

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 |
| 12:30-13:30 | FEMS Yeast Research Lunch Meeting – Vines Room | | |
| 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 |
| | | Victor 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 | |

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

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 |
| 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 | | | |

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

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 | | |

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

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 |



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