



Controlling eutrophication in fresh and brackish water

From 2014-2017 | Total budget € 124,000

Toxic cyanobacteria pose a serious threat to the environment and public health. As blooms of cyanobacteria are spreading, controlling eutrophication and mitigating cyanobacteria nuisance is considered a key challenge to water quality managers. Within the Science without Borders Programme a Visiting Scientist Grant was awarded to Miquel Lurling (SWB 400408/2014-7). The project yielded valuable knowledge on the efficacy and applicability of several combinations of coagulant and solid phase phosphate- sorbents in controlling eutrophication and cyanobacteria blooms in different surface waters in Brazil. Laboratory and field scale experiments were conducted aimed at removing an existing bloom and hampering phosphate release from the sediment. The eco-friendly coagulant chitosan was found not to be a good alternative for traditional coagulants as it caused toxin leakage from cyanobacteria and was ineffective in water from the brackish lagoon Jacarepaguá. Lanthanum-modified bentonite was found to be an excellent phosphate binder under all conditions tested. A local red soil also showed phosphate binding properties and is promising as a cheap alternative. Moreover, the project enhanced the scientific capacities and experiences of Brazilian researchers in the field of aquatic ecosystem restoration.

More information:
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