Nadège Zaghdoudi - Early Stage Researcher No.7

Regulatory mechanisms of shell formation.

I am studying the cellular and molecular organization of the mantle, the primary tissue responsible for producing the calcium carbonate shells of bivalves. Essentially, I will be focusing on the inter-cellular signaling systems (neuronal and hormonal) involved in calcification of mussel and oyster shells. By challenging these bivalves to different environmental stressors such as predation and elevated carbon dioxide levels, I hope to identify components of the neuro-endocrine system and investigate their function in the shell formation process.

I will be using a variety of different methods throughout my project, including, genetics, cellular anatomy, and controlled challenge experiments. Hopefully my research in collaboration with the other CACHE members will be a helpful contribution to the shellfish aquaculture world. Learning more about how shellfish produce their shells will allow us to develop better solutions when faced with the consequences of climate change and ocean acidification.

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