



Queensland MINERALS & ENERGY ACADEMY

NEWSLETTER | JULY 2014



FROM THE ACTING DIRECTOR

It has been a busy time for the Queensland Minerals and Energy Academy (QMEA), with a host of activities and events delivered to our schools to help prepare students for resources sector related careers.

This edition features key experiences offered over the previous months, including the inaugural Anglo American 'Make it Now in Trades' camp at Biloela and the QMEA/Queensland University of Technology 'Chemical Process Engineering Challenge' held in Mackay.

A highlight for students at the 'Science Olympiad' and 'Toolkit for School Kids' workshops in Emerald was the opportunity to receive their certificates from the Honourable Andrew Cripps MP, Minister for Natural Resources and Mines.

The 'Toolkit for School Kids' workshops have also taken off this year, with students from Moranbah, Biloela, Mount Isa, Mackay and Wandoan gaining a better understanding of resource sector trade careers.

Through the Gladstone QMEA/LNG Schools Partnership, events like our 'Biology Day', 'Expand Your Mind' and 'It's All About M.E.' have continued to interest QMEA schools in the LNG industry.

I have been delighted to meet with staff from QMEA schools and industry sites including Moura, Biloela and Tannum Sands state high schools and the Anglo American Callide mine site, with more visits planned for the coming months. It is through these visits that the strength of the QMEA industry/education partnerships can be truly appreciated.

As an asset to QMEA, we have recently welcomed Dan Rea as STEM Outreach Officer, to join our hardworking team.

We have also been pleased to welcome to the QMEA Board, QUT Assistant Dean Teaching and Learning Science and Engineering Faculty Karen Whelan, following the resignation of Professor Siddle. Karen is keen to contribute her expertise in applying a tertiary perspective and adding value to QMEA programs.

In closing I wish to acknowledge the Queensland Resources Council, the Queensland Government Department of Education, Training and Employment and our sponsors, whose ongoing support has made our programs possible. This is in addition to the 130 industry representatives that have provided their time and expertise to enrich the experiences of QMEA students seeking an increased understanding of resources sector career pathways, for which I thank you all.

Katrina-Lee Jones

Katrina-Lee Jones, QMEA Acting Director

THIS ISSUE:

From the Acting Director

QMEA welcomes newest team member

QMEA students meet the Minister

Students swap uniforms for lab coats

Anglo American & QMEA inspire future tradies

QMEA committed to qualifications delivery

QSMART prepares our electricians of the future

Students open the toolkit to success

Anglo worker proves opportunities exist in the regions

LNG teach biology in the field

Students expand their minds

Gladstone girls discover It's all about M.E.



Two Kirwan SHS students involved in the QMEA/QUT Chemical Process Engineering Challenge receive their certificates from John Hodgson (Mackay Sugar), Katrina-Lee Jones (QMEA), Prof John Bell (QUT) & Hon. Tim Multherin



Participants in the Gladstone It's All About M.E event enjoyed learning about the LNG industry

QMEA WELCOMES NEWEST TEAM MEMBER

Exciting times lie ahead for QMEA students, teachers and pre-service teachers interested in all things science, technology, engineering and mathematics (STEM). With loads of activities and events already organised for the coming semester, the QMEA has brought on new STEM Outreach Officer Daniel Rea to join the action.

Dan was previously with CSIRO and has a decade of science education experience with teachers and students. Since joining the QMEA in May, Dan has already proven to be an asset to the team, putting his skills and knowledge of STEM to good use in increasing students' and teachers' knowledge of the resources sector, and preparing students for STEM related careers.

Dan's role will involve running science olympiads, engineering challenges and STEM related pre-service and teacher professional development programs, incorporating a wealth of hands-on curriculum experience and content from the resources education website www.oresomeresources.com.

