



Environmental and Agronomical Genomics Symposium

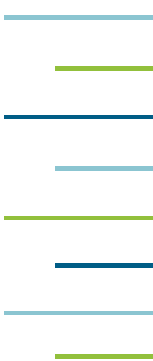
February 14-16, 2024

Marthe Condat Auditorium, administrative building, Paul Sabatier
University, Toulouse, France



Wednesday February 14th

- 12:30 - 14:00** Welcoming participants, *main hall (Lunch not included, welcoming tea/coffee only)*
- 14:00 - 14:15** Introductory speech, **Scientific committee**, *Marthe Condat Auditorium*
- Monitoring of ecosystems functioning and health / Eco exposome (chair: J.C. Simon)*
- 14:15 - 14:45** [01] Applications of environmental DNA & RNA in freshwaters ecosystems: recent advances, expectations for operational biomonitoring, challenges and prospects, **Isabelle Domaizon**, *INRAE Thonon les Bains, France*
- 14:45 - 15:05** [02] Meet the bushmeat pathogens: A metabarcoding snapshot of the bacterial diversity in the bushmeat sold in West Africa, **Marine Montblanc**, *CRBE Toulouse, France*
- 15:05 - 15:25** [03] What is the importance of genetic load in successful biological invasions of pests? **Barbara Porro**, *Genoscope Evry, France*
- Exploring ecosystems using metagenomics 1/2 (chair: P. Wincker)*
- 15:25 - 15:45** [04] Revealing the potential for lignin degradation by the termite gut microbiome. **Guillermina Hernandez-Raquet**, *TBI Toulouse, France*
- 15:45 - 16:05** [05] Exploring microbial disease dynamics in natural phyllospheres. **Paloma Duran**, *LIPME Toulouse, France*
- 16:05 - 16:35** Coffee Break, main Hall
- Exploring diversity and evolution of Life 1/2 (chair: L. Bittner)*
- 16:35 - 16:55** [06] The ecology of bacterial immune systems. **Pedro Oliveira**, *Genoscope Evry, France*
- 16:55 - 17:15** [07] Unravelling the molecular mechanisms underlying nutritional polyphenism in the bird cherry-oat aphid *Rhopalosiphum padi*. **Aurélie Etier**, *IGEPP Rennes, France*
- 17:15 - 17:35** [08] Phylogeny-guided environmental genomics of giant viruses. **Tom Delmont**, *Genoscope Evry, France*
- 17:35 - 17:55** [09] Disparate genetic divergence patterns in three corals across a pan-Pacific environmental gradient highlight species-specific adaptation trajectories. **Didier Forcioli**, *Côte D'Azur Univ, France*
- 17:55 - 18:35** [10] A global view of the biocomplexity underlying coral holobiont diversity and climate change resilience, **Christian Voolstra**, *Konstanz Univ., Germany*



Thursday February 15th

- 08:00 - 08:30** Welcoming participants
Ancient DNA and paleo-environments (chair: P. Wincker)
- 08:30 - 09:00** [11] Microbial time travellers: preserving the past, shaping the future. **Antonio Fernandez Guerra**, *Copenhagen Univ., Denmark*
- 09:00 - 09:20** [12] Diversity of ancient rhizosphere microbial communities preserved in herbaria, a paleomicrobiological approach. **Gianluca Grasso**, *Torino Univ., Italy*
- 09:20 - 09:40** [13] Reconstruction of the past evolution of plant biodiversity through paleogenomic studies, **Jérôme Salse**, *J. INRAE Clermont -Ferrand, France*
Environmental genomics and participatory science, openness to society 1/2 (chair: D. Faure)
- 09:40 - 10:10** [14] Climate change microbiology: novel insights into methane cycling archaea, **Cornelia Welte**, *Radboud Univ, Nijmegen, The Netherlands*
- 10:10 - 11:10** Coffee Break/Poster session (**ODD NUMBERS**), main Hall
- 11:10 - 11:40** [15] The french molecular inventory of soil fungi, **Sébastien Terrat**, *Bourgogne Univ., France*
Pangenome and structural variants 1/2 (chair: D. Milan)
- 11:40 - 12:10** [16] Reference-free pangenomics and other large indexes, **Camille Marchet**, *CRISTAL, Lille Univ., France*
- 12:10 - 12:30** [17] High-quality genome assembly to identify structural variations in the quarantine plant parasitic nematode *Meloidogyne enterolobii*. **Marine Poulet**, *Sophia Agrobiotech, France*
- 12:30 - 12:50** [18] Overdominance likely maintained large structural variants polymorphism in pearl millet, **Marine Salson**, *DIADE, Montpellier, France*
- 12:50 - 14:00** Lunch (main hall)
Pangenome and structural variants 2/2 (chair: D. Milan)
- 14:00 - 14:30** [19] Ten years of pangenomics in rices, lessons and knowledge, **François Sabot**, *IRD Montpellier, France*
- 14:30 - 14:50** [20] The pangenome of the cosmopolitan picophytoplankton *Bathycoccus prasinos*: Understanding latitudinal and seasonal adaptation. **Louis Denu**, *INSU Banyuls, France*
- 14:50 - 15:10** [21] Understanding the limits of pangenome graphs for the analysis of large inversions in a complex of butterfly species, **Sandra Romain**, *Inria Rennes, France*
Technological advances: producing and analyzing genomic data (chair: E Pelletier)
- 15:10 - 15:40** [22] Statistical methods for the exploration and the integration of multi-omics datasets. **Sébastien Déjean**, *Toulouse Univ., France*
- 15:40 - 16:00** [23] RdRp-scan: A bioinformatic resource to identify and annotate divergent RNA viruses in metagenomic sequence data. **Justine Charon**, *INRAE, Bordeaux Univ., France*
- 16:00 - 16:20** [24] EPIK: Evolutionary Placement with Informative K-mers for scalable taxonomic identification. **Benjamin Linard**, *MIAT INRAE Toulouse*
- 16:20 - 16:50** Coffee Break, main Hall
Genomics of plants and animals and their microbiota (chair: E Pelletier)
- 16:50 - 17:30** [25] The Ocean and Coral Reefs as Microbial Treasure Troves, **Shinichi Sunagawa**, *ETH, Switzerland*
- 17:30 - 18:00** [26] From the diversity of the diploid progenitors to a new diversity in a polyploid crop, oilseed rape, **Anne-Marie Chèvre**, *INRAE, Rennes Univ., France*

