

ANZSMS Michael Guilhaus Research Award – awarded 2023

David Marshall, Queensland University of Technology

Project Title: Lights, Ions, (Re)action!

The Michael Guilhaus Research Award was presented to David Marshall at the 2023 Australian and New Zealand Society for Mass Spectrometry Conference at the University of Wollongong (coincidentally Dr Marshall's *alma mater*).

Funding from the award facilitated innovative modifications to mass spectrometers in the QUT Central Analytical Research Facility to safely deploy laser radiation to study the interaction of gas-phase ions with ultraviolet and visible light. The project yielded the first successful coupling of tuneable laser light with a mass spectrometer in Queensland, providing new capabilities for QUT students and researchers. Once linked, this instrument was used to profile the wavelength-dependent photochemistry of synthetic polymers with photolabile chemical groups, providing new insights into the fate of these novel materials when exposed to light.

The Guilhaus Award was the first external research funding granted to Dr Marshall and provided invaluable experience in project management. Research outcomes from this award will be leveraged into nationally competitive grant applications to further expand research in this area.