Undergraduate Research Exchange

A Colloquium for supervisors, academics and university managers

PROGRAM

9.30am **Welcome and introduction**
Initial welcome by the Chair of ACUR, Emeritus Professor Angela Brew
Institutional Welcome by Professor Pip Pattison, Deputy Vice-Chancellor (Education), The University of Sydney

9.45am **Keynote address**
WIL they understand? Students and supervisors discuss undergraduate research as a vehicle for employability development. Professor Susan Rowland and Lauren Carpenter, The University of Queensland.

Apprenticeship-style undergraduate research experiences provide students with an opportunity to learn in a professional work environment. Professor Rowland and student Lauren Carpenter argue that this is a form of Work Integrated Learning (WIL). Drawing upon their research into students' and academic supervisors' views, they explore what student participants and academic supervisors think in this context.

10.30am **Morning Tea**

11.00am **Institutional approaches to developing undergraduate research engagement**
Undergraduate research programs have a well-established presence in Australian universities with a variety of program structures, aims and outcomes being reported. In this session, invited speakers will outline strategies implemented in their institution. This will be followed by roundtable discussions and opportunities for the exchange of further initiatives.

Inquiry based learning at The University of Adelaide Professor Phil Levy, Adelaide University
The University of Adelaide identifies inquiry-based learning as a key characteristic of its future-facing undergraduate curriculum. This presentation will outline strategies used at the University to develop and embed small-group discovery, and other inquiry-based approaches, into undergraduate learning. Based on experience at the University, it will offer a reflection on success factors and challenges in facilitating institution-wide change for inquiry-based learning.

'Rising Stars': Engaging undergraduates in research through a research fellowship initiative Professor Denise Wood, Sunshine Coast University
This presentation will discuss an undergraduate research fellowship program, the Rising Star program, trialled at a regional university as a strategy for engaging students through mentored research activities. The findings from evaluation of the program will be presented and the potential of such initiatives for improving student retention and success, and promoting future research pathways discussed.

Create Change: Developing the researchers of tomorrow at The University of Queensland Sarah Campbell, The University of Queensland
This session will share how UQ manages its large multi-disciplinary Summer and Winter Research Programs, which contribute to research quality and impact whilst enhancing the employability of its student cohort.

11.45am **Roundtable discussions and sharing of further initiatives**

12.30pm **Lunch**

1.15 pm **Faculty and Departmental strategies for encouraging undergraduate research and inquiry.**
The Psychology Undergraduate Conference Travel Scheme (PUCTS) at Macquarie University Associate Professor Kevin Brooks, Macquarie University.
Since 2014, Macquarie University's Psychology Department has granted travel bursaries totalling over $24,000 to assist 52 UG students in attending ACUR. While this scheme is of great benefit to the students, it also reaps rewards in terms of encouraging our honours cohort to continue their study at MRes and PhD level.

Engineering microbes through iGEM - a case of education driving research.
Associate Professor Louise Brown, Macquarie University
The International Genetically Engineered Machine Competition (iGEM) is a global science competition which offers an authentic scientific experience to undergraduates in the field of synthetic biology. I will reflect on the educational benefits and research advances from my involvement in this unique student-driven, and open-science research program, over the past 10 years.

Students as co-creators in interdisciplinary learning
Professor Philip Poronik, The University of Sydney
Students in the near future will be entering university with new sets of digital skills and we will need to develop curriculum activities that build and on and extend their capabilities. One approach is to use research project space so that students can apply their skills to "real world" contexts while we provide them with the interdisciplinary scaffolds and peer-to-peer learning that allows us together to co-create outcomes that would otherwise not be feasible.

Further Roundtable discussions

2.30 pm **Choice of Brief Workshop** (Delegates choose one)

Either: **Research Skill Development, anywhere, anytime**
Dr John Willison, The University of Adelaide

The Research Skill Development (RSD) framework has been used over the past 15 years to inform teacher-facilitated, scaffolded research skills development, frequently within content-rich courses. Often the terminology of 'research' needs to shift, in preference to disciplinary ways of articulating sophisticated thinking skills, so as to maximise student understanding and engagement. The audience will be asked in this workshop to adapt the RSD terminology to enable such engagement. Examples will be provided to provoke discussion and adaptations.

