



CELEBRATING TEN YEARS OF THE INDIGENOUS AUSTRALIA ENGINEERING SCHOOL (IAES) IN WA



In July Curtin University hosted the 10th IAES in Western Australia. Twenty students from Western Australia, two from Northern Territory and one from South Australia, came together in Perth. Each day the students attended an on campus workshop where a particular Engineering discipline or principle was demonstrated and also made an off-campus site visit to an Engineering project of an EAA Sponsor. Further details of the IAES start on page 3.

A highlight of the IAES was the reception hosted by Governor Kim Beazley AC at Government House Perth for the students, Curtin representatives and EAA's Sponsors to celebrate 10 years of the IAES in Perth. At the reception, Governor Beazley AC presented Vice Chancellor of Curtin Professor Deborah Terry AO with a gift of appreciation from Engineering Aid Australia.

"I am grateful to share this historic occasion with you tonight and I thank Engineering Aid Australia and its supporters for strengthening our communities through the gift of education."
- Gov Kim Beazley July 2019

TRIBUTE TO BOB

Vale our Patron

(Written by EAA Director Jeff McMullen June 14th 2019)

"Across Australia we are united in our love, respect and grieving for one of the greatest Australians of our lifetime, Robert James Lee Hawke, who has passed away at the age of 89. The former Prime Minister died peacefully at home with his wife, Blanche D'Alpuget and other family by his side. He expressed no fear of death and in his last days turned his words to the political

cause of equality in the country he loved so dearly.

Mr Hawke spoke often of his huge satisfaction and sense of responsibility in encouraging young Indigenous people to become 'nation builders'.

The students, Aboriginal and Torres Strait Islanders from around the land, responded to his authenticity and the keen way he listened to their aspirations. In the words of one of New South Wales' first Aboriginal engineers, Ben Lange, "Forever, our Uncle Bob". In expressing his love of all Australians, Bob Hawke was in return loved by so many."

MESSAGE FROM OUR NEW PATRON



Statement from His Excellency General, the Honourable David Hurley AC DSC (Retd), Governor-General of the Commonwealth of Australia

"I am delighted to become Patron of Engineering Aid Australia. For over 20 years, Engineering Aid Australia has quite literally, been 'building futures'.

By helping Indigenous high school students, particularly those with an aptitude for maths and science, to

complete high school, progress to university and into engineering careers they support not just the individual, but also the broader community and, ultimately, all of Australia.

Engineering Aid Australia's Indigenous Australian Engineering School (IAES) Program helps young Indigenous people achieve their potential and, in doing so, our nation to reach its.

I look forward to working with the organisation's volunteer directors and management team, its supporters, including sponsors from the engineering, mining, construction and infrastructure sectors, and the wonderful young people participating in the program."

2019 HIGHLIGHTS

- 10th anniversary of IAES in Western Australia hosted by Curtin University
- The Governor-General of Australia becomes the new Patron of Engineering Aid Australia following the passing of our former Patron, the Hon Bob Hawke AC
- A second IAES alumnus, Ezra Jacobs-Smith, joins EAA Board of Directors
- 2 IAES - Sydney (Summer) and Perth (Winter) Schools for 46 students
- 8 Jeff Dobell Memorial Scholarships awarded to former IAES students after enrolling in Engineering studies at an Australian University
- EAA sponsors six former IAES students to return to Curtin University for the IAES Extension Program (a week-long STEM mentoring Program)
- EAA sponsors a former IAES student to participate in Curtin University's Robotics Challenge
- EAA's website re-launched —www.engineeringaid.org
- Three new Partnerships including a Principal Partnership in WA
- Generous private donations received following the death of our Patron, The Hon Bob Hawke



MORE NEWS FROM ENGINEERING AID AUSTRALIA

EAA CHAIRMAN'S MESSAGE 2019

Earlier this year in Sydney, we were inspired by the words of one of the Indigenous Australian Engineering School (IAES) participants. Giwangallani Mendez Williams reminded us that Aboriginal people were the first engineers of this land. "We are innovators, radical thinkers, survivors and problem solvers," she said. "As an Indigenous person, I feel that it is our duty to look after this land."

To all IAES students, I say, if you choose an Engineering career, you will not regret it. Your work will improve quality of life by potentially solving big problems like rising sea levels and transforming to renewable energy. Remember, Scientists may identify the problems, but it is Engineers who solve them

This year, 46 IAES students and 6 students attended the IAES in Perth (Winter) and Sydney (Summer). All of the students receive our Continuing School Scholarships on their return to High School.

To all our Partners, we give thanks. It is only with your continued support that we can inspire Indigenous Australians to build their future by assisting them to complete High School and enter University. So far in 2019, we have welcomed three new Partnerships, including Woodside Energy, Corrosion Control Engineering and Norman Disney Young.

