



RESEARCH CONFERENCES

ESF-EMBO Symposium

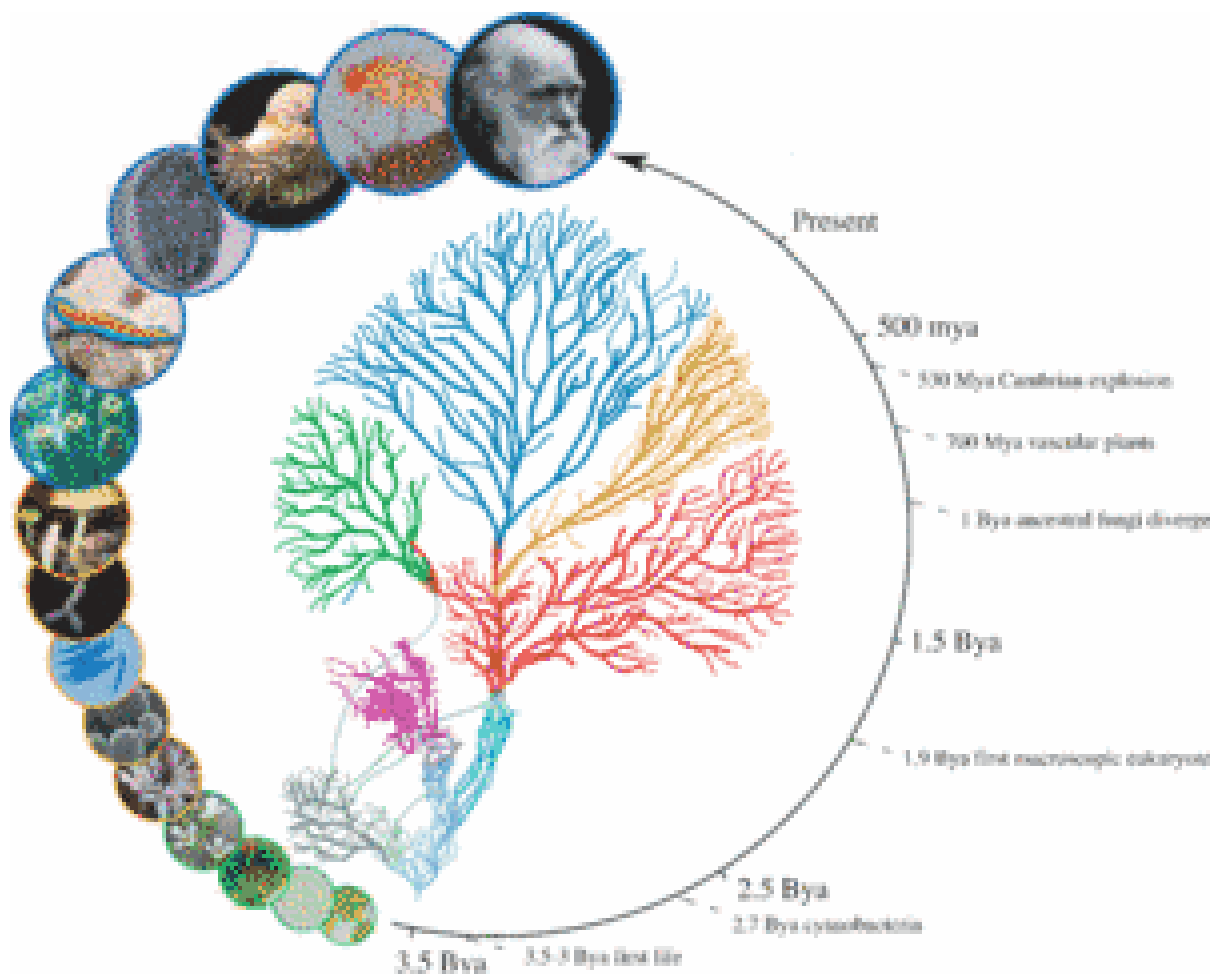
Comparative Genomics of Eukaryotic Microorganisms: Eukaryotic Genome Evolution

