



LABORATOIRE SOLS
& ENVIRONNEMENT



中山大學
SUN YAT-SEN UNIVERSITY



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Joint symposium: BUILD'S & Ecoland International Joined Lab

October 1-3, 2019 - 34 Cours Léopold, Nancy, France

<https://www.build-solutions.org/symposium/>

Nature Based Solutions (NBS) to improve biodiversity in anthropized environments symposium

Program

DAY 1 - Tuesday October 1

09:30 - 10:30 **Welcome & introduction**, *Christophe Schwartz, UL-Inra*

- BUILD'S, *Chiara Farinea, IAAC*
- Ecoland, *Jean Louis Morel, UL-Inra*
- Nature in cities, how to face the challenges of tomorrow?, *Mélanie Bascon, Ninon Dell'Acqua, Juliette Gravis, Mary-Eve Henrotte, Vincent Heurtel, Alexandra Martin, Myriam Planque, Chloé Sachot, Alice Ubelmann, UL-Ensaia*

10:30 - 12:00 **Session 1 - BIODIVERSITY**

Biodiversity in anthropized environments

Chairpersons: *Apolline Auclerc, UL-Inra & Shizhong Wang, SYSU*

- Keynote (20+5mn)
Formation mechanism of biological soil crusts in downstream wetland of a mine tailing pond
Shizhong WANG et al., SYSU, China
- Flash (5+4mn)
Soil fauna as a catalyst for Technosols' ecological reclamation - a matter of humus form?
Gabin COLOMBINI et al., UL-Inra, France
- Flash (5+4mn)
Study of the soil biodiversity along a chronosequence of abandoned ionic rare earth element mine tailings
Justine PIGOT, Ecoland, China-France
- Flash (5+4mn)
EndoSeed Project: a seed stock of plant growth promoting bacteria shared between several hyperaccumulator species?
Alexis DURAND et al., UL-Inra, France
- Flash (5+4mn)
Parameters driving the diversity of hyperaccumulator's rhizobacteria depend of the study scale
Emile BENIZRI et al., UL-Inra, France
- Flash (5+4mn)
Bio-uptake of cerium oxide nanoparticles in the freshwater algae *Chlamydomonas reinhardtii*
Feida ZHENG, SYSU, China
- Rountable (20mn)

12:00 - 13:30 **Lunch break**

13:30 - 15:10 **Session 2 - NATURE BASED SOLUTIONS**

Definition, processes and functions

Chairpersons: Catherine Sirguy, UL-Inra & Yetao Tang, SYSU

- Keynote (20+5mn)
The 3RAP integrated system for remediation of non-ferrous mine watersheds in South China
Yetao TANG et al., SYSU, China
- Flash (5+4mn)
Construction of Technosol: a reclamation approach inspired by pedology
Geoffroy SERE et al., UL-Inra, France
- Flash (5+4mn)
Soil formation on Ni contaminated materials
Shengsheng SUN et al., SYSU, China
- Flash (5+4mn)
Potential of using endophytes to improve phytoextraction
Catherine SIRGUEY et al., UL, France
- Flash (5+4mn)
Potential of agromining of land contaminated by mine sites
Wenshen LIU et al., SYSU, China
- Flash (5+4mn)
Industrial Ramie growing on Rare Earth Elements contaminated soil in Southern China: Defibrillation and fibers quality
Nicolas BRO SSE et al., UL-Inra, France
- Flash (5+4mn)
Natural metal-bearing nanoparticles formation in contaminated cropland soils
Kengbo DING et al., SYSU, China
- Rountable (20mn)

15:10 - 15:30 **Coffee break & poster viewing**

15:30 - 17:00 **Session 3 - IMPACTS**

Quantification of services supported by NBS

Chairpersons: Hermine Huot, UL-Inra-SYSU & Geoffroy Séré, UL-Inra

- Keynote (20+5mn)
Evaluation of ecosystem services provided by urban soils in various urban planning contexts
Geoffroy SERE et al., UL-Inra, France
- Flash (5+4mn)
Contribution of Technosols to carbon sequestration
Victor ALLORY et al., UL-Inra, France
- Flash (5+4mn)
Soil structure formation on mine tailings during natural attenuation
Meina GUO et al., SYSU-UL-Inra, China-France
- Flash (5+4mn)
Factors and properties that affect Green roof hydrological and thermal performances
Mithun HANUMESH et al., Cerema-UL-Inra, France
- Flash (5+4mn)
Phytoremediation of ionic rare earth element mine tailings in South China (field trial)
Hermine HUOT et al., Ecoland, China-France
- Flash (5+4mn)
Root development during phytoremediation of mine tailings
Shichen ZHU et al., SYSU, China
- Rountable (20mn)

