A DEGREE FOR TODAY'S SCIENTISTS: DEMYSTIFYING THE MORE-THAN-SINGLE DISCIPLINARY JOURNEY FOR STUDENTS

Michael Bowyer^a, Bonnie McBain^a, Liam Phelan^a, Mark Quinan^b, Hollie Tose^b, Andrew Yardy^c

Presenting Authors: Mark Quinan (Mark.Quinan@newcastle.edu.au) and Hollie Tose (Hollie.Tose@newcastle.edu.au) ^aSchool of Environmental and Life Sciences, The University of Newcastle, Australia ^bOffice of the Pro Vice-Chancellor, Faculty of Science, The University of Newcastle, Australia

^c,Centre for Teaching and Learning, Academic Division, The University of Newcastle, Australia

KEYWORDS: science education, multidisciplinary, interdisciplinary, transdisciplinary

Students commencing a science degree are most often interested in a particular discipline and see themselves graduating as a biologist, a chemist, a mathematician or physicist etc. (McInnis et al., 2000 & our own student surveys). In preparing for a major restructure of the Bachelor of Science at the University of Newcastle, we realized we needed to gently change the perceptions of commencing students about their potential graduate destinations. Our goal for students is to make explicit the full range of contemporary workforce relevant options, rather than emphasize only those that align with the existing 'stereotypes' about what scientists do. A more-than-disciplinary approach in teaching science knowledge and skills not only provides essential embedded transferable or entrepreneurial skills, but also allows our graduates to open up broader career opportunities.

The restructured Bachelor of Science degree was designed around an explicit more-than-disciplinary approach, with first year having a multidisciplinary focus, second year being an interdisciplinary year and third year students engaging in a transdisciplinary capstone experience.

This presentation will discuss how the Bachelor of Science degree at the University of Newcastle will explicitly give our students the skills and knowledge to navigate the more-than-disciplinary journey in becoming a contemporary scientist.

Proceedings of the Australian Conference on Science and Mathematics Education, The University of Sydney and University of Technology Sydney, 2 - 4 October 2019, page 16, ISBN Number 978-0-9871834-8-4