

# " THE FUTURE OF TROPICAL ECOSYSTEMS – NEW INSIGHTS AND INNOVATIVE METHODS "

BROCHURE



EUROPEAN  
CONFERENCE OF  
TROPICAL ECOLOGY

Montpellier  
FRANCE  
7- 9 June 2022

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# WELCOME FROM THE ORGANISERS

WELCOME TO EUROPEAN CONFERENCE OF TROPICAL ECOLOGY AND TO THE ANNUAL MEETING OF THE SOCIETY FOR TROPICAL ECOLOGY.

We are pleased to invite all scientists and students involved in tropical ecology to attend the next “European Conference of Tropical Ecology” and the Annual Meeting of the Society for Tropical Ecology (*Gesellschaft für Tropenökologie, gtö*) that will be held on June 2022 at Montpellier, France.

## LOCAL ORGANISING COMMITTEE

- **Stéphanie CARRIERE** IRD, UMR SENS, Montpellier, France • [Webpage](#)
- **Raphaël PELISSIER**, IRD, UMR AMAP, Montpellier, France • [Webpage](#)
- **Marie-Pierre LEDRU**, IRD, UMR ISEM, Montpellier, France • [Webpage](#)
- **Pierre-Michel FORGET** MNHN, UMR MECADEV, Brunoy, France (President Society for Tropical Ecology) • [Webpage](#)

And invited co-chairs:

- **Alexandra MUELLNER-RIEHL**, Department of Molecular Evolution and Plant Systematics & Herbarium (LZ), Leipzig University, and German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig, Leipzig, Germany • [Webpage](#)
- **Rico FISCHER**, Helmholtz Centre for Environmental Research – UFZ, Department of Ecological Modelling, Leipzig, Germany • [Webpage](#)

This conference is organized with the support of:



## STEERING COMMITTEE

- **Stéphanie CARRIERE** IRD, UMR SENS, Montpellier, France • [Webpage](#)
- **Sophie BERTRAND**, IRD, UMR MARBEC, Montpellier, France • [Webpage](#)
- **Rico FISCHER**, Helmholtz Centre for Environmental Research – UFZ, Department of Ecological Modelling, Leipzig, Germany • [Webpage](#)
- **Pierre-Michel FORGET** MNHN, UMR MECADEV, Brunoy, France • [Webpage](#)
- **Martine HOSSAERT-MCKEY**, CNRS, UMR CEFE, Montpellier, France • [Webpage](#)
- **Marie-Pierre LEDRU**, IRD, UMR ISEM, Montpellier, France • [Webpage](#)
- **Alexandra MUELLNER-RIEHL**, Department of Molecular Evolution and Plant Systematics & Herbarium (LZ), Leipzig University, and German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig, Leipzig, Germany • [Webpage](#)
- **Vincent MONTADE**, CNRS, UMR ISEM, Montpellier, France • [Webpage](#)
- **Imma OLIVERAS MENOR**, IRD, UMR AMAP, Montpellier, France & The Environmental Change Institute, University of Oxford, United Kingdom • [Webpage](#)
- **Raphaël PELISSIER**, IRD, UMR AMAP, Montpellier, France • [Webpage](#)
- **Christophe PROISY**, IRD, UMR AMAP, Cayenne, France • [Webpage](#)
- **Sabine SAUVAGE**, UMR Ecologie Fonctionnelle et Environnement, Toulouse, France • [Webpage](#)
- **Lucie ZINGER**, MC, ENS-Université Paris Sciences & Lettres, Paris, France • [Webpage](#)

## SESSIONS' CHAIRS

- **ABERNETHY Kate**, UK
- **ABUCHAHLA Guilherme**, Germany
- **ANTHELME Fabien**, France
- **ARNAUD Marie**, France
- **BENDIX Jörg**, Germany
- **COAD Lauren**, UK
- **COUTERON Pierre**, France
- **FARWIG Nina**, Germany
- **FISCHER Rico**, Germany
- **FLANTUA Suzette**, Norway
- **FORTUNEL Claire**, France
- **HUTH Andreas**, Germany
- **IBANEZ Thomas**, France
- **IPONGA Donald**, Gabon
- **KACAMAK Begum**, France
- **KLEINSCHROTH Fritz**, Switzerland
- **KOTOWSKA Martyna**, Germany
- **LEDRU Marie-Pierre**, France
- **MONTADE Vincent**, France
- **MUELLNER-RIEHL Alexandra**, Germany
- **NGE Francis Jason**, France
- **OLIVERAS MENOR Imma**, France
- **ONSTEIN Renske**, Germany
- **OROZCO terWengel Pablo**, UK
- **PIERICK Kerstin**, Germany
- **PINHO Bruno**, France
- **RADESPIEL Ute**, Germany
- **REJOU-MECHAIN Maxime**, France
- **ROWE Nick**, France
- **SAM Katerina**, Czechia
- **TAUBERT Franziska**, Germany
- **VALVERDE-BARRANTES Oscar**, USA
- **WEEMSTRA Monique**, USA
- **ZEMP Delphine Clara**, Suisse
- **ZINGER Lucie**, France

## CONFERENCE SPONSORS



# GTÖ PRESIDENT'S INTRODUCTION



Dear participants of the European Conference of Tropical Ecology and the Annual Meeting of the Society for Tropical Ecology (gtö),

I welcome you to the gtoe2022 conference hosted by Agropolis International and CIRAD in Montpellier. It will be the first time we have met since 2019 in Edinburgh. All of us on the board were impatient to see you again after such a long separation. This conference is a special one following the cancellations of meetings in Leipzig and Prague, plus the relocation of the 2022 conference to Montpellier, a decision taken last July. For the Society, after an abysmal loss in 2020, it was not easy to budget it. We had to make a lot of compromises and adopt a low profile. I won't deny that it has been a challenge for the colleagues in Montpellier who accepted to chair the conference whereas the future was still very uncertain. So far, it was an excellent decision to re-schedule our annual meeting in late spring instead of winter in the past. I especially thank Stéphanie Carrière, Marie-Pierre Ledru, Raphael Pélissier, and the staff of Agropolis International who makes it possible to happen. The program is partly composed of the cancelled 2020 Leipzig conference plus new keynotes and sessions. The program, therefore, includes six internationally renowned plenary speakers and 17 thematic sessions that represent collaborative research that spans national boundaries, both within and across Europe and the tropics. With ca. 250 participants from 30 countries (of which 86% are from Europa), let's reaffirm European scientific collaborations and promote further collaborative endeavors between European researchers and those in tropical countries and facilitate and support collaborations within the tropics. In 2022, it's time to re-initiate projects on standby, develop partnerships, and make plans for the future.

**Pierre-Michel Forget**

Society for Tropical Ecology (gtö) President

# CONFERENCE VENUE AND REGISTRATION

## PRE-REGISTRATION

Your badge to access the conference and conference documents can be collected at AGROPOLIS INTERNATIONAL at the reception desk, at three different moments:

FRIDAY 3 JUNE 13:30-15:00

MONDAY 6 JUNE 13:30-15:00

TUESDAY 7 JUNE 08:00-08:30



Please note that the conference will be held in two sites close to each other: **AGROPOLIS INTERNATIONAL** and **CIRAD LAVALETTE** (5 min. walk). Both are located on the Agropolis campus in the North of Montpellier.

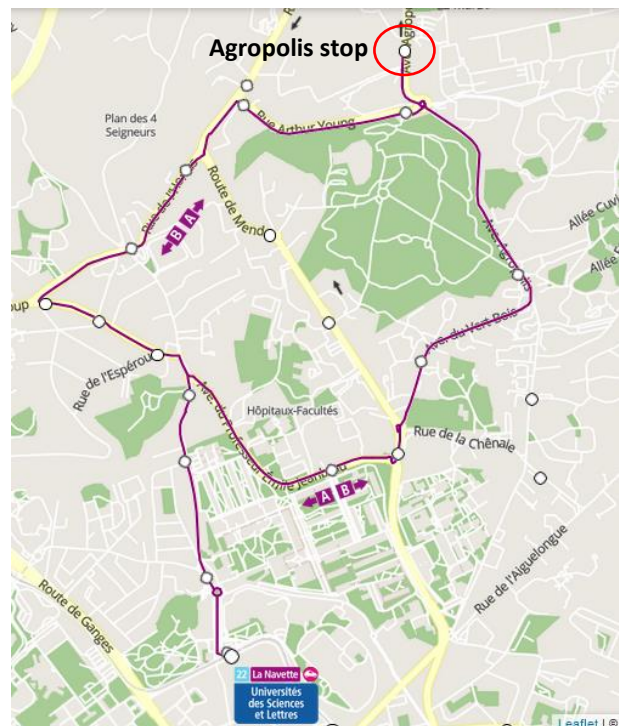
For plenary sessions, please refer to the colour of your badge lanyard (black or green) and the corresponding colour code in the overall programme to determine the location from where you will be following the conference (AGROPOLIS or CIRAD).

## HOW TO REACH AGROPOLIS INTERNATIONAL

- Take **Tramway line 1** towards "Mosson" – Stop at "Université des sciences et lettres" (every 5 min.)
- ⚠ CAUTION:** due to works on the tram lines, line 1 is interrupted between "Place de l'Europe" and "Corum". To reach Agropolis, you need to take line 1 from Corum or after.
- Then the bus "**La Navette**" direction A or B – Stop at "Agropolis" (every 5 min.)

Public transportation information:

<https://www.tam-voies.com/index.asp>



Tickets can be bought at Tram stations (1.5€ one-way, 2.5€ two-ways, 10€ for ten tickets).

## SOCIAL MEDIA POLICY

All participants are encouraged to join the discussion via social medias, so please hashtag [#gtoe2022](https://twitter.com/gtoe2022) and follow [@soctropecol](https://twitter.com/soctropecol) on Twitter to take part in the conversation. Speaker reserve the right to ask participants not to disseminate their research via the Internet, so please respect this request if made.

## FOOD

The registration fees includes tea/coffee breaks and the welcome cocktail on Tuesday 7th June. If you have selected the lunch option, you can access Room Vanille at Agropolis International where food will be served. If you haven't selected the lunch option, you can choose to go to the CIRAD canteen (~12€), or on-site food truck (~10-15€) or take-away salad and dessert for 10€ (cash only).