Hotel Eden Roc, Sant Feliu de Guixols (Costa Brava) • Spain
20-25 October 2007

Chair: **Edward J. Louis**, University of Nottingham, UK

Vice-Chair: **Teun Boekhout**, Centraalbureau voor Schimmelcultures, NL

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Final Programme

Saturday, 20 October

Late afternoon / early evening	Registration at the ESF desk
19.00	Welcome Drink
20.00	Dinner

Sunday, 21 October

Session 1: Exploring the Diversity of Non-Coding RNA Genes

Chair: Manuel Santos, University of Aveiro, PT

08.30-09.00	Eric Westhof Centre National de la Recherche Scientifique, FR <i>Comparisons of non-coding RNAs in yeasts</i>
09.00-09.30	Manuel Santos University of Aveiro, PT <i>The tRNAs that altered the yeasts genetic code</i>
09.30-10.00	Robin Allshire Wellcome Trust Centre, UK <i>Non-Coding RNA and RNAi-directed heterochromatin in centromere function</i>
10.00-10.15	Maria Dos Santos University of Aveiro, PT <i>Comparative tRNomics of a genetic code alteration</i> (short talk)
10.15-10.45	Coffee Break

Session 2: Genome Evolution and Dynamics among Unicellular and Lower Eukaryotes

Chair: Bernard Dujon, Institut Pasteur, FR

10.45-11.15	Ken Wolfe University of Dublin, IE <i>Gene erosion and expulsion at the yeast MAT locus</i>
11.15-11.45	Bernard Dujon Institut Pasteur, FR <i>Hemiascomycete yeast genomes</i>
11.45-12.15	Paul Dyer University of Nottingham, UK <i>Genomic insights into the sexual biology of Aspergillus</i>
12.15-12.30	Radek Szklarczyk Radboud University, NL <i>The role of gene paralogs in protein complexes</i> (short talk)
12.30-12.45	Geraldine Jean

University of Bordeaux, FR
Reconstruction and visualization of genome rearrangements within Kluyveromyces
(short talk)

12.45-14.00 Lunch

Session 3: Functioning of Non-Coding DNA

Chair: **Marita Cohn**, Lund University, SE

14.00-14.30 **Marita Cohn**
Lund University, SE
Telomeres and genome stability

14.30-15.00 **Cécile Neugeglise**
Centre National de la Recherche Scientifique, FR
Alternative splicing in yeasts: back-ground noise or functional regulation?

15.00-15.30 **Conrad Nieduszynski**
University of Aberdeen, UK
Comparative genomic identification of yeast replication origins

15.30-16.00 **Jim Haber**
Brandeis University, US
Control of chromosome accessibility by a cis-acting recombination enhancer

16.00-16.15 **Gwenael Piganeau**
CNRS, FR
Unravelling functional noncoding sequences in non model eukaryotes using phylogenetic footprinting
(Short talk)

16.15-16.30 **Ian Roberts**
Institute of Food Research, UK
pSNPs: a new tool for comparative genomics?
(Short talk)

16.30-17.00 Coffee Break

Session 4: Comparative Genomics of Non-Nuclear DNA

Chair: **Franz Lang**, Université de Montréal, CA

17.00-17.30 **Franz Lang**
Université de Montréal, CA
On the origin of mitochondria and the eukaryotic cell

17.30-18.00 **Toni Gabaldon**
Centro de Investigacion Principe Felipe, ES
From endosymbiont to organelle, the hijacking of the proto-mitochondrial metabolism

18.00-18.30 **Martijn Huynen**
University Medical Center Nijmegen, NL
A vertical and a horizontal view on the evolution of the mitochondrial proteome

18.30-19.00 **David Roos**
University of Pennsylvania, US
Tba

19.00-19.15 **Gertraud Burger**
University of Montreal, CA
Novel genome architecture and gene structure in mitochondria of unicellular eukaryotes
(short talk)

- 19.15-19.30 **Matus Valach**
Comenius University, SK
Comparative analysis of mitochondrial genomes in yeast species from the Candida albicans-Candida parapsilosis clade
(Short talk)
- 19.30 Dinner
- 21.00 Poster Session I (even numbers) & Workshops