Dan also will be the key contact for the 2015 QMEA Ambassador program. He can be contacted via email: danr@qmea.org.au

QMEA STUDENTS MEET THE MINISTER

After a day of discovering what it's like to work in the resources sector, 60 QMEA students from Clermont, Blackwater & Emerald state high schools were treated to a visit from the Hon. Andrew Cripps MP, Minister Natural Resources and Mines.

The students participated in the QMEA Science Olympiad and Toolkit 4 Schoolkids events in Emerald, ending the day with a handshake and certificate of participation from the Minister.

Interested in either a trade or professional career in the resources sector, the students worked together to complete hands-on tasks and solve problems with industry experts from BMA, Anglo American, Rio Tinto, Leightons, Downer EDI, Glencore, Lennon's Training and Central Queensland Institute of TAFE.

The events were supported by BMA, which is strongly committed to the development of resources career pathways for young people in the local area, to build capability within host communities.

This year the QMEA will offer the Toolkit 4 Schoolkids and Science Olympiad programs to more than 300 students across the state.

STUDENTS SWAP UNIFORMS FOR LAB COATS

Twelve senior students from QMEA schools worked alongside engineers, research scientists and university mentors at the QUT Renewable Biocommodities Pilot Plant in Mackay from 7- 11 July, for the inaugural QUT & QMEA Chemical Process Engineering Challenge.

The participating students were tasked with investigating various biochemical processes at the plant, before designing and carrying out laboratory experiments to create biofuels.

Students presented their research and experimental results to senior management, QUT experts and industry representatives at the end of the week.

The hands-on nature of the challenge and the interaction with staff at the plant provided an invaluable learning platform and work experience for students wishing to pursue chemical and process engineering careers in the industry.



STEM Outreach Officer, Daniel Rea, teaching Moranbah SHS students at a Science Olympiad workshop



Hon. Min. Cripps & BMA Principal Communities Peter Dowling present certificates to students from Clermont SHS, Blackwater SHS & Emerald SHS



All participants involved in the QUT & QMEA Challenge gathered at QUT's Mackay Biocommodities Pilot Plant



One group of participating students constructing their motorised bicycle



QMEA students at the end of the Make It Now in Trades (MINT) Challenge in Biloela



RIWP Teacher PD. L-R David Holmes (CQU), Bob Baker (QMEA), Therese Rae (Ed Qld CQ), Lee Merrett (CTEC), Shaun Butcher (TECNQ) and Simon Heffernan (Pioneer SHS)



QSMART Verification Meeting. L - R Conrad Hodgman (TECNQ), Sharon Tobin (TECNQ), Rebecca Godfrey (Blackwater SHS), Beth Harlow (Moranbah SHS)

ANGLO AMERICAN AND QMEA INSPIRE FUTURE TRADIES

A fresh and exciting opportunity in Biloela during the June/July school holidays saw 11 students from Biloela and Moura state high schools participate in the new QMEA 'Make It Now in Trades' (MINT) Challenge.

The students had their interest in a resources sector trade career inspired, as they participated in a week-long program of challenges and activities aimed at developing a range of trade skills.

Supported by Anglo American Callide and Dawson mines, the GAGAL BEST Centre and QMEA, the students worked collaboratively with supervisors and apprentices from Anglo American to identify problems and then propose, design and construct solutions to industry standards.

The students also completed a Certificate II in Resources and Infrastructure Work Preparation in a new flexible mode using online resources developed in partnership with the School of Distance Education.

During the MINT Challenge, students put their knowledge in to practise to design and construct a motorised bicycle. Students used a variety of basic trade skills including welding, mechanics, basic electrics and basic operational maintenance to ensure their bike designs were in good working order before being tested for performance.

The program also included a workplace health and safety induction, networking opportunities and site visits in the Biloela area.

QMEA COMMITTED TO QUALIFICATIONS DELIVERY

This year QMEA schools in Central Queensland are striving to engage with industry to deliver entry level qualifications and ensure pathways into the resources sector are available to young people.

