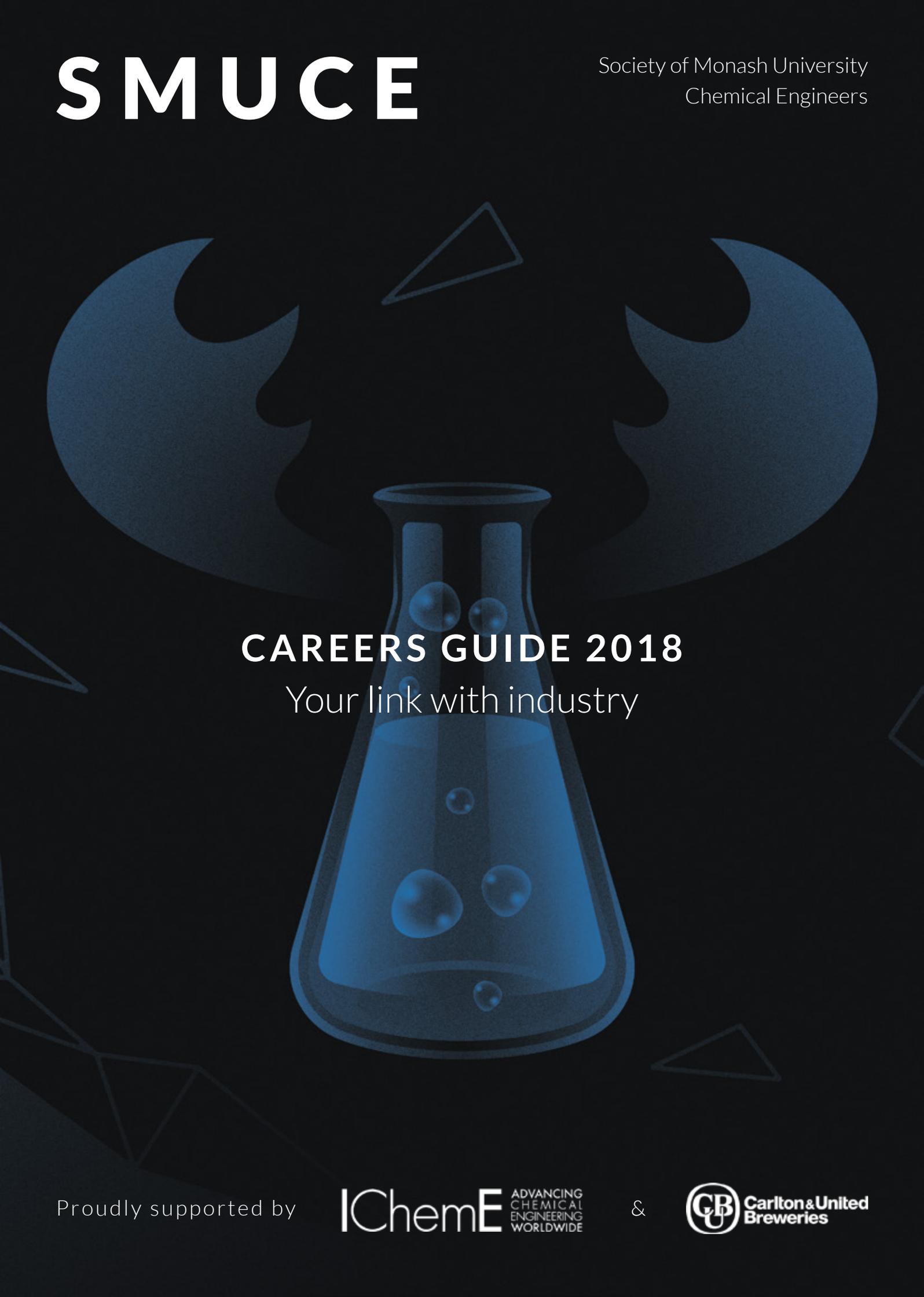


SMUCE

Society of Monash University
Chemical Engineers



CAREERS GUIDE 2018

Your link with industry

Proudly supported by

IChemE ADVANCING
CHEMICAL
ENGINEERING
WORLDWIDE

&

CB Carlton & United
Breweries

Acknowledgements



The Society of Monash University Chemical Engineers proudly presents our 2018 Careers Guide. SMUCE aims to uphold its tradition of linking students with industry. You'll find that this guide will not only provide industry insights but also research opportunities, testimonials from some fantastic students and tips to help you get that dream job.

Thank you to all contributors who generously provided their time, effort and information to create this publication. This includes all individuals, organisations, and company representatives. Thank you especially to Monash University, Monash Abroad, Monash Employment and Careers Development, Monash Industry Team Initiative, the Engineering Faculty and the Department of Chemical Engineering.

I would like to extend my thanks to all SMUCE committee members who assisted with creating this guide. Getting this guide ready for publishing on time would not have been possible without the hard work put into proofreading and contacting companies, organisations, researchers and individuals. I would not have finished the guide in time without all your help.

Finally, SMUCE would like to thank all our sponsors: IChemE, Carlton & United Breweries, Wood, Bain & Company, the Department of Chemical Engineering and The Boston Consulting Group. Without your support, this publication would not have been possible.

- Shivank Vijaykumar, Industry Vice President 2018

The Society of Monash University Chemical Engineers, SMUCE:

SMUCE aims to enhance the experience of chemical engineering students through facilitating greater student-staff relationships and providing opportunities to network with industry leaders and company representatives.

This year we will continue to provide for our students through our various initiatives including:

Weekly Industry Seminars

Each week during the semester we invite representatives from different companies or organisations to come and speak to our students. These seminars allow companies to present to students on who they are, what they do and potential career pathways into employment. Additionally, these seminars provide an avenue for students to ask questions and network with working engineers. These seminars are held on the Thursday of each week throughout the academic year from 12-1pm in the Lawson Room (22 Alliance Lane, Room 201) and are followed by a free pizza for lunch.

Site Tours

A new initiative in 2018, SMUCE will run several industry visits every semester to help chemical engineering students attain more hands-on industrial experience and bridge the gap between the lecture halls and industry.

Vacation Employment Day

A one-day information session geared to provide students with skills to help them obtain work experience. This information is provided by both companies and Monash organisations and includes presentations and activities to improve resume and cover letter writing as well as interviewing skills. Vacation Employment day is held during the mid-year break in July.

More Information

To hear more about SMUCE and our events follow us here

Facebook - www.facebook.com/SocietyOfMonashUniversityChemicalEngineers

LinkedIn - www.linkedin.com/in/smuce

or email us at smuce@monashclubs.org

Students are also welcome to speak to us in person at our office, located opposite lecture theatre E1.

This publication was supported by the Clubs & Societies Council, a division of the Monash Student Association (Clayton) Inc.

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How to use this guide

Getting that Job:

This part of the Careers Guide can be used as a reference for resume and cover letter writing when applying for jobs. We are most grateful for the Monash Employment and Career Development (ECD) team for taking the time to compile these tips and advice.

Industry Profiles:

These give a summary of what a number of companies do, as well as opportunities available to students. This is intended to give you an idea of what is available to you as a chemical engineering student. Please keep in mind that there are many other opportunities in Melbourne and Australia; it is up to you to find these. The SMUCE 2017 Chemical Engineering Careers Guide is only a basis for you to start your investigations.

Researcher Profiles:

Like the Industry Profiles, these give a summary of some of the work of researchers at Monash University and how you can become involved. There may also be other opportunities available in the Monash University Department of Chemical Engineering. The best way to learn about research and opportunities is to talk to the academic staff in the department.

Testimonials:

The 'Testimonials' section of the Careers Guide is comprised of the experiences of students and alumni. We've tried to provide a well rounded view of chemical engineering that is relevant to students.

VACATION
OPPORTUNITIES

VAC

GRADUATE
OPPORTUNITIES

GRAD

INTERNATIONAL
STUDENT
OPPORTUNITIES

INT

SUMMER
OPPORTUNITIES

SMR

MASTERS
OPPORTUNITIES

MST

PhD
OPPORTUNITIES

PhD

INTERNATIONAL
STUDENT
OPPORTUNITIES

INT

 Yes

 No

 Unknown

The background features a complex geometric pattern of blue lines forming various polygons and triangles. A large, solid blue shape is positioned on the left side, partially overlapping the line art. The overall aesthetic is modern and minimalist.

GETTING THAT JOB

Tips on writing a Resume for a Chemical Engineering graduate

Your resume is the first impression that you will give to a potential employer. So make it clear, concise and relevant.

You should take the time to research the organisation and the position that you are applying for. This will enable you to link the skills and experiences from your time at Monash University as a Chemical Engineering student and any other employment, volunteer work, memberships and involvement in groups or bodies.

Try not to use the same resume for every job that you apply for - tailor it for each different position and company. Doing this will help you stand out for all the right reasons. Your resume is where you show that you have the required skills, knowledge and qualifications that are needed for the position.

The first page of your resume should reflect the most relevant information pertaining to the job. As you head towards completion of your Chemical Engineering degree, details of your education will most likely be of most interest to the potential employer unless, of course, you have any industry related experience.

List your education in reverse chronological order. If you received any outstanding marks, be sure to include these, if not, there is no need to list them as companies often request a copy of your academic transcript which will contain this information. If you did well in a particular subject and the position requires this, then make the potential employer aware of your mark.

Also be sure to list your work experience and employment history in reverse chronological order. For each position, describe your duties and any achievements, beginning each point with an action verb (e.g. formulated, identified, solved, accomplished, managed, assisted etc.) and remember to keep to the point and stress what you have achieved. Any engineering related work experience you have could have a separate heading for example "Chemical engineering related experience". Keep in mind that most engineering work is project based, therefore you should give brief details of any projects that you were involved in and highlight your specific contribution to its' success.

Over and above your Chemical Engineering degree and any engineering related experience, companies will look for employability skills that you have developed. These could include the following and should be addressed in a "Skills summary"

section of your resume:

Communication, Creativity and Innovation, Initiative and Enterprise, Professionalism, Planning and Organisation, Problem Identification and Solution, Intercultural Competence, Teamwork, Use of Tools and Technology

You should include evidence of how you possess and utilise some of these skills by using relevant examples. Merely listing skills with no evidence is meaningless for employers.

Remember this is the section that should contain the skills that the employer has specifically identified as being important and should be different for each application.

Another heading to include in your resume if relevant is "Voluntary and community work". Employers value people who are worldly and culturally aware and willing to contribute to the greater community. If you are a member/student member of any professional associations for example Engineers Australia, mention this on your resume as it demonstrates your interest and commitment to the engineering field. You may or may not include a list of your "Interests and hobbies" - it's a personal choice. Employers are usually interested in you as a person and this section could add another dimension.

Finally you need to include a section with details of potential referees. List their name, position title, organisation and contact details. Referees should have witnessed your capabilities in a working environment. It is acceptable to write "Available upon request" if you don't have up to date details but bare in mind you will need to provide the details if employers are serious about employing you. Always ensure you speak to your referees before listing their contact details. See some samples using the link below. - monash.edu.au/students/career-connect/apply-for-a-job/resume-samples.html

Tips on writing a Resume for a Chemical Engineering graduate

Quick tips:

- Use 10, 11 or 12 font - Arial, Calibri or Times New Roman are good choices
- Triple check your grammar and spelling
- Be consistent with formatting – use clear headings, bullet points (make sure they line up)
- Choose an easy to read layout and make sure there is plenty of 'white space' on the page
- Be concise and use relevant examples
- Write content in the third person – no 'I' or 'we'

How can we help you?

Chat with the friendly staff at Career Connect about:

- Meeting with a Careers Education Consultant
- Getting your job application checked
- Interview tips, including Interview Stream (monash.interviewstream.com/signup)
- Developing your employability and using Student Futures (student-futures.monash.edu)
- Your work rights
- Career Gateway jobs board (careergateway.monash.edu.au)
- Jobs for Students program
- Student leadership development
- Volunteering at Monash (monash.edu/volunteer)
- Career seminars and events

Please visit our website for more information - monash.edu/students/career-connect/

Tips on writing a Cover Letter for a Chemical Engineer Graduate

Your cover letter could be the first thing that an employer will read about you.

A cover letter should introduce you and describe your qualifications, it should demonstrate your motivation for wanting to work for that particular company and your passion for chemical engineering and it should show that you have the relevant skills for the position. A common mistake made with cover letters is to repeat the information that is in your resume – this is not the point of a cover letter! Also re-write your cover letter for each application as it must be tailored specifically to each job you apply for.

Paragraph one

This should include the purpose of your letter. Include your qualifications, the position title and any reference number to the

position (if applicable). If you're not writing in response to an advert and canvassing for potential employment, introduce yourself and your current career circumstances as concisely as possible, including any specialised professional interests and abilities.

Paragraphs two/three/four/five

These paragraphs should demonstrate why you want to work for this employer and why they should want you. It is essential that you demonstrate within these paragraphs your ability to gather the most relevant information from a range of sources to state your claim as a suitable candidate.

Highlight the skills, expertise, qualities and employment experience you have included in your resume that you believe are most relevant to the requirements of the position. Make sure that you can demonstrate how you meet the selection criteria, and how what you have to offer relates to both the current and future needs of the employer.

Include other factors that point to your possession of key general skills (e.g. communication, teamwork, initiative, self-management) through your experiences in voluntary or community activities, clubs and societies etc. If you have done a chemical engineering internship or vacation work include skills from this experience as evidence.

Tips on writing a Resume for a Chemical Engineering graduate

Show that you have researched the organisation and the position. Include this when you show your enthusiasm for that particular position with that particular employer but do not copy sentences from the employer's website.

What do you want to happen next?

Confirm that you have attached your resume and any other documents requested. Finish on a positive note, thank the employer for their time and express interest in attending an interview.

Have a look at the link below for examples, and for the correct way to address the letter, the salutation and how to close the letter.

Quick tips:

- ONE PAGE ONLY – never longer (unless specified by employer)
- Tailor it to the job for which you are applying
- Use a standard business style for your letter
- Use 10, 11 or 12 font - Arial, Calibri or Times New Roman are good choices
- Clear structure – one main idea per paragraph
- Plenty of white space (standard margins and space between paragraphs)
- 100% accurate spelling and grammar
- Short, well-constructed sentences, not unnecessarily long and wordy
- A positive tone (do not include your weaknesses)
- Plain English (avoid slang, SMS language or other abbreviations, jargon or terms which are too casual)

Please visit our website for more information and sample Cover Letters - monash.edu/students/career-connect/apply-for-a-job/cover-letters.html

How can we help you?

