



FROM THE QMEA DIRECTOR

QMEA has hit the ground running this year through continuation of its highly popular interactive programs to encourage students to consider resources sector careers.

We welcome new sponsor Downer Group, who will help us work closely with schools near the company's Queensland mining projects near Nanango and Pittsworth.

We greatly appreciate the continued support of sponsors BMA, Glencore MIM, APLNG, QGC, Santos, Anglo American, Jellinbah, Wesfarmers, Veolia, Glencore Wandoan Coal Project and the Queensland Government. They have all worked with the QMEA to ensure the skills pipeline into industry is maintained.

In the year to date, more than 1000 students from years seven to 12, along with 125 teachers and 60 industry representatives, have participated in 31 QMEA professional and vocational education and training (VET) related student and teacher experiences delivered across the state.

The evaluations we have conducted show a high level of satisfaction with 87 percent of students indicating the experience helped them learn about the resources sector and its many and varied careers. In addition to this, all teachers who took part thought the activity had improved their teaching of minerals and energy topics and similarly, all the industry participants said their company would be supportive of the event in the future.

These successes would not be possible without the support of our dedicated team; Tammy Grady, Senior Project Officer, Dan Rea STEM Outreach Officer and our new addition to the team Kym Frost who has taken on the role of VET project officer following the departure of Bob Baker back into the school system.

In responding to the skill needs of the resources sector in automation, the program has evolved to include the introduction of new experiences that build on the back of our successful robotics workshops. 'Perfect programming' allows students to understand the importance of such skills as coding and how effectively they can be used in the workplace.

By semester's end students and teachers in Brisbane, Dysart, Moura, Gladstone, Rockhampton, Pittsworth, Wandoan, Chinchilla, Mt Isa, Townsville and Mackay will have taken part in the QMEA experience. Quite a spread!

A range of inspiring activities is on offer for the remainder of the year, which includes a teacher tour of the Veolia Water Treatment Plant at Chinchilla, trade and professional camps in Mount Isa, Moranbah and Moura, in addition to a raft of experiences that engage, connect, inform, influence, challenge and prepare our employees of the future.

THIS ISSUE:

From the QMEA Director

Career Cafes

It's all about M.E

Resourceful Robots

Perfect Programming

Biology Field Day

Students inspired by STEM professionals

QMEA Ambassadors leading the way

Teachers build confidence with Oresome Resources

Camp attracts tradies of the future

Upcoming events



QMEA's new VET Project Officer Kym Frost (centre) with Susann Morrow, Dysart SHS and Kelly Appleton, Apprentice Coordinator BMA Saraji and Peak Downs



Wesfarmers Curragh engineer, Alex, works with students at a recent workshop

CAREER CAFES

Cultural Heritage, Water Management and Land Acquisition were just a few of the QMEA Career Café subject areas delivered to meet the National Curriculum needs this semester.

Over 1500 students engaged in a Career Café with QMEA over semester one with all year levels from 7 to 12 being presented to by QMEA industry partners.

Half of all QMEA schools hosted a Career Café over the two terms, with one industry partner presenting to 35% of the full school cohort alone. The popularity of the Career Cafes reflects the needs from education to contextualise the National Curriculum to the local resources sector.

Helen D'Arcy, Project Manager for Wandoan Coal Project of Glencore spoke to Alexandra Hills Engineering Technology students about cultural heritage in a project management context.

Mrs Robyn Flexman, Head of Science at Alexandra Hills believes the benefit to both students and staff are hard to top.

'For the students to have time with someone as experienced and skilled as Helen is invaluable. This is an excellent way for students to learn as well as our teaching staff,' Mrs Flexman said.

With year 7's across the state learning about water quality and purification methods QMEA linked several sponsors with schools across the state to show students best practice around this topic.

Wesfarmers Curragh Senior Environmental Advisor Nicola Mylne along with three team members worked with 150 students at North Rockhampton SHS doing a series of rotating activities based on the curriculum. Qld Urban Utilities (QUU) Manager of Commercial Water & Trade Waste, Colin Hester spoke with both students and teachers at Bundamba State College about QUU operations and processes.

North Rockhampton SHS, Deputy Principal Cynthia O'Sullivan said the cafe presented a unique opportunity to hear from a real world industry representative.

'Students understand what role you can have in these industries, so the Career Cafe programs cover many aspects for applied learning,' Ms O'Sullivan said.

North Rockhampton also hosted a maths and physics Career Café which saw the cohort of year 10's met with CQ University's, Ian Devenish, Associate Dean (Engagement and Co-op Programs), School of Engineering and Technology. Ian worked through a series of hands on activities with the 150 year 10's to show how maths and physics is applied in our everyday life.

