SA Grape and Wine research Institute

Programme/Project Info for

Prospective MSc and PhD Students

# Programme: wine microbial ecosystems and biotechnology

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| 1)Biology of wine microorganisms  2)Microbial ecology and evolution  3)Microbial resources | This multidisciplinary, integrated program uses diverse complementary tools to assess the diversity of microorganisms in vineyards and wine fermentation processes and further explores the impact of mono- and mixed-cultures on wine properties. The molecular mechanisms underpinning interspecies interactions in diverse settings are investigated using a combination of microbiology, molecular biology and systems biology approaches.  The current research topics include:   1. Influence of viticultural practices on vineyard and fermentation microbiome 2. Biocontrol agents against grapevine pathogens 3. Yeast-yeast and yeast-bacteria interaction during fermentation 4. Yeast-microalgae for wine wastewater bioremediation 5. Using omics technologies to study microbial physiology and metabolism 6. Microbial strain improvement using biotechnology, breeding and directed evolution approaches 7. Biochemical and oenological characterization of strains |

# Opportunities for 2023

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| 1. Biology of wine microorganisms |  |
| 1. Microbial diversity, ecology and evolution |  |
| 3. Microbial resources and improvement |  |

# Contact information

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