DAY 2 - Wednesday October 2

08:00 - 18:30 **Field trip: Agromining**

18:30 - 20:00 Visit of “**Jardin Éphémère**”, Place Stanislas & Daum shop

20:00 *Dinner at Nancy City Hall, Place Stanislas*

DAY 3 - Thursday October 3

09:00 - 10:30 **Session 4 - BOUNDARIES**

Limitations of NBS regarding biodiversity

Chairpersons: Marie-Odile Simonnot, UL-CNRS & Chunmei Zhao, SYSU

- Keynote (20+5mn)
Life Cycle Assessment to evaluate the impacts of NBS
Marie-Odile SIMONNOT et al., UL-CNRS, France
- Flash (5+4mn)
Phytohormones to alleviate abiotic stress in phytomanagement strategies
Stéphanie OUVRARD et al., UL-Inra, France
- Flash (5+4mn)
Ecological risk assessment of neodymium and yttrium on rare earth element mine sites
Chunmei ZHAO et al., SYSU, China
- Flash (5+4mn)
Urban agriculture: soil fertility vs contamination
Christophe SCHWARTZ et al., UL-Inra, France
- Flash (5+4mn)
Constructed wetlands for urban wastewater treatment improvement: a biodiversity heaven
Nicolas MAURICE et al., UL-CNRS, France
- Flash (5+4mn)
Soils of the underground
Jean Louis MOREL, UL-Inra, France
- **Rountable** (20mn)

10:30 - 11:00 **Coffee break & poster viewing**

11:00 - 12:30 **Session 5 - DESIGN Chiara Farinea, Laura Ohler**

Urban planning, development and design of NBS

Chairpersons: Chiara Farinea, IAAC & Laura Ohler, City Facilitators

- Keynote (20+5mn)
Advanced Living Urban Systems
Chiara FARINEA et al., IAAC, Spain
- Flash (5+4mn)
Building a conception and design tool for multifunctional green cities: assessment of ecosystem services provided by tree species
Marylou DUFURNET et al., Cerema, France

- Flash (5+4mn)
Development of a Decision Support Tool to develop urban agriculture on urban soils
Geoffroy SERE et al., UL-Inra, France
- Flash (5+4mn)
The strategy of the Métropole du Grand Nancy regarding biodiversity
Christophe SCHWARTZ et al., C3D Métropole du Grand Nancy, France
- Flash (5+4mn)
The redevelopment of Copenhagen
Laura OHLER et al., City Facilitators, Denmark
- Flash (5+4mn)
Citizen science, involvement of the public in scientific research: Jardibiodiv, a tool to quantify biodiversity in green urban soils
Apolline AUCLERC et al., UL-Inra, France
- **Rountable** (20mn)

12:30 - 14:00 **Lunch break**

14:00 - 15:30 **Session 6 - LEARNING FOR CHANGE**

**Teaching and implementation of Nature Based Solutions
Transdisciplinary learning & Innovation**

Chairpersons: Marite Guevara, Ersilia & Christophe Schwartz, UL-Inra

- Keynote (20+5mn)
Learning by doing Nature Based Solutions
Marite GUEVARA et al., Ersilia, Spain
- Flash (5+4mn)
How to transfer knowledge on ecosystem functioning: from nature observation to implementation
Catherine SIRGUEY et al., UL-Inra, France
- Flash (5+4mn)
**Biodiversity assessment of the Cerema's green roof:
a partnership between Cerema and Ensaia educational team and students**
Nadjwa PAILLOUX et al., Cerema, France
- Flash (5+4mn)
Workshop with landscape architects and agronomists about transversal regards on urban planning
Geoffroy SERE et al., UL-Inra, France
- Flash (5+4mn)
A didactic experiment between agronomy and urban planning
Alain GUEZ et al., UL-Ensan, France
- Flash (5+4mn)
From blahblah towards sustainability action
Hannah FROST et al., WU Wien, Austria
- **Rountable** (20mn)

15:30 - 16:00 **Coffee break & poster viewing**

16:00 - 17:00 **BUSINESS CASE FOR NBS**

The future of NBS – roundtable

Moderator: Martin Petersen, GTC, Denmark

Participants: Hannah Frost, WU Wien, Austria

Laura Ohler, City Facilitators, Denmark

Christophe Schwartz, Sol&co-UL, France

Marie-Odile Simonnot, Econick-UL, France

Yetao Tang, SYSU, China