



YEAST: PRODUCTS AND DISCOVERY 2019

A conference of the Australasian Yeast Group

Draft Program of the 8th Australasian Conference on Yeast: Products and Discovery



**Wilkinson Lecture
Theatre**

**Wilkinson Lecture Theatre,
UNIVERSITY OF SYDNEY Sydney NSW
4th-6th December 2019**

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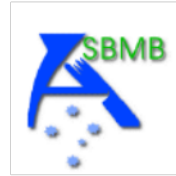
Evelyn Sattlegger, Massey University

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The Australasian Yeast Group (AYG)

www.ayeastgroup.org/



The Australian Society for Biochemistry and Microbiology

www.asbmb.org.au



The Australian Society for Microbiology



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**Marie Bashir Institute
University of Sydney**



**Ramaciotti Centre
for Genomics**

SCIENTIFIC PROGRAM

Day 1 Wednesday 4th December

9.00 am-10.00 am Opening remarks and Plenary Lecture

Chair: Dee Carter

Speaker: Sakkie Pretorius

Yeast 2.0 – building the world's first functional synthetic eukaryotic genome

10:00 – 10:30 am Morning Tea

10.30 am -12.00 Session I

“Industrial and Synthetic Fungi”

Chair: Traude Beilharz

Speakers:

1.1. Philip Bell (Microbiogen, NSW)

New industrial yeast for the biofuel industries

1.2. Victoria Haritos (Monash, Vic)

Engineering of yeast lipid biofactories

1.3. Heng Chooi (UWA, WA)

Strategies and tools for accessing the hidden treasure troves of fungi: bioactive molecules and biocatalytic enzymes

1.4. Nick Coleman (University of Sydney, NSW)

Taking the magic from mushroom to microbe: construction of an *E. coli* strain for psilocybin biosynthesis

12:00 – 1:00 pm Lunch

Chair: Justin Beardsley

1.00-3.00 pm Student Presentations and Posters

Session I



3.00-5.00 pm Student Presentations and Posters

Session II

4:30-7:00 pm Break with wine tasting from Tintilla vineyards (Hunter Valley winery) in the Great Hall or associated area – either the ante room or the courtyard in the Holme Building or outside in the Quad.

7:00 pm Dinner in the Great Hall



Great Hall

Day 2 Thursday December 5th

9.00-10.30 am Session 2

“Virulent Fungi”

Chair: Julie Djordjevic

Speakers:

2.1. Richard Cannon (University of Otago, NZ)

Candida auris an emerging multidrug resistant pathogen of humans (30 min)

2.2. Oliver Morton (WSU, NSW) (20 min)

Using infection models to study the interaction between *Aspergillus fumigatus* and the host.

2.3. Alex Idnurm (University of Melbourne, Vic) (20 min)

Opposing roles of DNA repair systems in fungal virulence as assessed in *Cryptococcus* species

2.4. Jiyoti Verma (Monash, Vic) (20 min)

Insights into chromatin dynamics and its role in fungal virulence.

10.30 - 11.00 am Morning Tea

11.00-12.30 Session 3



“The Microbiome and Biofilms”

Chair: Ana Traven

Speakers:

3.1. Megan Lenardon (UNSW)

A novel, *in vitro* model to study *Candida albicans* colonisation of the human colon.

3.2. Vanessa Rosetto Marcelino (MBI, University of Sydney and WIMR, NSW)

Novel approaches and challenges in fungal metagenomics

3.3. Bryan R. Coad (University of Adelaide, SA)

Antifungal surface coatings for preventing biofilm formation

3.4. Benjamin Schwessinger (ANU)

Pathogen Detection and the role of Microbial Communities in the phyllosphere during fungal infection of wheat.

12.30-1:30 pm Lunch

1.30- 3.00 pm Session 4

“Drug Discovery and Development”

Chair: James Fraser

Speakers:

4.1. Luke Guddat (University of QLD)

Acetohydroxyacid synthase: an antifungal drug target

4.2. Claudia Simm (Monash, Vic)

New Strategies to combat the superbug *Candida auris*.

4.3. James McKenna (La Trobe, Vic)

Plant defensins work in synergy with caspofungin against *Candida* species and can kill *Candida auris*

4.4. Avril Robertson (University of QLD)

Antifungal Cyclic Lipopeptides

3.00pm- 3.30 pm Afternoon tea

3.30-5.00 pm Session 5

“Networks and Regulation”

Chair: Evelyn Sattlegger

Speakers:

5.1. Marc Wilkins (UNSW) (20 min)

The Missing Link(s) in Proteomics: Network Discovery by Crosslinking Mass Spectrometry

5.2. Nikolay Shirokikh (ANU, ACT) (20 min)

Rapid RNA-level responses to stress revealed by translation complex profile sequencing in yeast

5.3. Mark Bleackley (LaTrobe, Vic) (20 min)

Proteomic characterization of *Saccharomyces cerevisiae* and *Candida albicans* extracellular vesicles to identify biomarkers and a potential role in antifungal drug tolerance.

5.4. Oliver Rackham (Perkins, CHIRI, Curtin) (20 min)

Using yeast to discover next generation tools for manipulating genes

5.5. Tim Tucey (Monash University) (20 min)

Inflammasome activation and metabolic control of innate immunity during fungal infections

5.00 pm SIG Meeting

7.00 pm Visit Marrickville Breweries

Day 3 Friday December 6th

9.00-10.30 am Session 6

“Yeast and Microfungi in the World”



Chair: Simon Schmidt

Speakers:

6.1. Cristian Varela (AWRI, Adelaide)

Discovering the indigenous microbiota associated with Australian Aboriginal and Torres Strait Islander fermentations

6.2. Manpreet Dhani (Manaaki Whenua Landcare Research, NZ)

Where the wild yeasts are: Reflections on how dispersal, environmental variability and competition shape metabolic potential of nectar yeasts

6.3. Laszlo Irinyi (WIMR)

Assessment of fungal diversity of Australian tree hollows in connection to the *Cryptococcus gattii* and *C. neoformans* species complexes

6.4. David Guest (University of Sydney, NSW)

The impact of fungal plant diseases on food security

10.30 - 11.00am Morning Tea

11-12.30 pm Session 7

“Genetics, Evolution and Resistance”



Ramaciotti Centre
for Genomics

Chair: Benjamin Schultz

Speakers:

7.1. Alex Andrianopoulos (University of Melbourne, Vic)

Adaptation to the host niche through cell shape control in the human pathogenic fungus *Talaromyces marneffe*

7.2. Austen Ganley (University of Auckland, NZ)

Building Rube Goldberg machines in yeast to explore unnecessary complexity in biology

7.3. Erwin Lamping (University of Otago, NZ)

Challenges of membrane protein research in *Saccharomyces cerevisiae*.

7.4. Anthony Borneman

Is SO₂ tolerance in *Brettanomyces bruxellensis* a developing concern?

12.30-1.00 pm Concluding Remarks and Prizes (Julie Djordjevic)