

# 6th ISMOM, Montpellier France, 2011

## Summary

ISMOM \_ International Symposium of Interactions of Soil Minerals with Organic Components and Microorganisms

3rd InterCongress Symposium of Commission 2.5 ( Soil Chemical, physical and biological Interfacial Reactions) of the IUSS(International Union of Soil Sciences)

### **Soil Interfaces in a Changing World**

26th June – 1st July 2011

<http://www1.montpellier.inra.fr/ISMOM2011/>

ISMOM 2011 was the 6th in a series of quadrennial international symposia organised under the auspices of the Commission 2.5 of the IUSS (International Union of Soil Sciences).

The objective of this series is to provide a forum for interdisciplinary exchange. The symposium has become an established feature and has played a significant role in favouring interdisciplinary research with a much enhanced recognition of the importance of crossing disciplinary boundaries. Soil is a complex, heterogeneous medium in which chemical, physical and biological components interact and which therefore cannot be adequately understood from the standpoint of any of the traditional sciences. Processes in soil control many environmentally important reactions, determine agricultural and forestry production and play an increasingly recognised role in the modulation of the emission of greenhouse gases.

Seven leading personalities were invited to give key note talks that generally introduced oral sessions. Poster sessions combined 2 or 3 topic sessions and posters were displayed for one day. On the basis of the contributions received, the following sessions were decided and both oral and poster presentations assigned to one of the sessions.

1. Dynamics and stocks of C and N in soil  
1 Keynote, 11 talks and 45 posters
2. Advances in physical and biological techniques to study soil interfaces  
2 Keynotes, 8 talks and 16 posters
3. Dynamics of pollutants in soil systems and bioremediation  
1 Keynote, 7 talks and 38 posters
4. Soil microbial activity and soil functions  
2 Keynotes, 14 talks and 43 posters
5. Organomineral interactions in soils  
1 Keynote, 5 talks and 38 posters

Two special issues arising from ISMOM are to be published by *European Journal of Soil Science* and *Soil Biology and Biochemistry*. A scientific writing seminar was organised at the end of the conference, chaired by the Editors-in-Chief of *European Journal of Soil Science* (Steve Jarvis) and *Soil Biology and Biochemistry* (Richard Burns) and a representative of *Soil Research* (formerly *Australian Journal of Soil Science*) (Chris Anderson).

Registration fees were as low as possible (440 €full and 250 €student) and all-inclusive. Low cost accommodation was provided. Fees were waived and travel grants awarded to Key note speakers, some other invited speakers, students and scientists from scientifically evolving countries.

# 6th ISMOM, Montpellier France, 2011

## Description of the scientific content of and discussion at the event

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3rd InterCongress Symposium of Commission 2.5 ( Soil Chemical, physical and biological Interfacial Reactions) of the IUSS(International Union of Soil Sciences)  
Soil Interfaces in a Changing World  
26th June – 1st July 2011  
<http://www1.montpellier.inra.fr/ISMOM2011/>

ISMOM 2011 was the 6th in a series of quadrennial international symposia organised under the auspices of the Commission 2.5 (Soil chemical, physical and biological interfacial reactions) of the IUSS (International Union of Soil Sciences). Previous meetings were held in Edmonton, Canada (1992, P.M.Huang), Nancy, France (1996, J. Berthelin), Naples, Italy (2000, L. Gianfreda & A. Violante), Wuhan, China (2004, Q. Huang) and Pucon, Chile (2008, M.L. Mora). This symposium was held one year out of the established sequence in order to avoid competition with the Eurosoil Conference to be held in Bari, Italy in 2012. This series of conferences began in 2000 and now attracts a large proportion of European Soil Scientists every 4 years.

The objective of this series is to provide a forum for interdisciplinary exchange. The symposium has become an established feature and has played a significant role in favouring interdisciplinary research with a much enhanced recognition of the importance of crossing disciplinary boundaries. In particular, soil is a complex, heterogeneous medium in which chemical, physical and biological components interact and which therefore cannot be adequately understood from the standpoint of any of the traditional sciences. Processes in soil control many environmentally important reactions, determine agricultural and forestry production and play an increasingly recognised role in the modulation of the emission of greenhouse gases.

The call for contributions of the Symposium indicated that special emphasis would be given to the following topics

- changing climate and the effects on biogeochemical cycles and microbial activity in soils
- changing demands on soil and the environment in terms of agricultural production and pollution standards
- emerging pollutants, including nanoparticles, pathogens, new pesticides and pharmaceutical products and genetically modified plants
- new developments in advanced analytical and research tools.

Seven leading personalities were invited to give key note talks

**Steven Banwant**, Univ Sheffield, UK

The Role of Soil Fungi in Biological Weathering and Soil Formation

**Guy Kirk**, Univ Cranfield, UK

Understanding changes in soil carbon stocks and global change

**Wilhem Norde**, Univ Wageningen, Netherlands

The influence of surface polymer coatings on adhesion of bacteria and biofilm formation

**Angela Sessitsch**, AIT, Austria

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

**Pascal Simonet**, CNRS, Lyons, France

Is there a limit to the extent of the rare biosphere in soil?

**Donald Sparks**, Univ Delaware, USA

New Analytical Approaches for Investigating Reaction Mechanisms at Carbon/Mineral and Metal(loid)/Mineral Interfaces

**Baoshan Xing**, Univ Massachusetts, USA

Environmental Fate and Toxicity of Engineered Nanoparticles

On the basis of the contributions received, the following sessions were decided and both oral and poster presentations assigned to one of the sessions.

1. Dynamics and stocks of C and N in soil  
1 Keynote, 11 talks and 45 posters
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4. Soil microbial activity and soil functions  
2 Keynotes, 14 talks and 43 posters
5. Organomineral interactions in soils  
1 Keynote, 5 talks and 38 posters

The meeting attracted 240 participants, from 36 countries from every continent. About a third of the participants were students. Two thirds of the participants were from Europe, with Spain being the most represented after the host country. There were 40 delegates from N and S America, including 16 from Chile (the previous host), 30 from Asia, with 11 from China (a previous host), 4 from Africa and 2 from Australia. 190 posters were presented and 52 talks, including 7 Keynote lectures were given in the five sessions

A very welcome trend in the nature of the abstracts submitted was the increase in good quality papers investigating the interactions between microorganisms and soil mineral interfaces and the consequences for soil function (Session 4). The emphasis of the symposium thus moved from more traditional studies of adsorption processes (Session 5). Although the number of presentations in Session 2 was small, despite two Keynote lectures, the quality of these studies was excellent and addressed up-to-date and highly relevant advances in analytical techniques for studying complex interactions at a fine scale. A commercial sponsor gave a

state-of-the-art talk in addition to a commercial stand that was much appreciated by many participants.

Poster sessions were well attended and the poster presentations of a high standard. All posters were displayed for one day, with posters from 2 or 3 sessions each day to promote the interdisciplinarity and cross fertilisation of ideas and approaches. The space available for displaying posters prevented the display of posters throughout the conference.

An important feature of this ISMOM, as previous conferences in the series, was the strong social programme. The Welcome reception, held in the historical courtyard of the Faculty of Medicine, the Gala dinner mid-week and all lunches on site were included in the registration fee. This contributed to easy exchange between young and established scientists and between scientists from countries with contrasting levels of scientific development. Keynote speakers, representatives of leading soil science journals (see below) and other leading scientists were approached by colleagues during coffee and lunch breaks. The excellent buffet lunches also encouraged participants to stay on site and there was no decrease in attendance for the Keynote talks that began the afternoon sessions.

One of the aims of the conference was to attract scientists, particularly young scientists from scientifically developing countries and some sponsorship was directly targeted towards these countries. Assistance with visa applications, provision of low cost student hostel accommodation and financial support enabled many participants from these countries to attend. Posters and talks were of a good technical standard, even if the work presented had often been carried out with a low budget and without up-to-date analytical equipment and techniques. However these participants had more difficulty in producing a complete manuscript for publication in one of the special issues of the two leading soil science journals associated with the conference (*European Journal of Soil Science* and *Soil Biology and Biochemistry*).

The calls for papers for the two special issues arising from ISMOM, to be published by *European Journal of Soil Science* and *Soil Biology and Biochemistry* are not yet closed. Fifty scripts have been received to date for *European Journal of Soil Science* and sixteen for *Soil Biology and Biochemistry*.

A scientific writing seminar was organised at the end of the conference, chaired by the Editors-in-Chief of *European Journal of Soil Science* (Steve Jarvis) and *Soil Biology and Biochemistry* (Richard Burns) and a representative of *Soil Research* (formerly *Australian Journal of Soil Science*) (Chris Anderson). The seminar was well attended and appreciated. In addition to giving practical advice on successful publication, there was also discussion of future trends in publication.

## **6th ISMOM, Montpellier France, 2011**

### **Assessment of the results and impact of the event on the future direction of the field**

One index of the success of the meeting is the number of participants, particularly from countries other than the host country. The meeting attracted 240 participants, from 36 countries from every continent. About a third of the participants were students. Two thirds of the participants were from Europe, with Spain being the most represented after the host country. There were 40 delegates from N and S America, including 16 from Chile, 30 from Asia, with 11 from China, 4 from Africa and 2 from Australia. 190 posters were presented and 52 talks, including 7 Keynote lectures were given in the five theme sessions. Posters were displayed for one of three days. All poster sessions were well attended, partly due to the schedule of the poster sessions in the afternoon after a Keynote talk, with refreshments available.

The all-inclusive registration fee ensured that most participants attended the conference and were able to meet at coffee and lunch breaks, poster sessions and during social events (Welcome reception, excursion and gala dinner). This is a feature of ISMOM and has previously generated international collaborations, some of which were illustrated by communications at this conference. We are confident that new collaborations were established during ISMOM-2011.

A very welcome trend in the nature of the abstracts submitted was the increase in good quality papers investigating the interactions between microorganisms and soil mineral interfaces and the consequences for soil function (Session 4). The emphasis of the symposium thus moved from more traditional studies of adsorption processes (Session 5). Although the number of presentations in Session 2 (Advances in analytical techniques) was small, despite two Keynote lectures, the quality of these studies was excellent and addressed up-to-date and highly relevant advances in analytical techniques for studying complex interactions at a fine scale. A commercial sponsor gave a state-of-the-art talk in addition to a commercial stand that was much appreciated by many participants.

Various subsidies, some of which were directly targeted towards scientists from developing countries, facilitated attendance of scientists and students from many scientifically evolving countries. Many of the participants who received this assistance were very active during the conference and have undoubtedly benefited from the scientific stimulation.

On the basis of the communications proposed at ISMOM a session at the forthcoming Eurosoil has been proposed and accepted by the organisers.

### **Eurosoil 2012, Session 11.14**

Organised by Commission 2.5 IUSS

#### **Understanding mineral-organic-microbial interactions in soils and the consequences for biological and biochemical activity**

Convener: Siobhán Staunton - INRA-France

Co-convenor : Antonio Violante, Naples, Italy

Soil biological and biochemical processes cannot be understood without a consideration of their interaction with organo-mineral interfaces and on the physical and chemical conditions imposed by these interfaces.

- Bacterial adhesion modifies growth, competition and metabolism
- Catalytic activity of the enzymes that determine most biogeochemical processes in soil is modified by adsorption on soil surfaces
- Dynamics of soil organic matter depend on physical protection conferred by soil surfaces and the various changes in catalytic activity of relevant soil enzymes
- Toxicity of contaminants depends on their interaction with soil interfaces
- Biotic and abiotic processes occurring at soil interfaces determine the persistence of organic macromolecules, both xenobiotic and natural
- Organo-mineral interfaces contribute to the heterogeneity of soil chemical and physical conditions, including water content, pH, salt concentration and the concentration of macro and micro nutrients and contaminants

The next ISMOM is planned to be held in Ottawa, Canada in 2015, organised by C. Monreal. He has yet to form an organising committee and make detailed plans as to the theme of the conference.

