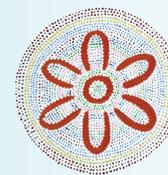


# IAESS SUMMER SCHOOLS JANUARY 2016

Indigenous Australian Engineering Summer Schools



EngineeringAid Australia  
Building futures

## Indigenous Australian Engineering Summer Schools 2016



EAA Chairman, Greg Steele

I am proud I to be associated with this inspiring organisation which has for almost 20 years - together with our sponsors and supporters - continued the important work of providing young Aboriginal and Torres Strait Islander students with the inspiration, motivation and opportunity to complete the Indigenous Australian Engineering Summer School (IAESS) program and choose Engineering as a career option.

Whilst a lot of deep thought and hard work goes into running a program such as this, we have always been amply rewarded by the enthusiasm and career successes of the students who participate.

Terrific examples of success of the program are past participants Grant Maher (Inaugural Sydney IAESS 1998) being appointed as the inaugural chairman of the Engineers Australia Indigenous Chapter, and the appointment of Ben Lange (IAESS 1999) to the EAA Board of Directors in June 2015.

**Greg Steele**  
Chairman of EAA and CEO of Arcadis



In Sydney, the Hon Bob Hawke AC presents Dylan Wood with the Capacity for Leadership award that bears his name.



At Curtin University, Peter Berry presents John Morgan with the Hon R.J.L. Hawke AC Capacity for Leadership award.

## IAESS Undergraduates 2016

Name	University	Degree
Isaiah Turner	Sydney	Electrical Electronics
Lachlan Bon	UQ	Engineering
Neika Chatfield	UQ	Engineering
Josh McLeod	Wollongong	Engineering
Maddison Lenord	Canberra	Biomedical Science
Aidan Train	Southern Qld Toowoomba	Engineering
Pamela Spek	Flinders	Engineering
Nick Young	Newcastle	Chemical Engineering/ Business
Tahj Smith	Curtin	Engineering
Brad Devon	Curtin	Engineering
Matt Jackson	Curtin	Science
Kyron Cole	Curtin	Science
Jessie Scally	UWA	Engineering

## Breaking News - IAESS Student Update



Completed Bachelor of Science, majoring in Engineering Science and Management. Now onto the Masters of Professional Engineering: Mechanical Stream"- Torey Rickerby.

# Indigenous Australian Engineering Summer School (IAESS) at Sydney University January 10-16, 2016

## SUNDAY- JANUARY 10

Thirty-three students - drawn from as far afield as North Queensland, Central Victoria and South Australia - made their way to the University of Sydney to take part in an extremely diverse week-long Indigenous Australian Engineering Summer School (IAESS) program.

## MONDAY - JANUARY 11

The week began with an opening ceremony which was followed by a tour of the campus. In the afternoon the students went on a site visit to Google where they wrote code for a Lego car challenge.



At Google, students wrote code for a Lego car challenge.



Enjoying the Google experience to the full.

## TUESDAY - JANUARY 12

During a visit to the UNSW Mining School the students met with Professor Peter Hall Executive Director Mining Education Australia, had access to a 3D simulator and then participated in a "Cookie Mining" activity, mining for chocolate chip cookies.



Mining for chocolate chip cookies



Designing a shoulder brace at the Biomedical session



Engrossed in the task at hand at the Biomedical session



Students faced various mechanical car safety, electrical and robotic challenges at Sydney Uni

In a Biomedical session at Sydney Uni students explored Biomedical design tasks and faced various mechanical car safety, electrical and robotic challenges.

After lunch the students were introduced to "Augmented Reality" at the Laing O'Rourke - Centre for Excellence.

## WEDNESDAY - JANUARY 13

A site visit to Qantas presented the students with an opportunity to climb into the cockpit of a Qantas A380. Later in the day at the Communities Session, students listened attentively to a number of inspiring anecdotes relating to Water, Fire, Electrical, Civil and Navy /Aeronautical Engineering. The session was moderated by WSP Parsons Brinckerhoff engineer, Jacob Hyland (IAESS 2008)

At the Networking Function that followed, students enjoyed meeting with engineers from our sponsoring companies.



Richard Mueller, Head of Engineering Veolia, talks to students at the Communities Session



Peter Johnson (Arup Fellow) at the Networking Function



Tara Dias of Arcadis at the Networking Session

## THURSDAY - JANUARY 14

The students visited a site relating to a power station upgrade for Transport for NSW.

Following an electrical Engineering workshop at the University, the students met with Dr Richard Barnes from Arcadis, who designed and maintains the BridgeClimb.



*On a site visit arranged by Transport for NSW*

## FRIDAY JANUARY 15

Found the students challenged to “think like a designer”, at the Kent Street offices of Arup, where they teamed up with five engineers to work on proposals for a new Sydney Harbour crossing.



The Graduation Dinner, where IAESS Patron The Hon Bob

*IAESS Patron the Hon Bob Hawke AC presents Mark Streeter with his Graduation Certificate*

Hawke AC presented the students with their Graduation Certificates, took place in the evening.

