TITLE

-Mathematical and geometrical approach on foraminiferal test growth.

Name of the **supervisor:** Roberto Rettori

Name(s) of a **potential co-supervisor(s)**: Gennari Valerio, Capezzuoli Enrico, Spina Amalia

Prospective **assistance** in the supervision (Lab activity, fieldwork, ….): Lab activity and fieldwork

Prerequisites based on specialization or specific compulsory courses or (if any): Micropaleontology, biostratigrafy, geochemistry.
Brief **description** of the planned research and references if needed, including the 1) **objectives**, 2) the **study area** and 3) the **research methods** foreseen:

The proposed thesis projects mostly focus on micropaleontological and biostratigraphic study of Paleozoic and Lower Mesozoic sedimentary successions, cropping out in the Tethyan domain (e.g. Iran, China, Italy). The selected ones are considered as key stratigraphic sections for the study of the Permian-Triassic mass extinction, the most catastrophic among those recorded along the whole Earth history. The principal aims are to highlight paleoecological and paleoenvironmental conditions through the analysis of benthic foraminifera assemblages integrated with lithology and geochemistry. Furthermore, the definition of the paleogeographic distribution of some of the main groups of foraminifera lets to provide a hypothesis of paleogeographic reconstruction of each selected area. The integration of geochemical and biostratigraphic analyses lets to give a further contribution on the causes and modalities of the extinction occurred at the P/T boundary.
The purpose of the last thesis project is to apply unconventional mathematical and geometrical methods to study the growth of foraminiferal tests.