



Working Group on Biophysics and Soil Structure International Soil Modeling Consortium

Soil Structure as Biological Habitat Webinar – 17 January 2022, 14:30-17:00 GMT

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Soil structure as biological habitat is one of the themes of this ISMC Working Group, and will form the topic of our first webinar. We hope to attract a broad range of researchers, extending the reach of the ISMC to soil microbiologists and ecologists.

Soil structure forms the habitat of soil organisms and, thus, it is an obvious assumption that soil structure forms variably connected pore spaces and separated niches (i.e. habitats) that are of critical importance for the diversity of soil biota. This affects not only the genetic diversity of individual species, but more importantly the functional diversity within biological communities. Soil biology may also drive soil structure, possibly building favourable properties. The quantitative description of these interactions is weak, but a huge potential exists to learn more by exploiting new technologies and modelling.

Speakers:

Hans-Jörg Vogel, Umweltforschungszentrum Leipzig

Paul Hallett, University of Aberdeen

Jim Prosser, University of Aberdeen

Tiina Roose, University of Southampton

Steffen Schlüter, Umweltforschungszentrum Leipzig

Darian Smercina, Pacific Northwest National Laboratory



14:30 – Hans-Jörg Vogel and Paul Hallett – Introduction to the Working Group on Biophysics and Soil Structure

14:50 – Jim Prosser, University of Aberdeen – The importance of spatial structure in soil microbial community composition, niche specialisation and interactions.

15:15 – Tiina Roose, University of Southampton – Pore scale modelling of microbial habitats and processes

15:40 – Steffen Schlüter, UFZ – Soil structure impacts on nematode populations and microbial processes

16:05 – Darian Smercina, PNNL – Relating microbial-scale soil processes to global ecosystem function

16:30 – Open Discussion