Blackwater SHS's 'Achieve' class met with BMA Engineering Manager and a long standing Trainer and Assessor to learn about what it takes to move into a career in the resource sector as well as some finer points around the engineering field.



North Rockhampton students at one of the three water testing activities run with Wesfarmers Curragh



Nicola from Wesfarmers Curragh's Environmental team works with Year 7 students in a series of activities



The team at Wesfarmers Curragh worked with close to 200 Year 7 students during their afternoon at North Rockhampton SHS



Nedizha Thierry of APLNG with Toolooa SHS students

CAREER CAFES

It has been a busy start to the year for the QMEA and LNG Secondary Schools Partnership with over 1000 students and teachers playing a role in the partnership throughout semester one. As well as the regular activities and events on the Gladstone calendar, local networks join forces to develop two new programs which reflect the current workforce needs of education and industry.

Resourceful Robots and Perfect Programming were successfully rolled out to the four local schools with strong uptake in each program.

Now in its fifth year, 'It's all about M.E.' an all-girls career event to promote STEM careers had an abundance of students apply to attend, ensuring the largest turnout yet. Also, gaining popularity is the Biology Field Days with 42 Year 11 Biology Students making the trek to the Calliope Ranges to work with Ecologica Consulting on the relocation of Cycads.

Hundreds of students from year 7 to 12 participated in a Career Café with industry reps from various fields speaking with students and sharing their career and study pathway as well as their professional knowledge linked to the National Curriculum.

Boyne Smelter Graduate Process Engineer Rebekah Johnston spoke to close to 350 students across two schools around how water purification and separation techniques relate to her work each day.

A workshop was also held for the school's science staff to help them gain a better understanding of the resources sector and to provide career guidance to students.

Tannum Sands State High School Maths and Science Teacher Anne Inglis said that the program provided real world insight to current classroom learning.

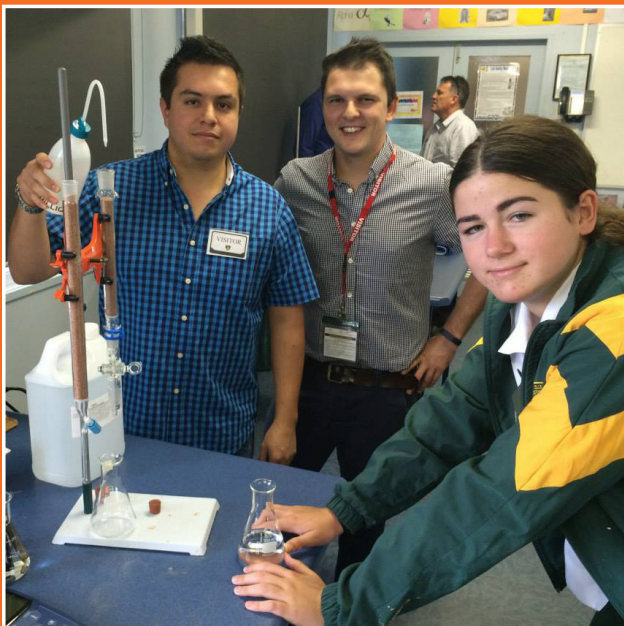
'Providing students with examples of their studies in the real world gives them a greater understanding of the concepts and makes for engaging and valuable lessons,' said Ms Inglis.

'Students get to see where their studies can take them in a career and Rebekah was a great example of why science is so important,' Ms Inglis added.

Gladstone Ports Corporations Environmental Manager Gordon Dwane spoke to 40 engineering technology students from Gladstone SHS providing insight into his career and what pathways he took throughout study and school. The Society of Petroleum Engineers Jennifer Ross, Graduate Engineer with Santos GLNG also spoke to a small group of senior students about her career pathways and shared timely advice with students currently making career decisions.

'It's so valuable to be able to provide our engineering technology students with the opportunity to hear from someone currently working in the industry. Gordon's presentation inspired each of the students in their career pathway, so as a teacher this program is invaluable,' Gladstone State High School Engineering Technology Teacher Reeja Matthews said.

Toolooa SHS hosted three industry professionals for a targeted 10 subject selection Career Café.



Oscar Santiago and James Champman of CQUniversity at Chanel College



Oscar with Chanel College students

Nedizha Thierry of APLNG alongside Paul Wright of Wright Environmental Consultancy and Bob McCosker of McCosker Contracting, presented to the year 10 cohort and shared their advice for moving from school to study and into the workforce.