## CONTACT:

For any question, please contact: [gtoe@agropolis.fr](mailto:gtoe@agropolis.fr)

# COVID-19 SPECIFIC INFORMATION

## WHEN ENTERING FRANCE

**Full and updated information here:** <https://www.interieur.gouv.fr/covid-19-international-travel>

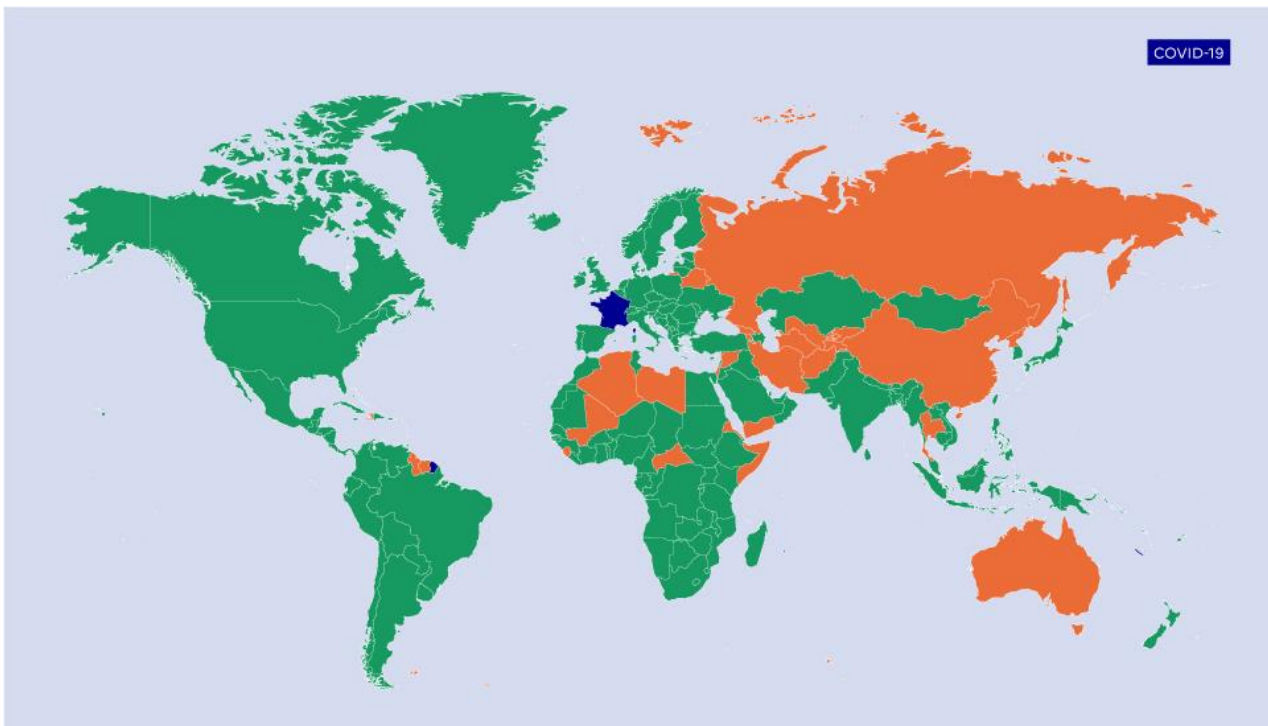
For travelers vaccinated within the meaning of European regulations, no more tests is required on departure. Proof of a complete vaccination schedule becomes sufficient to arrive in France, regardless of the country of origin.

The vaccination schedule is considered complete 28 days after receiving one dose of Janssen vaccine, seven days after a second dose of other vaccines approved by the European Medicines Agency (namely Pfizer/Comirnaty, Moderna, AstraZeneca/Vaxzevria/Covishield) and, for persons who have received all the required doses of a WHO-licensed vaccine not approved by the European Medicines Agency, seven days after receiving an additional dose of a duly approved mRNA vaccine.

**Since 1 February 2022, in order for their vaccination schedule to continue to be recognised as complete, persons aged 18 years or older wishing to enter French territory must have received a booster dose of messenger RNA vaccine no later than nine months after receiving the last mandatory dose.**

For unvaccinated travellers, the obligation to present a negative test to travel to France remains, but the measures on arrival (test, isolation) are lifted when they come from countries on the "green" list, characterized by a moderate circulation of the virus.

When unvaccinated travelers come from a country on the "orange" list, they must continue to present a compelling reason justifying the need for them to come to mainland France and may still be subject to a random test on arrival. Travelers who test positive will have to isolate themselves, in accordance with the recommendations of the Health Insurance.



# PROGRAMME OVERVIEW

	Friday 3rd June	Monday 6th June	Tuesday 7th June	Wednesday 8th June	Thursday 9th June	Friday 10th June
<i>morning</i>			08:00-08:30 <b>Registration</b> <i>@ Agropolis</i>			
			08:30-09:00 <b>Opening</b>			
			<b>@ Agropolis</b> <b>@ Cirad</b>			
		09:00-17:00 <b>Side-event</b>  GTÖ board meeting  <i>@ Hotel Golden Tulip Belaröia</i>	09:00-09:45 <b>Keynote 1</b>  <b>@ Agropolis</b> <b>@ Cirad</b>	09:00-09:45 <b>Keynote 3</b>  <b>@ Agropolis</b> <b>@ Cirad</b>	09:00-09:45 <b>Keynote 5</b>  <b>@ Agropolis</b> <b>@ Cirad</b>	
		09:45-10:15 Coffee Break	09:45-10:15 Coffee Break	09:45-10:15 Coffee Break		
		10:15-12:00 <b>Parallel session I</b>  <i>@ Agropolis &amp; Cirad</i>	10:15-12:00 <b>Parallel session I</b>  <i>@ Agropolis &amp; Cirad</i>	10:15-12:00 <b>Parallel session I</b>  <i>@ Agropolis &amp; Cirad</i>	10:00-16:00 <b>Side event</b>  Building a mangroves French network  <i>@ CEFÉ-CNRS campus</i>	
<i>lunch</i>		12:00 - 13:30 Lunch	12:00 - 13:30 Lunch	12:00 - 13:30 Lunch		
<i>afternoon</i>	13:30-15:00 <b>Registration</b> <i>@ Agropolis</i>		13:30-14:15 <b>Keynote 2</b>  <b>@ Agropolis</b> <b>@ Cirad</b>	13:30-14:15 <b>Keynote 4</b>  <b>@ Agropolis</b> <b>@ Cirad</b>	13:30-14:15 <b>Keynote 6</b>  <b>@ Agropolis</b> <b>@ Cirad</b>	
			14:30-16:15 <b>Parallel session II</b>  <i>@ Agropolis &amp; Cirad</i>	14:30-16:15 <b>Parallel session II</b>  <i>@ Agropolis &amp; Cirad</i>	14:30-16:15 <b>Parallel session II</b>  <i>@ Agropolis &amp; Cirad</i>	
			16:15-16:45 Coffee break	16:15-16:45 Coffee break	16:15-16:45 Coffee break	
			16:45-18:30 <b>Parallel session III</b>  <i>@ Agropolis &amp; Cirad</i>	16:45-18:30 <b>Poster session</b>  <i>@ Agropolis</i>	16:45-18:30 <b>Parallel session III</b>  <i>@ Agropolis &amp; Cirad</i>	
			Side event gtö GAM			
<i>evening</i>			19:30-21:30 <b>Icebreaker</b> <i>@ La Panacée</i>		19:30-00:00 <b>Closing diner</b> <i>@ Domaine de Grammont</i>	

	Registration		Plenary sessions		Badges with green linyard
	Breaks		Parallel sessions		Badges with black linyard
	Side events		Social events		



# DETAILED PROGRAMME

## CONFERENCE OPENING

TUESDAY 7 JUNE

08:30 – 09:00 **AGROPOLIS** & **CIRAD**

- **Stéphanie Carrière**, Local Organization Committee Member
- **Daniel Barthélémy**, Head of Research Division Agriculture, Environment, Biodiversity of Montpellier University (UM-AEB)
- **Agnès Mignot**, Deputy Scientific Director, Institute of Ecology and Environment, The French National Centre for Scientific Research (CNRS-InEE)
- **Jean-Christophe Avarre**, Deputy Scientific Director, Department Ecology, Biodiversity and Functioning of Continental Ecosystems, The French Research Institute for Sustainable Development (IRD-ECOBIO)
- **Pierre-Michel Forget**, President, Society for Tropical Ecology (gtö)

## PLENARY KEYNOTES

TUESDAY 7 JUNE

09:00 – 09:45 **AGROPOLIS** & **CIRAD**

### **The botanical consequences of megafauna extinctions**

**Dr. Renske Onstein**, German centre for integrative biodiversity research, Leipzig, Germany ([website](#))

Many tropical plants have evolved traits in response to interactions with megafaunal animals, such as large, ‘megafaunal’ fruits or defence traits (e.g., spines). However, two major global extinction events in Earth’s history impacted terrestrial megafauna dramatically: The Cretaceous–Paleogene extinction of the non-avian dinosaurs, and the much more recent Late Pleistocene and Holocene extinctions of many megafaunal mammals, reptiles, and large birds. The eco-evolutionary consequences of these extinction events for plants that were pre-adapted to interact with megafauna remain poorly explored. In this talk, I will apply comparative methods and phylogenetic modelling to show that the 25-million-year gap of megaherbivores after the non-avian dinosaur extinction and before the evolution of megaherbivorous mammals in the Late Eocene, was characterized by speciation slowdowns, decreased evolution of defence traits, and increased evolution of megafaunal fruits in palms (Arecaceae). Then, using a novel database of >1500 present-day megafruit plant species and >10000 seed-dispersal records, I will show that ‘true’ anachronistic megafruit species (without any dispersal record) suffer from dispersal limitation, small geographical range sizes, and high extinction risk compared with megafruit species still dispersed today by large ungulates, apes, rodents, and humans. I will discuss how the disruption of mutualistic and antagonistic interactions affects plant survival and persistence in defaunated landscapes.



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13:30 – 14:15 **AGROPOLIS & CIRAD**

**A seabird eyeview on tropical marine ecology in the Anthropocene: perspectives from Brazil**

**Pr. Guilherme Tavares Nunes**, UFRGS Federal University of Rio Grande do Sul, Brazil ([website](#))

**Dr. Sophie Bertrand**, UMR MARBEC, Montpellier, France ([website](#))

The oceans in general, and in tropical latitudes in particular, are now at the heart of climatic, ecological, economic and political issues. In terms of science, they are therefore frontier objects for which observation, understanding and forecasting call on a wide range of techniques and knowledge. Focusing here on the biological seabird model, we will illustrate how advances in instrumentation and modelling are revolutionizing nowadays the ways of defining niches and critical habitats in space and time, assessing the current impacts of human activities at sea and unlocking the perspectives for imagining alternative ocean governance under global change.



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WEDNESDAY 8 JUNE

09:00 – 09:45 **AGROPOLIS & CIRAD**

**The impact of lianas on the carbon cycle and demography of tropical forests**

**Pr. Hans Verbeeck**, Faculty of Bioscience Engineering, Gent, Belgium ([website](#))

Lianas are an important component of tropical forests. They compete strongly with trees for both above- and below-ground resources. Their indirect impact on the carbon balance, due to their influence on tree community dynamics, is far larger than their direct contribution to the forest biomass. Currently tropical forests are experiencing large-scale structural changes, including an increase in liana abundance and biomass. This may eventually reduce the projected carbon sink of tropical forests. However, lianas might also cool the forests due to their impact on the forest energy balance. Despite their crucial role, no single terrestrial ecosystem model had included lianas until recently. Moreover, key data on aboveground and belowground competition between lianas and trees was lacking to develop such models. In this talk I will give an overview of the work we did the past five years to close this knowledge gap. In the first place we collected new data to study liana-tree competition. Based on innovative stable water isotope monitoring we found that lianas have a very shallow root system in wet tropical forest, contrasting the long standing 'deep-root hypothesis' for lianas. Secondly, we studied the impact of liana load on tree allometry using terrestrial laser scanning. Based on these studies and existing data we started to develop the first vegetation models that account for lianas.

We tested the models against data of multiple field sites in French Guiana and Panama. This analysis allowed us for the first time to study the impact of lianas on the different components of the forest carbon and energy cycle in an integrated way. Our results confirm that lianas reduce forest productivity and biomass significantly. The models also allow us to start exploring ecological questions and underlying mechanisms. We therefore explored the ED2 model by a sensitivity analysis to study the role of belowground versus aboveground competition and evaluated the impact of liana proliferation on the forest albedo using radiative transfer modelling.



