



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

CORSO DI DOTTORATO

DOTTORATO IN SCIENZE DELLA TERRA, VITA ED AMBIENTE – STVA

Applications of GPlates and pyGPlates in geoscience

Andrew Merdith, University of Leeds

Wednesday, May the 4th, AULA GIS, 2P.M.

The delicate balance between different Earth systems is regulated, over geological timescales, by the tectonic evolution of Earth's oceanic and continental plates. Convergence results in subduction and recycling of oceanic lithosphere, degassing of greenhouse gases into the atmosphere, and formation of mountain ranges that regulate climate. Divergence results in the exposure of ultramafic rocks to seawater and/or atmospheric conditions, degassing of greenhouse gases and sundering of once coherent continental crust forming new oceanic pathways. This seminar will serve as a broad introduction into the world of plate and palaeogeographic reconstructions, how they are made, how they are used, and the possibilities that they represent to understand how the Earth, and how different Earth systems, have evolved on 10–100 Ma timescales.



Andrew Merdith is a Marie Skłodowska-Curie Fellow at the University of Leeds, constructing holistic, bottom-up Earth system models since the Ediacaran. He completed his PhD at the University of Sydney in 2017, and spent three years in France quantifying hydrogen production via serpentinisation reactions through the Mesozoic–Cenozoic in oceanic lithosphere.