



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

Earth Science Curriculum

Research Theme n. 6

<p>Titolo (Italiano): Paleoecologia evolutiva applicata allo studio di comunità bentoniche per il monitoraggio ambientale Title (inglese): Evolutionary palaeoecology applied to environmental biomonitoring by means of benthic communities.</p>
<p>Tutor (name and email) and eventual co-tutor: Antonino Briguglio: Antonino.briguglio@unige.it Marco Capello: marco.capello@unige.it Muraszko Joy Rosanna: RINA Consulting, Genova</p>
<p>Program description including the formation program abroad (Inglese)</p> <p>Tracing evolutionary adaptations of benthic taxa along stratigraphic successions is a great tool to get useful insights on the environmental conditions that determined thriving of taxa as well as caused demise of others. Foraminifera have great fossilization potential and are routinely used to trace environmental variations along stratigraphic successions. This project is focused on getting high resolution stratigraphic data from modern seafloor conditions in shallow marine settings. Data are available from a deltaic environment in Liguria in highly anthropic surroundings and significant impact is expected to have acted upon the benthic community during the modern era. Sedimentology, mineralogy and chemical composition sediment data are already available for most of the samples. Accurate core dating coupled with specific oceanographic context and high resolution taxonomy can lead to precise detection of the possible correlation between benthic community diversity and varying environmental conditions. Such detections are pivotal in industry application as they can support punctual definition of healthy substrates as well as detect incipient environmental deterioration. A major milestone in this project will be the creation of a robust taxonomic database that can work as a reference piece in northern mediterranean waters. Abroad mobility is not mandatory but to strengthen systematic recognitions of specific forms a focused training in dedicated laboratories (Angers, Balearic Islands, Leiden) can be possible.</p>
<p>Financial support: The tutor and the industries will support the needed research</p>
<p>Tutor's publications (max 3)</p> <ul style="list-style-type: none">• Zaini, N., Briguglio, A., Goeting, S., Roslim, A., Kocsis, L. 2020. Sedimentological characterisation of sea bottom samples collected offshore muara and tutong, Brunei darussalam. Bulletin of the Geological Society of Malaysia, 70, pp. 139–151;• Goeting, S., Fiorini, F., Benedetti, A., ...Zaini, N., Briguglio, A. (2021). Catalogue of modern smaller benthic foraminifera from offshore brunei darussalam. Palaeontographica, Abteilung A: Palaozoologie - Stratigraphie, 2021, 318(5-6), pp. 129–223.