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13:30 – 14:15 **AGROPOLIS** & **CIRAD**

**Drivers and impacts of deforestation and forest degradation in Amazonia**

**Dr. Erika Berenguer**, University of Oxford & Lancaster University, UK ([website](#))

Currently, 17% of the Amazon has been deforested, while a further 17% has been degraded. However, neither deforestation nor degradation are evenly spread across the basin, being most concentrated in Brazil. Identifying the different drivers of deforestation and forest degradation is crucial to develop a better understanding of their impacts and their possible interactions. Impacts are varied and not only ecological, but also social. In this talk, I will review the main drivers of deforestation and forest degradation across Amazonia and their associated impacts. I will also discuss the different pathways of forest recovery after anthropogenic disturbances and whether the Amazon is past a point of no return.



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THURSDAY 9 JUNE

09:00 – 09:45 **AGROPOLIS** & **CIRAD**

**Extraordinary forest disturbances in South America: landscape fires**

**Pr. Dolores Armenteras**, Universidad Nacional de Colombia, Bogota, Colombia ([website](#))

Tropical forests represent nearly half of the world's forested area. Unfortunately, whilst we have a detailed understanding of one of the dominant processes of human-driven disruption of tropical forests, i.e., deforestation, degradation in forest-dominated areas of South America is largely understudied. Recent estimates of forest degradation point out that changes in forest structure and biomass reduction together represent a substantial part (~69%) of the total carbon lost in tropical regions. Although both, edge-effects associated with deforestation-driven fragmentation and tree logging, are important contributors to forest degradation, fire has a prevalent role over large geographical areas. Climate change and land-use change are projected to make fires even more frequent and intense. Understanding the different types of fires and its contribution to large-scale forest degradation becomes of primary importance. Our results provide evidence of the effects of 20 years of a large-scale fire-driven degradation in South America forests. Fire-driven degradation impacts mid-term forest functioning, and it acts as a recovery retarder. We will discuss how the recovery of fire disturbed forests is also highly sensitive to other disturbances. Finally, we will argue that a radical change is needed in the way landscapes are managed and the urgent need of governments to shift towards prevention and preparedness to the increasing occurrence of landscape fires, largely exacerbated by climate change.



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13:30 – 14:15 **AGROPOLIS** & **CIRAD**

**How forest management for timber production can be a tool for the conservation of tropical forests?**

**Dr. Plinio SIST**, Cirad, Montpellier, France ([website](#))

The monitoring of tropical rainforest dynamics for several decades within permanent plots suggests that the rules of selective logging in tropical rainforests (cutting intensity and duration of rotations) currently set by most forestry legislation cannot ensure a sustainable timber yield on a long term basis. The present conditions, which are supposed to promote sustainable management, are largely questioned by science. It is therefore urgent to think about new management rules and practices and to anticipate new sources of timber because natural forests alone will not be able to supply tomorrow's timber demand. The very principles of tropical silviculture still in force today as well as the place of natural tropical production forests in a context of climate change must be deeply reviewed. Restoration programs are an opportunity to think about a planned forestry transition adapted to this paradigm shift, which is as necessary as it is vital for the future of tropical rainforests.



## ORAL & POSTER PRESENTATIONS

All oral sessions will run parallel in different rooms at Agropolis International and Cirad Lavalette.

Participants are free to attend any of the sessions.

### OVERALL SCHEDULE

TUESDAY 7 JUNE

10:15 – 12:00 – SESSIONS I

Agropolis International			CIRAD
Amphitheater L. Malassis	Room Badiane	Room Bambou	Amphitheater J. Alliot
<b>Biotic interactions (1/2)</b>	<b>Tropical Forest Dynamics and Succession (1/2)</b>	<b>Diversification in the tropics</b>	<b>Tropical paleovegetation dynamics (1/3)</b>
<b>Katerina Sam</b> University of South Bohemia, Branisovska, Czech Republic	<b>Pierre Couteron &amp; Bruno X. Pinho</b> AMAP lab, Montpellier, France	<b>Renske Onstein</b> German centre for integrative biodiversity research, Leipzig, Germany <b>Francis Jason Nge</b> UMR DIADE, Montpellier, France	<b>Marie-Pierre Ledru &amp; Vincent Montade</b> Institut des Sciences de l'Evolution de Montpellier, France

14:30 – 16:15 – SESSIONS II

Agropolis International			CIRAD
Amphitheater L. Malassis	Room Badiane	Room Bambou	Amphitheater J. Alliot
<b>Biotic interactions (2/2)</b>	<b>Tropical Forest Dynamics and Succession (2/2)</b>	<b>Mangrove Ecosystems in the Anthropocene</b>	<b>Tropical paleovegetation dynamics (2/3)</b>
<b>Katerina Sam</b> University of South Bohemia, Branisovska, Czech Republic	<b>Pierre Couteron &amp; Bruno X. Pinho</b> AMAP lab, Montpellier, France	<b>Marie Arnaud</b> IFREMER, Laboratoire Environnement et Ressources des Pertuis Charentais, La Tremblade, France <b>Guilherme Abuchahla</b> Leipzig Centre for Tropical Marine Research, Bremen, Germany	<b>Marie-Pierre Ledru &amp; Vincent Montade</b> Institut des Sciences de l'Evolution de Montpellier, France

16:45 – 18:30 – SESSIONS III

Agropolis International			CIRAD
Amphitheater L. Malassis	Room Badiane	Room Bambou	Amphitheater J. Alliot
<b>Biodiversity and ecology of oceanic and terrestrial tropical islands</b>	<b>Tropical land-use systems for people and nature</b>		<b>Tropical paleovegetation dynamics (3/3)</b>
<b>Fabien Anthelme &amp; Thomas Ibanez</b> AMAP lab, Montpellier, France	<b>Clara Zemp</b> University of Neuchatel, Switzerland		<b>Marie-Pierre Ledru &amp; Vincent Montade</b> Institut des Sciences de l'Evolution de Montpellier, France

WEDNESDAY 8 JUNE

10:15 – 12:00 – SESSIONS I

Agropolis International			CIRAD
Amphitheater L. Malassis	Room Badiane	Room Bambou	Amphitheater J. Alliot
<b>Forest Modelling and Remote Sensing (1/2)</b>	<b>Tropical lianas: functional traits, ecology and impact in the tropics (1/2)</b>	<b>Sustainable hunting (1/2)</b>	<b>Mountain biogeography (1/2)</b>
Rico Fisher, Franziska Taubert & Andreas Huth Helmholtz Centre for Environmental Research, Leipzig, Germany	Maxime Réjou Méchain, Begum Kacamak & Nick Rowe AMAP lab, Montpellier, France	Kate Abernethy University of Stirling, UK Lauren Coad CIFOR, Cambridge, UK Donald Midoko Iponga IRET-CENAREST, Libreville, Gabon	Alexandra Muellner-Riehl Leipzig University, Germany Suzette Flantua University of Bergen, Norway

14:30 – 16:15 – SESSIONS II

Agropolis International			CIRAD
Amphitheater L. Malassis	Room Badiane	Room Bambou	Amphitheater J. Alliot
<b>Forest Modelling and Remote Sensing (2/2)</b>	<b>Tropical lianas: functional traits, ecology and impact in the tropics (2/2)</b>	<b>Sustainable hunting (2/2)</b>	<b>Mountain biogeography (2/2)</b>
Rico Fisher, Franziska Taubert & Andreas Huth Helmholtz Centre for Environmental Research, Leipzig, Germany	Maxime Réjou Méchain, Begum Kacamak & Nick Rowe AMAP lab, Montpellier, France	Kate Abernethy University of Stirling, UK Lauren Coad CIFOR, Cambridge, UK Donald Midoko Iponga IRET-CENAREST, Libreville, Gabon	Alexandra Muellner-Riehl Leipzig University, Germany Suzette Flantua University of Bergen, Norway

THURSDAY 9 JUNE

10:15 – 12:00 – SESSIONS I

Agropolis International			CIRAD
Amphitheater L. Malassis	Room Badiane	Room Bambou	Amphitheater J. Alliot
<b>Integrating biodiversity assessment, land surface modelling and sensing (1/2)</b>	<b>Tropical Molecular Ecology (1/2)</b>	<b>Tropical Soil Life</b>	<b>Tropical ecosystems response to disturbances (1/3)</b>
Nina Farwig & Jörg Bendix University of Marburg, Germany	Ute Radespiel University of Veterinary Medicine Hannover, Germany Pablo Orozco-terWengel Cardiff University, UK	Kerstin Pierick & Martyna Kotowska University of Goettingen, Germany Oscar Valverde-Barrantes & Monique Weemstra Florida International University, Miami, USA	Claire Fortunel & Immaculada Oliveras Menor AMAP lab, Montpellier, France

14:30 – 16:15 – SESSIONS II

Agropolis International			CIRAD
Amphitheater L. Malassis	Room Badiane	Room Bambou	Amphitheater J. Alliot
<b>Integrating biodiversity assessment, land surface modelling and sensing (2/2)</b>	<b>Tropical Molecular Ecology (2/2)</b>		<b>Tropical ecosystems response to disturbances (2/3)</b>
Nina Farwig & Jörg Bendix University of Marburg, Germany	Ute Radespiel University of Veterinary Medicine Hannover, Germany Pablo Orozco-terWengel Cardiff University, UK		Claire Fortunel & Immaculada Oliveras Menor AMAP lab, Montpellier, France

16:45 – 18:30 – SESSIONS III

Agropolis International			CIRAD
Amphitheater L. Malassis	Room Badiane	Room Bambou	Amphitheater J. Alliot
<b>Forest values and landscape approaches to protect them</b>	<b>e-DNA in the tropics</b>		<b>Tropical ecosystems response to disturbances (3/3)</b>
Fritz Kleinschroth ETH, Zurich, Switzerland	Lucie Zinger Institut de Biologie de l'École Normale Supérieure, Paris, France		Claire Fortunel & Immaculada Oliveras Menor AMAP lab, Montpellier, France

## POSTER SESSION

WEDNESDAY 8 JUNE @ AGROPOLIS INTERNATIONAL

16:45 – 18:30

The poster session will take place at Agropolis International in Hall Bananier and Mezzanine. Posters will be displayed for the duration of the meeting. The poster session will be the opportunity to exchange with the authors.

In addition to this general poster session, all posters will be presented as 2-mn lightening talks within parallel sessions.

## ORAL SESSIONS CONTENT

### BIOTIC INTERACTIONS

@ AGROPOLIS INTERNATIONAL, AMPHITHEATER L. MALASSIS, ON TUESDAY JUNE 7

CHAIR: KATERINA SAM

**Abstract:** The functioning and service provisioning of ecosystems in the face of anthropogenic environmental and biodiversity change is a cornerstone of ecological research. The ecosystem functioning is provisioned by various animals and plants, which interact with each other in different ways. Out of various interactions, the trophic interactions and networks are being explored more routinely than for example facilitation and competition. A serious progress has been done with respect to the methods newly used to study interactions in tropical systems, and attention has been paid mainly to herbivory and pollination. This session thus aims to connect people, who are interested in interactions between plants and pollinators, plants and their herbivores, or plants and predators of pollinators of herbivores (i.e., various tri-trophic interactions). We will further discuss how abiotic environment affects the biotic interactions in different tropical realms, and along vertical gradients of tropical forests.

