

Cross-Institute Programme for Sustainable Soil Function

SoilCIP

Newsletter for September 2006



Soils Workshop

The workshop 'Horizons in Soils Research', organised by the BBSRC/NERC Soils Research Advisory Committee took place in London on 26th to 27th September. A report will be available later.

Presenters highlighted a number of websites which will be of interest to us, including that of the 'European Confederation of Soil Science Societies' at:

<http://www.ecsss.net/>

The Confederation was launched at Eurosoil in 2004. A copy of the report '*Scientific basis for the Management of European Soil Resources - Research Agenda*' can be downloaded from the site, which includes the 5 key messages for the scientific basis for the management of European soil resources:

- 1** Soil is one of the most important ecosystems and a largely non-renewable resource. A vital soil provides numerous services fundamental to the welfare of society and the competitive advantages of Europe in the world. Without a sustainable use of soil, risks and insecurity will increase and economic opportunities will decrease.
- 2** Threats to soil are causing serious social and economic damage in Europe, amounting to billions of Euros every year. Erosion, contamination, loss of organic matter and biodiversity, compaction, floods and landslides, salinisation and sealing reduce the quality of life and the wellbeing of citizens and challenge the social and economic development in Europe at large.
- 3** Research is needed to alleviate the negative impacts on soil, air and water, on the production of biomass and food, and on biodiversity and human health. Research should also lead the way to a more eco-efficient and sustainable use of soil and water resources. This requires collaborative research, developing new research infrastructures and starting new European technology initiatives. National and European programmes need to join forces to provide the basic and targeted research in this area.
- 4** The five priority research areas for soil protection and the management of Europe's natural resources identified by the research community and listed in this brochure, clearly indicate that the raising of funds for actions at the national and the European level is highly necessary and urgent.
- 5** The five priority research areas will lead to a better understanding of soil and its interactions with other environmental compartments. Understanding the natural capacities and restrictions of this system is essential for the development and implementation of integrated resource management policies in the near future.

It was noted that the International Year of Planet Earth begins in 2007, details at:

<http://www.yearofplanetearth.org/>

The other website highlighted was that of 'Critical Zone Science'. The Critical Zone covers treetop to bedrock and thus includes the soil. I'm investigating a link with SoilCIP. More details at:

<http://www.wssc.psu.edu/>

Doctoral Training Grant (DTG)

We have not been able to recruit a suitable student from the first batch of applicants and so will be advertising the current four projects again. However, as I said in the last newsletter, the process for selecting next year's project and student has already begun. Current proposals can be resubmitted but it would be good to have some new ones as well. ***Proposals to me please by 27th October.***

We do have one new PhD student beginning next week. See 'Links with Reading' below.

BSSS Leeds

The annual meetings of the British Society of Soil Science ('Soils, Vegetation and Climate Change') and the Institute of Professional Soil Scientists ('Soils – moving up the agenda') were held at Bodington Halls, Leeds University, from 13-15 September. There were almost 100 delegates with a good representation from most areas of UK soil science. It was disappointing not to have had a field trip to see something of the soils in the area, but these require a lot of effort and no one was prepared to organize anything this year. Next year's meeting is being coordinated by John Scullion at Aberystwyth. I would hope for a field trip to IGER or one of your farms and perhaps the chance for the SoilCIP to participate. Has anyone from the SoilCIP been asked to help?

I've been voted Junior Vice President of the Society (that means Vice President in waiting) and take office from 2009-2010, following the current President, David Rimmer, from Newcastle University.

Institute Career-Path Fellowships Scheme

You will have received several e-mails about this scheme and I am beginning to receive enquiries. I would like to emphasize that this is a great opportunity to bring new blood into the SoilCIP and encourage you to suggest potential Fellowship candidates. I think you already have the information but, just in case, details are at:

<http://www.rothamsted.bbsrc.ac.uk/careers/vacancies/Vacancies.html>

and

<http://www.bbsrc.ac.uk/funding/fellowships/>

Links with Reading

I'm pleased to say that links with Reading seem to be expanding. Cindy Levy from the Department of Soil Science at Reading visited Saran Sohi and Helen Yates at Rothamsted recently to test their soil organic matter fractionation method to see whether it can inform, in conjunction with modelling, an understanding of the fate of environmental contaminants. In addition Carolin Cordova Saez, who has previously worked with us on a British Council link project in Chile, will be coming to Rothamsted as a PhD student, registered at Reading with Steve Robinson and Sam Baxter. In the first instance her research will focus on the spatial variation of soil organic matter fractions and how this informs the simulation of mineralisation processes.

Bio-Soils Interactions and Engineering workshop

Richard Whalley writes "The interaction of biological materials with geotechnical processes has long been ignored by geotechnical engineering, and its importance is just beginning to be realized. Biological materials are unique by their innate characteristics of being self-active and re-growing within geotechnical soil matrices. The biological alteration of the mechanical behaviour of soils is thus a potential novel path for directed manipulation and improvement of soils. The soil environment is known to be exceptionally complex and heterogeneous in structure. Such complexity is essential to support plant and animal life by providing an intricate particle-pore matrix that consists of solid, liquid and gas phases for the effective cycling and storage of nutrients. This same complex soil matrix is also the fundamental "building block" for geotechnical engineering. With our increased understanding of soil microbial life this biological activity and its products can be harnessed to provide new innovative solutions for geotechnical problems as well as provide explanation for observed geosystem performance. To address and explore this opportunity, integration of the sciences and engineering is necessary. The complexity of the processes cannot be sufficiently addressed within a single discipline."

Richard and colleagues in the UK and US have won support for a workshop that will bring together an appropriate blend of scientists and engineers within a creative, innovative environment in order to facilitate exploration and formation of research initiatives. Jointly funded by the EPSRC and the US National Science Foundation, the workshop will be led in the UK by Richard, Kenichi Soga (Cambridge) and Steve Banwart (Sheffield), and will probably be in Boston next April, but watch for details.

Keith Goulding, 29th September 2006