

Do you want to know more about a new wastewater treatment technology? Are you interested to work on a new method to valorize sludge?

NEREDA® Technology is an innovative biological wastewater treatment process based on granular sludge. Currently, the process is optimized for phosphorus removal through anaerobic/aerobic alternation, but it is desired that wastewater treatment processes in the future recover that phosphorus.

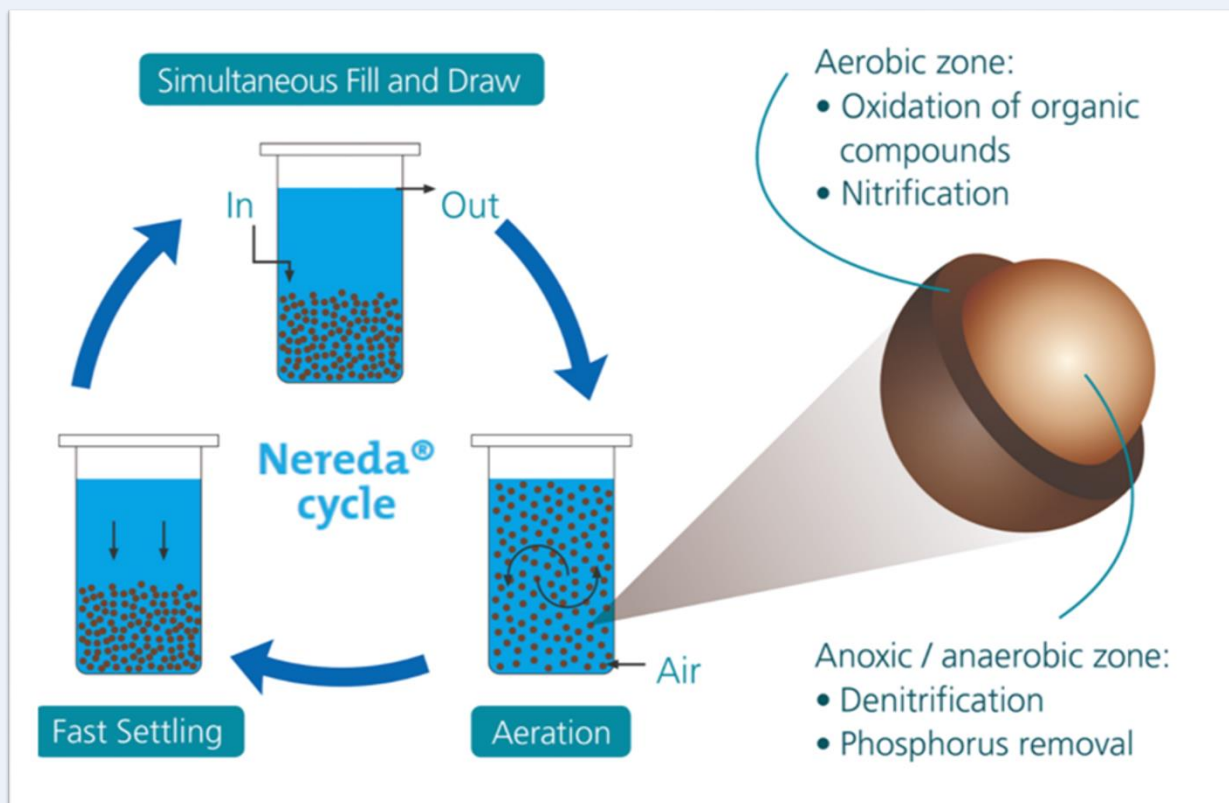


Fig 1: NEREDA® WWTPs cycle



Fig 2: NEREDA® Kaumera Gum

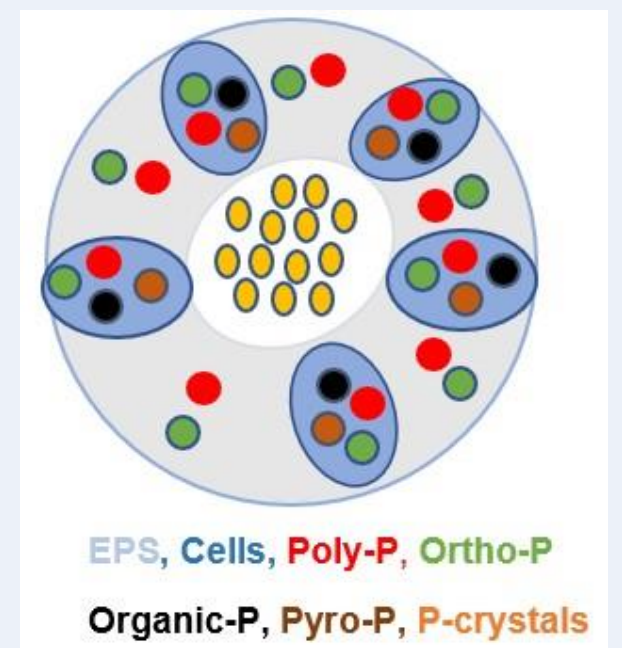


Fig 3: Phosphorus speciation in granules, (Huang et al.,)

NEREDA® waste sludge offers the opportunity for recovery of a new bio-based raw material extracted from the extracellular polymeric substances with the commercial name of Kaumera NEREDA® Gum (Fig 2). Kaumera is a gel-forming polyelectrolyte that can be used in wide industrial applications. The Kaumera chemical extraction process is to change the phosphorus speciation and, through this project it is aimed to combine both Kaumera & phosphorus recovery

Experiments:

- Study phosphorus speciation in different Nereda sludge samples using chemical extractions, XRD, SEM-EDX
- Perform Kaumera extractions from granular sludge on the lab-scale & large scale
- Perform proof of principle experiments for phosphorus recovery (precipitation, high value applications)

Requirements:

- Preferably with a background in Biotechnology, Environmental, chemical, bioprocess engineering, or analytical chemistry.
- A student highly motivated, enthusiastic, proactive, and willing to learn.
- Enrollment at a Dutch or European university. For non-EU citizens enrollment at a Dutch university is required.
- Experience in a chemical lab with the ability to work safely and securely.
- A good level of English is required.

Offer & Benefits:

- Type: Internship project
- Location: Wetsus, Leeuwarden, Netherlands
- Duration: minimum 6 months-more, starting in October 2021
- Compensation: 175 €/month allowance. Except for the Erasmus program participants

Application:

Send an interest letter and CV to Nouran Bahgat (Nouran.bahgat@wetsus.nl) for applications or if you have any questions