



## **ANNUAL REPORT 2017**

### **About us**

The Australian Council of Engineering Deans (ACED) has formally been in operation for more than 20 years, with the stated mission *“To create economic and social impact by advancing engineering education, research and scholarship on behalf of Australian universities.”*

ACED does this in the national and international interest, which for education and research includes assuring the public that engineering graduates will conduct their work in the public interest with due regard for human safety and the sustainability of the environment.

ACED is an incorporated association whose members are the Australian public universities that provide undergraduate and postgraduate degree programs and research in engineering.

The Council elects a President for a two year period. The President is supported by the Executive Committee, whose members are elected by the Council.

The Council meets in full twice a year (Spring and Autumn).

ACED has strong links with the Australasian Association of Engineering Education (AaeE) whose members are primarily engineering academics in Australian and New Zealand universities. ACED sponsors the annual AaeE award for Excellence in Teaching.

ACED invites a representative of the New Zealand Council of Engineering Deans to attend Council meetings. ACED supports and encourages members to become members of the Global Engineering Deans Council (GEDC)

ACED also has strong links with Engineers Australia (EA). Representatives of the EA Accreditation Centre attend all ACED meetings to inform and discuss with members developments in the national engineering program accreditation system, and matters of importance arising within the International Engineering Association (IEA) that has oversight of the international engineering education Accords of which EA is a member.

### **ACED Governance**

#### **Executive Committee (at Dec 2017)**

President:	Professor John Wilson
Deputy President:	Professor Ian Burnett
Past President:	Professor Moses Tade
Members:	Professor Friso de Boer Professor Scott Smith Professor Elisa Martinez-Marroquin Ms Bernadette Foley (representing the ADTL Group) Professor Roger Lewis (representing the ADR Group) Dr Tom Goldfinch (representing the AaeE Society)
Executive Officer:	Em Professor Doug Hargreaves AM
Consultant:	Em Prof Robin King

## ACED Objectives:

- **Promotion:** To provide a forum for Australian leaders of engineering education to discuss matters of mutual concern and national importance, thereby contributing to matters such as raising general community awareness on the need for and value of high-quality engineering education, research training in the higher education sector.
- **Engagement:** To further the interests of engineering education and research in the higher education through engagement and outreach with relevant national and international bodies, particularly EA, AaeE and NZCED
- **Policy:** To develop positions and make statements on relevant issues in response to government inquiries and concerns of professional and industry bodies, and to the media and the general community
- **Projects:** To initiate and conduct reviews and projects consistent with its mission. This would include monitoring the state of engineering education and scholarship, benchmarking programs and resources and the quality of outcomes
- **Leadership:** To support the development of leaders of engineering education and research within the faculties and schools.

## ACED Activities

### Guest speakers at Council Meetings

- Mr Philip Davies, CEO of Infrastructure Australia
- Ms Christine Chen, Warren Centre director. She was named in the [40 under 40 Women in Tech](#) by Girls in Tech Taiwan.
- Ms Julie King (ACARA) – Implications for universities of the new National curriculum on ‘Digital Technologies’ and ‘Design and Technologies’
- Mr Peter MacIntyre, new CEO of Engineers Australia.
- Ms Renee Trentini [Academy of Science] - Update of the Athena SWAN SAGE project on Gender Equity
- Dr Lachlan Blackhall, CEO, Reposit Power and Batterham Medal winner.
- Ms Bernadette Foley (Uni of Adelaide) or Representative. “Developing a Management System for Engineering Education” – project update
- A/Prof Sally Male (Uni Western Australia): “Update on the Virtual Work Integrated Learning project”
- A/Prof Anne Gardner, UTS – “Professional identity and agency: changing the way STEM students think about their learning and development”

## **ACED Projects**

During 2017, ACED supported the following projects:

- Professional Engineering Practice in undergraduate education (Prof Bill McBride, University of Newcastle).
- Virtual Work Integrated Learning in undergraduate education (A/Prof Sally Male, University of Western Australia).

ACED compiled and published (see website) the *Australian Engineering Education Student and Staff Statistics*, from data purchased from the Australian Higher Education Statistics collection and other national sources. Recent enrolment and graduation numbers and trends are provided later in this report.

## **ACED Representation on other bodies**

ACED participates in the reference group for the *F-10 Design and Technology* school curriculum implementation, convened by the Australian Curriculum, Assessment and Reporting Authority (ACARA). Together with *Digital Technologies*, this curriculum is part of the compulsory school curriculum, and introduces and develops engineering concepts and practice.

## **Tripartite Committee.**

Engineers Australia (EA), Academy of Technological Sciences and Engineering (ATSE) and ACED held two tripartite meetings in 2016. The main topics were related to national issues of common interest including university-industry collaboration, gender diversity and attracting more students into the STEM pipeline.

## **ACED Presentations at national and international conferences**

Male S, Pointing D and Hargreaves DJ (2017): “.The Emerging Suite of Virtual Work Integrated Learning Modules for Engineering Students” AaeE Annual conference, Manly, Dec 2017.

Workshop 73: “Planning Engagement with Professional Practice throughout the Program” - Sally Male, Doug Hargreaves and David Pointing, AaeE Annual conference, Manly, Dec 2017.

Panel Discussion facilitated by Robin King on “Directions for Engineering Education: the Engineer of 2035”, AaeE Annual conference, Manly, Dec 2017.

### **ACED Submissions to national reviews**

ACED responds to requests to respond to the Australian government's consultation processes on matters that relate to engineering education and research. Responses are normally then published on the ACED website. In 2017, ACED made responses.