In partnership with the Central Queensland University (CQU) Mining Centre, approximately 200 students from Dysart, Moranbah and Pioneer state high schools, Tec-NQ, and Charters Towers School of Distance Education (CTSDE) will complete a Certificate II Resources and Infrastructure Workplace Practices (RIWP) qualification in 2014.

The QMEA are presently trialling a flexible delivery model developed by the QMEA in partnership with CQU and CTSDE. Online resources accessible through CTSDE are being used to deliver Certificate II RIWP through a range of schools and trade training centres across the state.

QSMART PREPARES OUR ELECTRICIANS OF THE FUTURE

This year the QSMART program will be offered at Moranbah and Blackwater state high schools and at the Tec-NQ trade school in Townsville.

QMEA VET project officer Bob Baker and QSMART teacher Rebecca Godfrey from Blackwater State High School recently facilitated a successful professional development day for QSMART teachers delivering the program to students.

QSMART will provide an excellent background in numeracy for electrical and engineering apprentices, focusing on the development of core mathematical skills, as well as the emphasis on developing employability skills.

STUDENTS OPEN TOOLKIT TO SUCCESS

A career in trades is one step closer for students from Brisbane, Biloela, Moranbah, Emerald, Mount Isa and Mackay, following their participation in the growing Toolkit for School Kids program.

Students from QMEA and other Education Queensland schools took part in the program that was presented in a number of regional centres throughout the school year.

The day-long event saw them engaging with industry mentors to complete a number of hands-on activities designed to make them more aware of the range of career options available in the electrical, fabrication, mechanical and operator trade areas.

Supported by mentors from Anglo American, BHP Billiton Mitsubishi Alliance (BMA), Rio Tinto, Leighton Contractors, Downer EDI, GAGAL, Glencore, Lennon Training, Mynestart, SkillsTech, Mackay Engineering College and Central Queensland University, the students completed a range of tasks and engaged with professionals and tradespeople who shared their knowledge and experience.

Students also learned more about the resources sector and underground mine environment as they toured the Lennon Training facilities in Emerald and Moranbah, and Mynestart training centres in Mackay.

QMEA students from Townsville and Rockhampton will complete the program in Term 3.

Schools involved in the QMEA Toolkit for Schoolkids:

Alexandra Hills State High School, Anglican Church Grammar School, Biloela State High School, Blackwater State High School, Bundamba State Secondary College, Dysart State High School, Emerald State High School, Good Shepherd Catholic College, Mackay State High School, Mackay North State High School, Middlemount Community College, Mirani State High School, Monto State High School, Moranbah State High School, Mount Morgan State High School, Moura State High School, Pioneer State High School, Sarina State High School, Spinifex State High School, Taroom State School, Wandoan State School and Wavell State High School.

ANGLO WORKER PROVES OPPORTUNITIES EXIST IN THE REGIONS

Anglo American Geologist Jodie Rutton recently visited Biloela State High School, generously giving her own time to spend the day with students and teachers discussing her love for all things rocks and minerals.

At the time of Jodie's visit in May, year 8 and 9 students across the country were learning about rock identification as part of the National Curriculum. During her visit, Jodie shared her experience of how these classroom lessons apply to working on an operating mine site.

Jodie was born and bred in Biloela and spent time away from the town to achieve her degree. Sharing this aspect of her life with students proved to them that career opportunities and success stories like Jodie's do exist in the local area.



Moranbah Toolkit 4 School Kids and Science Olympiad participants 2014



Mackay Toolkit 4 School Kids participants 2014



Two participants of the Moranbah Toolkit 4 School Kids



Biloela SHS students with Jodie Rutton and Rebecca Job from Anglo American



Ecologist Alicia Wain with Chanel College Year 11 Biology students

LNG TEACH BIOLOGY IN THE FIELD

Biology students from Chanel College recently discovered liquefied natural gas (LNG) environmental programs and heard about careers in the LNG industry through attending a LNG biology field day with QMEA.