# **6th ISMOM, Montpellier France, 2011**

## **Final programme**

Full programme, including Abstracts is available on the Web site

<http://www1.montpellier.inra.fr/ISMOM2011/>





# Soil Interfaces in a Changing World

## 6<sup>th</sup> ISMOM

International Symposium of Interactions of Soil Minerals with  
Organic Components and Microorganisms

3rd InterCongress of Commission 2.5 IUSS  
Soil chemical, physical and biological interfacial reactions

# Conference Proceedings

26<sup>th</sup> June – 1<sup>st</sup> July 2011  
Montpellier, France



**INRA**





## **In memoriam**



**13th September 2009**

**ISMOM 2011, the 6<sup>th</sup> ISMOM and 3rd InterCongress of IUSS 2.5 is dedicated to Professor Pan Ming HUANG who realized the importance of interdisciplinary studies and formed the working group that later evolved to become Commission 2.5, Soil chemical, physical and biological interfacial reactions. He organised the first ISMOM symposium in Edmonton, Canada in 1992 and was the driving force in the establishment of this now well recognised symposium series, with successful meetings in Nancy, France (1996), Naples, Italy (2000), Wuhan, China (2004) and Pucon, Chile (2007).**

**All your colleagues thank you for your tireless work for this scientific community.**



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**Posters (by Session and by day)**

**List of participants**





**The Organisation for the Prohibition of Chemical Weapons (OPCW) is the implementing body of the Chemical Weapons Convention.**

**- The OPCW is given the mandate to achieve the object and purpose of the Convention, to ensure the implementation of its provisions, including those for international verification of compliance with it, and to provide a forum for consultation and cooperation among States Parties. –**

**While the CWC seeks to ban chemical weapons, it also provides for international cooperation among States Parties in the pursuit of chemistry for peaceful purposes.**



## The Program GESSOL:

### A French Research Program on the environmental roles of soil

Soil was hitherto regarded as simply as a support for agricultural production. Now, it becomes clearer that soils as a natural resource perform a number of key environmental, social and economic functions. The Program GESSOL is based on the recognition of these roles. Its main aim is to provide scientific basis and the appropriate tools to decision makers and environmental managers to improve the consideration of the multifunctionality of soils and to reduce risks of degradation, particularly with respect to the draft of the European directive on soils.

GESSOL is an applied Research Program supported by the French Ministry for Ecology, Energy, Sustainable Development and Sea (MEEDDM). Since 1998, after three successive calls for proposals, the program financed 45 research projects. They addressed the most pressing requirements of decision makers and environmental managers concerning the environmental roles of soils, their sensitivity to degradation and the need for their protection. They also contributed to the installation of observation systems of soils and to the discussions about the European Strategy for Soil Protection.

The Research Program is administered by a Steering Committee which brings together various end-users, decision makers and managers concerned with soils. They define the research priorities in accordance with their perceived needs and concerns. A scientific advisory board is composed of specialists in various disciplines associated with soil. It elaborates calls for proposals based on the priorities established by the Steering Committee and guarantees the scientific excellence of the projects selected for funding and the results produced at the end of each project.

The last calls for proposals, published in 2008 and 2009, aimed to emphasize the many services rendered by soils because of the diversity of their functions, by associating researchers in social and human sciences. The Ministry pays particular attention to the dissemination of the research results to decision makers and managers. Conferences are regularly organized to encourage interaction and dialogue between researchers and end-users and a review of the research results, entitled "Gestion durable des sols"[1] (i.e., "Sustainable soils management"), was published in 2008 by Quae Editions.

[1] Citeau L., Bispo A., Bardy M., King D. coord. 2008. Gestion durable des sols. Editions Quae, Paris. 336 p

#### **Coordinators:**

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# ISMOM 2011

Montpellier, France 26<sup>th</sup> June – 1<sup>st</sup> July

The aim of this symposium series is to create a forum for exchange and discussion between scientists from different fields of soil science: chemistry, biology, biochemistry, physics, ecology and environmental science. It is increasingly recognised that soil is a complex and spatially heterogeneous system composed of mineral, organic and biological components. Therefore multidisciplinary approaches are required to understand its functioning and to predict the dynamics of its capacity to sequester carbon, to protect the environment by immobilising pollutants and limiting erosion, to provide nutrients, water and physical support for living organisms, including agricultural and forestry production necessary for human survival and comfort. ISMOM will continue to foster cross fertilisation between discipline and multidisciplinary, and often international collaborations between colleagues.

ISMOM-2011, Soil Interfaces in a Changing World, follows successful 4-yearly meetings in Canada, France, Italy, China and Chile. There is a varied and exciting programme of oral and poster presentations with more than 250 registered participants from 30 countries from every continent. Poster sessions (one-day each) combine two or more scientific sessions.

The Welcome reception will be held in the Faculty of Medicine and all scientific sessions in the Faculty of Law, both historical buildings in the heart of Montpellier. Excursions to the surrounding countryside and picturesque villages and visits of Montpellier and the renowned Fabre art gallery will take place on Thursday 30<sup>th</sup> June after the Gala dinner in the Domaine de Verchant.

The scientific sessions are

1. Dynamics and stocks of C and N in soil
2. Advances in physical and biological techniques to study soil interfaces
3. Dynamics of pollutants in soil systems and bioremediation
4. Soil microbial activity and soil function
5. Organo-mineral interactions in soils

Leading figures in each of these fields will give Keynote lectures. As for the participants, some are longstanding members of Commission 2.5 and others will discover ISMOM in Montpellier.

Special issues of the leading soil science journals, *European Journal of Soil Science* and *Soil Biology and Biochemistry* will be published. Calls for papers are already open and many scripts are already under review.

Generous sponsorship has allowed grants to be awarded to many participants, especially students and scientists from under-funded counties.

The conference will be followed by a scientific writing seminar on Friday 1st July chaired by Chris Anderson, CSIRO and *Soil Research*, Richard Burns, *Soil Biology and Biochemistry*, Steve Jarvis, *European Journal of Soil Science*.

The 7th ISMOM, and 4th InterCongress conference will be held in Ottawa, Canada in 2015 organised by Carlos Monreal.

## **International scientific committee**

Jacques Berthelin, France  
Richard Burns, Australia  
Philip Brooks, UK  
Claire Chenu, France  
Danielle Fortin, Canada  
Geoff Gadd, UK  
Martin Gerzabek, Austria  
Anna Gorbushina, Germany  
Qiaoyun Huang, China  
Ellen Kandeler, Germany  
Ingrid Kogel-Knaber, Germany  
Jon Lloyd, UK

María de la Luz Mora, Chile  
Hervé Quiquampoix, France  
Maria A. Rao, Italy  
Lionel Ranjart, France  
Nicola Senesi, Italy  
Pascal Simonet, France  
Siobhán Staunton, France  
Carmen Trasar Cepeda, Spain  
Antonio Violante, Italy  
Kevin Wilkinson, Canada  
Baoshan Xing, USA  
Iain Young, Australia

## **National Organising committee**

Siobhán Staunton  
Jacques Berthelin  
Michel Brossard  
Tiphaine Chevallier  
Jean-Luc Chotte  
Claude Plassard  
Hervé Quiquampoix

Webmaster: Sébastien Lamy  
Administration: Corinne Allègre  
Conference logistics : Adeline Ferreres

# Programme Overview

Monday 27<sup>th</sup> June      Tuesday 28<sup>th</sup> June      Wednesday 29<sup>th</sup> June      Friday 1<sup>st</sup> July

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Opening ceremony      Keynote + oral      Keynote + oral      Keynote + oral

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Coffee break

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Keynote + oral      Oral      Oral      Oral

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Lunch break

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Keynote      Keynote      Keynote      Keynote  
Posters      Posters      Posters      Oral  
Closing ceremony

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Coffee break

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Oral      Oral      Oral      Scientific writing  
seminar

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Welcome reception Sunday 26<sup>th</sup> June, Faculty of Medicine, 19 :00 – 23 :00

Gala dinner, Domaine de Verchant, Wednesday 29<sup>th</sup> June

Excursions, Thursday 29<sup>th</sup> June

Social programme, lunches and coffee included in registration fee.



## 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**

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

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**

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

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

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

12:40 – 14:00 Buffet lunch

14:00 - 15:20 Oral session 4. Soil microbial activity

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**

Faculty of Medicine Sunday 26<sup>th</sup> June

Inscription 16 :00 – 20 :00

Welcome reception 19 :00 – 23 :00

Domaine de Verchant Wednesday 29<sup>th</sup> June

Gala Dinner, 19 15 – 23 :00

Buses departing from Montpellier at 19 :00

**Excursions** Thursday 30<sup>th</sup> June

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)**

### **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**

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 Carlos Monreal The biological link to the chemistry of humification

**12:30 – 14:00 Buffet lunch**

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

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 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

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 Richard Burns Microbes and Enzymes in Soil Bioremediation: Problems and Solutions

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

### 12:20 – 14:00 Buffet lunch

### 14:00- 14:30 Keynote talk

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

### 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 CO<sub>2</sub> 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 <sup>15</sup>N tracing
- 17:50 Sean Case Biochar suppression of N<sub>2</sub>O emissions from an agricultural soil
- 18:10 Jean-Philippe Bellenger Non symbiotic N<sub>2</sub> fixation; a misunderstood and underestimated N input?



## **Wednesday 29th June**

### **09:00 – 09:30 Keynote talk**

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 3)**

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**

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

### **14:30 – 16:00 Poster session III**

### **16:00 – 16:30 Coffee break**

### **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 CO<sub>2</sub> affects mineral and organic soil constituents on a mofette site

## Friday 1st July

09:00 – 09:30 **Keynote talk**

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

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

- 09:30 Dian Fiantis Bacterial action as an alteration agent of recent pyroclastic materials from Mt. Talang and Mt. Merapi, Indonesia
- 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**

- 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 Sara de Bolle Investigation of the P solubilising effect of phosphate solubilising bacteria **!**

12:20 – 14:00 Buffet lunch

14:00 - 15:20 **Oral session 4. Soil microbial activity**

- 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**

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*)

# **Keynote presentations**



**The role of soil fungi in biological weathering and soil formation**

Steven Banwart

**Presenting author** ; Steven Banwart, [s.a.banwart@sheffield.ac.uk](mailto:s.a.banwart@sheffield.ac.uk)

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**Understanding changes in soil carbon stocks and global change**

Guy Kirk

**Presenting author** : [Guy Kirk, g.kirk@cranfield.ac.uk](mailto:g.kirk@cranfield.ac.uk)

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**The influence of surface polymer coatings on adhesion of bacteria and biofilm formation**

Willem Norde

**Presenting author:** Willem Norde, [willem.norde@wur.nl](mailto:willem.norde@wur.nl)

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

Angela Sessitsch, Stephane Compant, Birgit Mitter

**Presenting author:** Angela Sessitsch, [angela.sessitsch@ait.ac.at](mailto:angela.sessitsch@ait.ac.at)

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**Is there a limit to the extent of the rare biosphere in soil?**

Aur lie Faugier, S bastien C cillon, Davide Francioli, Tom Delmont, Emmanuel Prestat, Jean-Michel Monier, Maria-Teresa Ceccherini, Giacomo Pietramellara, Paolo Nannipieri and Pascal Simonet

**Presenting author:** Pascal Simonet, [Pascal.Simonet@ec-lyon.fr](mailto:Pascal.Simonet@ec-lyon.fr)

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**New Analytical Approaches for Investigating Reaction Mechanisms at Carbon/Mineral and Metal(loid)/Mineral Interfaces**

Donald L. Sparks, Chunmei Chen, Peter Leinweber, Matt Ginder-Vogel, and Gautier Landrot

**Presenting author:** Donald Sparks, [dlsparks@udel.edu](mailto:dlsparks@udel.edu)

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**Environmental Fate and Toxicity of Engineered Nanoparticles**

Baoshan Xing

**Presenting author:** Baoshan Xing, [bx@pssci.umass.edu](mailto:bx@pssci.umass.edu)

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# **Oral Presentations**





**Carbon stock in soils: effect of vegetation, soil type and climatic conditions on the western Himalaya, India**

C.B. Pandey, S.K. Singh, G.S. Siddhu, Dipak Sarkar

**Presenting author:** Chandra Pandey, [cbpandey5@rediffmail.com](mailto:cbpandey5@rediffmail.com)

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**Global-scale topsoil carbon turnover depends upon vegetation type**

Robert Mills, Edward Tipping

**Presenting author:** Robert Mills, [romi@ceh.ac.uk](mailto:romi@ceh.ac.uk)

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**The biological link to the chemistry of humification**

C.M. Monreal and M. Schnitzer

**Presenting author:** Carlos Monreal, [Carlos.Monreal@AGR.GC.CA](mailto:Carlos.Monreal@AGR.GC.CA)

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**Overcoming practical constraints in the application of X-ray CT to soil science**

Liesbeth Bouckaert, Steven Sleutel, Denis Van Loo, Veerle Cnudde, Manuel Dierick, Patric Jacobs, Luc Van Hoorebeke, Stefaan De Neve

**Presenting author:** Liesbeth Bouckaert, [Liesbeth.Bouckaert@ugent.be](mailto:Liesbeth.Bouckaert@ugent.be)

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**Soil interface composition at the submicron scale – applicability of NanoSIMS**

Carsten W. Mueller, Carmen Höschen, Hans Lugmeier, Katja Heister, Ingrid Koegel-Knabner

**Presenting author:** Carsten Mueller, [carsten.mueller@wzw.tum.de](mailto:carsten.mueller@wzw.tum.de)

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

Pascal Lienhard, Richard Joffre, Pierre-Alain Maron, Florent Tivet, Lucien Séguy, André Chabanne, Jean Claude Legoupil, Sengphanh Sayphoummie, Bounma Leudphanane, Virginie Nowak, Tiffanie Régner, Mélanie Lelièvre, Samuel Dequiedt, Lionel Ranjard

