Geomicrobiological and Geochemical Colloquium
seminar series

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Diversity and interactions of microalgae: from species to molecules

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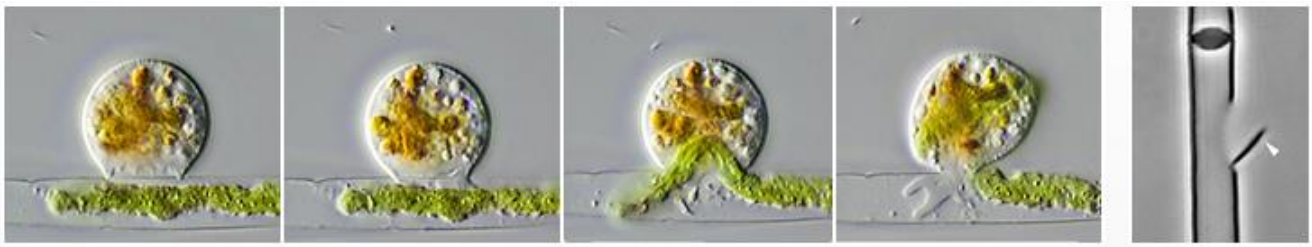
zoom Online seminar, access upon request

Abstract

Protists inhabit virtually all ecosystems on earth and show a stunning variety in terms of cellular organisation, life styles and interactions. Yet, most of their biodiversity remains unexplored and the lack of knowledge about their autecology hampers our understanding of their specific roles in the ecological context. In my lab, we study such poorly known microbes with molecular and classical techniques to further explore their diversity and to understand how they function and interact. Of special interest are the “conjugating green algae” (Zygnematophyceae), which are the closest relatives of the land plants and targeted by various parasitoid and predatory protists. To understand how these heterotrophic protists recognise and feed on the algal cells, we combine explorative organismal biology with omics-informed cell biology. Specifically, we examine the diversification and function of binding proteins and carbohydrate-active enzymes. These factors provide fascinating insights into the molecular processes underpinning trophic interactions of eukaryotic microbes.



The flagellate Orciraptor agilis extracts the chloroplast of a filamentous green alga and leaves behind well-defined perforations in the algal wall.

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