

14th International Conference

October 27-29, 2021

in Strasbourg

Levures, modèles et outils

Detailed
program

Invited speakers

Valérie Borde, Institut Curie

Anne Carvunis, University of Pittsburgh

Claudio de Virgilio, Université de Fribourg

Maitreya Dunham, University of Washington

Alain Jacquier, Institut Pasteur

Michael Knop, University of Heidelberg

Benoît Palancade, Institut Jacques Monod

Lars Steinmetz, EMBL Heidelberg

Organizers

Joseph Schacherer
Dom Helmlinger



**The conference will take place in the
amphithéâtre Cavallès,
building Le Patio, campus Esplanade
(22, rue René Descartes, Strasbourg).**

**From the central train station,
tram C to Université station.**

Wednesday, October 27th

13:30	Opening of the meeting		Paul Le Montagner “Intraspecific variability of surface physico-chemical and bioadhesion properties of <i>Brettanomyces bruxellensis</i> ”
13:45-15:00	Population, functional and evolutionary genomics (part I) Chair: Gilles Fischer (Sorbonne Université, Paris) Anne-Ruxandra Carvunis - 30' “Molecular mechanisms of evolutionary innovation”	15:30-16:00	Nuria Bosch-Guiteras “Mapping an environmental suppression network of essential genes in yeast”
	Anne Lopes - 15' “Intergenic ORFs as elementary structural modules of de novo gene birth and protein evolution”	16:00-17:30	Coffee break Replication, repair and recombination Chair: Bertrand Llorente (CRCM, Marseille) Valérie Borde - 30' “Functional links between chromosome structure and recombination during meiosis in <i>S. cerevisiae</i> ”
	Nikos Vakirlis - 15' “Evolutionary origins of the <i>S. cerevisiae</i> pan-transcriptome”		Hélène Bordelet - 15' “Cohesin regulates homology search during recombinational DNA repair”
	Philippe Marullo - 15' “Flor yeasts rewire the central carbon metabolism during wine alcoholic fermentation: consequences on the acidification properties of <i>S. cerevisiae</i> strains”		Christophe De La Roche Saint-André - 15' “Deciphering how H3K4 methylation influences DNA replication fork progression”
15:00-15:30	Flash talks – session 1 Chair: Teresa Texeira (LBMCE, Paris) Oana Iliaia “Extra-telomeric functions of the CST complex”		Abhishek Dutta - 15' “Meiotic recombination from the perspective of the non model <i>Lachancea waltii</i> yeast”
	Isabelle Georis “Differential requirement for SAGA complex subunits to carry out NCR-sensitive gene expression”		Jeanne Le Peillet - 15' “The Polo kinase Cdc5(Plk1) is regulated at multiple levels in the adaptation response to DNA damage”
	George Kapetanakis “Overlapping roles of yeast transporters Aqr1, Qdr2, and Qdr3 in amino acid excretion and cross-feeding of lactic acid bacteria”	17:30-18:00	Flash talks – session 2 Chair: Dom Helminger (CNRS, Montpellier) Catherine Tricot “Identifying transporters involved in tryptophan excretion”
	Sandrine Pinheiro “Deciphering the regulatory mechanisms responsible for the dynamics of gene expression”		Fabien Duveau “Mutational sources of regulatory variation in <i>Saccharomyces cerevisiae</i> ”
	Ambre Noly “Isolation and characterization of wild fission yeast species”		Alberto Ballin “Molecular basis of resistance to the metabolic inhibitor 2-Deoxyglucose in <i>S. cerevisiae</i> : identification of mutations affecting AMPK signaling”
	Anna Marzelliusardottir “The condensation pathway liberates chromosomes from a retention machinery to allow their proper segregation”		Luis Sousa “Amino acid excretion by yeast cells is promoted at the diauxic shift”
	Bechara Zeinoun “Hog1 and the homeostasis of telomeres during replicative senescence in <i>Saccharomyces cerevisiae</i> ”		Julia Maria Coronas-Serna “In search for the role of Cdc42 effectors in ensuring the irreversibility of cell-cell fusion”

Lorenzo Tattini

"Pan-genome references: improving yeast genomics with graph-based tools"

Ludovic Monnin

"Primary metabolites yields variations in wine fermentation among strains of *Saccharomyces cerevisiae* species from different origins"

Karine Casier

"Understanding genomic instability induced by telomere shortening"

18:00-18:45

"André Goffeau" career award (SFG)**Alain Jacquier**

"RNA degradation and quality control in yeast, mechanisms and consequences"

19:00

Cocktail

Thursday, October 28th

09:00 - 10:30

Tools, resources and databases

Chair: **Romain Koszul** (Institut Pasteur, Paris)

Lars Steinmetz - 30'

"Genomes under construction"

Benjamin Dubreuil - 15'

"Principles of proteins and proteome evolution in the yeast phylum"

Andreas Tsouris - 15'

"Species-wide expressivity survey across a *Saccharomyces cerevisiae* population"

Matthias Le Bec - 15'

"Spatio-temporal control of cooperation in yeast communities"

Basile Jacquél - 15'

"Monitoring single-cell dynamics of entry into quiescence during an unperturbed life cycle"

10:30 - 11:00

Flash talks – session 3

Chair: **Matthias Peter** (ETH, Zurich)

Houssam El Barbry

"Experimental exploration of the role of the conserved N-end signature of mitochondrial precursors"

Hassa Mustapha

"Yeast genetic immunity"

Eléonore Pourcelot

"Development of a model consortium of wine yeasts to explore the impact of diversity on wine fermentation"

Shashank Pandey

"Single-cell analysis of the switch from vegetative to filamentous growth in *S. cerevisiae*"

Sylvain Pouzet

"Optogenetic control of beta-carotene production"

Isabelle Georis

"Relief of NCR in a *gdh1* mutant due to altered transporter function?"

