

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.

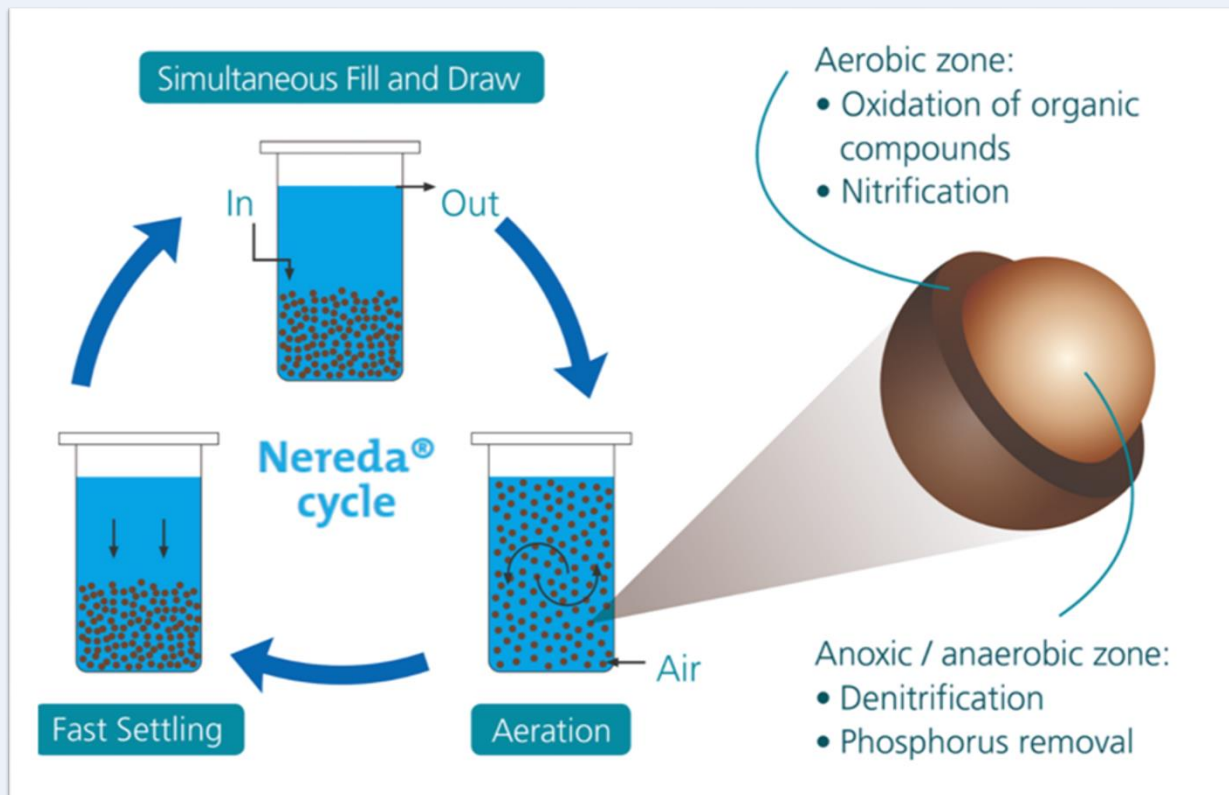


Fig 1: NEREDA® WWTPs cycle



Fig 2: NEREDA® Kaumera Gum

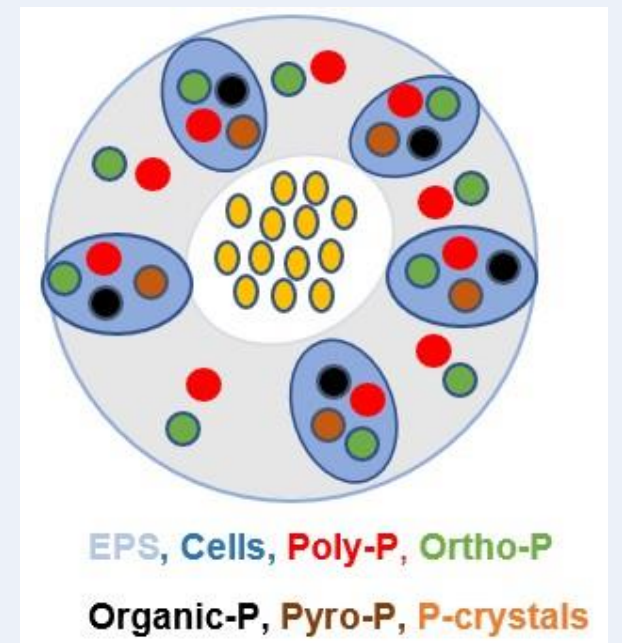


Fig 3: Phosphorus speciation in granules, (Huang et al.,)

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. Combining phosphorus and Kaumera recovery is to be studied through this project.

Experiments:

- Perform Kaumera extractions from granular sludge on the lab scale
- Perform some tests related to phosphorus recovery (precipitation, high-value applications)
- Study phosphorus speciation using different analytical methods

Requirements:

- An MSc student with a background in biotechnology, analytical chemistry, and chemical or bioprocess engineering.
- 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: MSc thesis, Internship project
- Location: Wetsus, Leeuwarden, Netherlands
- Duration: minimum 6 months- starting in November 2022- Later starting time is possible.
- Compensation: €200 or 400 per month, subject to a personal situation
- You would be part of a big EU project (water mining project) with industrial partners where you have the chance to expand your network and improve your skills

Application:

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