

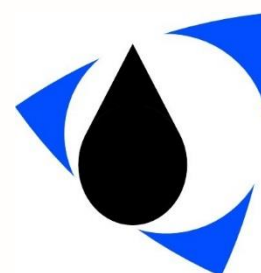
AUSTMINE WOMEN IN STEM: METS CAREER PATHWAY PROGRAM

Student Intern Positions –November 2018 – February 2019

Please find below a list of proposed internship placements confirmed with our member companies. Student applications will open on 1 August 2018. Austmine will be hosting an information session at Universities during August and for more information visit our website [here](#) or email info@austmine.com.au.

NSW Positions

Techenomics Australia



Location: Mayfield East, NSW
Website: <http://www.techenomics.net/>
Discipline: Chemistry, Chemical Engineering or Mechanical Engineering

Position description

Techenomics provides data capture and analysis for predictive and preventative maintenance, which involves running fluid analysis laboratories. As part of your internship, you will be involved with, but not limited to work in a laboratory environment for analysis of fluid samples, involving lab testing using FTIR, Viscometer, ICP-OES, uploading and reviewing of analytical data.

They are involved in the research and development of live sensors and software platforms for better data analytics to help with maintenance scheduling and planning, and could be undertaking laboratory analysis as well. If you want to be part of a dynamic and lean organisation, this is a fabulous opportunity to learn. The successful student will have the opportunity to participate in meetings and site visits, social media updates, along with other projects that arise.

Company description

Techenomics is an independent, multinational company providing state-of-the-art oil analysis, fluid management and condition monitoring services to the mining, transport, marine, power and industrial sectors across Indonesia, South East Asia, Northern Asia, Australia, East Africa and Turkey.

They specialise in providing expert and innovative solutions to keep oil clean, test its performance, improve its effectiveness with nano additive technology and provide condition monitoring outcomes through fluid analysis and filtration programs. This ensures oil performs better and lasts longer, thereby enhancing productivity, cutting maintenance costs and adding more value to the bottom line.

Additional information

Techenomics are looking for someone with:

- Intermediate computer skills
- Good written and verbal communication skills



Orica are offering 3 positions as follows:

Position 1:

Location: Richmond Vale, NSW
Website: <http://www.orica.com/>
Discipline: Mathematics, Physics, Geology / Geophysics
Anyone with mathematical coding experience (especially FORTRAN)

Position description

Orica is providing an internship in modelling of MI signal strength in different ground conditions for a through the earth communication project.

MI through-the-earth communications shares a lot of the same science as magnetic methods for geophysical exploration. Software already exists for determining underground strata from an MI signal induced by one coil in another by an inversion calculation from soundings. This software can also perform the forward calculation – determination of the expected signal strength from a given underground strata. The software is very efficient and would complement the COMSOL modelling that has already been established at the Orica Technical Centre, Kurri Kurri. COMSOL provides a more general approach with a full 3D model, whereas the geophysical codes are semi-analytical and will be able to explore the large parameter space much more quickly.

The student will review all the available geophysical magnetic codes to determine which is most suitable for the proposed modelling evaluation. They would then use this code to validate COMSOL simulation and perform feasibility calculations for different ground conditions and perhaps optimise the transmission frequencies.

Additional information

Orica is looking for someone with:

- Some basic modelling, software and mathematical skills regardless of discipline.

Position 2:

Location: Kurri Kurri, NSW
Website: <http://www.orica.com/>
Discipline: Chemical Engineering, Civil Engineering, Information Technology

Position description

Interns will work within corporate financial advisory, in the natural resources sector.

This role will include, but not be limited to, the following activities:

- Supporting BlastIQ implementation with Customers - data and interface setup, interpretation of data for customer improvement opportunities, analysis of data.
- Process Improvement Opportunity and Implementation within supply of explosives and services to Quarries Industry.
- Process Optimisation Kurri Kurri Quarry Services - Site to Quarry and return to site Explosives and Mobile Manufacturing Unit
- Data Capture & Streamlining Information Flow for Underground Hyper-charge Performance to customer needs analysis.

Company description

Orica is the world's largest provider of commercial explosives and innovative blasting systems to the mining, quarrying, oil and gas and construction markets, a leading supplier of sodium cyanide for gold

extraction, and a specialist provider of ground support services in mining and tunnelling. Founded in 1874, Orica has more than 140 years of experience and investment in innovation. We are the global leader in mining and civil services, with a diverse workforce of around 11,500 employees, servicing customers across more than 100 countries / 6 continents. With a high commitment to safety, health and wellbeing, and a highly ranked graduate program that provides diverse experience and personalised professional development in both technical and commercial roles, Orica is an innovative company with excellent opportunities for students.

Further Information

For more information regarding the role and specific requirements or tasks, please contact info@austmine.com.au who can put you in touch with Orica directly regarding the Richmond Vale position.