**Presenting author:** Pascal Lienhard, [pascal.lienhard@cirad.fr](mailto:pascal.lienhard@cirad.fr)

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**Introduction to the NanoSIMS instrumentation in Soil science quantitative mapping of soil-microbe-plant interactions and elemental fluxes with 50nm resolution**

Philippe Saliot, Camescasse Emmanuel, Hillion François, Horrèard François

**Presenting author:** Philippe Saliot, [horreard@cameca.com](mailto:horreard@cameca.com)

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**Local-Scale Distribution of Organic Matter Composition and Wettability at Preferential Flow Path Surfaces**

Ruth H. Ellerbrock, Horst H. Gerke, Martin Leue

**Presenting author:** Ruth Ellerbrock, [rellerbrock@zalf.de](mailto:rellerbrock@zalf.de)

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**Environmental behavior of natural soil nanoparticles and their impact on the mobility of PAHs in soils**

Xu Jianming, Li Wenyan

**Presenting author:** Jianming Xu, [jmxu@zju.edu.cn](mailto:jmxu@zju.edu.cn)

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**Interactions of pathogens Escherichia coli and Streptococcus suis with clay minerals**

Peng Cai

**Presenting author:** Peng Cai, [cp@mail.hzau.edu.cn](mailto:cp@mail.hzau.edu.cn)

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## **Microbes and Enzymes in Soil Bioremediation Problems and Solutions**

Richard Burns

**Presenting author:** Richard Burns, [r.burns@uq.edu.au](mailto:r.burns@uq.edu.au)

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## **Bacterial and Fungal Contribution to the Degradation of MCPA at the Soil-Litter Interface**

Ellen Kandeler, Holgel Pagel, Markus Schröder, Walter Vetter, Fabrice Martin-Laurent, Thilo Streck, Christian Poll

**Presenting author:** Ellen Kandeler, [Ellen.Kandeler@uni-hohenheim.de](mailto:Ellen.Kandeler@uni-hohenheim.de)

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## **Modelling PAH dynamic during the remediation of contaminated soil through composting with organic wastes**

Yuan Zhang, Patricia Garnier, Yongguan Zhu, Houot Sabine

**Presenting author:** Patricia Garnier, [pgarnier@grignon.inra.fr](mailto:pgarnier@grignon.inra.fr)

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## **Do bacterial-mineral interactions affect pesticide degradation ? A case study with 2,4-D and *Cupriavidus necator* JMP134.**

Thomas Lerch, Claire Chenu, Marie-France Dignac, Enrique Barriuso

**Presenting author:** Thomas Lerch, [thomas.lerch@u-pec.fr](mailto:thomas.lerch@u-pec.fr)

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## **Bioremediation of PCP contaminated soil by *Byssochlamys nivea* and *Scopulariopsis brumptii***

Luciano Bosso, Nejla Hechmi, Rosalia Scelza, Antonino Testa, Gennaro Cristinzio, Maria A. Rao

**Presenting author:** Rosalia Scelza, [rosalia.scelza@unina.it](mailto:rosalia.scelza@unina.it)

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## **Next generation sequencing to determine the shaping factors of microbial communities in environmental samples**

Cécile Monard

**Presenting author:** Cécile Monard, [cecilemonard@yahoo.fr](mailto:cecilemonard@yahoo.fr)

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**CO<sub>2</sub> uptake by soil chemoautotrophs identification, quantification and characterisation.**  
Brian Kelleher

**Presenting author:** Brian Kelleher, [brian.kelleher@dcu.ie](mailto:brian.kelleher@dcu.ie)

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**Influence of Soil DNA Extraction Procedure to Assess Bacterial Diversity using Pyrosequencing of 16S rDNA**

Sebastien Terrat, Richard Christen, Samuel Dequiedt, Christophe Mougel, Mélanie Lelievre, Pierre-Alain Maron, Pierre Plassart, Patrick Wincker, Corinne Cruaud, Claudy Jolivet, Dominique Arrouays, Antonio Bispo, Philippe Lemanceau, Lionel Ranjard

**Presenting author:** Sebastien Terrat, [sebastien.terrat@dijon.inra.fr](mailto:sebastien.terrat@dijon.inra.fr)

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**Unraveling the fate of dissolved organic N in soils using <sup>15</sup>N tracing**

Gerard H. Ros, Willem H. Van Riemsdijk

**Presenting author:** Gerard Ros, [gerard.ros@wur.nl](mailto:gerard.ros@wur.nl)

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**Biochar suppression of N<sub>2</sub>O emissions from an agricultural soil**

Sean Case, Jeanette Whitaker, Niall McNamara, David Reay

**Presenting author:** Sean Case, [secase@ceh.ac.uk](mailto:secase@ceh.ac.uk)

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**Non symbiotic N<sub>2</sub> fixation; a misunderstood and underestimated N input?**

Jean-Philippe S Bellenger, Thomas Wichard, Yan Xu, Anne ML Kraepiel

**Presenting author:** Jean-Philippe Bellenger, [jean-philippe.bellenger@usherbrooke.ca](mailto:jean-philippe.bellenger@usherbrooke.ca)

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**Diversity and interactions in bacterial communities involved in mineral weathering, iron mobility and ferrous toxicity in rice fields of tropical ferralsol-gleysol sequences.**

Jeanne Bongoua, Aurélie Cebron, Gballou Yoro, Albert Yao-Kouamé, Christian Mustin, Jacques Berthelin

**Presenting author:** Jacques Berthelin, [jacques.berthelin@limos.uhp-nancy.fr](mailto:jacques.berthelin@limos.uhp-nancy.fr)

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**Granite dissolving bacteria from the Damma glacier forefield**

Beat Frey, Stephan Rieder, Ivano Brunner, Michael Ploetze, Helmut Brandl, Gerhard Furrer

**Presenting author:** Beat Frey, [beat.frey@wsl.ch](mailto:beat.frey@wsl.ch)

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**Seasonal dynamics of Al-bearing secondary minerals in an acidic forest soil: influence of Norway spruce roots**

Christelle Collignon, Marie-Pierre Turpault

**Presenting author:** Christelle Collignon, [christelle.collignon@nancy.inra.fr](mailto:christelle.collignon@nancy.inra.fr)

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**An Integrated Analysis of Soil Incubation Data: Deriving Soil Type Dependent Moisture-Respiration Relations**

Fernando Moyano, Claire Chenu, Nadezda Vasilyeva

**Presenting author:** Fernando Moyano, [fernando.moyano@grignon.inra.fr](mailto:fernando.moyano@grignon.inra.fr)

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**Temperature effect on soil organic matter mineralization in arctic soils from Norway, Svalbard and Russia.**

Christophe Moni, Katrin Knoth de Zarruk, Line Tau Strand, Roald Aasen, Daniel Rasse

**Presenting author:** Christophe Moni, [christophe.moni@bioforsk.no](mailto:christophe.moni@bioforsk.no)

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**Turnover of charcoal in fire-prone mineral soils of Southern Europe**

Heike Knicker, Francisco J. González Vila, Luis Clemente Salas, Gonzalo Almendros, Rocio González Vázquez

**Presenting author:** Mme Heike Knicker, [knicker@irnase.csic.es](mailto:knicker@irnase.csic.es)

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**Charcoal production at mound kiln sites affects pedogenesis and soil capacity to stabilize organic carbon**

Jean-Thomas Cornelis, Brieuc Hardy, Bruno Delvaux, Joseph Dufey

**Presenting author:** Jean-Thomas Cornelis, [jean-thomas.cornelis@uclouvain.be](mailto:jean-thomas.cornelis@uclouvain.be)

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**Heat waves and soil Mediterranean microbial communities Differential influence of drought, high-temperature and perturbation duration**

Meriem Ben Sassi, Jérémie Béguet, Pierre Renault, Fabrice Martin-Laurent, Annette Bérard

**Presenting author:** Meriem Ben Sassi, mbensassi@avignon.inra.fr

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**Fate of functional groups of amino acids in soil assessed by position-specific labelling**

Michaela Dippold, Mikhail Biryukov, Yakov Kuzyakov

**Presenting author:** Michaela Dippold, midipp@gmx.de

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**Effect of hydrofluoric acid hydrolysis on organo-mineral complexes (Cambisol and Andosol, La Réunion Island)**

Alexis de Junet, Isabelle Basile-Doelsch, Daniel Borschneck, Armand Masion, Hélène Miche, Christine Marol, Jérôme Balesdent

**Presenting author:** Alexis DE JUNET, alexis.dejunet@limos.uhp-nancy.fr

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**Influence of polymeric coating on particle adhesion measured by hydrodynamic detachment**

Véronique Chaplain, Jean-Marie Herry, Marie-Noelle Bellon-Fontaine

**Presenting author:** Véronique Chaplain, chaplain@versailles.inra.fr

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**Reaction with ferrihydrite surfaces leads to fractionation and stabilization of soil organic matter**

Karin Eusterhues, Julia Neidhardt, Thilo Rennert, Anke Hädrich, Kirsten Küsel, Ingrid Kögel-Knabner, Udo Schwertmann, Kai Uwe Totsche

**Presenting author:** Karin Eusterhues, karin.eusterhues@uni-jena.de

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**Geogenic CO<sub>2</sub> affects mineral and organic soil constituents on a mofette site**

Thilo Rennert, Karin Eusterhues, Hardy Pfanz, Kai Uwe Totsche

**Presenting author:** Thilo Rennert, thilo.rennert@uni-jena.de

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Bacterial action as an alteration agent of recent pyroclastic materials from Mt. Talang and Mt. Merapi, Indonesia

Dian Fiantis, Malik Nelson, Aguste Agustian, Jusop Shamshuddin, Eric Van Ranst

**Presenting author:** Dian Fiantis, dianfiantis@faperta.unand.ac.id

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**Effect of organic amendments and promoting bacteria on root density in table grape**

María M. Martínez, Mauricio Molina, Jimena Angulo, Ana B. Torres, Marc Janssens, Rodrigo Ortega

**Presenting author:** Mauricio Molina, mauricio.molina@usm.cl

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**Tiered approach to investigate the possibilities for growing crops for consumption on potentially contaminated land**

Frank Swartjes

**Presenting author:** Swartjes Frank, frank.swartjes@rivm.nl

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**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.**

Christine Knust, Georg Lair, Karl-Heinz Feger, Peter Liebhard, Winfried E. H. Blum

**Presenting author:** Christine Knust, christine.knust@tu-dresden.de

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**Impact of clay minerals and iron oxide on microbial diversity in two Chinese soils**

Qiaoyun Huang

**Presenting author:** Qiaoyun Huang, qyhuang@mail.hzau.edu.cn

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**Effect of environmental conditions, soil type and ligninolytic substrate on biological activities in biomix of biobeds**

M C Diez, R Cuevas, G R Tortella, O Rubilar

**Presenting author:** Cristina Diez, [mcdez@ufro.cl](mailto:mcdez@ufro.cl)

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**Investigation of the P solubilising effect of phosphate solubilising bacteria**

Sara De Bolle, Gebremikael Mesfin, Stefaan De Neve

**Presenting author:** Sara De Bolle, [Sara.debolle@ugent.be](mailto:Sara.debolle@ugent.be)

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**Effect of long-term fertilization on microbial community structure as a soil quality indicator in rice paddy soil**

Pil Joo Kim

**Presenting author:** PIL JOO KIM, [pjkim@gsnu.ac.kr](mailto:pjkim@gsnu.ac.kr)

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**Influence of clay microstructure and organic matter on chlordecone sequestration in volcanic soils .**

Alain Soler, Thierry Woignier

**Presenting author:** Alain Soler, [alain.soler@cirad.fr](mailto:alain.soler@cirad.fr)

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**Control of copper impact on bacterial community by microscale localisation of microorganisms and added copper and organic matter in a vineyard loamy soil**

Aline Navel, Jean M.F. Martins, Lionel Ranjard, Pierre Alain Maron, Alain Manceau

**Presenting author:** Aline Navel, [aline.navel@ujf-grenoble.fr](mailto:aline.navel@ujf-grenoble.fr)

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**Effect of nitrogen and phosphorous fertilization on phosphatase and urease behavior in a Perennial Ryegrass rhizospheric soil**

Maria de la Luz Mora, Evelyn Stohmann, Cecilia Paredes, Rolando Demanet

**Presenting author:** Maria de la Luz Mora, [mariluz@ufro.cl](mailto:mariluz@ufro.cl)



# Poster Presentations



### **Interannual variation of SOC fractions in volcanic soils (Canary Islands, Spain)**

Cecilia María Armas-Herrera, Juan Luis Mora, Carmen Dolores Arbelo, Antonio Rodríguez-Rodríguez

Presenting author: Cecilia María Armas Herrera, [cmarmas@ull.es](mailto:cmarmas@ull.es)

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### **Total soil carbon stocks in Burkina Faso: survey and behavior**

Michel Brossard, Sibylle Besson, Hervé Le Martret, Brigitte Le Rouget-Zurita, Jean-Claude Leprun