Monday, 22 October

Session 5: Population Genomics

Chair: **Edward Louis**, University of Nottingham, UK

- 08.30-09.00 **Vassiliki Koufopanou**
Imperial College at Silkwood Park, UK
Population genomics of a wild yeast
- 09.00-09.30 **Edward Louis**
University of Nottingham, UK
The Saccharomyces genome resequencing project: population genomic survey of S. cerevisiae and S. paradoxus.
- 09.30-9.45 **Dorothee Diogo**
Institut Pasteur, FR
Genetic diversity of the human fungal pathogen Candida albicans
(Short talk)
- 9.45-10.00 **Gianni Liti**
University of Nottingham, UK
Exploiting natural variation in telomere biology: mapping QTLs involved in multiple phenotypes
(Short talk)
- 10.00-10.15 **Joseph Schacherer**
Princeton University, US
General population structure and evolutionary genomics of Saccharomyces cerevisiae
(Short talk)
- 10.15-10.30 **Cecile Fairhead**
Institut Pasteur, FR
Comparative genomics of Candida glabrata clinical strains and closely related species
(Short talk)
- 10.30-11.00 Coffee Break

Session 6: Microevolution, Speciation, Hybrids & Genomic Conflict

Chair: **Eladio Barrio**, University of Valencia, ES

- 11.00-11.30 **Eladio Barrio**
University of Valencia, ES
Hybridization and the evolution of 'Saccharomyces' yeasts
- 11.30-12.00 **Barbara Dunn**
Stanford University Medical School, US
The industrial evolution of Saccharomyces
- 12.00-12.30 **Fred Dietrich**

- Duke University, US
Horizontal Gene Transfer and the Evolution of the fungi
- 12.30-12.45 **Marina Marcet Houben**
Centro de Investigación Príncipe Felipe, ES
*The evolutionary history of all genes from the human pathogen *Candida glabrata*: using evolution to unravel pathogenesis mechanisms*
(Short talk)
- 12.45-13.00 **Carmela Belloch**
Institute of Agrochemistry and Food Tecnology, ES
*Heterogeneity within *Kluyveromyces lactis* and *K. marxianus*. Sequence based relationships and presence of the lactose regulon*
(Short talk)
- 13.00-13.15 **Sandra Rainieri**
University of Modena and Reggio Emilia, IT
*The stability of multiple genomes in in vitro and in vivo *Saccharomyces* hybrids*
(Short talk)
- 13.15-13.30 **Paula Gonçalves**
Universidade Nova de Lisboa, PT
*Phenotypic evolution, genomes and ecological speciation in *Saccharomyces sensu stricto**
(Short talk)
- 13.30-15.00 Lunch

Session 7: Novel Developments in Comparative Bio-Informatics

Chair: Michael Ashburner, University of Cambridge, UK

- 15.00-15.30 **Michael Ashburner**
University of Cambridge, UK
Ontologies for genomes and evolutionary studies
- 15.30-16.00 **Klaas Vandepoele**
Ghent University, Belgium
Whole-genome analysis reveals molecular innovations and evolutionary transitions in chromalveolate species.
- 16.00-16.30 **Najib El-Sayed**
University of Maryland, US
Tba
- 16.30-16.45 **Michael Sadovsky**
Russian Academy of Sciences, RU
Comparative statistical semantics of genomes of eukaryotic microorganisms
(Short talk)
- 16.45-17.00 **Hamza El-Dorry**
American University in Cairo, EG
*Structure analysis and glucose-dependent expression of computationally identified hexose transporters genes in the filamentous fungus *Trichoderma reesei**
(Short talk)
- 17.00-17.30 Coffee Break

Session 8: Interactive Workshop on Bio-informatics/Databases

Chair: David Sherman, Université de Bordeaux, FR

- 17.30-19.30 Workshop
Marc Feuermann, Swiss Institute of Bioinformatics, CH
Nicolas Loira, CNRS, FR
- 19.30 Dinner
- 21.00 Poster Session II (uneven numbers)

