as having longer poster sessions was also discussed. It was decided that the 17th DRT conference will be held in 2009 in the U.K. and will be organized by the Structural Geology/Tectonics groups in Manchester and Liverpool.

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DEMOCRACY, GDP AND NATURAL DISASTERS

The following observations of Gregory E. van der Vink and co-authors published in *Geotimes*, October 2007 are worthy of serious thought.

(1) Amartya Sen won the Nobel Prize in economics in 1998 with the observation that there has never been a famine in a nation that has a democratic form of government and a free press. A similar relationship exists for natural disasters. Deaths associated with natural disasters are lower for nations with democratic forms of government and the associated higher national income, or Gross Domestic Product (GDP).

(2) Clearly, the impact of a natural disaster is not simply a function of the natural event itself, but is determined

also by society's ability to respond to the disaster. Over the same time period that we observe a decreasing number of disaster deaths, two great global socioeconomic trends of the last half century have also occurred: democratization and economic development.

(3) Natural disasters that occur in undeveloped, non-democratic nations result in a high humanitarian cost but a low economic cost, whereas natural disasters that occur in developed, democratic nations result in low humanitarian cost but a high economic cost. There is clearly a link between democracy, development and the impact of natural disasters.