Effects of rising CO_2 on the harmful cyanobacterium Microcystis

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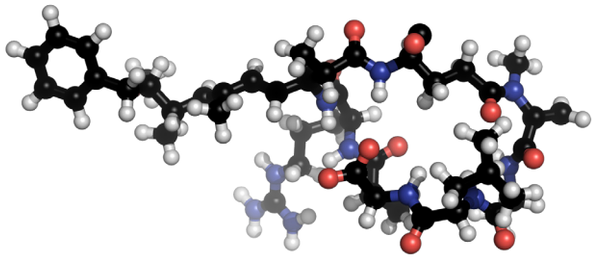
The waters of our planet are full with cyanobacteria that use CO_2, water and light for photosynthesis. Cyanobacteria form the base of the food web and have a strong impact on all life on Earth.

Yet, not all cyanobacteria are beneficial. Harmful cyanobacteria (also known as 'blue-green algae') can form dense blooms in lakes and produce toxins, which leads to all sorts of problems. These blooms can threaten drinking water supplies, recreational activities, livestock, birds and human health.

Since the industrial revolution, atmospheric CO_2 concentrations are rising strongly. Cyanobacteria are generally assumed to be favored at low CO_2 conditions, because of the presence of an effective CO_2-concentrating mechanism (CCM) to fix CO_2. Yet, how will harmful cyanobacteria, such as the ubiquitous harmful cyanobacterium *Microcystis aeruginosa*, respond to rising CO_2? Are they well-adapted to deal with climate change? Will cyanobacterial blooms intensify? Will the genetic composition and toxicity of blooms change? And what can we do to combat these blooms?

These questions and more are discussed in this PhD thesis.



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Effects of Rising CO_2 on the Harmful Cyanobacterium *Microcystis*

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ten overstaan van een door het College voor Promoties ingestelde commissie,
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