- Attend 10 minute drop-in sessions for a quick feedback on job application or career advice
- Provide you with tips on assessment centres
- Offer you half hour one-on-one career consultations
- Online resources including sample resumes and cover letters, and lots of other useful career planning tips and information regarding employment outcomes based on your degree program
- Brush up your interview skills
- Practice job interview using Monash Career Connect Interview Stream

For more information please visit

monash.interviewstream.com/signup

The Monash Employment, Careers and Development Centre is located in the Campus Centre, 21 Chancellors Walk.

Networking

Why should a company hire you?

Maybe because of your grades. Maybe because of your extra-curriculars. Maybe because of your good looks.

Whilst all of these factors count (good looks aside, sorry Brad Pitt), often what is critical is how well you can connect with someone. The ability to connect and interact with people will assist you at all stages in your career; networking nights, the interview table or on-the-job every day with colleagues, building rapport with others is always beneficial.

Often it seems like that building rapport (part of what is often referred to as “soft skills”) is less of a science and more of an art at best, and mystical randomness at worst. Thankfully like most things, whilst some people do have a level of natural talent, building rapport is a skill and, regardless of who you are, this skill can be developed and honed. The opportunities to practice this skill are unlimited but here are some potential situations that will allow you to refine your craft.

Networking Night

These nights are literally designed for you to practice building rapport with both other students and professionals. Make sure to talk to people from both of these camps as variety is always useful. You may have heard of having an “elevator pitch” which is usually described as a two to three minute spiel of who you are, what you are studying and what you are interested in pursuing later in life. Ideally, you don't use one of these (think how you would feel if someone jumped in front of you and talked non-stop for three minutes), however they can be nice to have as a safety-net of sorts if you are unsure of what to say. A great in this sort of environment is to get the other person talking. This is helpful for a number of reasons.

Firstly, if you find the right topic, people enjoy talking about themselves. This makes them feel valued and that you are interested in them.

Secondly this gives you more information to help you continue the conversation with them; you can pick up on some of their interests, maybe mentally note some places where you could take the conversation further (“You mentioned you travelled to Japan for work, what were you doing over there?”) and even use this information to help decide what you would like to mention about yourself.

Lastly, getting others' to talk about themselves gives you time to

think and also relax. When you're not talking, make sure that you are actively listening, but feel free to take a mental step back and try to avoid churning everything over in your own mind. These nights are a great place to engage in conversation with a wide variety of people and give room to push yourself out of your comfort zone, with opportunity to go back to your peers if need be.

SMUCE Industry Seminars

SMUCE Industry Seminars give a much more “close” scenario where you can interact with industry representatives in a one-on-one manner. These situations are especially helpful if you want to connect more deeply with them and form a closer connection. The connections that you make at this event certainly has potential to be fruitful in the future, whether as having them as a mentor, helpful informant or even as a pathway to a job or career.

Volunteering Opportunities

Volunteering is a fantastic way to practice every variety of soft skill. From networking with peers and professionals alike, to leading teams or even potential for public speaking, volunteering can give you hugely beneficial experience in a swathe of different skills. Additionally, volunteering is a fantastic thing to put on your CV and depending on what it is, may contribute to your CPD requirements. Volunteering ultimately is very much a hands-on experience and can be hugely rewarding especially if it is in a field, or for a purpose, that you are passionate about.

- Jesse Givens-Lamb

Continuous Professional Development (CPD)

All students undertaking an undergraduate Engineering course at Monash Clayton are required to meet a compulsory requirement during their penultimate or final semester of study, in order to be recognised by Engineers Australia as 'competent' and be eligible to graduate with their Monash Engineering degree.

Students are expected to be sourcing their own professional development opportunities during their time at Monash, and the details of these experiences should be submitted to the Student Futures platform in order to track how many hours and skills students have attained in their various activities. There are minimum requirements of hours and skill reflections that must be reached, but there are no maximums on the number of activities, hours, skills or reflections students can submit to the CPD Program - the more a student submits to the platform over and above the minimum requirements, the better it will look for them when they graduate (and are applying for jobs).

At least 50% of each student's minimum hour requirement must come from Engineering-based activities, but there are many different ways to make up this number.

Once all completed activities have been submitted to the Student Futures platform and the minimum requirements have been met, students can proceed to Moodle to complete the assessment piece of six questions, which are based on the experiences students attained while completing their activities. Successful

completion of these questions on Moodle will grant the student a 'competent' grade, which will be reflected on their transcript as an 'SFR' (Satisfied Faculty Requirements) for the zero-credit-point, zero-fee-loading unit ENG0001. Students cannot graduate from an undergraduate Engineering course at Monash Clayton without having achieved an SFR for ENG0001.

CPD Demonstration & Information Seminars, CPD Writing Workshops, and CPD Lab Sessions are available each semester for students to learn more about what's required of them, and to seek assistance with inputting their submissions. There is also a very comprehensive list of CPD FAQs available online to answer any question students may have about the CPD Program.

Bear in mind that attendance at – and the pre-organisation of – SMUCE events are considered Engineering Professional Development activities on Student Futures, as SMUCE is a Monash Engineering Club. **To this end, the industry lunchtime seminars SMUCE runs every Thursday can count toward your CPD**, but you must be able to provide a written reflection explaining how you exercised one or more of the nine skills at the seminars – so get in there and network with the attending industry professionals!

monash.edu/engineering/cpd/faqs

monash.edu/student-futures





ENGINEERS
AUSTRALIA

FRONTIER



THE YOUNG ENGINEERS GUIDE TO GETTING AHEAD

GET AHEAD

Get a head start in your engineering career with world-class professional development and technical resources available at your fingertips. A career in Engineering is a journey, and we'll support you wherever your career takes you.

BUILD YOUR NETWORK

Meet like-minded peers, professionals and future employers through our valuable events and webinars designed to help you build your professional network. You'll get to hear about job opportunities and learn where a career in engineering can take you.

GAIN RECOGNITION

Gain the competitive edge in the global market by being part of an elite community committed to engineering a better world.

As an engineering student in a tertiary institution you have more than assignments to consider. Are you thinking about how to start your career after graduation? Are you searching for ways to differentiate yourself from your peers?

Engineers Australia understands your needs and has created a suite of services and resources available to university students.

Students studying an accredited or recognised Australian course in engineering can apply for free student membership.

[Engineersaustralia.org.au/frontier](https://engineersaustralia.org.au/frontier)



facebook.com/engineersaustralia



engineersaustralia.org.au/linkedin



@engaustalia



ENGINEERS
AUSTRALIA

Joint Victorian Chemical Engineering Committee

CPD Program 2018



ENGINEERS
AUSTRALIA

Joint Victorian Chemical Engineering Committee CPD Program 2018

Engineering careers planning and networking night

Tuesday, 24 April 2018

Network with other industry professionals, discuss career progression with special guests and listen to Kim Hahn, Plant Manager at Esso's Long Island Point Facility, discuss her experience with leadership roles and career planning.

Co-hosted with WIE, YEAV and the OQE.

The missing link in extracting value from data: building an operational performance team

Wednesday, 8 August

David Bartolo, AGL Head of Operational Performance and Diagnostics, will explain the role of the centralised engineering team in consolidating data from myriad operating sites including wind, solar, coal, gas and hydro.

Co-hosted with the Asset Management Council.

Challenges in managing gas systems

Tuesday, 13 November 2018

Matthew Clemow, Senior Manager Real Time Gas Operations at AEMO will provide an overview of his role, discuss the framework under which AEMO operates, and explain some of the many challenges and day to day decisions involved in managing the integrated gas network.

Co-hosted with the Asset Management Council and RES.

Other co-hosted events

Women in Engineering- salary negotiation and career progression, Thursday, 29 March.



IChemE On Campus

Professional membership for students

The Institution of Chemical Engineers (IChemE) is the global membership body for chemical engineering professionals and anyone involved with the process industries.

With over 44,000 members based in 120 countries, IChemE is the only organisation that awards the internationally-recognised qualifications of Chartered Chemical Engineer and Professional Process Safety Engineer. Our team of professional staff support our members and the wider chemical engineering community from our office locations in Australia, Malaysia, New Zealand, Singapore and the UK.

IChemE exists because chemical engineering matters.

Your IChemE membership is proof of your commitment to your studies and future career. Join online today and gain immediate access to study resources including:

- free digital subscription to the latest news and job hunting features in 'The Chemical Engineer' via www.thechemicalengineer.com and smartphone/tablet app
- Knovel e-library with hundreds of searchable science and engineering textbooks
- journal archive with over 4,000 chemical engineering research papers
- access to a powerful network of contacts via global events, special interest groups, regional member groups, interactive and lively social media community
- two student handbooks – *Data for chemical engineering students - essential concepts, principles and formulae* and *Communication skills for scientists and engineers*

Other member benefits include:

Discounts

- up to 15% discount off books, including titles in your reading list as well as discounts on training courses and events.
- IChemE Advantage – our member benefit programme that offers a broad range of tangible discounts and value adding benefits. Visit: www.icheme.org/Advantage

Networking

- be part of a global professional community – meet other engineers, network and gain the inside track in your industry. Our member groups hold local social and technical events that provide an excellent opportunity to meet with like-minded professionals.
- as an IChemE member you can also benefit from one free registration to a special interest group of your choice. With plenty of groups to choose from you'll be spoilt for choice. www.icheme.org/specialinterestgroups

Career support

- you'll be able to receive employment advice through IChemE's preferred recruitment agencies, including job search, resume writing and interview tips webinars and workshops.
- gain access to a free IChemE email address upon request eg yourname@ichememember.org
- your IChemE membership demonstrates your commitment to your career development and is the pathway to becoming a Chartered Chemical Engineer in the future.

Did you know about our free upgrade?

Upon graduation you can take advantage of our free upgrade to Affiliate/Associate member. Pay nothing for the first year and receive 50% off* for the following year.

How to apply?

With a \$60 one-off student fee, apply online today: www.icheme.org/joinnow

For more information visit: www.ichemeoncampus.org

* 50% discount only applies to those who have upgraded to Associate level

Monash Abroad

Add an international experience to your Engineering degree with Monash Abroad!

Build your educational portfolio through one of our many global programs such as exchange, Monash in Malaysia, an internship or Work Integrated Learning, or a research experience.

Where can I go?

Monash University has exchange agreements with over 160 partner universities across more than 30 countries. We currently have partners offering Chemical Engineering units in Canada, Chile, China, Denmark, Israel, Italy, Japan, Malaysia, Singapore, South Korea, Sweden, the UK and USA. You can also talk to your faculty about an international internship as part of your practical experience for your course. These are not organised through Monash Abroad, however we do provide insurance and travel scholarships for all outgoing students.

What are the requirements?

Check out the eligibility criteria on our website noting that for semester exchange Engineering students need to have achieved a higher number of credit points, and you need to be allocated to a specialisation first.

Got electives to spare?

Not interested in a full semester overseas? Many faculties offer short-term programs during the summer or winter breaks which are worth 6-12 credit points. If you have some electives free, why not study Italian at our study location in Prato or Tropical Terrestrial Biology in Malaysia? Check out our website for inspiration!

How to apply

- Book into a First Steps information session via the my.monashbooking system - this is a requirement for semester exchange or study abroad applications
- Attend an Open Advising Session at the Monash Abroad office 1-2pm daily commencing week 3
- Further information about your overseas options, the link to the Monash Abroad Portal to apply and deadlines can be found at our website - www.monash.edu/study-abroad/outbound
- Any questions? Contact our Global Officers student. abroad@monash.edu
- Find us at 21 Chancellors Walk, Level 1, Campus Centre (Clayton Campus)



Monash Industry Team Initiative

Bringing talented students and industry leaders together (MITI)

What is MITI?

The Monash Industry Team Initiative program is a multidisciplinary team based initiative which seeks to educate students by offering positive learning opportunities to solve “real world” problems.

An Australian first, MITI connects high-achieving Monash students with selected industry organisations. Industry partners select student teams from all faculties including Art Design and Architecture, Arts, Business and Economics, Education, Engineering, Information Technology, Law, Medicine, Nursing and Health Sciences, Pharmacy and Pharmaceutical Sciences, and Science.

Student teams are engaged to complete a 10-12 week project over the summer break, from December to February. This crossdisciplinary collaboration provides lasting benefits for our industry partners and our student.

How does MITI work?

If selected for the MITI program you will form part of a multidisciplinary student team of up to four.

Located on-site with a MITI industry host you will have the opportunity to apply your academic knowledge in collaboration with other team members to achieve innovative solutions to current business challenges.

Additionally, you will have access to the skills and experience of leading industry experts for the duration of your project.

Benefits and advantages

As a MITI team member you will be offered a scholarship to assist with living expenses for the duration of the project. All scholarships are administered by the Coursework Scholarship Unit, Monash, Clayton campus.

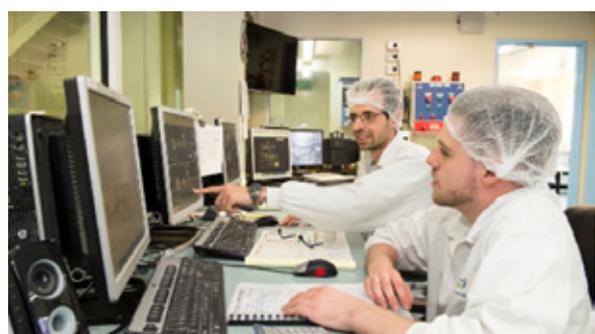
The program offers invaluable experience to all students by:

- Being part of a multi-disciplinary team that is solving real business problems
- Gaining exposure to relevant learning opportunities that support your studies
- Offering insights into your future profession

- Providing education and learning opportunities from leading industry experts

Want to know more?

Visit the MITI website - miti.monash.edu and watch the video located on the homepage for more details.



The background features a complex network of thin blue lines forming various polygons and triangles. A large, solid blue shape is positioned on the left side, partially overlapping the line network. The overall aesthetic is clean and modern, with a focus on geometric forms.

INDUSTRY PROFILES

		Vacation Employment Positions	Graduate Employment Positions	International Student Positions
Bain & Company		✗	✓	✗
BCG		✗	✓	✗
CSL		✗	✓	✗
CUB		✓	✓	✓
Deloitte		✓	✓	✓
EWB		✓	✓	✓
Exxon Mobil		✓	✗	✗
EY		✓	✓	?
Fluor		✓	✓	✓
Jacobs		✓	✓	?
KPMG		✓	✓	✓
MARS		✗	✓	✗
MMG		?	✓	?
PPG		✓	?	✗
Rio Tinto		✓	✓	?
Shell		✓	✓	✗
SUEZ		✗	?	✗
Teach for Australia		✗	✓	✗
VIVA Energy		✓	✓	?
Wood		?	?	✗
Yarra Valley Water		✓	✓	?

