

ACDS Teaching Fellowship - 2019

Information and Guidelines

The Australian Council of Deans of Science (ACDS) was constituted in 1995 to be the voice of science teaching and research in the university system. It comprises the deans of science faculties and senior representatives of science, from 37 of Australia's universities, including all publicly funded ones. The ACDS has a strong commitment to *be a national forum for developing and sharing ideas of best practice in research, education and industry/community interaction, in Australia's science faculties and schools.* (ACDS, 2016).

In 2013 the ACDS established the ACDS Teaching and Learning Centre to inform science faculties and their stakeholders about quality teaching and learning in science and mathematics, promote innovation in teaching and learning, and foster widespread improvement in practice. The Centre seeks to identify and promote consensus, providing a strong national voice on teaching and learning. Its members consist primarily of Associate Deans Learning and Teaching, discipline education networks and other recognised learning and teaching leaders.

In 2018, the ACDS agreed to establish the ACDS Teaching Fellowship to advance learning and teaching for science and mathematics in Australian Universities. The ACDS Teaching Fellowship Program draws on the success and experience of the ALTC and OLT Fellowship programs funded by the Australian Government 2006-2016.

Aims of the Fellowship Program

The aim of the ACDS Teaching Fellowship program is to advance learning and teaching in science and mathematics by fostering further development of learning leaders through strategic projects that address priority issues identified by the ACDS. The ACDS Teaching Fellows will work with Science Faculties, or equivalent, to expand good practice and increase capability.

The ACDS Teaching Fellowship program will:

- identify and interrogate key educational issues for science and mathematics in higher education
- design and deliver a program of activities achieves significant improvement in learning outcomes for science and mathematics graduates that can be sustained over time
- foster systematic application of good practice learning and teaching in science and mathematics
- foster the development of Science Faculties, or equivalent, as champions of good practice in learning and teaching
- link learning and teaching in science and mathematics to good practice in aligned and other academic disciplines
- establish and build on national and international networks and partnerships to promote best practice in learning and teaching

ACDS Fellowship

ACDS Teaching Fellows are emerging national leaders in learning and teaching who have the capacity to make a significant contribution to national educational leadership for science and mathematics. They are normally mid-career academics engaged in scholarly teaching practice with their contribution to learning and teaching in science and mathematics recognised by their home institution, or disciplinary or professional associations. ACDS Teaching

Fellows will have demonstrated expertise and scholarship in a field of relevance to the proposed fellowship activities.

ACDS Teaching Fellows undertake a 3 to 12 month program of activities addressing priority issues in learning and teaching in science and/or mathematics that have been identified by the ACDS (see Appendix A). In addition, ACDS Teaching Fellows contribute to the activities of the ACDS Teaching and Learning Centre through contributions to the ACDS TL Centre website and other communications and/or the management and delivery of ACDS Teaching and Learning Events including the ACDS Teaching and Learning Leadership Conference and the Australian Conference for Science and Mathematics Education (ACSME).

ACDS Teaching Fellowships are offered periodically; initially one fellowship will be awarded in 2019.

Maximum total funding available for each ACDS Teaching Fellowship is \$100,000 allocated to:

- stipend (including on-costs)
- fellowship activities
- support for an evaluator/critical friend
- attendance and contribution to ACDS Teaching and Learning events

ACDS Teaching Fellowships are designed to draw upon the particular expertise of Fellows to address priority issues identified by the ACDS. The application and specific activities of the Fellowship will be designed to leverage the teaching, disciplinary and leadership experience of the Fellow to ensure successful outcomes. Over time, ACDS Teaching Fellows are expected to contribute generally to the advancement of learning and teaching in Australian higher education.

Eligibility

Individuals who are employed by member organisations of the Australian Council of Deans of Science may nominate for an ACDS Teaching Fellowship with the support of their home institution. Fellows will normally be staff employed within a Faculty of Science or equivalent for at least the duration of the fellowship.

The list of eligible institutions is available from the ACDS website.