10.15-12.00: POLLINATION AND FRUGIVORY

REGULAR TALKS

- 1) **Cheaters among pollinators: floral traits drive spatiotemporal variation in nectar robbing and thieving in Afrotropical rainforests**  
Sailee Sakhalkar, Charles University, Prague, Czech Republic
- 2) **Erosion of primate functional diversity in a human-modified landscape: consequences for the seed dispersal service**  
Laurence Culot, São Paulo State University, Rio Claro, Brazil
- 3) **Frugivory network structured by megaf flora and megafauna in Afrotropical forests**  
Clementine Durand-Bessart, Université de Bourgogne-Franche-Comté, Dijon, France
- 4) **Seed dispersal effectiveness: a meta-analysis**  
Omer Nevo, German Centre for Integrative Biodiversity Research (iDiv), Leipzig, Germany
- 5) **Environmental filtering and maternal effects on the phenotype of a neotropical bromeliad**  
Tristan Lafont Rapnouil, AMAP lab, Montpellier, France

14.30-16.15: HERBIVORY AND NUTRIENTS, HABITAT

REGULAR TALKS

- 6) **The impact of ants and vertebrate predators on arthropods and plants: a meta-analysis and a case study**  
Katerina Sam, University of South Bohemia, Branisovska, Czech Republic
- 7) **The effect of predator exclusion on arthropod herbivores and herbivory along a vertical gradient in tropical forest**  
Jan Kollross, University of South Bohemia, České Budějovice, Czech Republic
- 8) **Effect of plant traits and insect feeding guilds on the herbivory damage in savanna biomes of a subtropical landscape in South Africa**  
Heveakore Maraia, University of South Bohemia, České Budějovice, Czech Republic
- 9) **Nitrogen fixation by diverse diazotrophic communities can support population growth of arboreal ants**  
Maximilian Nepel, University of Vienna, Austria
- 10) **Interactions between forest elephants (*Loxodonta cyclotis*) and selective logging in central Africa**  
Morgane Scalbert, University of South Bohemia, Branisovska, Czech Republic

POSTER LIGHTNING PRESENTATIONS

- 11) **The diversity of parasitoids and their lepidopteran hosts in tropical ecosystems**  
Sam Finnie, University of South Bohemia, České Budějovice, Czech Republic
- 12) **Revisitation patterns of black lion tamarins in relation to forest fragment properties and resource distribution**  
Eduardo Miguel Zanette, Universidade Estadual Paulista - Rio Claro, Brazil
- 13) **Latitudinal and vertical stratification of feeding guilds of ants in Australia**  
Sara Fernández-Garzón, University of South Bohemia, České Budějovice, Czech Republic
- 14) **Reproductive pattern of three frugivorous bats (*Phyllostomidae*) in a Caribbean forest of Costa Rica, a preliminary approach**  
Pedro Alonso-Alonso, CIBIO, Porto, Portugal

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## TROPICAL FOREST DYNAMICS AND SUCCESSION

@ AGROPOLIS INTERNATIONAL, ROOM BADIANE, ON TUESDAY JUNE 7

CHAIRS: PIERRE COUTERON & BRUNO X. PINHO

**Abstract:** Understanding the causes and consequences of spatial-temporal changes in biodiversity patterns and ecosystem functions is key for management and conservation in an era of global changes such as climate change and habitat loss. However, this is quite challenging since species assembly and ecosystem functioning depend on the interplay of multiple eco-evolutionary processes operating at contrasting spatial-temporal scales. In this session, we will discuss ecological patterns and processes at both individual (e.g. fitness, functional traits) and population level (e.g. demographic rates, abundance-distribution). We will thereby explore how these drive tropical vegetation dynamics along local to regional environmental gradients or in response to disturbance at varying temporal scales.

10.15-12.00

### REGULAR TALKS

- 1) Tropical tree growth sensitivity to climate is driven by species intrinsic growth rate and leaf traits**  
David Bauman, AMAP lab, Montpellier, France
- 2) Influence of neighbourhood interactions and water relation traits in tropical forest response to climate**  
Daniella Krebber, AMAP lab, Montpellier, France
- 3) Land-use change affects habitat availability through time for tropical trees**  
Laura Moro, University of Uppsala, Sweden
- 4) Cross-scale drivers of woody plant species commonness and rarity in the Brazilian drylands**  
Bruno X. Pinho, AMAP lab, Montpellier, France

### POSTER LIGHTENING PRESENTATIONS

- 5) How much sapwood conducts water?**  
Kasia Zieminska, AMAP lab, Montpellier, France

14.30-16.15

### REGULAR TALKS

- 6) Tropical plant leaf traits across growth forms in early succession**  
Tomonari Matsuo, Wageningen University & Research, The Netherlands
- 7) *Mimosa eurycarpa* as a successional regulator of forest structure mediated by stem twisting**  
Ursula Revilla, Wageningen University and Research, The Netherlands
- 8) Post slash-and-burn agriculture recovery of humid forests in Madagascar**  
Josoia Randriamalala, Ecole Supérieure des Sciences Agronomiques, Antananarivo, Madagascar

### POSTER LIGHTENING PRESENTATIONS

- 9) Rhizosphere of okoumé (*Aucoumea klaineana* Pierre): when the tree feeds the stand**  
Quentin Guidosse, Gembloux Agro-Bio Tech, University of Liège, Belgium
- 10) Lesser-known timber species in the East Cameroon: the *Pentaclethra macrophylla* Benth. Case**  
Robin Doucet, Gembloux Agro-Bio Tech, University of Liège, Belgium



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## DIVERSIFICATION IN THE TROPICS

@ AGROPOLIS INTERNATIONAL, ROOM BAMBOU, ON TUESDAY JUNE 7

CHAIRS: RENSKÉ ONSTEIN & FRANCIS JASON NGE

**Abstract:** This session aims to find generality in the ecological and evolutionary processes leading to diversification in the tropics. We focus specifically on the effects of past environmental changes on population and genetic connectivity, demographic change, diversification and trait distributions. Our speakers will take you on a journey across different tropical biomes on distinct continents. We start in deep time, using genomic, macroevolutionary and macroecological approaches to infer phylogenetic relationships, diversification rates, phylogenetic turnover, and the role of paleoclimate on those broad-scale patterns. Then we move to the Amazonian rainforests to discuss how functional traits, human-use, and forest types affect the distribution of biodiversity at regional scale. Finally, we get more into the microevolutionary mechanisms and local patterns of diversification, from hybridization in alpine plants to trait variation across closely-related species. Our speakers address these topics in different taxonomic groups and across different tropical realms, allowing us to assess whether there is generality in the factors important for tropical diversification, and we invite you to think about this with us during this session.

10.15-12.00

### REGULAR TALKS

- 1) Temporal origin and diversification of the tropical lineage *Magnoliid* at the genus level**  
Francis Nge, UMR DIADE, Montpellier, France
- 2) Climatic niche lability in the African woody flora**  
Anaïs-Pasiphaé Gorel, Gent University, Belgium
- 3) Precipitation is the main axis of tropical phylogenetic turnover across space and time**  
Jens Ringelberg, University of Zurich, Switzerland
- 4) Identifying patterns of dominance of woody plant species in different forests in western Amazonia**  
Laura Matas-Granados, Universidad Autónoma de Madrid, Spain
- 5) Exploring the relationship between plant functional traits and traditional uses by indigenous communities in western Amazonia**  
Julia Gonzalez de Aledo, Universidad Autonoma de Madrid, Spain
- 6) Comparative architectural study of the genus *Cerberiopsis* (*Apocynaceae*): what distinguishes a monocarpic species?**  
Camille Salmon, AMAP lab, Montpellier, France
- 7) The hidden evidence of hybridization in tropical alpine plants**  
Roswitha Schmickl, Charles University, Prague, Czech Republic

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## TROPICAL PALEOVEGETATION DYNAMICS

@ CIRAD, AMPHITHEATER J. ALLIOT, TUESDAY JUNE 7

CHAIRS: MARIE-PIERRE LEDRU & VINCENT MONTADE

**Abstract:** Policies to manage, conserve and enhance biodiversity in the face of climate change need to integrate ecological and evolutionary processes. Deep time perspectives are important to fully understand ecosystem responses through time. Thresholds in climate changes leading to bottle necks, regression and/or expansion of species have been identified between glacial and interglacial cycles and also at smaller scales as for instance during the Holocene. To infer how these changes impacted the distribution, the demographic fluctuations, the species and the genetic diversity at a regional scale it is essential to chronologically constrained how these ecosystems responded on different continents in cross-disciplinary research. This session is devoted to climatic and environmental reconstructions based on terrestrial archives and numeric models, historic demography and phylogeographical reconstruction of lineages. It aims to document global climate dynamics and their regional to local impacts on tropical environments and biodiversity during the Quaternary or on older time scales. The submission of research works that deal with the comparison of different approaches are particularly encouraged.

10.15-12.00

REGULAR TALKS

- 1) **Introduction: using paleoecology in ecology**  
Marie-Pierre Ledru et Vincent Montade, Institut des Sciences de l'Évolution de Montpellier, France
- 2) **10,000-year Amazon fire history shows scarce burning in the most biodiverse and carbon rich forests**  
William Gosling, University of Amsterdam, The Netherlands
- 3) **Past vegetation from the South West Ethiopian Highlands: firsts insights given by anthracology**  
Stéphanie Bodin, Senckenberg Research Institute, Frankfurt am Main, Germany
- 4) **The last 5000 yr BP in the Central Cerrado, Brazil (Lake Feia)**  
Katerine Escobar-Torrez, Institut des Sciences de l'Évolution de Montpellier, France
- 5) **Ecological response on environmental change in tropical South America during the late Quaternary**  
Hermann Behling, University of Göttingen, Germany

14.30-16.15

REGULAR TALKS

- 6) **Vegetation dynamics in northern Madagascar during the past millennia: intensified human impact and climate influence result into rain forest fragmentation on Nosy Be island**  
Antonia Reinhardt, University of Göttingen, Germany
- 7) **Influence of the African humid period on environmental changes in northern Madagascar**  
Vincent Montade, Institut de Sciences de l'Évolution de Montpellier, France
- 8) **Tropical vegetation trends during glacial-Interglacial cycles inferred from pollen analysis: a review**  
Olga Aquino Alfonso, Institut de Sciences de l'Évolution de Montpellier, France
- 9) **Responses of the Atlantic forest diversity to glacial - interglacial cycles, the pollen record of Colônia, São Paulo, Brazil**  
Marie-Pierre Ledru, Institut de Sciences de l'Évolution de Montpellier, France

16.45-18.30

REGULAR TALKS

- 10) **Disentangling the impacts of Holocene climate change versus pre-Columbian land use upon Bolivia's ecotonal Amazonian rainforests**  
Frank Mayle, University of Reading, UK
- 11) **An agent-based model of pre-Columbian land-use in the Monumental Mound Region of Amazonian Bolivia**  
Joseph Hirst, University of Reading, UK
- 12) **A history of plants and people in the rainforests of Surinam**  
Nina Witteveen, Institute for Biodiversity and Ecosystem Dynamics, Amsterdam, The Netherlands
- 13) **Late Holocene peatland palm swamp (aguajal) development, carbon deposition and environment changes in the Madre de Dios region, southeastern Peru**  
Bowen Wang, University of Göttingen, Germany
- 14) **Tropical burning paleoecology and ethnoecology: lacustrine charcoal and local knowledge to understand the recent evolution of fire regimes in response to human and plant migrations in the mesic savannahs of Cameroon**  
Juliette Duval, Institut des Sciences de l'Évolution de Montpellier, France
- 15) **Forest dynamics and land-use history in the highland of Sumatra since AD 200: paleoecological evidence from Danau Kecil in the Kerinci Seblat National Park**  
Chung Nguyen Hoai, University of Göttingen, Germany
- 16) **Modern pollen-vegetation relationships in lowland rainforest and agricultural landscapes in Sumatra, Indonesia**  
Svea Lina Jahnk, University of Göttingen, Germany

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## MANGROVE ECOSYSTEMS IN THE ANTHROPOCENE

@ AGROPOLIS INTERNATIONAL, ROOM BAMBOU, ON TUESDAY JUNE 7

CHAIRS: MARIE ARNAUD, GUILHERME ABUCHAHLA

**Abstract:** The world's tropical coastlines vary greatly in geomorphological and ecological settings. Yet, most of them share the presence of mangrove ecosystems as a common feature. Mangroves are among the most valuable ecosystems in the world providing numerous ecosystem services, such as flood mitigation, provision of food, support to biodiversity and high carbon storage and sequestration. However, mangrove ecosystems are increasingly under pressure from climate change and local anthropogenic activities. For instance, eutrophication, land cover change, sea-level variation, and global warming already affect the delivery of mangrove ecosystem services as well as their ecological processes. There is a pressing need to address those issues by quantifying the impact of those threats to mangrove ecosystems' functions and dynamics; improving our understanding of socio-ecological processes related to mangroves; and proposing novel mangrove ecosystem management practices. This session aims to bring together multiples disciplines (ecology, geography, biogeochemistry, social science, biology, soil science) to address the issues that mangroves are facing and showcasing successful solutions in management, conservation and restoration practices. Innovative studies advancing our understanding of all processes related to mangrove ecological dynamics, as well as ecosystem services are welcome.

