# The 2nd International Online Conference on Toxics





P. PORTO



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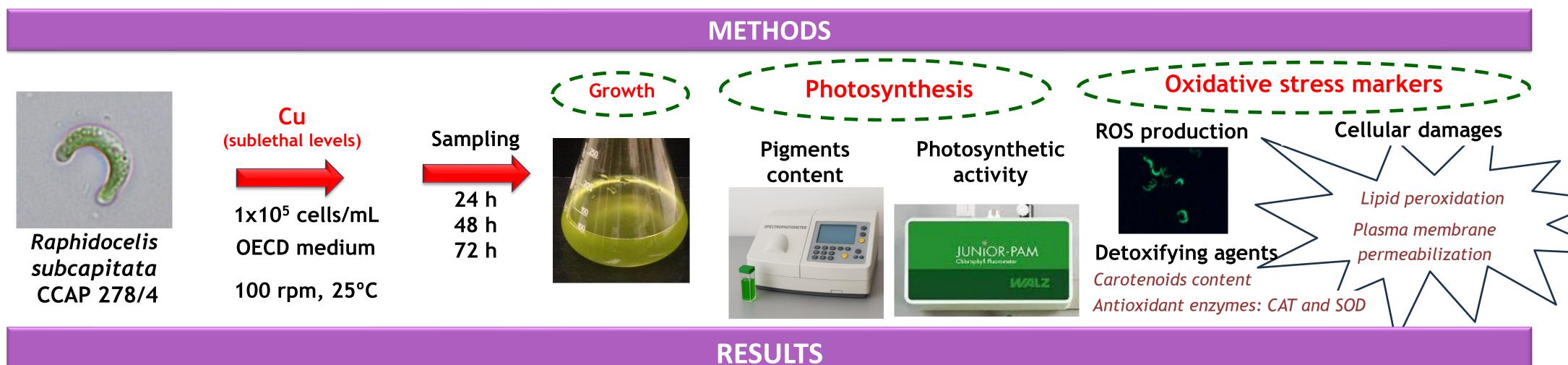
## Characterization of copper toxicity mechanisms, at environmentally relevant concentrations, in the model green alga Raphidocelis subcapitata

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#### **AIMS**

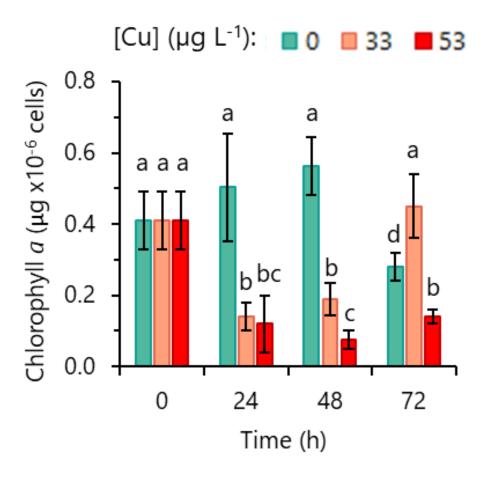
- Evaluate the impact of Cu on the freshwater microalgae Raphidocelis subcapitata at sublethal and environmentally relevant concentrations
- Assess Cu effects on microalgae growth, photosynthesis, and oxidative stress markers.
- Provide a mechanism of action (toxicity pathway) of Cu on R. subcapitata.