Position 3:

Location: Richmond Vale, NSW
Website: <http://www.orica.com/>
Discipline: Chemistry (ideally synthetic and/or analytical)

Position description

Orica is providing an internship in working with current trending carbon-based materials in the development of the next generation of bulk explosives for the mining sector. The work would involve characterisation of the material using analysis techniques such as DSC, along with an in-depth literature review to understand the chemistry of the material and its applications in our explosive formulations.

Company description

Orica is the world's largest provider of commercial explosives and innovative blasting systems to the mining, quarrying, oil and gas and construction markets, a leading supplier of sodium cyanide for gold extraction, and a specialist provider of ground support services in mining and tunnelling. Founded in 1874, Orica has more than 140 years of experience and investment in innovation. We are the global leader in mining and civil services, with a diverse workforce of around 11,500 employees, servicing customers across more than 100 countries / 6 continents. With a high commitment to safety, health and wellbeing, and a highly ranked graduate program that provides diverse experience and personalised professional development in both technical and commercial roles, Orica is an innovative company with excellent opportunities for students.

Further Information

For more information regarding the role and specific requirements or tasks, please contact info@austmine.com.au who can put you in touch with Orica directly.

The Geological Survey of NSW

The Geological Survey of NSW are offering 4 positions as follows:

Location: Maitland, NSW
Website: <https://www.resourcesandenergy.nsw.gov.au/miners-and-explorers/geoscience-information/about/geological-survey-of-nsw>

Position 1:

Discipline: Earth Science

Position description

- Reading and processing technical exploration & mining reports
- Administration of work program documentation



- Data mining for geological information & industry / commodity trends
- Otherwise general assistance with regulatory and land use business and projects
- Organised projects and potential site excursions to provide the student with professional exposure

Additional information

The Geological Survey of NSW are looking for someone with:

- Basic computer skills
- Basic earth science knowledge
- Basic GIS skills preferred

Position 2:

Discipline: Earth Science

Position description

- Assist with planning (and possible attendance at) technical and public events
- Develop articles and graphics for our website and social media
- Assist a production team with development of educational, display and marketing materials
- Possibly assist in developing a geotour app
- Liaising with teachers to investigate and develop educational resources

Additional information

The Geological Survey of NSW are looking for someone with:

- Broad knowledge of, and enthusiasm for earth science
- Proficient at science communication (to a technical and non-technical audience)
- Well developed writing skills
- Experience with GIS preferred
- Social media, apps and visualisation tool skills would be highly regarded

Position 3:

Discipline: Geoscience

Position description

Work with the Strategic Resource Assessment unit on one of three current projects, to:

- Use high precision age data from volcanic ash fall beds from the Sydney-Gunnedah Basin to revise stratigraphic correlations, improve 3D geological models and explore implications for chronostratigraphic versus lithostratigraphic correlations.
- Defining the age constraints of the Early Devonian sequence of the Darling Basin by taking core samples from the Londonderry core library to complete palynological studies for sequence stratigraphic correlations.
- Provide data validation and collection of assay data and historic mining data to assist in progressing a pilot project to incorporate these data to model the distribution of contained metal including background values in unmineralised rocks for a location in NSW.

Additional information

The Geological Survey of NSW are looking for someone with:

- Knowledge of geoscience subjects
- Writing skills
- Data manipulation skills
- Aptitude to pick up new computer skills

Position 4:

Discipline: Earth Science

Position description

Use your studies in geological science subjects to undertake this internship and build your skills in a variety of geological projects, to:

- Stratigraphic unit descriptions (requiring research into the origin of geological formations and their extents in time and space; also requires scientific writing skills);
- Field mapping (required: ability to do field work, mineral identification skills, data manipulation in spreadsheets);
- Geological data collation and quality control (required: data manipulation in spreadsheets);
- Geological descriptions of rock formations in National Parks (required: scientific research skills, scientific writing, ability to do field work)

Additional information

The Geological Survey of NSW are looking for someone with:

- Scientific research skills
- Scientific writing skills
- Ability to do field work
- Mineral identification skills
- Skills in data manipulation in spreadsheets

Company description

The Geological Survey of NSW collects and manages geological, geophysical and geospatial data to inform the government, resource industry and the community about the state's geology, mineral, coal and petroleum resources. The Survey collaborates with other national and international government and scientific bodies to share skills and data and promote coherent information exchange.

The Geological Survey of NSW is the state's premiere geoscience agency. It is involved in collection of geoscience information through mapping and surveys, and delivery of geoscience data and information to a wide range of stakeholders, from the mineral exploration industry to the community.

Jennmar



Location: Smeaton Grange, NSW
Website: <http://www.jennmar.com.au/>
Discipline: Mining, Civil or Mechanical Engineer

Position description

This role will include, but not be limited to, the following activities:

- Testing ground support products and systems
- Product development activities in the laboratory
- Product and equipment 3D CAD drafting
- Potential for underground visits testing products within underground mines.

Company description

Family owned by the Calandra Family in Pittsburgh USA and started in Australia in 1997. With 250 Australian employees, Jennmar has two main manufacturing plants, Sydney and Mackay. There is a team of around 15 personnel based in mining areas who service the products. Jennmar has an internal R&D office and facilities at the head office in Sydney. Jennmar has extensive involvement in R&D with Universities to keep them at the top of product development in the underground mining industry.