14.30-16.15

### REGULAR TALKS

- 1) First approach to the participation of mangroves in biosphere-atmosphere: study of halogenated and isoprenoid compound emissions by mangroves**  
Catherine Fernandez, Mediterranean Institute of Biodiversity and Ecology, Marseille, France
- 2) Differential adaptive potential and vulnerability to climate-driven habitat loss in Brazilian mangroves**  
João de Deus Vidal Junior, Campinas State University, Barão Geraldo, Brasil
- 3) Role of allelopathy in the succession dynamics of mangrove plant communities in the Red River delta**  
Anne Bousquet-Mélou, Mediterranean Institute of Biodiversity and Ecology, Marseille, France
- 4) Mangrove microbiota along the urban-to-rural gradient of the Cayenne estuary (French Guiana, South America): drivers and potential bioindicators**  
Philippe Cuny, Mediterranean Institute of Biodiversity and Ecology, Marseille, France
- 5) The co-development of mangroves and infaunal community diversity in response to the natural dynamics of mud deposition in French Guiana**  
Emma Michaud, LEMAR, Plouzané, France
- 6) Impact of sea level rise on soil carbon dynamics in mangroves**  
Marie Arnaud, Ifremer, La Tremblade, France
- 7) Embracing and enacting knowledge co-production within mangrove social-ecological systems research**  
Layla Olefs, Université Libre de Bruxelles, Belgium

### POSTER LIGHNENING PRESENTATIONS

- 8) Conservation and restoration project impact assessment through the use of ecosystem health indicator scoring system**  
Layla Olefs, Université Libre de Bruxelles, Belgium
- 9) Environmental governance of mangrove ecological restoration projects: definition of socio ecosystemic efficiency indicators**  
Lisa Macera, Université de la côte d'azur, laboratoire ESPACE, Nice, France & Bureau d'étude Créocéan, La Seyne-Sur-Mer, France

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**BIODIVERSITY AND ECOLOGY OF OCEANIC AND TERRESTRIAL TROPICAL ISLANDS**  
**@ AGROPOLIS INTERNATIONAL, AMPHITHEATER L. MALASSIS, ON TUESDAY JUNE 7**

CHAIRS: FABIEN ANTHELME & THOMAS IBANEZ

**Abstract:** The study of the distribution of biota in tropical islands, including true islands (isolated by water) and terrestrial habitat islands (isolated by a matrix of dissimilar habitats) have historically provided considerable insights into ecology and evolution, as evidenced by the work of A. von Humboldt, C. Darwin, A. R. Wallace and S. Carlquist. In addition to fuelling new ecological theories and concepts, tropical islands feature rich, unique, and threatened biota that remain understudied when compared to continental or temperate systems. One of their specific features as tropical systems is to allow the coexistence of taxa of various biogeographic origins -north, south, local- in the same communities. Another feature is the presence of extended elevation gradients, from sea level to 4000 or even 5000 m a.s.l. at some places, where life can find long-term refuges during climatic oscillations and, thus, increase the isolation effects of islands on species diversity and speciation. The oceanic islands benefit from another type of refuge from climatic oscillations by the fact that their climate is buffered by the oceanic influence. The objective of this session is to present and discuss ecological processes and patterns shared by different island-like systems through the tropics. To do this, we want to bring together scientists working in tropical islands regardless of the scale at which they work and the type of organism they study. This session is twinned with the session entitled "mountain biogeography". To promote the complementarity between the two sessions we focus here on isolation effects on biodiversity, primarily.

16.45-18.30

REGULAR TALKS

- 1) Biodiversity and ecology of oceanic and terrestrial tropical islands**  
Fabien Anthelme, AMAP lab, Montpellier, France
- 2) Island plant functional diversity in resource use traits**  
Kasey Barton, University of Hawaii at Manoa, Honolulu, USA
- 3) Approaching inselberg biodiversity conservation through plant growth and dispersal strategies**  
Luis Fernando Bondi de Macedo, University of Rostock, Germany
- 4) Ant-associated plants are overrepresented on islands**  
Yangqing Luo, University of Göttingen, Germany
- 5) Species richness and composition of Caribbean aquatic entomofauna: role of climate, island area, and distance to mainland**  
Chevelie Cineas, UMR LEHNA, Lyon, France
- 6) Patterns, drivers, and implications of changing coral competitive performances across reef environments**  
Moshen Kayal, UMR Entropie, Nouméa, New-Caledonia
- 7) Afromontane regions: past and future of mountain biodiversity under a changing climate**  
João de Deus Vidal Junior, Campinas State University, Barão Geraldo, Brasil

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## TROPICAL LAND-USE SYSTEMS FOR PEOPLE AND NATURE

@ AGROPOLIS INTERNATIONAL, ROOM BADIANE, ON TUESDAY JUNE 7

CHAIRS: DELPHINE CLARA ZEMP

**Abstract:** Humans currently use more than half of the terrestrial land surface for agricultural production. Although these activities provide crucial services for people, they are having substantial impacts on the biodiversity and functioning of terrestrial ecosystems. In the tropics, the impacts of human influence are particularly severe because diversity levels are high, species are evolved for relatively constant environmental conditions, and transformation has occurred rapidly in recent decades. However, it is also across the tropics where land-use change has brought the largest recent gains in terms of economic growth and poverty alleviation, and where high levels of food production are most needed. There is an urgent need to strike a balance between the needs of ecological and socio-economic functions within tropical agricultural land-use systems. There is increasing evidence that win-wins for biodiversity conservation, ecological functioning, and human needs may be possible under certain conditions. Management options such as low-input farming, diversification and agroforestry practices can enhance soil protection and fertility, biological control, water and climate regulation, and other ecosystem functions and services at local, landscape and regional scales. These management options may have benefits for both the environment and biodiversity, and for maintenance of crop yield. In order to optimize the potential suite of benefits that can be gained, land-use management needs to be guided by inter-disciplinary scientific approaches, which consider the complexity of land-use systems in interaction with the changing environment and society. Such approaches may reveal synergies and trade-offs between ecological and socio-economic functions at various spatial scales.

16.45-18.30

### REGULAR TALKS

- 1) **Towards more sustainable options of coastal management in small tropical islands using spatial prioritization**  
Laure André, UMR Entropie, Nouméa, Nouvelle-Calédonie
- 2) **Effects of native AMF on crop health and yield – case studies from the tropics**  
Pia Parolin, Université Côte d’Azur, Sophia Antipolis, France
- 3) **Social management of genetic diversity from rural areas to the cities: the case of a tropical perennial crop, the African plum (*Dacryodes edulis*) in Cameroon**  
Aurore Rimlinger, University of Lausanne, Switzerland
- 4) **The effects of landscape and agroecological practices on biodiversity and ecosystem services in smallholder farms in sub-Saharan Africa**  
Cassandra Vogel, University of Würzburg, Germany
- 5) **Ecological restoration in oil palm landscapes with tree islands**  
Delphine Clara Zemp, University of Neuchâtel, Switzerland
- 6) **Not all farms are created equal: Cameroonian cacao farms with high shade cover have higher abundance, richness, and diversity of insectivorous bats**  
Diogo F. Ferreira, CIBIO, Porto, Portugal
- 7) **A community-wide approach to understanding the relationship between biodiversity and yields in tropical agroforestry**  
Crinan Jarrett, University of Glasgow, UK

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## FOREST MODELLING AND REMOTE SENSING

@ AGROPOLIS INTERNATIONAL, AMPHITHEATER L. MALASSIS, WEDNESDAY JUNE 8

CHAIRS: RICO FISHER, FRANZISKA TAUBERT & ANDREAS HUTH

**Abstract:** Tropical forests are characterized by complex patterns, structures and processes acting at various spatial and temporal scales. Consequently, forest attributes like biomass stocks or carbon, water and nutrient fluxes can vary in space and time. Understanding and predicting main forest attributes in response to global change drivers is a major challenge for scientists and policymakers. State-of-the-art methods like field inventories, forest modelling or remote sensing techniques are generally applied to estimate and project forest attributes under global change. However, each of these methods can be limited in terms of accuracy, extent or resolution leading to uncertainties. To overcome such limitations and to improve estimates of forest attributes, the combination of these methods represents a promising approach. We want to explore innovative linkages between remote sensing, machine learning, forest modelling and field data; and to discuss perspectives of future research in forest ecology. We encourage scientists of different fields to contribute novel approaches that can be applied to characterize patterns, structures and processes in tropical forests.

10.15-12.00

### INTRODUCTORY TALK

**1) Dissecting neighborhood species interactions along a latitudinal gradient**

Thorstend Wiegand, Helmholtz Center for Environmental Research, Leipzig, Germany

### REGULAR TALKS

**2) What are the consequences of different types of intraspecific variability on community dynamics?**

Camille Girard-Tercieux, AMAP lab, Montpellier, France

**3) Deriving tree size distributions of tropical forests from lidar**

Franziska Taubert, Helmholtz Center for Environmental Research, Leipzig, Germany

**4) Importance of the forest state in estimating biomass losses from tropical forests: combining dynamic forest models and remote sensing**

Ulrike Hiltner, ETH, Zürich, Switzerland

**5) Tracking tree mortality rate in a tropical moist forest using multi-temporal LiDAR**

Grégoire Vincent, AMAP lab, Montpellier, France

**6) Remote sensing-supported mapping of fossorial landscape engineers' activity across an afro-alpine ecosystem**

Luise Wraase, Philipps-University of Marburg, Germany

14.30-16.15

### INTRODUCTORY TALK

**7) Mapping the central Congo peatlands using extensive field data and machine learning**

Simon Lewis, University of Leeds, UK

### REGULAR TALKS

**8) Accelerated forest fragmentation leads to critical increase in tropical forest edge area**

Rico Fischer, Helmholtz Centre for Environmental Research, Leipzig, Germany

**9) Monitoring forest degradation in central Africa: detection of selective logging damages with machine learning applied to sentinel-1 SAR time series**

Chloé Dupuis, Gembloux Agro-Bio Tech, Belgium

**10) The dynamics of the Amazon forests and the role of forest structure - linking vegetation modelling and remote sensing**

Andreas Huth, Helmholtz Centre for Environmental Research, Leipzig, Germany

**11) Drone-based thermography for assessing evapotranspiration in mosaic landscapes**

Dirk Hölscher, Göttingen University, Germany

**12) Adding animal arboreal traits and vegetation structure to a global mechanistic trait-based model**

Camille Gaillard, Northern Arizona University, Flagstaff, USA

### POSTER LIGHTNING PRESENTATIONS

**13) Mapping tree communities in tropical forests using joint species distribution models**

Jeanne Clément, AMAP lab, Montpellier, France

**14) The role of intra-specific variation in coexistence: modeling methods and application to the Puerto Rican tropical forest**

