

# *Soil carbon monitoring in Danish soils – which soil carbon stock changes can be measured ?*

## *Open seminar in the Danish Soil Science Society, May 7. 2013*

Open seminar arranged by the Danish Soil Science Society putting focus on soil carbon stock assessments with relevance for Denmark's reporting under the Kyoto Protocol art. 3.3 on land-use change and art. 3.4 on forest and agriculture management (LULUCF), on stock changes and processes that affect them. We will discuss resampling methods, results, uncertainties and biases related to soil carbon assessments in upland and hydromorphic soils either under agriculture, semi-natural vegetation or forest cover, and also summarize developments in global soil carbon assessments.

**Time:** Tuesday May 7. 2013 9.30 – 14.00, followed by excursion to Vestskoven – drive back to Life, Frederiksberg, Thorvaldsensvej 40 at 17, arrival ca. 17.30.

**Place:** Det Biovidenskabelige fakultet (LIFE), Grønnegårdsvej, building 1-04, 1870 Frederiksberg C. Auditorium 1-04.1.

**Registration:** Ingeborg Callesen, ica@life.ku.dk, phone +45 6062 1487

**Posters:** Send poster abstract of 150 words with your registration, if you wish to present a poster (size A0 portrait).

Free for members of DSSS. Others 200 kr (50 kr). Sandwich, coffee and transport to Vestskoven included.

See membership and payment details at [www.dansoil.dk/Medlemskab.htm](http://www.dansoil.dk/Medlemskab.htm).

Payment of seminar fee or DSSS membership for 2013 by May 1. to our bank account in Jyske Bank reg. nr 5064 account nr 1214320. Mark payments: name\_SOCseminar.

## **Programme**

9.15 - 9.30 Coffee and registration

9.30 – 9.40 Welcome message and introduction by Chairman Ole K. Borggaard

9.40 – 10.00 Carbon concentrations in European agricultural and grazing land soils.

Vibeke Ernstsén, GEUS

10.00 – 10.30 Using changes in <sup>13</sup>C abundance to study C turnover in arable soils.

Bent Tolstrup Christensen, Department of Agroecology, Aarhus University, AU-Foulum

10.30 – 10.50 Re-sampling of carbon stocks in forest soils and afforestation areas after 18 years – results from the 7x7 km Kvadratnet

Lars Vesterdal, Ingeborg Callesen, Inge Stupak, Petros Georgiadis, Vivian Kvist-Johannsen, Department of Geosciences and Natural Resource Management, Section for Forest, Nature and Biomass.

10.50 – 11.00 Coffee break

11.00 – 11.20 Which processes can affect changes in soil carbon stocks in which quantities within 20 years time – Calculations for re-measured forest soils, and discussion of possible bias and error sources.

Ingeborg Callesen, Lars Vesterdal, Inge Stupak, Petros Georgiadis, Vivian Kvist-Johannsen, Department of Geosciences and Natural Resource Management, Section for Forest, Nature and Biomass.

11.20 – 11.40 Tree species effects on carbon and nitrogen storage in forest soils over four decades.

Per Gundersen, Department of Geosciences and Natural Resource Management, Section for Forest, Nature and Biomass.

11.40 – 12.00 Peat soils – old and new assessments of the extent

Mogens Greve, Department of Agroecology, Soil Physics and Hydropedology, Aarhus University, AU-Foulum

12.00 - 13.00 Lunch and poster session

13.00 – 13.30 Historical changes in soil carbon stocks from prehistoric time to current time

Henrik Breuning Madsen, Department of Geosciences and Natural Resource Management, Section for geography

13.30 – 14.00 Carbon dynamics in arctic soils

Bo Elberling, Department of Geosciences and Natural Resource Management, Section for geography

14.00 – 17.00 Field trip to re-sampled chronosequence study site in Vestskoven

Teresa Gomez de la Barcena, Department of Geosciences and Natural Resource Management, Section for Forest, Nature and Biomass.