Komatsu are offering 2 positions as follows:

Position 1:

Location: Rutherford, NSW

Komatsu is willing to consider remote work for students not based in the Hunter Valley, under the proviso that regular supervision meetings are held.

Website: <http://www.komatsu.com.au>

Discipline: Computer Science, IT, Software Engineer, Mathematics, Science, Electrical / Mechanical / Mechatronics Engineer

Position description

Komatsu mining machines are critical and high-value assets, therefore any unplanned breakdown must be avoided. Komatsu process the large amounts of data these machines transmit to detect early signs of failure or indications that the machine is not used optimally. Komatsu achieves this by bringing together machine expertise and start-of-the-art analytics.

Komatsu's internships are Research and Development oriented. You will be tasked to trial a new data analytics technology or concept in a real-life industrial context, to see if (and how) it can solve problems. The internship involves writing computer code, but you don't need to be a coding guru. It also involves maths, but you don't need to be a top mathematician. No mining knowledge is required.

Additional information

Komatsu are looking for someone with:

- Ability to write computer code in any language (Python would be ideal)
- First year university mathematics

Further Information

The successful applicant will be required to undergo a Drug and Alcohol Screening as part of the employment process at the employer's expense.

Position 2:

Location: Wollongong, NSW with the occasional requirement to work at Moss Vale, NSW

Website: <http://www.komatsu.com.au>

Discipline: Mechatronic Engineer

Position description

Komatsu is providing students the opportunity to gain exposure and experience working within the division responsible for underground coal mining machinery design, manufacture and support. The role will include, but not be limited to, the following activities:

- Some hands-on wiring of simple sensors and relays, soldering, building simple circuits
- Programming within Arduino environments to various shields, especially around I/O and TCP (IoT especially)
- Working in a large machinery environment, and working within a shared space with Engineers and customers in the vicinity
- Working with others of varying specialities for assistance in developing the project.

Additional information

Komatsu are looking for someone with:

- Basic familiarisation with Arduino electronics system
- Basic understanding of electronics theory and DC simple systems
- Basic level Arduino-based programming (hobby or entry level is acceptable)
- Basic Windows computing and internet skills

Company description

Komatsu Mining Corp. provides advanced equipment, systems and direct services to the global mining industry. They partner directly with their customers, enabling them to achieve zero harm, the highest production and lowest lifecycle cost for their mining operations. Komatsu Mining Corp's industry leading product brands include P&H, Joy and Montabert and their integrated technology, services and solutions are a critical component of mining operations in a variety of commodity markets including energy, hard rock and industrial minerals.

Bis Industries

Location: Tomago, NSW
Website: <http://www.bisindustries.com/>
Discipline: Mechanical / Process / Civil / Mining Engineering

Position description

Bis Industries is providing students with the opportunity to gain exposure working in the resources industry on a new business project. This role will include, but not be limited to, the following activities:

- Project management and understanding of work flow
- Analysis and development of a reporting structure to communicate the utilisation, cost savings and on time deliveries statistics to the business for a new project

Company description

Bis Industries have been delivering every day for their resources customers since 1915. Bis provides the logistics, materials handling and specialised equipment their customers needs to efficiently haul, transport, handle, process and deliver all their commodities. Bis Industries find the best solutions and inventive ways to drive productivity improvements in their customers supply chain. Customers can count on Bis Industries' staying power and industry leading safety record. With Bis, you can Deliver Every Day.

Additional information

Bis Industries are looking for someone with:

- Intermediate customer service skills
- Proficient in MS Office Suite
- High level of literacy and numeracy skills
- Good interpersonal and verbal & written communication skills
- Understanding of business management and finance management

Further Information

The successful applicant will undergo a pre-employment medical assessment (at the employer's expense) as part of the employment process. This is a normal step for many companies.

Nautitech Mining Systems

Location: Castle Hill, NSW
Website: <http://nautitech.com.au/>
Discipline: Electrical / Electronics Engineering

Position description

Nautitech Mining Systems is looking for potential internship candidates to join their engineering team. The ideal candidate will need to have studied or have an interest in:

- PCB design
- Altium Designer software



- Electronic design of small signal analogue and digital circuitry
- Design of intrinsically safe circuits
- Good report and documentation writing skills
- EMC and LVD test and assessment
- Circuit simulation
- Failure modes and Effects Analysis (FMEA)

Company description

Nautitech Mining Systems is an engineering, design and manufacturing company that develops products that improve safety and productivity in hazardous areas, primarily in underground mining. Nautitech are passionate about innovation and have a history of creating industry first solutions that are used around the world. Nautitech are an organisation consisting of about 30 individuals and work with both small and large mining clients

Additional information

Nautitech are looking for someone with:

- High computer literacy in Microsoft products
- Strong written and verbal communication skills

Further Information

This position is aimed for students in their fourth year of study, or completing their Masters.