Eva Arroyo, Columbia University, USA

**15) Trends and trajectories of Andean montane forest recovery derived from multi-temporal satellite data**

Tina Christmann, Oxford University, UK

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## TROPICAL LIANAS: FUNCTIONAL TRAITS, ECOLOGY AND IMPACT IN THE TROPICS

@ AGROPOLIS INTERNATIONAL, ROOM BADIANE, ON WEDNESDAY JUNE 8

CHAIRS: MAXIME RÉJOU MÉCHAIN, BEGUM KACAMAK & NICK ROWE

**Abstract:** Lianas are emblematic components of tropical forests. They are known to significantly impact forest structure and dynamics and provide key resources for animals. In this session, we will present findings obtained at multiple scales: from liana-specific traits up to functioning and dynamics at the ecosystem level. We will start by an introductory talk on biogeographical liana distributions and their drivers across the tropics. We will then discuss the range of liana strategies for colonizing trees and the mechanical and anatomical organizations underlying these strategies. Two studies will then reveal how a liana species interact with animals through its vertical stratification in canopy and whether this species expresses host specificity. The session will then concentrate on the effect of forest structure on liana community structure and composition and illustrate how emerging remote sensing tools can produce high-resolution data on the distribution of lianas within forest canopies. We will finally investigate the effect of lianas on tree demography and show that incorporating lianas in vegetation models opens new avenues to model forest dynamics. These works conducted at several scales all contribute to a better understanding of liana ecology and on the role of lianas at the ecosystem level.

10.15-12.00

### INTRODUCTORY TALK

**1) Drivers of liana biogeographical patterns in tropical forests**

Geertje van der Heijden, University of Nottingham, UK

### REGULAR TALKS

**2) Reach capacity and mechanical architecture of searcher shoots in climbing plants**

Tom Hattermann, AMAP lab, Montpellier, France

**3) Vertical stratification of plant-animal interactions in a neotropical liana species**

Katrin Heer, Albert-Ludwigs-Universität Freiburg, Germany

**4) Non-random host colonization in the neotropical liana *Marcgravia longifolia* (Marcgraviaceae)**

Eckhard W. Heymann, Leibniz-Institut für Primatenforschung, Göttingen, Germany

14.30-16.15

### REGULAR TALKS

**5) Local forest structure drives liana community structure, functional and floristic composition in a moist forest of northern Congo**

Begum Kacamak, AMAP la, Montpellier, France

**6) Linking drone and ground-based liana measurements in a Congolese forest**

Maxime Réjou-Méchain, AMAP la, Montpellier, France

**7) The contributions of lianas to tropical tree mortality**

Eva Arroyo, Columbia University, USA

**8) The impact of structural parasitism on tropical forest biogeochemical cycles: lessons learned from the implementation of a liana plant functional type in a vegetation model**

Félicien Meunier, Gent University, Belgium

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## SUSTAINABLE HUNTING

@ AGROPOLIS INTERNATIONAL, ROOM BAMBOU, ON WEDNESDAY JUNE 8

CHAIRS: KATE ABERNETHY, LAUREN COAD & DONALD MIDOKO IPONGA

**Abstract:** This session will tackle the urgent need for improved governance of hunting for wild meat. In Central Africa, the survival of most large mammals is now threatened by local hunting pressure. Many millions of people still rely on wildlife for food security and many millions also choose to eat wildlife as a preferred luxury. This creates an intractable problem in successfully balancing wildlife conservation and human development and reaching the Sustainable Development Goals. Our session will explore the evidence base for improving both the social and environmental sustainability of subsistence hunting across the region, the results of current research to measure social and environmental impacts, how we can monitor progress towards sustainability and finally, how research on sustainability is, or could be, used to change practices on the ground. Our speakers are researchers, practitioners, and policy makers active in the region, most of them nationals of Central African countries, or permanent residents.

10.15-12.00

### REGULAR TALKS

- 1) African voices in the wild meat debate: putting conservation efforts on the right track**  
Eric Djomo Nana, University of Oxford, UK
- 2) Resource managers' and users' perspectives on factors contributing to unauthorised hunting in western Tanzania**  
Paolo Wilfred, The Open University of Tanzania, Dar Es Salaam, Tanzania
- 3) Sustainable wildlife management in Gabon**  
Michelle Ngwapaza, Deputy Director, Direction Générale de la Faune et des Aires Protégées, Gabon
- 4) Sustainable community hunting and fishing management in logging concessions, Republic of the Congo**  
Germain Aimé Mavah, Wildlife Conservation Society, Brazzaville, Republic of Congo
- 5) Mammal Depletion in Yangambi, DRC, as Evidenced From Spatially Explicit and Temporal Local Ecological Knowledge**  
Jonas Muhindo, University of Kisangani, Democratic Republic of Congo
- 6) Pangolin exploitation in Cameroon**  
Franklin T. Simo, Yaoundé University, Cameroon
- 7) Disentangling the trajectory of mammal species response to hunting pressure in eastern Gabon for the development of sustainable hunting practices**  
Davy Fonteyn, CIRAD, Montpellier, France

14.30-16.15

### REGULAR TALKS

- 8) Political economy analysis of the urban wildmeat supply chain in Democratic Republic of Congo**  
Krossy Mavakala, ERAIFT, Kinshasa, Democratic Republic of Congo
- 9) The impact of COVID-19 on public perceptions of wildmeat in Central Africa**  
Paul Londou, IRET, Libreville, Gabon
- 10) Impacts of the Covid-19 pandemic on livelihoods and wild meat use in communities surrounding the Dja Faunal Reserve, South-East Cameroon**  
Cedric Thibault Kamongne Tagne, Cameroon
- 11) Advertisement Bushmeat on Facebook in some Central and West African Countries**  
Divin V. Malekani, Wildlife Conservation Society, Kinshasa, Democratic Republic of Congo
- 12) From the forest to the folk: a multimedia campaign to reduce the consumption of wildmeat in Kinshasa, Democratic Republic of Congo**  
Robert Mwinyihali, Wildlife Conservation Society, Kinshasa, Democratic Republic of Congo
- 13) Evaluating the impact and legacy of a wildmeat demand reduction campaign in Pointe-Noire, Republic of Congo**  
Lude Kinzonzi, Wildlife Conservation Society, Brazzaville, Republic of Congo

### POSTER LIGHTNING PRESENTATIONS

- 14) Project Biomonitoring Lopé-Waka by the method of the cameras traps**  
Brice Momboua, Agence National des Parcs Nationaux, Libreville, Gabon
- 15) Bushmeat hunting in the cross-border area of the Republic of the Congo with a particular focus on pangolins (Pholidota): preliminary results**  
Marketa Swiacka, Czech University of Life Sciences Prague, Prague, Czech Republic
- 16) Profiling the types of restaurants that sell wild meat in Central African cities**  
Juliet Wright, WCS, Kinshasa, Democratic Republic of Congo



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## MOUNTAIN BIOGEOGRAPHY

@ CIRAD, AMPHITHEATER J. ALLIOT, ON WEDNESDAY JUNE 8

CHAIRS: ALEXANDRA MUELLNER-RIEHL & SUZETTE FLANTUA

**Abstract:** The goal of this session is to bring together people working on different aspects of mountain biogeography, considering contemporary determinants of mountain biodiversity and also historical factors. Thematic talks cover the global scale of mountain biodiversity science and efforts to compile databases from across numerous mountains, while others give comprehensive insights into community assemblies along elevational gradients. Methodological advances using phylogenies and biogeographic models test the role of past drivers, such as Quaternary climatic fluctuations and orogenesis, in shaping present-day biodiversity, and these will be presented in the first slot of the session. The second slot will focus on community dynamics at present, including talks on mountain gradients from the neotropics, Africa, and New Guinea, complemented by overview talks covering research opportunities and avenues for global biodiversity databases. This session is twinned with the session entitled "Biodiversity and ecology of oceanic and terrestrial tropical islands".

10.15-12.00

### REGULAR TALKS

**1) Mountain biogeography: an introduction**

Alexandra Muellner-Riehl, Leipzig University, Germany

**2) The flickering connectivity system of the Andean high mountain biome in the Pleistocene arena**

Suzette Flantua, University of Bergen, Norway

**3) Exploring the analogy between true islands and mountains islands to understand patterns of endemism**

Davnah Urbach, Global Mountain Biodiversity Assessment, Bern, Switzerland

**4) Diversification in *Senecio* from the Andes: insights from phylogenomics**

Luciana Salomon, Charles University, Prague, Czech Republic

**5) Young, disturbed, unsaturated: accelerating species accumulation in the enigmatic tropical alpine flora on the African sky islands**

Martha Kandziora, Charles University, Prague, Czech Republic

**6) Unraveling the biogeographic history of the Afroalpine and Afroalpine flora through the study of the species-rich genus *Helichrysum* (*Compositae*)**

Carme Blanco-Gavaldà, Autonomous University of Barcelona, Spain

**7) Demographic history of *Dendrosenecio* species from Mount Kenya and the Aberdare Range**

Juan Manuel Gorospe, Charles University, Prague, Czech Republic

14.30-16.15

### REGULAR TALKS

**8) Standardized tools and coordinated efforts in global mountain biodiversity science**

Mark Snethlage, University of Bern, Bern, Switzerland

**9) Global patterns and drivers of alpine vegetation**

Ricardo Testolin, University of Bologna, Italia

**10) Functional dynamics and diversity of tropical Andean forests under changing environments**

Selene Baez, Escuela Politécnica Nacional del Ecuador, Ecuador

**11) The influence of root trait variation and mycorrhizal collaboration on vegetation and soil carbon processes along a tropical mountain gradient**

Mateus Dantas de Paula, Senckenberg Research Institute, Frankfurt am Main, Germany

**12) What do we know about the effects of environmental gradients on tropical canopy ants? Synthesis from the forest plot-based approach**

Petr Klimes, Biology Centre of the Czech Academy of Sciences, Ceske Budejovice, Czech Republic

**13) Species richness and community structure of bats along a forest elevational transect in Papua New Guinea**

Elise Sivault, Faculty of Science, University of South Bohemia & Biology Centre of the Czech Academy of Sciences, Ceske Budejovice, Czech Republic

**14) Preliminary contributions to the evolutionary relationships of the Colombian *Espeletiinae***

Maria Pinilla Vargas, Charles University, Prague, Czech Republic

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**INTEGRATING BIODIVERSITY ASSESSMENT, LAND SURFACE MODELLING AND SENSING  
@ AGROPOLIS INTERNATIONAL, AMPHITHEATER L. MALASSIS, ON THURSDAY JUNE 9**

CHAIRS: NINA FARWIG & JÖRG BENDIX

**Abstract:** Climate and land-use change modify the structure and composition of ecosystems across the globe. The dramatic loss of biodiversity calls for a mechanistic understanding of the relationships among environmental change, biotic communities, and interactions as well as ecological processes and functions. Functional traits are considered as key to describe these relationships and have high potential to provide mechanistic insights into how biodiversity is linked to ecosystem functions. Combining functional trait data with automatic remote sensing techniques (e.g., through machine learning methods) and integrating functional trait data into Land Surface Models provides new ways to project response (effects) of ecosystems to (on) environmental changes from the local to the global scale.