Bain & Company is one of the world's leading management consulting firms. We support companies in important decisions on strategy, operations, technology, organisation, private equity and mergers and acquisitions – cross-industry and cross-border. We help the world's top leaders solve their toughest challenges. Our work fuels the growth of many industries; it creates change for some of the most influential organisations and notable brands around the world – and when those organisations are truly doing things right, they are positively impacting people's lives around the world.

Employee Attributes:

We're looking for all-rounders – independent thinkers who thrive as part of a team. We recognize that everyone is different and everyone will bring their own unique experiences and perspectives to the team. The essential skills we'll be looking for in an undergraduate are: a demonstration of exceptional academic performance and strong analytical, interpersonal and leadership skills. They are a group of high-achieving people from broad backgrounds.

Employee Development:

The support you receive to help you thrive throughout your career at Bain is award winning. We have built the foundation of our supportive culture around our local offices—your home base. You will very quickly develop meaningful relationships with your peers, your managers, your mentors and your staffing manager—all of whom will have a deep interest in making you successful. Professional support starts from day one with our world-class global training where we teach you everything you need to be brilliant at what you do. From a professional development perspective, the firm provides a wide range of opportunities including: mentoring, global transfers, externships and affiliation groups e.g., Women@Bain and BGLAD (Bain GLBT Association for Diversity).

Locations:

Bain Australia is a unique and exciting opportunity. Sydney, Melbourne and Perth offices make up the Australian practice. These three offices are all located in central CBD locations and contain all of the modern traits you would expect to see in a fast paced, dynamic work environment. We have 56 offices in 36 countries around the world, and we work seamlessly together as one firm to serve our clients wherever they need us.

Graduate Opportunities:

Bain Australia is currently recruiting graduates for associate consultant (AC) positions. We will begin accepting applications in January 2018 for AC positions starting in January, March and July 2019. Those with up to five years of industry experience and/or an undergraduate, masters, PhD or other advanced degree are encouraged to apply. Experienced professional CVs are reviewed on an ongoing basis.

Other Opportunities:

We recruit ACs and consultants for full-time positions from top-tier universities and leading schools in Australia and around the world. We offer the True North Scholarship to penultimate year women studying their undergraduate, giving them a chance to win a \$15,000 scholarship, a Bain mentor and an AC position after graduation. Summer Associate intern programs are available to first-year full-time MBA students who are looking to experience the real world of consulting. In addition, we seek experienced professionals with three or more years of prominent industry experience, looking to make a change in their careers. Please note that the associate consultant internship is not available in Bain's Australian.

Applications and Eligibility:

You can apply for all positions via our online recruit portal <https://careers.bain.com/recruits/apply>. To apply, submit your CV, cover letter and undergraduate transcript including relevant test scores e.g, OP, ATAR, GPA, GMAT, WAM.

Student Advice:

When applying ensure you have a well-rounded application that demonstrates exceptional academic performance and strong analytical, interpersonal and leadership skills. To prepare for your application and case interviews we strongly advise that you read our 'Application information' and 'Interview preparation' sections of our www.bain.com/careers website.

When invited to interview, we encourage you to practice some case interviews (oral and written) with a friend, classmate or colleague. Rest assured that we're not looking to interrogate you in our interviews but rather cultivate an environment that promotes a series of productive and intellectually stimulating discussions. Lastly, be yourself! We encourage diversity at Bain and want to get to know the real you.



More Information:

Candidates can find more information about Bain's Australian practice through our website www.bain.com/offices/australia/en_us/index.aspx and keep up with our work, events or people, life and culture via our social media channels:

Facebook - @bainandcompanyAUS

Instagram - @bainandcompany

Twitter - @BainAlerts

For specific recruiting enquiries, please email Australia.recruiting@bain.com.

The Boston Consulting Group (BCG) is a global management consulting firm and the world's leading advisor on business strategy. We partner with client in all sectors and regions, with particular strength locally in technology, media and telecommunications, health care, industrial goods, consumer, energy, financial institutions, insurance and public sector.

Opportunities with BCG:

BCG is recruiting Associates to join any of our Australian offices in 2018 and 2019. Our Associates come from fields as diverse as music, philosophy and medicine, as well as traditional fields such as law, engineering and commerce. We are looking for students with outstanding academic records, strong analytical and interpersonal skills, intellectual curiosity, and great ambition.

Employee Development:

With BCG you will learn how to navigate complexity, draw unique insights, facilitate change, and become a leader responsible for real and lasting impact. Coached by a personal mentor and supported by your team and individual trainings, you will join a diverse group of highly driven individuals from different backgrounds who respect and trust each other. Through this you will gain experience and exposure to:

- Diverse case teams
- International experiences
- Personal mentoring
- Individual training – on and off the job
- Opportunity for personal development

Graduate opportunities:

We are now recruiting engineering students to join BCG. Please refer to www.bcg.com/careers for recruitment information and details on how to apply.

Scholarship opportunities:

BCG offers a scholarship to students with at least one further year of study. Please refer to our website (www.bcg.com/en-au/careers/apply) for further information.

Register to be kept updated:

Register via this link www.bcg.com/en-au/careers/events to be put on our mailing list to be kept up-to-date on upcoming BCG events

More Information:

Facebook - www.facebook.com/

[TheBostonConsultingGroup](https://www.facebook.com/TheBostonConsultingGroup)

Linkedin - www.linkedin.com/company/

[the-boston-consulting-group](https://www.linkedin.com/company/the-boston-consulting-group)

CSL is a global specialty biopharmaceuticals company that develops and delivers innovative biotherapies that save lives, and help people with life-threatening medical conditions live full lives. CSL also manufactures, markets and distributes vaccines with particular focus on vaccines (Influenza) for the prevention and treatment of serious disease.

Employee Attributes:

Within the Engineering work stream, the Graduate Program typically targets Mechanical, Chemical and Process Engineering Graduates. In addition to technical knowledge, we also evaluate applicants based on our company values, which are; Patient Focus, Innovation, Integrity, Collaboration and Superior Performance. Graduates who have the capacity to demonstrate these values, are encouraged to apply. Strong communication skills are also vital.

Employee Development:

The Program begins with a comprehensive induction process designed to educate new graduates about the CSL businesses, their history and key business objectives. Graduates are also given the opportunity to engage with key senior leaders within the business. Throughout the Program, graduates are supported with tailored development that is regularly discussed with their managers, providing them with considered training and relevant opportunities as they build their careers.

Locations:

Engineering Roles within the Program are available within both our CSL Behring and Seqirus Businesses based at Broadmeadows and Parkville respectively.

Vacation Opportunities:

CSL does not currently offer summer work placements for students.

Graduate Opportunities:

Graduate opportunities are advertised mid-year, typically in June/ July. In mid-2018 positions will once again become available for Graduates within Engineering and Science.

Applications and Eligibility:

graduate.cslbehring.com.au/home or au.gradconnection.com/.

Student Advice:

Take the time to tailor your application to our Program. CSL looks

for Graduates who have invested in understanding the role and have directly addressed the criteria and requirements. When participating in the interview process be yourself; it is important we know who you are and what you would like to achieve through the Program. Critically, do your research on our businesses. We want to understand what you know about CSL, CSL Behring and Seqirus and what role you see yourself playing within our business.

More Information:

Please visit us at: www.csl.com.au/home, graduate.cslbehring.com.au/home or au.gradconnection.com/.

Carlton & United Breweries (CUB) is one of Australia's most iconic companies. We locally brew some of Australia's most beloved beers and ciders including Victoria Bitter, Carlton Draught, Pure Blonde, Great Northern, Matilda Bay and ciders including Strongbow, Mercury and Bulmers as well as distribute some of the world's leading international brands such as Corona, Stella Artois and Budweiser. By joining CUB, you are opening up a world of career possibilities. We are a part of AB InBev, the largest and only truly global brewer selling over 400 brands across 100 markets and employing 200,000 people.

Employee Attributes:

For CUB's Supply Management Trainee (SMT) program, we look for current University students or recent University graduates with less than 2 years work experience with an undergraduate degree preferably in Engineering, Business, Science or related degrees. You must have work authorisation for Australia and be geographically mobile – you will move to different locations during the 12-month training program and you should be willing to relocate throughout your career.

Employee Development:

CUB/AB InBev employs world leading people management practices through a structured People Development program. The People Development cycle is supported by one-on-one manager monthly coaching and underpinned with formal learning experiences delivered through AB InBev University programs.

Locations:

Our corporate Head Office is based in Southbank, Victoria and we have major sales offices located in each state and territory. Our three breweries are located in Abbotsford Victoria, Yatala Queensland and Cascade Tasmania.

Vacation Opportunities:

Semester 2 Internships for curriculum accredited industry placement & 10-week Summer Internships commencing in November through to January.

Graduate Opportunities:

The Global Management Trainee (GMT) graduate program is an intensive 10-month rotational training program which attracts the brightest, most driven graduates who are interested to take on challenging positions early in their career and who have the potential to become our future leaders. The Supply Management Trainee (SMT) program is uniquely developed to identify, engage

and develop tomorrow's leaders who will continue to innovate and build a market leading supply capability with the world's leading brewer. Through the 12-month program, you will build technical expertise, learn about our local and global business, and have direct exposure to senior leaders and complete rotations through Packaging, Brewing, Maintenance, Logistics and Supply Chain operations.

International Opportunities:

Our programs operate across the globe. International students can apply for these programs in their local country. Applications for Australian Talent Programs require full work-rights by the time of program commencement

Applications and Eligibility:

Visit: cub.com.au/careers/student-programs/

Student Advice:

Culture is a huge component for CUB so get to know the culture and 10 principles of our company and if it aligns with what you stand for.

More Information:

Visit our CUB and AB InBev Websites for more information and don't miss the opportunity to attend our online Q&A sessions - link available here; youtu.be/jFJypSVCFOA



SUPPLY MANAGEMENT TRAINEE PROGRAM

Work on real life projects that have
business impact



BREWING
THE BEST



JUMP IN THE DEEP END AND DREAM BIG!

- 2019 GRADUATE OPPORTUNITIES -



BREWING
THE BEST

“Deloitte” is the brand under which tens of thousands of dedicated professionals in independent firms throughout the world collaborate to provide audit, consulting, financial advisory, risk management, tax and related services to select clients.

Employee Attributes:

Deloitte looks for people that are motivated, dedicated and above all looking to make an impact that matters in their workplace and in their community. We look for people that demonstrate our Seven Signals: the desire to continuously grow and improve, have fun and celebrate, aim to be famous, play to win, talk straight, empower and trust and recruit and retain the best.

Employee Development:

Deloitte aims to recruit and retain the best- that means we look to engage, retain and grow talent communities through a constant inflow of expert, innovative and creative people who make a positive impact in our firm and for our clients. In order to do this, we foster an environment where talent thrives; pro-actively seek opportunities to identify and attract “Like minds”; encourage innovative learning experiences through the shared wisdom of our people; act as brand champions and invite others to do so; and, develop relationships and engage our alumni.

We provide the right kinds of tools and training to ensure all our graduates can achieve career success through mentoring, peer support and e-learning.

Locations:

Deloitte has in the region of 225,000 professionals at member firms delivering services in audit, tax, consulting, financial advisory, risk management, and related services in more than 150 countries. The Australian partnership of Deloitte Touche Tohmatsu is committed to growth, client service and its people- 600 partners, and more than 7000 people located in 14 offices across the country, plus Papua New Guinea and Timor-Leste.

Applications and Eligibility:

To apply for a graduate role at Deloitte, go to: jobs2.deloitte.com/au/en/search-results?keywords=Graduate.

Student Advice:

If you are interested in starting your career with Deloitte, you can create a profile on Your Future- yourfuture.deloitte.com.au- to stay in touch and connected with Deloitte.

More Information:

Connect with us on Facebook, Twitter and LinkedIn, or get in touch with us via email graduate@deloitte.com.au or through Your Future.

When graduates ask us, ‘What’s different about Deloitte?’ we like to keep the answer simple: the impact we make.

As one of the largest professional services firms in the world, our services are as diverse as the graduates we hire. From cyber security and tech innovation through to accounting and advisory, we’re looking ahead and building industries of the future.

But we can’t do that without you – today’s graduates and tomorrow’s leaders and trailblazers.

That’s why don’t just employ graduates, we nurture them.

From working with clients such as Fortune 500 companies, government agencies and not-for-profits to participating in hackathons, mentorships, and our award-winning graduate development program, D.Academy – Deloitte grads are given an enviable start.

But the best part about Deloitte? Working on projects that matter.

And that’s what truly sets us apart. The belief that we’re only as good as the good we do, and the impact we make.



For diverse experiences

As one of the largest professional services firms in the world, our services are as diverse as the graduates we hire. From cyber security and tech innovation through to audit and advisory, we're looking ahead and building industries of the future.

But we can't do that without you – today's graduates and tomorrow's leaders. So, we're calling on creatives, technologists and trailblazers to join us.

Our Student programs

Graduate Program

As a 2019 Deloitte Grad, you'll get put through the most awarded and innovative graduate training program in the country.

Summer Vacation Program

A 3-8 week paid internship that gives you the chance to land a full-time role with us before you even graduate!

Insider Program

Your chance to get an inside look at Deloitte, and get fast-tracked to become a paid summer intern.

Accounting Cadetship

An amazing opportunity for first year accounting students to work at Deloitte and gain valuable real world experience.

Applications open 21 February 2018

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee, and its network of member firms, each of which is a legally separate and independent entity. Please see www.deloitte.com/au/about for a detailed description of the legal structure of Deloitte Touche Tohmatsu Limited and its member firms.

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What impact will you make?
yourfuture.deloitte.com.au

Engineers Without Borders (EWB) was founded in Australia by local engineers and now has 2,000 active members and 15,000 supporters across Australia. We are the only dedicated organisation in Australia that connects STEM (science, technology, engineering and mathematics) professionals with local communities, industry, the education sector and government to address social and environmental issues. We have been engineering people out of poverty for over 13 years.

We do this by:

- Working in partnership to address a lack of access to basic human needs such as clean water, sanitation and hygiene, energy, basic infrastructure, waste systems, information communication technology and engineering education.
- Educating and training Australian students, engineers and the wider community on issues including sustainable development, appropriate technology, poverty and the power of humanitarian engineering.
- Leading a movement of like-minded people with strong values and a passion for humanitarian engineering within Australia and overseas.

Our Vision: Everyone has access to the engineering knowledge and resources required to lead a life of opportunity, free from poverty.

Our Mission: We connect, educate and empower people through humanitarian engineering. Humanitarian engineering uses a people centred, strength based approach to improve community health, wellbeing and opportunity.

Our Values: We build relationships based on mutual trust and respect and believe all relationships thrive on a two way sharing of knowledge and culture.