In July, we celebrated a decade of the IAES in Perth. At the Gala Dinner to acknowledge this milestone, we presented three of the eight Jeff Dobell Undergraduate Scholarships awarded this year. We also presented two Rt Hon R.J.L. Hawke Capacity for Leadership Awards.

Sadly, this year, we farewelled our beloved Patron, the Rt Hon Bob Hawke AC. For more than two decades, Mr Hawke had encouraged many Aboriginal and Torres Strait Islander students in their aspirations. We thank everyone who chose to honour Mr Hawke with a donation to EAA and every person who helps EAA to **Build Futures** and inspire tomorrow's leaders.



TELEVISION REPORTERS REVISIT IAES AFTER 10 YEARS IN WA

Perth's Channel 10 reporters interviewed several of the students attending the inaugural IAES in 2010 including Torey Rickerby, and came back in July to interview Torey now that he is a Graduate

CHANNEL 10 INTERVIEW - 2010



CHANNEL 10 INTERVIEW - 2019



UNDERGRADUATES RECEIVE THEIR JEFF DOBELL MEMORIAL SCHOLARSHIPS AT THE GALA DINNER

Chairman of EAA Greg Steele presents IAES Alumni **Cody Frick** - Bachelor of Engineering (Honours), **Cate Hollingsworth** - Bachelor of Engineering (Chemical Engineering), Bachelor of Science (Extractive Metallurgy) and **Taylor Cortez** - Bachelor of Applied Science (Architectural Science), with their JDM Scholarships given in memory of EAA's founder.

These three scholarships add to the four JDM Scholarships that were awarded in March 2019.



EAA Chairman Greg Steele with Cody, Cate and Taylor



HIGHLIGHTS FROM THE IAES WEEK

PERTH, JULY 2019

WORKSHOP SESSIONS

The on-campus workshop sessions provided an introduction to various Engineering disciplines and principles.



IAES Extension students Oscar Logan and Taleah Ugle with their mentor Alicia McLean (centre), setting goals at the beginning of the week.



IAES students Jye, Taniel, Madison, Arnold and Albert working as a team on the DMAIC "Think like an engineer" activity, which simulates a manufacturing supply chain process. DMAIC - Design, Measure, Analyse, Improve and Control.

FLOATING PLATFORM ACTIVITY

Facilitated by Engineers Without Borders (EWB), this activity was a hands-on workshop that allowed students to apply engineering and science principles about materials, buoyancy, surface tension, weight distribution, and other related concepts, to an issue faced by populations in developing countries.



Hands-on floating platform activity

REAL LIFE FLOATING PLATFORM ACTIVITY

As a real-life follow up to the EWB activity, the students were given advice on how to construct rafts using ropes, planks and drums. They then built rafts in teams in preparation for a major paddle challenge. This activity was a great team building activity aimed at encouraging a group to work together more effectively, and to apply some new learnings from the previous activity for a human-scale floating platform.



Students working in groups to prepare their rafts



Students testing the rafts

HIGHLIGHTS FROM THE IAES WEEK

CONT.



VISIT TO MUNSTER TAFE—WORKING OIL AND GAS PROCESS PLANT

ORGANISED BY HONEYWELL

The PPE induction was a meaningful reminder of the way of life of on-site engineers. The remote operator simulation involved the students actually working on the systems that would be used on off-shore rigs. The control room and plant visit were not hands on activities, but were an opportunity to see what actually happens on such plants.



Students made new friends from all over WA, NT and SA at the IAES

MINE SITE REHABILITATION WITH PROFESSOR KINGSLEY DIXON, WA SCIENTIST OF THE YEAR

Professor Dixon from the School of Molecular and Life Sciences (MLS) in the Faculty of Science and Engineering at Curtin University took the students on a bush tour to learn about mine site rehabilitation.



Professor Kingsley Dixon shares his work and knowledge of Mine site Rehabilitation with the students

IDEA GENERATION & ENTREPRENEURSHIP IN ENGINEERING — INDIGENOUS HEALTH FOCUS

This session was facilitated by Google rep Mark McDonald, Biomedical Engineering Entrepreneurship Researchers Matthew Oldakowski and Intan Oldakowska, Health Start-up Expert Arthur Ong, Houseparent/Medical UWA student Lesha Brown.

Participants were first introduced to a range of health problems more common for Indigenous Australians by Lesha. Following this they were introduced to the concept of ideation and hackathons and guided through a process where they tackled these health problems and came up with their own solutions. After this, they pitched to the group and everyone voted on the best one.



Former IAES student and 2019 Houseparent Lesha Brown is studying Medicine at UWA. Lesha is pictured here with Joyleen Koolmatrjie – Counselling and Disability Services, Curtin University

EVENING CULTURAL TIME WITH SHAUN NANNUP

Shaun Nannup Director at 'WISDOM in Your Life' facilitated three sessions for the students during the week.

