

YEAST BIOTECH 2.0
NEW YEAST, KNOWLEDGE & APPLICATIONS

INTERNATIONAL
SPECIALISED
SYMPOSIUM
ON YEASTS



37th International Specialised Symposium on Yeasts

National Wine Centre of Australia

MONDAY 27th NOVEMBER

TIME	PROGRAM	LOCATION
15:30-17:30	Registration and Exhibitor Bump in	National Wine Centre
17:15-18:30	Welcome Reception	
	Own arrangements for dinner	


***Program is subject to change at the discretion of the ISSY37 Organising Committee*

TUESDAY 28TH NOVEMBER

TIME	PROGRAM		DURATION (min)
07:30	Registrations Open		
08:30-08:45	Official Opening	Conference Chair Welcome and Official Opening	15
08:45-09:30	Keynote Address	Brenda Andrews - Using budding yeast to map the spectrum of possible morphological phenotypes in a model eukaryotic cell	45
09:30-10:35	Session 1 Yeast in Medicine Prof Dee Carter + Prof Johan Thevelein	Dee Carter - Repurposing bisphosphonate drugs to kill yeast pathogen	18
		Johan Thevelein - Novel Warbicin® family of phosphorylation-dependent glucose-uptake inhibitors in yeast and human cells as potential anti-cancer drugs	18
		Uwe Himmelreich - Do the different molecular types of the <i>Cryptococcus neoformans</i> / <i>Cryptococcus gattii</i> species complexes cause different clinical manifestations? A longitudinal <i>in vivo</i> assessment study of host-pathogen interactions and pathogen dissemination routes in murine cerebral cryptococcosis models	18
		Danfeng Long - Yeast extract exhibits great potential in mitigating alcohol-induced liver injury	8
10:35-11:00	MORNING TEA		25
11:00-12:30	Session 2 Bioprospecting and Collections Dr Kyria Boundy-Mills + Dr Krista Sumbly	Kyria Boundy-Mills - Myriad bioprospecting opportunities using the Phaff Yeast Culture Collection	18
		Benjamin Schulz - Capturing and characterising wild yeast for beer brewing	18
		Cristian Varela - A special drop: Characterising yeast isolates associated with fermented beverages produced by Australia's Indigenous peoples	18
		Vivien Measday - Whole genome sequencing of North American <i>Saccharomyces cerevisiae</i> strains isolated from spontaneous wine fermentations reveals a new Pacific West Coast Wine Clade	18
		Jiao Jiang - Indigenous wine yeast from China: biodiversity, oenological properties, and potential application in winemaking	8
		Tess Snyder - Digging deeper into Microbial Terroir: Biogeography of <i>Hanseniaspora</i> in Oregon's Willamette Valley Wine Region	8
12:30-13:30	LUNCH		60
13:30-15:05	Session 3 New Knowledge via Yeast Dr Jen Gardner + Prof John Morrissey	Sonja Billerbeck - The yeast toxicome: A potentially rich source of antifungals for food, agriculture, health, and biotech	18
		Adrianna Skoneczna - Live while the DNA lasts. The autophagy-dependent DNA loss in diploid yeast during chronological aging	18
		Nilima Walunjkar - Widespread divergence in protein stability between two <i>Saccharomyces</i> species	8
		Marek Skoneczny - <i>Saccharomyces cerevisiae</i> Hsp31p as a tool in the studies of Unconventional Protein Secretion	8
		Víctor Garrigós - Cytosolic peroxiredoxin Tsa1 modulates acetic acid levels in wine yeasts under fermentative and respiratory conditions	8
		Julius Battjes - Ethanol-lactate transition of <i>Lachancea thermotolerans</i> is linked to nitrogen metabolism	8
		Zheni Zhu - Anoxia-induced Rearrangements of cellular dynamics	8
		Shulei Liu - Yeast secretome response to the endoplasmic reticulum stress with revealing of stress-induced Bip secretion	8
		Marina Jecmenica - Exploring the genetics governing quantitative phenotypes in the yeast <i>Komagataella phaffii</i>	8
15:05-15:30	AFTERNOON TEA		25
15:30-17:05	Session 4 Yeast Interactions and Microbiomes Prof Florian Bauer + Dr Jenny Bellon	Florian F. Bauer - Characterisation of molecular targets of the co-evolution of the microalga <i>Chlorella sorokiniana</i> and the yeast <i>Saccharomyces cerevisiae</i>	18
		Sarah Knight - Effects of fungicide applications on non-target yeast communities during wine production	15
		Pilar Morales - Extracellular vesicles shuttle information between different wine yeast strains	15
		Benjamin Binder - Modelling spatial growth pattern formation in yeast colonies	15
		I Nyoman Sumerta - The interplay of yeasts in a complex environment of palm wine fermentation	8
		Maria J. Valera - Friendly yeasts for winemaking: flavours involved in yeast interactions mediated by cooperation or competition events	8
		Nguyen (Kevin) Hu - Cross-feeding promotes heterogeneity within cell populations, and the strategies to harness it for bioengineering	8
		Anna Julien-Ortiz - Metabolic interactions of <i>Saccharomyces cerevisiae</i> cocultures: a way to extend the aroma and chemical diversity of Chardonnay wine	8
17:05-18:30	Posters - Odd numbers	Exhibition Hall	
18:30-21:30	ICY Dinner (Commissioners only - The Vines Room)	Own arrangements for dinner	

