



EUROPEAN
CONFERENCE OF
TROPICAL ECOLOGY

Montpellier
FRANCE
7- 9 June 2022

" *The future of tropical ecosystems – new insights and innovative methods* "

1

Program of parallel sessions

1. Integrating biodiversity assessment, land surface modelling and sensing

Chairs: Nina Farwig & Jörg Bendix

Duration: 2 * 105 mn (25 mn introductory talk + 11 * 15 mn regular talk = 190 mn)

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.

Slot 1

Introductory talk (20 mn + 5 mn questions)

- 1) A research framework for projecting ecosystem change in highly diverse tropical mountain ecosystems
Nina Farwig & Jörg Bendix, University of Marburg, Germany

Regular talks (12 mn + 3 mn questions)

- 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

Slot 2

- 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, University of Marburg, Germany

2. Mountain biogeography

Chairs: Alexandra Muellner-Riehl & Suzette Flantua

Duration: 2 * 105 mn (14 x 15 mn talk = 210 mn)

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".

3

Regular talks (12 mn + 3 mn questions)

Slot 1

- 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 Afrotropical 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

Slot 2

- 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, Sivault.e@gmail.com
- 14) Preliminary contributions to the evolutionary relationships of the Colombian Espeletiinae
Maria Pinilla Vargas, Charles University, Prague, Czech Republic

3. Sustainable hunting

Chairs: Kate Abernethy, Lauren Coad & Donald Midoko Iponga

Duration: 2 * 105 mn (13 x 15 mn présentations + 2 * 2 mn posters = 199 mn)

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.

5

Regular talks (12 mn + 3 mn questions)

Slot 1

- 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, DGAP, 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 Processes as Evidenced From Spatially Explicit and Temporal Local
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

Slot 2

- 8) Political economy analysis of the urban wildmeat supply chain in DRC
Krossy Mavakala, ERAIFT, Kinshasa, Republic Democratic 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, Republic Democratic of Congo
- 12) From the forest to the folk: a multimedia campaign to reduce the consumption of wildmeat in Kinshasa, D. R. of the Congo
Robert Mwinyihali, Wildlife Conservation Society, Kinshasa, Republic Democratic 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

Posters

- 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

4. Tropical land-use systems for people and nature

Chairs: Delphine Clara Zemp

Duration: 105 mn (7 x 15 mn présentations = 105 mn)

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.

7

Regular talks (12 mn + 3 mn questions)

- 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

5. Mangrove Ecosystems in the Anthropocene

Chairs: Marie Arnaud, Guilherme Abuchahla

Duration: 105 mn (7 * 15 mn présentation + 2 * 2 mn poster= 109 mn)

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 welcomed.

Regular talks (12 mn + 3 mn questions)

- 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 Codevelopment 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 presentations (2 mn)

- 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

6. Forest values and landscape approaches to protect them

Chair: Fritz Kleinschroth

Duration: 105 mn (6 x 15 mn présentations = 90 mn)

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.

Regular talks (12 mn + 3 mn questions)

- 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

7. Forest Modelling and Remote Sensing

Chairs: Rico Fisher, Franziska Taubert & Andreas Huth

Duration: 2 * 105 mn (2 * 25 mn Intro + 10 * 15 mn présentation + 3 * 2 mn posters = 206 mn)

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.

Slot 1

Introductory Talk 20 mn + 5 mn questions

- 1) Dissecting neighborhood species interactions along a latitudinal gradient
Thorstend Wiegand, Helmholtz Center for Environmental Research, Leipzig, Germany

Regular talks (12 mn + 3 mn questions)

- 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

Slot 2

Introductory Talk (20 mn + 5 mn questions)

- 7) Mapping the central Congo peatlands using extensive field data and machine learning
Simon Lewis, University of Leeds, UK

Regular talks (12 mn + 3 mn questions)

- 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 (2 mn)

- 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 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

8. Tropical ecosystems response to disturbances

Chairs: Claire Fortunel & Immaculada Oliveras Menor

Duration: 3 * 105 mn (25 mn intro + 16 * 15 mn presentation + 5 * 2 mn poster = 275 mn)

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.