Presenting author: Michel Brossard, [Michel.Brossard@ird.fr](mailto:Michel.Brossard@ird.fr)

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### **Biodegradation of low molecular weight organic acids in rhizosphere soils under tropical montane rain forest**

Kazumichi Fujii, Maya Aoki, Kanehiro Kitayama

Presenting author: Fujii, [kazushi@kais.kyoto-u.ac.jp](mailto:kazushi@kais.kyoto-u.ac.jp)

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### **Modifications of some soil organic matter fractions in surface horizons of maize soils afforested with different tree species**

Elena García-Campos, Fernando Gil-Sotres, M<sup>a</sup> Carmen Leirós, Carmen Trasar-Cepeda

Presenting author: Elena Garcia Campos, [elgaca@iiag.csic.es](mailto:elgaca@iiag.csic.es)

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The influence of genetic peculiarities of soils on organic carbon content in the Amur river waters, middle and lower Priamurye, Russia

Svetlana Levshina, Lira Matyushkina

Presenting author: Svetlana Levshina, [levshina@ivep.as.khb.ru](mailto:levshina@ivep.as.khb.ru)

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**Study on the effects of long terms green manure application with C/N different levels on soil aggregate stability and equations of water infiltration in Maragheh dryland condition**

Seyed Bahman Mousavi, Ali Asghar Jafarzadeh, Mohammad Reza Nishabouri, Shahin Oustan, Vali Feiziasl 3, Esmael Karimi

Presenting author: Seyed Bahman Mousavi, [mosavi@maragheh.ac.ir](mailto:mosavi@maragheh.ac.ir)

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**Carbon mineralization potential and priming in volcanic soil of pristine temperate old-growth rain forests in Southern Chile**

Rodrigo Neculman

Presenting author: Rodrigo Neculman, [rodrigo.neculman@grignon.inra.fr](mailto:rodrigo.neculman@grignon.inra.fr)

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**Salinity decreases dissolved organic carbon in the rhizosphere and increases trace elements phytoaccumulation**

Gabrijel Ondrasek, Zed Rengel, Davor Romic, Radovan Savic 3

Presenting author: Gabrijel Ondrasek, [gondrasek@agr.hr](mailto:gondrasek@agr.hr)

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**Soil N mineralization and microbial biomass carbon as affected by deforestation induced rise in soil temperature in the hot humid tropics**

Chandra Bhushan Pandey

Presenting author: Chandra Pandey, [cbpandey5@rediffmail.com](mailto:cbpandey5@rediffmail.com)

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**Carbon sequestration in organic matter fractions of different ecosystems**

Raul Panichini, Rodrigo Neculman, Francisco Matus, Fernando Borie 3, María de La Luz Mora 3, Roberto Godoy 4, Cornelia Rumpel 5

Presenting author: Rodrigo Neculman, [rodrigo.neculman@grignon.inra.fr](mailto:rodrigo.neculman@grignon.inra.fr)

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**Contrasting soil structures in long term bare fallow treatments and its relation to C storage in soil: is organic matter physically protected in the long term?**

Remigio Paradelo, Claire Chenu, Folkert Van Oort

Presenting author: Paradelo Remigio, [Remigio.Paradelo@grignon.inra.fr](mailto:Remigio.Paradelo@grignon.inra.fr)

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**Land use-related modification of labile carbon fractions in soils from Galicia (NW Spain)**

Remigio Paradelo, Claire Chenu, María Teresa Barral

Presenting author: Paradelo Remigio, [Remigio.Paradelo@grignon.inra.fr](mailto:Remigio.Paradelo@grignon.inra.fr)

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**Carbon stocks and carbon management index in physical fractions of a highland Oxisol as affected by pasture management systems**

Graciele Santana

Presenting author: Graciele Sarante Santana, [gsarante@yahoo.com.br](mailto:gsarante@yahoo.com.br)

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**Storage of organic matter in silt-sized and clay-sized fractions of soils as influenced by compost application**

Ha Nguyen

Presenting author: Haruo Shindo, [shindo@yamaguchi-u.ac.jp](mailto:shindo@yamaguchi-u.ac.jp)

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**Modifications to soil C stock in a maize soil afforested with *Populus alba* L.**

Elena García-Campos, Félix Zorita, Fernando Gil-Sotres, M. Carmen Leirós, Carmen Trasar-Cepeda

Presenting author: Carmen Trasar-Cepeda, [ctrasar@iiag.csic.es](mailto:ctrasar@iiag.csic.es)

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**Interrelation between CO<sub>2</sub> and CH<sub>4</sub> production with biological activity and soil properties**

Liliana Valdés-Arenas, Elizabeth Fuentes-Romero, Norma García-Calderón, Lena Ikkonen 3, Amada Reyes-Ortigoza, Amparo Martínez-Arroyo 4, Jorge Etchevers Barra 5, María del Socorro Galicia-Palacios

Presenting author: Liliana Valdés, [liliana\\_valdes01@yahoo.com.mx](mailto:liliana_valdes01@yahoo.com.mx)

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**SOC pools dynamics and stability in the 80 years bare fallow chronosequence at Versailles. Evidence of mineral-associated SOC stabilization**

Nadezda Vasilyeva, Fok Van Oort, Claire Chenu 3

Presenting author: Nadezda Vasilyeva, [nadezda.vasilyeva@grignon.inra.fr](mailto:nadezda.vasilyeva@grignon.inra.fr)

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**SOC pools dynamics and stability in the 80 years bare fallow chronosequence at Versailles. Evidence of mineral-associated SOC stabilization**

Nadezda Vasilyeva, Fok Van Oort, Claire Chenu 3

Presenting author: Nadezda Vasilyeva, [nadezda.vasilyeva@grignon.inra.fr](mailto:nadezda.vasilyeva@grignon.inra.fr)

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**Effect of afforestation on soil CO<sub>2</sub> emissions**

Felix Zorita, Carmen Leirós, Fernando Gil-Sotres, Carmen Trasar-Cepeda

Presenting author: Felix Zorita, [fzorita@iiag.csic.es](mailto:fzorita@iiag.csic.es)

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**Influence of silvicultural treatments on the soil properties in burned and unburned Mediterranean forests**

Wic-Baena Consuelo, Andrés-Abellán Manuela, Lucas-Borja Manuel Esteban, Martínez-García Eduardo, García-Morote Francisco Antonio, Rubio Caballero Eva María, López-Serrano Francisco Ramón

Presenting author: Manuela Andrés Abellán, [manuela.andres@uclm.es](mailto:manuela.andres@uclm.es)

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**Does clay mineralogy influence aggregation formation and stability? Insights from fractionation analyses conducted on soils under different land-uses.**

Pierre Barré, Oihane Fernandez-Ugalde, Iñigo Virto, Fabien Hubert 3, Laurent Caner 3, Eric Ferrage 3, Claire Chenu 4

Presenting author: Pierre Barré, [barre@geologie.ens.fr](mailto:barre@geologie.ens.fr)

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**Nitrate leaching loss under crop-livestock systems in the Cerrado region, Brazil**

Oliveira Maria I.L., Becquer Thierry, Goedert Wanceslaw J. 3, Deleporte Philippe 4, Marchão Robélío L. 3, Vilela Lourival 3

Presenting author: Thierry Becquer, [thierry.becquer@ird.fr](mailto:thierry.becquer@ird.fr)

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**Characterizing organo-mineral complexes in surface and subsurface horizons of an acid loamy soil using sequential density fractionation**

Pierre Bonnard, Isab Basile-Doelsch, Jérôme Balesdent, Armand Masion, Daniel Borschneck, Dominique Arrouays 3

**Presenting author:** Pierre Bonnard, [bonnard@cerege.fr](mailto:bonnard@cerege.fr)

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**Relative contributions of organic and inorganic carbon in the CO<sub>2</sub> emitted from a Tunisian calcareous agricultural soil: Effect of increasing temperatures**

Tiphaine Chevallier, Salwa Hamdi, Martial Bernoux

**Presenting author:** Tiphaine Chevallier, [tiphaine.chevallier@ird.fr](mailto:tiphaine.chevallier@ird.fr)

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**The influence of the interaction of treated sewage effluent and compost on the dynamics of the nitrogen in the soil**

Grivin Chipula, Ruben Sakrabani, Tim Hess

**Presenting author:** Grivin Chipula, [g.chipula@cranfield.ac.uk](mailto:g.chipula@cranfield.ac.uk)

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**No tillage affects soil organic matter, glomalin and soil properties in an alfisol of central-south Chile**

Gustavo Curaqueo, Alex Seguel, Sebastián Meier, Jorge Medina, Fernando Borie

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**Trends in soil properties with view to glomalin and structural stability relationship in abandoned terraced soils of NE Iberian Peninsula**

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**Role of carbonates and clay minerals in macroaggregates dynamics and organic matter stabilization in semi-arid Mediterranean soils**

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**Soil structure effect on the biodegradation of native and added organic matter**

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**Effects of soil temperature and moisture regimes on concentrations and their corresponding natural  $\delta^{13}\text{C}$  abundance along forest soil profile under two tree contrasting species**

Hee-Myung Ro, Jae-Young Lee, Min-Jin Lee, Ji-Suk Park, Jong-Hyun Lee, Seong-Joo Gang

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**HPLC Analysis of Chromophoric Dissolved Organic Matter in Antarctic Soil Core: Comparison with Microbiology Data**

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**Dynamics of clay-fixed ammonium in soil as a source or sink of mineralized nitrogen in paddy ecosystems**

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**Effects of climate change parameters on the availability of cations in the soil water**

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**Use of organic matter mixed with calcium carbonate pendants in order to record climate change in semiarid soils of Rashakan region, Urmia, Iran**

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**Dynamic of soil structuration by earthworms - Influence of earthworms on soil organic matter composition and bacterial communities**

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**Changes in soil chemical properties with different tillage systems and crop rotations in a semi-arid area of Castille-Leon, Spain**

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**Influence of rice residues management on the soil and water biogeochemistry**

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**Water infiltration rate an indicator of physical quality recovery of an Oxisol**

Carolina dos Santos Batista Bonini, Marlene Cristina Alves, Débora de Cássia Marchini, Otton de Arruda Garcia, Eva Vidal Vazquez, Antonio Paz Gonzalez

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**Short-Medium term effect of management and amendment on organic matter content and aggregate stability under wet Mediterranean climate**

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**The nitrogen storage related to soil properties in clay and sandy soils of Tunisia**

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**Soil carbon evolution and enzymes activity in sludge treated agricultural soil**

Ignacio Jorge-Mardomingo, Pedro Soler-Rovira, Sergio González-Ubierna, Beatriz Carrero-González, Maria Teresa Cruz-Caravaca, Miguel Ángel Casermeiro, Alfredo Polo

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**Short-term changes in soil organic carbon contents in a low permeability and in barren land of South Korea under Miscanthus cultivation as a bioenergy crop**

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**Does the sensitivity of the soil organic matter mineralization to a change of temperature depends on its quality?**

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**What is the chemical nature of stable carbon ? Using soils from a long term bare fallow to answer this question.**

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**Agronomic performance of chickpea as influenced by trees in a Mediterranean agroforestry systems**

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**Management-specific distribution and stabilization of organic carbon within macroaggregates from arable soils**

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**Chemical composition of soil organic matter stored in cryoturbated arctic soil**

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**Manganese effect on lignin degradation degree in beech (*Fagus sylvatica* L.) leaf litters**

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**Mineralogical effect of FAO particle size analysis procedure**

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**Extraction of low molecular organic acids and siderophores from soil analysed by liquid chromatography mass spectrometry**

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**Assessing litter quality by <sup>13</sup>C-CPMAS NMR predicts decay rate better than C/N and Lignin/N ratios**

Giuliano Bonanomi, Guido Incerti, Virginia Lanzotti 3, Stefano Mazzoleni

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**SOMDY: a new model of carbon sequestration based on C chemical quality by <sup>13</sup>C CPMAS NMR and physical aggregation of organic matter**

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**The potential of NIR spectroscopy to predict the soil texture and mineralogy in the Cerrado Latosols**

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**Molecular identification of fungi isolated from municipal sewage sludge**

Magdalena Fraç

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**An automated continuous flow <sup>13</sup>CO<sub>2</sub> and <sup>15</sup>N labelling system to estimates the <sup>13</sup>C and <sup>15</sup>N flow of enriched root exudates in the soil solution of crop rizospheres**

Carlos Monreal, Matus Francisco, Marc Lefebvre, Shan-Shan Wu, Raymond Desjardins, Maria DeRosa

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**Visualisation and modelling of water-air interface in soil porosity: impact on microbial degradation**

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**The role of microorganisms in the association of soil organic matter with minerals: a <sup>13</sup>C labeling and HPLC-IRMS approach**

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**Humic acids from Podzols under mountain pine in various stage of degradation – FTIR and <sup>13</sup>C NMR study**

