

Plastic production has increased exponentially since the recent decades, however, the plastic revolution has disadvantages, large quantities of plastics leak into rivers and oceans, with adverse effects to ecosystems. For this project, the main objective is the development of innovative analytical technology by combining several spectroscopic methods supported by artificial intelligence to detect and analyze microplastics in biological samples.

The **project** will primarily focus on the detection of polymers that are the predominant pollutants in the Mediterranean, as PE, PP, PS, PVC, and HDPE (polyethylene, polypropylene, polystyrene, polyvinyl chloride, high-density polyethylene). We expect to develop a technology that combines various analytical methods for the quantification of microplastics with greater sensitivity and specificity than current methods. One of the main tasks of this project is the characterization of the vibrational spectrum of different types of plastics, in pure form and mixtures of them.

We encourage highly motivated candidates to carry out their final Master's thesis in an international and multidisciplinary research environment. For more information, please visit our website <http://www.nanogune.eu/nanoengineering>. If you are a master student and you are interested in this project, please get in touch with Andreas Seifert (a.seifert@nanogune.eu).

To **apply** for a master scholarship fill in the form below and follow the instructions and recommendations of the general call open until 30 June 2021.

NOTES:

(i) All applicants will receive an answer after the end of the selection process; but please note that due to the large number of submissions that are expected, we cannot provide individual feedback.

(ii) Additional information about nanoGUNE's commitment towards HR excellence in Research and Gender Equality are available on our website.

(iii) We encourage you to subscribe to our HR mailing list to receive information related to nanoGUNE's open positions and open calls for different training and talent attraction programs.

