

Fold-and-thrust belts are one of the most recognizable large-scale geological features occurring all around the globe. Fold-and-thrust belts mostly develop along convergent plate boundaries but they may also form along passive margins or other super-critical slopes driven by a gravitationally driven stress field. Fold-and-thrust belts may involve the basement of continental lithospheres to build entire mountain ranges or just the uppermost sedimentary sequence detaching along stratigraphic décollements. Although these different types of fold-and-thrust belts vary in spatial extent, longevity of their formation, and rock types involved, their dynamics and structural evolution strongly depends on the same internal and external effects, such as rheological and rock mechanical properties, temperature and surface processes, allowing to compare them with each other and to develop common mechanical predictions.

Fold-and-thrust belts have been intensely investigated to decipher their short- and long-term evolution. However, there are important questions that yet have to be fully understood: i) What is the effect of inherited structures within the basement, the cover sequence and potential décollement layers, and how can those inheritances be detected? ii) How are transient and long-term rheological/mechanical characteristics comparable during the formation of a fold-and-thrust belt? iii) Do present day fold-and-thrust belts reflect local, transient conditions, and how are large-scale, long-term tectonic processes affecting their evolution?

The here proposed session tackles to answer these questions by an interdisciplinary approach. We look forward to receive abstracts focusing on the short- and long-term dynamics and structural evolution of fold-and-thrust belts by means of structural fieldwork, seismics and seismology, analogue and numerical modelling, rock mechanics, geomorphology and thermochronology as well as quantification of uncertainties in order to improve our understanding of fold-and-thrust belts across spatial and temporal scales.