160 students at Gladstone's Chanel College saw first-hand how chemistry is used in the real world when Discipline Lead for Chemistry, Material Science and Chemistry Principal Investigator at CQ University, James Chapman visited their school.

The Career Café also included Oscar Santiago, a PHD student who is doing an industry led study on 'coal seam gas treatment using ion exchange' who is about to travel to Hong Kong to share his findings.

The career café was of particular interest to Year 11 Chemistry students who are doing an assessment piece on water treatment.

'Hearing from James and Oscar was informative obviously, however it focused on the topic we are currently studying, which is a big help to us,' said Year 11 chemistry student Lilanthi J Wild.

For details of upcoming career cafes, see our [calendar](#).

IT'S ALL ABOUT M.E

Gladstone girls were encouraged to consider careers in the male-dominated resources sector today when women working in resources companies gave them first-hand information on how to pursue a successful career.

80 girls from four Gladstone schools attended 'It's all about M.E. (Minerals and Energy)' workshop at CQU's Gladstone Campus.

In its fifth year, the workshop promotes science, technology, engineering and maths (STEM) careers to female year 10 students.

The students, from Tannum Sands SHS, Toolooa SHS, Gladstone SHS and Chanel College all took part in hands-on activities and heard from two keynote speakers as well as a number of other women working in the resources sector.

The keynote speakers, Fiona McLeod State External Affairs Manager for APLNG and Melissa Tremayne BG International Graduate Development Program, Electrical and Electronic Engineering (QGC) also travelled back to school and presented to the remaining year 10 cohorts at Gladstone SHS and Chanel College.

'Australia Pacific LNG is proud to support the QMEA as they give students the opportunity to hear first-hand about careers in the minerals and energy sector,' said Fiona.

Other companies involved in the workshop include Santos GLNG, Wesfarmers Curragh, Down to Earth Results.

'Our students hear from ladies who are at the top of their careers and learn firsthand what it takes to get there. The mix of personal stories and hands-on activities target this demographic perfectly and the students walk away so motivated and with strong direction,' said Lynn Herbert, Digital Technologies Coordinator, Chanel College.



Rebekah Johnston of Boyne Smelter Limited works with Toolooa SHS students



Kelly Gibson of Santos GLNG with students from It's all about M.E.



Kayla, Engineer with APLNG works with students at It's all about M.E.



QMEA Key Teacher, Lisa Mazzer with students at Resourceful Robots

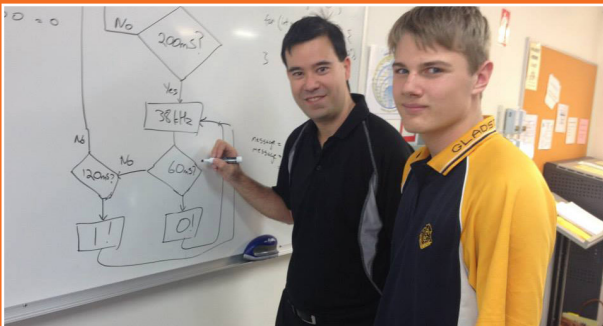
RESOURCEFUL ROBOTS

World leader in technology education and robotics, Dr Damien Kee worked with local Gladstone teachers and students to showcase latest robotics technology and innovation as well as provide enhancements to local digital technology lessons.

Mr Kee hosted workshops that featured the use of this technology by the resources sector.

'Damien is a world-class educator in robotics so to have his level of expertise here at the school working with teachers and students is beyond valuable,' said Chanel College Science Curriculum Coordinator, David Fisser.

'Damien shows how robotics and technology is embedded into our daily life. It's certainly an emerging field within the resource sector and QMEA will help highlight this in our education circles,' said Tammy Grady, Senior Project Officer QMEA.



Damien Kee with Gladstone SHS student

PERFECT PROGRAMMING

Working with CQUniversity and local sponsors the QMEA & LNG Secondary Schools Partnership delivered a specifically designed programming day for year 10 students interested in the field of hardware and control systems.

Tannum Sands SHS, Toolooa SHS, Gladstone SHS and Chanel College each fielded teams for the 'Perfect Programming' activity hosted at CQ University, in May.

The daylong event saw Year 10 students work in pairs to build a driver circuit to regulate a water tank to fill and release water. Students were challenged to develop a 'Dam Pumping Station' to provide a cost effective solution for isolated or remote pumping stations for their resource sector clients.

Perfect Programming has been developed in response to our sponsors' feedback which has highlighted skilling gaps that exist in the marketplace around programming. This feedback is consistent with that of our 34 schools who also see a need for more focus on programming and coding within the classroom.

