Scientific committee

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Topics:
C storage and stabilization, belowground processes, chemical heterogeneity, SOM-biota interactions, trophic networks, scaling processes

Important dates
February 2010: call for abstracts
30 April 2010: deadline for abstract submission
30 June 2010: end of registration at preferential prices

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SOM 2010

International Symposium

SOM 2010

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Organic matter stabilization and ecosystem functions

Presqu'île de Giens (Côte d'Azur, France)
19-23 September 2010

Organisers: Soil Organic Matter Group
Bioemco, Grignon, France

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SOM 2010

Aim *of the symposium is to bring together scientists from different fields having an interest in organic matter dynamics and ecosystem functions. Although the main emphasis will be on soils, contributions from scientists working in other environments are highly encouraged.*

SOM 2010

General themes:

1– Relative contributions of root and shoot C to C storage in soils

Soil C seems to be mostly derived from root C. We invite contributions dealing with quantification of above and belowground sources of SOM and the relative input of root and shoot-derived DOC as well as those concerning their stabilisation processes. Moreover studies highlighting rhizosphere processes as well as the role of biological activity in the transport of organic matter into subsoils, including those using molecular and isotopic markers are welcome.

2– Natural molecular structures as a drivers and tracers of ecosystem functions

Although molecular structures of natural organic matter are mostly unknown, they might be crucial for the processes leading to stabilization/ destabilization of organic matter in the environment. We invite contributions that emphasis the role of molecules (nature, chemical structures and functionalities, reactivity, …) for understanding ecosystem functions, in particular those using sophisticated modern analytical tools.

3– Microbial communities (biodiversity, microbial habitat-biota interactions...) as drivers of organic matter dynamics

Micro-organisms are the main actors in the decomposition of organic matter, yet there is no clear understanding of the relationship between microbial diversity and decomposition. Recent theories have emphasised the importance of the environmental context in shaping the relationship between biodiversity and ecosystem function and therefore decomposition. We invite papers that shed light on the relationship between microbial communities and C and N dynamics, including the role of microbial diversity and that of constraints on microbial activities due to their habitat.

4– Trophic networks and organic matter dynamics

Decomposition of organic matter involve organisms from all positions in the soil food web; including detritus consumers, microbial grazers, carnivores etc. and involving ecological interactions like inter- and intra-specific competition, predation etc. Soil food webs are usually studied by other scientists than those studying soil organic matter dynamics (ecology vs. soil science). Hence, food web theory is rarely integrated in soil organic models.We invite contributions that explore how food webs control the dynamics of C and N in soils, under different land uses and practices.

5– Impact of changing environmental controls on SOM dynamics

Changing environmental conditions are having profound effects on SOM dynamics. Although some simple effects have been quantified in the short term (e.g. temperature effects), the long-term response and the underlying mechanisms remain uncertain. In addition, effects of multiple interacting factors need to be better understood, e.g. increased CO_2 concentration and priming effects, N deposition and soil C storage potential, interacting temperature and water regime. This session aims at exploring how single and interacting environmental changes are modifying SOM dynamics and the associated underlying mechanisms.

6– Heterogenetity and scaling processes of OM decomposition and stabilization: molecular to regional scales

The processes involved in OM dynamics and stabilisation occur at the molecular to microbial scales, but these processes are influenced by factors that occur at different scales (management practices, climate, plant effects…), leading to highly heterogeneous and complex system. Despite this complexity, different levels of organisation can be identified. Identifying levels of organisation and integrating information across scales are major challenges for understanding global C and N dynamics and are the subject of this session.