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WEDNESDAY 29TH NOVEMBER

TIME	PROGRAM		DURATION (min)
07:30	Registrations Open		
08:30-09:15	Keynote Address	Anton Glieder - Next generation strains, vectors and methods for gene expression employing <i>Komagataella phaffii</i> (<i>P. pastoris</i>)	45
09:15-10:35	Session 5 The Yeast Bioeconomy Prof Andriy Sybirny + Assoc Prof Victoria Haritos	Andriy Sybirnyy - Non-conventional yeasts as promising producers of biofuel and high-value chemicals	18
		Weerawat Runguphan - Metabolic engineering of <i>Pichia pastoris</i> for sustainable production of biofuels and chemicals	18
		Riaan Den Haan - Engineering natural isolates of <i>Saccharomyces cerevisiae</i> for applications in lignocellulosic biorefineries	8
		Manja Mølgaard Severinsen - Conversion of methanol to itaconic acid with engineered <i>Komagataella phaffii</i>	8
		Roksolana Vasylyshyn - Engineering of <i>Ogataea polymorpha</i> strains with ability for high-temperature alcohol fermentation of cellobiose	8
		Kelly Boyd - Improving <i>Saccharomyces cerevisiae</i> phenotypes for enhanced first-generation ethanol production	8
		Johan Quezada - Overexpression of dihydroxyacetone synthase 1 in Mut+ <i>Komagataella phaffii</i> (<i>Pichia pastoris</i>) improves the tolerance to methanol and the productivity of recombinant proteins	8
10:35-11:00	MORNING TEA		25
11:00-12:40	Session 6 Yeast Cell Factories Dr Paul Attfield + Prof Milan Čertík	Paul Attfield - Yeast applications in decarbonising fuel and food production	18
		Milan Čertík - Construction of <i>Yarrowia lipolytica</i> strains for biosynthesis of conjugated trienoic fatty acids	18
		Patrick Fickers - Molecular toolbox for gene expression from erythritol regulated promoters	18
		Inge Van Bogaert - Turning oleaginous yeasts into free fatty acid producers: the mystery of fatty acid secretion	18
		Justyna Ruchala - Yeasts as cell factories for the production of bacterial compounds - aminoriboflavin and roseoflavin	8
		Ewelina Celinska - 'Mother (Nature) knows best' - hijacking nature-designed transcriptional programs for enhancing stress resistance and protein production in <i>Yarrowia lipolytica</i> ; presentation of YaliFunTome database	8
		Helena Godon - Unfolded protein response biosensors for recombinant protein expression	8
12:40-13:40	LUNCH		60
12:40-13:40	FEMS Yeast Research Lunch Meeting – Exhibition Hall		
13:40-15:10	Session 7 Yeast in Food + Beverages (1) Prof Hiroshi Takagi + Dr Cristian Varela	John Morrissey - Domestication of hybrid yeasts in fermentation environments	18
		Hiroshi Takagi - Functional amino acids engineering: A new breeding technology for brewing yeasts	18
		Graeme Walker - Fission yeast fermentations	18
		Jennifer Bellon - <i>Saccharomyces</i> interspecific hybridisation delivers evidence of hybrid heterosis in winemaking	18
		Natalia Caliani - Could fungicide treatment lead to changes in the makeup of native grape yeast communities?	8
		Nitnipa Soontorngun - Enhanced nutritional value of fermented drink by novel yeast strains with superior fermentability for bioconversion	8
15:10-15:40	AFTERNOON TEA		30
15:40-16:55	Session 8 Yeast in Food + Beverages (2) Prof Francisco Carrau + Assoc Prof Kate Howell	Kate Howell - Diversity and dynamics of fungi during spontaneous fermentations and association with unique aroma profiles in wine	18
		Francisco Carrau - <i>Hanseniaspora vineae</i> application for low input strategies in fermented foods. Searching for sustainability and flavor complexity	18
		Anna Wittwer - <i>Kazachstania</i> yeasts may lower bread fructan content in extended dough fermentations	8
		Rosalba Lanciotti - <i>Yarrowia lipolytica</i> strain potential to valorize cheese whey into sustainable adjunct for cheese sector	8
		Francesca Patrignani - <i>Yarrowia lipolytica</i> potential to valorize cricket powder into a versatile and safe food ingredient	8
		Jin-Chen Li - Getting rid of greenness in wines - A yeast strategy	8
		Jason Amos – Introduction to “Celebration of Yeast” Workshop	7
17:00-18:30	Posters – Even numbers	Exhibition Hall	
17:00-18:30	Workshop	“Celebration of Yeast” sponsored by	
Own arrangements for dinner			

