





## PNRR – Innovation Ecosystem project "SAMOTHRACE" TWO Researcher positions fixed-term (2yrs) in Advanced Raman Spectroscopies for Environmental Sciences.

## CNR – IPCF Messina.

Join the Nano-Soft Lab at CNR-IPCF Messina to work on the development of novel analytical methodologies for "the detection of micro/nanoplastics and chemical pollutants in the environment" based on Spectroscopic Optical/Acoustic Tweezers (Nobel Prize 2018) and Nano-Spectroscopies (SERS/TERS/TEPL), within the PNRR Innovation Ecosystem project "SAMOTHRACE: Sicilian Micro and Nano technology research and innovation center".

We are looking for **two Junior Researchers** to work on: (1) "development of compact <u>Optical and</u> <u>Acoustic Tweezers setups coupled with Raman/PL spectroscopy and microfluidic circuitry</u>" and (2) "development of <u>Plasmon-Enhanced Nanospectroscopies</u> (e.g. SERS, MEF, TERS, TEPL, PIERS) <u>and nanomaterials</u> (e.g. 2D materials, plasmonic particles)" for the detection and ultrasensitive analysis of micro- & nano- plastics, particulate matter and bio/chemical pollutants in the environment and, more generally, to work on ultrasensitive optical spectroscopies, nanomaterials, nano-optics, plasmonics and acousto-opto-thermal trapping techniques for environmental analysis (experiments, theory and ab-initio simulations).

The candidate will have a PhD in Physics, Chemistry, Materials Sciences, Nanotechnologies, Electrical Engineering or related disciplines. Additional postdoc experience of 2 or more years on topics related to optical spectroscopy, optical manipulation, nanomaterials, nanospectroscopy and microfluidics will be considered a plus.

The successful candidate will be in charge of developing new compact instrumentation and analytical protocols for environmental analysis, and to test the setups in relevant environments in order to validate their performances in conditions mimicking real operational environments. Work will be carried out in close collaboration with senior experimentalists and theorists, in order to optimize the sensitivity of the setups thorough a full comprehension of the electromagnetic and chemical interaction between light and matter at the nanoscale.

Starting date: First quarter 2023. Contract duration: 2 yrs

The salary (52 K€ / year, before taxes) is in line with that of junior permanent researchers at CNR.

We are happy to consider CV of interested applicants and receive **Expression of Interest** and **queries** at this email:

Dr. Pietro G. Gucciardi

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