

## Phosphorus And Nitrogen Removal From Municipal Wastewater

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[Phosphorus and Nitrogen Removal from Municipal Wastewater...](#)

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[Phosphorus and Nitrogen Removal from Municipal Wastewater...](#)

Phosphorus removal was accomplished by assimilating phosphate with the existence of polyphosphate kinase completely under aerobic condition. Genes involved in nitrogen removal were amplified. 99% of phosphorus and 95% of nitrogen in both mariculture and domestic wastewater were removed by IHPE5.

[Phosphorus and nitrogen removal by a novel phosphate...](#)

While anammox is a cost-effective nitrogen treatment process for wastewater with high nutrient strength, phosphorus remains untouched during this process and needs further treatment. In this study, the nitrogen removal and phosphorus recovery were achieved simultaneously at 25 °C using an anammox expanded bed.

[Simultaneous nitrogen removal and phosphorus recovery...](#)

In this study, the performance of a 250 L pilot-scale intermittently aerated sequencing batch reactor (SBR) for carbon, nitrogen and phosphorus removal from domestic wastewater was investigated ...

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phosphorus and nitrogen removal by using the Stover-Kincannon, second-order (Gau) and the first-order substrate removal models. MATERIALS AND METHODS Experimental set-up: The experiments were con-ducted using four laboratory scale moving bed biofilm reactors in series followed by a final settler. Sludge recycling was not implemented in this process.

[Biological phosphorus and nitrogen removal from wastewater...](#)

In this study, the nitrogen removal and phosphorus recovery were achieved simultaneously at 25 °C using an anammox expanded bed. A stable high nitrogen removal efficiency of 83.7 ± 4.8% at a 1500 mgN/L influent total nitrogen concentration and a phosphorus removal efficiency of 94.2 ± 1.2% at 100 mg P/L influent total phosphorus were obtained during continuous operation.

[Simultaneous nitrogen removal and phosphorus recovery...](#)

The most common species of vegetation used for free-surface assimilation are Eichhornia crassipes (water hyacinth), Pistia stratiotes (water lettuce), and several species of Lemnaceae (duckweed); these aquatic plants can be harvested and sold as a source of nutrients in fish and animal feeds, while also removing as much as 83:87 % total nitrogen and 70:85 % total phosphorus removal from the wastewater streams .

[Nitrogen and Phosphorus Recovery from Wastewater...](#)

Phosphorous removal processes. The removal of phosphorous from wastewater involves the incorporation of phosphate into TSS and the subsequent removal from these solids. Phosphorous can be incorporated into either biological solids (e.g. micro organisms) or chemical precipitates. Phosphate precipitation

[Phosphorus removal from wastewater - Lennetch](#)

The paper reviews the current capabilities of processes for phosphorus and nitrogen removal in relation to the EC urban waste water treatment Directive. The Directive is briefly described and the implications for the UK are discussed. This is followed by a review of biological and chemical processes for nutrient removal with special reference ...

[Process Options for Phosphorus and Nitrogen Removal from...](#)

Biological phosphorus removal is initiated in the anaerobic reactor where acetate (and propionate) is taken up by PAOs and converted to carbon storage products that provide energy and growth in the subsequent anoxic and aerobic reactors.

[Biological phosphorus and nitrogen removal from wastewater...](#)

The denitrifying phosphorus removal (DPAO) process using NO<sub>3</sub> as electron acceptor was adopted to reduce nitrate in effluent from the SNAP process, while phosphorus removal was also achieved simultaneously. Thus, a novel combined process (DPAO/SNAP process) was established to achieve nitrogen and phosphorus removal simultaneously.

[Simultaneous nitrogen and phosphorus removal by combined...](#)

Download Citation | Phosphorus and Nitrogen Removal | Phosphate in effluents from a wastewater treatment plant is responsible for growths of unicellular blue:green algae and many other types of ...

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The physiochemical methods for removal of phosphate and nitrate involve the usage of polymer hydrogels and crystallization process using coal fly ash. Besides, the combination of biological and...

[\(PDF\) THE REMOVAL METHODS OF PHOSPHORUS/PHOSPHATE AND...](#)

This paper describes the mechanism of nitrogen and phosphorus removal by activated sludge process, and introduces several conventional nitrogen and phosphorus biorenoval processes, namely sequencing batch reactor (SBR), anaerobic-anoxic-aerobic (AAO), oxidation ditch, and bio-doubling process (BDP).

[Nitrogen and Phosphorus Removal by Activated Sludge...](#)

Nitrogen (N) and phosphorus (P) removals were evaluated after a 7-day hydraulic retention time (HRT). N removal (sum of ammonium-N, nitrate-N, and nitrite-N) from FTW treatments ranged from 0.255 to 0.738 g·m<sup>-2</sup>·d<sup>-1</sup> (38.9 to 82.4% removal) and 0.147 to 0.656 g·m<sup>-2</sup>·d<sup>-1</sup> (12.9 to 59.6% removal) for trials 1 and 2, respectively.

[Assessing nitrogen and phosphorus removal potential of...](#)

In rural domestic wastewater treatment using subsurface constructed wetland system (SFCWs), the lack of a carbon source for denitrification and limited phosphorus uptake are responsible for low removal of nitrogen and phosphorus, and a suitable substrate is therefore, necessary. Iron is an important component in nitrogen and phosphorus biogeochemical cycles.

[Iron scraps enhance simultaneous nitrogen and phosphorus...](#)

Based on the requirements for advanced treatment and resource recovery of nitrogen and phosphorus pollutants in wastewater, the coupled anammox and hydroxyapatite crystallization (anammox-HAP) process was studied with an aim of achieving high efficiency and low energy consumption during simultaneous nitrogen and phosphorus removal.