



Mardi 4 avril 2023, 11:00

Grande salle + visioconférence

ECOTRONS, POWERFUL AND VERSATILE ECOSYSTEM ANALYSERS FOR ECOLOGY, AGRONOMY AND ENVIRONMENTAL SCIENCES

par

**Alexandru Milcu, CNRS-CEFE & Ecotron,
Montpellier**

- 👤 In this talk I will present the capabilities of advanced controlled environment facilities for ecosystem research (Ecotrons), including their advantages and shortcomings.
- 👤 In particular, I will emphasize through examples from the Montpellier European Ecotron (CNRS, France) how extreme simplification of model studies is potentially contributing to the reproducibility crisis, and posit that more realistic experimental systems in controlled experiments are needed.
- 👤 **Keywords:** controlled environment facilities, reproducibility, experimental model systems, realism.
- 👤 *Dr. Alexandru Milcu is the director the CNRS Ecotron of Montpellier and researcher at the CNRS, Centre d'Ecologie Fonctionnelle et Evolutive (France), formerly at the Imperial College London Ecotron (UK). Alexandru is an ecosystem ecologist working in the consequences of biodiversity loss and climate change for the functioning of terrestrial ecosystem, in particular, he has a great interest in controlled environment facilities for ecosystem research (ECOTRONS) because they have the capacity to simultaneously control environmental conditions while allowing for ecosystem-level measurements of carbon and water fluxes.*
 - Milcu A et al. (2018). Genotypic variability enhances the reproducibility of an ecological study Nature. Ecology and Evolution.*
 - Milcu A, Eugster W, Bachmann D, Guderle M et al. (2016). Plant functional diversity increases grassland productivity-related water vapor fluxes: an Ecotron and modeling approach. Ecology, 97, 2044-2054.*
 - Milcu A, Roscher C, Gessler A, Bachmann D et al. (2014). Functional diversity of leaf nitrogen concentrations drives grassland carbon fluxes. Ecology Letters, 17, 435-444.*
 - Milcu A, Lukac M, Subke J, Manning et al. (2012). Biotic carbon feedbacks in a materially closed soil – vegetation – atmosphere system. Nature Climate Change, 2(April), 281–284.*

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