

Scientific programme (ISMOM, 26th June – 1st July 2011)

Monday 27th June

08:00 – 09:30 Registration

09:30 – 10:30 **Opening ceremony**

Tribute to the late Prof. Pan Ming Huang

10:30 – 11:00 Coffee break

11:00 – 11:30 **Keynote talk**

Prof Guy Kirk - Understanding changes in soil carbon stocks and global change

11:30 – 12:30 Oral session 1. Dynamics and stocks of C and N in soil

12:30 – 14:00 Buffet lunch

14:00- 14:30 **Keynote talk**

Prof. Donald Sparks – Analytical approaches for investigating reaction mechanisms at carbon/mineral and metal(loid)/mineral interfaces

14:30 – 16:00 Poster session I

16:00 – 16:30 Coffee break

16:30 – 18:30 Oral session 2. Advances in techniques to study soil interfaces

Tuesday 28th June

09:00 – 09:30 **Keynote talk**

Prof. Baoshan Xing - Environmental fate and toxicity of engineered nanoparticles

09:30 – 10:30 Oral session 3. Dynamics of pollutants in soil systems and bioremediation

10:30 – 11:00 Coffee break

11:00 – 12:40 Oral session 3. Dynamics of pollutants in soil systems and bioremediation (Part 2)

12:20 – 14:00 Buffet lunch

14:00- 14:30 **Keynote talk**

Dr Pascal Simonet – Is there a limit to the extent of the rare biosphere in soil ?

14:30 – 16:00 Poster session II

16:00 – 16:30 Coffee break

16:30 – 18:30 Oral session 2. Advances in techniques to study soil interfaces (Part 2)
1. Dynamics and stocks of C and N in soil (Part 2)

Wednesday 29th June

09:00 – 09:30 **Keynote talk**

Dr Steven Banwart - The Role of Soil Fungi in Biological Weathering and Soil Formation

09:30 – 10:30 Oral session 4. Soil microbial activity

10:30 – 11:00 Coffee break

11:00 – 12:40 Oral session 1. Dynamics and stocks of C and N in soil (Part 2)

12:20 – 14:00 Buffet lunch

14:00- 14:30 **Keynote talk**

Prof Willem Norde - The influence of surface polymer coatings on adhesion of bacteria and biofilm formation

14:30 – 16:00 Poster session III

16:00 – 16:30 Coffee break

16:30 – 18:10 Oral session 5. Organo-mineral interactions

Friday 1st July

09:00 – 09:30 **Keynote talk**

Dr Angela Sessitsch - Plant-soil-microbe interactions: importance for plant performance, nutrient cycling and adaptation to environmental changes

09:30 – 10:30 Oral session 4. Soil microbial activity (Part 2)

10:30 – 11:00 Coffee break

11:00 – 12:20 Oral session 4. Soil microbial activity (Part 2)

12:40 – 14:00 Buffet lunch

14:00 - 15:20 Oral session 4. Soil microbial activity (Part 2)

15:20 – 15:40 **Closing ceremony**

15:40 – 16:00 Coffee break

16:00 – 18:00 **Scientific Publishing workshop** chaired by

R. Burns (Editor in Chief, *Soil Biology & Biochemistry*)

S. Jarvis (Editor in Chief, *European Journal of Soil Science*)

C. Anderson (CSIRO, *Soil Research*)

Social Programme

Sunday 26th June

Inscription

Welcome reception

Faculty of Medecine

16 :00 – 20 :00

19 :00 – 23 :00

Wednesday 29th June

Gala Dinner, 19 15 – 23 :00

Buses departing from Montpellier at 19 :00

Domaine de Verchant

Thursday 30th June, choice of excursions

1. Montpellier.

Walking tour of historical centre, followed by lunch in a typical brasserie and visit to the Musée Fabre

2. Clamouse & St Guilhem le Desert

(coach leaving Montpellier at 10 :00, returning 17 :00)

Visit of the Caves of Clamouse, lunch overlooking the Hérault Valley, guided tour of the medieval village of Saint Guilhem le Desert

3. St Jean de Fos & St Guilhem le Desert

(coach leaving Montpellier at 10 :00, returning 17 :00)

Visit of traditional poteries of St Jean de Fos, wine and local produce tasting, lunch at the historical Pont du Diable (Devil's Bridge) guided tour of the medieval village of Saint Guilhem le Desert

Full scientific programme (ISMOM, 26th June – 1st July 2011)

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11:00 – 11:30 **Keynote talk**

