



A Workshop Series Organized by the CLAND Convergence Institute



Emerging Challenges in Large Scale Soil Carbon Sequestration

8 to 10 October 2018

AgroParisTech premises
Rue Claude Bernard
5th arr. Paris, France

Increasing **soil organic carbon stocks** is a key land-based **climate mitigation** option developed in the "4 per mil" international initiative for the **Paris Agreement** on climate.

Emerging challenges in large scale soil carbon sequestration

From Process Understanding to Large Scale Deployment

Increasing soil organic carbon stocks is a key land-based climate mitigation option developed in the “4 per mil” international initiative for the Paris Agreement on Climate. Increasing soil carbon stocks at a scale and rate that would contribute significantly to keep peak temperature below 2°C is a challenge for science and policy.

Process understanding of the fate of organic input to soils, and better estimates of costs and potentials related to land management strategies are needed for future scenarios, including co-benefits (reduced erosion, sustained fertility, increased farmers revenues) and tradeoffs (nutrient immobilization and possible leakages).

Harnessing land management practices to increase soil carbon stocks entails impacts that might partly offset the expected climate benefits, for instance, increased emissions of N₂O a potent greenhouse gas. Soil organic carbon sequestration is also constrained by nutrient availability and carbon to nutrient stoichiometry. Technical, social and economic barriers may hamper the deployment of “4 per mil” practices often going from plot scale, to farm-scale or regional-scale.

This international workshop organized by the CLAND national Convergence Institute (<http://cland.lscce.ipsl.fr>) will gather research scientists, engineers and students to review scientific evidence from data and model results, and develop new ideas about implementing of soil carbon sequestration to minimize impacts on the environment and maximize farming sustainability.

The goal is to review current knowledge, analyze potential side effects and propose ways to improve the technical and economic feasibility of large-scale soil carbon sequestration. Findings from the workshop will be brought into a scientific paper to which participants are invited to contribute.

Draft programme

Monday 8 October 2018

14:00 to 18:00 PM

Local studies, processes, sequestration efficiency and limits

Keynote speakers

David POWLSON (Rothamsted Research, UK)
Martial BERNOUX (FAO)
Jérôme BALESDENT (INRA)

Tuesday 9 October 2018

9:00 to 12:30 AM

Consequences for N₂O emissions

Keynote speakers

Emanuele LUGATO (JRC, Ispra)
Catherine HÉNAULT (INRA)
Hanqin TIAN (Univ. of Auburn)
Feng ZHOU (Univ. of Pekin)

14:00 to 18:00 PM

Large-scale deployment: technical feasibility and economic aspects

Keynote speakers

Almut ARNETH (KIT, Garmisch-Partenkirchen)
Michael OBERSTEINER (IIASA, Vienna)
Martial BERNOUX (FAO, Rome)

Wednesday 10 October 2018

9:00 to 12:30 AM

Consequences for nutrient cycling, associated constraints

Keynote speaker

Thomas NESME (Bordeaux Sciences Agro)
Jean François SOUSSANA (INRA)

14:00 Adjourn

Venue, registration, abstract submission

Venue: In the city of Paris - exact location TBC - from 8 to 10 October 2018.

Registration: Please go to the following [page](#) to register.

Abstracts: Oral presentations or posters. Abstracts should be submitted on the registration [page](#). **Deadline = 7 September 2018**

CLAND organizers

Prof. C. Chenu, AgroParisTech/INRA, Grignon, France.

Dr. B. Guenet, CEA/LSCE, Saclay, France.

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