The first was a smoking ceremony on the Sunday night before the Official opening of the IAES, the second was a Relationships and Leadership session and finally Shaun spoke to the students at the Perth Observatory with a session titled 'Dreaming stories of the Sky'.



Shaun Nannup from 'WISDOM in Your Life' arranged Cultural and leadership sessions for the students

HIGHLIGHTS FROM THE IAES WEEK

CONT.



ROCKETS

Facilitated by Angelique Waszewski – STEM Outreach Ambassador/
Theoretical Physics student at Curtin.

The students learned about the basics of propulsion and rocket design, then went through a design and build process to build a water powered rocket, and launch it.



Rocket launching was a very popular activity at the IAES

ARUP DESIGN WORKSHOP

This was an amazing opportunity, initiated by Kate Buckle from Arup. Arup have provided engineering services work pro-bono to assist a concept of an Aboriginal Healing Centre in Newman.

After an introduction about why this centre needs to be established, Kate and a number of other engineers then set out some of the practical engineering problems that would need to be overcome to make the building a reality. The participants then formed groups, brainstormed solutions and reported back to the group as a whole at the end.



Kate Buckle welcomes the students to Arup Office for a Design workshop

EZRA JACOBS-SMITH

Mr Ezra Jacobs-Smith, IAES 2007 alumnus, engaged the students with the question: *“Why should you care about engineering?”*

Ezra is a Noongar man using his engineering background to facilitate change in the Wadjemup (Rottneest Island) development. He is a passionate advocate for IAES, engineering generally and his culture. Ezra is the second IAES alumnus to join the EAA Board of Directors.



Ezra speaking at the Gala dinner

PERTH QUARRY

Each day during the IAES week the students made a site visit.

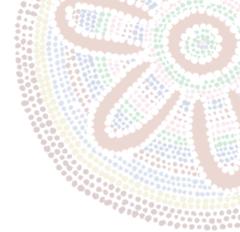
The students visited a quarry to see where and how construction materials are sourced.



Group photo at the quarry

HIGHLIGHTS FROM THE IAES WEEK

CONT.



OTHER SITE VISITS DURING THE IAES WEEK

NEW WOODSIDE BUILDING IN PERTH

At Woodside's new building in Perth the students were given a tour and were then able to hear from Engineers about their careers.

SOFTWARE ENGINEERING—BUILD A REAL IPHONE APP

Professor David McMeekin and PhD Computer Science student Rudy Streets helped the students to create and build their own app. They learned about user design and the psychology of user experience, too. The end result was an app that works, so they could actually upload it to their phone and use it.

TINY RADIO TELESCOPES

Greg Rowbotham, PhD student at the International Centre for Radio Astronomy Research, facilitated a hands-on, construction and mathematics/physics activity in which the students built and used a small version of a radio telescope to capture information and calculate the temperature of the sun.

SKA PROJECT

Shandip Abeywickrema from Aurecon gave the students a presentation on the SKA, including the technology and human resources needed and how it impacts not just Australia but the whole world. This is a global collaboration that includes two Engineering Aid Australia Partners Aurecon and ICRAR, as well as Curtin University and many other organisations and governments around the world.

SMART CITIES

Mark Henaway, Australia's first Indigenous Electrical Engineer (Aurecon) gave the students an inspirational talk on Smart Cities.

COMMUNITIES SESSION

Students had an opportunity to hear from practicing Engineers about projects that they have been involved in that have benefited communities and then had time to speak with the Engineers on a one on one to ask questions and share stories.



Students pause for a photo between workshops



NETWORKING FUNCTION

At this careers-fair style session Engineers from EAA's Sponsoring companies answered questions on a one-on-one basis from the students regarding Career opportunities with their companies.



VICE REGAL RECEPTION

Governor Kim Beazley and Ms Susie Annus gave the students a warm welcome at Government House and hosted a delightful Reception for them together with representatives from Engineering Aid Australia's Partnering Companies and Academics from Curtin University.



