



Proceedings

The international journal *Tree Physiology* will sponsor a key-note speaker giving the *Tree Physiology* Lecture, and a Best Presentation Award for a young scientist, as well as publishing a special issue drawing on suitable work presented at the meeting.



Venue, practical informations and registration at :

<https://colloque.inra.fr/iufro-canopy-processes-2014>
(Limitation to 250 participants)

Organising committee

- **EMBRAPA**
Joice Ferreira, Vinicius Kuromoto, Milton Kanashiro, Alessandro Carioca, Steel Vasconcelos
- **MUSEU PARAENSE E. GOELDI**
Graça Ferraz, Leandro Ferreira
- **INRA & CIRAD**
Denis Loustau, Eric Marcon, Patricia Braconnier, Lilian Blanc
- **ADDITIONAL EXPERTS**
Anthony O'Grady (CSIRO), David Whitehead (Landcare Research), Ram Oren (Tree Physiology), Michael Ryan (Colorado State Univ), Patrick Meir (Edinburgh University and Australian National University)

**COMPLEXITY
IN FOREST CANOPY
PROCESSES**

**SUBMISSION DEADLINE
EXTENDED TO APRIL 18th**

2ND – 8TH JUNE 2014
WORKSHOP AT
BELÉM, PARA,
BRAZIL

Complexity in Forest Canopy Processes

Canopy processes determine the energy balance, evapotranspiration, radiative transfer and carbon uptake of forest stands. The production of forest ecosystem services such as carbon sequestration, regulation of the hydrological cycle and regional climate, wood production, and others are closely linked to these canopy processes.

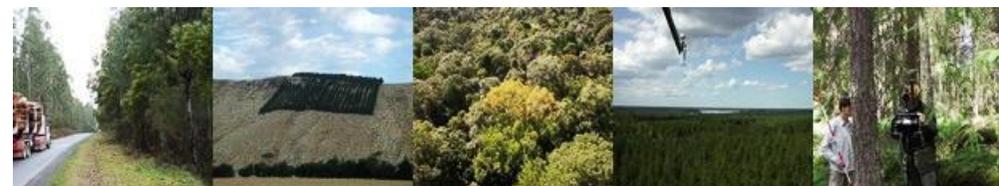
The canopies of native, unmanaged forests are extraordinarily diverse. Multi-aged, multispecies and multi-strata canopies are the rule in temperate and tropical unmanaged forests. To a lesser extent, the forest canopies of managed stands also exhibit substantial complexity. Recent measurement and modelling techniques may allow for accounting of unprecedented levels of complexity and help to address up-scaling issues in canopy studies.

The workshop will explore **how different aspects of forest canopy complexity may affect processes** such as photosynthesis, respiration, stomatal regulation, tree transpiration, radiative and energy exchanges, tree hydraulics, nutrient transfers, phenology, as well as the implications for tree growth and development, long-term carbon, nutrient and water balances, and related ecosystem services.

Particular attention will be paid to approaches for analyzing **how complexity is up-scaled across functional elementary units**, e.g. from the leaf to the tree and canopy and from plots to stands, ecosystems and landscapes.

The workshop will highlight not only research on tropical forests, but will also rely on international attendance for **presenting research on principles of tree physiology** and their applications in any forest type and biome.

Beginning and seasoned scientists focusing on relevant topics are invited to gather and explore topics related to processes in complex canopies. In addition to **oral and poster sessions**, information **exchanges among participants** and future collaborative projects will be facilitated through **visits to field sites and experiments** located in the Amazonian rainforest, agroforestry experiments or palm tree plantations.



Schedule

Plenary sessions at Embrapa Centre (Belém), June 2nd – 4th

- **Session 1.** *Forest-Atmosphere exchanges in complex canopies.* Keynote lecture: **Dr Alessandro Carioca** (Embrapa, Belém)
- **Session 2.** *Functioning of complex forest canopies in a changing environment.* Keynote lecture: **Dr Bruno Héroult**, (UMR Ecofog, INRA-CIRAD-Un. Antilles-Guyane, Kourou, France)
- **Session 3.** *Effects of insects, fungi and microbes on forest canopy processes: do we miss important interactions?* Keynote lecture: **Pr David Medvigy** (Princeton University, USA)
- **Session 4.** *Upscaling processes from leaf to landscape, region and globe ?* Keynote lecture: **Dr Lucas Cernusak** (James Cook University, Cairns, Australia)
- **Session 5.** Open session. Keynote lecture: **Dr. Leandro Valle Ferreira** (Museu Paraense Emilio Goeldi)

Visits of field experiments (3 alternative options)

- **1. Thursday 5th.** One-day visit to Agroforestry Systems within the municipality of Tomé-Açu located 200Km apart from Belem. Travel time about 2.5 hours.
- **2. Thursday 5th.** One-day visit to a oil-palm plantation where a tower has been installed for gas fluxes and other measurements + visit to a primary forest patch within the Embrapa campus (Moju). Travel time around 2 hours.
- **3. Wednesday 4th evening to Sunday 8th afternoon.** Four-day trip to visit the Caxiuaia experiments led by Museu Goeldi in rainforest (travel by boats, accommodation in boats and huts, hammocks). Travel time 24 hours.

This schedule is preliminary and may change. Updates at <https://colloque.inra.fr/iufro-canopy-processes-2014/Pre-schedule>