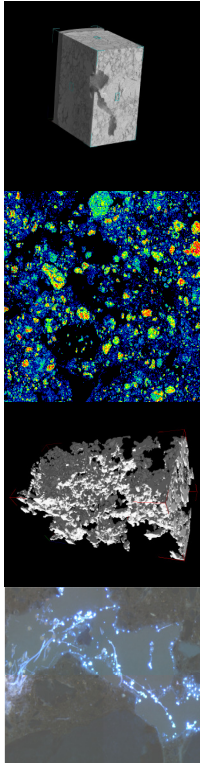


# FIRST CIRCULAR Micro Soil:



## Integrating Biological, Physical and Chemical techniques for the study of soil micro-habitats

University of Abertay, Dundee  
16<sup>th</sup> - 17<sup>th</sup> of September 2009



There is increasing evidence that knowledge of the micro-environment of soils holds the key to a more precise prediction of soil ecosystem functioning. Current advances in techniques in physical (e.g. X-ray CT), chemical (e.g. micro-focus XRF or NANO-SIMS) and microbiological (e.g. FISH) sciences have significantly enhanced our ability to quantify the soils at increasingly smaller scales. The development of these modern techniques has evolved however within separate disciplines. This hampers a holistic approach to the soil system which requires a full integration of physical, biological and chemical methodologies. Perhaps more important, opportunities to apply these techniques simultaneously or combine them with the help of mathematical modelling and statistical techniques are being overlooked.

The aim of this workshop is to bring together current leaders in the field of modern physical, microbiological and chemical techniques that can quantify the soil micro-environment, together with modellers and statisticians to:

- (i) present the current state of quantitative techniques and sampling strategies for the soil microenvironment,
- (ii) identify the opportunities and innovations required to ensure a better integration of these techniques

For further information, please contact Dr. Wilfred Otten, [w.otten@abertay.ac.uk](mailto:w.otten@abertay.ac.uk) .  
Registration is available at: <http://simbios.abertay.ac.uk/workshop/>



Student members of the BSSS can apply for funds towards cost of attending the workshop.

### Speakers are invited on the following topics:

- Micro-CT/micro-XRF for 3D analysis of chemical composition, **Dr P. Bruyndonckx**, Skyscan Belgium.
- X-ray micro-tomography of soils, **Dr A. Ramsey**, METRIS, UK.
- Atomic Force Microscopy for surface topography and bacterial attachment, **Dr C. Wright**, University of Wales.
- Application of laser ablation to soils research, **Prof. T. Fallick**, SUERC, UK.
- Measuring structural connectivity in soil with neutron tomography, **Dr P Lehmann**, ETH, Zurich, Switzerland.
- Advances in microbiological techniques, t.b.c.
- Detection of microorganisms in soil using FISH and CARD FISH, **Dr T. Eickhorst**, Bremen, Germany.
- Sampling bacteria at microhabitat scale, **Dr P. Hirsch**, Rothamsted Research UK,
- Integrating techniques: LB simulation of biofilm growth in porous media. **Dr M Johns**, Cambridge University.
- Integrating techniques: Statistics and spatial heterogeneity, **Prof. M. Lark**, Rothamsted Research.
- Integrating techniques: Modelling fungal community dynamics in heterogeneous soil, **Dr. R. Falconer**, SIMBIOS

### Scientific committee:

Dr **Wilfred Otten**, University of Abertay Dundee  
Dr **Dmitry Grinev**, University of Abertay Dundee  
Dr **Clare Wilson**, University of Stirling  
Dr **Paul Hallet**, Scottish Crop Research Institute

Dr **Andrew Spiers**, University of Abertay Dundee  
Prof. **Philippe Baveye**, University of Abertay Dundee  
Dr **Joanna Cloy**, University of Edinburgh