Or   **[Research-based learning curriculum decision-making wheel](#)**
Emeritus Professor Angela Brew, Macquarie University
This workshop will introduce a practical framework designed to help navigate the various decisions that have to be made if students' learning is to benefit from research and inquiry experiences

[How to engage students in developing their employability](#)
Professor Dawn Bennett, Curtin University
Or   This workshop will introduce an initiative known as *employABILITY thinking*. An outline of how to engage students in their personal and career development without additional time, resources or expertise will be presented. Participants will be invited to participate as educators and/or members of the research lab which involves over 30 institutions worldwide.

3.15 pm   **Afternoon tea**

3.45 pm   **What students gain from engaging in undergraduate research**
Student panel with students from the ACUR Students' Committee

4.30 pm   **Closing remarks**,
What can ACUR do for you in the future? Dr Lilia Mantai, The University of Sydney
To include evaluation and take-away messages.
5.00 pm   **Close**

Presenters

Dawn Bennett is John Curtin Distinguished Professor of Higher Education with Curtin University, where she directs the [EmployABILITY Thinking Initiative](#).
Angela Brew is Emeritus Professor in the Office of HDR Training and Partnerships, Macquarie University. She is Chair of ACUR.
Kevin Brooks serves as Departmental Director for HDR in the Psychology Department at Macquarie University. Although he has no formal role in terms of encouraging UG research, a number of his students have presented their research at ACUR conferences.
Louise Brown is recognised nationally for her educational and entrepreneurial training of students in synthetic biology; and has mentored many award winning iGEM teams in the Department of Molecular Sciences at Macquarie University since 2010.
Sarah Campbell is a Program Coordinator within Student Employability at UQ, whereby she leads the Summer and Winter Research Program. Through her previous work at UQ and UTAS she has developed a passion for creating positive student experiences and now enjoys applying this within Student Employability.
Lauren Carpenter is an Honours Student under the supervision of Professor Susan Rowland at the School of Chemistry and Molecular Biosciences at the University of Queensland. She is interested in understanding the current effectiveness of science-based Undergraduate

Research Experiences in developing student employability, and how they can be harnessed as vehicles for employability learning.

Philippa Levy is Pro Vice-Chancellor (Student Learning) at The University of Adelaide. She previously was Professor of Learning and Teaching Enhancement at the University of Sheffield (UK) and Deputy Chief Executive, and Director of Academic Practice, at the UK's Higher Education Academy (now Advance HE).

Lilia Mantai is Academic Lead, Course Enhancement at The University of Sydney Business School. She was awarded a PhD for research on researcher development of doctoral students in 2017 at Macquarie University. She is a Senior Fellow of the AdvanceHE/Higher Education Academy.

Philip Peronnik is Professor of Biomedical Science (Educational Strategies), School of Medical Sciences, Faculty of Medicine and Health (The University of Sydney) His major focus is on student experience, students as partners using undergraduate research projects as the driver.

Susan Rowland is Professor and Deputy Associate Dean Academic (Future Students and Employability) for the Faculty of Science at The University of Queensland.

John Willison leads a 15 year, ongoing initiative considering [Research Skill Development (RSD)](#) and Assessment in the Curricula of disciplines in all faculties, interdisciplinary work and, more recently, in schooling. He led two major federally- funded projects and held a National Senior Teaching Fellowship in this area. He teaches into Initial Teacher Education courses in the School of Education, University of Adelaide.

Denise Wood AM is taking up the position of Pro Vice-Chancellor (Students) at the University of the Sunshine Coast in September. Formerly, as Director of the Centre for Learning, Equity, Access and Participation (LEAP) at CQUniversity she promoted undergraduate research as an effective strategy for engaging students, particularly those from under-represented groups, to improve student retention and success, as well as higher degree pathways.