Employee Attributes:

EWB takes good intentions and turns them into meaningful impact. Anyone can contribute, you don't need to be an engineer and there are plenty of ways to be involved from simply spreading the word, engaging in meaningful volunteerism or making a donation.

Employee Development:

The EWB Institute is the education, training, research and innovation section of Engineers Without Borders Australia. The EWB Institute delivers high quality educational and training

outcomes for students, professionals and EWB members. It also provides technical and educational support of EWB's development programs through courses, knowledge partnerships and university programs.

The key initiatives coordinated within the EWB Institute are:

- EWB Challenge - a design program for first year engineering students.
- Dialogues on Development - intensive study tours in Cambodia, India and in Aboriginal communities.
- Asian Humanitarian Design Summit: Student program based in countries such as Cambodia and India, with a focus on community development and appropriate technology.
- School Outreach Program - a member-led, hands-on science education program delivered to school students.
- Knowledge Centres - communities of practice providing professional expertise in support of EWB's development programs.
- Research Program - program for engineering student researchers connecting them to real-world, humanitarian engineering projects.
- Training Activities - in support of EWB's Field Volunteers, chapter leaders and membership.

Locations:

EWB operates local chapters in each State consisting of students, professionals and non-engineers who are passionate about humanitarian engineering and enacting change in the local community. We also have international placements in India, Cambodia, East Timor, Papua New Guinea, Sri Lanka, Nepal, Vietnam and Indonesia.

Locally, EWB Australia's National office is located in Footscray, and the EWB Monash Chapter is located at the Clayton Campus.

Vacation Opportunities:

EWB Australia offers unpaid internship opportunities at the National Office for students, an exciting program that will engage passionate individuals with EWB's work. This program has the clear objective of seeking people with a social awareness and humanitarian commitment to contribute through diverse skills (engineering, education, marketing, communications, events and fundraising) to achieve EWB's mission.

EWB Monash also offers volunteering opportunities in a dynamic environment where you will be helping make a positive impact whilst making new friends, exercising your leadership, and your communications skills.

EWB encourages students to get involved with the Monash Chapter projects in order to get a feel of the culture and projects:

- Spokes in the Wheel – Bike Fixing Workshop: Volunteers assist in fixing up second-hand, donated bicycles for use at teaching sessions. Volunteers learn key bicycle skills and network with students and professionals.
- School Outreach: Teach students about challenges faced by developing communities with hands-on activities that encourage problem solving, time management and teamwork skills.
- Appropriate Technology: Technology looking at the bigger picture, environmentally, ethically, culturally, socially and economically viable.

Graduate Opportunities:

As EWB is a not-for-profit, we offer both national and international volunteer placements rather than graduate programs. However, you can still stay involved after university, such as by joining the Victorian Region Chapter committee.

International Opportunities:

There are no restrictions – all opportunities are available to international students.

More Information:

To find more information about how to get involved with EWB, including applying for current position openings, please visit www.ewb.org.au/getinvolved/ or email info@ewb.org.au and if you're interested about joining us on campus, just speak to any EWB member and/or visit www.facebook.com/EngineersWithoutBordersMonash/ or www.ewb.org.au/monash

ExxonMobil is an industry leader in every aspect of the petroleum and petrochemical business, operating facilities or marketing products in most of the world's countries and exploring for oil and natural gas on six continents. The ExxonMobil group of companies in Australia is one of this country's largest oil and gas producers and a major refiner and supplier of petroleum products. Approximately 1700 people are employed by our principal employer companies Esso Australia Pty Ltd, Mobil Oil Australia Pty Ltd and Mobil Refining Australia Pty Ltd.

Employee Attributes:

We look for capable, highly innovative graduates who display leadership skills, initiative, drive and innovation. Graduates must be suited to a team approach to work, be internationally mobile and prepared to take on a significant responsibility early in their professional careers.

Employee Development:

As a graduate with ExxonMobil in Australia you will have access to world-class training, state-of-the-art technology, a global network of highly talented colleagues and the opportunity to develop a wide range of skills and expertise throughout your career.

Locations:

Graduate engineers at ExxonMobil will be based at one of three locations:

- The ExxonMobil head office in Southbank, directly south of Flinders St. Station, Melbourne (adjacent to the Southgate shopping centre/ restaurant precinct).
- Longford Gas Processing and Crude Stabilisation Plant (near Sale).
- Mobil refinery, corner of Millers Rd and Kororoit Creek Rd, Altona.

Graduates work in technical and business roles involving one of our four main processing facilities:

- Bass Strait Offshore platforms - situated between 25 and 95 km offshore from Victoria's east coast, near Lakes Entrance.
- Longford - Crude Oil Stabilisation and Gas Processing Plants, located near Sale, approximately 3 hours east of Melbourne.
- Long Island Point - Fractionation Plant in Hastings approximately 1 hour south of Melbourne.
- Altona - Mobil refinery, approximately 15km west of Melbourne.

Vacation Opportunities:

Applications for 2018/2019 summer vacation student work

opportunities will open mid July 2018, and will close mid-August 2018.

Graduate Opportunities:

The number of positions available for engineering graduates is assessed each year based on strength of candidates, staffing requirements and current business environment. ExxonMobil aims to maintain a relatively steady intake of engineering graduates each year. Predominantly most graduate roles are sourced from the summer vacation program.

International Opportunities:

To be eligible to apply for Graduate work in ExxonMobil Australia, you must be an Australian Citizen or Permanent Resident (includes New Zealand Citizens). We do not process applications in Australia for jobs internationally (e.g. Malaysia). It is advised that you contact these Exxon Mobil affiliates directly. Information on opportunities within our affiliate companies around the world can be found at our Corporate website.

Applications and Eligibility:

Applications for graduate engineer/vacation work positions at ExxonMobil can only be received via our recruitment website. This is located at www.exxonmobil.com.au/careers. When you have successfully submitted your application to us, you will receive an automatically generated e-mail confirming that we have received your application. To apply for positions via the website, you will be required to provide us with a cover letter, electronic copies of your most recent academic transcripts and a resume that includes details of your education, prior work experience (engineering and non-engineering related), extracurricular activities and the contact details of suitable referees. As we run to a tight recruiting schedule, applications must be received by no later than the posted closing date.

More Information:

Further information can be found at our website www.exxonmobil.com.au/careers or come speak to one of our friendly representatives at your next careers fair.

Do you know what it takes to build a better working world?

Share in our purpose and see the world through the lens of better.

Better defines the way we work and starts with asking questions like, what's next? You see, the biggest breakthroughs in the world happen by asking these two small but powerful words. With the world in the midst of a Transformative Age, we need to respond to rapidly changing circumstances. And that's what we're all about at EY.

We're looking to disrupt the way things are done; we're even disrupting ourselves and how we can future-proof our people and our business. While others may be braced for change, at EY we're embracing it. That's how we're able to inspire our people to harness new possibilities to build a better working world for themselves and those around them.

And we want you to be part of it. This is your opportunity to do something exceptional – something that matters to you, to us, to the world.

Your exceptional EY experience begins here.

We recognize there is no one path for everyone. You're encouraged to create a path that reflects your individual talents and aspirations. We'll work with you to help you succeed professionally and personally.

With EY you can influence the future of your career, the businesses you work with and even the world you live in.

Our **Career Compass Program** offers you a unique learning experience that will help you make smart decisions about your professional career.

Our **Vacationer Program** is a great way to experience the working world during your summer (or winter) holidays. Show us what you're capable of and you may be invited to join us after graduation in a full-time position.

Our **Graduate Program** will put your knowledge to the test. Build your technical skills. Join us full-time as a graduate and you'll get early responsibility, support and training.

Who do we look for?

We look for people who demonstrate integrity, respect, and teaming. People with energy, enthusiasm, and the courage to lead. People who build relationships based on doing the right thing.

Our service lines are interested in students from **all degree** backgrounds including business, commerce, engineering, technology, science, human resources, organisational psychology and law. Engineering students are encouraged to apply to our Advisory Consultant Group; Performance Improvement, Assurance – Climate Change and Sustainability or Tax – Research & Development.

Eligibility

Please refer to our website for more information regarding international students and eligibility: www.ey.com/au/en/careers/students/joining-ey#fragment-3-na

How to apply

Submit your application form, CV and university transcript at: www.ey.com/au/en/careers/students/apply-here

Applications close 29 March 2018.

Fluor is the world's largest publicly owned Engineering, Construction, Procurement and Maintenance companies. Fluor has executed projects ranging in diversity from polypropylene plants in Siberia, Diamond Mines in Botswana and Wind Farms in the North Sea to decommissioning former Cold War nuclear sites and constructing infrastructure. Fluor's work force numbers more than 40 000 employees with offices in every continent.

Employee Attributes:

Fluor relies on multi-discipline, client focussed teams to deliver projects on time and budget. Team members must be effective communicators who embrace diversity, are self-motivated, and are willing to relocate on a short term basis as and when required by the Project.

Employee Development:

Graduates join Fluor as a Graduate Engineer and typically work at this level for 3 to 4 years before becoming a Process Engineer. In addition to performing project related tasks, all employees are expected to complete in-house learning modules from Fluor University, which provides structured course content appropriate to the employee's profession.

Locations:

Fluor has offices in Melbourne, Brisbane, and Perth. Unfortunately, no Chemical Engineers are currently employed in any Australian office however Chemical Engineers are employed in Great Britain, the Netherlands, South Africa, and North America.

Vacation Opportunities:

At this point in time, there are no vacation employment opportunities available for Chemical Engineers in any Australian office.

Graduate Opportunities:

All Graduate opportunities are market driven. Given Fluor's lack of participation in the Oil & Gas or Pharmaceutical markets in Australia, Fluor does not anticipate a need for Chemical Engineers in its Australian offices in 2018. If Fluor is successful in being awarded a new contract in 2018, the employment opportunities may improve in 2019.

International Opportunities:

No restrictions provided that the International Student has the appropriate working rights as defined by Australian legislation.

Other Opportunities:

Fluor's Mining & Metals team, located in the Perth office, has a small number of Chemical Engineers working as Process Engineers whose role is to develop process flow sheets, equipment lists, and operating costs estimates to meet the client's project needs.

Applications and Eligibility:

Aspiring employees can apply online at www.fluor.com/australia/careers. Applicants can also view international career opportunities via each Fluor office's specific web site.

Student Advice:

Aim to get some plant commissioning and or operating experience prior to embarking upon an Engineering career. Applicants should also try to gain some supervisory experience as well, i.e. team leading experience.

More Information:

Students interested in learning more about Fluor can check out Fluor's international web site at www.fluor.com and also www.fluor.com/australia

Jacobs are a global engineering consultancy with over 60,000 employees in 230+ locations. We work across all markets, including Oil and Gas, Mining, Pharmaceuticals, Infrastructure, Water & Environment, Buildings and Aerospace. Jacobs are involved in all phases of projects, from early stage conception and planning through to design, construction and operations and maintenance.

Employee Attributes:

Jacobs want employees who are client focused, have good technical and organisational skills, and are willing and able to be innovative and resourceful. Our employees must be able to collaborate with each other and with partners and contractors to safely deliver multidisciplinary projects from small to large scale.

Employee Development:

Jacobs develop our staff through on the job learning opportunities and support for formal learning and development through their careers. At an entry level, we have a 2 year graduate development program which features a range of learning and development programs, mentoring, and a strong emphasis on gaining competencies required to achieve Chartership under Engineers Australia.

Locations:

In Victoria our main office is in Melbourne, with a regional office in Tatura. We also have project offices in a variety of locations including Mitcham and Albert Park. Jacobs have a number of offices elsewhere in Australia; Brisbane and Perth have our largest chemical and process engineering teams.

Vacation Opportunities:

Vacation opportunities are advertised on Jacobs' website around August. The vacation program begins in late November and runs for approximately 12 weeks.

Graduate Opportunities:

Applications for the 2019 graduate program opened Monday the 5th of March, and will close on the 26th of March. You will be required to upload a cover letter, CV, academic transcript and answer some short answer questions.

International Opportunities:

Any international students wishing to apply must have a valid working Visa for Australia.

The Jacobs GO! program offers 6-month secondments to other Jacobs offices around the globe and are available for employees with 2+ years of experience.

Applications and Eligibility:

All applications are accepted via the Jacobs website. Candidates will be shortlisted based on their application, and interviews undertaken with shortlisted candidates.

Student Advice:

Make sure you address the relevant selection criteria in your application. Try not to be generic, and be sure to tailor your application to the company you are applying for. Secondly, be yourself! Work to your strengths and do not assume you need to fit a particular 'mould' or academic background in order to be successful.

For more information about the company and to find links to current job vacancies, visit

www.jacobs.com/jacobsworld/



KPMG is one of the largest professional services firms in the world and one of the big four professional services firms. KPMG is a global network of professional firms providing Audit, Tax and Advisory services across a wide range of industries, Government and not for profit sectors. KPMG operates in 154 countries and have more than 200,000 employees working in member firms around the world. KPMG's deep expertise in Audit and Assurance, Tax and Advisory services has seen them work with renowned companies to help them solve complex challenges, steer change, disrupt sectors and grow. Collaboration and innovation are ingrained in their approach, with their people aiming to provide genuine, sustainable value for clients.

Employee Attributes:

Our standards are high but we're interested in the person, not just an academic record. We're looking for well-rounded applicants – people who are team players, progressive thinkers and can communicate their ideas with passion. People who keep on learning, who want to be leaders in their profession and who want to make a difference.

Employee Development:

KPMG offer employees the ability to stretch themselves intellectually, furthering professional education and personal development, and taking advantage of opportunities for overseas travel and work experience. We help our staff to pursue appropriate postgraduate qualifications including financial assistance and study leave. Employees are able to advance their professional standing through a planned program of work experience and in-house learning and development opportunities.

Locations:

KPMG is located in 154 countries across the globe. In Australia, we operate across 13 locations; in Adelaide, Brisbane, Bundall, Canberra, Darwin, Hobart, Karratha, Launceston, Melbourne, Parramatta, Perth, Sydney and Wollongong.

Vacation Opportunities:

KPMG's vacation program runs for 8 weeks and allows you to experience day to day life at KPMG. You can feel what it's like to be part of the team, working directly alongside other KPMG employees.

The vacation program is offered to undergraduates in the penultimate year of their degree.

- For students in their penultimate year

- Gain insight and experience into working within a professional services firm

Graduate Opportunities:

The Graduate Program is for recent graduates and final-year students. KPMG's Graduate Programs are designed to allow you to explore your strengths and abilities further. You'll be a part of an outstanding team working across a diverse client list and dealing with complex issues that will stretch your thinking. KPMG will support you with ongoing training, structured development programs and a dedicated mentor. You'll be offered a career pathway that allows you to develop as fast as your ability allows. Through KPMG's global network, there will be opportunities for overseas secondments.

