

ADVANCED ORGANIC CHEMISTRY LABORATORY CURRICULA IN AUSTRALIAN UNIVERSITIES: INVESTIGATING THE MAJOR TOPICS AND APPROACHES TO LEARNING

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A key goal of tertiary education is to prepare graduates with the training, skills, and knowledge necessary to thrive in the workforce. In chemistry, 50% of undergraduate students from Australia, New Zealand and the UK plan to pursue a career that uses chemistry (Ogunde et al., 2017). However, it has also been noted that there is a mismatch in the skills desired by industry when compared with what is taught to undergraduates (Martin et al., 2011; Yasin & Yueying, 2017). Laboratory work is an essential part of undergraduate programs with the objective of developing practical and interpersonal skills with 'real world' engagement in chemistry. It is therefore concerning to note the perception among industry stakeholders that the laboratory skills of high-achieving chemistry graduates do not meet the desired standard (Kirton et al., 2014).

This project aims to investigate how we can better develop higher level undergraduate chemistry laboratory programs to improve training and competency with industrially relevant skills. This research will undertake an initial investigation into the current organic chemistry laboratory curricula of second- and third-year courses in Australian universities through content analysis of laboratory manuals and unit outlines. To extend our understanding, semi-structured interviews will be conducted with key external stakeholders, academics, and post-graduate teaching staff. This presentation will introduce the initial stages of this project and expand on our intentions to utilise these data to develop an intervention and set of recommendations for undergraduate laboratories.

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