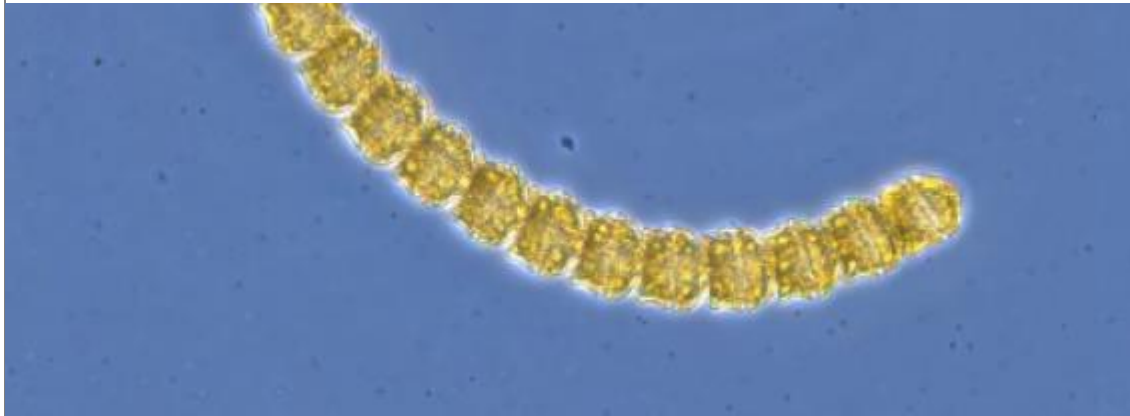


MESTRADO EM Ciências do Mar
Temas de Dissertação
Ano letivo 2023/2024

TÍTULO	Effect of heat waves on the metabolome of <i>Gymnodinium catenatum</i>
	
RESUMO (até 2000 caracteres)	<p>Changes to the ocean environment until the end of the century induced by climate change, are bound to affect ocean systems and biological dynamics. When studying the effects of climate change on marine biota, there has been a strong emphasis on ocean warming, compared to other marine climate change drivers. Indeed, long-term temperature changes present a severe challenge for marine species. However, it is expected that short-term extreme events, such as marine heat waves (MHW), will lead to severe bottlenecks in population survival. MHWs can be characterized as events where anomalously high sea surface temperatures (SSTs) are registered, exceeding the 90th percentile of daily SSTs, and potentially lasting from five days to several months, spanning over thousands of square kilometres.</p> <p>The frequency of these extreme events has nearly doubled since the 1980s, and it is expected to continue increasing also in intensity and duration. Alongside the increasing frequency and severity of MHWs, there is an increased potential for more frequent outbreaks of algal blooms. Indeed, temperature fluctuations may be one of the main drivers in phytoplankton species composition and abundance. Typically, with increasing temperatures, phytoplanktonic species tend to have higher growth rates until a species-specific temperature threshold is reached. These events can become problematic if the species undergoing the sudden overgrowth produce toxins and can originate harmful algal blooms (HABs). HABs are usually associated with severe negative impacts on marine ecosystems, as well as impacts on the human economy and populations.</p> <p>The aim of this project is to investigate, for the first time, the impacts of MHWs on the metabolome of the dinoflagellate <i>Gymnodinium catenatum</i>, a bloom-forming species, a producer of paralytic shellfish toxins, and abundant in most temperate and tropical habitats of the world.</p>

	<p>O trabalho decorrerá maioritariamente no Centro de Ciências do Mar - CCMAR (Faro), com a possibilidade de trabalhar parcialmente remoto.</p> <p>O tema de tese está integrado no projeto 101003376, financiado por H2020-MSCA-WF.</p> <p>O estudante deverá ter uma boa capacidade de organização, motivação e vontade de aprender. Conhecimentos em fisiologia vegetal e/ou química ambiental são considerados relevantes, mas não obrigatórios.</p>
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