

# FUTURE-PROOFING CAREER READINESS IN SCIENCE GRADUATES: WHERE, WHEN AND HOW?

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## BACKGROUND

To ensure future career readiness, students must develop a range of skills and capacities including technical expertise, problem-solving abilities, effective communication, social and professional network building, interpersonal and cultural awareness, resilience, and adaptability (Jackson, 2018; Roberts, 2016; Tomlinson, 2017) as well as develop a well-grounded self-identity (Jackson, 2017). Given that careers are continuously evolving and perpetually fluid (Starr-Glass, 2019), graduates also need to critically perceive, engage, and reflect on their own identity and self-efficacy (Sarkar et al., 2016). However, recent research has shown that there is a lack of generic skill development in undergraduate science curricula (Sarkar et al., 2020) and academics have expressed concerns about their ability to provide reflective practice opportunities for students. This project, funded by the Australian Council of Deans of Science, aims to enhance the confidence and capability of academics to enhance their students career readiness; promote collaborative curriculum development between industry partners, graduates, and students; and develop national best practice guidelines for the enhancement of science graduate employability skills.

## THE WORKSHOP

You are invited to join us for a collaborative and interactive workshop to explore where, when, and how employability skills could be implemented within the Sciences curriculum. We have used insights from students, graduates, industry employers and academics to propose possible best practice guidelines. This workshop will specifically road-test the co-created guidelines while also providing an opportunity for participants to further explore the following aspects:

- development of generic skills identified as more difficult to teach (such as metacognitive and reflective abilities, resilience and adaptability)
- enhancing the knowledge of career pathways and connecting with employers
- scaffolding and integration of work integrated learning activities into the curriculum (both in the workplace and in the classroom).

## REFERENCES

- Jackson, D. (2017). Developing pre-professional identity in undergraduates through work-integrated learning. *Higher Education*, 74, 833–853.
- Jackson, D. (2018) Developing graduate career readiness in Australia: Shifting from extra-curricular internships to work-integrated learning. *International J Work-Integrated Learning*, 19, 23-35.
- Roberts, S. (2016). Capital limits: Social class, motivations for term-time job searching and the consequences of joblessness among UK university students. *Journal of Youth Studies*, 20, 1–18. <https://doi.org/10.1080/13676261.2016.1260697>
- Sarkar, M., Overton, T., Thompson, C. D., & Rayner, G. (2016) Graduate employability: View of recent science graduates and employers. *International Journal of Innovation in Science and Mathematics Education*, 24(3), 31-48.
- Sarkar, M., Overton, T., Thompson, C. D., & Rayner, G. (2020). Academics' perspectives of the teaching and development of generic employability skills in science curricula. *Higher Education Research & Development*, 39(2), 346–361.
- Starr-Glass D (2019) Doing and being: future graduates, careers and Industry 4.0. *On the Horizon*, 27, 145–152.
- Tomlinson M (2017) Forms of graduate capital and their relationship to graduate employability. *Education + Training*, 59, 338-352.

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