- To the Innovation and Science Australia '2030 Strategic Plan Issues paper', March 2017.
- To the House of Representatives Standing Committee on Employment, Education and Training "School to Work Transition Inquiry", and attended the Roundtable Public Hearing", Brisbane November 2017.
- ACED, through Bill McBride and the ADTL group, also contributed to the TEQSA Guidance Note addressing Work Integrated Learning.

### **ACED Publications**

- Position Statement: "Increasing the participation of Women in Engineering Education", March 2017.
- Position Statement: "Embedding Aboriginal and Torres Strait Islander perspectives into the engineering curriculum", August 2017.
- Australian Education Facts: An update on the status and trends in Australia's higher education system for engineering, April 2017.

### **ACED Letters of support for national projects:**

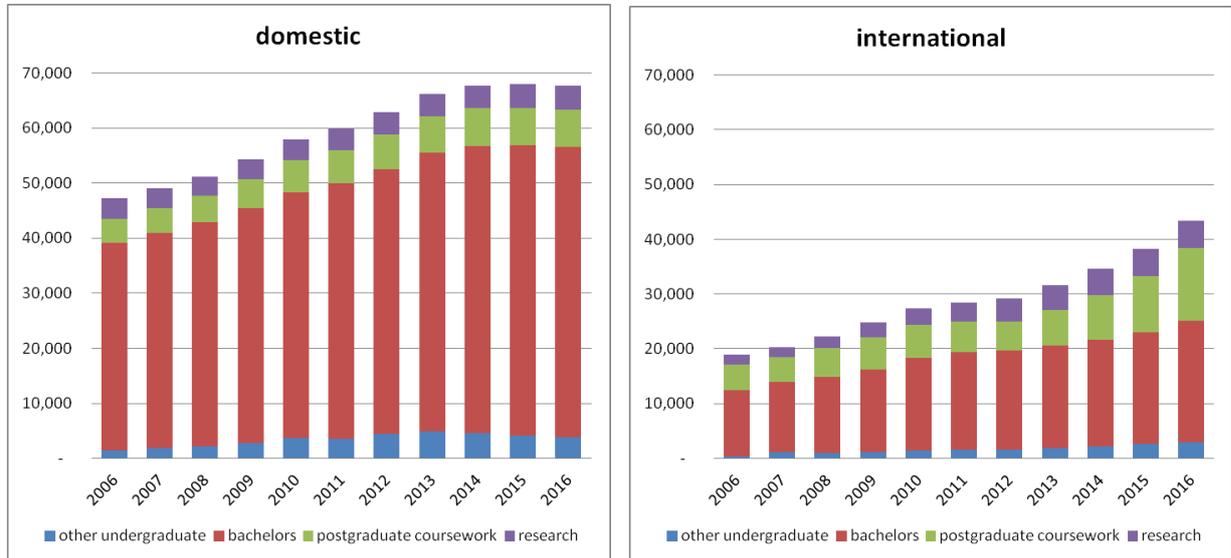
- Letters of support for Professors Dawes, Lyons and Tytler in support of their submission to the STEM Partners Forum were provided.

### **ACED Financial Report (from Auditor's report)**

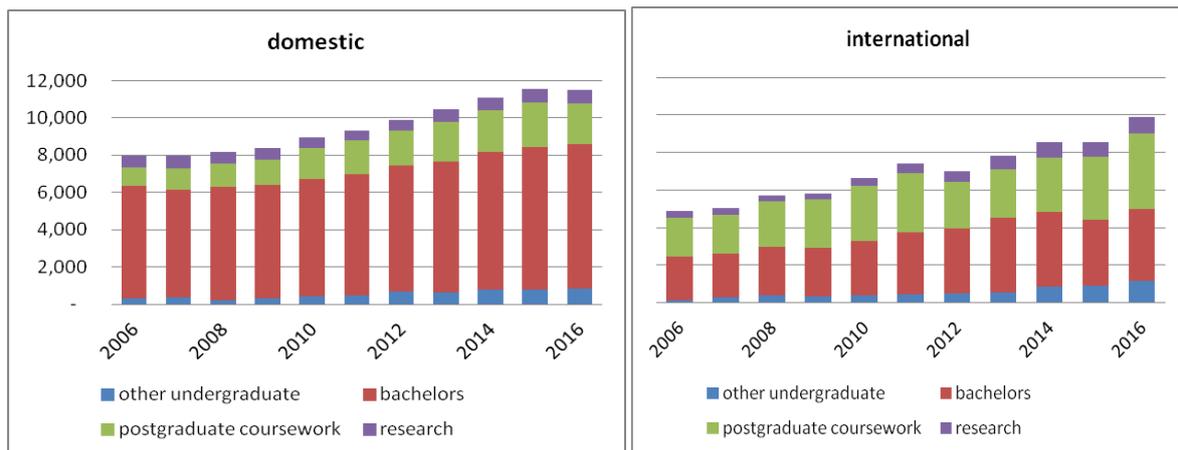
Opening Balance (1 Jan 2017)	\$ 129 139
Income (members' dues + interest)	\$ 139 095
Total Expenditure	\$ 106 256
Retained surplus (31 Dec 2017)	\$ 161 978
Total Current Assets (all 4 accounts)	\$167 755
Total Current Liabilities	\$ 5776
Nett Assets	\$161 978

## Student enrolments and graduations, 2006 – 2016

There were more than 110,000 students enrolled in higher education qualifications in engineering and related technologies in 2016. Domestic enrolments have plateaued whilst international enrolments have increased significantly over the past few years as shown in the following charts.



Graduations in engineering exceeded 21,000 in 2016. International graduates constituted 46.2% of the total graduating cohort, with recent growth in postgraduate coursework degrees. Women constituted 15.7% of the domestic graduates and 19.3% of the international graduates.



## Contact us

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