



Recognising outstanding achievements

Industry sponsors, university representatives and government officials joined QMEA students at the annual QMEA Awards and Scholarships Breakfast in Brisbane in March to celebrate the achievements of students and teachers from QMEA schools.

Minister for Education, Training and Employment, the Hon. John-Paul Langbroek MP presented teachers and students with cash-prize awards and scholarships to recognise their passion for teaching and learning about minerals and energy.

Moura State High School teacher Norah Parsons was presented with the *Outstanding QMEA Teacher Award* valued at \$4000, for her work with students and teachers in southern central Queensland. Norah has been instrumental in building relationships between her school and the resources sector to provide career pathways for students. This includes the work she has been involved with in the *Resources and Infrastructure Operations* program in partnership with Anglo American Metallurgical Coal.



QMEA Teacher Recognition Awards (\$500) were presented to Karl Bittner (Alexandra Hills State High School), Rebekah Comollatti (Emerald State High School), Aaron Davey (Wandoan State School) and Alison Pound (Wavell State High School) for demonstrating leadership and support to other teachers to improve the teaching of minerals and energy subjects.

University pathway scholarships (\$1000) were presented to Emily Braithwaite (Tannum Sands State High School), Tom Evetts (Biloela State High School), Katie Lynn (Moranbah State High School) and Adam Yarrow (Bundamba State Secondary College).

QMEA Vocational Education and Training (VET) Pathway Scholarship Awards (\$1000) were presented to Marc Duvel (Moura State High School) and Dean Shepherd (Pioneer State High School).

2013 QMEA Awards Event

A two-day QMEA Awards event program was provided to the 60 students and teachers from across the state who came to Brisbane for the awards breakfast.

Participants attended workshops at Mynestart and the QUT Cube, learned more about company operations as they visited the head offices of Anglo American Metallurgical Coal, Arrow Energy, BMA, QRC, Rio Tinto and Santos, and dined with QMEA students now studying engineering at QUT and UQ. Students also learnt more about Rio Tinto's innovation and technology programs from keynote speaker Iain Curran.



Underground in Brisbane



'Mynestart was very interesting and provided a great experience of underground mining.'

Marc Duvel, Moura SHS

Providing an opportunity to experience life underground, students interested in pursuing a trade-related career visited Mynestart's training facilities in Brisbane as part of the QMEA Awards event program.

Following a brief induction about underground mine safety, students and teachers were fitted out in PPE and toured the underground training complex, a unique and realistic simulation of an operating underground coal mine.

Participants were introduced to underground mining equipment including a man transporter, bolters and borers which are used to secure the supports in the roof and ribs in a specific pattern to ensure the safety of these structures, a long wall shearer and conveyor belt.

Resting in the 'crib room', students were briefed about the usual 'day in the life of a miner' working a 12 hour shift underground, also discussing restrictions around metallic items which cannot be taken underground for safety reasons.

Sincere thanks to Rob Duncan and Brenda Witt from Mynestart who made this opportunity a reality for students.

L-R
Minister John-Paul
Langbroek presents
Awards with the as-
sistance of MC Amie
Crooks from Dysart SHS;
Teacher Award recipi-
ents: Moura SHS stu-
dents with Deb Butler,
Anglo American



Technology at their fingertips

An opportunity to experience innovation and technology was provided to QMEA professional pathways students as they toured QUT's Science and Engineering Precinct.

Students worked with Simone Long, Anne Brant and QUT student ambassadors from the Science and Engineering Faculty to solve a range of problems.

The students participated in robotics programming activities that included a 'Green City' challenge, and learned more about the design of the 5 star energy-rated building at QUT as they toured the facility.

Taking time out to get hands-on with the QUT 'Cube', the world's largest learning and display space, students were keen to learn more about the state-wide impact of the recent Queensland floods.

Students also toured Engineering facilities at QUT with Les Dawes from the School of Earth, Environment and Biological Sciences and Engineering Faculty.

The QMEA would like to thank the QUT faculty staff and student mentors involved in the experience.

