



Biosketch Isabella Buttino

Since I moved to ISPRA-Experimental Section for Ecological Risk Assessment in Marine Coastal Areas located in Livorno, I continued my research activity on the physiology and ecology of marine zooplanktonic organisms, and the collaboration with the SZN colleagues. My principal interest is mainly focused on the functional biology of marine plankton, with particular attention to the effects induced by emerging contaminants (such as nanoparticles) on the physiology and genomics of marine copepods, small crustaceans representing the major component of the zooplankton. Standardized protocols to rear copepods have also been one of the priority for obtaining organisms to be used as model for reproducible, biological tests. Within the Plankton and Functional Biology Laboratory in ISPRA Livorno and in collaboration with EMI and BLUBIO Depts at SZN, I conducted researches on the toxicogenomic effects of heavy metal nanoparticles on marine planktonic organisms. This was also the main activity of the project funded by SZN for an Open University PhD fellow, for which I was internal supervisor. The aim was to investigate in depth the effect of nanoparticle exposure on two different marine copepod species, one reared in laboratory conditions and the other collected at sea. The final aim was to better understand the impact of contaminants to the physiology and genomics of copepods with an ecotoxicogenomic approach, and possible effects on plankton, secondary production at sea.

Five relevant publications:

1. Rotolo F., Vitiello V., Pellegrini D., Carotenuto Y., Buttino I. (2021) Historical control data in ecotoxicology: Eight years of tests with the copepod *Acartia tonsa*. *Environmental Pollution* 284: 117468. <https://doi.org/10.1016/j.envpol.2021.117468>.
2. Di Capua I., Micarelli P., Tempesti J., Reinerio F.R., Buttino I. (2021) Zooplankton size structure in the Gulf of Tadjoura (Djibouti) during whale shark sighting: a preliminary study. *Cah.Bio.Mar.* 62 (3): 290-294.
3. Gallo A., Boni R., Buttino I., Tosti E. (2016). Spermiotoxicity of nickel nanoparticles in the marine invertebrate *Ciona intestinalis* (ascidians). *Nanotoxicology* DOI: 10.1080/17435390.2016.1177743.
4. Carotenuto Y., Vitiello V., Gallo A., Libralato G., Trifuoggi M., Toscanesi M., Lofrano G., Esposito F., Buttino I. (2020) Assessment of the relative sensitivity of the copepods *Acartia tonsa* and *Acartia clausi* exposed to sediment-derived elutriates from the Bagnoli-Coroglio industrial area. 155: 104878. <https://doi.org/10.1016/j.marenvres.2020.104878>.
5. Morroni L., Sartori D., Costantini M., Genovesi L., Magliocco T., Ruocco N., Buttino I. (2019) First molecular evidence of the toxicogenetic effects of copper on sea urchin *Paracentrotus lividus* embryo development. *Water Research* 160: 415-423.