The 36 year 11 students and accompanying teachers visited the site where LNG partners are housing and replanting an endangered species of cycad, *Cycas Megacarpa*. These cycads have been taken from the pipeline right of way, which are the pipelines carrying the coal seam gas to Gladstone from the Surat and Bowen Basins, within the Calliope Range.

Working with ecologists and environmental engineers from Ecologica Consulting and the Department of Transport and Main Roads, students collected data on individual plant conditions and compared it with plants at different stages of translocation.

The field days forms part of a broader program of engagement between the QMEA, local schools and APLNG, GLNG and QGC that includes lesson plans adapted for the Australian Curriculum, and senior work units in biology and engineering technology.



Students from Chanel, Toolooa & Gladstone joined Tannum Sands SHS at QMEA's Expand your Mind

STUDENTS EXPAND THEIR MINDS

Gladstone State High School recently hosted 48 high achieving year 9 students as they competed in a number of friendly science and engineering based challenges related to the resources sector.

The QMEA in partnership with APLNG, GLNG and QGC, saw the companies' engineers and graduates work side-by-side with students on challenges that focused on all aspects of the engineering discipline.

The day was a perfect taster for students wishing to enter the field of engineering and science, and included challenges that engineers work with each day.

The QMEA is committed to linking its 'Expand your Mind' activities to the National Curriculum, providing real world application to what they are learning about in class.

GLADSTONE GIRLS DISCOVER IT'S ALL ABOUT M.E.

Close to 100 female students from QMEA schools are now better equipped to make career decisions about careers in the resources sector following the girls-only event 'It's all about M.E. (Minerals and Energy)'.

With the evolution of the Gladstone region as a resources hub, QMEA's 'It's all About M.E.' program is designed to familiarise young women with the broad range of careers available within the resources sector via university pathways.

The year-10 students participated in various hands-on activities based on environmental science, medicine and health, robotics, engineering, work health and safety and human resources.

The girls also heard from female industry professionals from companies AP LNG, QGC and GLNG, who all shared career path advice and spoke about their roles in the resource sector.

'It's all about M.E.' forums aim to educate bright young women about career and study pathways while providing the right information for students to move into the resource sector.

'It's all About M.E.' is an initiative of the QMEA and is sponsored by AP LNG, GLNG and QGC.



Keynote speakers, Fiona McLeod AP LNG & Kim Williams QGC Engineer

KEEP UP TO DATE WITH THE QMEA

Did you know QMEA is on Facebook? We regularly post photos from our events and industry relevant information on our page! Feel free to tag yourself or friends at past QMEA events.



Find us on Facebook: facebook.com/QueenslandMineralsandEnergyAcademy

QMEA is also on YouTube. A number of our regional events have been showcased on local news stations. Most recently, our Gladstone 'It's All About M.E' and 'Expand your Mind' events.



Find our YouTube Channel: youtube.com/QMEA

To discover everything about the QMEA including sponsorship options or how you can be involved, head to our website www.qmea.org.au.



UPCOMING EVENTS

5 August, 2014

Biodiversity Day, Brisbane

5 August, 2014

Science Olympiad, Mount Isa

6 August, 2014

Toolkit for School Kids and Science Olympiad, Townsville

14 August, 2014

Science Olympiad, Mackay

21 August, 2014

Energy for the Future, Gladstone

27 August, 2014

Toolkit for School Kids, Rockhampton

28 August, 2014

Energy for the Future, Brisbane

4 September, 2014

Energy for the Future, Blackwater

5 September, 2014

Energy for the Future, Mackay

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



It's All About M.E. participants with their contraption they engineered to keep an egg intact while dropped from a height



Moura SHS student Alice Edgcombe working in the lab at the QMEA/QUT Chemical Processing Engineering Challenge



QGC Chemical Engineer John Meenan with QMEA students at the Gladstone Expand your Mind event.