Elzbieta Jamroz, Andrzej Kocowicz, Jakub Bekier, Jerzy Weber

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**Understanding Phosphorus (P) dynamics in soils amended with repeated application of different organic amendments using the Diffusive Gradients in Thin-films (DGT) technique.**

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**Identifying genes involved in potassium-bearing mineral weathering by thermophilic fungus *Aspergillus fumigatus***

Bo Xiao, Bin Lian, Weilan Shao, Wan Chen

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**Fast Field Cycling NMR relaxometry: a new tool to assess the effects of organic amendments on a agricultural soil from Southern Italy**

Riccardo Scotti, Pgrino Conte, Giuseppe Alonzo, Maria A. Rao

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**Exogenous isolation of Inc-P1 plasmids from copper-affected soils**

Carolina Yáñez, Pía Padilla, Kornelia Smalla, Michael Seeger 3

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**Molecular characterization of novel *Stenotrophomonas* sp. strains isolated from a copper-affected agricultural soil**

Carolina Yáñez, Marcela Hernández, Edward Moore 3, Michael Seeger

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***Bacillus cereus*, a model for studying the impact of climate changes on food borne pathogens in soils? Preliminary experiments**

Julien Brillard, Véronique Broussolle, Thierry Clavel, Gillon Marina, Annette Bérard

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**Heavy metal availability and their relationships with soil microbial characteristics in agricultural carbonated soils**

Ana de Santiago, Nathalie Cheviron, Jose R. Quintana, Concepción González, Antonio L. Lafuente, Christian Mougin

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**Phosphorus removal by using mineral soils from the Antofagasta region in the north of Chile**

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**Heavy metals removal from water using aquatic plants (*Nasturtium officinale* and *Mimulus glabratus*)**

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**Evaluation of the Suitability of Using High Amounts of Urban Wastes for Degraded Arid Soils Restoration and C Fixation**

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**Fractional distribution and dissipation of pentachlorophenol in the rhizosphere of rice (*Oryza sativa* L.)**

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**As-species in agricultural soils with long-term fertilization**

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**Background content of hydrocarbons in taiga zone soils**

Evgeniy Lodygin, Vasiliy Beznosikov

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**Assessment of Soil Degradation Risks Caused by Priokhotie Mining Industry and the Role of Humus Substances in Soil Recultivation**

Alexandra Makhinova, Alexey Makhinov

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**Calcium Sulfate effect on Nutrient Content and Antioxidant Activity in Highbush Blueberry Subjected to Phytotoxic Aluminum**

Cristian Meriño-Gergichevich, Miren Alberdi, Marjorie Reyes-Díaz

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**Effect of different vermicompost tea on zink, iron and phosphorus concentration and uptake in wheat**

Samaneh Rahmatpour, Hossein Ali Alikhani, Rokhsareh Khalili, Leila Mohammadi

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**The role of metal accumulation in the laurel forest of La Gomera (Canary Islands, Spain)**

Juan Luis Mora, Carmen D. Arbelo, Antonio Rodríguez-Rodríguez, Jesús S. Notario, J. Asterio Guerra 3, Cecilia M. Armas-Herrera

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**Changes of humus, caused by interactions with heavy metals**

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**Exploration of Environmental Changes as a Result of Anthropogenic Influences at Watery Habitats**

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**Investigation of Slope Sediment of Red Clay Rendzina**

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**Variation on photosynthetic performance and its relationship with antioxidative systems in perennial ryegrass cultivars exposed to manganese excess**

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**Key soil factors influencing the transfer of 17 elements from soils to young leaves of Tieguanyin tea in the south of Fujian Province, PR China**

Guo Wang, Yaling Guo

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**Degradation of chlorpyrifos by actinomycetes isolated from soil**

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**Combined effects of nitrogen and sulfur fertilization on selenium accumulation and antioxidant capacity in ryegrass plants.**

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**Sorption of the new herbicide aminocyclopyrachlor by cation modified clays**

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**Description the soil buffering disturbance in pesticides polluted soils**

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**Coupled transport of humic acids and copper through saturated porous media**

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**Polycyclic Aromatic Hydrocarbons in the atmospheric precipitation–soil–lismetric waters system of technogenic landscapes**

Dmitriy Gabov, Vasiliy Beznosikov, Boris Kondratenok, Evgeniya Yakovleva

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**Effect of successive application of pulp mill sludge to degraded chilean volcanic soil: A columns leaching study**

F Gallardo, M J Flores, V Peña, M C Diez

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**Release and releasing kinetics of Cu in polluted soils treated with crushed mussel shell**

Beatriz Garrido-Rodríguez, David Fernández-Calviño, Manuel Arias-Estévez, Juan Carlos Nóvoa-Muñoz, Montserrat Díaz-Raviña, Avelino Núñez-Delgado 3, María José Fernández-Sanjurjo 3, Esperanza Álvarez-Rodríguez 3

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**Changes in land use of contaminated sandy soils modify their trace metal availability**

Muhammad Iqbal, Isabelle Lamy

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**Influence of Soil Characteristics on the Efficiency of Iron Nanoparticles for Lead Immobilization**

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**Fate of emerging organic pollutants (Antibiotics) in soils. The role of metal complexation.**

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**Assessing the disturbance of soils amended with high amounts of urban residues through testing the metabolic activities of microbial communities**

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**Effect of organic amendment and vegetation of vineyard soils on copper distribution at the micro-aggregate scale**

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**Hedges of vetiver grass (*Vetiveria zizanioides*) for remediation of vertisol and lixisol.**

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**Ameloration of aluminium toxicity by calcium sulfate in Highbush Blueberry (Vaccinium corymbosum L.)**

Marjorie Reyes-Díaz, Cristian Meriño-Gergichevich, Miren Alberdi

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**Application of stabilized Fe<sup>0</sup> nanoparticles for remediation of Cr (VI)-spiked soil**

Adel Reyhanitabar, Leyla Alidokht, Ali Reza Khataee, Shahen Oustan

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**Copper in a Vineyard Soil Variably Amended with Organic Matter: Organic Matter, Cu Distribution and Speciation Relationships**

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**Degradation of the pesticide MCPA in the detritosphere – A new mathematical model**

Holger Pagel, Christian Poll, Joachim Ingwersen, Ellen Kandeler, Thilo Streck

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**Soil properties of Mediterranean agricultural areas under fast-growing Paulownia (Paulownia elongata x fortunei) plantations**

Andrés-Abellán, Manuela, Wic-Baena Consuelo, Moreno Ortego José Luis, Martínez-García Eduardo, García-Morote, Francisco Antonio, Dadi Tarek, González Jiménez José Luis, Picazo Córdoba Marta Isabel, López-Serrano, Francisco Ramón, Lucas-Borja Manuel esteban

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**Mangrove soil of the Graciosa River, in Bahia, Brazil: the microbial approaches**

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**Soil humidity, soil depth and density of plantation influence catabolic structure of microbial communities in maize crop system**

Annette Bérard, Arnaud Chapelet, Claude Doussan

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**Response of soil microbial biomass to CeO<sub>2</sub> nanoparticles**

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**Molecular characterization of hydrophobic coatings and fixed lipids from extremely water repnt pine and eucalypt forest soils.**

Esther de Blas, Gonzalo Almendros, Jesús Sanz 3

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**Microbial communities in vineyard soils with changing land use: effect of Cu accumulation and soil pH.**

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**Nodulation and growth of common bean (*Phaseolus vulgaris*) in multi-local field tests of organic horticulture in Hérault valley links with phosphorus bio-availability.**

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**Changes in the Microbial Community of a Semiarid Degraded Soil after the Addition High Amounts of Organic Urban Wastes**

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**Microbial biomass activity in neotropical savanna soils managed during six years with conservationist cereal-cattle systems**

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**Calcified roots argue for the heterotrophic lifestyle of branched tetraether source bacteria**

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**Effect of cropping systems, mineral nitrogen (N) and crop residue on total soil microbial community under soybean in Meru south (Chuka) central highlands in Kenya**

Esther Muema, Laetitia Herrmann, Jean-Luc Chotte, Didier Lesueur 3

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**Phosphate fertilizers and cereal/legume rotation improve crop yield and total microbial community diversity in soil of Western Kenya**

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**Changes in the microbial activity and biomass of soils from Mediterranean Mountain areas along an altitudinal gradient: interaction with tree species composition**

Candel Perez David, Andrés-Abellán Manuela, Wic-Baena Consuelo, Picazo Córdoba Marta, López-Serrano Francisco Ramón, Bastida López Felipe, Lucas-Borja, Manuel Esteban

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**Evaluating Auxin hormone production ability of some indigenous pseudomonas fluorescent strains isolated from Iranian soybean cultivated farm lands**

Navid Bazghaleh, Hossen Ali Alikhani, Leila Mohammadi

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**Seasonal effects on soil nutrient dynamics in halophyte grassland at Cuatrociénegas valley, Mexico**

Cristina Montiel-González, Felipe García- Oliva, Valeria Souza

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**Isolation and screening of potential plant growth promoting rhizobacteria from pastures established on a Chilean volcanic soil**

Oscar A Martinez, Milko Jorquera, María de la Luz Mora

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**Potential of C retention in silt and clay fractions of a Brazilian subtropical Oxisol as affected by soil management systems**

Deborah Pinheiro Dick, Cecilia Estima Sacramento dos Reis, Graciele Sarante Santana, Jennifer da Silva Caldas, Vanessa Aparecida dos Santos Silva, Cimelio Bayer

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**Investigating the relation between soil mineralogy and microbial communities in a landscape study**

Atefeh Ramezani, Colin D. Campbell, Stephen Hillier, Sigrun Dahlin 3, Ingrid Öborn 4

**Presenting author:** Atefeh Ramezani, atefeh.ramezani@slu.se

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**Microbial utilization of the C sources in functional SOC pools with regard to their stability and structural microbial community composition**

M. Breulmann, N.P. Masyutenko, B.M. Kogut 3, O.V. Kiseleva 4, F. Buscot, E. Schulz

**Presenting author:** Elke Schulz, elke.schulz@ufz.de

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**Applying ArcGIS Geostatistical Analyst for zoning of some soil biological properties affected by different land uses**

Nasser Aliasgharzag, Seyed Ali Ebrahimzad, Nosratollah Najafi

**Presenting author:** Farzin Shahbazi, shahbazi@tabrizu.ac.ir

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**Struvite formation by soil bacteria. Is the struvite a metaestable mineral in the phosphorous cycle in soils?**

Gabriel Delgado, Jesús Párraga, Juan Manuel Martín-García, Víctor Aranda, Rafael Delgado

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**Propagation of *Grevillea banksii*, an invasive exotic plant species: impacts on structure and functioning of mycorrhizal community associated with natives tree species in eastern part of Madagascar**

Andrianandrasana Martial Doret, Rakotoniaina Henintsoa Volatiana, Raherimandimby Marson, Ramanankierana Heriniaina, Baohanta Rondro Harinisainana, DUPONNOIS Robin  
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**Presenting author:** Martial Doret Andrianandrasana, martialdoret@gmail.com

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**High mountain environments in Patagonia Argentina: analysis of relations between plants, intraradical fungi and soil characteristics.**

María Clara Bruzone, Natalia Fernández, Sonia Fontenla

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**Influence of stand quality on soil properties in thermophilic Spanish juniper woodlands (*Juniperus thurifera* L.) in South-Eastern Spain**

Francisco Antonio Garcia Morote, Manuela Andres Abellan, Francisco Ramon Lopez Serrano, Jose Luis Gonzalez Jimenez, Manuel Esteban Lucas Borja, Eduardo Martinez Garcia, Consuelo Wic Baena

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**Phytate mineralising rhizobacteria are associated to common-bean nodulated root**

Maougal Rim Tinhinen, Brauman Alain, Djakoun Abdelhamid 3, Plassard Claude, Drevon Jean-Jacques

**Presenting author:** Rim Tinhinen MAOUGAL, rym.maougal@gmail.com

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**Characterization of soil organic matter and cyanobacterial diversity of microbiotic crusts in a desert scrub of the Baj California peninsula, Mexico**

Yolanda Maya, Norma E. García-Calderón, José P. Gómez-Sánchez, Sara Solís-Valdéz 3

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**Multi-parameter approach to assess short-and long-term effect of olive mill waste water land spreading on soil quality**

Claudia Di Bene, Elisa Pgrino, Marta Debolini, Nicola Silvestri, Mariassunta Galli, Enrico Bonari

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**Impact of *Psidium cattleianum* invasion on soil microbial function and *Uapaca louvelii* regeneration, an autochthon forestry essence of Forest, Madagascar**

Rajaonarimamy Elinarindra, Andrianarisoa Blandine, Rasolomampianina Rado, Baohanta Harinisainana Rondro, Duponnois Robin 3

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**Organic amendments as tool for a sustainable management of intensive agriculture**

