Water has been identified as the major environmental issue of the 21st century. Many parts of the world will experience increasing fresh water shortage, while other parts will have a higher incidence of flooding. Poor water quality is a threat for human society as well as for natural ecosystems. The research focus of the Institute for Water and Wetland Research (IWWR) is the natural environment, in particular aquatic ecosystems and wetlands. Many of these environments have been substantially altered by human impact. The changes have resulted in stress responses of all living biota and impose major challenges to individuals, populations and the ecosystem as a whole. The IWWR studies the mechanisms of adaptation to these changes of microorganisms, plants and animals at the level of the molecule, the cell, the organism and the ecosystem. The tight coupling of fundamental scientific research to application, distinguishes the IWWR from other national and international institutes on water research. The novel applications for current water problems are developed from innovative fundamental insights in molecular, physiological and ecological processes.

www.ru.nl/iwwr

PhD Student:
New model concepts to assess damage to ecosystems in a life cycle assessment framework

Institute for Water and Wetland Research, Faculty of Science, Radboud University

Radboud University Nijmegen is strategically located in Europe, and is one of the leading academic communities in the Netherlands. A place with a personal touch, where top-flight education and research take place on a beautiful green campus in modern buildings with state-of-art facilities.

The PhD project is part of the research line on Life Cycle Assessment of the Department of Environmental Science (DES). DES is embedded in the Institute for Water and Wetland Research, Faculty of Science, Radboud University. The mission of our department is to (1) conduct scientific research concerning environmental issues, (2) educate BSc, MSc and PhD students, and (3) disseminate knowledge and expertise to society. We aim to understand and assess biological responses to physical and chemical environmental factors, including anthropogenic stressors.

DES concentrates on 1) effects of multiple stressors on ecosystems and human health, and 2) integration of theoretical concepts (models) and empirical evidence (laboratory experiments and field surveys). The department consists of 6 tenure staff members, 4 post-doctoral researchers and 15 PhD students.

In this PhD-project you will improve the life cycle impact assessment of products with a focus on cause-impact pathways that affect ecosystem quality. The main aim of the project is to develop new model concepts to assess damage to ecosystem services and biodiversity in a life cycle context with a focus on resource related stressors, such as land use. Different approaches to deal with or reduce uncertainty will be tested. Within the models employed, the influence of various subjective choices and statistical uncertainties will be assessed. This can be done, for instance, with help of respectively scenario analysis and probabilistic simulation. You are expected to report the research results in scientific journal papers and, eventually, in a PhD thesis.

Expected qualifications of the position of PhD Student:
You have a university degree (MSC-level) in the field of natural or technical science for example Biology, Environmental Science, Environmental Engineering, Geosciences or a related field
You must have interest in scientific environmental research and demonstrable affinity with environmental modelling and/ or statistical analysis. A strong motivation to obtain a PhD is necessary.

The starting salary is €2,042 per month on a full-time basis and will increase to €2,612 per month in the fourth year.

You will be appointed as a PhD student for a period of four years. Your performance will be evaluated after 18 months. If the evaluation is positive, the contract will be extended by 2.5 years.

The application can be sent to the following address, until 31 March 2011: vacatures@science.ru.nl or Radboud University, Personnel Department, Vacancy number: 62.27.11 PO Box 9010, 6500 GL Nijmegen, The Netherlands

More information:
For more information on the vacancy you can contact:
Prof. Dr. Mark Huijbregts, Tel: +31 (0) 24 3652835, E-mail: m.huijbregts@science.ru.nl
Dr. Rosalie van Zelm, Tel: +31 (0)24 3652923, E-mail: r.vanzelm@science.ru.nl

Additional information
http://www.ru.nl/environmentalscience