This volume presents a selection of papers showing the current focus of studies of deformation structures and processes within the continental crust. The selected contributions use a large range of analytical techniques suited to the full range of structure sizes and fine-tuned to the physical process that controls the deformation, from the grain boundary at the micro-scale, the lithological contact at the meso-scale to the plate boundary at the global scale.

The papers in the volume are grouped into three sections relating to specific lines of research within the analysis of rock deformation structures and processes, in particular in respect to the continental crust: structures within shear zones and faults; magmatic structures, and microstructures and rheology. These sections include papers describing field studies, experimental rock deformation and numerical modelling of deformation processes.