

5th IMBALANCE-P Annual Meeting

11-15 February 2019

Meeting venue

Hotel Port de Sitges

Barcelona, Catalonia

Practical Info and Scientific program:

Marcos Fernández-Martínez, m.fernandez@creaf.uab.cat

It has been one year since our encounter in Belgium, during the fourth Imbalance-P meeting. Since then, a lot of work has been done and some other still needs to be carried out. It is, therefore, time for us to meet again, this time in Sitges, where we will enjoy the typical warm Mediterranean winter by the sea! Bring your sunglasses! The format will be similar to last time. Researchers will present some of their work/results/projects within the Imbalance-P in short talks of about 14 minutes allowing participants to ask some questions. It is also planned to have time to allow researchers to discuss within the different working groups (experimental, synthesis, modelling...) and among them.

The main aims of the Sitges meeting are to:

- Present and discuss past, present and future work within the Imbalance-P project
- Share and discuss the results obtained by the different groups.
- Develop synergies amongst groups and researchers by increasing collaboration through sharing thoughts, ideas, objectives, experiments, observations and data.
- Create a venue where co-authors of different manuscripts can get together to forward their writing and possibilities for such activities to be initiated.

Agenda

Day 1 - Monday 11th February 2019: Some participants will arrive on Sunday evening, some others on Monday morning. The meeting will officially start at 09:00 h on Monday.

- Breakfast at 7:30 – 9:00h
- At 9h, arrival and informal pre-meeting among participants.
- Starting at 10:30, the 4 PI's will discuss the current status and perspectives of the project
- During the whole day, the rest of participants will have time to discuss their projects with their collaborators from Imbalance-P in order to achieve the synergies expected from the project.
- After lunch, **at 14.30h**, the **Guiana meeting** will take place until the end of the day, at **18h**. This meeting is meant for those involved in preparing **Guiana's 2019** the campaign, next September.
- **Coffee breaks** will normally take place **from 10:40 to 11:10 h** and **from 15:40 to 16:00 h**.
- **Lunch** will take place **from 12:30 to 14:00 h**.
- In the evening we will have time for diverse social activities.

Day 2 - Tuesday 12th February	
7:30-9:00	Breakfast
09:00-09:20	Josep Peñuelas: Scientific state of the imbalance-P project
Series of concise presentations (14 min + 4 min for discussion) presenting the main results obtained in various studies in Imbalance-P and beyond and/or the main research plans.	
Session 1.1 Observations, experiments and syntheses. Moderator: Ivan Janssens	
09:20-09:40	Lucia Fuchslueger: Microbial nutrient cycling across Amazonian phosphorus gradients
09:40-10:00	Irene Ramírez: Drivers of soil microbial communities variation in French Guiana tropical forests
10:00-10:20	Kai Ding: The response of inorganic phosphorus solubilizing bacteria (iPSB) to reduction of phosphorus fertilization and its influence on plant production
10:20-10:40	Bangxiao Zheng: Agriculturalization enhanced microbial functionality: a case in Chinese maize fields
10:40-11:10	Coffee Break
11:10-11:30	Catherine Preece: Effects of past and current drought on the composition and diversity of soil microbial communities
11:30-11:50	Jenny Soong: Soil properties control carbon, nutrients and productivity in P depleted tropical forests
11:50-12:10	Ifigenia Urbina: Nutrient stoichiometry in tropical forests; where are the nutrients?
12:10-12:30	Lore Verryckt: Saplings in the tropical rainforest: 1 year of fertilisation
12:30-14:00	Lunch
14:00-14:20	Guille Peguero: Deciphering the biogeochemical drivers of litter-dwelling insect communities in tropical rainforests from French Guiana

14:20-14:40	Oriol Grau: Nutrient storage in wood in trees growing on poor tropical soils
14:40-15:00	Laetitia Brechet: Full year of CO ₂ , CH ₄ , and N ₂ O gas exchanges from the soil and above-canopy of a tropical forest: magnitudes, patterns, and hypothesis
15:00-15:20	Clément Stahl: Disentangling the drought and nutrient effects on the soil CO ₂ and CH ₄ fluxes in a tropical forest, in French Guiana
15:20-15:40	Joan Maspons: Overview of the Guiana database
15:40-16:00	Coffee break
16:00-16:20	Leandro Van Langenhove: Nitrogen Fixation in an Icelandic Grassland
16:20-16:40	Olga Margalef: Changes on P cycling across a permafrost thawing gradient in subarctic palsa mires (Abisko, Sweden, 68°N)
16:40-17:00	Sara Marañón: Islandic studies
17:00-17:20	Joan Llusà: Terpene emissions from tropical and Mediterranean soils and plants and their responses to changes in nutrient availability
17:20-17:40	Albert Gargallo: Ecometabolomics
17:40-18:30	Implementing synergies: meetings among people with common or complementing interests and plans. Checking common previous research and planning of future research
+18:30	Social activities: Wine tasting session, by Albert Gargallo