Students will be supported by CQUniversity lecturers and Ambassadors as well as industry representatives currently working in this field.

'The support we have had from CQUniversity, both by academics and students, has been the reason why this activity can be delivered. Without them and our local sponsors this much needed day would not have been possible,' said QMEA Senior Project Officer, Tammy Grady.

BIOLOGY FIELD DAY

The LNG Biology Program saw 42 Year 11 students and accompanying teachers visit the site where LNG partners are housing and replanting endangered species of cycad. These cycads have been taken from the pipeline right of way (the pipelines carrying the coal seam gas to Gladstone from the Surat and Bowen Basins) within the Calliope Ranges.



Chanel College student gets it right first go!

Year 11 Biology students undertook a day long field work exercise which reflects the educational outcomes of biological Science as well as promoting sustainability and ecology.

Students completed a detailed study of biotic and abiotic data while in the field. Students took the collected data from the field and completed their Extended Response Tasks (ERT) while Evaluating Biological Issues (EBI). Extended Experimental Investigation (EEI) were conducted within the classroom which look at the effect of abiotic factors on plant growth.

All tasks, including assessment and lesson planning have been designed in conjunction with QMEA, Gladstone Biology Panel, Heads of Departments at participating school and QMEA Professional networks to ensure all localised links are utilised as well as to maximise the programs educational content.

'The exposure our students are being given to the local LNG operations, thanks to QMEA, is outstanding and the positive impact that has had on students is far reaching. It makes the learning real for them'. David Fisser, Science Coordinator Chanel College.

STUDENTS INSPIRED BY STEM PROFESSIONALS

High achieving year 10 students interested in science, technology, engineering and mathematics (STEM) pathways have learnt about the various roles and career progression opportunities available in the resources sector at the QMEA STEM 4 School Kids workshops held in Brisbane, Mackay, Moranbah and Emerald. The events bring together STEM industry professionals to guide the students through a series of practical challenges involving geology, chemistry, engineering and environmental fields of study.

Teachers praised the unique opportunity for bright young students to engage with industry professionals. 'This experience provided the chance for enthusiastic science students to learn about career enhancing opportunities in the resources sector' said Alexandra Hills State High School Head of Science Robyn Flexman.

Students enjoyed getting involved with the practical activities which are based around the mining process from exploration through processing and rehabilitation. As one student from Pioneer SHS remarked 'I loved the hands on practical activities and the variety of speakers we heard from.'

The STEM 4 School Kids workshops are only made possible from the support and involvement of QMEA industry sponsors such as BMA, Anglo American and Glencore as well as in kind support from many other resources industry companies.

Already this year there have been over 80 students attend a STEM 4 School Kids workshop and there are many more events planned across the state including Rockhampton, Mt Isa, Gladstone and Wandoan.

For details of upcoming STEM 4 School Kids workshops, see our [calendar](#).



QMEA Key Teacher Alison Pound (centre) with students from Wavell SHS at the Brisbane STEM 4 School Kids workshop held at QUT



BMA Environmental Coordinator Zack Chytra helps students from his old school, Blackwater SHS, during the Emerald STEM 4 School Kids



Students at the Emerald STEM 4 School Kids



Becky Miller, QMEA Ambassador Ema Nunn, Kaitlin Moat and Sarah Waters from Nanango SHS visit the Downer offices in South Brisbane following the Women in Resources IWD breakfast



Kaitlin Moat, Sarah Waters, Becky Miller, QMEA Ambassador Ema Nunn with former Nanango SHS and QMEA scholarship recipient Sarah Coughlan at the Women in Resources IWD breakfast



Geologist Travis working with students from Biloela and Moura.



Girls working on tasks at Expand your Mind

QMEA AMBASSADORS LEADING THE WAY

The 2015 QMEA Ambassadors have launched into their final year of school with great passion and excitement. After coming together at the end of last year for a 3 day camp in Brisbane the ambassadors have gone back to their schools and communities to spread the word about the amazing opportunities available for students through QMEA.

A number of ambassadors have supported events for younger year levels at their respective schools. In Moranbah, Craig Dunn and Lita Tonny shared their experiences with the year 10 girls attending the Toolkit 4 School Kids workshop and Moura SHS Ambassadors Samantha McCullough and Alice Edgecombe were great role models for the students attending the Expand Your Mind event.

A very special opportunity to attend the International Women's Day – Women in Resources breakfast was taken by Ema Nunn who led a group of senior girls from Nanango SHS to the breakfast. This awesome experience was followed by a behind the scenes tour of Downer EDI head office in South Brisbane.