Governor of WA The Honourable Kim Beazley AC with the students at Government House



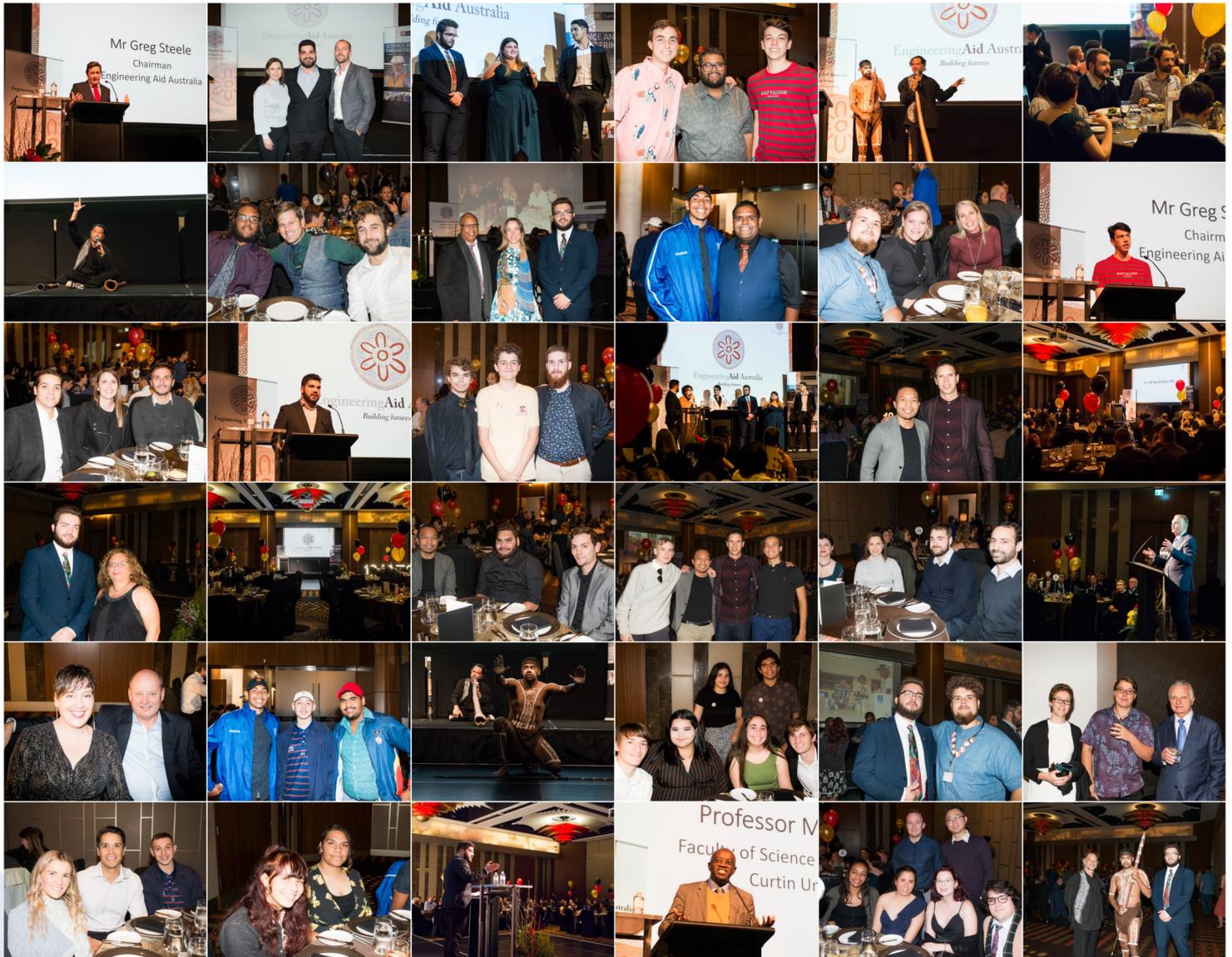
GALA DINNER



Tristan Hunter receives the Bob Hawke Capacity for Leadership Award from Professor Moses Tade (left) and Greg Steele Chairman of EAA (right).

At the conclusion of the IAES week Engineering Aid Australia celebrated the tenth anniversary of the Indigenous Australian Engineering School being held in WA and hosted by Curtin University.

With an emotional Welcome to Country from Shaun Nannup, inspirational keynote address from Jeff McMullen, speeches from IAES alumni, dance performances from Derek Nannup, and fantastic food and decorations, it was a night to remember. IAES Graduation certificates were awarded with each student also receiving a copy of Bruce Pascoe's book "Dark Emu". The Hon Bob Hawke Capacity for Leadership award was presented to Tristan Hunter.



THE GENEROUS SPONSORS WHO MAKE THE IAES PROGRAM POSSIBLE

The IAES program is funded by generous donations from the following Sponsors:

Arcadis, Arup, Aurecon, Babcock, Baxter Charitable Foundation, BG&E, Corrosion Control Engineering, EY, Google, Honeywell, ICRAR, James N Kirby Foundation, John Holland, Laing O'Rourke, Lyndsay Dynan, Minerals Council of Australia, Minter Ellison Lawyers, Mosman Rotary, My Business Hosting, Norman Disney Young, SMEC, Taylor Thomson Whitting, Transport for NSW, Veolia, Woodside, WSP and private donors including Jenny Smith and Richard and Beth Facer.