Riccardo Scotti, Marcela González Cáceres, Salma Sultana, Rosalia Scelza, Giuliano Bonanomi 3, Rosaria D'Ascoli, Astolfo Zoina 3, Maria A. Rao

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**Marine algae and microorganisms of termite soil: potential source of biological fertilizer.**

Razakatiana Adamson Tsoushima Ernest, Rajaonarimamy Elinarindra, Ramanankierana Heriniaina, Duponnois Robin 3

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**Mobilization of nutrients elements from marine algae by termite mound microorganisms: a potential source of biological fertilizer.**

Razakatiana Adamson Tsoushima, Rajaonarimamy Elinarindra, Ramanankierana Heriniaina, Ramamonjisoa Daniel, Duponnois Robin 3

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**Evolution of microbial populations and its relation with humic and fulvic acids availability in a composting process**

Ana Beatriz Torres Geraldo, María Mercedes Martínez, Mauricio Molina, Rodrigo Ortega, Jimena Angulo

**Presenting author:** Mauricio Molina, [mauricio.molina@usm.cl](mailto:mauricio.molina@usm.cl)

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**Biological struggle against a phytopathogenic fungi Fusarium sp: efficiency of rhizospheric actinomycetes and fluorescent pseudomonas.**

Zananirina Aristel Jefferson, Rakotoarimanga Nirina, Ramanankierana Heriniaina, Ramamonjisoa Daniel

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**Effect of selenium seed ptization on rhizobacteria associated with cereal crops grown in an Andisol**

Jacquelinne Acuña, Milko Jorquera, María de la Luz Mora

**Presenting author:** Jacquelinne Acuña, [acuna.sobarzo@gmail.com](mailto:acuna.sobarzo@gmail.com)

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**Integrated use of arbuscular mycorrhiza fungi and fertiliser: effects on soil clay assemblage**

Cozzolino Vincenza, Adamo Paola, Di Meo Vincenzo, Velde Bruce

**Presenting author:** Paola Adamo, [paola.adamo@unina.it](mailto:paola.adamo@unina.it)

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**Linking Genomic Structure to Function in Soil Aggregates**

Vanessa Bailey, Sarah Fansler, Lee Ann McCue

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**Phosphorus uptake and phosphatase activity under different phosphorus and nitrogen fertilization of Chilean Andisol pastures**

Cecilia Paredes N., Daniel Menezes-Blackburn, Paula Cartes I., Liliana Gianfreda, María De La Luz Mora

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**Phytate-induced selection of rhizobacterial community present in pastures from volcanic soils**

Milko A. Jorquera, Rosa Catrilaf, Daniel Menezes-Blackburn, Jacqueline Acuña-Sobarzo, María de la Luz Mora

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**Do feeding on soil increases N<sub>2</sub>O emission ?**

Zeeshan Majeed, Edouard Miambi, Alain Robert 3, Nicolas Romillac, Alain Brauman

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**Effect on the total and functional bacterial community in amended soils with olive oil waste**

Ana Isabel Cañero, Leonides A. Calvo-Bado, Lucía Cox, Juan Cornejo, Elisabeth M.H Wellington

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**Dynamic changes in bacterial communities during compost and earthworm treatment of low grade potassium ore**

Dianfeng Liu, Bin Lian, Bin Wang 3

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**Gypsum application ameliorates Al-stress in *Vaccinium corymbosum* L. growing in an Andisol: A cultivar dependent effect.**

Ana Luengo-Escobar, Maritza Durán-Troncoso, Cristian Meriño-Gergichevich, Miren Alberdi, Marjorie Reyes-Díaz

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**Nitrogen fixation and rhizodeposition of a metallicollous symbiotic association *Anthyllis vulneraria*/*Mesorhizobium metallidurans* grown in highly contaminated mine tailings by Zn, Pb and Cd**

Stephanie Mahieu, José Escarré, Angélique Méjamolle, Lucette Maure, Jean-Claude Cleyet-Marel, Brigitte Brunel 3

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**Ectomycorrhizal fungi and mobilisation of organic phosphorus from forest soil: myth or reality?**

Plassard Claude, Louche Julien, Ali Muhammad Arif, Sauvage François-Xavier, Legname Elvira, Duchemin Myriam, Quiquampoix Hervé

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**Effect of organic amendment on the microbial growth, activity and functional diversity of a soil under intensive agricultural management**

Rosaria D'Ascoli, Salma Sultana, Giuliano Bonanomi, Lucia Cozzolino, Rossana Marzaioli, Riccardo Scotti 3, Maria A. Rao 3, Astolfo Zoina

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**Bacterial community structure and enzymatic activity in an agricultural volcanic soil of southern Chile as affected by addition of sludge from pulp and paper industry**

Salma Sultana, Rosaria D'Ascoli, Milko A. Jorquera, Maria Jose Flores, Rolando Demanet Philippi, Maria A. Rao 3, Felipe Gallardo, Maria de la Luz Mora

**Presenting author:** Salma Sultana, [salma\\_bau@yahoo.com](mailto:salma_bau@yahoo.com)

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**Iron oxide removal and copper sorption on a Luvisol argic horizon**

Réka Balázs, Tibor Németh, Péter Sipos, Zoltán May, Imre Czinkota 3

**Presenting author:** Brigitta Reka Balazs, [balazsr@geochem.hu](mailto:balazsr@geochem.hu)

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**Organic acids exuded from two aluminium tolerant wheat cultivars in short and long term by hydroponic systems with increasing aluminium levels**

Alex Seguel, Gustavo Curaqueo, Ernest Smith, Jonathan Cumming, Fernando Borie

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**Influence of the soil type and soil management in the soil quality and soil ultramicrofabric in olive crops from Sierra Mágina, Jaén**

Ulises Gutiérrez, Víctor Aranda

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**Synthesis and characterization of spermine-exchanged montmorillonite and its complexes with the herbicide fluometuron**

Beatriz Gamiz, Rafael Celis, MCarmen Hermosin, Juan Cornejo, Clift T. Johnston

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**Sorption of acidic organic solute onto kaolinitic soils from methanol-water mixtures**

Seunghun Hyun

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**Sorption Characteristics of the Major Components of Crude Oil to Vadose Zone Soils in Xinjiang Oilfield**

Bo Liu, Honghan Chen, Yulong Liu

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**Chemical extractions of the mineral-associated SOM: an integrated approach for a functional fractionation**

Luis Lopez-Sangil, Pere Rovira

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**Effects of flooding and drying on the solubility of soil nutrients evaluated at watershed and regional scales**

Naoki Moritsuka, Kaori Matsuoka, Tatsuya Inamura, Koki Homma, Akiko Toriumi, Junko Yamagishi

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**Use of soil micromorphological studies to explain some soil characteristic changes by rye green manure application**

Seyed Bahman Mousavi

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**The binding of selected monosaccharides to ferrihydrite by adsorption and coprecipitation- investigated by desorption experiments, infrared spectroscopy (FTIR) and N<sub>2</sub> gas adsorption measurements**

Julia Neidhardt, Karin Eusterhues, Kai Uwe Totsche

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**Interaction of selected minerals with organic pollutants: Effects of Phyto-assisted Bioremediation using *Vigna subterranea***

Eugene Onyeike, Mathew Wegwu

**Presenting author:** Eucharia Oluchi Nwaichi, [nodullm@yahoo.com](mailto:nodullm@yahoo.com)

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**Adsorption and oxidative transformation of phenolic acids by Fe(III)-montmorillonite**

Tamara Polubesova, Shay Eldad, Benny Chefetz

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**Adsorption of humic acid on hematite: effects of pH and ionic strength**

Xiaopeng Qin

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**Adsorption of prion protein on organo-mineral complexes and Scottish soils**

Jun Zhu, Maria A. Rao, Massimo Pigna, Vincenza Cozzolino, Antonio Violante

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**Influence of lysozyme complexation with humic acid on the lysozyme activity**

WenFeng Tan, Yan Li, Luuk Koopal, Willem Norde

**Presenting author:** Wenfeng Tan, [wenfeng.tan@hotmail.com](mailto:wenfeng.tan@hotmail.com)

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**Study of acid phosphatase immobilization mechanism in nanoclay using confocal microscopy**

Gabriela Velasquez, Marcela Calabi, Jessica Parra, María de la Luz Mora

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**Hydroxy- and fluorapatite as a sorbents in Cd(II) - Zn(II) multicomponent solution in the presence of EDTA**

Karin Viipsi, Kaia Tõnsuaadu, Andrey Shchukarev

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**Clay mineralogy of soils derived from different granitoides in a temperate climate of Sudety Mountains, Poland**

Jerzy Weber, Jaroslaw Szadorski, Rafal Tyszka, Magdalena Debicka, Andrzej Kocowicz

**Presenting author:** Jerzy Weber, [jerzyweber@gmail.com](mailto:jerzyweber@gmail.com)

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**Influence of montmorillonite on the catalytic activity of chymotrypsin: effect of enzyme and substrate adsorption**

Abadie J., Staunton S. & Quiquampoix H.

**Presenting author:** Josiane Abadie, [josiane.abadie@supagro.inra.fr](mailto:josiane.abadie@supagro.inra.fr)

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**Phytase interaction with allophane and iron oxide coated allophane nanoclays**

Daniel Menezes-Blackburn, Milko Jorquera, Maria Rao 3, Liliana Gianfreda 3, Ralf Greiner 4, Elizabeth Garrido, María De La Luz Mora

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**Effect of oxalic and citric acid on adsorption of copper and cadmium onto vermiculite, kaolinite and goethite.**

Irena Bogdanovic, Tomislav Radic

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**Evaluation of nanoclays in acid phosphatase immobilization to increase the phosphorus availability in soils**

Marcela Calabi, Alejandra Jara, James Bendall, Mark Welland, María de la Luz Mora

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**Chitosan-intercalated montmorillonite as an adsorbent of the herbicide clopyralid in aqueous solution and soil/water suspensions**

M Angeles Adelino, Rafael Celis, M Carmen Hermosin, Juan Cornejo

**Presenting author:** Carmen Trigo, [ctrigo@irnase.csic.es](mailto:ctrigo@irnase.csic.es)

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**Adsorption of several contaminants by natural and modified clays as a sustainable application**

Carmen del Hoyo Martínez, Vicente Sánchez Escribano, Raul Cutillas Diez

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**Adsorption of methylene blue by different low cost materials for practical classes of environmental chemistry**

Carmen Del Hoyo Martinez

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**Cationic clays on human health: an overview**

Carmen Del Hoyo Martinez

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**Protein-driven desorption curves of soil enzymes**

Flavio Fornasier Hervé Quiquampoix

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**Synthetic allophane nanoparticles coated with iron oxide: Characterization and catalytic activity for phenol oxidation by Fenton-like reaction**

E.G. Garrido-Ramírez, M.V. Sivaiah, J. Barrault, S. Valange, M.S. Ureta-Zañartu 3, M.L. Mora

**Presenting author:** Elizabeth Garrido, [eggarrido@ufro.cl](mailto:eggarrido@ufro.cl)

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**Interactions of organic compounds with soil components – elucidating mechanisms on a molecular level**

Martin Gerzabek, Adelia Aquino, Daniel Tunega, Hasan Pasalic, Georg Haberhauer, Hans Lischka

**Presenting author:** Martin Gerzabek, [martin.gerzabek@boku.ac.at](mailto:martin.gerzabek@boku.ac.at)

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The background of non-crystalline materials and its role in soil organic matter turnover in subtropical volcanic soils

Zulimar Hernández, Gonzalo Almendros, Pilar Carral, Ana María Álvarez, Heike Knicker 3

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**Organo-mineral features related to field infiltration parameters in calcimorphic Mediterranean agricultural soils**

Ana María Álvarez, Pilar Carral, Zulimar Hernández, Gonzalo Almendros

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Adsorption of the insecticidal protein of *Bacillus thuringiensis* subsp. *kurstaki* by soils: effects of iron and aluminium oxides

Qingling Fu, Hongqing Hu, Yali Deng, Xia Yu

**Presenting author:** Hongqing Hu, [hqhu@mail.hzau.edu.cn](mailto:hqhu@mail.hzau.edu.cn)

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**Description of the adsorption of Cu and Zn on allophanic clay using the Capacitance Constant Model**

Alejandra A. Jara, María de la Luz Mora

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**Adsorption and catalytic activity of ectomycorrhizal fungal phosphatases in contact with two tropical soils**

Brice Kedi, Josiane Abadie, Joseph Sei, Hervé Quiquampoix, Siobhán Staunton

**Presenting author:** Brice Kedi, kedi@supagro.inra.fr

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**Changes in soil quality indicators under humic substances application in liquid form**

Mauricio Molina, Jimena Angulo, Ana B. Torres, María M. Martínez, Rodrigo Ortega

**Presenting author:** Mauricio Molina, mauricio.molina@usm.cl

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**Changes in zinc adsorption in an alkaline soil in the presence natural humic substances**