Raffaele Nicastro

"Indole-3-acetic acid is a physiological inhibitor of TORC1 in budding yeast"

Prisca Berardi

"The shortest telomere in the cell signals senescence through a probabilistic rather than deterministic mechanism"

Zane Ozolina

"Mutation location in the eukaryotic purine synthesis pathway determines response to nitrogen or purine starvation"

11:00-11:30

Coffee break

11:30-13:00

Pathogenic yeast and filamentous fungi

Chair: **Sadri Znaidi** (Institut Pasteur, Tunis)

Cécile Fairhead - 30'

"Evolution of mating and mating-type switching in the *Nakaseomyces* yeasts"

Adnane Sellam - 15'

"Metabolic reprogramming by chromatin remodelers modulates fungal fitness under hypoxia"

Bernard Turcotte - 15'

"Mitochondrial defects result in decreased susceptibility to echinocandins via the transcriptional regulator Pdr1 in *Candida glabrata*"

Ana Sofia Brito - 15'

"Yeast filamentation signaling is connected to a specific substrate translocation mechanism of the Mep2 transceptor"

Hervé Begue - 15'

"Proteomic analysis of *Candida albicans* to identify new virulence factors"

13:00-14:30

Lunch

14:30-16:00

Transport, sensing and signaling

Chair: **Sébastien Léon** (Institut Monod, Paris)

Claudio de Virgilio - 30'

"Metabolic control of TORC1"

Françoise Roelants - 15'

"Phosphorylation of mRNA-binding proteins Puf1 and Puf2 by TORC2-activated protein kinase Ypk1 alleviates their repressive effects"

Ludovic Enkler - 15'

"The small GTPase Arf1 regulates ATP synthesis and mitochondria homeostasis by modulating fatty acid metabolism"

Anna Babour - 15'

"Nuclear regulation of the UPR"

Gwenael Rabut - 15'

"Quantitative and real-time analysis of protein-protein interactions in yeast: from interactomics to drug design"

16:00-16:30 Coffee break

16:30-18:30 **Gene expression regulation**

Chair: **Mathieu Rederstorff** (Université de Lorraine, Nancy)

Benoit Palancade - 30'

"Multiple translational controls in the biogenesis of nuclear pore complexes"

10:30-11:00

Nathalie Bastié - 15'

"Smc3 acetylation, Pds5 and Scc2 control the translocase activity that establishes cohesin dependent chromatin loops"

11:00-12:15

Jérémy Scutenaire - 15'

"Pho92, an m6A-binding protein facilitating recombination and meiotic progression in the yeast *Saccharomyces cerevisiae*"

Pascal Carme - 15'

"New insights into the function of the Spt3 subunit of the SAGA co-activator from studies in fission yeast"

Serge Pelet - 15'

"Correlation of MAPKa activity and gene expression in single cells"

Sara Andjus - 15'

"Translation in the metabolism of antisense long non-coding RNAs"

Laura Natalia Balarezo Cisneros - 15'

"Functional and transcriptional profiling of non-coding RNAs in yeast reveal context-dependent phenotypes and in trans effects on the protein regulatory network"

12:15 - 12:45

Friday, October 29th

09:00-10:30

Population, functional and evolutionary genomics (part II)

Chair: **Gilles Fischer** (Sorbonne Université, Paris)

Michael Knop - 30'

"The unusual life of a yeast: sex and evolution in the absence of recombination"

Matteo de Chiara - 15'

"The budding yeast domestication syndrome"

Francisco Cubillos - 15'

"Phylogenomics analyses of divergent *Saccharomyces* lineages from Patagonia"

Salomé Nashed - 15'

"N-end rule in an evolutionary perspective: identification of a conserved N-end signature essential for the destiny of mitochondrial precursors"

Jolanda Van Leeuwen - 15'

"Systematic mapping of natural variants driving genetic context-dependent gene essentiality"

Coffee break

New technologies, yeast and industry

Chair: **Warren Albertin** (ISVV, Bordeaux)

Pablo Villarreal - 15'

"Bioprospecting in central Patagonia reveals novel *Lachancea cidri* strains for efficient mead production"

Charlotte Vion - 15'

"NMR analysis of *Saccharomyces cerevisiae* endo-metabolome: comparison of yeast strains of different origins during the alcoholic fermentation of a grape must"

Fanny Bordet - 15'

"*Saccharomyces cerevisiae* discrimination by metabolomics"

Marine Hemmerle - 15'

"Compartment-specific split-fluorescent proteins in baker's yeast"

Jules Harrouard - 15'

"Signatures of phenotypic adaptation: the case of *Brettanomyces bruxellensis*, a yeast associated to anthropized environments"

Special iGenolevures talk

Chair: **Cécile Fairhead** (Université Paris-Saclay)

Maitreya Dunham - 30'

"Following yeast genome evolution in real time in breweries"

12:45 - 13:00

Singer dissection and flash talk prizes

Closing remarks

13:00

Lunch

For more information:

Imo-14-2020.sciencesconf.org

Industrial partners



Institutional partners



Sponsors

