



University of Genova

**Department of Earth, Environmental
and Life Sciences**

**Doctorate Course in Earth and
Environmental Science and
Technology**

Università degli Studi di Genova



Dottorato in Scienze e Tecnologie
per l'Ambiente e il Territorio

Curriculum in Earth science

Research Theme n 1

<p>Titolo: Paleoeologia e resilienza delle comunità bentoniche e planctoniche attraverso le crisi climatiche cenozoiche come modello per scenari climatici futuri.</p> <p>Title: Palaeoecology and resilience of both planktonic and benthic communities through major Cenozoic climatic perturbations, as a proxy for future climatic changes.</p>
<p>Tutor and eventual co-tutor: Prof. Antonino Briguglio: Antonino.briguglio@unige.it; Prof. ssa Valeria Luciani: lcu@unife.it</p>
<p>Program description, including the formation program in private company</p> <p>This project is aimed to study planktonic and benthic communities through some of the major climatic perturbations of the last 50million years. The geological archive offers the chance to estimate the resilience of selected marine calcifiers to these climatic events, which is today an urgent and critical issue tackle due to the ongoing climate challenge.</p> <p>The stratigraphic successions of the western Ligurian region span two main global warming crises known as MECO and LOWE. These successions give the exceptional opportunity to compare the variations in shallow-water biotic assemblages, that are typified by larger benthic foraminifera and corals, with the deep-water communities, dominated by calcareous plankton. The resilience of both benthic and planktic communities through these warming events is still insufficiently known. This project, based on detailed quantitative, geochemical and sedimentological analyses, is aimed to contributing to filling this gap by achieving a more comprehensive picture of the biotic response to the climate perturbation related to global warming events. Results can provide essential data set useful for modelling scenarios that are crucial in view of the ongoing dramatic climate changes.</p> <p>During the internship at ADMaiora (https://www.admaiora.education/it/home), the candidate will have the opportunity to learn how to apply the obtained results to increase climate awareness with the general public and will learn how to communicate to the media in both small and large scenarios, through in person activities and also during web based platforms.</p>
<p>PON research line: Green</p>
<p>Company hosting the PhD: ADMaiora s.r.l. https://www.admaiora.education/it/home</p>
<p>Financial support: 100022-2019-AB-PRIN_001</p>
<p>Tutors' publications</p> <p>Briguglio, A., Crobu, S., Lutaj, E and M. Piazza: 2021. Integrated stratigraphy from a transgressive upper Oligocene section in NW Italy. <i>Stratigraphy</i>, 18: 123-137.</p> <p>Luciani, V., D'Onofrio, R., Dickens, G.R., and W.S. Wade:2021. Dextral to sinistral coiling switch in planktic foraminifer <i>Morozovella</i> during the Early Eocene Climatic Optimum. <i>Global and Planetary Change</i>, 103634</p>