Selection Criteria and Process

The selection criteria for the ACDS Teaching Fellowship are modelled on the OLT National Teaching Fellowships (2006-2016). The selection criteria are:

1. **Capacity of the nominee** to play a leadership role in university learning and teaching in science and mathematics as judged by:
 - positive influence on the higher education community in science and mathematics;
 - record of achievement as an educator in higher education;
 - ability to influence and inspire colleagues and students
2. **Alignment of the proposed fellowship activities and outcomes with the aims** of the ACDS Teaching Fellowship program as judged by:
 - originality and viability of the fellowship activities and proposed methodology;
 - capacity to influence practice in learning and teaching in science and mathematics;
 - linkage to good practice nationally, internationally and in other disciplines
3. **Alignment of the proposed fellowship activities and outcomes with the identified priority areas** of the ACDS as judged by:
 - breadth and depth of positive impact on the identified priority areas of the ACDS (see Appendix A);
 - sustainability of change created as a result of the fellowship;
 - potential for further development and implementation within Science Faculties.

4. **Endorsement by home institution:** nominees will require a strong statement of support from their home institution, evidence that the time commitment to the Fellowship will be supported and must include activities to lead change in learning and teaching in their home Faculty of Science, or equivalent.

Nominations will be assessed on the basis of documentary information provided including:

- written candidate statement (max two pages) and project proposal prepared by the nominee (max five pages);
- statement of institutional support from the nominee's home Faculty of Science, including commitment to some financial support (in kind or additional funding) (max two pages);
- curriculum vitae (max five pages);
- two references (one to two pages each).

The selection panel will comprise members of the ACDS Executive (2), Director of the ACDS TL Centre and nationally acknowledged senior experts in science and mathematics education (2).

The design and delivery of the successful proposal may be modified through discussion with the successful applicant to maximise the likelihood of success. A final agreed proposal will be confirmed by the President, ACDS.

Fellowship activities and outcomes

Nominees are required to propose a coherent program of activities that will achieve the nominated outcomes of the fellowship. The fellowship project proposal will normally include:

- context and justification for the program of activities and alignment to the identified priorities of the ACDS
- outcomes from the proposed activities and measures of success and impact
- a coherent program of activities working with Science Faculties, and science and mathematics educators and leaders to achieve the nominated outcomes.
- a strategy for wide dissemination amongst ACDS members and the wider science and mathematics education community
- strategy for evaluation and recommendations for future development of the work.

Funding

Nominees are expected to include a fully itemised budget and justification for the funds requested. Funds provided to a successful nominee will be administered by their home institution.

The ACDS Teaching Fellowship provides funding for a stipend for the fellow, fellowship activities and for attendance at ACDS Teaching and Learning events. The total value of the fellowship is limited to \$100000.

Stipend

Nominees may elect to complete their fellowship full-time or part-time to suit the nature of the fellowship activities. The stipend is intended to provide part-time release from all or most normal academic duties for a period of three months equivalent full-time; on-costs must be included within this limit. The funded time committed to the fellowship may be distributed over a nine month period. This timing should be outlined in the proposal.

Fellowship activities

Allocation of funding will be determined by the nature of the proposed fellowship activities and may include, but is not limited to: research and administrative assistance, other research and development costs, travel expenses for dissemination and evaluation expenses.

ACDS Teaching and Learning Events

ACDS Teaching Fellows are expected to attend and contribute to ACDS Teaching and Learning Events during the fellowship year including:

- ACDS Teaching and Learning Leadership Conference (usually held July, no registration costs)
- ACSME (Australian Conference for Science and Mathematics Education) (usually held September)

Costs for attendance should be included in the Fellowship budget.

Evaluator and critical friend

ACDS Fellowship will be evaluated by a senior Australian education leader with relevant expertise, who will also act as a critical friend to the project. Costs for travel and evaluation should be included within the Fellowship budget.

Support from home institution

Applications must be endorsed by the Executive Dean (or equivalent) of the home Faculty (or equivalent) including a commitment to an in-kind contribution or direct funding. Home institution funding may include access to specific experts or support for local or national events.

Reporting and Accountability

ACDS Teaching Fellows will provide regular updates on the progress of the Fellowship to the ACDS Executive via the ACDS Teaching and Learning Centre reports. Two formal reports will be submitted to the ACDS Executive during the fellowship year.

