Unlocking the genetic potential of grapevine for sustainable production
Project ID: ICHDR17 (PhD)

The majority of major wine producing grapevine varieties planted in vineyards have been produced through clonal propagation. This has narrowed grapevines genetic diversity and leaves them susceptible to climate change and disease pressures. Furthermore, the area suitable for grapevine production in major wine growing regions has been predicted to decrease by at least 25% by 2050, and potentially up to 73%. At the same time, new regions will become climatically suitable; however, how current varieties will adapt to soil and pest constraints in these new regions is unknown.

This project will sequence the genome of grapevine varieties that vary in their wine producing potential and stress tolerance to compare their genetic make-up and identify regions of the grapevine genome responsible for particular aspects of vine biology.

We seek a highly motivated PhD candidate with a high-level Honours or Masters qualification or equivalent in molecular biology, biotechnology, genetics, or bioinformatics. The project will be based at the Waite campus of The University of Adelaide. The candidate will develop skills/techniques in plant anther culture, next generation sequencing analysis and bioinformatics.

References

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