Prof Guy Kirk - Understanding changes in soil carbon stocks and global change

11:30 – 12:30 **Oral session 1. Dynamics and stocks of C and N in soil**

11:30 Chandra Pandey Carbon stock in soils: effect of vegetation, soil type and climatic conditions on the western Himalaya, India

11:50 Robert Mills Global-scale topsoil carbon turnover depends upon vegetation type

12:10 Anand Narain Singh Ecology of Carbon sequestration in rehabilitated Coal Mine spoil in a dry Tropical Environment, India: Effect of Plantations

12:30 – 14:00 Buffet lunch

14:00- 14:30 **Keynote talk**

Prof. Donald Sparks – Analytical approaches for investigating reaction mechanisms at carbon/mineral and metal(loid)/mineral interfaces

14:30 – 16:00 **Poster session I**

16:00 – 16:30 Coffee break

16:30 – 18:30 **Oral session 2. Advances in techniques to study soil interfaces**

16:30 Liesbeth Bouckaert Overcoming practical constraints in the application of X-ray CT to soil science

16:50 Carsten Mueller Soil interface composition at the submicron scale – applicability of NanoSIMS

17:10 Pascal Lienhard Near infrared reflectance spectroscopy and molecular tools to evaluate land use impact on soil characteristics and microbiota: a case study in a tropical ecosystem (altitude plains, Lao PDR)

17:30 Philippe Saliot Introduction to the NanoSIMS instrumentation in Soil science: quantitative mapping of soil-microbe-plant interactions and elemental fluxes with 50nm resolution

17:50 Michael Sander Adsorption mechanism of transgenic insecticidal Cry1Ab protein to SiO₂ surfaces and its effects on transport and bioactivity

18:10 Ruth Ellerbrock Local-Scale Distribution of Organic Matter Composition and Wettability at Preferential Flow Path Surfaces

Tuesday 28th June

09:00 – 09:30 **Keynote talk**

Prof. Baoshan Xing - Environmental fate and toxicity of engineered nanoparticles

09:30 – 10:30 **Oral session 3. Dynamics of pollutants in soil systems and bioremediation**

- 09:30 Jianming Xu Environmental behavior of natural soil nanoparticles and their impact on the mobility of PAHs in soils
- 09:50 Peng Cai Interactions of pathogens *Escherichia coli* and *Streptococcus suis* with clay minerals
- 10:10 Patra Ashok Effect of nanoparticles of hematite, zinc peroxide and fullerene on seed germination, rice growth and soil ecology

10:30 – 11:00 **Coffee break**

11:00 – 12:40 **Oral session 3. Dynamics of pollutants in soil systems and bioremediation (Part 2)**

- 11:00 Richard Burns Microbes and Enzymes in Soil Bioremediation: Problems and Solutions
- 11:20 Ellen Kandeler Bacterial and Fungal Contribution to the Degradation of MCPA at the Soil-Litter Interface
- 11:40 Patricia Garnier Modelling PAH dynamic during the remediation of contaminated soil through composting with organic wastes
- 12:00 Thomas Lerch Do bacterial-mineral interactions affect pesticide degradation? A case study with 2,4-D and *Cupriavidus necator* JMP134.
- 12:20 Rosalia Scelza Bioremediation of PCP contaminated soil by *Byssoschlamys nivea* and *Scopulariopsis brumptii*

12:20 – 14:00 **Buffet lunch**

14:00- 14:30 **Keynote talk**

Dr Pascal Simonet – Is there a limit to the extent of the rare biosphere in soil ?

14:30 – 16:00 **Poster session II**

16:00 – 16:30 **Coffee break**

16:30 – 18:30 **Oral session 2. Advances in techniques to study soil interfaces (Part 2)**

- 16:30 Cécile Monard Next generation sequencing to determine the shaping factors of microbial communities in environmental samples
- 16:50 Brian Kelleher CO₂ uptake by soil chemoautotrophs: identification, quantification and characterisation.
- 17:10 Sebastien TERRAT Influence of Soil DNA Extraction Procedure to Assess Bacterial Diversity using Pyrosequencing of 16S rDNA

16:30 – 18:30 **Oral session 1. Dynamics and stocks of C and N in soil (Part 2)**

- 17:30 Gerard Ros Unraveling the fate of dissolved organic N in soils using ¹⁵N tracing
- 17:50 Sean Case Biochar suppression of N₂O emissions from an agricultural soil
- 18:10 Jean-Philippe Bellenger Non symbiotic N₂ fixation; a misunderstood and underestimated N input?

