STRUCTURAL GEOLOGY SCHOOL G.PIALLI 2018

FORMATION, DEFORMATION and GEO-RESOURCES of SEDIMENTARY BASINS

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September 18-21, 2018

Dipartimento di Fisica e Geologia, Università di Perugia, Perugia, Italy,

18 september 2018

MORNING Lithosphere/asthenosphere characteristics and global dynamics. Mantle tomography and deep controls on lithosphere

AFTERNOON Deep seismic soundings and crustal architecture. Velocity models and depth conversion of seismic profiles. From rifts to orogens: the Wilson cycle
Case studies and exercises on selected deep seismic profiles (Ecors Pyrenees, Cocorp, Dekorp, SWAT, CROP, …)

19 september 2018

MORNING Structural styles in extensional basins, normal faults, listric faults, drag syncline, roll-over. Salt tectonics. Case studies and exercises on seismic profiles

AFTERNOON Structural styles in compressional basins, ramp anticline, flat-ramp systems. Positive and negative tectonic inversions. Structural styles in transpressional and transtensional basins. Case studies and exercises on seismic profiles

20 september 2018

MORNING Sand box experiments in extensional and compressional systems (movies). Sand box experiments for salt tectonics and lithosphere/asthenosphere dynamics. Numerical models of mantle and lithosphere dynamics.

AFTERNOON Balanced cross-sections, reconstruction of past architecture of extensional and compressional systems. Back-stripping and reconstruction of burial curves. Forward kinematic modeling in extensional and compressional systems

21 september 2018

MORNING Thermicity of the lithosphere and sedimentary basins. Paleothermometers, Paleobarometers, Ro, Tmax, Fluid inclusions, Apatite Fission Tracks, Thermal modeling. Case studies

AFTERNOON TOC, types and maturation of organic matter/kerogen, kinetics. Coupled thermal and 1/2D petroleum modeling (maturity). Sandstone and carbonate reservoirs, compaction, diagenesis. Fluid flow, fluid-rocks interactions, open versus closed systems, lithostatic versus hydrostatic pore fluid pressure, overpressures, 2/3D fluid flow and petroleum modeling (expulsion, migration, trapping).Case studies and discussions on the individual research projects of the PhDs

Ask for infos, fees and admission form to giorgio.minelli@unipg.it