

Lara Pozzato

Post-Doc at LSCE

What did you do before arriving at LSCE?

Before coming here I worked at the NIOZ

“Koninklijk Nederlands Instituut voor Onderzoek der Zee”- Ecosystem Studies Department, Yerseke (Netherlands).

My PhD thesis contributed to the understanding of benthic processes and carbon cycling by focusing on the effect of oxygen availability on organic matter degradation, transformation, preservation and composition and on the structure and functioning of the benthic community in different deep-sea environments (North-East Atlantic, Arabian Sea OMZ, Western Mediterranean). Using  $^{13}\text{C}$  &  $^{15}\text{N}$  labelled DOM and POM tracers added to sediment core “pulse-chase” experiments, I quantified the involvement of bacteria, protists and metazoans in phytodetritus and dissolved organic matter processing, assimilation and transformation under *in situ* and manipulated oxygen concentrations. I targeted biochemical markers (PLFAs, amino acids and carbohydrates) to follow biotic uptake and respiration of organic matter.

During my PhD I also had the opportunity to participate to the benthic part of the European Project EPOCA in Svalbard, where I worked with Dr. F. Gazeau. This project focused on the ocean acidification and evaluated the response of the sedimentary biogeochemistry and of the benthic communities to the increasing  $\text{CO}_2$  concentration in the oceans.

My work also unravelled metazoans food-derived C and N processing. Using  $^{13}\text{C}$  labelled tracers, I studied and quantified allocation, transformation, storage and biochemical compound synthesis in the case-study species *C. edule*, common cockle.

I have an Msc in Environmental Marine Science completed at the University of Trieste- Faculty of Mathematics, Physics and Natural Sciences-Environment marine sciences curriculum, Trieste (Italy). My thesis title is “*Scorpaena porcus*: farming essays in different facilities for future transfer in marine reserve areas”. My work aimed at quantifying growth rates of young wild individuals of *S. porcus*, when raised in different artificial facilities. My results helped understand which condition better suited to grow this species on-land, for purposes of reintroduction in reserve area. The species is, in fact, heavily impacted by human activities because it makes up almost 60% of the

bycatch of coastal fishing.

Before beginning my PhD, I worked as a research assistant at Delft Hydraulics-DELTAARES, Delft (Netherlands) where I studied the Zebra mussel (*Dreissena polymorpha*) population decline and turbidity issues in Lake Marken. Using *ex situ* incubation feeding experiments, I determined the mussel's faecal pellets and pseudofaeces production and dissolution rates, specific per each cohort of the population. The data have been then used in a hydrological model to assess the spreading and resuspension of the pellets. I also studied the turbidity of the lake, its origins, and causes and devised possible mitigation techniques.

What do you do at LSCE?

In my current post doc position in the frame of the CONGOLOBE project, I participate to WP4: C and Si mass balance in the lobe zone of the river Congo fan, recycling and burial.

Based on field data, my work contributes to the quantification and understanding of the organic matter remineralization and burial in the lobe region. I make use of *in situ* and *ex situ* oxygen profiles to quantify the benthic activity in organic matter processing. I analyse the carbon isotopic signature ( $^{13}\text{C}$  and  $^{14}\text{C}$ ) of sediments and porewater to characterize organic matter origin and its transformation into Dissolved Inorganic Carbon.

I also participate to the decennial ongoing research done by C. Rabouille on the Rhone river estuary, particularly on the riverine inputs to the sedimentary fan and the organic matter remineralization.

What is your best memory of the work?

I have so many.... But I think the most important 2 are getting to know a deep-sea system which is very complex, intriguing and largely unknown and having the possibility to work with really nice people!

What are your interests?

Well, besides loving being a researcher.....I like scuba diving, freediving with my monofin, watching movies and Disney/Dreamworks cartoons and cooking. I love animals and my family.

What is your favorite color?

I have 2 favorites: red and blue, which well match my personality, passionate and impulsive but also introspective and sensitive.

What is your favorite number?

Definitely 5!