Wednesday 29th June

09:00 – 09:30 Keynote talk

Dr Steven Banwart - The Role of Soil Fungi in Biological Weathering and Soil Formation

09:30 – 10:30 Oral session 4. Soil microbial activity

- 09:30 Jacques Berthelin Diversity and interactions in bacterial communities involved in mineral weathering, iron mobility and ferrous toxicity in rice fields of tropical ferralsol-gleysol sequences.
- 09:50 Beat Frey Granite dissolving bacteria from the Damma glacier forefield
- 10:10 Christelle Collignon Seasonal dynamics of Al-bearing secondary minerals in an acidic forest soil: influence of Norway spruce roots

10:30 – 11:00 Coffee break

11:00 – 12:40 Oral session 1. Dynamics and stocks of C and N in soil (Part 2)

- 11:00 Fernando Moyano An Integrated Analysis of Soil Incubation Data: Deriving Soil Type Dependent Moisture-Respiration Relations
- 11:20 Christophe Moni Temperature effect on soil organic matter mineralization in arctic soils from Norway, Svalbard and Russia.
- 11:40 Heike Knicker Turnover of charcoal in fire-prone mineral soils of Southern Europe
- 12:00 Jean-Thomas Cornelis Charcoal production at mound kiln sites affects pedogenesis and soil capacity to stabilize organic carbon
- 12:20 Meriem Ben Sassi Heat waves and soil Mediterranean microbial communities: Differential influence of drought, high-temperature and perturbation duration

12:20 – 14:00 Buffet lunch

14:00- 14:30 Keynote talk

Prof Willem Norde - The influence of surface polymer coatings on adhesion of bacteria and biofilm formation

14:30 – 16:00 Poster session III

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16:30 – 18:10 Oral session 5. Organo-mineral interactions

- 16:30 Michaela Dippold Fate of functional groups of amino acids in soil assessed by position-specific labelling
- 16:50 Alexis DE JUNET Effect of hydrofluoric acid hydrolysis on organo-mineral complexes (Cambisol and Andosol, La Réunion Island)
- 17:10 Véronique Chaplain Influence of polymeric coating on particle adhesion measured by hydrodynamic detachment
- 17:30 Karin Eusterhues Reaction with ferrihydrite surfaces leads to fractionation and stabilization of soil organic matter
- 17:50 Thilo Rennert Geogenic CO₂ affects mineral and organic soil constituents on a mofette site

Friday 1st July

09:00 – 09:30 **Keynote talk**

Dr Angela Sessitsch - Plant-soil-microbe interactions: importance for plant performance, nutrient cycling and adaptation to environmental changes

09:30 – 10:30 **Oral session 4. Soil microbial activity**

09:30 Rondro Harinisainana BAOHANTA Microbial activities and vegetation structure within the degraded sclerophyllous forest of *Uapaca bojeri* in Madagascarian Highland

09:50 Mauricio Molina Effect of organic amendments and promoting bacteria on root density in table grape

10:10 Swartjes Frank Tiered approach to investigate the possibilities for growing crops for consumption on potentially contaminated land

10:30 – 11:00 **Coffee break**

11:00 – 12:20 **Oral session 4. Soil microbial activity (Part 2)**

11:00 Christine Knust Increasing demand for biomass energy: How does short rotation coppice impact soil properties in the medium and long-term? A case study in young soils in the Marchfeld, Lower Austria.

11:20 Qiaoyun Huang Impact of clay minerals and iron oxide on microbial diversity in two Chinese soils

11:40 Cristina Diez Effect of environmental conditions, soil type and ligninolytic substrate on biological activities in biomix of biobeds

12:00 Cuiping Zeng Responses of soil microbial communities to sunlight-induced photochemistry of Fe-bearing minerals in a red soil

12:20 – 14:00 **Buffet lunch**

14:00 - 15:20 **Oral session 4. Soil microbial activity (Part 3)**

14:00 Pil Joo Kim Effect of long-term fertilization on microbial community structure as a soil quality indicator in rice paddy soil

14:20 Alain Soler Influence of clay microstructure and organic matter on chlordecone sequestration in volcanic soils .

14:40 Aline Navel Control of copper impact on bacterial community by microscale localisation of microorganisms and added copper and organic matter in a vineyard loamy soil

15:00 Maria de la Luz Mora Effect of nitrogen and phosphorous fertilization on phosphatase and urease behavior in a Perennial Ryegrass rhizospheric soil

15:20 – 15:40 **Closing ceremony**

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