International Opportunities:

KPMG in Australia accepts international student applications for our Vacation and Graduate programs in Adelaide, Brisbane, Hobart, Launceston, Melbourne, Perth and Sydney who have not yet obtained their Australian permanent residency and who meet the eligibility criteria. Visit our website: kpmg.com/au/careers for details on the International student eligibility criteria.

Opportunity for international students are not available in our Canberra office due to client requirements.

Applications and Eligibility:

All applications must be received online via our online application form. Visit our website: kpmg.com/au/careers for details on our selection process. Applications for our 2019 Graduate roles and 2018/19 Summer Vacation roles will open on the 20th of February 2018 and will close on April 6th.

More Information:

Find more about KPMG by visiting kpmg.com/au/graduates and following KPMG Australia on social media (Twitter, LinkedIn, Facebook, YouTube and Instagram).

What do M&M's®, Pedigree®, Extra® Royal Canin®, MasterFoods®, Skittles®, Schmackos®, Skittles®, and Snickers® have in common? They're all made by Mars!

Mars is behind some of the world's best loved brands in the world across multiple segments including Mars Wrigley Confectionary, Mars Petcare, and Mars Food. We're a family business that's been making products for people (and the pets that people love) for more than 100 years. We're 100,000 self-proclaimed Martians—we're pet obsessed, confectionery lovers, foodies, dream chasers and community builders—working across 76 different countries.

We're a diverse, extended family that wakes up every morning ready to make an impact—on our business and on the world. And, we do it by keeping The Five Principles at the heart of everything we do: Quality, Efficiency, Responsibility, Mutuality and Freedom. These principles inform our decisions and unite us across geographies, languages, cultures and generations.

Employee Attributes:

Our ideal candidates will be naturally collaborative and curious. You'll know how to get things done, through formal and informal channels. You will also have examples of how you demonstrate accountability and delivery of consistent results. We want candidates who have learned from their mistakes and seek continuous improvement for self-development and growth.

Employee Development:

Where you start your career at Mars, is just the beginning. Joining our Graduate program, which is known as The Mars Leadership Experience, will kick off 3 rewarding years packed with great experiences, opportunities and learning. Our program is designed to build both your functional/technical skills, as well as providing you with stretching leadership opportunities to prepare you for an exciting career.

Key features of The Mars Leadership Experience include...

- Three year rotational program
- Individualised career pathways/rotations
- Real responsibilities from day one
- Ongoing support from Senior Leaders, Line Managers, and peers
- Formalised mentoring program and training
- Reviews of your development with Management Team members each year
- Individualised development plans annually
- Mars University (Mars' centre of learning) development

opportunities and courses

Locations:

Chemical Engineers are likely to join us in our Research and Development business functions which are located at our regional hubs in Ballarat, VIC, Wodonga, VIC and Wyong, NSW. Full relocation support is available for those looking to make the move to join us.

Graduate Opportunities:

We have a number of opportunities to join The Mars Leadership Experience in 2019.

Joining us in a Research and Development (R&D) role means you would become a part of the heartbeat of innovation at Mars, from providing consumer insights and identifying needs to the development and delivery of products that consistently delight. Our R&D associates are the champions of quality in our business. As a Graduate within the function you could gain some great experiences across areas including product development, process & packaging, quality and food safety.

Our Program is unique in that we take an individualised development approach. We don't have set career pathways or rotations. Instead, we work with you to define your career aspirations, developmental and business needs, then we tailor the rotations to suit. You play an active role in managing your rotations and career planning, along with support and guidance from your Line Manager, Graduate Manager and Senior Business Leaders.

Applications and Eligibility:

- You need to have completed an undergraduate degree within three years of commencement of the Graduate Program
- Applications will only be accepted from applicants who are an Australian or New Zealand citizen, or have Australian permanent residency (PR) status at the time of application.

Apply via our website www.marsgraduates.com.au

Student Advice:

Here's some advice from our past and current graduates:

- Get ready to get out of your comfort zone. You don't get to rely on precedents, or hand holding in the Mars Graduate Program – you get the opportunity to create, so you need to have the confidence to make the calls.

MARS

- I feel the best piece of advice to anyone applying for a position with Mars is to relax and be yourself. I believe Mars look more to the person they are recruiting rather than the qualifications or past experiences. If your personal values and ethics fit then you are highly likely to find yourself launching your career with Mars.
- Just be you – whatever that may be! It will not only help you to relax throughout the application process but should you be successful, will help you to build relationships in the business with ease and make your introduction to the program more enjoyable.

More Information:

Learn more about our Graduate Program

- www.marsgraduates.com.au

Learn more about Mars, Incorporated

- www.mars.com

Connect with us on Facebook

- www.facebook.com/MarsGradsAustralia

Connect with us on LinkedIn

- www.linkedin.com/company/mars/

Follow us on Instagram

- www.instagram.com/marsaustralia/

If you have more questions you can email our graduate team

- trc@effem.com



team.



work.

MARS | grow beyond.



big.



start.

You're an individual, so why have a stock standard career? Experience a Graduate Program that's personalised and committed to helping you grow, not just professionally but personally too.

Whether you think your future lies in general management or in specialised fields like Research & Development, Engineering, or Finance, you can be sure of one thing.... With us, you'll never be seen as just a number, or just another graduate.

Learn more about the Mars Leadership Experience at www.marsgraduates.com.au



#MarsGrowBeyond



MARS | grow beyond





We were founded in 2009 to become the world's most respected diversified base metals company. We mine to build wealth through the development of our people; the investments we make in improving local capability; and the value we deliver to our shareholders. Working in partnership with our major shareholder - China Minmetals - our objective is to become a top mid-tier miner by 2020. We are guided by our Code of Conduct and our values of thinking safety first, respecting each other, working together, doing what we say and wanting to be better.

We operate and develop copper, zinc and other base metals projects across Australia, the Democratic Republic of the Congo, Laos and Peru. We also have significant exploration projects and partnerships across Australia, Africa and the Americas. Headquartered in Melbourne, Australia, we are listed on the Hong Kong Stock Exchange (HKEx 1208) and Australian Securities Exchange (MMG).

Employee Attributes:

At MMG, we assess candidates against the essential and inherent requirements of the role by looking at their skills, knowledge, experience, qualifications, values and behaviours.

Employee Development:

We have formal annual personal development programmes for every employee and a focus on internal promotions, mobility and secondment opportunities.

Locations:

Rosebery (Australia), Sepon (Lao PDR), Kinsevere (DR Congo), Las Bambas (Peru), Head Office (Melbourne).

Vacation Opportunities:

We typically limit offers to our scholarship students. The program typically runs for approximately six weeks and commences in early December of each year. We typically recruit from only the universities in the regions close to our mines. Universities we support include University of Queensland, Western Australian School of Mines, University of Tasmania, Monash University, Lubumbashi University and the University of Laos.

Graduate Opportunities:

We typically advertise Graduate positions in March the year before the intake.

Other Opportunities:

Monash MMG Scholarship

Applications and Eligibility:

We always advertise on our website in the 1st week of March.

More Information:

Please look for our YouTube, LinkedIn, Facebook, Twitter and Corporate Site.



At PPG, we work every day to develop and deliver the paints, coatings and materials that our customers have trusted for more than 130 years. Our vision is to be the world's leading coatings company by consistently delivering high-quality, innovative and sustainable solutions that customers trust to protect and beautify their products and surroundings.

Through leadership in innovation, sustainability and colour, PPG provides added value to customers in construction, consumer products, industrial and transportation markets and aftermarkets to enhance more surfaces in more ways than does any other company.

Employee Attributes:

PPG look for students who want to find meaning in their everyday work and who want to use their personal strengths to succeed and make an impact from day one.

If you work for PPG, you will be inspired to learn and grow, and will have access to the support you need to identify and achieve your boldest career aspirations. Your contributions will not only meet the challenges of our global customers, but help them propel their industries forward. As a PPG employee, you will be welcomed into a culture where everyone's ideas and contributions are valued and encouraged. Just like you, we are driven to make a difference in our world.

Employee Development:

At PPG we are committed to providing a fulfilling workplace for our employees. We take pride in providing an environment for continuous learning and embracing the ideas and diversity of others. We have a range of learning and development opportunities available to employees, including mentoring programs and both internal and external courses.

Locations:

With headquarters in Pittsburgh, US, PPG operate in more than 70 countries. Across Australia and New Zealand, PPG manufacture and distribute our products from three manufacturing sites, Auckland, Villawood and Clayton.

Previous internships have taken across all three manufacturing sites, with hopes of expanding to various other locations within the coming years.

Vacation Opportunities:

Your interest in PPG's summer intern program will open doors for your future career and assist you in developing new skills. In 2018, PPG ANZ will run our paid 12 week summer internship program, at our Clayton, Villawood and Auckland sites. Internship vacancies will be in Business, Marketing, Science (Chemistry, Environment) and Engineering.

Applications and Eligibility:

Applications for 2018/2019 internships will open June/July. Students will be able to apply for the internships directly through PPG Careers, accessible through our website.

More Information:

If you are interested in learning more about PPG, visit our website: www.ppg.com.au/Home.aspx or contact Natassja Ford at Natassja.ford@ppg.com for more information on our internship program.

Our long history is filled with firsts. We've developed some of the world's largest and best quality mines and operations, and our people work in around 35 countries across six continents. We've led the industry in partnerships, with customers in new markets, and with local communities. We've pioneered technological innovations, such as our Mine of the Future™ programme and our low-CO2 aluminium from hydropower. And we've paved the way in areas such as safety, tax transparency and legacy management.

Employee Attributes:

Our people are our most powerful asset. We are a diverse team of talented, enthusiastic individuals who foster a culture of inclusion. We understand it helps us work together to develop focused yet flexible career paths for our workforce. We are looking for candidates with outstanding ability and specialist experience; people who have the hunger and drive to learn new skills and gain lifelong experience as part of a successful and dynamic organisation.

Employee Development:

Rio Tinto's graduate programme is a two year programme designed to develop the personal, technical and professional skills our graduates need to be a future leader, technical expert, or both, and to contribute to our business. This includes structured learning programmes supported by online learning and development programmes, along with technical skills development through on-the-job coaching, rotations to other teams or businesses, and a mentoring and coaching program.

Locations:

Rio Tinto's people work in more than 35 countries across six continents. In Australia, there are mines, ports and offices in Western Australia, New South Wales, Queensland and Northern Territory supported by regional hubs in Perth, Melbourne and Brisbane.

Vacation Opportunities:

Rio Tinto's Australian vacation programme offers paid work experience for university students – typically in their penultimate year – over a 12 week period from early December to February. Vacation students are recruited for engineering (mining, chemical, mechanical, and electrical), surveying, commerce, health & safety, geology, environment and human resources. Roles can be based at any of our Rio Tinto locations and relocation and accommodation are provided. Applications for the programme will open later in 2018.

Graduate Opportunities:

The 2019 Australian graduate programme is now open and roles close on 28 March 2018. Typically Rio Tinto seeks graduates with engineering, geology, surveying, Health, Safety and Environment, robotics/mechatronics, mathematics, metallurgy, data science and commerce/business qualifications.

International Opportunities:

Applicants must have Australian work rights to be considered for the Australian graduate or vacation programmes.

Other Opportunities:

Various opportunities for graduates may be available. Vacancies will be advertised on our website.

Applications and Eligibility:

Applications for the global graduate programme will be advertised on the Rio Tinto careers website throughout 2018. A typical recruitment process will involve an online application, video interview, online testing, an assessment centre or structured interview, and a site visit.

More Information:

If you would like to know about more careers at Rio Tinto, you can follow us on LinkedIn, Twitter and Facebook, or visit riotinto.com/careers

Shell has had a presence in Australia since 1901 - supplying energy to Australians for more than 115 years. Over the years, Shell has evolved to meet the changing needs of the Australian market. Today the company is focused largely on exploration, resource development, domestic gas sales and the export of liquefied natural gas (LNG).

Shell is a major investor in Australian gas projects, including its operated Prelude floating LNG project, the QGC onshore gas project in Queensland, the Gorgon Joint Venture, the North West Shelf Venture and Arrow Energy. Through a brand license agreement, Australian motorists can buy Shell's advanced fuels and lubricants from more than 950 Shell branded service stations across the country.

Shell businesses in Australia are part of the Shell Group, a global group of energy and petrochemical companies. The company's stated objective is to meet the energy needs of society, in ways that are economically, socially and environmentally viable, now and in the future.

Employee Attributes:

We will be observing your capacity for analysis, decision making and creating workable solutions. Other qualities we're looking for are drive and enthusiasm, resilience and confidence. Equally important is your ability to develop positive relationships and communicate well at all levels.

Employee Development:

Our graduate program helps develop the leaders of tomorrow by encouraging you to discover your own potential. The combination of your commitment and Shell's training will help advance your future and impact the future of energy. As a Shell graduate, you are part of a global company with real world opportunities and a collaborative culture which you need to build a long-term career. You'll work on game changing challenges alongside world class talent, helping to shape a team who will stretch and support you, inspire your ambition and encourage you to go further. Above all, with Shell you are in charge of where you want your career to go.

Locations:

Shell Australia has locations on the West and East coast with offices in Perth and Brisbane.

Vacation Opportunities:

An Assessed Internship is one way to get to know Shell from the inside and immerse yourself in our industry. It will also help you decide whether a career with Shell is right for you. You'll join a project team and work alongside Shell employees, all professionals in their fields. Their perspectives will contribute to your understanding of our business, its demands and rewards. A supervisor and mentor will support you directly and you will undertake regular assessments throughout your internship. This is to ensure you get the most from the experience and receive feedback on your performance. The 12-week internship program commences in late November and finishes mid-February.

Graduate Opportunities:

Right now, Shell is working on some of the most exciting and innovative energy projects in the world. We are in search of remarkable engineers who are curious to explore new ideas, experiences and frontiers. Do you have the passion, creativity and drive to bring to life the innovations that will help form the future of energy? Many forms of engineering are integral to Shell's overall operations. By creating advanced technology solutions and deploying them at scale, you will help Shell to be a leader in designing the energy systems of the future. Establishing a solid foundation in Engineering will put you in good stead to capitalise on a range of future possibilities inside Shell's broad technical arena. A role at Shell will advance your career within a pioneering global energy company, and give you the chance to make a meaningful impact on the future of the industry.

International Opportunities:

Please note you must possess current Australian or New Zealand permanent residency or citizenship at the time of applying for a graduate or intern position with Shell Australia. However, if you are an international student, we encourage you to search for graduate opportunities with Shell in your home country at www.shell.com/graduate.

