



Scientific challenges and emerging knowledge on the geodynamics of the Central - Eastern Mediterranean

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The Central - Eastern Mediterranean region is locally characterised by high seismicity, rapid (micro)plate motions and young stretched crust. This is the expression of a complex spatio-temporal interplay of convergence, extension, slab retreat, variable plate motion and plate-escape. This overview presentation will review key questions and state-of-the-art knowledge on: subducting plate instabilities, contribution of mantle processes, increase / migration / switching of plate rates, roles of slab melting and upper / lower crustal failure. These intriguing phenomena pose scientific challenges for understanding the geodynamics of the Central - Eastern Mediterranean. These challenges are being met through a range of modern geoscience studies that can constrain crust & mantle architectures, temperatures, rates, and in particular those combining disciplines such as seismology (e.g. on-/off-shore seismic recordings, tomography) seismotectonics / seismogenesis, brittle tectonics, crustal flow & failure study, geodesy, volcanology and petrology.