13

Slot 1 (land use)

Introductory talk (20 mn + 5 mn questions)

- 1) Tropical forest recovery on abandoned lands; underlying drivers, and implications for restoration
Lourens Poorter, Wageningen University & Research, The Netherlands

Regular talks (12 mn + 3 mn questions)

- 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

Slot 2 (Fire)

Regular talks (12 mn + 3 mn questions)

- 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

Slot 3 (other disturbances)

Regular talks (12 mn + 3 questions)

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

Posters

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 Ziemska, 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

9. Diversification in the tropics

Chairs: Renske Onstein & Francis Jason Nge

Duration: 105 mn (7 x 15 mn presentations = 105 mn)

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.

Regular talks (12 mn + 3 mn questions)

- 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; Gabriel Arellano, University of Michigan, USA; Ann Arbor, Michigan, USA
- 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

Session 10. Tropical paleovegetation dynamics

Chairs: Marie-Pierre Ledru & Vincent Montade

Duration: 3 x 105 mn (18 * 15 mn intro = 270 mn).

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.

16

Slot 1 (105 mn)

Regular talks (12 mn + 3 mn questions)

- 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
- 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

Slot 2 (60 mn)

- 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'Evolution de Montpellier, France
- 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

Slot 3 (75 mn)

- 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'Evolution 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

11. e-DNA in the tropics

Chair: Lucie Zinger

Duration: 105 mn (25 mn intro + 5 * 15 presentations = 100 mn)

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.

18

Introductory talk (20 mn + 5 mn questions)

- 1) eDNA as tool for environmental impact assessments in tropical ecosystems: challenges and opportunities
Marilyn Gonzalez, Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogota, Colombia

Regular talks (12 mn + 3 mn questions)

- 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 Barrajon-Santos, University of Vienna, Austria

12. Biodiversity and ecology of oceanic and terrestrial tropical islands

Chairs: Fabien Anthelme & Thomas Ibanez

Duration: 105 mn (7 * 15 mn presentation + 1 * 2 mn poster = 107 mn)

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.

19

Regular talks (10 min + 3 min questions each)

- 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

13. Tropical lianas: functional traits, ecology and impact in the tropics

Chairs: Maxime Réjou Méchain, Begum Kacamak & Nick Rowe

Duration: 2*105 mn (25 mn intro + 7 x 15 mn presentations = 130 mn)

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.

Slot 1 (75 mn)

Introductory talk (20 mn + 5 mn questions)

1) Drivers of liana biogeographical patterns in tropical forests

Geertje van der Heijden, University of Nottingham, UK

Regular talks (12 min + 3 min questions each)

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

Slot 2 (60 mn)

Regular talks (10 min + 3 min questions each)

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

14. Biotic interactions

Chair: Katerina Sam

Duration: 2 * 105 mn (11 * 15 mn presentation + 4 * 2 mn poster = 173 mn)

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.

21

Regular talks (12 mn + 3 mn questions)

Slot 1 (Pollination and frugivory)

- 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, Brasil
- 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

Slot 2 (Herbivory and nutrients, habitat)

- 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 presentations (2 mn)

- 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

15. Tropical Forest Dynamics and Succession

Chairs: Pierre Couteron & Bruno X. Pinho

Duration: 2 * 105 mn (7 x 15 mn + 3 * 2 mn poster = 111 mn)

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.

Slot 1

Regular talks (12 mn + 3 mn questions)

- 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 presentation (2 mn)

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

Slot 2

Regular talks (12 mn + 3 mn questions)

- 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
Josoa Randriamalala, Ecole Supérieure des Sciences Agronomiques, Antananarivo, Madagascar

Poster presentation (2 mn)

- 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 Est Cameroon: The *Pentaclethra macrophylla* Benth. Case
Robin Doucet, Gembloux Agro-Bio Tech, University of Liège, Belgium

16. Tropical Molecular Ecology

Chairs: Ute Radespiel & Pablo Orozco-terWengel

Duration: 2* 105 mn (11 * 15 mn presentations + 2 mn Poster = 167 mn)

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.

24

Regular talks (12 min + 3 min questions)

Slot 1

- 1) Phylogeography of the critically endangered Gersp'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

Slot 2

- 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 presentation (2 mn)

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

17. Tropical Soil Life

Chairs: Kerstin Pierick, Martyna Kotowska, Oscar Valverde-Barrantes & Monique Weemstra

Duration: 105 mn (7 * 15 mn presentations = 105 mn)

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.

26

Regular talks (12 mn + 3 mn questions)

- 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
Guanjq 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) Title: 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