10.15-12.00

INTRODUCTORY TALK

**1) A research framework for projecting ecosystem change in highly diverse tropical mountain ecosystems**

Nina Farwig & Jörg Bendix, University of Marburg, Germany

REGULAR TALKS

**2) Climate and microhabitat effects on the importance of endozoochory along an elevational gradient in Southern Ecuador**

Diana Acosta Rojas, Senckenberg Biodiversity and Climate Research Centre, Frankfurt am Main, Germany

**3) Biotic stress and microhabitat heterogeneity shape beta-diversity of seedling communities in tropical montane forests**

Maciej Barczyk, Senckenberg Biodiversity and Climate Research Centre, Frankfurt am Main, Germany

**4) Prediction of tropical montane forest tree growth with functional traits**

Jürgen Homeier, University of Göttingen, Germany

**5) What drives the variability of tropical rainforest productivity? Insights from an individual- and trait-based model**

Isabelle Maréchaux, AMAP lab, Montpellier, France

**6) Ecological restoration planning of fragmented tropical vegetation: an example from New Caledonia's mining areas**

Dimitri Justeau-Allaire, AMAP lab, Montpellier, France

14.30-16.15

REGULAR TALKS

**7) Using historical photographs and contemporary satellite images to explore 63 years of 3D changes in the forest structure of a Central African region**

Felix Lim, AMAP lab, Montpellier, France

**8) Delving into mechanisms of forest extension in African savannas by combining field survey, historical remote sensing and modeling**

Pierre Couteron, AMAP lab, Montpellier, France

**9) The potential of *in-situ* and remote sensing datasets on the analysis of impacts of bioturbation on vegetation in Chile**

Paulina Grigusova & Diana Kraus, University of Marburg, Germany

**10) Global disparity of research allocation efforts for achieving the 2020 Aichi biodiversity targets: a two decade report card**

Badru Mugerwa, Leibniz Institute for Zoo and Wildlife Research, Berlin, Germany

**11) Ground-dwelling avian and mammalian biodiversity in the southern Annamites of Vietnam**

An Nguyen, Leibniz Institute for Zoo and Wildlife Research, Berlin, Germany

**12) A framework to assess the role of species in delivering Nature's Contributions to People**

Giovanni Bianco, Senckenberg Institute for Biodiversity and climate research, Frankfurt, Germany

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## TROPICAL MOLECULAR ECOLOGY

@ AGROPOLIS INTERNATIONAL, ROOM BADIANE, ON THURSDAY JUNE 9

CHAIRS: UTE RADESPIEL & PABLO OROZCO-TERWENGEL

**Abstract:** Tropical environments are under threat for a variety of reasons including human population expansion and encroachment, habitat fragmentation, and climate change. Species living in such environments are highly challenged, as they need to modify life strategies and/or change distribution ranges in order to accommodate for rather fast environmental changes. Understanding the outcome of such changes (e.g. demographic changes, hybridization, extinction, inbreeding) in the context of ancient colonization and diversification processes is of utmost importance if we are to effectively contribute to the conservation of tropical species. Historically, the field of molecular ecology has focused on characterizing population genetic parameters typically associated to neutral molecular markers. The understanding of the effect of genetic variants on functional traits was constrained, largely, due to our limited capacity to mine genome-wide diversity. Technological advances during the last decade have facilitated generating genetic resources for almost any species, as well as have speeded up the pace at which genetic information can be acquired, thereby revolutionizing the field of molecular ecology. Today it is possible to screen natural populations for genetic variation related to neutral demographic processes, but also variation that is associated to adaptive processes and therefore of functional importance. However, as new possibilities become available in molecular ecology, questions arise regarding how to incorporate such new results into management strategies of species inhabiting changing environments such as the tropics. This session will provide the opportunity to present new data on this and related questions, to critically review the existing evidence and to point out important avenues for future research in tropical molecular ecology.

10.15-12.00

### REGULAR TALKS

- 1) **Phylogeography of the critically endangered Gerp's mouse lemur has been shaped by rivers, altitude and paleoclimate**  
Tobias Van Elst, University of Veterinary Medicine Hannover, Germany
- 2) **What population genetics tells us about northern Madagascar paleoenvironments?**  
Jordi Salmons, UME EDB, Toulouse, France
- 3) **Understanding the influence of forest fragmentation on amphibian phylogenetic diversity in Madagascar's central highlands**  
Katherine Mullin, Cardiff University, UK
- 4) **Understanding the genetic consequences of habitat loss & fragmentation through spatial modelling**  
Ravi Vishwakarma, Instituto Gulbenkian de Ciencia, Lisboa, Portugal
- 5) **Pronounced genetic structuring of a fossorial rodent across a small spatial scale, affected by landscape structure**  
Victoria Reuber, University of Marburg, Germany
- 6) **Understanding the dynamics and determinants of recovery in the mountain chicken frog following a chytridiomycosis epidemic**  
Nina White, Cardiff University, UK

14.30-16.15

### REGULAR TALKS

- 7) **eDNA-based survey of root-associated fungi in neotropical bromeliads**  
Céline Leroy, AMAP lab, Kourou, French Guiana
- 8) **Just the Ten of Us: DNA metabarcoding reveals the dietary dynamics and interactions of an introduced ant community**  
Max Tercel, Cardiff University, UK
- 9) **Evolution and domestication of Water Buffalo**  
Luke Davies, Cardiff University, UK
- 10) **Domestication history of an African tropical fruit tree species, *Dacryodes edulis* (Burseraceae): a genetic approach**  
Jérôme Duminil, Faculty of Agronomy and Agricultural Sciences, University of Dschang, Cameroon
- 11) **Evolutionary history of food tree species: case of the Papuan nutmeg (*Myristica argentea*)**  
Jackty Kusuma, UMR DIADE, Montpellier, France

### POSTER LIGHTENING PRESENTATIONS

- 12) **Genetic diversity of wild fruits in Southeast Asia: case of *Garcinia mangostana* wild relatives**  
Jérôme Duminil, UMR DIADE, Montpellier, France

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## TROPICAL SOIL LIFE

@ AGROPOLIS INTERNATIONAL, ROOM BAMBOU, ON THURSDAY JUNE 9

CHAIRS: KERSTIN PIERICK, MARTYNA KOTOWSKA, OSCAR VALVERDE-BARRANTES & MONIQUE WEEMSTRA

**Abstract:** Past, present and future life in tropical ecosystems strongly relies on the properties of, and processes in their soils. The belowground realm regulates nutrient and water supply and provides a habitat for an enormous variety of interacting flora, fauna, and microbes. Belowground processes in tropical ecosystems are highly susceptible to environmental change; and may at the same time play a large role in mitigating these effects at the global scale. Understanding the functioning of tropical ecosystems and predicting their reactions to global change therefore requires a synthesized view on the different (biotic and abiotic) key players – and their interactions – of Tropical Soil Life. In this session, we bring together the latest advances from the field of belowground ecology, covering three continents, mountain and lowland regions, dry and moist forests, as well as managed and undisturbed systems. The first part of this session focuses on root ecology, featuring root functional traits and dynamics, and their interactions with mycorrhiza. The second part highlights the impacts of biotic factors on soil properties and belowground ecosystem functioning.

10.15-12.00

### REGULAR TALKS

- 1) Introduction: current status and future goals in tropical root ecology**  
Oscar Valverde-Barrantes, Florida International University, Miami, USA
- 2) Root traits are not always highly constrained by ancestry: wide diversity in tree root traits among hyperdiverse families in the Amazon Basin**  
Monique Weemstra, Florida International University, Miami, USA
- 3) Above- and belowground strategies of tropical montane tree species are coordinated and driven by nitrogen availability**  
Kerstin Pierick, University of Goettingen, Germany
- 4) Trade-offs among hydraulic, mechanical and storage traits in stem-root xylem from different climate tree species**  
Guanjqz Zhang, AMAP lab, Montpellier, France
- 5) Changes of fine root dynamics and root functional traits with tropical rainforest conversion and native species enrichment in tree plantations**  
Martyna Kotowska, Georg-August University Göttingen, Germany
- 6) Animal and plant functional diversity play a key role in the biogeochemical carbon cycle in the Amazon**  
Maria Losada, University of Santiago de Compostela, Spain
- 7) Being left hard and dry: edaphic engineering by leaf-cutting ants generate physico-hydrological soil barriers to forest regeneration**  
Michelle Szyja, Technical University Kaiserslautern, Germany

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## TROPICAL ECOSYSTEMS' RESPONSE TO DISTURBANCES

@ CIRAD, AMPHITHEATER J. ALLIOT, THURSDAY JUNE 9

CHAIRS: CLAIRE FORTUNEL & IMMACULADA OLIVERAS MENOR

**Abstract:** Tropical systems host the world's largest biodiversity and represent major contributors to global biogeochemical cycles. However, they are particularly threatened by global change because it is increasing the frequency and intensity of disturbances such as wildfires, droughts, extreme heat waves, or extreme wind events. An urgent goal for ecologists is to decipher the mechanisms generating the highly diverse tropical communities to improve predictions on how these ecosystems responds to disturbances. The aim of this symposium is to gather insights from a variety of tropical ecosystems' responses to disturbances and evaluate the recovery pathways to disturbances. The symposium will offer a broad range of perspectives and approaches, from local to regional. It will provide critical insights to better understand the functional proxies of community assembly and dynamics after disturbance, and promising way forward to improve predictions of the future of tropical systems with ongoing global change.

10.15-12.00: LAND USE

INTRODUCTORY TALK

**1) Tropical forest recovery on abandoned lands: underlying drivers and implications for restoration**

Lourens Poorter, Wageningen University & Research, The Netherlands

REGULAR TALKS

**2) Aboveground biomass disaggregation reveals the effect of evolutionary diversity on biomass and productivity through different pathways**

Erica Rievers Borges, AMAP lab, Montpellier, France

**3) Long-term restoration success after selective logging in Bornean rainforests**

Nadine Keller, ETH Zurich, Switzerland

**4) Variability of past human legacies in north-western Amazonian forest plots**

Britte Heijink, University of Amsterdam, The Netherlands

**5) Bioaccumulation of petrogenic compounds in Amazonian wildlife from oil extraction areas in the Peruvian Amazon**

Martí Orta-Martínez, University of Barcelona, Spain

14.30-16.15: FIRE

REGULAR TALKS

**6) The role of pyrodiversity in ecosystem functioning**

Immaculada Oliveras Menor, AMAP lab, Montpellier, France

**7) Fire resilience of tropical dry forest**

Marielos Pena Claros, Wageningen University & Research, The Netherlands

**8) Ghanaian forest post-fire recovery: 38 years post fire**

Kate Vogiatzis, University of Plymouth, UK

**9) Determining what thresholds of disturbance create sterile landscapes in arid African savannas**

Nicola Stevens, University of Oxford, UK

**10) To be a forest or not to be a forest: implications of forest restoration in India's savannah landscapes**

Trisha Gopalakrishna, University of Oxford, UK

**11) Altered cyclone–fire interactions are changing ecosystems**

Thomas Ibanez, AMAP lab, Montpellier, France

## 16.45-18.30: OTHER DISTURBANCES

### REGULAR TALKS

- 12) Canopy structure mediates the influence of edge effects on tropical forest diversity, function and microclimate**  
Grégoire Blanchard, AMAP lab, Montpellier, France
- 13) Mapping agricultural expansion, woody encroachment, and fire in Angola's Miombo woodlands**  
Ty Loft, University of Oxford, UK
- 14) Does tropical forest biodiversity stand on the shoulders of giants? Effect of disturbances by forest elephants on trees and insects on Mount Cameroon**  
Robert Tropek, Charles University, Prague, Czech Republic
- 15) How do terrestrial wildlife communities respond to small-scale acacia plantations embedded in harvested tropical forest?**  
Seth Wong, Leibniz Institute for Zoo and Wildlife Research, Germany
- 16) Environmental filters and pollution drive patterns of nematodes structural and functional diversity in *Rhizophora* mangroves of Guadeloupe (France)**  
Adriana Spedicato, University de Bretagne Occidentale, Brest, France