Tuesday, 23 October

Session 9: Macroevolution & Tree of Life

Chair: Teun Boekhout, CBS Fungal Diversity Centre, NL

- 08.30-09.00 **Hervé Philippe**
Université de Montréal, CA
Phylogenomics and the eukaryotic tree
- 09.00-09.30 **Antonis Rokas**
Broad Institute of MIT, US
Describing the "tree of life": Attainable goal or stuff of dreams?
- 09.30-10.00 **Patrick Keeling**
University of British Columbia, CA
Horizontal gene transfer in eukaryotic evolution
- 10.00-10.15 **Bas Dutilh**
Radboud University, NL
Assessment of phylogenomic and orthology approaches for phylogenetic inference (Short talk)
- 10.15-10.30 **Carlos Echevarri-Erasun**
CBS Fungal Diversity Centre, NL
Evolutionary impact of the sterol pathway in shaping the eukaryote lineage (Short talk)
- 10.30-11.00 Coffee Break

Session 10: The Zoo "Novel Sequencing Projects"

Chair: Patrick Wincker, Genoscope Centre National de Séquençage, FR

- 11.00-11.30 **Mark Cock**
Algal Genetics Group, FR
Independent evolution of complex multicellularity in the brown algae
- 11.30-12.00 **Brett Tyler**
Virginia Polytechnic Institute, US
Genome sequences of oomycete pathogens reveal photosynthetic origins and mechanisms of pathogenesis
- 12.00-12.30 **Patrick Wincker**
Genoscope, FR
*The genome sequence of the ascomycete fungus *Podospora anserina**
- 12.30-12.45 **Nick Rhind**
University of Massachusetts, US
A first comparison of three fission yeast genomes (short talk)
- 12.45-13.00 **Claire Veneault-Fourrey**

Nancy University, FR

The genome sequence of the symbiotic fungus Laccaria bicolor: genetic potential for nitrogen mobilisation and transport
(short talk)

13.00-14.30

Lunch

14.30

Free Afternoon or Excursion to Girona

19.30

Get-together and Conference Dinner

Wednesday, 24 October

Session 11: Fungal Pathogens

Chair: Nick Talbot, University of Exeter, UK

08.30-09.00

Nick Talbot

University of Exeter, UK

Investigating the molecular basis of rice blast disease using a functional genomics approach

09.00-09.30

Brian Green

Johns Hopkins University School of Medicine, US

Virulence mechanisms in Candida glabrata

09.30-10.00

Melanie Cushion

University of Cincinnati College of Medicine, US

The transcriptome and genome of Pneumocystis carinii

10.00-10.15

Thierry Rouxel

INRA, FR

The invaded genome of the Dothideomycete Leptosphaeria maculans
(short talk)

10.15-10.30

Jan Schirawski

Max-Planck-Institute for Terrestrial Microbiology, DE

Comparative genomics as tool for the identification of pathogenicity loci in smut fungi
(short talk)

10.30-11.00

Coffee Break

Session 12: Animal & Protozoal Pathogens “Usual Actors in Unusual Scenarios”

Chair: Christiane Hertz-Fowler, Wellcome Trust Sanger Institute, UK

11.00-11.30

Artur Scherf

Institut Pasteur, FR

Immune Escape and Phenotypic Variation Strategies

11.30-12.00

Christiane Hertz-Fowler

Wellcome Trust Sanger Institute, UK

Telomere biology: the trypanosomatid way

12.00-12.15

Dave Barry

University of Glasgow, UK

The roles of subtelomeres in survival of African trypanosomes
(short talk)

12.15-12.30

Andrew Jackson

Wellcome Trust Sanger Institute, UK

Chromosomes 4 and 8 of Trypanosoma brucei are partial duplicons

- (short talk)
- 12.30-12.45 **Isabelle Florent**
Natural History Museum Paris, FR
Plasmodium falciparum cDNAs as tools to examine predicted gene structures in the *P. falciparum* genome
(short talk)
- 13.00-14.30 Lunch

