

UNIVERSITÀ POLITECNICA DELLE MARCHE
(UNIVPM)

Department of Life and Environmental Sciences
(DiSVA)

Annual Report of the Tenure Track Researcher (RTT)



Federico Girolametti

Date of Submission: January 22, 2026

Teaching Activities

1. General Chemistry – Bachelor in Environmental Sciences and Civil Protection. The course included 56 hours of lectures and exercise-based sessions.
2. Tutoring and Laboratory Support Activities
Provided structured tutoring and technical support for multiple laboratory courses within the degree programs, including:
 - Analisi chimiche degli alimenti
 - Analisi degli inquinanti
 - Monitoraggio ambientale
 - Chimica analitica strumentale
 - Laboratorio di analisi ambientaliActivities included assisting students during practical laboratory sessions, guiding them in analytical procedures and instrument handling, supporting data interpretation, and ensuring compliance with laboratory safety practices.

Publications

1. Tissue-specific mercury (Hg) content in mantis shrimp (*Squilla mantis*) from the Central Adriatic Sea (GSA 17): A reproductive stage perspective
Girolametti, F., Michetti, G.M., Ajdini, B., ... Fanelli, M., Truzzi, C.
Marine Pollution Bulletin, 2026, 222, 118682.
2. Novel Food Safety Evaluation: Potentially Toxic Elements in *Acheta domesticus* (House Cricket) Reared on Seaweed-Enriched Diets
Ajdini, B., Biancarosa, I., Illuminati, S., ... Massi, L., Truzzi, C.
Molecules, 2025, 30(19).
3. Trace element concentration and toxicity in blackspotted smooth-hound sharks (*Mustelus punctulatus*) from the southern Adriatic Sea: Implications for consumer safety
De Loose, E., Gayford, J.H., Karalić, E., ... Beširović, H., Gajić, A.A.
Marine Pollution Bulletin, 2025, 213, 117630.
4. Modulating the nutritional value of *Acheta domesticus* (house cricket) through the eco-sustainable *Ascophyllum nodosum* dietary supplementation
Ajdini, B., Biancarosa, I., Cardinaletti, G., ... Pinto, T., Truzzi, C.
Journal of Food Composition and Analysis, 2025, 140, 107263.
5. Ecotoxicological assessment of basil essential oil on soil nematode communities
Linda, C., Eleonora, G., Loretta, G., ... Luana, D.C.M., Federica, S.
Environmental Pollution, 2025, 370, 125898.
6. Mercury historical signature in the Central and Southern Adriatic Sea sediment cores
Fanelli, M., Illuminati, S., Annibaldi, A., ... Baldelli, G., Spagnoli, F.
Estuarine Coastal and Shelf Science, 2025, 314, 109144.
7. Elemental composition of ten different tissues from a stranded sperm whale (*Physeter macrocephalus*) in the Mediterranean Sea
Girolametti, F., Cannavacciuolo, A., Centelleghè, C., ... Pizzini, S., Annibaldi, A.
Chemistry and Ecology, 2025, 41(6), pp. 729–746.

8. European teas (*Camellia sinensis*) as a new frontier in the specialty tea market: characterizing the antioxidant, polyphenolic and sensory profiles through a systematic, comparative approach
Carloni P., Fanesi B., Lucci P., Truzzi C., Girolametti F., Damiani E.
Antioxidants, 15, 141
9. Triple threat: ocean acidification, warming, and hyposalinity synergistically weaken shell integrity in a Mediterranean calcifying mollusk
Mancuso A., Bardone F.G., Marchini C., Gironi M., Dalpozzo A.C., Sani T., Girolametti F., Annibaldi A., Arenas F., Falini G., Goffredo S.
Accepted on *Marine Pollution Bulletin*
10. Elemental Composition as a Marker for Botanical Origin in Honeys from the Marche Region (Central Italy): A Chemometric Approach
Girolametti F., Palazzi E., Ajdini B., Massi L., Annibaldi A., Illuminati S., Truzzi C.
Under review on *Journal of Agriculture and Food Research*

Participation in Conferences

1. Elemental and physicochemical characterization of honeys from Central Italy: a chemometric approach to botanical differentiation.
F. Girolametti, E. Palazzi, B. Ajdini, L. Massi, A. Annibaldi, S. Illuminati, C. Truzzi.
Poster presentation at TUMA 2025 – Interregional Congress of the Sections of the Italian Chemical Society, Florence, Italy, November 20–21, 2025.
2. Human hair as a biomarker of mercury exposure in coastal populations: A case study from Ancona (Central Italy).
F. Girolametti, E. Polidori, B. Ajdini, L. Massi, A. Annibaldi, S. Illuminati, C. Truzzi.
Poster presentation at the XXI Congresso Nazionale della Divisione di Chimica dell'Ambiente e dei Beni Culturali, Cremona, Italy, September 10–13, 2025.
3. Tracing mercury exposure from sea to humans: preliminary findings on Adriatic mantis shrimp (*Squilla mantis*) and human hair samples from the Ancona population (Central Italy).
F. Girolametti, G.M. Michetti, E. Polidori, B. Ajdini, L. Massi, A. Annibaldi, S. Illuminati, M. Fanelli, S. Colella, E. Frapiccini, C. Truzzi. Oral presentation at AIOL – APECS event, Ancona, Italy, June 3–6 2025.

Outreach and Science Communication Activities

1. Delivered several seminars and interactive lectures for high school students at:
 - Istituto Savoia, Ancona
 - Liceo Galilei, Jesi
 - Istituto Da Vinci, Jesi
2. Participated in public science events, including:
 - Sharper Night – engaging the general public with demonstrations and discussions on environmental chemistry, human exposure to pollutants, and sustainable practices.