Radboud University

NIOZ Royal Netherlands Institute for Sea Research

2 full-time PhD-candidate positions:
(1 at the Radboud University Nijmegen & 1 at the Royal NIOZ)

Developing Biodegradable Structures for Ecosystem Restoration
A study on peatlands, salt marshes, and marine reefs

Aquatic Ecology & Environmental Biology group (IWWR), Radboud University
Research at the Institute for Water and Wetland Research (IWWR) is carried out by complementary and closely interacting research groups that study the mechanisms of cells, organisms and ecosystems by which they adapt to environmental change. The Aquatic Ecology & Environmental Biology group is central in the IWWR and as such embodies its core mission. Research within the group focuses on biogeochemistry, ecophysiology, species interactions and restoration ecology in a rapidly changing world.

'Think Sea - think NIOZ'
NIOZ, the Royal Netherlands Institute for Sea Research (www.nioz.nl) is the Dutch national marine science institute and amongst the most renowned internationally. NIOZ acquires and disseminates scientific knowledge on the world's oceans, seas, estuaries and coastal ecosystems. Our multidisciplinary research is carried out in two facilities: NIOZ Yerseke in the south and NIOZ Texel in the north of the Netherlands. This position will be located in Yerseke, at commuting distance of cities like Antwerpen, Breda and Middelburg.

Overall project description
Wetland ecosystems such as peatlands, salt marshes, and marine reefs provide vital ecosystem services, such as flood protection, nutrient cycling, water and carbon storage, and biodiversity/fishery enhancement. Over the last decades, however, these ecosystems have suffered large-scale losses: between 30 and 50% of all wetlands have been either lost or degraded in the last three decades. Unfortunately, constructing or restoring wetland ecosystems proves to be very difficult because their stability depends critically on self-facilitating feedbacks that, in healthy ecosystems, are created by high densities of the habitat-modifying organisms dominating these ecosystems. This creates a 'chicken-and-egg problem', frustrating ecosystem development on bare sediments.

This project will investigate how ecosystem restoration can be 'jump-started' by using newly developed multipurpose biodegradable structures, that temporarily facilitate ecosystem development. This method to bridge the critical establishment thresholds for habitat modifying organism will be tested on peatlands, salt marshes and bivalve reefs. The research will be carried out in close collaboration between the Radboud University Nijmegen (PhD1 focused on biogeochemical processes), the Royal NIOZ (PhD2 focused on physical / hydrodynamic processes), Bureau Waardenburg (post-doc focused on up-scaling), water managers, industry and manufacturers.

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Specific qualifications PhD 1
We are seeking an enthusiastic experimental ecologist with a strong interest in applied and restoration ecology. You must have an MSc degree (or equivalent) in ecology, biogeochemistry, or a related field.

Specific qualifications PhD 2
We are looking for a highly motivated candidate with an MSc degree in either (marine) ecology OR physical geography OR a related field. The candidate should have a keen interest in doing cutting-edge fundamental research, which can be translated in applicable knowledge for restoration.

Both PhD-candidates should be capable to plan and organize their own work, organize and carry out fieldwork across the Netherlands and meet deadlines imposed by the project. A multidisciplinary interest, excellent communication skills and an open collaborative attitude to work in a group are essential for the success of this project. Good English oral and writing skills are demanded. Both candidates should finalize their projects by completing a PhD thesis and publish results in peer-reviewed journals.

Conditions of employment Radboud University (PhD1) & NIOZ (PhD2):
We offer a fulltime position for 4 years; employment conditions are based on the Collective Labour Agreement of the Radboud University and NIOZ, respectively. PhD1 will be located in Nijmegen, in the east of the Netherlands; PhD2 will be located in Yerseke, at commuting distance of cities like Antwerpen, Breda and Middelburg.

Additional Information
PhD1: Dr. Tjisse van der Heide; + 31 6 34194531; t.vanderheide@science.ru.nl
PhD2: Sigrid Moerbeek; + 31-222-369330; sigrid.moerbeek@nioz.nl

Applications:
To apply, please follow the directions at the websites below.
PhD1:
http://www.ru.nl/overons/werken-radboud/details/details_vacature_0/?recid=561259
PhD2:
http://www.workingatnioz.com/our-jobs/phd-biodegradable-structures-ecosystem-restoration.html

Closing date: Applications can be submitted until 15th November, 2015