THURSDAY 30TH NOVEMBER

TIME	PROGRAM		DURATION (min)
08:00	Registrations Open		
09:00-09:45	Keynote Address	Tom Williams - Competing with complexity: unlocking nature's potential using synthetic biology	45
09:45-10:30	Session 9 Posters Alive! 1-3 Slides in 5 mins Jason Amos	Teresa Zoladek - Genetic and physical interaction of Vps13 lipid transporter with Rsp5 E3 ubiquitin ligase: coordination of lipid synthesis with lipid transport?	5
		Ryoya Tanahashi - Isolation of <i>Saccharomyces cerevisiae</i> strains with higher proline uptake and their applications to beer and wine fermentation	5
		Sinead Robinson-Cast - <i>Saccharomyces cerevisiae</i> that grow without addition of vitamins	5
		Masako Takashima - Investigation of characteristic orthologs of Ascomycota and Basidiomycota: insights from principal coordinates analysis	5
		Lethukuthula Ngobese - Antagonist wine yeast <i>Saccharomyces cerevisiae</i> T206 challenges laboratory strains over-expressing dominant FLO genes	5
		Chris Curtin - Impacts of environmental conditions and initial yeast community composition upon Kombucha SCOBY community assembly and fermentation outcomes	5
		Shailja Mishra – Volatile chemistry of Yeast and Drosophila interactions	5
		Simon Schmidt - Uncovering the interplay between copper and SO ₂ tolerance in <i>Saccharomyces cerevisiae</i>	5
		Eun Jung Thak - Extension of O-Mannosylation Is Critical for Cell Wall Integrity Signaling and Interaction with Host Cells in <i>Cryptococcus neoformans</i>	5
10:30-11:00	MORNING TEA		30
11:00-12:20	Session 10 Panel Workshop Yeast as a Source of Ingredients in Plant-based Foods	Panel Chair: Phil Morle (Partner, Main Sequence)	10
		Panelists: Maciej Holowko (Head of Biofoundry, Nourish) Laura Navone (R&D Director, Eden Brew) Robert Speight (Director, CSIRO Advanced Engineering Biology Future Science Platform) Stella Child (Research and Grants Manager, Good Food Institute)	40
		Discussion	30
12:20-13:20	LUNCH		60
13:20-14:40	Session 11 Yeast in Food + Beverages (3) Dr Jin Zhang + Dr Jean-Luc Legras	Jean-Luc Legras - QTL mapping reveals novel mechanisms underlying variations in H ₂ S production during alcoholic fermentation in <i>Saccharomyces cerevisiae</i>	18
		Peter Costello - SO ₂ -production potential and early, transient acetaldehyde formation by <i>Saccharomyces cerevisiae</i> : implications for <i>Oenococcus oeni</i> co-fermentation	8
		Irina Borodina - Metabolic engineering of yeasts for the production of betalain-type natural colors	18
		Hidde Yaël Berg - Unlocking the secrets of peptide transport in wine yeast: Insights into oligopeptide transporter functions and nitrogen source preferences	8
