Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLUkurs

Syllabus

PNS0087 The role of DOC and DON in plant-soil C and N cycling, 5.0 credits

Syllabus approved

2011-09-28

Subjects

Soil Science

Education cycle

Third cycle

Grading scale

Pass / Failed
The requirements for attaining different grades are described in the course assessment criteria which are contained in a supplement to the course syllabus. Current information on assessment criteria shall be made available at the start of the course.

Language

English

Prior knowledge

PhD student should hold a natural science degree in soil science, plant science (agricultural, horticulture, forestry), biology, or geoscience.

Objective, including learning outcomes

The aim of the course is to:
(i) present the state-of-the-art and the latest developments in methods and approaches in relation to DOC and DON analysis,
(ii) provide the newest knowledge of plant-soil C and N cycling research, and
(iii) enhance the exchange of methods, ideas, and knowledge among PhD-stipends working in different ecosystems and at different trophic levels.

Content

Prior to the intensive course week the participants shall read the assigned literature and complete a pre-course assignment describing own work in relation to plant-soil C and/or N cycling.

The first half of the intensive course week concerns the newest knowledge regarding the C and N cycles in the plant-soil system, and the role of DOC and DON in these cycles. Three leading scientist, Joshua Schimel, Torgny Näsholm, the third to be finally confirmed, will lead the discussions based on their own recent research and the present research of the participants.

The second half of the intensive course week concerns recent progress and development in analytical tools and methods to study DOC and DON in the plant-soil. Four leading scientists, Torgny Näsholm, Alf Ekblad, Mats Fröberg, and Jim Rasmussen will present and discuss methodologies for tracing the fate of specific DOC and DON molecules in and ex situ.

After the intensive course week the participants shall complete a post-course assignment expanding their pre-course assignment by reflecting upon how the knowledge obtained in the intensive course have changed/adjusted their views of their C and/or N cycles, and describe which and how the methods and analytical tools presented at the course can supplement their present research.

Requirements for examination

Approved written assignment and active participation in course discussions.

Additional information

Responsible department

Department of Soil and Environment