Mauricio Molina, Elizabeth Espinosa, Rodrigo Ortega

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#### Monday 27th

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| 1.03 Kazumichi Fujii             | Biodegradation of low molecular weight organic acids in rhizosphere soils under tropical montane rain forest  |
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| 1.05 Luiz Leite                  | Residue management of sugarcane and its effect on soil carbon sequestration estimated by CENTURY and CQESTR models in Northeastern Brazil   |
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| 1.07 Seyed Bahman Mousavi        | Study on the effects of long terms green manure application with C/N different levels on soil aggregate stability and equations of water infiltration in Maragheh dryland condition |
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| 1.12 Paradelo Remigio            | Contrasting soil structures in long term bare fallow treatments and its relation to C storage in soil: is organic matter physically protected in the long term?                     |
| 1.13 Paradelo Remigio            | Land use-related modification of labile carbon fractions in soils from Galicia (NW Spain)   |
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| 1.16 Carmen Trasar-Cepeda        | Modifications to soil C stock in a maize soil afforested with Populus alba L.   |
| 1.17 Liliana Valdés              | Interrelation between CO <sub>2</sub> and CH <sub>4</sub> production with biological activity and soil properties   |
| 1.18 Nadezda Vasilyeva           | SOC pools dynamics and stability in the 80 years bare fallow chronosequence at Versailles. Evidence of mineral-associated SOC stabilization   |
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- 1.22 Pierre Barré Does clay mineralogy influence aggregation formation and stability? Insights from fractionation analyses conducted on soils under different land-uses.
- 1.23 Thierry Becquer Nitrate leaching loss under crop-livestock systems in the Cerrado region, Brazil
- 1.24 Pierre Bonnard Characterizing organo-mineral complexes in surface and subsurface horizons of an acid loamy soil using sequential density fractionation
- 1.25 Tiphaine Chevallier Relative contributions of organic and inorganic carbon in the CO<sub>2</sub> emitted from a Tunisian calcareous agricultural soil: Effect of increasing temperatures
- 1.26 GRIVIN CHIPULA THE INFLUENCE OF THE INTERACTION OF TREATED SEWAGE EFFLUENT AND COMPOST ON THE DYNAMICS OF NITROGEN IN THE SOIL
- 1.27 Gustavo Curaqueo NO TILLAGE AFFECTS SOIL ORGANIC MATTER, GLOMALIN AND SOIL PROPERTIES IN AN ALFISOL OF CENTRAL-SOUTH CHILE
- 1.28 Mohamed Emran Khaled Trends in soil properties with view to glomalin and structural stability relationship in abandoned terraced soils of NE Iberian Peninsula
- 1.29 Oihane Fernandez-Ugalde Role of carbonates and clay minerals in macroaggregates dynamics and organic matter stabilization in semi-arid Mediterranean soils
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- 1.32 Viia Lepane HPLC Analysis of Chromophoric Dissolved Organic Matter in Antarctic Soil Core: Comparison with Microbiology Data
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- 1.34 Ana Maymó Effects of climate change parameters on the availability of cations in the soil water
- 1.35 mosayyebi mohaddeseh USE OF ORGANIC MATTER MIXED WITH CALCIUM CARBONATE PENDANTS IN ORDER TO RECORD CLIMATE CHANGE IN SEMIARID SOILS OF RASHAKAN REGION, URMIA, IRAN
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- 1.39 Guilhem Bourrié Influence of rice residues management on the soil and water biogeochemistry
- 1.40 Carolina dos Santos Batista Bonini Water infiltration rate an indicator of physical quality recovery of an Oxisol
- 1.41 Clara Gomez-Paccard Short-Medium term effect of management and amendment on organic matter content and aggregate stability under wet Mediterranean climate
- 1.42 Hatem Ibrahim The nitrogen storage related to soil properties in clay and sandy soils of Tunisia
- 1.43 Ignacio Jorge-Mardomingo Soil carbon evolution and enzymes activity in sludge treated agricultural soil
- 1.44 Min Jin Lee Short-term changes in soil organic carbon contents in a low permeability and in barren land of South Korea under Miscanthus cultivation as a bioenergy crop
- 1.45 Romain Lefevre Does the sensitivity of the soil organic matter mineralization to a change of temperature depends on its quality?
- 1.46 Suzanne Lutfalla What is the chemical nature of stable carbon ? Using soils from a long term bare fallow to answer this question.
- 1.47 Stephanie Mahieu Agronomic performance of chickpea as influenced by trees in a Mediterranean agroforestry systems
- 1.48 Aneka Mordhorst Management-specific distribution and stabilization of organic carbon within macroaggregates from arable soils
- 1.49 Jörg Schneckner Chemical composition of soil organic matter stored in cryoturbated arctic soil
- 1.50 Florence Trum Manganese effect on lignin degradation degree in beech (*Fagus sylvatica* L.) leaf litters
- 1.51 Jagadeesh Babu Yeluripati Modeling of CH<sub>4</sub> and N<sub>2</sub>O emissions from rice based production systems of India

## Session

### 2. Advances in physical and biological techniques to study soil interfaces

#### Monday 27th

- 2.01 Brigitta Reka Balazs Mineralogical effect of FAO particle size analysis procedure
- 2.02 Tara Ali Extraction of low molecular organic acids and siderophores from soil analysed by liquid chromatography mass spectrometry
- 2.03 Giuliano Bonanomi Assessing litter quality by <sup>13</sup>C-CPMAS NMR predicts decay rate better than C/N and Lignin/N ratios
- 2.04 Giuliano Bonanomi SOMDY: a new model of carbon sequestration based on C chemical quality by <sup>13</sup>C CPMAS NMR and physical aggregation of organic matter
- 2.05 Didier Brunet The potential of NIR spectroscopy to predict the soil texture and mineralogy in the Cerrado Latosols
- 2.06 Magdalena Frac Molecular identification of fungi isolated from municipal sewage sludge

- 2.07 Matus Francisco An automated continuous flow  $^{13}\text{C}$  and  $^{15}\text{N}$  labelling system to estimate the  $^{13}\text{C}$  and  $^{15}\text{N}$  flow of enriched root exudates in the soil solution of crop rhizospheres
- 2.08 Patricia Garnier Visualisation and modelling of water-air interface in soil porosity: impact on microbial degradation
- 2.09 Pierre-Joseph Hatton The role of microorganisms in the association of soil organic matter with minerals: a  $^{13}\text{C}$  labeling and HPLC-IRMS approach
- 2.10 Elzbieta Jamroz Humic acids from Podzols under mountain pine in various stage of degradation – FTIR and  $^{13}\text{C}$  NMR study
- 2.11 David Kane Understanding Phosphorus (P) dynamics in soils amended with repeated application of different organic amendments using the Diffusive Gradients in Thin-films (DGT) technique.
- 2.12 Bin Lian Identifying genes involved in potassium-bearing mineral weathering by thermophilic fungus *Aspergillus fumigatus*
- 2.13 Maria A. Rao Fast Field Cycling NMR relaxometry: a new tool to assess the effects of organic amendments on an agricultural soil from Southern Italy
- 2.14 Anaïs SAENGER Combining analytical techniques for organic matter characterization: particle-size fractionation, Rock-Eval pyrolysis and FTIR spectroscopy
- 2.15 Carolina Yanez Exogenous isolation of Inc-P1 plasmids from copper-affected soils
- 2.16 Carolina Yanez Molecular characterization of novel *Stenotrophomonas* sp. strains isolated from a copper-affected agricultural soil



## Session

### 3. Dynamics of pollutants in soil systems and bioremediation

#### Tuesday 28th

- 2.17 Annette BERARD Bacillus cereus, a model for studying the impact of climate changes on food borne pathogens in soils? Preliminary experiments
- 2.18 Ana de Santiago Martín Heavy metal availability and their relationships with soil microbial characteristics in agricultural carbonated soils
- 2.19 Bárbara Fuentes Phosphorus removal by using mineral soils from the Antofagasta region in the north of Chile
- 2.20 Bárbara Fuentes Heavy metals removal from water using aquatic plants (Nasturtium officinale and Mimulus glabratus)
- 2.21 Encarnacion Garcia Evaluation of the Suitability of Using High Amounts of Urban Wastes for Degraded Arid Soils Restoration and C Fixation
- 2.22 Tahir Hayat Fractional distribution and dissipation of pentachlorophenol in the rhizosphere of rice (Oryza sativa L.)
- 2.23 Elena Karpova AS- SPECIES IN AGRICULTURAL SOILS WITH LONG-TERM FERTILIZATION
- 2.24 Evgeny Lodygin Background content of hydrocarbons in taiga zone soils
- 2.25 Alexandra Makhinova Assessment of Soil Degradation Risks Caused by Priokhotie Mining Industry and the Role of Humus Substances in Soil Recultivation
- 2.26 Cristian Meriño-Gergichevich Calcium Sulfate effect on Nutrient Content and Antioxidant Activity in Highbush Blueberry Subjected to Phytotoxic Aluminum
- 2.27 Leila Mohammadi Effect of different vermicompost TEA on zinc, iron and phosphorus concentration and uptake in wheat
- 2.28 Juan Luis Mora Hernández The role of metal accumulation in the laurel forest of La Gomera (Canary Islands, Spain)
- 2.29 Galina Motuzova Changes of humus, caused by interactions with heavy metals
- 2.30 Tünde Nyilas Exploration of Environmental Changes as a Result of Anthropogenic Influences at Watery Habitats
- 2.31 Tünde Nyilas Investigation of Slope Sediment of Red Clay Rendzina
- 2.32 Alejandra Ribera Variation on photosynthetic performance and its relationship with antioxidative systems in perennial ryegrass cultivars exposed to manganese excess
- 2.33 Guo Wang Key soil factors influencing the transfer of 17 elements from soils to young leaves of Tieguanyin tea in the south of Fujian Province, PR China

## Session

### 3. Dynamics of pollutants in soil systems and bioremediation

#### Wednesday 29th

- 3.01 Gabriela Briceño Degradation of chlorpyrifos by actinomycetes isolated from soil
- 3.02 Paula Cartes Combined effects of nitrogen and sulfur fertilization on selenium accumulation and antioxidant capacity in ryegrass plants.
- 3.03 Cornejo-Suero Juan Sorption of the new herbicide aminocyclopyrachlor by cation modified clays
- 3.04 Imre Czinkota Description the soil buffering disturbance in pesticides polluted soils
- 3.05 David Fernández-Calviño Coupled transport of humic acids and copper through saturated porous media
- 3.06 Dmitriy Gabov Polycyclic Aromatic Hydrocarbons in the atmospheric precipitation–soil–lithometric waters system of technogenic landscapes
- 3.07 Felipe Gallardo Effect of successive application of pulp mill sludge to degraded chilean volcanic soil: A columns leaching study
- 3.08 Beatriz Garrido-Rodríguez Release and releasing kinetics of Cu in polluted soils treated with crushed mussel shell
- 3.09 Muhammad IQBAL Changes in land use of contaminated sandy soils modify their trace metal availability
- 3.10 Carmen Lobo Influence of Soil Characteristics on the Efficiency of Iron Nanoparticles for Lead Immobilization
- 3.11 Morel Morel Fate of emerging organic pollutants (Antibiotics) in soils. The role of metal complexation.
- 3.12 Ignacio Nadal Assessing the disturbance of soils amended with high amounts of urban residues through testing the metabolic activities of microbial communities
- 3.13 Aline NAVEL Effect of organic amendment and vegetation of vineyard soils on copper distribution at the micro-aggregate scale
- 3.14 Norbert ONDO ZUE ABAGA Hedges of vetiver grass (*Vetiveria zizanioides*) for remediation of vertisol and lixisol.
- 3.15 Marjorie Reyes Amelioration of aluminium toxicity by calcium sulfate in Highbush Blueberry (*Vaccinium corymbosum* L.)
- 3.16 Adel Reyhanitabar Application of stabilized Fe<sup>0</sup> nanoparticles for remediation of Cr (VI)-spiked soil
- 3.17 SARA SOLIS-VALDEZ ORGANIC MATTER CHARACTERIZATION AND THEIR MERCURY CONTENT IN SOILS AT THE MINING REGION OF SAN JOAQUIN, QUERETARO, MEXICO
- 3.18 Lorenzo Spadini Copper in a Vineyard Soil Variably Amended with Organic Matter: Organic Matter, Cu Distribution and Speciation Relationships
- 3.19 Thilo Streck Degradation of the pesticide MCPA in the detritosphere – A new mathematical model

