



## ICGEB International SEMINAR PROGRAMME 2017

Friday, 22 September 2017 | 12:00 noon | ICGEB Seminar Room, W building | Padriciano, 99, Trieste, ITALY



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My presentation will give an overview of the study conducted so far in our group at the Stazione Zoologica Anton Dohrn. The first part will focus on results obtained in the field of plankton chemical ecology, with a major focus on microalgae. These are a key component of the phytoplankton and are at the basis of the marine food chain. Among microalgae, diatoms represent a very widespread group in both marine and freshwater environments. They have very peculiar metabolic and functional features, therefore they are of great interest both for basic biological research and for exploring their potential for biotechnological applications.

Our group was the first to show that diatoms produce secondary metabolites able to induce a reduction of viability and teratogenicity phenomena in the offspring of their main consumers, the copepods, with serious consequence on the recruitment of future generation of these small crustacean. These molecules derive from the oxidative metabolism of fatty acids and belong to the broad class of the oxylipins. We elucidated the metabolic pathway leading to their production in diatoms, deepened the understanding of their ecological role and of the molecular mechanisms underlying their effects in target organisms. The second part of the talk will focus on the potential of marine microalgae as source of bioactive molecules or valuable products for commercial exploitation in food, aquaculture, energy, cosmetics and health fields. I will present some of our results from a bioactivity screening of several microalgae for antioxidant, anti-inflammatory, anticancer, anti-diabetes and antibacterial activities. I will also illustrate the pipeline we are using for drug discovery from marine microalgae and the possible outcomes of these studies.

## *“Microalgae natural products: from ecology to biotechnology”*

Host: V. Venturi

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