

The Mine Water and Environment Research Centre in Western Australia:

Engaging students in academics and industry

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Who We Are – What We Do



Associate Professor
Mark Lund - Director



Dr. Melanie Blanchette
Research Fellow



Michelle Newport
Research Assistant



Lorraine Wyse
Research Assistant

We are one of the only centres in the world dedicated to researching the unique chemistry and ecology of mine pit lakes, with expertise in the effects of **mining on freshwater ecosystems** (rivers and wetlands).

Supported by **nationally-competitive grant funding and industry**, we conduct research in urban wetland monitoring, stormwater drainage, constructed wetlands, stable isotope ecology, microbial metagenomics, and river ecology.

Our Centre uses cutting-edge technology to tackle some of the most pressing global issues: **remediation** of mined land and **protection** of water resources.

Mine lakes & catchment ecology

Mine lakes are formed after open-cut mining operations cease, and groundwater floods the newly cut void. Mine lakes are novel systems to study because they are *de novo* freshwater ecosystems with unique chemical and physical properties.



Mine lakes, while new aquatic ecosystems, are also a part of a catchment. Therefore, mine lake research draws upon ecological principles such as landscape connectivity, hydrology, riparian condition, and trophic interactions. **Our students have the opportunity to put classical ecological theory to work.**

Students & Interns

Our students and interns – both Australian and international – have year-round opportunities to **apply their aquatic education to practical challenges**. Our undergraduate students and interns work on coal mine sites, in urban wetlands, and in the laboratory.

Our postgraduate students (Master's and PhD levels) have researched urban stormwater runoff, the environmental effects of artisanal gold mining in Ghana, and the ecology of remnant fish populations.



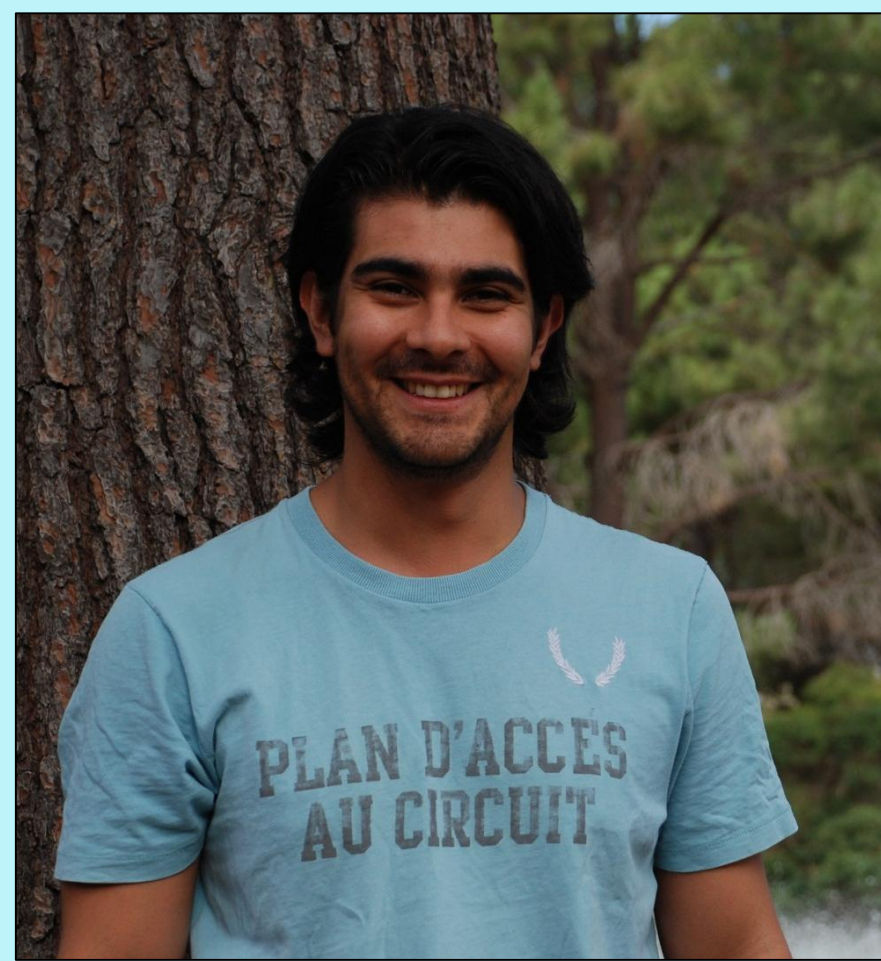
Scott Quainoo, an intern from Germany, working on an independent project investigating the use of **carnivorous plants** as biological controls of non-biting insects.

MiWER Centre



Future Directions

Our research is globally-relevant, and the skills that our students learn are transferable between industry, academia, and consulting. We welcome students from all over the globe to participate in our research activities, and receive training in how to tackle real-world environmental challenges.



Jay Gonzalez, an ECU Master's graduate from Colombia, researched the **aquatic invertebrate assemblages** of mine pit lakes with MiWER. Jay's study produced baseline data to inform future mine lake monitoring programs using aquatic macroinvertebrates.

