

The ICOS France Science day 2019.

Understanding the greenhouse gases cycle in a warming Earth.

Station Biologique de Roscoff, France, 26th Nov. 2019.

<https://workshop.inra.fr/jsif-2019/>



For the recent years, the European continent and North Atlantic ocean have been experiencing unprecedented droughts (2018) and heat waves (late spring and summer 2019) events. The observing stations in the land, atmosphere and ocean organised by the ICOS infrastructure have been monitoring the impacts of such events on the long lived greenhouse gases flux exchanged between continental ecosystems, ocean surface waters and the atmosphere. Beyond the direct observations obtained with harmonised measurements and centrally available through the ICOS Carbon Portal and Thematic Centres, the time series of data collected across the three domains allow to understand the short and long term effects of such events on the greenhouse gases balance of the European continent and to connect together the biogeochemical processes at work at a range of spatial scales. The accuracy, traceability and interoperability of data collected in combination with remote sensed data e.g. on land use and land use changes are paving the way to enhanced quantifications of greenhouse gases content of the atmosphere in real time, verification of climate policies effects and improved projections of the future climate impacts on terrestrial ecosystems, urban megacities and oceans.

The 2019 France ICOS scientific day hosted by the Roscoff conference centre of CNRS and the [Roscoff Biological Station](#) is an open scientific conference welcoming oral communications and posters about the greenhouse gases cycle and focusing on measurements, data reporting and analysis, ICOS data applications, and modelling in France and Europe. The 2019 ICOS FRANCE open conference is co-organised by INRA, CNRS, CEA, IRD and the Sorbonne University.

ICOS science Day 2019

Conference Centre of Roscoff Biological station

Programme (18/11/2019)

Welcome 08h30-09h00

Poster collection. The posters will be collected before the start of the Science day and will be transported and displayed in the Gulf Stream Hotel Hall by the organisers.

09h00-9h15 Welcoming Address

09h15 09h35 Introduction to the ICOS Science Day

ICOS at the dawn of a new 5-year round.

D. Loustau (INRA, Bordeaux)

SESSION "CONTINENTAL SURFACES"

09h40-10h20

Jérôme Chave (CNRS, Toulouse)

Carbon cycle in tropical forests.

10h20-10h40

Assessment of carbon storage potential in old-growth Pyrenean forests. **Soisick Figuères** (INRA, Bordeaux)

10h40-11h00 Coffee Break

11h00-11h40

Carbon Balance of the Mixed Mediterranean Forests Font-Blanche (FR-FBn). **Guillaume Simioni** (INRA, Avignon)

Carbon sequestration in grassland ecosystems. **Katja Klumpp** (INRA, Clermont-Ferrand)

11h40-12h10

Thomas Lauvaux (LSCE –IPSL, CEA)

Monitoring of carbon sources and sinks over cities.



12h15-12h50 My poster in 3mn.

12:15 Adrien Jacotot: *CO₂ and CH₄ fluxes in a temperate peatland dominated by *Molinia caerulea* (La Guette, France).*

12:20 Oluwakemi Dare-Idowu: *Long-term analysis of the Energy Balance Closure and flux partitioning over agricultural systems in Southwestern France.*

12:25 Tiphaine Tallec: *Meteo and management effects on N₂O emissions from a crop site of the Southwestern France.*

12:30 Pauline Buysse: *Fluxes of biogenic volatile organic compounds in a green oak forest.*

12:35 Lilian Joly: *AUSEA: Airborne Ultra-light Spectrometer for Environmental Application.*

12:40 Thomas Laemmel: *Extended vertical profile measurements of greenhouse gases using the Aircore technique: the case of supersite Trainou, France.*

12:45 Coraline Lesseure: *Ocean carbonate system variability in the North Atlantic Subpolar surface water (1993-2017).*

13h15 - 14h15 Lunch at Gulf Stream Hotel (12 min walking distance)

14h15 - 15h00 Poster coffee tour (Gulf Stream Hotel hall)

SESSION "CARBON FLUX AT THE OCEAN- ATMOSPHERE INTERFACE"

15h15-16h00

Jamie Shutler (University of Exeter)

Greenhouse gas fluxes at the ocean-atmosphere interface.

16h00-16h40

Amazon River propagation evidenced by a CO₂ decrease at 8N, 38W in September 2013. **Nathalie Lefèvre** (IRD, LOCEAN, Paris)

Inter-annual and seasonal variability of chlorophyll a and its impact on carbon parameters in the Western Tropical Atlantic. **Pedro Tyaquica** (Sorbonne Université, LOCEAN, Paris)

16h40 -17h00 Coffee break

SESSION “ATMOSPHERE”

17h00 - 18h00

Evaluation of CH₄ emissions in France optimised by data assimilation of ICOS atmospheric data

Isabelle Pison (CNRS, LSCE-IPSL, Saclay)

Atmospheric column measurements of greenhouse gases by remote sensing techniques: from validation to intensive measurement campaigns.

Morgan Lopez (CNRS, LSCE-IPSL, Saclay)

Higher than expected CO₂ fertilisation inferred from leaf to global observations.

Matthias Cuntz (INRA Nancy)

18:00 End of Science Day

19h30 – Dinner at Gulf Stream Hotel (12 min walking distance)