

GETCO₂ Capacity Building Portfolio - Mentoring and Professional Development Program

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1 Introduction

The **Capacity Building Portfolio** is responsible for leading, establishing and overseeing the *GETCO₂ Mentoring and Professional Development Program*. The Portfolio will work closely with the *IDEA Portfolio*, to ensure all mentoring and career development opportunities align with inclusive principles and positive actions to promote women and underrepresented groups to undertake careers in STEM, and to prevent the high levels of attrition that unfortunately are all too common in these fields. This Portfolio also connects with *Communication Education and Outreach* initiatives to promote the Centre's discoveries.

The Portfolio aims to develop Centre participants' research, industry and professional skills to generate the leading researchers, engineers, operators, and managers of electrochemical production facilities, to design, implement and troubleshoot transformative electrochemical technologies. Our initiatives will enable PhDs and Early/Mid-Career Researchers (ECR/MCRs) to develop their leadership and professional capabilities to ensure they can deliver fundamental research breakthroughs and industry-relevant outcomes.

2 Purpose

The purpose of this plan is to ensure that GETCO₂ has strategies in place to:

1. Provide excellent supervision, training and career development to all members, in particular students and early career researchers.
2. Ensure that capacity is built within the Centre and more broadly across the electrochemistry field.
3. Provide a framework for inclusive and sustainable capacity building.

3 Objectives

- Establish terms of reference for the Capacity Building Committee
- Establish an Early/Mid-Career Researcher Committee
- Develop a range of training and professional development opportunities for all GETCO₂ members
- Implement guidelines to ensure high-quality, multidisciplinary supervision
- Provide mentoring programs for all members, in particular, students

- Establish a program to engage and educate undergraduate students about GETCO₂

Detailed Objectives and Actions to achieve them are given in **Table 1**.

4 Strategy

- **Work with other Portfolios** to ensure that our training programs are equitable and cater for the diverse membership (*Equity and Diversity Portfolio*), facilitate the building of industry connections (*Outreach and Partnership Portfolio*), provide training of students and staff in communication with external partners including the public, government and industry (*Outreach and Partnership Portfolio*)
- **Annual Winter School.** The *Winter School* will be aimed at HDRs, ECRs, undergraduate students and where appropriate, school students interested in research. Rotating to each Node, each Winter School will have a focused theme and will draw on relevant Chief /Associate Investigators expertise. GETCO₂'s research activities will feed into series of hands-on workshops and world-class lectures on electrochemical engineering, materials characterisation, and CO₂ topics will be developed. We envisage that this content can be subsequently used for undergraduate and postgraduate coursework programs at participating organisations.
- **Undergraduate Summer Research Program.** Each year eight high-achieving undergraduate students from across the four Nodes will be selected to receive an Undergraduate Summer Scholarship (\$3,600 per student). The scholarships will enable the students to conduct research for ten weeks during the summer holiday period in one Node (ideally not in their home Node). These scholarships will encourage undergraduate students to pursue a postgraduate career with the Centre.
- **Industry Placement Program.** Recognising that alumni from GETCO₂ will have two distinct career pathways – academia and industry – the Centre, in collaboration with certain Industry Partners, will have short-term undergraduate and postgraduate student placements (from 10 weeks to 10 months) at a host organisation working on projects aligned to their own research and the Partner Organisation's strategic research interests.
- **Researcher Exchange.** The Centre will further complement the above-mentioned research training activities through formal cross-institutional and cross-theme supervision, informal mentoring, and research exchanges between Centre institutions, partner organisations and international partners. Travel support (up to \$3,000/trip) will be provided to allow students and supervisors to visit their secondary Nodes to experience other research environments and develop relationships face to face. Applications for Researcher Exchange will be made through the *Capacity Building Portfolio* on an ongoing basis.
- **Formal Mentoring.** GETCO₂ will implement a mentoring scheme across all career levels and expertise. Senior CIs will mentor junior CIs and E/MCRs outside their immediate research teams. The *Capacity Building Portfolio* will work with each Node Director to identify at least one local mentor and one external mentor for each member of the Centre. Mentoring will be conducted online between Nodes, face-to-face at local Nodes and during the Annual Conference.
- **Professional skills development.** Our career development framework will extend beyond both traditional researcher training and the *Industry Placement Program* to include professional skills that are crucial across a range of environments and workplaces. This will include:
 - (i) communication skills;
 - (ii) project management skills; and
 - (iii) work-life balance in the modern world – how can we do better?

These training activities will take the form of short courses and workshops and will leverage various participating institutional initiatives. These activities will be delivered online or face-to-face during the *Annual Winter School* and the *Annual Conference*.

Table 1: Detailed Objectives and Actions for the Capacity Building Portfolio

Objective	Area/Portfolio	Actions	Performance measures 2024 (* indicates an official KPI, see Table 2)
Develop a Terms of Reference (ToR) for the Capacity Building Committee within the first 6 months of GETCO2 operation	Administrative	Develop ToR for the Capacity Building committee, including composition of the committee, responsibilities, mechanism review of plan.	Developed within first 6 mths
Develop a Terms of Reference (ToR) and establish an independent Early/Mid Career Researcher Committee within the first 12 months of GETCO2. This Committee will provide advice and feedback to the Centre Management Committee on behalf of E/MCRs	ECR training	Develops ToR including composition of the committee, mode of interaction with Centre Management Committee, mode of interaction with other ECRs, term of membership	Developed within first 6 mths
		Establish committee	Established within first 12 mths
Develop clear guidelines for HDR supervision within GETCO2	HDR supervision	Determine processes required for external supervision arrangements (including CIs, PIs and AIs) at all participating universities	Collect information within first 6 mths
		Provide guidelines for supervisory team membership	Developed guidelines within first 6 mths
Establish a mentor network within the first 6 months of GETCO2	Mentoring	Explore options for developing a mentoring program for students and staff	Decide on option in first 6 mths
		Ensure Director, CIs, PIs and AIs are aware of mentoring responsibilities and methods	Within first 12 mths
		Establish a mentoring program	*Within first 12 mths
Establish a program to engage and educate undergraduate students about GETCO2	HDR capability	Develop a strategy to attract excellent and diverse Masters/Honours and PhD students	Develop within first 12 mths
		Offer a vacation scholarship program	Offer at end of 2024
		Attract new students	*12 PhD students enrolled *6 Masters/Hons students enrolled
Develop a program of training opportunities for members	Member training	Develop a program of training courses for 2024	*3 training courses offered within first 12 mths

Table 2. Target performance measures for GETCO2 Capacity Building at the mid-term review

KPI	Number
HDR students recruited	>120
ECRs recruited and retained	>30
Researcher exchange/placements (incl. international, industry, Nodal)	>50
Professional & leadership training activities (symposium and workshop)	>20