Ecotrons & Lysimeters

Key tools for studying terrestrial ecosystem responses to global change, to pollutants and to pollutant engineering

29 to 31 March, 2010
Palais des Congrès, Nancy France
### PROGRAMME

**Monday, March 29**

- **09:15**  
  Registration  
  **Chairperson:** Corinne Leyval

- **10:00**  
  Opening ceremony

- **10:30**  
  **Key-note lecture**  
  Boundary conditions for water, gas and thermal processes in structured soil. Are structured elements rigid?  
  **Rainer Horn**

- **11:05**  
  **Key-note lecture**  
  The European Montpellier Ecotron among international efforts to develop infrastructure to study ecosystems responses to environmental changes  
  **Jacques Roy**

- **11:40**  
  Influence of chronic ozone stress on carbon translocation pattern 1 into rhizosphere microbial communities of beech trees during a growing season  
  **Jean-Charles Munch**

- **12:00**  
  Use of different lysimeter types to solve environmental problems  
  **Ralph Meissner**

- **12:20**  
  Lunch

- **14:00**  
  The open field laboratory (Drylab) – a lysimeter station for investigations of drought effects on the growth of young trees  
  **Jürgen Müller**

- **14:05**  
  Hydrocarbon oxidation monitoring with electrical methods in lysimeter  
  **Jean-Christophe Gourry**

- **14:40**  
  Construction and initial development of an artificial catchment  
  **W. Schaaf**

- **15:00**  
  Studying water budget of paved urban sites using weighable lysimeters  
  **Yong Nam Rin**

- **15:20**  
  Coffee break
Ecotrons & Lysimeters for pollution monitoring and management

Chairpersons: Kai Uwe Totsche and Marie-Odile Simonnot

15:50

**Key-note lecture**
Transport in Columns and Lysimeter: Tracing the gap by optimized experiments and numerical modeling
Kai Uwe Totsche

16:25

Effects of long term flooding on heavy metal and arsenic mobilisation in contaminated floodplain soils at the Elbe river
Sebastian Bolze

16:45

Modelling of water and metals in urban soils - lysimeter experiments
Cécile Delolme

17:05

A multi-scale approach for the assessment of the environmental behaviour of a BOF steel slag used in road construction
Michel Legret

17:25

Effect of aggregation on TiO2 nanoparticles transfer in a natural sandy porous media
Natalia Solovitch-Vella

17:45

PAH and heavy metal transfer from the soil to the water table: a lysimeter study
Julien Michel

Tuesday, March 30th - Nancy, Palais des Congrès

Ecotrons & Lysimeters for pollution monitoring and management (continued)

Chairpersons: Jean-Charles Munch and Cécile Delolme

09:00

Simulating atmospheric PAHs exposure on terrestrial ecosystems: an original experimental device
Dorine Desalme

09:20

Modelling dissipation of Chlordecone in soils
Yves-Marie Cabidoche

09:40

Estimability analysis of Dual-Porosity Model from lysimeter data: inverse modelling
Marie-Odile Simonnot

10:00

Water and solute transfer through lysimeters containing disturbed and undisturbed industrial soils
Jean-Paul Gaudet

10:20

Coffee break

10:40

Fate and environmental impact of multipollution within a long term study in lysimeter plots
Corinne Leyval

11:00

Assessing persistence and transport of manure-borne estrogens with passive capillary lysimeters
Francis Casey
11:00 Usage of small lysimeters and soil hydrological field measurement facilities to study the pollutant dynamic in flood plain
Holger Rupp

11:40 The ability of urban soils to treat urban runoff waters in cold climate
Marjo Valtanen

12:00 Macrocosms in field conditions for long term study of trace element behaviour in soils derived from dredged sediment
Agnès Laboudigue

12:20 Lunch

Ecotrons & Lysimeters for global change study

Chairpersons: Sascha Reth and Pierre Faure

14:00 Key-note lecture
Sustained stimulation of soil respiration after 10 years of experimental warming-Further developments of lysimeter tools in the context of global change
Sascha Reth

14:35 Effects of drought and air warming on soil climate in oak model system
Thomas Küster

14:55 The TERENO-SoilCan Project: Simulating climate change in current experiments to assess the impact in the regional perspective
Peter Burauel

15:15 The effect of simulated ploughing method on DOC leaching from monolith grassland lysimeters
Karl Richards

15:35 Coffee break

16:00 Key-note lecture
Peatland in the Ecotron: the impact of water table on greenhouse gas fluxes
Alexandru Milcu

16:35 Monitoring the process of the matter transport through the soil profile by means of lysimeters in forest ecosystems in the Czech Republic
Jiří Kulhavý

16:55 Nutrient leaching and nitrous oxide emissions from grassland soil lysimeters receiving dairy soiled water
P.N.C. Murphy

17:05 Importance of urinary N content on nitrous oxide emissions from grassland soil lysimeters
D. Selbie

19:00 Cocktail, Hôtel de Ville de Nancy, place Stanislas

20:00 Dinner, Hôtel de Ville de Nancy, place Stanislas
Wednesday, March 31st- Homécourt, salle Pablo Picasso - Experimental site

08:00 Bus to Homécourt

Ecotrons & Lysimeters for ecological engineering

Chairpersons: Leo Van Overbeek and Corinne Leyval

09:30 Key-note lecture
Experimental design for investigating effects of plant root growth on soil community structures
Leo Van Overbeek

10:05 In situ measurement of the effect of repeated urban compost applications on soil water quality
Aurélia Michaud

10:25 Lysimetric study for environmental impact assessment of a treated soil
Stéphanie Ouvrard

10h45 Coffee break

11:05 Confrontation of experimental & in situ pedogenesis of a constructed Technosol: minerals weathering and leaching
Geoffroy Séré

11:25 Complex conductivity response to active phenanthrene biodegradation
Remy Albrecht

11:45 Natural establishment of vegetation on a polluted soil: putative role of cellular anti-oxidant systems in the tolerance of colonizing species
Jean-François Masfaraud

12:05 Lunch

13:30 Departure
Visit of the GISFI experimental station at Homécourt

15:30 Departure to Nancy
Posters

Environmentally persistent *E. coli* in temperate maritime lysimeter soils
Fiona Brennan

Microbiological functions in a PAH-contaminated soil under plant influence in lysimetric plots
Aurélie Cébron

Applying lysimeter results to field-scale grazed pasture
S.J. Dennis

The simulation on environmental geological of desertification phenomena in Lybia
Fathi Elosta

Assessment of fungi and bacteria’s joint collaboration in the oxalate-carbonate pathway in microcosms
M. Guggiari

A lysimeter study on the accumulation of heavy metals in plants currently grown for energy production
Jean-François Hausman

Estimation of P leaching and freshwater eutrophication potential by long-term lysimeter studies in Northwest Germany
Peter Leinweber

Lysimeter study on the effect of ploughing techniques and associated CO₂ and N₂O losses
O. Ni Chonchubhair

Wind effects on the weighing precision of the lysimeters un Gross Enzesdorf
R. Nolz

A large scale indoor lysimeter efforts for setting up
Andreas Scheidl

The probability of a horizontal gene transfer from Roundup Ready® soybean to root symbiotic bacteria: a risk assessment study based on results from a lysimeter study
J.C. Munch

Co-crop phytoextraction of heavy metals from contaminated soil with chelator application and assessment of the associated leaching risk with lysimeters
Q.T. Wu

Which kinds of soil columns or lysimeters should be used to study the leaching of pollutants through soil?
S. Dousset