Applications and Eligibility:

Our Assessed Internships are available to students in their pre-final year of study and applications open in July 2018. To join the Graduate program you must be in your final year or graduated with less than three years' work experience. Applications for the Shell Graduate Programme opens from 1 March to 31 March 2018.



The application steps are:

1. Online Application – this is where you will find our graduate and intern opportunities and more about life at Shell. Complete your application online – you can save time by connecting your LinkedIn profile.

2. Online Assessments and On-Demand Video Interview

After you've submitted your online application, you will be invited to complete two online assessments:

- a) a cognitive assessment
- b) a working styles assessment

Based on the outcome of your two online assessments, you may be invited to complete a pre-recorded video interview. This offers a more comfortable way for us to get to know you.

3. Final Assessment

FOR INTERNS: This stage includes a live virtual case study session with two Shell employees who will host the discussion. A case study related to one of the skills areas that you stated in your application form will be sent to you two days prior to the session. You will be assigned a topic relating to an aspect of your case, and then asked to prepare a presentation.

FOR GRADUATES: This virtual assessment consists of two parts; a case study (as described above in the Intern Final Assessment) and an interview, where you will have the chance to get to know us, and we can get to know you. To make the interview process more convenient and comfortable, we are leveraging the latest digital technology to bring the experience to you, wherever you may be.

4. Shell Connect

FOR INTERNS: Following the successful completion of steps 1–3, you may be offered a place in the Internship program. Here, you'll receive hands-on training and have the chance to be selected for a job at Shell.

FOR GRADUATES: After successfully completing steps 1–3, you may be invited to a virtual or in-person meeting with your future manager and other Shell graduates. During your Shell Connect visit, you will have an opportunity to see Shell from the inside and meet people that could become your new colleagues.

Student Advice:

If there is strong competition for places, how you present yourself and your particular strengths are vital. Ensuring you have a great

CV/Resume and that you're fully prepared when invited for an interview is important.

More Information:

Explore the opportunities and discover your remarkable future today by searching our website www.shell.com.au/careers, finding us on Facebook: www.facebook.com/Shell, Twitter: www.twitter.com/Shell_Careers or LinkedIn: www.linkedin.com/company/shell/careers

All information stated above is correct at time of printing and subject to change without notice. For latest updates, refer to www.shell.com.au/careers

Suez Oil & Gas Systems is part of the global Suez organisation that employs over 90,000 people in more than 70 countries. Suez' activities include delivering clean drinking water and collecting and recycling waste for millions of people world-wide.

Suez Oil & Gas Systems (SOGS) has an established track record as a leading international supplier of modular process plants and complete process trains to a range of industries including the Oil & Gas and Petrochemical industries. Our clients include many major Oil & Gas companies such as Shell, BP, ConocoPhillips, McDermott, Petronas, Chevron, ONGC, Exxon Mobil, Technip and Santos.

SOGS is a strongly vertically integrated company providing services in project execution from front-end process engineering, through to detailed project engineering and management, and ultimately fabrication, commissioning and maintenance of the processing plant. The SOGS product range includes:

- Oil & Gas production facilities
- Crude Oil stabilisation & treatment
- Refining & Petrochemical applications
- Produced Water treatment systems
- Solids handling & Wellhead Desander systems
- Energy & Power generation

SOGS has designed and fabricated processing packages for some of the major oil and gas developments that have occurred in recent years. These include gas processing packages for INPEX's Ichthys and Chevron's Gorgon LNG projects off the Western Australian coast, Santo's GLNG project in Queensland, Exmar's floating LNG unit in Columbia and Oil Search's LNG project in the highlands of Papua New Guinea. Further afield, significant produced water packages have been supplied to Indonesia and Iraq and oil treatment packages to Tunisia and Venezuela.

Employee Attributes:

Suez employees embrace the challenges of working in a global environment, enjoy creating innovative solutions and are ready to "roll up their sleeves" to get the job done to the satisfaction of all parties.

Employee Development:

SOGS employs a wide range of engineers, including chemical, mechanical and electrical, as well as technical specialists. We offer extensive on-the-job training, development and mentoring

tailored to the position and the interests and skills of the individual. Most training will tap into our extensive worldwide online resources managed by Suez and may also include internally or externally run courses. Specialisations include process design, mechanical design, detailed engineering, procurement, fabrication, commissioning and site services.

Locations:

SOGS is based in Rowville, Melbourne and also has offices in Singapore, Abu Dhabi and Houston. Our engineers regularly travel around the globe to visit clients and suppliers based in countries such as Oman, Iran, UAE, USA, Brazil, India, Pakistan, Sudan, UK, Australia, New Zealand, China, Thailand, Indonesia and Malaysia. The offices of our parent company Suez are located around the globe with headquarters based in Paris, France.

Graduate Opportunities:

Due to an upturn in the Oil & Gas market SOGS anticipates that we will hire some graduate process and/or project engineers during 2018.

Applications and Eligibility:

Refer to the SOGS website Careers page for details of current available positions. Melbourne positions may also be advertised directly via the Monash University Chemical Engineering Department.

More Information:

Refer to www.suez-oilandgas.com for information about Suez Oil & Gas Systems and www.suez.com for information about the global Suez organisation.

Teach For Australia is a unique not-for-profit organisation with a vision for an Australia where all children, regardless of background, attain an excellent education. We do this by transforming outstanding individuals into exceptional teachers and inspirational leaders, who will help change the lives of their students, and become future change makers in Australian education. Teach For Australia Associates don't start out as teachers. Instead, we attract, select and train inspiring, passionate and high-achieving Australians to teach in disadvantaged communities for a minimum of two years, where they have a life changing impact on their students. During this time, Associates will complete a teaching degree on a significant scholarship, and receive full salary and benefits as a teacher. While we seek applicants from every discipline, Engineering graduates are particularly sought after, as they are able to teach subject areas for which there is high demand. Our rigorous recruitment model, coupled with our award winning training and leadership program, supports participants to be highly effective teachers who can inspire students to achieve.

Employee Attributes:

Teaching may or may not be something that you have previously considered. We look for well-rounded and passionate individuals, who have the qualities to create change, inside the classroom and beyond. We believe that great teaching is great leadership and this can be broken down into the eight critical competencies of problem solving; leadership and achievement; commitment to mission; communication and influencing ability; organisational and planning ability; resilience; humility, respect and empathy; and learning and self-evaluation.

Employee Development:

To ensure our Associates are ready for the classroom on day one, they'll begin their two-year journey with an intensive in-residence program. Following this, to help Associates integrate into life at school and within the local community they receive support from a Teaching and Leadership Adviser; School-based mentor; and university-based academic mentor.

Locations:

We currently place Associates in schools in Metropolitan and Regional Victoria, Western Australia, Northern Territory, Tasmania and the Australian Capital Territory. As education inequity is an Australia-wide issue, it is our hope to expand into further jurisdictions in 2018.

Graduate Opportunities:

The two-year Leadership Development Program, detailed above, is currently accepting applications for the 2019 intake. To learn more, Teach For Australia will host various information sessions during 2018, including during each semester at Monash University. For more information, email oliver.barrand@teachforaustralia.org

Other Opportunities:

If you are not in your final year in 2018 but still want to be involved with TFA, you can apply to be a Campus Brand Ambassador for 2018 (paid position). Applications will open in November 2018. For more information, email elizabeth.cullen@teachforaustralia.org

Applications and Eligibility:

Head to teachforaustralia.org/join-tfa/ldp/apply/

Student Advice:

Your recruitment contact at Monash University is Oliver Barrand, who you can contact at oliver.barrand@teachforaustralia.org. He person will be available to chat face-to-face or over the phone about the program. If you are interested in applying, or still unsure what 2019 holds for you and just want more information, we strongly encourage you to reach out to us to discuss the program and get assistance in putting your best foot forward during the application process.

More Information:

Website: teachforaustralia.org/join-tfa/ldp/

Facebook: facebook.com/TeachForAustralia

Email: apply@teachforaustralia.org

Phone: 03 8640 4500

Viva Energy Australia is one of Australia's leading energy companies, and own one of the four remaining refineries in Australia. We supply a quarter of the country's total liquid fuel energy requirements and are an exclusive supplier of high quality Shell fuel and lubricants in Australia. We strive to be known as one of Australia's most respected energy companies and put the people at the centre of what we do. Through around 1,000 service stations across Australia, we help people reach their destinations, whether it be in big cities or remote locations.

Employee Attributes:

Viva Energy Australia looks for enthusiastic and talented people, who have a key line with the Viva Energy Goals. We look for people passionate about their work and their jobs, to provide the best possible service to customers and create the best possible working environment. Safety is a very key concern, and a high regard for safety is key in every individual who works at any of the Viva sites across Australia.

Employee Development:

Viva Energy Australia has an amazing work culture, which includes rewards and recognition. We provide opportunities for competitions and rewards as well as benefits. We encourage people to support the local communities, and match donations dollar for dollar when approached by employees to foundations that are close to their hearts.

Locations:

There are key sites around Melbourne that most students would work at. The head office site is located in Docklands, in Melbourne CBD. The refinery is in Geelong, Melbourne's South West. There are also terminals around Australia, such as Newport, Melbourne's South West, which require working staff.

Vacation Opportunities:

Viva Energy Australia currently run an extensive vacation program. We employ students from engineering and science backgrounds at our refinery in Geelong, and employ vacation students for our head office in Docklands, Melbourne City. For the summer of 2017/18, four chemical engineering students were taken on and over ten vacation students in total were accepted.

Graduate Opportunities:

Opportunity for Graduate would cover Mechanical, Chemical, Electrical, Mechatronics and Process Engineering.

International Opportunities:

Viva Energy Australia has opportunity for individuals who have unrestricted working rights in Australia.

Applications and Eligibility:

The Viva Energy website, www.vivaenergy.com.au/, has an in-depth careers section, which is regularly updated. Keep an eye out for upcoming opportunities to apply for vacation work as well as graduate roles.

Student Advice:

Our company is built around people and culture. Be yourself, get involved and be passionate about what you do. All of this will come across during the application process no matter what company you apply for, and it will help you find the best fit for you.

More Information:

Students who are interested to learn more about Viva Energy Australia, can access our website, www.vivaenergy.com.au/. In Week 7 of Semester 1 2018, Viva Energy Australia will also have some representatives attending the SMUCE Weekly Industry Seminar, and questions can be asked then.

Wood is a global leader in the delivery of project, engineering and technical services to energy and industrial markets. We operate in more than 60 countries, employing around 55,000 people, with revenues of over \$11 billion. We provide performance-driven solutions throughout the asset life-cycle, from concept to decommissioning across a broad range of industrial markets including the upstream, midstream and downstream oil & gas, chemicals, environment and infrastructure, power & process, clean energy, mining and general industrial sectors.

Employee Attributes:

For graduates we look for: A Bachelor's degree from a recognised university maintaining a Distinction average, excellent written and verbal communication skills, demonstrated time management and organisational skill, a strong sense of commitment, a willingness to learn, and a desire to work in a dynamic deadline driven environment and ability to work away on site and interstate.

Employee Development:

We have our performance & development tool called My Success Plan. Employees agree with their managers a range of performance & development objectives that they will achieve during the year. Graduates also attend a range of face-to-face training programs that lead to a Cert IV in project Management.

Locations:

Our head office for Australia is in Collins Street Melbourne. Our work in Victoria is mainly in the Gippsland region and offshore in Bass Strait. In Australia we operate in Victoria, Western Australia & Queensland as well as in more than 60 countries world-wide.

Vacation Opportunities:

Too early to tell for 2018/2019. Our vacation programs run from early December to late February and are usually located in our Melbourne CBD office. For these roles we only accept applications from Australian citizens or those that have PR.

Graduate Opportunities:

We are currently in the process of identifying graduate requirements for our 2019 intake. I would anticipate that there will be requirements for graduate Chemical Engineers both in Victoria and Western Australia. What makes our grad program unique is that we offer graduates the ability to attain a Cert IV in Project Management.

Applications and Eligibility:

We only accept applications from Australian citizens or those that have PR. Applications are made online. The next phase is a video interview, assessment centre and finally a face-to-face interview. The application process for vacation students does not include assessment centre.

Student Advice:

Attend carer fairs and talk to our employees. Also follow us on Facebook, LinkedIn, Twitter and YouTube.

More Information:

Via our website: www.woodplc.com.

Yarra Valley Water is Melbourne's largest retail water utility, providing essential water and sanitation services to more than 1.8 million people. Our service area covers most of Melbourne's northern and eastern suburbs, from Wallan in the north to Warburton in the east, across approximately 4,000 square kilometers.

Employee Attributes:

We are seeking enthusiastic Graduates who are keen to contribute to innovation and continuous improvement across the business. You will be a self-driven learner, who is open to new challenges and experiences.

Employee Development:

Our award-winning culture fosters an inclusive, collaborative work environment and provides the development opportunities, flexibility and support that enable high levels of achievement and personal satisfaction.

Locations:

Most YVW staff are located at our Mitcham office. Although many of our engineers do need to work offsite occasionally at our treatment plants located in the eastern and northern suburbs of Melbourne.

Vacation Opportunities:

We will recruit for our 2018/2019 Summer Vacation program in October 2018.

Graduate Opportunities:

We are currently recruiting for our 2019 Graduate program. Applications close 21st March 2018.

International Opportunities:

Yes, we can only hire students that have full working rights in Australia.

Applications and Eligibility:

Please visit our website www.yvw.com.au/graduates

The background features a complex geometric pattern of blue lines forming various polygons and triangles. A large, solid blue shape is positioned on the left side, partially overlapping the line art. The overall aesthetic is modern and minimalist.

INDUSTRY INSIDER

John Westover – Training and Process Engineer



John Westover began work as a chemical process engineer in the natural gas fields of Oklahoma (Central United States) in 1981. His company responded to the skill shortage at the time by giving him more responsibility than he should have had. John used his responsibility as the surveillance engineer for several small natural gas processing facilities and wellhead facilities to get involved in as many aspects of the operations as possible. For example, he read the gas sales contracts, found some loopholes, and exploited them to increase production. He found ways to use surplus equipment to generate extra profit. He conceived projects; then he executed them. It gave him a good grounding for the rest of his engineering career.

“He read the gas sales contracts, found some loopholes, and exploited them to increase production. He found ways to use surplus equipment to generate extra profit.”

One day John walked into his foreman's office and announced that the thermocouples on the main distillation column were not working. The foreman chuckled, gave John a voltmeter, a radio, a harness, and a second voltmeter to the control room and told him to go check for himself. After the first few readings showed John was correct, the company electrician came to watch. Satisfied that John was doing the check correctly (by the way – John was now 2/3 of the way up a 30-metre tall distillation column, outside the ladder cage, on a windy day), he let John continue to collect his data. Once completed, the group was able to determine the thermocouple wiring was actually unshielded. Replacing the wire with shielded wire allowed profits to be increased by about \$30000 / year (1984). That was the moment John “arrived” as an engineer.