## Session

## 4. Soil microbial activity and soil function

### Monday 27th

- 4.01 Manuela Andrés Abellán Soil properties of Mediterranean agricultural areas under fast-growing Paulownia (*Paulownia elongata* x *fortunei*) plantations
- 4.02 Quintino Araujo Mangrove soil of the Graciosa River, in Bahia, Brazil: the microbial approaches
- 4.03 Annette BERARD Soil humidity, soil depth and density of plantation influence catabolic structure of microbial communities in maize crop system
- 4.04 Serena Carbone Response of soil microbial biomass to CeO<sub>2</sub> nanoparticles
- 4.05 Esther de Blas Molecular characterization of hydrophobic coatings and fixed lipids from extremely water repellent pine and eucalypt forest soils.
- 4.06 Montserrat Diaz-Raviña Microbial communities in vineyard soils with changing land use: effect of Cu accumulation and soil pH.
- 4.07 Jean-Jacques DREVON Nodulation and growth of common bean (*Phaseolus vulgaris*) in multi-local field tests of organic horticulture in Hérault valley links with phosphorus bio-availability.
- 4.08 Encarnacion Garcia Changes in the Microbial Community of a Semiarid Degraded Soil after the Addition High Amounts of Organic Urban Wastes
- 4.09 Rosa Mary Hernández Hernández Microbial biomass activity in neotropical savanna soils managed during six years with conservationist cereal-cattle systems
- 4.10 Arnaud Huguet Calcified roots argue for the heterotrophic lifestyle of branched tetraether source bacteria
- 4.11 DIDIER LESUEUR Effect of cropping systems, mineral nitrogen (N) and crop residue on total soil microbial community under soybean in Meru south (Chuka) central highlands in Kenya
- 4.12 DIDIER LESUEUR Phosphate fertilizers and cereal/legume rotation improve crop yield and total microbial community diversity in soil of Western Kenya
- 4.13 Manuel Esteban Lucas-Borja Changes in the microbial activity and biomass of soils from Mediterranean Mountain areas along an altitudinal gradient: interaction with tree species composition
- 4.14 Leila Mohammadi EVALUATING AUXIN HORMONE PRODUCTION ABILITY OF SOME INDIGENOUS PSEUDOMONAS FLUORESCENT STRAINS ISOLATED FROM IRANIAN SOYBEAN CULTIVATED FARM LANDS
- 4.15 Cristina Montiel Seasonal effects on soil nutrient dynamics in halophyte grassland at Cuatrociénegas valley, Mexico
- 4.16 Maria de la Luz Mora Phytate-induced selection of rhizobacterial community present in pastures from volcanic soils
- 4.17 Maria de la Luz Mora Isolation and screening of potential plant growth promoting rhizobacteria from pastures established on a Chilean volcanic soil
- 4.18 Deborah Pinheiro Dick Potential of C retention in silt and clay fractions of a Brazilian subtropical Oxisol as affected by soil management systems

- 4.19 Atefeh Ramezani  
4.20 Elke Schulz  
4.21 Farzin Shahbazi  
4.22 Víctor Aranda
- Session**  
**4. Soil microbial activity and soil function**  
**Tuesday 28th**
- 4.23 Martial Doret  
ANDRIANANDRASANA  
4.24 María Clara Bruzone  
4.25 FRANCISCO ANTONIO GARCIA MOROTE  
4.26 Rim Tinhinen  
MAOUGAL  
4.27 Yolanda Maya  
4.28 Elisa Pellegrino  
4.29 Elinarindra  
RAJAONARIMAMY  
4.30 Maria A. Rao  
4.31 Adamson Tsushima  
Ernest RAZAKATIANA  
4.32 Adamson Tsushima  
Ernest RAZAKATIANA  
4.33 Ana Beatriz Torres  
Geraldo  
4.34 Aristel Jefferson  
ZANANIRINA
- Investigating the relation between soil mineralogy and microbial communities in a landscape study  
Microbial utilization of the C sources in functional SOC pools with regard to their stability and structural microbial community composition  
Applying ArcGIS Geostatistical Analyst for zoning of some soil biological properties affected by different land uses  
Struvite formation by soil bacteria. Is the struvite a metaestable mineral in the phosphorous cycle in soils?  
Propagation of *Grevillea banksii*, an invasive exotic plant species: impacts on structure and functioning of mycorrhizal community associated with natives tree species in eastern part of Madagascar  
High mountain environments in Patagonia Argentina: analysis of relations between plants, intraradical fungi and soil characteristics.  
Influence of stand quality on soil properties in thermophilic Spanish juniper woodlands (*Juniperus thurifera* L.) in South-Eastern Spain  
Phytate mineralising rhizobacteria are associated to common-bean nodulated root  
CHARACTERIZATION OF SOIL ORGANIC MATTER AND CYANOBACTERIAL DIVERSITY OF MICROBIOTIC CRUSTS IN A DESERT SCRUB OF THE BAJA CALIFORNIA PENINSULA, MEXICO  
MULTI-PARAMETER APPROACH TO ASSESS SHORT- AND LONG-TERM EFFECT OF OLIVE MILL WASTE WATER LAND SPREADING ON SOIL QUALITY  
Impact of *Psidium cattleianum* invasion on soil microbial function and *Uapaca louvelii* regeneration, an autochthon forestry essence of Forest, Madagascar  
Organic amendments as tool for a sustainable management of intensive agriculture  
Marine algae and microorganisms of termite soil: potential source of biological fertilizer.  
Mobilization of nutrients elements from marine algae by termite mound microorganisms: a potential source of biological fertilizer.  
EVOLUTION OF MICROBIAL POPULATIONS AND ITS RELATION WITH HUMIC AND FULVIC ACIDS AVAILABILITY IN A COMPOSTING PROCESS  
Biological struggle against a phytopathogenic fungi *Fusarium* sp: efficiency of rhizospheric actinomycetes and fluorescent pseudomonas.

## Session

## 4. Soil microbial activity and soil function

### Wednesday 29th

- 4.35 Jacqueline Acuña Effect of selenium seed pelletization on rhizobacteria associated with cereal crops grown in an Andisol
- 4.36 Paola Adamo Integrated use of arbuscular mycorrhiza fungi and fertiliser: effects on soil clay assemblage
- 4.37 Vanessa Bailey Linking Genomic Structure to Function in Soil Aggregates
- 4.38 Daniel Blackburn Phosphorus uptake and phosphatase activity under different phosphorus and nitrogen fertilization of Chilean Andisol pastures
- 4.39 Daniel Blackburn Phytate-induced selection of rhizobacterial community present in pastures from volcanic soils
- 4.40 Alain Brauman Do feeding on soil increases N<sub>2</sub>O emission ?
- 4.41 Cañero A.I. Ana Isabel Cañero Amoreti Effect on the total and functional bacterial community in amended soils with olive oil waste
- 4.42 Bin Lian Dynamic changes in bacterial communities during compost and earthworm treatment of low grade potassium ore
- 4.43 Ana Luengo Gypsum application ameliorates Al-stress in *Vaccinium corymbosum* L. growing in an Andisol: A cultivar dependent effect.
- 4.44 Stephanie Mahieu Nitrogen fixation and rhizodeposition of a metallicollous symbiotic association *Anthyllis vulneraria*/*Mesorhizobium metallidurans* grown in highly contaminated mine tailings by Zn, Pb and Cd
- 4.45 Claude Plassard Ectomycorrhizal fungi and mobilisation of organic phosphorus from forest soil: myth or reality?
- 4.46 Anaïs SAENGER Grazing effects on soil carbon and microbial communities in calcareous grasslands in the French Alps
- 4.47 Salma Sultana Effect of organic amendment on the microbial growth, activity and functional diversity of a soil under intensive agricultural management
- 4.48 Salma Sultana Bacterial community structure and enzymatic activity in an agricultural volcanic soil of southern Chile as affected by addition of sludge from pulp and paper industry

**Session****5. Organo-mineral interactions in soils****Tuesday 28th**

- 5.01 Brigitta Reka Balazs Iron oxide removal and copper sorption on a Luvisol argic horizon
- 5.02 Gustavo Curaqueo ORGANIC ACIDS EXUDED FROM TWO ALUMINIUM TOLERANT WHEAT CULTIVARS IN SHORT AND LONG TERM BY HYDROPONIC SYSTEMS WITH INCREASING ALUMINUM LEVELS
- 5.03 Ulises Gutiérrez Jurado Influence of the soil type and soil management in the soil quality and soil ultramicrofabric in olive crops from Sierra Mágina, Jaén
- 5.04 MCarmen Hermosin SYNTHESIS AND CHARACTERIZATION OF SPERMINE-EXCHANGED MONTMORILLONITE AND ITS COMPLEXES WITH THE HERBICIDE FLUOMETURON
- 5.05 Seunghun Hyun Sorption of acidic organic solute onto kaolinitic soils from methanol-water mixtures
- 5.06 Bo Liu Sorption Characteristics of the Major Components of Crude Oil to Vadose Zone Soils in Xinjiang Oilfield
- 5.07 Luis Lopez-Sangil Chemical extractions of the mineral-associated SOM: an integrated approach for a functional fractionation
- 5.08 Naoki Moritsuka Effects of flooding and drying on the solubility of soil nutrients evaluated at watershed and regional scales
- 5.09 Seyed Bahman Mousavi Use of soil micromorphological studies to explain some soil characteristic changes by rye green manure application
- 5.10 Julia Neidhardt The binding of selected monosaccharides to ferrihydrite by adsorption and coprecipitation- investigated by desorption experiments, infrared spectroscopy (FTIR) and N<sub>2</sub> gas adsorption measurements
- 5.11 Eucharia Oluchi Nwaichi Interaction of selected minerals with organic pollutants: Effects of Phyto-assisted Bioremediation using Vigna subterranea
- 5.12 Tamara Polubesova Adsorption and oxidative transformation of phenolic acids by Fe(III)-montmorillonite
- 5.13 Xiaopeng Qin Adsorption of humic acid on hematite: effects of pH and ionic strength
- 5.14 Maria A. Rao Adsorption of prion protein on organo-mineral complexes and Scottish soils
- 5.15 wenfeng Tan Influence of lysozyme complexation with humic acid on the lysozyme activity
- 5.16 gabriela Velasquez Study of acid phosphatase immobilization mechanism in nanoclay using confocal microscopy
- 5.17 Karin Viipsi Hydroxy- and fluorapatite as sorbents in Cd(II) - Zn(II) multicomponent solution in the presence of EDTA
- 5.18 Jerzy Weber Clay mineralogy of soils derived from different granitoides in a temperate climate of Sudety Mountains, Poland

**Session****5. Organo-mineral interactions in soils****Wednesday 29th**

- 5.19 Josiane Abadie Influence of montmorillonite on the catalytic activity of chymotrypsin: effect of enzyme and substrate adsorption
- 5.20 Daniel Blackburn Phytase interaction with allophane and iron oxide coated allophane nanoclays
- 5.21 Irena Bogdanovic Effect of oxalic and citric acid on adsorption of copper and cadmium onto vermiculite, kaolinite and goethite.
- 5.22 Marcela Calabi Evaluation of nanoclays in acid phosphatase immobilization to increase the phosphorus availability in soils

- 5.23 Cornejo-Suero Juan CHITOSAN-INTERCALATED MONTMORILLONITE AS AN ADSORBENT OF THE HERBICIDE CLOPYRALID IN AQUEOUS SOLUTION AND SOIL/WATER SUSPENSIONS
- 5.24 CARMEN DEL HOYO MARTINEZ Adsorption of several contaminants by natural and modified clays as a sustainable application
- 5.25 CARMEN DEL HOYO MARTINEZ ADSORPTION OF METHYLENE BLUE BY DIFFERENT LOW COST MATERIALS FOR PRACTICAL CLASSES OF ENVIRONMENTAL CHEMISTRY
- 5.26 CARMEN DEL HOYO MARTINEZ CATIONIC CLAYS ON HUMAN HEALTH: AN OVERVIEW
- 5.27 flavio fornasier Protein-driven desorption curves of soil enzymes
- 5.28 Elizabeth Garrido Synthetic allophane nanoparticles coated with iron oxide: Characterization and catalytic activity for phenol oxidation by Fenton-like reaction
- 5.29 Martin Gerzabek Interactions of organic compounds with soil components – elucidating mechanisms on a molecular level
- 5.30 ZULIMAR HERNANDEZ The background of non-crystalline materials and its role in soil organic matter turnover in subtropical volcanic soils
- 5.31 ZULIMAR HERNANDEZ Organo-mineral features related to field infiltration parameters in calcimorphic Mediterranean agricultural soils
- 5.32 Hongqing Hu Adsorption of the insecticidal protein of *Bacillus thuringiensis* subsp. *kurstaki* by soils: effects of iron and aluminium oxides
- 5.33 Alejandra Jara Description of the adsorption of Cu and Zn on allophanic clay using the Capacitance Constant Model
- 5.34 Brice Kedi Adsorption and catalytic activity of ectomycorrhizal fungal phosphatases in contact with two tropical soils
- 5.35 Mauricio Molina Changes in soil quality indicators under humic substances application in liquid form
- 5.36 Mauricio Molina Changes in zinc adsorption in an alkaline soil in the presence natural humic substances
- 5.37 Ligia Pinilla Selenium accumulation and lipid peroxidation in bread wheat plants (*Triticum aestivum* L.) growing on an Andisol of Southern Chile





# **List of participants**



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