Eloquent guest speaker Dr Jeff McMullen urged students to be aware of the responsibility they had to remember and honour the struggles of their forefathers and mothers.

## SATURDAY - JANUARY 16

Governor-General Sir Peter and Lady Cosgrove hosted the students and other guests, including Sponsors and University personnel at a morning tea in the elegant harbour side setting of Admiralty House.



*Students attend a morning tea hosted by the Governor General, Sir Peter and Lady Lynne Cosgrove- seen at right in the front row of this group photo, with the Hon Bob Hawke AC and his wife Blanche d'Alpuget.*

# Indigenous Australian Engineering Summer School (IAESS) at Curtin University January 10-16, 2016

## SUNDAY – JANUARY 10

Twenty Indigenous high school students (nine girls and eleven boys) attended the 2016 IAESS at Curtin University. The students came from far flung places in Western Australia including Kalgoorlie, Broome, Port Hedland, Esperance, Albany, Boulder and Katanning. There was also one student from White Rock Qld and one from Darwin NT.

## MONDAY- JANUARY 11

The official opening of the 2016 Summer School began with an extremely moving and evocative Welcome to Country and Smoking Ceremony which was conducted in Noongar, the local Aboriginal language.

The first activity took place at the Engineering Pavilion where student formed groups to discuss their career pathways with young engineers. The discussions were followed by electrical circuit building of an alarm system and a robotics programming exercise and competition.

The afternoon was spent at the International Centre for Radio Astronomy Research (ICRAR) where students used optical telescopes to take sun observations.

In the evening the students visited the Perth Observatory for a barbecue, followed by observations of the stars and planets and an inspiring cultural session with Shaun Nannup.

## TUESDAY – JANUARY 12

Students spent the morning at Fortescue Metals Group (FMG) to see the on-line production control centre where the iron ore is tracked in real time from excavation at Christmas Creek, Nullagine to Port Hedland. They then went on to the new Perth Stadium construction site hosted by design engineers for the project, Engineering Consultants BG&E.

Professor Peter Newman then hosted a lunch, after which the students went on to Aurecon where they formed groups and met with Aurecon engineers to discuss career paths.

## WEDNESDAY – JANUARY 13

The morning was taken up by ‘Lean Lego’ - a serious instructional game which focuses on simulated process, production and inventory control, using Lego pieces.

This was followed by site visit to Ausdrill, manufacturer of drilling equipment widely used in the WA mining industry.

Back at the University, the students took part in a simulated task which had them searching for reservoirs of oil in sandpit trays. The remainder of the day was spent building aerodynamically designed rockets using PET soft drink bottles propelled by compressed air. Testing took place on the nearby playing field.



*Searching for reservoirs of oil in sandpit trays*

#### THURSDAY JANUARY 14

The students visited Woodside HQ to learn about oil and gas exploration. They also took part in a simulated strata-exploring exercise. Then it was back to Curtin where, in the chemical engineering lab they made artificial snow and learned about the development of a water retaining product used for soil and baby nappies. They made an elastic "slime" to demonstrate irreversible chemical reactions.



*Students found the Networking Function very useful as a source of future contacts*



*Taking the opportunity to find out more at the Networking Function*

The late afternoon was spent in the computer lab, learning about designing and creating computer generated animation figures.



*Learning about designing and creating computer generated animation figures*

This was followed by the Networking Function, where the students had the opportunity to meet sponsors, who provided information about their companies.

#### FRIDAY JANUARY 15



*Abseiling at the local quarry*



*Students learned the importance of team work in a problem solving task*

In the morning, the students enjoyed the challenge of abseiling in a local quarry with a qualified instructor. This was followed by a feedback session (results to be published) where the response from students was extremely positive and all expressed their gratitude to EAA for the experiences that the IAESS had provided for them.

At the Graduation Dinner a Welcome to Country was delivered by Shaun Nannup. Curtin Pro-Vice Chancellor Andris Stelbovics welcomed guests and EAA Director, Larissa Andrews then read a personal message from IAESS Patron The Hon Bob Hawke AC. The keynote guest speaker was Professor Mark Hackling Emeritus Professor at the Edith Cowan Institute of Education Research at Edith Cowan University.

## Feedback From Students

*"I attended the IAESS in 2014 as a year 11 student and it was a fantastic opportunity that provided me with some invaluable experiences. To be able to talk with people about their transition from school to university and from university to a professional occupation, is an amazing opportunity to gain insight. These conversations helped me build confidence in my choice to study civil engineering at The University of Southern Queensland in 2016".*

**Aidan Train - IAESS Student 2014**

## Our Grateful Thanks to EAA Sponsors and Donors

The Board of Engineering Aid Australia would like to express our grateful thanks to our sponsors. Without their continued generous support, the annual Indigenous Australian Engineering Summer Schools would not be possible. As you will see from the information in the student update on page one, together we are indeed building futures.