"This was the highlight of the trip for me, as I found the visit very detailed which gave me a great feel for University life and an insight into engineering"

Faris Joseph, Emerald SHS



L-R
Pioneer SHS representatives including Dean Shepherd, VET Scholarship recipient; Student Scholarship recipients; Bandanna Energy representative Julie Boucher with Emerald SHS teacher Rebekah Comollatti and students

Teacher Professional Development

The QMEA STEM Teacher professional development program continues to provide unique and inspiring opportunities for teachers across the state through a range of programs.

Teachers from Moura, Theodore and Wandoan had the opportunity to improve their maths skills following completion of an intensive 3 day workshop in February designed to increase their confidence and skills in delivering the Australian Curriculum to their classes.



Ten teachers from the region worked with Drs Geoff and Annette Hilton from the University of Queensland, as part of a QMEA teacher professional development workshop.

Participants worked collaboratively on activities that explored number systems and proportional reasoning and demonstrated a variety of hands on activities which may be used to enhance the learning of numeracy, measurement and geometry. The teachers also discovered ways of using an inquiry based teaching technique to investigate data, chance and probability. Norah Parsons, Head of the Mathematics department at Moura State High School is a strong advocate for high quality mathematics teaching and a supporter of QMEA activities. She said 'This was an excellent workshop which was thoroughly practical and innovative.'

Science was also on the agenda this term as opportunities to integrate engaging hands-on activities in classrooms

was encouraged through inquiry-based science and engineering workshops. Gladstone teachers explored the theory behind inquiry based learning by working their way through practical examples under the guidance of Harry Kanasa from Griffith University. Harry demonstrated to the teachers how to take typical activities used to teach the concept of mineral identification and make them more inquiry based. He also provided the teachers with an outline which may be used to write a scientific report.

The teachers were then given the opportunity to put their new knowledge to use as they developed a suite of lessons based on a variety of aspects of the LNG processes and the related industry to be delivered in their Year 8-10 science classes. Members from the QGC operations team were on hand to offer their expert knowledge and assistance on the science concept involved in the LNG industry.

This was the first of a series of workshops which will be held throughout the year to develop materials to be used in both junior and senior science classes.

Teachers in Wandoan were provided with hands-on engineering challenges that tested their creativity and ingenuity as they explored wind power and water filtration techniques. An engineering-focussed workshop was also provided at the Science Teachers' Association of Queensland Beginning Teachers Conference in March.

QMEA teachers in Brisbane and Gladstone were also provided with Earth-Science related workshops to assist with their preparation of teaching units for term 2. These workshops will be offered in Mt Isa, Cloncurry and Townsville in early May.

Details of other upcoming professional development opportunities are available on the QMEA website.

CSG Water Testing

To complement Year 7 science studies in water testing and monitoring, science extension students at Alexandra Hills State High School had a first-hand lesson in groundwater monitoring when they conducted water testing with representatives from Santos GLNG in March.

The activity provided students an opportunity to develop manipulative skills, while also being exposed to the range of career opportunities that exist in the resources sector.

Following an introduction to water monitoring and the important role it plays in environmental value preservation, the students investigated local water quality and added collected data to the World Water Monitoring website.

'It is important for our students to see industry applications of the concepts they are learning about in class,' said Alexandra Hills State High School Science Head of Department, Tanya Haggerty.

'Science-related career opportunities in the resources sector are extensive, ranging from geology to engineering to environmental studies. Our goal is to expose students to the possibilities that exist for them if they are interested in Science.'



As a follow up activity, the students attended a Career Cafe with Lisa Cecchi from QGC, who shared her experiences as a water engineer and gave the students an insight into water treatment processes.

Lisa also spoke with students at Wandoan State School. Her presentation followed a day long workshop on water separation where students investigated filtration techniques to purify water samples. The workshop included activities developed by the IEEE for use in classrooms.

Thanks to representatives from Santos, QGC and IEEE who were involved in these activities.