Friday February 16th

- 08:00 - 08:30** Welcoming participants, *main hall*
- Exploring diversity and evolution of Life 2/2 (chair: L. Bittner)*
- 08:30 - 08:50** [27] Introducing an integrative and generalizable approach to elucidate cryptic diversifications using mouse lemurs as a model system. **Anne Yoder**, *Duke Univ., Durham, USA*
- 08:50 - 09:10** [28] Exploring horizontal gene transfers in phytoparasitic nematodes through soil metagenomes. **Carole Belliardo**, *Sophia Agrobiotech, France*
- Genomics of biological interactions : holobionts, pathogens, symbionts 1/2 (chair: JC Simon)*
- 09:10 - 09:50** [29] Mosquito-microbe symbiosis: an ecogenomic perspective for novel control strategies of infectious diseases, **Julie Reveillaud**, *INRAE Montpellier, France*
- 09:50 - 10:10** [30] A genomic map of local adaptation in *Arabidopsis thaliana* to native non-pathogenic bacteria: from mono-infections to complex communities. **Fabrice Roux**, *LIPME Toulouse, France*
- 10:10 - 10:30** [31] Comparative genomics of *Xylella fastidiosa* subsp. multiplex strains from France reveals pathogen dynamics after its introduction. **Jessica Dittmer**, *INRAE Angers Univ., France*
- 10:30 - 11:30** Coffee Break/Poster session (**EVEN NUMBERS**), main Hall
- Genomics of biological interactions : holobionts, pathogens, symbionts 2/2 (chair: JC Simon)*
- 11:30 - 12:00** [32] Hologenome 2.0: taking the genomes of social partners into account. **Amélie Baud**, *CRG Barcelona, Spain*
- 12:00 - 12:20** [33] Genomics of palm tree-palm weevil interactions. **Emmanuelle Jacquin-Joly**, *IESE Paris, France*
- 12:20 - 12:40** [34] Signals of generalist plant species adaptation to local pollinator communities and abiotic factors. **Léa Frachon**, *INRAE Agroecologie Dijon, France*
- 12:40 - 14:00** Lunch (main hall)
- Exploring ecosystems using metagenomics 2/2 (chair: P. Wincker)*
- 14:00 - 14:20** [35] Metagenomics reveal contrasted and dynamic responses of microbial soil communities to in situ wheat straw amendment in croplands or grasslands. **Domitille Jarrige**, *Bourgogne Univ., France*
- 14:20 - 14:40** [36] Nitrogen metabolism in the picoalgae *Pelagomonas calceolata*: disentangling cyanate lyase function under nutrient stress. **Nina Guérin**, *Genoscope Evry, France*
- 14:40 - 15:00** [37] Combined metabarcoding and metatranscriptomic approaches unravel taxonomic and functional diversities of a coastal sediment microbiome and its reaction to hypoxia. **Pascal Mirleau**, *IRD Marseille, France*
- 15:00 - 15:20** [38] Genomic basis of temporally persistent and narrow prokaryotes in a coastal marine ecosystem. **Clarisse Lemonnier**, *INRAE Thonon les Bains, France*
- Environmental genomics and participatory science, openness to society 2/2 (chair: D. Faure)*
- 15:20 - 15:50** [39] FungiSol: A citizen science project to investigate environmental yeasts in urban soils. **Isabelle Ourliac-Garnier**, *Nantes Univ., France*
- 15:50 - 16:00** **Conclusions**