



BIO-TECH TRAINERS WORKSHOP

(11-12-13 March 2019, Nancy, France)

Day 1 - Knowledge sharing on “Urban Renaturalisation and Resilience” and Educational courses

Understanding basic Concepts of Urban Ecology

***What is an urban ecosystem / Ecological engineering / Case studies
link between services, functions and quality of urban ecosystems for sustainable cities***

H09:30-10:15

Lesson 1: **Introduction to Urban Ecosystems** - Christophe Schwartz

- Global to specific definition of an urban ecosystem
(*biocenosis, biotope, compartments, flows*)
- Gradient of anthropisation
(*factors, functioning and quality/health of the ecosystem*)
- Ecosystem services provided by urban ecosystems

H10:30-11:15

Lesson 2: **Biodiversity in urban habitats** - Apolline Auclerc

- Urban habitats: complementary physical, chemical and biological approaches
- The living organisms
- Functional approaches
- Green technologies need functional ecosystems

H11:30-12:15

Lesson 3: **Methodologies and Tools** - Pierre Leglize

- Observation of urban ecosystems
- Sampling/characterisation
- Quality assessment
- Decision Support Systems

H12:30-13:45

Lunch

From natural to engineerd ecosystems

H14:00-14:30

Lesson 3: **Green roof (GR) as Solution for the mitigation of Urban Heat Island (UHI)
and Urban Water Management (UWM) Issues** – Geoffroy Séré



- Specific issues of urban areas: UHI and UWM
- What is a GR
- Contribution of GR to the mitigation of UHI and UWM

H14:40-15:10

Lesson 4: **Phytomanagement as Solutions to reclaim degraded Areas and to enhance the Quality of urban Environment** – Catherine Sirguey

- Degradation and contamination of urban ecosystems
- Organisms as reclamation tools
- Optimisation of the processes involved in phytomanagement
- Toward new economic developments

H15:20-16:00

Lesson 5: **BioTech Companies/Case Study**

Bio-tech Education

H16:15-16:30

Lesson 6: **ENSAIA-UL educational programmes** - Christophe Schwartz

H16:45-17:15

Lesson 7: Educational **Case Studies:**

- Circular Economy adapted to urban greening - Geoffroy Séré
- Urban farming - Apolline Auclerc
- Innovation in urban trees planting - Geoffroy Séré
- Urban de-icing: impact and solutions - Pierre Leglize
- Agro-urbanism - Christophe Schwartz

H18:00

Social event (visit of Musée de l'Ecole de Nancy)

H20:00

Dinner at Excelsior



Day 2 - Case studies in Nancy

Applications of Bio-tech

H08:30-10:00

Case Study 1: **Visit of the Experimental Green Roof Platform** - Geoffroy Séré, Cerema

- Different types of green roofs: water storage, substrates with various constituents, local vegetation
- Monitoring of water and thermal fluxes

H10:30-12:00

Case Study 2: Urban wandering from mineral to vegetated sites - Christophe Schwartz, Ville de Nancy

H12:15-13:45

- **Lunch**

Facility for education on reclamation of brownfields: GISFI experimental platform in Homécourt

H14:00-18:00

Case Study 3: **GISFI experimental Platform** - all

- Natural attenuation
- Decontamination of Polluted Soils through Chemical and Nature Based Solutions
- Revegetation and Agricultural Production through Pedological Engineering on Derelict Lands
- **BioTech Company/ Econick/Case Study** - Claire Hazotte
- Agromining of Contaminated Soils and Industrial Wastes to Produce Metal Salts and Energy
- Field work



Day 3 - Workshops

Innovative educational programs development

H10:00-11:30

Workshop 1: **Yearly transdisciplinary programmes development – BIO-TECH Semester**

- Presentation of draft programme for BIO-TECH Semester
- Development of methodologies / Inputs from Partners

H12:00-13:30

Workshop 2: **Intensive transdisciplinary programmes development – BIO-TECH Intensive Course**

- Presentation of draft programme for BIO-TECH Intensive Course
- Development of methodologies / Inputs from Partners