Career Cafes

Exposing students to industrial applications of scientific concepts is an important part of engaging students in the curriculum. This year, the QMEA has expanded its Career Café program across the state to provide students with the opportunity to engage with industry professionals and learn more about applied science.

Scott Wieting, an Operations Superintendant for APLNG/Conoco Phillips provided year 12 chemistry students with an overview of LNG processing and discussed the chemistry of organic substances with students at a recent presentation at the school. The students also participated in a Gladstone Ports Corporation School Harbour Tour that included a glimpse of the progress of the Curtis Island LNG plant.



Fifty Year 7 students at Alexandra Hills SHS gained an understanding of the career opportunities that studying science can lead to when Lisa Cecchi, Manager Water Strategy and Communication, QGC, shared her experiences as a 'water engineer'. The students were very keen to talk about the application of water treatment processes they have learnt about in class and were able to find out what an engineer does in a typical work day and the high demand for this career path in Queensland.

QMEA wishes to thank industry representatives for their support and interest in our Career Cafes'.

What's coming up?

Term 2 will be a busy one for QMEA students and teachers. Further details of upcoming activities are available on the website.

Science Olympiad

Offered to Year 10 students interested in pursuing an academic pathway of study in Year 11 and 12, this day-long activity will consist of a series of hands-on activities including experimental and problem based challenges. The day will also be an opportunity for students to interact with industry representatives and to start their professional networks.

Science Olympiads will be held in Mount Isa, Townsville, Brisbane, Mackay, Rockhampton and Gladstone during May and June.

Engineering Challenge

Preparations for this year's challenge are well under way and successful applicants will be notified early Term 2. Once again, the students will work closely with experienced engineers to solve a variety of problems and issues which are currently being experienced by the mine. The Engineering Challenge will be held Friday 21 – Saturday 29 June.

Please contact Robyn Flexman (robynf@qmea.org.au) for more information about these programs in your region.

A variety of opportunities will be offered to students to introduce them to options available at an operator or trade level within the resources sector, for which there is a high demand for qualified personnel.

Toolkit for Schoolkids

These one day events will be offered to year 10 students at various locations around the state and include a series of hand-on activities including industry visits, Take 5 training and car maintenance workshops.

Make it now in Trade (MINT) Challenges

Offered at a number of locations around the state, these week-long experiences will target year 11 students and include trade based tasks and activities to be completed under the guidance of industry mentors. A strong emphasis on development of safe practice in the workplace will be encouraged throughout.

Certificate I RIO and Certificate II RIWP

These entry level qualifications will be encouraged for completion by senior students in QMEA schools and TTC's and will culminate with certification for successful participants.

Please contact Bob Baker (bobb@qmea.org.au) for more information about these programs in your region.

Aptitude Test On-line

The QMEA's Apprentice Aptitude Test Training Program is now available for use by QMEA schools. Access through the QMEA website is now possible using codes provided to your school. Please contact Bob Baker (bobb@qmea.org.au) for more information.



Date Claimers

APRIL 2013

- 22 Rio Tinto Toolkit for Girls (Mackay)
- 21-24 Rock Tour (Emerald)
- 23 Career Cafe (Alexandra Hills SHS)
- 23 Career Cafe (Dysart SHS)

MAY 2013

- 7 TESEP Workshop (Mt Isa)
- 7-8 Toolkit For School Kids (Moranbah)
- 8 TESEP Workshop (Mount Isa)
- 10 TESEP Workshop (Townsville)
- 21 Career Cafe (Wavell SHS)
- 21 Science Olympiad (Mount Isa)
- 28-29 AAPEA Conference (Brisbane)
- 24 Science Olympiad (Townsville)
- 29 Science Olympiad (Brisbane)

JUNE 2013

- 5 Career Cafe (Alexandra Hills SHS)
- 5 Science Olympiad (Mackay)
- 6 Its all about ME (Gladstone)
- 12 Science Olympiad (Rockhampton)
- 14 Science Olympiad (Gladstone)
- 20 Career Cafe (Wavell SHS)