### POSTER LIGHTNING PRESENTATIONS

- 17) Heterogeneity between semi-deciduous and evergreen forests modulates how anthropogenic activities predict biodiversity loss and ecosystem functioning in neotropics**  
Lisieux Fuzessy, Universitat Autònoma de Barcelona, Spain
- 18) The effects of anthropogenic fires use on forest ecosystems in Madagascar**  
Shawn Lehman, University of Toronto, Canada
- 19) The past human population played a major role in the regeneration of an important timber species: *Cylicodiscus gabunensis* Harms**  
Romaric Ndonga Makemba, Gembloux Agro Bio Tech, University of Liège, Belgium
- 20) Wood anatomical response to a major hurricane**  
Kasia Zieminska, AMAP lab, Montpellier, France
- 21) Impact of habitat quality on physiological stress in a neotropical primate**  
Olivier Kaisin, Universidade Estadual Paulista, Sao Paulo, Brazil
- 22) Geophagy as a new exposure route of oil-pollution ingestion by Amazonian wild life**  
Franciany Gabriella Braga-Pereira, University of Barcelona, Catalonia, Spain

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## FOREST VALUES AND LANDSCAPE APPROACHES TO PROTECT THEM

@ AGROPOLIS INTERNATIONAL, AMPHITHEATER L. MALASSIS, THURSDAY JUNE 9

CHAIR: FRITZ KLEINSCHROTH

**Abstract:** Landscape approaches (LA) aim for multifunctional and inclusive land management to reconcile societal and environmental issues, especially in the global tropics. While LA have gained traction among international organizations working towards sustainable development, fundamental questions remain around LA implementation in practice. In this session, we will explore the challenges around LA in maintaining forests and their values.

A prominent example is the decision of the FSC certification body to include the protection of intact forest landscapes (IFL) in their standards, which raised important questions on which are the most valuable forests, especially from the points of views of local and indigenous communities, and how can these values be maintained at the landscape scale. We argue that solutions to such issues require people with multiple backgrounds and worldviews to get to a common understanding and agreement about forest values and the mechanisms to implement their protection through LA. We aim to explore new ways of thinking about which forest values should be maintained and which economic and governance mechanisms will be most effective to maintain them. In this session, we will foster an exchange on innovative multi-stakeholder approaches to develop solutions for wicked problems around tropical forest resource management and conservation.

16.45-18.30

### REGULAR TALKS

**1) Perspectives matter: definitions of forests of high value**

Sini Savilaasko, Liljus Ltd, Chatham, UK

**2) Measuring the values that matter: using place-based social science to inform just integrated landscape management**

Rachel Carmenta, University of East Anglia, Norwich, UK

**3) Possible, plausible, preferable futures – how to move beyond values to build agreement on forest landscapes.**

Claude Garcia, ETH, Zurich, Switzerland

**4) Biomass and forest degradation in the Kenyan coastal forests**

Christine Schmitt, Department of Geography, University of Passau, Germany

**5) Landscape, jurisdictional or value chain approach for fulfilling zero-deforestation commitments?**

Alain Karsenty, UMR SENS, Montpellier, France

**6) A mixing board to break down the complexities of integrated landscape approaches**

Fritz Kleinschroth, ETH, Zurich, Switzerland

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## **e-DNA IN THE TROPICS**

**@ AGROPOLIS INTERNATIONAL, ROOM BADIANE, ON THURSDAY JUNE 9**

CHAIR: LUCIE ZINGER

**Abstract:** Tropical ecosystems shelter a vast diversity of plant, animal and microscopic species that provide critical ecosystem goods and services for both local and worldwide populations. These environments face major threats such as deforestation, pollution, and climate change, emphasizing the need for more effective conservation efforts and policies. However, the adequate monitoring of these ecosystems remains a complex and time consuming endeavour, with many species that remain undiscovered, let alone described, and otherwise limited information regarding species population distributions and densities. Overcoming these knowledge shortfalls and practical limitations is now possible through techniques based on environmental DNA (eDNA), i.e., DNA present in environmental samples (e.g. tissues, soil, sediment, water, etc.). These techniques, coupled with high-throughput sequencing, now enable realistic, cost-effective, and standardisable biodiversity assessments. This session will deal with the enormous opportunities of eDNA techniques for advancing our understanding of complex and species-rich tropical communities, but also for facilitating large-scale biomonitoring programs in the tropics.

16.45-18.30

### INTRODUCTORY TALK

**1) eDNA as tool for environmental impact assessments in tropical ecosystems: challenges and opportunities**

Mailyn Gonzalez, Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogota, Colombia

### REGULAR TALKS

**2) Optimising and extending the application field of aquatic eDNA in neotropical freshwaters**

Opale Coutant, Laboratoire Evolution et Diversité Biologique, Toulouse, France

**3) Beyond species diversity: potential of eDNA to support against illegal wildlife trade and assess genetic diversity**

Thanh V. Nguyen, Leibniz Institute for Zoo and Wildlife Research, Berlin, Germany

**4) Genomic tools for gorilla population dynamics and conservation**

Ettore Fedele, University of Leicester, UK

**5) Fecal DNA metabarcoding reveals cryptic niche differentiation structuring diverse large-herbivore assemblages in African savannas**

Johan Pansu, Institut des Sciences de l'Evolution de Montpellier, France

**6) Dissecting an ecosystem inside an ecosystem: organisms associated to an ant-plant mutualism**

Verónica Barraji3n-Santos, University of Vienna, Austria





# SOCIAL EVENTS

TUESDAY 7 JUNE

19:30 – 21:30 ICEBREAKER COCKTAIL



@ LA PANACÉE, MONTPELLIER CITY CENTRE

14 RUE DE L'ECOLE DE PHARMACIE, 34000 MONTPELLIER

Located in the former Royal College of Medicine in the old Montpellier, La Panacée is a unique place to host our welcome cocktail. Center of Contemporary Culture of the City of Montpellier, the Panacea is part of the MoCo (“Montpellier Contemporain”). This art center hosts exhibitions of various arts (paintings, sculptures ...), and is a nice place to talk with others, meet and share experiences.



THURSDAY 9 JUNE

19:30 – 00:30 CLOSING DINNER

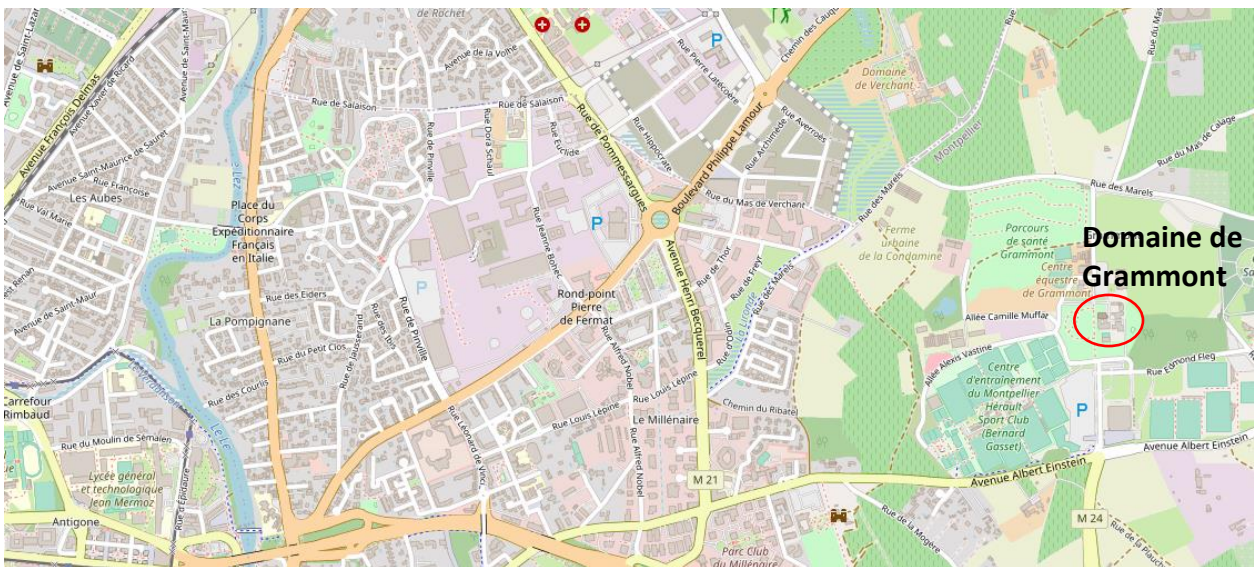
@ DOMAINE DE GRAMMONT, MONTPELLIER

2733B AV. ALBERT EINSTEIN, 34000 MONTPELLIER

Buses will be organised from Agropolis International to the Domaine de Grammont for the conference closing diner; and back from the Domaine de Grammont to the city centre.



The Domaine de Grammont is both a historical and cultural place and covers an area of 90 hectares. It houses a castle that was once the seat of a priory. Later, this place was transformed into a wine estate in the east of Montpellier. Today it has become a place of walk and leisure par excellence. The closing dinner will take place between the garden and the castle in a typical room dating from the 12th century.



# ABOUT MONTPELLIER



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## MONTPELLIER CITY

The city of Montpellier was founded in the year 985, between the Domitian Way linking Spain and Italy since Roman times and the Salt Road. The second largest city in the Occitanie region, it is a dynamic, modern, scientific, festive and historic city. It offers a beautiful mix of ancient architecture (mansions dating from the Middle Ages, squares, cobbled streets) and contemporary architecture (Port Marianne, Antigone, Pierresvives) and a wealth of cultural activities with its museums (Musée Fabre, MO.CO), art galleries, concert halls and festivals. Situated between the coastline with its lagoons and wetlands and the mountainous Cévennes massif, in the heart of a

Mediterranean wine-growing region, this rapidly growing city is faced with the challenges of sustainable development and tourism, preservation of biodiversity and adaptation to climate change.

Tourist office: <https://www.montpellier-france.com/>

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## WEATHER

Montpellier is a Mediterranean city. The climate is dry and warm. The average temperature in June in Montpellier is around 18-20°C at night, 25-28°C at day.

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## MONEY

The official currency is the Euro (EUR). There are many ATMs in the city centre. There is an ATM at Montpellier Airport by the Information Desk. Credit cards are widely accepted in shops and restaurants. USD/EUR exchange rate is around 0.92.

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## EMERGENCY NUMBERS

The Emergency phone number in France is 112.

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## TIMEZONE

Time in Montpellier at the moment is UTC+2.

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## ELECTRICITY / VOLTAGE

Electric conversion: 220V Plug F



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## TRANSFERS TO/FROM AIRPORT AND « SUD DE FRANCE » TRAIN STATION

By public transport: Shuttle Hérault Transport “Aéroport Montpellier”, line 620 to/from “Boulevard de l’Aéroport”, then connection with tramway line 1 (duration: 25 min.; cost: 2.60€ one-way including airport shuttle + tramway; tickets can be bought on board). Shuttle schedule: <https://www.montpellier.aeroport.fr/acces/en-transports-publics-aeroport-montpellier/>

From “Montpellier Saint Roch” train station, you can catch tramways lines 1, 2 and 3.

A taxi transfer between airport and city centre costs around 40€ one-way.







