

University of Milano-Bicocca
 PhD Course in Chemical, Geological and Environmental Sciences
Call for Interest 41st cycle – session II - Curriculum Geological Sciences

		Supervisor	Nicola Piana Agostinetti (co-supervisor: Pasquale De Gori)
Title	Multi-scale Multi-Observable Seismic Model of the Centro-Mediterranean Region		
<p>Lithospheric structure of the Centro-Mediterranean region (along the lines of the following INGV objectives: OST1.1 Dalla struttura profonda alla modellazione dei processi; OST1.2 Modello strutturale e cinematico litosferico della regione centro mediterranea; OST1.3 Implementazione Rete Sismica Nazionale).</p> <p>Many open questions feed the intense debate on the evolution of continental subduction; particularly, on how deeply the lithosphere penetrates and its impact on surface field deformation. In this context, variations (increase) in the buoyancy of the subducting lithosphere, given by the presence of low-density materials in the subducted crust, and/or age and temperature of the subducting mantle, are thought to control both subduction rate and slab dip. The central Mediterranean area constitutes a key case study for understanding the long-term development of continental subduction, where many different structural elements concur in the subduction process and play an active role in its evolution (e.g. rollback, retreat, along-trench extension and so on). The Apennines and the Dinarides orogenic belts are two distinct examples of how this process evolved differently from the subduction of the same Adria microplate (Doglioni et al., 2007; Royden and Faccenna, 2018). The main goal of the PhD is to try to understand how the structural, rheological and compositional heterogeneities of the lithosphere at different spatial scales affect continental subduction.</p>			
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