Singapore Centre for Environmental Life Sciences Engineering (SCELSE) scientists at Nanyang Technological University, Singapore (NTU Singapore) and the National University of Singapore, have developed a technique to remove phosphorus from wastewater at higher temperatures than is possible using existing techniques, by using bacteria to store the chemical.

Current techniques to remove phosphorus do not work well at temperatures above 25 degrees Celsius, which occur now in warm countries. This is expected to extend to more countries, with the advent of global warming.

Due to the presence of diverse microbial communities in water reclamation plants in Singapore, the SCELSE-developed innovation, which is based on bacteria, would thus help to ‘future-proof’ the removal of the chemical. This is as the scientists have demonstrated that it has effectively removed phosphorus from wastewater at 30 degrees Celsius and 35 degrees Celsius.
Called Candidatus Accumulibacter, the bacterial genus is not harmful to humans or the environment and removes phosphate from wastewater and stores it internally as polyphosphate granules. The scientists say their method could be used in laboratory-scale reactors and full-scale treatment plants.

Read more at Nanyang Technological University

Photo Credit: Antranias via Pixabay