An interim report, approximately halfway through the fellowship period including a statement of expenditure of funds.

A detailed final report setting out:

- the fellowship's activities and outcomes including participation by Science Faculties and science and mathematics educators
- findings from evaluation and recommendations for follow-on activities
- dissemination events
- financial report and acquittal

ACDS Teaching Fellows will publish a full set publications and materials produced on the ACDS Teaching and Learning Centre website.

Important Dates

- Call for applications launched: 26 September 2018
- Applications close: November 2018
- Selection: December 2018
- Fellowship: March 2019 - March 2020 (to be negotiated with successful applicant)
- Final report: July 2020 (aligned to ACDS Teaching and Learning Leadership Conference)

Alternative dates:

- *Call for applications launched: 26 September 2018*
- *Applications close: 29 January 2019*
- *Selection: February 2019*
- *Fellowship: Jun 2019 - July 2020 (to be negotiated with successful applicant)*
- *Final report: July 2020 (aligned to ACDS Teaching and Learning Leadership Conference)*

Appendix A: ACDS Priority Areas for Learning and Teaching - 2019

Improving teaching through systemic quality improvement

The ACDS is committed to driving systemic quality improvement learning and teaching in science and mathematics, and the development of national standards as benchmarks and reference points which give teaching and learning leaders a framework within which to promote quality, and the confidence to do so.. Publication of the Science Threshold Learning Outcomes (Science TLOs) created national consensus for the broad outcomes that should be achieved by study in any Bachelor of Science; that is what a science graduate should know and be able to do (Jones, Yates et al. 2011) but not how learning should be supported and led, and teaching delivered.

Systemic improvement in learning and teaching requires alignment across:

1. informed and effective leadership of learning and teaching
2. agreed standards for graduate outcomes and teaching design and delivery
3. valid measures of graduate outcomes and good teaching practice
4. professional development that creates widespread and sustained improvement

Disciplinary associations have a leadership role in tailoring decades of educational research to teaching practice in the discipline, and in fostering peer-to-peer learning that leverages shared standards. Implementation of teaching standards and systematic quality improvement by Faculties will be more effective if tailored to the specific needs of disciplines and grounded in effective disciplinary teaching practice. The development of effective measures of graduate outcomes, systematic implementation of standards for teaching practice and informed leadership are therefore priorities for the ACDS.

Themes for 2019 ACDS Teaching Fellowships

In 2019, the ACDS fellowship will address issues in systemic quality improvement which can be applied at scale. Nominations should present creative and effective approaches to address one or more of these themes.

1. Standards and quality indicators for good teaching practice in science and mathematics

At present, there are no nationally adopted standards for teaching practice in Australian universities but momentum is increasing. Chalmers (2017) created national teaching standards for Australian Universities based on local and international research. Many Australian universities have joined UK HEA fellowship scheme based on the UK Professional Standards Framework (AdvanceHE, 2018) which identifies components of good teaching practice. Other standards initiatives are applicable to particular practice (eg ACODE standards for online teaching) or specific disciplines (eg PULSE program from the US (Cary and Branchaw 2017).

2. Systematic evaluation and benchmarking of graduate outcomes, learning design and delivery standards in science and mathematics that drives improved learning and teaching

Evaluation against accepted criteria is essential to continuous improvement of teaching and learning. Measurement of the quality of learning and teaching is routinely measured by student performance on assessment tasks, student feedback and/or by peer review. The utility of evaluation relies on the validity of the measures used and how teachers and learners use the information. Effective benchmarking requires shared criteria and standards which can be developed collectively across a discipline (ABCD 2016) and recognition of existing institutional benchmarking schemes.

3. Building effective leadership for improved learning and teaching

Leadership creates the environment for excellent learning and teaching and a culture of continuous improvement. Leadership includes formal Faculty leadership positions, local course and discipline leaders and informal leadership – the champions for learning and teaching. Effective leaders set standards for quality and empower others so that improvement is verifiable, sustained (Henderson, Beach et al. 2011), and build capability in teaching teams.

References

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