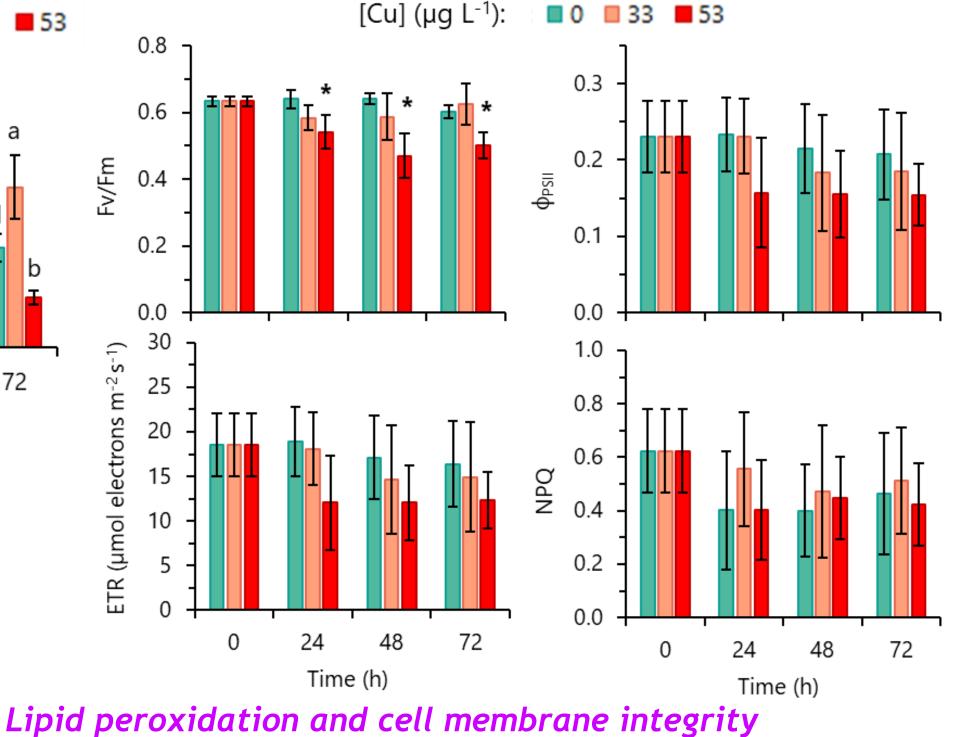


#### Effect of Cu on algae growth

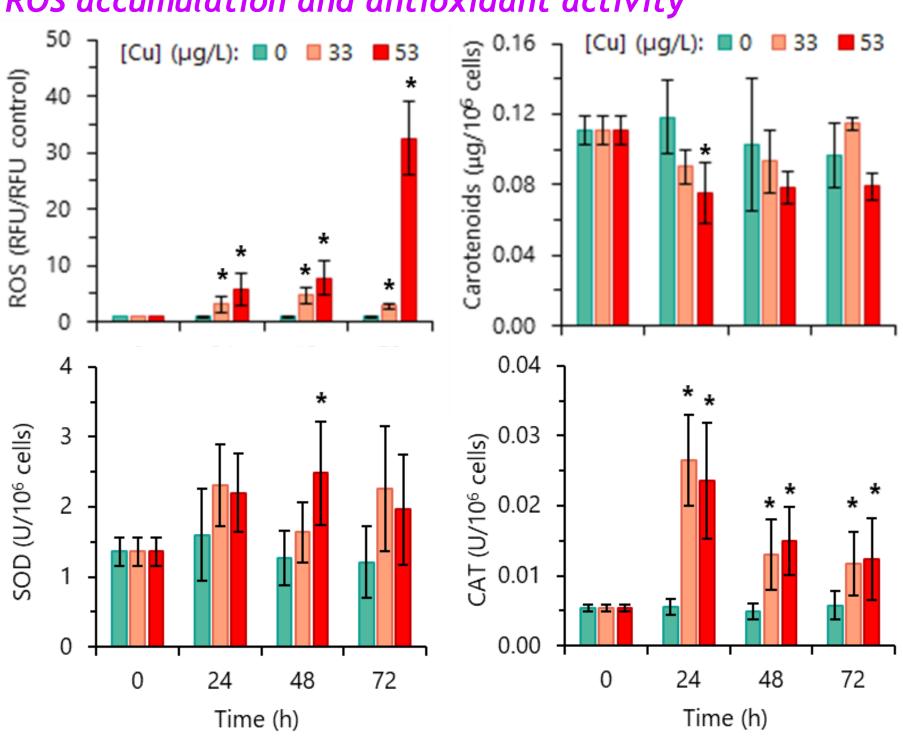
[Cu] ( $\mu$ g L<sup>-1</sup>) 1000 Growth (cells x 104 mL<sup>-1</sup>) 10 72 0 24 48 Time (h)

### Impact of Cu on algae chlorophyll a content and photosynthetic activity





#### ROS accumulation and antioxidant activity



### **ACKNOWLEDGEMENTS**

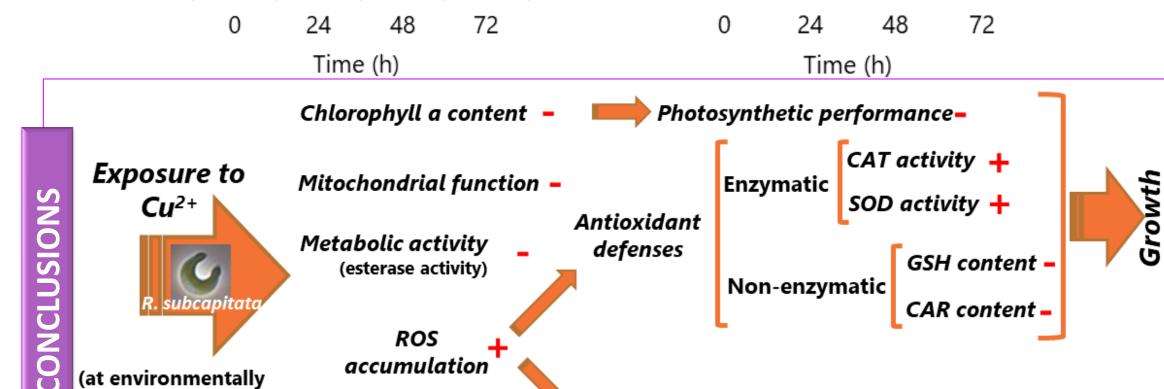
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relevant concentrations)

## [Cu] (µg L<sup>-1</sup>): ■ 0 ■ 33 ■ 53 permeabilized MDA (nmol x10-6 cells) **Cells** with plasma r



Lipid

peroxidation

Cell membrane

integrity