“Replacing the wire with shielded wire allowed profits to be increased by about \$30000 / year (1984). That was the moment John “arrived” as an engineer.”

He was then transferred to the Rocky Mountains (Wyoming), where he was a process/project engineer on a tertiary oilfield project. It was here that John first learned about the impact of ambient pressure, working at altitude (2200 metres above sea level) and low ambient temperatures (often dropping to -25 deg C in winter). This was also John's first exposure to toxic gases. Here John learned the issues of remote operations, the need for proper project planning (to manage outdoor construction weather windows) and the plusses/minuses of using buildings for weatherproofing from winter. John also learned how to work with environmental and cultural (archaeological) teams while doing pipeline construction.

A corporate restructure allowed John to take a voluntary redundancy package and join an EPCM company in Anchorage, Alaska. Everything he learned in Wyoming was applicable but intensified. John worked supporting the Arctic oilfields, and on the 21st of December 1989, it was -45 °C. John says it was so cold it changed his perception of reality. It was here that John was first introduced to offshore oil operations and the unique issues with offshore operations and projects. While in Alaska, John started to take on more responsibility for training and risk assessment/management.

“John says it was so cold it changed his perception of reality.”

In 1993, John accepted a 2-year assignment in Melbourne, Australia (which became permanent). His first assignment was to investigate a small incident, and then he was involved in risk assessments for three years. During that time, he was introduced to different industries within Australia (water treatment, pulp and paper, and mining). He became a lead process engineer on numerous small projects before joining a design team for FEED on a large offshore gas processing facility. John was responsible for the cold systems and process safety compliance.

In 1998, John was involved in a restoration project after an explosion in a gas processing facility, and he eventually joined the non-operating joint venture partner as part of the asset monitoring team. In this role, John continued to gain breadth

John Westover – Training and Process Engineer

to his experience, this time working with all aspects of the asset (maintenance, integrity, security of supply, marketing, shutdown planning, product marketing planning, project approval, etc.) but from a non-operating perspective. As the non-operator, the group was responsible for understanding the needs of the asset from a high-level perspective – giving John “access to all areas”.

In 2006, John started working for himself. He started by being a contract engineer for a new gas plant start-up in Pakistan, but he also worked one day per week at one of the local Melbourne universities in the Spring semester. In late 2006 a small training company approached John, looking for a last minute replacement for the facilitator (illness).

“Since that modest beginning, John has now delivered over 180 training courses in the Middle East, SE Asia, Turkey, Australia, and New Zealand, and over 280 live one-hour webcasts which have been broadcast into all seven continents (including an Antarctic island).”

The background features a complex network of thin blue lines forming various geometric shapes, including triangles and polygons, scattered across a white background. A solid blue gradient is visible in the upper right corner, transitioning from a darker blue at the top to a lighter blue at the bottom. The text 'RESEARCHER PROFILES' is centered in the middle of the page.

RESEARCHER PROFILES



Research Interests:

My group investigates the development of novel catalysts and processes for bio-energy and bio-refinery applications. We use heterogeneous and homogeneous catalytic approaches for the conversion of biomass via steam gasification, solvolysis, hydrolytic-hydrogenation and hydrolytic-dehydration to produce key platform chemicals. Also, we work on the enzymatic pre-treatment approach to break down lignocellulose into fermentable sugars. We have developed solvent-based methods for catalytic conversion of cellulose and lignocellulose into glucose, hydroxymethyl furfural and levulinic acid. We also develop reactive flash volatilisation method for the conversion of cellulose, lignocellulose and algae into tar-free synthesis gas with a controlled ratio of carbon monoxide and hydrogen which is the feedstock for many bulk chemicals and fuels. One of these bulk chemicals is formaldehyde which is globally produced in excess of 27 million tonnes. We developed a low-temperature process for converting synthesis gas directly into formaldehyde. This method is expected to save significant energy losses that happen during the conventional process. We are currently extending this project for in situ conversion of formaldehyde into its derivatives so that there is no need to separate and purify formaldehyde for its use.

My other research interests are:

- (1) development of new catalysts and methods for producing green chemicals using mild reaction conditions.
- (2) development of non-noble metal and metal-free catalysts for conversion of biomass into fuels and green chemicals.
- (3) Fundamental understanding of the effects of platinum group metal promoters for Nickel-based catalysts.
- (4) The contribution of knowledge to the Aqueous Phase Reforming of large oxygenated carbohydrates like sorbitol to produce H₂.
- (5) developing novel characterisation techniques for evaluating the photocatalytic effect of solar light irradiated reactors.

Major Projects and Impacts:

One of the most prominent projects that we are currently working on is the conversion of CO and CO₂ into formaldehyde and its derivatives. Many serious global challenges can be addressed by this method since formaldehyde can be used as an intermediate in about 50 industries. Conversion of CO₂ into formaldehyde may be a way to reduce the impact of global warming as well since formaldehyde is a large volume chemical. The source of hydrogen for this process must be sustainable though as currently, over 95% of hydrogen comes from natural gas.

Future Endeavours:

We would like to explore more opportunities for CO₂ conversion into other valuable chemicals and fuels, in addition to continuing the conversion of biomass-derived molecules into chemicals.

Student Attributes:

I am looking for students with a strong background in reaction engineering, catalysis, organic chemistry, physical chemistry or chemical physics. I am happy to recruit students with a qualification at all levels – BEng, Masters by Coursework or Masters by Research. I am also interested in summer research students who have a keen interest in catalysis and reaction engineering.

Summer Research Opportunities:

Both summer research and HDR projects are available

PhD and Masters Research Opportunities:

Both PhD and Master by Research projects are available, but the candidate must be competitive for securing Monash central or Faculty scholarship.

International Students Research Opportunities:

Both international and domestic students are welcome, but the candidate must be competitive for securing Monash central or Faculty scholarship.

Applications and Additional Information:

To apply for a project, please contact me on Akshat.Tanksale@monash.edu or come and see me in my office.



Research Interests:

Design and delivery of nanoparticle vaccines, and functional particle assembly via microfluidic spray drying. The unique spray dryer can be used to synthesise various types of particles, including thermal sensitive and bioactive particles, microparticles for controlled release and microencapsulation, magnetic and fluorescent composites, and mesoporous microspheres with hierarchal structures and properties superior to those observed on nanomaterials. The method is scalable and is potentially a cost-effective, energy and material-efficient route to produce high-quality powders with better functionality and ease of handling. Through my research, I work closely with the dairy and food industry in Australia and abroad.

Major Projects and Impacts:

I am leading the Biotechnology and Food Engineering group with an internationally recognised reputation in drying technology research, and the only facility in Australia for functional particle assembly via microfluidic spray drying. The unique spray dryer can be used to synthesise other types of particles, including thermal sensitive and bioactive particles, microparticles for controlled release and microencapsulation, magnetic and fluorescent composites, and mesoporous microspheres with hierarchal structures and properties superior to those observed on nanomaterials (Prov. Patent AU2013904021). The method is scalable and is potentially a cost-effective, energy and material-efficient route to produce high-quality powders with better functionality and ease of handling. This technology is an integral part of my previous and ongoing collaborations with Dairy Innovation Australia Ltd, French National Institute for Agricultural Research (INRA), Agrocampus Ouest (France), Dairy Management Inc. (US), South Dakota State University, several Chinese universities (Soochow, Xiamen, Fudan, Nanchang) and companies (Kingdomway Group, Guangzhou Ling Nan Intel Enterprise Group Co., Ltd, 3M, P&G, etc). I am the director of the Australia-China Joint Research Centre for Future Dairy Manufacturing (acjrc.eng.monash.edu/), a joint strategic initiative funded by the

Australian and Chinese governments, and industry partners in both countries, including Bega, Devondale Murray Goulburn, Fonterra, Gardiner Foundation, Food Innovation Centre, COFCO, and Mengniu Dairy. I am also the director of the recently launched Food and Dairy Graduate Research Industry Partnership (GRIP), encompassing 14 PhD projects and ten industry partners (www.monash.edu/fdgrip). My works with the dairy industry have been highlighted in Chemical Processing, Monash Magazine, and internationally (Science Daily, ABC International, The World of Food Ingredients, etc.).

My other work at the Monash Advanced Particle Engineering Laboratory (MAPEL) is in interdisciplinary research for the design of nanoparticle vaccines and mesoporous materials (including a recent 2016 article in Nature Chemistry). Examples include designing a more efficient DNA vaccine delivery system for malaria using magnetic nanoparticles (www.nanowerk.com/spotlight/spotid=21315.php), understanding the role of nanoparticle adjuvants for vaccine applications, and designing functional materials with enhanced properties (www.chemistryworld.com/research/nanodots-pencil-in-way-to-boost-solar-cells/9227.article).

I also collaborated with researchers from Materials Engineering in designing magnetic nanocomposites for electromagnetic interference shielding and developing new 1st order magnetic nanomaterials for magnetic heating (Prov. Patent AU2013905012).

Current Program:

From Australia's perspective, the functional foods industry (for better health and also ageing population) will be key, especially considering the Asian and other emerging markets. In this regard, Monash University has launched a Graduate Research Industry Partnership (GRIP) with the food and dairy industry in 2017 (www.monash.edu/fdgrip) which I direct. This will help us to train highly skilled professionals to enable significant innovations in the industry and secure Australia's economic and social prosperity in future.

Student Attributes:

Students with excellent academic records and healthy attitudes towards solving open-ended problems, proactive, and with excellent communication skills and time management (crucial attributes to develop as an independent researcher).

Prof. Cordelia Selomulya

With our projects with the food and dairy industry, interest/experience in food science and technology, and a strong interest for a career in the industry will be desirable.

Prior qualifications could include Honours Class 1 or a good Master degree from respectable institutions. Refereed publications in scientific journals and/or industry experience will help boost the chance of success of the application.

Summer Research Opportunities:

Yes if students are eligible / qualify through the faculty's summer research program.

PhD and Masters Research Opportunities:

PhD opportunities are usually advertised via the Department's or the University's website or at seek.com.au. Feel free to drop me an email at cordelia.selomulya@monash.edu or come by my office if you want to explore project opportunities.

To apply: There are two rounds of scholarship in the middle and end of the year. Students who are interested in applying are advised to prepare their documents (CVs etc.) and talk to potential supervisors around March / April or September/October.

International Students Research Opportunities:

International students require fee and living allowance scholarships, which are highly competitive. That also means that international students that can obtain these scholarships usually have a very good record, and so I am happy to consider accepting them into my group. Please see www.monash.edu/graduate-research/future-students/international-students for more information.

Assoc Prof. Lian Zhang

SMR ✗ MST ✗ PhD ✓ INT ✓



Research Interests:

My primary research interest is in the development of low-emission clean coal technologies for Victorian brown coal. Our research interests cover high-temperature combustion and gasification processes, including in-situ diagnosis, computational fluid dynamics (CFD) modelling, ash slagging and fouling, production of value-added products from pyrolysis of Victorian brown coal and fly ash utilisation. We are also working on the utilisation of biomass and industrial wastes such as sewage sludge for the production of value-added chemicals via composting and pyrolysis.

Major Projects and Impacts:

All my research projects are industry-driven and supported through both industry and Government sources such as the Australian National Low Emission Coal (ANLEC) R&D, Brown Coal Innovation Australia (BCIA), Australian companies (Coal Energy Australia, Energy Australia, GDF DUEZ, Latrobe Magnesium), and overseas companies (Shanghai Boiler Works Co Ltd, Hubei Yihua Chemicals). From these projects we have achieved: successful deployment of low-emission oxy-fuel combustion for Victorian brown coal in a 3 MWh pilot-scale combustion facility, successful development of advanced silica-based sorbent and its' commercial tests in industrial boilers for the minimisation of ash slagging and fouling in coal-fired boilers, and clarification of the Cr(III) oxidation mechanisms from the molecular level using a synchrotron-based X-ray absorption spectroscopy (XAS) facility.

Future Endeavours:

We aim to in the future deploy low-emission oxy-fuel combustion technology for Victorian brown coal in the Latrobe Valley, to reduce its carbon emissions shortly, promote the commercialisation of mild pyrolysis technology for Victorian brown coal to produce export grade products shortly. Additionally, we look to clarify the molecular structures of ash-forming metals through molecular dynamic simulation and develop an advanced computer modelling tool for the prediction of ash formation behaviour upon the

combustion and gasification of Victorian brown coal, under either conventional or advanced low-emission combustion mode.

Student Attributes:

Interested students require the completion of the following subjects; transport phenomena, chemical reaction engineering, heat and mass transfer and separation processes.

PhD and Masters Research Opportunities:

We would have around four PhD scholarships available next year.

International Students Research Opportunities:

International students need to secure a scholarship from Monash to cover their tuition fees. The project only allows me to pay a living allowance of approximately AUD 26,000 annually per student.

Applications and Additional Information:

Please discuss with Lilyanne Price in the chemical engineering general office. She is the most knowledgeable person regarding any scholarship applications. Lilyanne is also the first person to screen the applicants before informing the supervisors.



Nanosensor Engineering Lab
(www.nanosensor-eng.net)

Research Interests:

My research interest is focused on developing nanoparticle-based molecular sensors for monitoring biological molecules in real biological environments. The Nanosensor Engineering Lab works on the design, synthesis, characterisation and testing of both synthetic nanoparticle scaffolds (e.g. organosilica materials) and novel biological reporters (e.g. antibody fragments). This requires an interdisciplinary approach, combining aspects of materials science, chemistry, and molecular biology to create our materials. We are currently working hard to engineer these materials, then we can test them in animal models of relevant disease, as a pre-requisite for commencing human trials.

Key Projects:

- Design, synthesis and evaluation of organosilica nanoparticle-based sensors for monitoring key metabolites for bioprocessing and in vivo human application.
- Design/discovery of novel bioreceptors for monitoring complex macromolecules including proteins and DNA structures.
- Engineering novel anti-fouling polymers and films to limit immune response for in vivo coating applications.
- Designing novel sensors and diagnostic tests for early detection of life-threatening bloodstream infections in high-risk patient groups.
- These projects would suit those engineering students who have specific interests in chemistry, physics, biomedical science or molecular biology.

Opportunities for undergraduate and summer projects:

- Take our novel nanoparticles and characterise their material properties and biosensor characteristics.
- Engineer new experimental apparatus to evaluate nanosensors.

