

Cross-Institute Programme for Sustainable Soil Function

SoilCIP

Newsletter for May 2007



Merit Promotion

Congratulations to Murray Lark, who has been awarded Individual Merit Promotion to Band 3 from 1st July 2007. Ian Crute says in his announcement:

This promotion recognises Murray's productive and much valued contribution to the understanding and analysis of spatial variation in soil properties and processes. Murray's area of study is recognised as being challenging and, as many colleagues will testify, his rare skills and knowledge are in much demand by collaborators inside and outside the Institute.

Cross-Institute visits and links

Visit to Chile

Laura Cardenas and David Hatch recently spent two weeks visiting the Remehue research station of INIA (Instituto de Investigaciones Agropecuarias) in Chile, funded by the Royal Society's Exchange Programme. The visit was part of an ongoing programme of research testing the effects of grassland management practices on soil structure and nutrient cycling. Losses in the form of gases and/or leached ions occur when nitrogen additions in the form of organic manures or inorganic fertiliser exceed the capacity of the soil/plant/animal system to fully utilise it. The soils under pasture in volcanic areas in the South of Chile have high organic matter contents but are less prone to leaching than UK soils with smaller organic matter contents. The collaborative research is exploring the reasons for this.

During the two-week visit Laura and David conducted three short experiments to test the following hypotheses:

1. Chilean soils do not leach due to low potential nitrification, as a result of low pH, lack of nitrifying bacteria, or some other inhibitory mechanism.
2. The lack of leaching is due to high retention of nitrate from positively charged organic matter.
3. The soils have low mineralisation potential, so the nitrifying bacteria do not receive the adequate amount of substrate for nitrification.

They expect to extend the present work to study microbiological aspects of the processes involved, using stable isotopes to resolve specific rates of the processes.

In addition to the experimental work, Laura and David presented two seminars each, one at Remehue on 'Nutrient cycling processes in agricultural soils, and the other to

the Universidad de la Frontera in Temuco on 'Grassland environmental Research in the UK'. A group from Chile will be visiting North Wyke (and Rothamsted?) next year.

The INIA website address is: <http://www.inia.cl/>

50th Anniversary Conference of the Swedish Long-Term Experiments

This conference was held at the Royal Swedish Academy of Agriculture and Forestry, Stockholm, on 28th and 29th May to celebrate the long-term experiments managed by the Swedish Agricultural University (SLU). I presented an invited paper on Rothamsted's experience of managing long-term experiments, with co-author Paul Poulton and on the second day joined in planning an EU COST Action proposal based on long-term experiments.

BBSRC Vacation Bursaries

Martin Blackwell has been successful in securing a BBSRC Vacation Bursaries. A student from Exeter University, Zephyrine Berryman, will start working with at the end of July for 10 weeks. The project she will carry out will be related to our collaborative project with Phil Brookes and Kathy Snars at Rothamsted, investigating the effects of drying and rewetting on the mobilisation of soil microbial biomass P. Specifically she will be investigating the spatial variability of soil microbial biomass P under grazed grassland. Congratulations to Martin.

PhD thesis

Congratulations to Apostolos Papadopoulos (Tolis) who has been awarded a PhD by Nottingham University, title 'Quantifying physical aspects of soil structure associated with organic management practices.'

British Society of Soil Science

The autumn conference of BSSS will be held at the University of Wales, Aberystwyth this year. The local organiser is John Scullion. Details are at:

<http://www.soils.org.uk/bsssConfs.htm>

In view of the current reorganisation of institutes and the need to maintain and build on links with IGER Aberystwyth, it would be good to have a strong SoilCIP presence at the conference. The 'Call for Abstracts' says:

We assume that soils perform a range of production and ecosystem services. But how robust is the evidence base for these assumptions and do soils vary in their effectiveness? In addition to their traditional role in food production, there is now an increasing focus on soils in relation to:

- the production of biofuels and novel crops
- the mitigation of flooding and pollution
- the maintenance or enhancement of biodiversity

- . the requirements of specialised land uses
- . the application of processed wastes to land

These and other issues relating to soil suitability for particular uses will be the subject of this year's Autumn meeting held at The University of Wales Aberystwyth. The meeting will include a keynote address, an extended poster session and a discussion session on the Soil Framework Directive and its implications for soil science in the UK. The meeting will end with a field trip addressing topical soils-land use issues in the surrounding area.

We invite submissions of abstracts for oral and poster presentations. In accepting oral papers, the organisers will consider the balance/coverage of subject matter offered. The final date for submission of abstracts is the 22th June 2007.

I would be pleased to hear from those of you who want to offer papers.

British Soil-Water Physics Group

The next group meeting will take place at Newcastle University on Wednesday 31st October 2007 entitled 'Recent developments in the measurement of soil physical properties'. Speakers include Andrew Binley (Lancaster), Paul Hallett (SCRI), Richard Whalley (Rothamsted), Dmitry Grinev (Abertay), Anne Verhoef (Reading) and Derek Rose (Newcastle). There is still room for a few more papers so please contact Sacha Mooney (details below) if you would like to present a paper, outlining the particular method or technique that you wish to discuss (just a sentence or two). The Group is especially keen to see more post-graduates at the meetings. If there is enough interest there will also be a poster session so please let Sacha know if you want to present a poster. Expenses for all speakers will be covered thanks to BSSS.

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Keith Goulding, 31st May 2007