		Claudia Vickers - 'Metabolic engineering in yeast for isoprenoid flavour, fragrance, and pigment molecules'	12
		Ramon Gonzalez - Softer wine with an improved combination of aeration and yeast strains	12
14:40-15:10	AFTERNOON TEA		30
15:10-16:20	Session 12 Genomics and Evolution Prof Vladimir Jiraneck + Dr Philip Bell	Philip Bell - Exploring the phenotypic plasticity of <i>Saccharomyces cerevisiae</i> using long term evolutionary programs	18
		Heide-Marie Daniel - New <i>Starmerella</i> genomes: genomic characteristics, molecular evolution, species divergence, and horizontal gene transfers	18
		Johnathan Crandall - An adaptive interaction between cell type and metabolism drives ploidy evolution in <i>Saccharomyces eubayanus</i>	18
		Estéfani García-Ríos - Deciphering subtelomeric variation in low temperature fermentation	8
		Yuuki Kobayashi - Intrageneric genomic relationship and evolution of non-model <i>Basidiomycota</i> yeasts based on chromosome-level genome assemblies	8
19.00-23.00	Conference Dinner Playford Hotel		

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FRIDAY 1ST DECEMBER

TIME	PROGRAM		DURATION (min)
08:00	Registrations Open		
09:00-09:45	Keynote Address	Verena Siewers - <i>In vivo</i> directed evolution for metabolic engineering	45
09:45-10:50	Session 13 Designer Yeast - Systems/Synthetic Biology Prof Sakkie Pretorius + Dr Tom Williams	Tom Collier - A lipid neochromosome for the over-expression of <i>Yarrowia lipolytica</i> lipid metabolism enzymes in <i>Saccharomyces cerevisiae</i>	18
		Charles Moritz - Improving the efficiency of one carbon metabolism in <i>K. phaffii</i> through enzyme and metabolic engineering	18
		Golnaz Memari - Pathway design for mixotrophic production of chemicals from CO ₂ and methanol in yeasts	18
		Charlotte Cautereels - Pathway engineering using recombination-based expression optimization and Cas3-guided base editing	8
10:50-11:15	MORNING TEA		25
11:15-12:15	Session 14 Yeast in Space and other extreme environments Prof Vladimir Jiraneck	Kate Poole – Can we use fission yeast as a model to understand the impact of microgravity at the cellular level?	30
		Corey Nislow – The Yeast Deletion Collection at 25: A snapshot of progress and a view towards the future	30
12:15-13:00	Final announcements and Symposium close	Jiraneck & Pretorius – Poster Prizes	10
		Mattanovich – ICY updates	10
		Bauer – ICY 2024	10
		TBA – ISSY 38	5
		Jiraneck & Pretorius – Final thanks and Symposium close	10



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