MICHAEL **ROACH**

96 Concord Drive, OLD REYNELLA, SA 5161 · +61 439 899 360
michael.roach@awri.com.au · https://bioinf.cc

EXPERIENCE

Jul 2019–Present
Research Scientist, Australian Wine Research Institute
Bioinformatician: grapevine and microbial genomics; interactive data viz; pipeline and webapp dev.

Feb 2016–Jul 2019
Post-Doctoral Research Fellow, Australian Wine Research Institute
Bioinformatician: grapevine and microbial genomics; pipeline dev; protein modelling; molecular docking.

Jul 2015–Feb 2016
Casual, Australian Wine Research Institute

2008–2015
Demonstrator & Tutor, Flinders University

EDUCATION

2015
Doctor of Philosophy, Flinders University
Bioinformatics and biochemistry: enzyme kinetics; protein modelling; molecular docking.

2007
Bachelor of Biotechnology (Hons), Flinders University

RESEARCH INTERESTS

Genomics
- Assembly, comparative genomics, marker discovery, phylogenetics

Software & Data Viz
- Bioinformatics tools, pipelines, webapps, interactive data viz
- bioinf.cc; bitbucket.org/mroachawri; github.com/mroach-awri

Protein structure
- Protein modelling, molecular docking, molecular dynamics

SKILLS

Proficient

- Perl, R, Python, Bash, Snakemake, GNU Make, Linux (+ sysadmin), Git (Bitbucket and Github), MS Office

Moderate

- SQL, Fortran, HTML & CSS, Shiny, Django, HPC, Cloud (Azure and Google), Anaconda, Adobe CS

PRESENTATIONS/AWARDS

Awards

- Coding competition winner, BioInfoSummer 2016
- AWRI Recognition Award, 2016

Posters

- Curating the FALCON-Unzip Chardonnay de novo genome assembly
  - BioInfoSummer 2016
- Population sequencing reveals clonal diversity and ancestral inbreeding in the grapevine cultivar Chardonnay
  - 17th Australian Wine Industry Technical Conference, 2019
  - Plant and Animal Genome XXVIII Conference, 2020, San Diego, USA

Talks

- Population sequencing reveals clonal diversity and ancestral inbreeding in the grapevine cultivar Chardonnay,
  - Australian Genomic Technologies Association 2018 Annual Conference
  - 17th Australian Wine Industry Technical Conference, 2019; webcast: bit.ly/2ytanb6

ASSOCIATIONS

Adelaide Protein Group

- apg.asn.au
- Committee member and webmaster

Australian Society for Biochemistry and Molecular Biology

- asbmb.org.au

Australian Bioinformatics and Computational Biology Society

- abacbs.org

PUBLICATIONS

Michael J Roach, Daniel L Johnson, Joerg Bohlmann, Hennie JJ van Vuuren, Steven JM Jones, Isak S Pretorius, Simon A Schmidt, Anthony R Borneman (2018) *Population sequencing reveals clonal diversity and ancestral inbreeding in the grapevine cultivar Chardonnay*. PLOS Genetics 14(11): e1007807. https://doi.org/10.1371/journal.pgen.1007807

26 citations*

Michael J Roach, Simon A Schmidt, Anthony R Borneman (2018) *Purge Haplotigs: allelic contig reassignment for third-gen diploid genome assemblies*. BMC Bioinformatics 19, 460: https://doi.org/10.1186/s12859-018-2485-7

62 citations*

C Varela, C Bartel, **M Roach**, A Borneman, C Curtin (2019) *Brettanomyces bruxellensis SSU1 Haplotypes Confer Different Levels of Sulfite Tolerance When Expressed in a Saccharomyces cerevisiae SSU1 Null Mutant* Applied and Environmental Microbiology, 85 (4) e02429-18; DOI: 10.1128/AEM.02429-18

4 citations*

Journal cover! (aem.asm.org/content/85/4.cover-expansion)

Antonio G Cordente, Anthony R Borneman, Caroline Bartel, Dimitra Capone, Mark Solomon, **Michael Roach**, Christopher D Curtin (2019) *Inactivating mutations in Irc7p are common in wine yeasts, attenuating carbon-sulfur β-lyase activity and volatile sulfur compound production*, Applied and Environmental Microbiology, 85 (6) e02684-18; DOI: 10.1128/AEM.02684-18

2 citations*

Michael J Roach, Anthony R Borneman (2020) *New genome assemblies reveal patterns of domestication and adaptation across Brettanomyces (Dekkera) species*, BMC Genomics 21, 194: https://doi.org/10.1186/s12864-020-6595-z

1 citation*

Michael J. Roach, Anthony R. Borneman and Simon A. Schmidt (2020) *The Origin of Chardonnay clones with historical significance in Australia and California*, Australian Journal of Grape and Wine Research (under review, minor revisions submitted)

* Google Scholar citation counts as of 18MAY2020

REFEREES

On request