



ABSTRACT

“Ostreococcus a minimal green cell for integrated approaches of system biology and functional genomics”

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In recent years the green picoalga *Ostreococcus. tauri* has emerged as a novel model organism for systems biology approaches that combine functional genomics and mathematical modeling, with a strong emphasis on light regulated processes including the cell division cycle and circadian clock. These approaches were made possible through the implementation of a minimal molecular toolbox for gene functional analysis including overexpression and knockdown strategies and more recently high frequency gene targeting by homologous recombination. Recent findings on the circadian clock architecture and its function in the marine environment will be presented.