TEACHERS BUILD CONFIDENCE WITH ORESOME RESOURCES

The QMEA is offering a number of exciting Teacher Professional Development opportunities in 2015. A focus of these sessions is highlighting the amazing teaching resources available through the 'Oresome Resources' website.

Teachers in Mackay gathered for an afternoon of development and sharing of ideas. Over 30 teachers were excited to hear about the website as well as get their hands on a number of practical activities they could take back to the classroom. QMEA key teacher, and head of Pioneer SHS's Science Department, Mick Nixon said 'It is a great chance to show teachers, especially new teachers, the array of resources available on the website but to have a go at some of the activities and really see how they can go straight into the classroom is an excellent opportunity.'

As 2015 continues there will be many more Teacher PD workshops and opportunities available including a unique and exciting site tour of the Kenya Water Treatment Facility at Chinchilla conducted by QMEA sponsor company Veolia.

EXPAND YOUR MIND

Expand your Mind events were run in Moura, Wandoan, Brisbane and Pittsworth with over 10 schools participating in the hands on laboratory challenges.

Over 100 year 9 students came together to work with their peers and various industry representative on topics across Science, Technology, Engineering and Maths as well as pathways into the resources sector.

Students from across the state worked alongside geologists, mechanical, chemical and electrical engineers, environmental managers and HR and safety team members to tackle challenges designed to promote higher order thinking.

Moura SHS teachers and students all agreed that Expand Your Mind is a

great way to learn more about resources sector careers while being inspired by the fun of STEM.

'Expand your Mind shows how much fun the STEM subjects really are,' Moura SHS year 12 student and QMEA University Pathway Ambassador Alice Livingstone said.

'As well as the technical details, it's great to hear from the people working in industry and learn about what they did at school and why they like their job,' Moura SHS year 12 student and QMEA University Pathway Ambassador Samantha McCullough added.

Industry partners from Anglo American, BMA, CQ University, Glencore Wandoan Coal Project and new partners Downer Group all fielded industry professionals to work with students throughout various Expand your Mind events across the State.

CAMP ATTRACTS TRADIES OF THE FUTURE

Students from regional Queensland have been given the tools to be future tradies following a 'Make it now in Trades (MINT)' challenge.

The week-long challenge, a collaboration of BHP Billiton Mitsubishi Alliance (BMA) and the QMEA involved 19 students who had expressed interest in a trade or operational career.

The students worked with supervisors and apprentices from BMA's Saraji Mine to design and manufacture a motorised pushbike to industry standards as they completed four days of intensive trade training. The program culminated in a site tour at BMA's Saraji Mine.

The MINT Camp, which is highly valued by resources sector companies, includes skills such as risk assessments, use of hand and power tools, teamwork and basic operational maintenance tasks.

The students will also complete a Certificate II in Resources and Infrastructure Work Preparation in a new online course developed by CQ University Australia.

'Having our apprentices involved in the MINT Challenge program was a beneficial experience for our mine,' said Leon Dodd, BMA Maintenance Manager at Saraji Mine.

'It allowed our apprentices to demonstrate their skills and experience and help to inspire young people who will be the workforce of the future,' he said.

Joshua Mills from Dysart Senior High School said 'it was a wonderful experience. I am very grateful, I learnt a lot and would recommend this camp to anyone'.

'Challenges like this enhance the employability and life skills of the future work force – an extremely worthwhile opportunity,' said Susann Morrow, Dysart Senior High School Trade Training Centre Manager.

'Partnerships such as the BMA Trade Camp program are essential in ensuring the QMEA can provide experiences so the next generation of trades people are work ready,' said QMEA Director Katrina Lee-Jones.



Students work on one of the projects in the BMA MINT camp held at the Dysart Trade Training Hub. From left to right: Jack Kalinowski DSHS, Cory Butler Marist College, Linden Leishman and Jarrod Quebberman BVSHS



Students at the BMA MINT camp are trained by the Queensland Mine Rescue service in Dysart to use fire extinguishers to extinguish a blaze

UPCOMING EVENTS

3 June, 2015

Toolkit for School Kids & STEM 4 School Kids, Rockhampton

3 June, 2015

Expand Your Mind, Wandoan

4 June, 2015

Expand Your Mind, Pittsworth

9 & 10 June, 2015

Ambassador Program VET & STEM webinars, online

16 June, 2015

Toolkit for School Kids & STEM 4 School Kids, Mount Isa

22- 26 June, 2015

QUT MINE Processing Engineering Camp, Brisbane

For more details, and to view all events, see our [calendar](#).