Recent regressions in plate boundary modelling - subducting the Himalayan orogen, and taking it with a growing grain of salt

Kosuke Ueda
ETH Zürich, Department of Earth Sciences, Zürich, Switzerland (kosuke.ueda@erdw.ethz.ch)

One particular and maybe peculiar approach is to make inferences from the larger to the smaller scale. A promising starting point is the well-studied geodynamic plate subduction margin setup, from which many smaller-scale or process-specific findings have been successfully extracted.

I present a series of models that were aiming to combine many of these findings to test the feasibility of conceptual models for the evolution of the Himalayan-Tibetan system. Are the Himalayas not feasible? Do the limitations lie within the method (i.e. 2D), the author, or the proposed history? Having not found the fundamental process control on major observables, I also move on to other regional settings. The presentation concludes with a display of early trial-stage of grain size evolution experiments, to plate-scale geodynamic processes.