Day 3 - Wednesday 13nd February	
7:30-9:00	Breakfast
Session 1.2 Observations, experiments and syntheses. Moderator: Josep Peñuelas	
09:00-09:20	Rossella Guerrieri: Leaf microbes and nitrification in the canopies of European forests: evidence from stable isotopes, meta-barcoding and qPCR
09:20-09:40	Angela Ribas: Evaluating the role of Denitrification as a sink of Nr in soil ecosystems of European forests
09:40-10:00	Romà Ogaya: Ecophysiological effects of 20-year climate change experiments in two Mediterranean ecosystems
10:00-10:20	Dani Boanares: Fog, mist and trees
10:20-10:40	Manuela Balzarolo: Controlling factors of the radiation use efficiency
10:40-11:10	Coffee break
11:10-11:30	Jordi Sardans: Advances in data mining, synthesis works and theory outputs
11:30-11:50	Helena Vallicrosa: Global foliar stoichiometry
11:50-12:10	Kevin Van Sundert: Towards a metric for nutrient availability as a tool to compare the nutrient status across ecosystems
12:10-12:30	Sebastian Wieneke: Tracking seasonal adaptation of Zea mays to phosphorus limitation using sun-induced chlorophyll fluorescence and photochemical reflectance index
12:30-14:00	Lunch time
14:00-14:20	Ana Bastos: Contrasting effects of CO ₂ fertilisation, land-use change and warming on seasonal amplitude of northern hemisphere CO ₂ exchange

14:20-14:40	Marcos Fernández-Martínez: Masting as an evolutionary strategy to cope with nutrient imbalances
14:40-15:00	Stephan Pietsch: Boltzmann in Ecology
15:00-18:30	Implementing synergies: meetings among people with common or complementing interests and plans. Checking common previous research and planning of future research
15:40-16:00	Coffee break
18:30 – 20:30	Social activities
20:30	Dinner at La Nansa restaurant Each group will pay for their own people. CREAM will also pay for invited guests.

Day 4 - Thursday 14th February	
Session 1.3 Observations, experiments and syntheses. Moderator: Philippe Ciais	
7:30-9:00	Breakfast
09:00-09:20	Matteo Campioli: Natural fertility variability and fertilization: same impact on phenology of temperate trees?
09:20-09:40	Inken B. Krüger: Interrelations of foliar phosphorus and stem increment depend on soil conditions
09:40-10:00	Jofre Carnicer: Stoichiometry and optimality models for body mass evolution
10:00-10:20	Benjamin Stocker: Soil moisture and ecosystem productivity
10:20-10:40	Estela Romero: Nitrogen and phosphorus fluxes in Mediterranean rivers. A complex game of (water) uses and (food) customs
10:40-11:10	Coffee break
Session 2 Earth System Models. Moderator: Philippe Ciais	
11:10-11:30	Matthieu Guimberteau: Estimating the impacts of nutrient limitation on global hydrology using ORCHIDEE-CN-P model
11:30-11:50	Aude Valade: Forest management: from carbon to climate mitigation
11:50-12:10	Philippe Ciais: Five decades of carbon uptake by northern lands revealed by the north-south gradient of atmospheric CO ₂ . Implications for emerging nutrient limitations
12:10-12:30	Lunch time
12:30-14:00	Yuanyuan Huang: ORCHIDEE-CNP simulation at the Gigante site
14:00-14:20	Daniel Goll: The potential of enhanced weathering to boost tropical carbon uptake
14:20-14:40	Yan Sun: Global evaluation of ORCHIDEE-CNP (v1.2)
14:40-15:00	Fabio Cresto: Modelling the Effects of Forest Succession and Large Disturbances in the Land Surface Model ORCHIDEE-CAN
15:00-15:20	Wenfeng Liu: Integrative crop–soil–management modelling to assess global phosphorus losses from major crop cultivations
15:20-15:40	Coffee break
15:40-16:00	Wei Li: Global simulations of bioenergy crops in ORCHIDEE-MICT

16:00-16:20	Haicheng Zhang: Exploring the drivers for the large-scale spatial variation of SOC storage
16:20-16:40	Quilcaille Yann: Towards a CNP version of the OSCAR compact Earth system model
16:40-17:00	Sebastian Doetterl: Links among warming, carbon and microbial dynamics mediated by soil mineral weathering
17:00-18:30	Implementing synergies: meetings among people with common or complementing interests and plans. Checking common previous research and planning of future research
+ 18:30	Social activities

Day 5 - Friday 15th February	
7:30-9:00	Breakfast
Session 3 Integrated Assessment Models. Moderator: Michael Obersteiner	
09:00-09:20	Florian Hofhansl: The role of phenotypic plasticity versus community dynamics in plant functional traits
09:20-09:40	Johannes Bednar, Anna Shchiptsova: Advances in the global-scale phosphate production and trade modeling
09:40-10:00	Nikolay Khabarov: Quantification of Socio-Economic and Environmental Impacts of Land Saving
10:00-10:20	Christian Folberth: Multiple agro-environmental benefits of high-yield farming and optimal cropland allocation
10:20-10:40	Jinfeng Chang: Nutrient cycles in agricultural systems: a GLOBIOM framework
10:40-11:10	Coffee break
11:10-12:30	Closing Imbalance-P meeting Philippe Ciais, Ivan Janssens, Michael Obersteiner and Josep Peñuelas
12:30-14:00	Lunch time
+ 14:00	Goodbyes, hugs, and see you all soon!