

# THE AUSTRALIAN POWER INSTITUTE

NOVEMBER 2015

This November Newsletter will highlight the 2015 Solar Car Challenge Program and plans for the 2015 Bursary Award Ceremonies to be carried out across the nation.

## SOLAR CAR CHALLENGE 2016

API provides part funding for The Solar Car Challenge along with the Australian Academy of Technological Sciences and Engineering (ATSE). API supports this program by providing class sets of reusable model solar car kits for up to 50 schools Australia wide using the Science and Technology Education Leveraging Relevance (STELR) Renewable Energy Module. Each class set makes 15 model solar cars comprising a chassis, two sets of wheels, a motor, a gearbox and two solar panels.



This year there were 33 participating schools across 5 states (TAS, QLD, NSW, SA & VIC). The solar car activity is the culminating activity of the STELR Renewable Energy module where students apply the knowledge they gained from the STELR unit. Students test their cars against each other. The kits are provided free of charge to schools.

API encourages involvement between university engineering students (who currently are part of the bursary program) with participating high schools by sending each school a university student to deliver a presentation on careers in the renewable energy industry. During the visit the young undergraduate engineers will also assist with solar car construction, judge the cars, and often times award the winning prizes.

## JOYS OF SCIENCE SPREAD ACROSS THE NATION

### TASMANIA

*"This year's API solar car program was a great success in Tasmania. Four API students, Joshua Paoli, Hugh Morris, Karl Bicevskis and Daniel Minnucci all took part in visiting both Mackillop College and Hounville High School.*

*Over the course of the program students became creative in ideas to power up and modify the stock designs. Hounville students modified the chassis to incorporate 2 motors – (4WD solar cars!). The Mackillop students were eager to give their cars more power and range so purchased 100F supercapacitors to install. This exercise gave them practise in soldering and they gained additional confidence from modifying the cars.*

*Overall we were well received, and the students (and Teachers!) learnt a lot while enjoying the informal nature of our visits. The Teachers are already looking forward to incorporating the program into their classes next year. The program is a great success in schools because the facilitation of API students enables the class to take a more technical nature. Some students we met had obvious technical interests in electricity and we were more than happy to answer their questions and give them opinions on different career choices."*

**- Daniel Minnucci representing Tasmania API Bursary Holders**





## QUEENSLAND

*"Centenary State High School held a wildly successful final testing day for the Solar Car Challenge to a crowd of at least 100 students and teachers. Committed teams of Year 10 students in groups of three or less took turns testing their own model solar car designs on the track. I have seen these students working tirelessly in my visits over the last 6 weeks during their morning breaks to construct their own racer for the event.*



*The fastest solar car covered 8m in 5.08s. Many distinctive and interesting designs arose, using CDs as solar reflectors to maximise solar irradiance. The students raced their designs against the backdrop of Team Arrow's state-of-the-art solar car, Arrow1, which will soon be on route to Darwin to compete in the World Solar Challenge from Darwin to Adelaide for the 3000km race. The presence of a real-life solar car was a massive draw-card, both for the students and the STELR event, showing Centenary students the practical applications of STEM and solar power specifically.*

*After the winners were announced and congratulated, I gave a presentation about the role of Power Engineering and importance of API in Australia. More than anything it was great to be part of an event where it was clear to see kids getting so excited and engaged with science and engineering in a practical way. As a result, Centenary State High has expressed a renewed commitment to the STELR Program and will be signing up to participate next year. My own personal thanks go to API for the opportunity to participate in this rewarding event."*

**- Wade Jensen, API Bursary Holder, QUT Electrical Engineering, 2nd Year**

## NEW SOUTH WALES

*"I arrived at St Mary's High School and presented to the STEM class of approximately 25 students. I related my talk to different areas of science and to problem solving, encouraging them to pursue a career in engineering due to the exciting opportunities in the changing industry. This went well as the students saw potential employment opportunities that they had not ever heard of or considered, particularly with the development of new renewable technologies.*

*They were all also very appreciative that I was able to take the time out and talk to them. They all asked many questions regarding the industry. Overall it went very well with the students clearly being interested and some very excited about a possible future in science or engineering. I'm sure that the solar car building exercise and some of the discussions definitely put a spark in the minds of some of the students."*

**- Michael Wasson, API Bursary Holder, UoN Electrical Engineering, 4th year**



## A SPECIAL THANK YOU

*"Thanks so much for the opportunity to take part in the solar car challenge. Our mentor was Chris Cabrera and he was brilliant. His enthusiasm for engineering was contagious. He encouraged the students to have a go when they met obstacles and to persevere until they had succeeded.*

*Chris visited the school many times and on each occasion he stayed far longer than the agreed time period. He presented information about science and engineering to a range of classes and influenced a large number of students. This program was extremely positive and will have a profound effect on the students at Fairfield High School."*

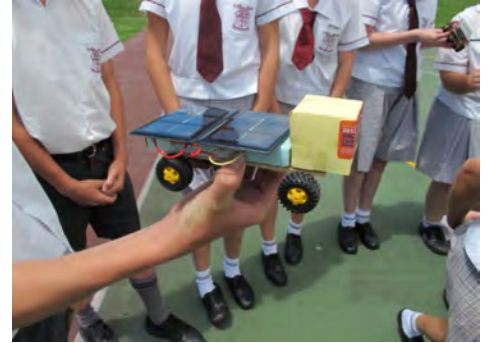
**- Alison Galagher, Head Teacher Science, Fairfield High School, NSW**



## SOUTH AUSTRALIA

*"Many thanks to Vaishi Ghosh for visiting and presenting to Mitcham Girls High School. The girls were surprised and pleased at the career opportunities you discussed, possibly changing some of their subject selections in senior school. They enjoyed talking with you about your career pathway and some were impressed by your dedication & determination to achieve what you want out of life."*

**- Helen Marussinszky, Mitcham Girls High School**



## THE API 2015 BURSARY AWARDS

It is that time of year again as we are excited to bring together all 121 API Bursary Holders on a State by State basis for an interactive networking session while also presenting the new 2015 Bursary Awards. This year there were 20 new bursaries awarded. There were 2 in Western Australia, 5 in Queensland, 2 in Tasmania, 4 in Victoria, 5 in New South Wales, and 2 in South Australia. Across the nation there is an overall total of 121 API Bursary students currently apart of this program.

This year API is testing out a new approach to the Award Ceremonies by encouraging students to participate in a more engaging and rewarding experience by connecting current students to recent graduates and professionals within the industry.

A majority of the session will be spent in an open circle discussion where recent graduates will share their learnings and experiences with current university students to better relate to their current status. Bursary holders will also be introduced to several well experienced engineers in the room and will be able to ask questions and seek advice on topics such as work experience, thesis/project help, industry advice, and more.

## CEREMONY SCHEDULE

**TASMANIA** - Friday 13 November 2015

**QUEENSLAND** - Monday 23 November 2015

**NEW SOUTH WALES** - Thursday 26 November 2015

**WESTERN AUSTRALIA** - Tuesday 8 December 2015

**SOUTH AUSTRALIA** - Thursday 10 December 2015

**VICTORIA** - Friday 11 December 2015



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