Session 13: Comparative Systems Biology

Chair: **Hans Westerhoff**, Netherlands Institute for Systems Biology, NL

- 14.30-15.00 **Hans Westerhoff**
Netherlands Institute for Systems Biology, NL
Manchester Centre for Integrative Systems Biology, UK
Diversity in the regulation of cell functions
- 15.00-15.30 **Paul Michels**
Université Catholique de Louvain, BE
The use of comparative systems biology for the selection of enzymes as drug targets in trypanosomatid parasites
- 15.30-16.00 **Gaëlle Lelandais**
Université de Paris VII, FR
*Genome adaptation to chemical environment, clues from comparative transcriptomics in *Saccharomyces cerevisiae* and *Candida glabrata**
- 16.00-16.15 **Keietsu Abe**
Tohoku University, JP
*Mitogen-activated protein kinase (MAPK) pathways in *Aspergillus nidulans* and *Aspergillus oryzae**
(short talk)
- 16.15-16.30 **Dawn Thompson**
Broad Institute of MIT and Harvard, US
Comparative functional genomics: Reconstructing the evolution of central carbon metabolism in 13 fungal species
(short talk)
- 16.30-17.00 Coffee Break

Session 14: Postgenomics Applications in Comparative Genomics

Chair: **Claude Gaillardin**, Centre National de la Recherche Scientifique, FR

- 17.00-17.30 **Catherine Texier**
Université Blaise Pascal, FR
Microsporidia : From genomic to post-genomic studies
- 17.30-18.00 **Alistair Brown**
University of Aberdeen, UK
Evolution of fungal stress and responses
- 18.00-18.15 **Chris Hittinger**
Washington University, US
Gene duplication and the adaptive evolution of the classic GAL genetic switch
(short talk)
- 18.15-18.30 **Anthony Wright**
Södertörns Högskola, SE
Evolution and evolvability of transcription factors

- (short talk)
- 18.30-18.45 **Hideaki Koike**
National Institute of Advanced Industrial Science and Technology (AIST), JP
*Comparative study on function of orthologous genes between *Aspergillus oryzae* and *Saccharomyces cerevisiae*; gene disruption and expression profiles*
(short talk)
- 18.45-19.00 **Christian Marck**
Commissariat à l'Energie Atomique, FR
*RNA polymerase III transcriptional fusions in *Yarrowia lipolytica**
(short talk)
- 20.00 Dinner

Thursday, 25 October

Session 15: Novelties

Chair: **Steve Oliver**, University of Manchester, UK

- 08.30-09.00 **Steve Oliver**
University of Cambridge, UK
Insufficiency, sex, and survival: High flux control genes in yeast
- 09.00-09.30 **Jure Piskur**
Lund University, SE
Comparative genomics in industrial yeasts
- 09.30-09.45 **Brian Tuch**
University of California, US
*The evolution of combinatorial gene regulation by *Mcm1* and its cofactors*
(short talk)
- 09.45-10.00 **Berend Snel**
Utrecht University, NL
Comparative genomics of divergent eukaryotes reveals an early origin and subsequent massive independent gene loss in the evolution of the mediator protein complex
(short talk)
- 10.00-10.15 **Steve Robbens**
University of Ghent, BE
*Unique findings in the green alga *Ostreococcus tauri**
(short talk)
- 10.15-10.30 **David Fitzpatrick**
University College Dublin, IE
*Evidence for interkingdom horizontal gene transfer between bacteria and *Candida* species*
(short talk)
- 10.30-11.00 Coffee Break

Session 16: Perspectives & Integration

Chair: **Jean-Luc Souciet**, Centre National de la Recherche Scientifique, FR

- 11.00-11.30 **Philippe Baret**
Université catholique de Louvain, BE
*What do we expect of comparative genomics? A case study in *Hemiascomycetes*.*
- 11.30-12.00 **Jean-Luc Souciet**

Centre National de la Recherche Scientifique, FR

Comparative genomics of eukaryotic microorganisms: perspectives, questions

12.00-12.10

Ed Louis

University of Nottingham, UK

Summary and future plans

13.00

Lunch & Departure

Abstracts, Posters & Short Oral Presentations

There will be no short talks other than those listed on the programme. All other abstracts have been accepted as posters. The list of accepted posters is available from www.esf.org/conferences/07239

Posters can be fixed with self-adhesive tape, blu-tack or drawing pins onto double-sided poster panels. Recommended poster size is 130 cm high x 130 cm wide. Use letters and drawings that can be read from approximately 100 cm distance.