Opportunities for PhD and Masters projects:

- Identify specific biosensing opportunities and design new sensors to solve important problems in biomedical science, bioprocessing, and clinical medicine.
- Design novel bioreceptors for protein-based sensing using molecular biology (e.g. protein/antibody/DNA engineering).
- Take our emerging biosensing nanoparticles and evaluate their performance in animal models, investigating immune response and biodegradation, how to effectively capture signals through mammalian tissue, and investigating end-user issues.

Applications and further information:

To register your interest in a project, please look through our website and email Dr Corrie (simon.corrie@monash.edu) to set up an appointment. Please include your CV and draft academic transcript, and be sure to include the specific project that is of interest to you and any related experience you may have.

Assoc. Prof. Victoria Haritos

SMR ✓ MST ✓ PhD ✓ INT ✓



Research Interests:

My interest is in bringing together biology and engineering to address current and future manufacturing needs. This means discovering and developing biologically-derived catalysts, enzymes, to use in conversion processes or improving the performance of microbial cells (yeast, bacteria) to make products like proteins and lipids with high efficiency. Also, I work with the food industry to extract and enhance nutritional components such as antioxidants and dietary fibres.

Current research projects in my group:

- Metabolic engineering of yeast for high productivity fatty acids.
- Microbial heterogeneity and cell stress.
- Soluble methane monooxygenases for methane metabolism.
- Lignocellulose-acting enzymes for biomass processing and modification.
- Enhancing nutritional components of foods especially from legumes and grape/wine.

Major Projects and Impacts:

Our focus is on developing biological processes for chemical production or processing renewable materials to yield valuable products. The results of our research are publications in peer-reviewed journals, patents and novel or modified processes that our industry partners can adopt.

Future Endeavours:

Deepen relationships with local and international research collaborators to increase the impact of our research and with industry, especially the Australian food industry, to help them deliver innovations that will improve their productivity.

Student Attributes:

We're looking for enthusiastic students who would like to undertake laboratory-based experimental research, keen to learn new skills and to be challenged.

Summer Research Opportunities:

I have regularly supervised summer research students and encourage you to get in contact if you're interested. Paid scholarship opportunities supported by the Faculty of Engineering are advertised during semester 1.

PhD and Masters Research Opportunities:

Both PhD and Master by research positions are available. More commonly I supervise PhD research projects as there is so much more that you can achieve in the longer timeframe. There are living allowance scholarships available through the Faculty of Engineering and through industry-supported programs. However, you must apply and meet the (very competitive) criteria to be successful.

International Students Research Opportunities:

As above. Both living allowance and tuition scholarships are available, but you must meet the (very competitive) criteria to be successful in gaining these.

Applications and Additional Information:

Please contact me Victoria.haritos@monash.edu to discuss your interests in research and visit research.monash.edu/en/persons/victoria-haritos for more information.



Research Interests:

I have an industry background in process control, pilot scale process development, thermochemistry and reaction engineering. My current research sits in the general area of sustainability and biorefinery; replacing traditional fossil fuel-based fuel and chemical production processes with analogous processes using sustainable biomass as the primary feedstock. I am interested in reactor design and development, with a focus on the underlying chemistry of the process. Most of my projects are very hands on, and I try to involve industry partners as much as possible to make sure that my research is addressing real-world problems.

Major Projects and Impacts:

My current projects include:

- ARC industrial research hub: Processing Advanced Lignocellulosics (PALS). I am one of the Chief Investigators in this hub, which is run by the institute in which I work: BioPRIA (Bioresource Processing Research Institute of Australia). PALS aims to convert renewable and readily-available biomass material and waste streams from the Australian pulp, paper and forest industry into new, high-value products that are in high demand in existing and developing markets. PALS includes 11 PhD students, three domestic and international universities, six industry partners, and \$6.8 million in funding.
- GRIP (graduate research industry partnerships). I have two GRIP project, both in partnership with Meat and Livestock Australia (MLA). These projects are looking at increasing the sustainability of packaged fresh meats by developing novel on-pack indicators of meat quality and freshness and using superabsorbents to increase shelf life.

Although academic endeavours typically focus on process details and fundamentals, I always aim to make sure my research is industrially applicable. Whether it be a new solution to a specific process problem, a new process that is not yet fully understood, or a new take on an old process, I strive to make sure that my

research promotes sustainability.

Future Endeavours:

Some of my potential upcoming projects may include:

- Continuous flow, autothermal, mini- and micro-reactor technologies for reaction engineering applications, including process design and scale-up
- Any and all things biorefinery. That is the production of fuels and chemicals using non-food, bio-based feedstocks. If this area is of interest to you, or you have an idea you'd like to turn into a research project, please let me know!

Student Attributes:

HD averages and high GPAs are laudable, but my philosophy is that all you need to take on the challenging pursuit of research is an open and enquiring mind, an enthusiastic approach, and a persevering attitude. The most important trait in a PhD student is determination! I do not require any particular technical skills from my students. I firmly believe in learning by doing and am happy to provide this opportunity. As I mentioned above, my projects tend to be hands-on, but don't let that discourage you! Bring along your enthusiasm and initiative, and we will get along just fine.

Summer Research Opportunities:

I will most likely have summer 2018-19 research positions available. These will be advertised through the Faculty summer research scholarships program.

PhD and Masters Research Opportunities:

The ARC Hub mentioned above has 11 PhD positions available. Please see pals.biopria.com.au/research/projects/ for details including how to apply.

Furthermore, I invite anyone who has an interest in sustainability and biorefinery to contact me with their ideas. The project doesn't always come from the supervisor – everyone is an inventor at heart!

International Students Research Opportunities:

I'm happy to offer positions to international students who have a scholarship (Monash / home country)

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TESTIMONIALS

Crystal's Summer Research Experience



At the end of 2017, I was finishing my 5th year as a double degree student in biomedical science/chemical engineering and wanted some form of vacation work experience. A friend of mine who is doing a PhD under Simon Corrie mentioned that the group was looking for a student to do vacation work over the summer. At this point I wasn't sure of emailing Simon as I didn't know what the project was on and was worried about my academic scores being subpar. However, one day a friend (Danni) and I were sick of doing an assignment and walked to Simon's office and knocked on his door. Luckily, he was happy to chat to us even though we didn't contact him earlier. Initially we talked about our background and our interests, however, 1.5 hours later - we walked out with the promise of a research project.

We began as research assistants shortly after exams in the last week of November. The project was on a pH clock reaction which would initially be characterised through the conventional pH probe, and then used with pH sensitive nanoparticles. This project would focus on characterising the nanoparticles in a dynamic system which hasn't currently been done yet. Then, it would extend further by implementing the nanoparticles into a bioreactor, providing an alternate means for pH detection in bioreactors, as well as provide a bridge between in vitro and in vivo biosensing applications.

This was not my first summer research project, however this was the first time I was given a project without any strict guidelines or protocols. In fact, this was the first time I had to make my own protocol based on a published paper's methodology. Furthermore, the research led into my CHE4180 project, making this all quite daunting at first. However, after starting the experiments and actively solving problems on our own, Danni and I got onto a running start.

By Christmas, we had characterised multiple aspects of the clock reaction and were ready to try out the nanoparticles. This was where our problem-solving skills as engineering students would

come into play. Throughout this aspect of the project, there were many shortcomings and experiments did not go to plan. Despite this, we would always find a new and logical solution to the problem with the help of Simon and his PhD students, tweaking and changing until we saw improvements.

So, now in Semester 1 2018 I am continuing this research as part of my final year project. There were many times where I was worried that our results were not up to standard or significant in any way. However, Simon and his group have been very supportive and overall satisfied with what we accomplished, as well as the ways that we were able to identify and solve the issues. Looking back, the problems were a blessing in disguise, as they allowed both me and Danni to talk to the PhD students more and gain new friends.

Overall, I would like to emphasise that if you are interested in a summer research project - just do it. It doesn't matter if you don't make it into the "official" Monash Summer Research Scholarship program. Especially with Monash academics, many are willing to take on a student if you approach them and ask. On a final note, research is not always about just looking at things and how they work. A lot of the time is spent on using problem solving and communication skills to overcome obstacles. So even if you are not interested in research, I think it's a fantastic way to develop skills and create networks which you can take onboard for any job.

- Crystal Yu

"So even if you are not interested in research, I think it's a fantastic way to develop skills and create networks which you can take on-board for any job."

Industry Vacation Work Experience



Every time I tell someone I study chemical engineering they ask if I study chemistry. Let me get started by saying no, it is not chemistry, it is so much more. It is technically defined as the branch of engineering concerned with the design and operation of industrial chemical plants, but that doesn't really suit me. It is working with other people to solve problems more complex than world peace. We are lucky today as chemical engineers because we have a wide variety of potentials for our future careers. When it comes to applying for internships, vacation roles or graduate positions there feels like there are endless options. But with endless options, you easily feel lost or confused. Thankfully, unlike year 12, you can spend some time in internships before graduating into the big wide world.

When I started applying for vacation positions, not only did I have no idea what I wanted to do, but I wasn't in my penultimate year. In fact, I still had two years left. I applied to over fifty companies, and the number of rejections I got was at least half. It can be gut wrenching being told that a company doesn't want you, no matter what the reasons. My first piece of advice, have friends or family who can help. Help you find opportunities, help you seize the moment, comfort you if you get rejected from a company you were dying to get and celebrate when you get something else better instead. My second piece of advice is just be you. When applying for companies don't try to be someone you aren't, they can generally tell in one on one settings. Find what you are passionate about and follow that. Each company has a different culture, some want the brightest, some want the most passionate in their field and others want people who work well in teams. So go volunteer, find something you are passionate about, and just do it and be proud. If it comes to an interview and someone asks you what you are passionate about, you will have an answer that is true to you, not what they just want to hear.

When you get through the screening process, and get offered a position and start working, you'll find out what a company is like. Being on a site, as a job, is nothing like I had ever experienced.

I worked at the Geelong oil refinery with Viva Energy, and it really opened my eyes. When you are studying, you might split your potential future job options into two categories; consulting and on-site industry, but it is so much more. I can really only speak about the on-site roles, but all the different departments were interesting and vastly different. You have your long-term projects, short term projects, reliability, economics, scheduling and maintenance just to name a few. You work with people from all different backgrounds, not just an undergraduate chemical engineering student at Monash University. The people are diverse and really make the culture worth staying for.

The work is completely different to what I expected as well. This is a shout out to people who, like me, don't do well in exams. Industry isn't based on how well you can memorise lecture slides or a text book. Sure, being able to remember stuff of the top of your head can make things faster, but you learn so much on the job. You realise as well just how much you have learnt in your degree. Trust me, it's more than you think. The projects themselves are like multiple small assignments, except there are 100 people on site at any given time to ask. People with thirty years' experience on a particular piece of equipment. Projects and work vary between departments, but is all unique keeps bringing you back in.

“Industry isn't based on how well you can memorise lecture slides or a textbook.”

I will finish off with a few small pieces of advice. Keep your mind and your options open. Speak to people, professionals, friends and family about what you want from your future. Finally, don't set your life in stone. I was certain I wouldn't get an opportunity over the summer, but I did. I threw myself in just asking for help with my resume, and came back from a three-month interview essentially and do not regret a single minute of it. I don't have to wonder what if, and it's a regret I will never have looking into the future.

- Nicola Malysiak

Jacky's Graduate Experience



I have recently graduated at Monash University with a Bachelor of Commerce and Engineering (Chemical), and I am now working as a graduate consultant at EY. If there is anything you can take away from reading this article, it would be the endless opportunities afforded to you as a chemical engineering graduate.

During 2015, I went on exchange to Tsinghua University, Beijing to complete a semester abroad. During this time, I networked with industry representatives and landed my first professional job as an intern at AXA (second largest insurer globally) for a duration of 6 months. Based out of the Shanghai office, I learnt the importance of networking, and how many doors it can open for your career.

After returning to Melbourne in 2016, which coincided with my penultimate year, I leveraged the experiences and contacts made during my time abroad, and secured a vacationer position at EY. The application process was much more formal (internet application -> Assessment Centre -> Offer) and opened my eyes to the world of IT consulting. At EY, I contributed to delivering software implementations to specific clients in the financial services industry across the Asia-Pacific Region. What stood out to me was the insanely complex management of project delivery, which at one point required the coordination of 7 countries within the region. Furthermore, there is opportunity for consultants to travel within their role- even as a vacationer, I was given the chance to fly to Sydney. And finally, I was working with great people. EY is a company that puts heavy emphasis on hiring the correct fit for each role, so that you are always being challenged in a healthy environment.

At the end of this 8-week program, I was invited back to join EY the following year as a graduate. This was truly a blessing, as I could now undertake my final year of engineering without the need to apply for graduate roles. This was also a reprieve given the intensity of the final year design project!

A common question I ask myself is: do I regret not becoming an

engineer? If I reflect on my experiences and time at Monash, I would have loved to work as an engineer before leaving for China, but at the time I had nothing to compare it to. Since I commenced working in the business sector, I began to appreciate the breadth and variety of work available to younger professionals, the opportunity to be working with cutting edge technology, and therefore now that I have found my "sweet spot" I would lean towards no.

"A common question I ask myself is: do I regret not becoming an engineer?"

In closing, your career can only be guided, shaped, and moulded by you. With a degree in chemical engineering, you can work in so many sectors: engineering, professional services, financial services, public sector, health, telecommunications, private equity... In fact, the current president of China (Xi Jinping) was also a chemical engineering graduate. The sky is literally the limit!

- Jacky Song

Three Months Industry Experience with Nestle



Good day mates. Name's Dylan. I'm here to share my learning experience from Nestle. Working with Nestle, one of the world's most recognizable food brands, has been a major eye opener for me, even if I landed the role after graduating. The number of looks that I had when I tell people that I had graduated and am working in an intern position, is extravagant. Luck was not in my favor after graduating as rejections were handed down endlessly, and things seemed bleak well into the first year of graduating, as the chance to practice engineering is dimming significantly. However, my friends had told me to not give up, and that was how I landed a summer placement with Nestle.

Learning from the staff that has been involved with the process well over 15 years is unmeasurable, as they are basically masters of the art. One of the biggest issue during my time in the industry would be imperial units. I dreaded the sight of imperial units during tertiary studies, and did not pay much attention to it, and boy, did that bite me in the butt! Since the staff on site are using imperial measurements, it was a challenge to even communicate on the same page. Working in the field has indicated that the imperial system is still very much alive, and will not die off soon.

My main role during my time at Nestle is to help reduce the environmental impact on site, as Nestle is actively working on improving their environmental footprint, from packaging to manufacturing, and shipping as well. Applying what I have learnt from Chemical Engineering into real life scenarios, has proved to be challenging yet rewarding at the same time. Learning to communicate and work effectively with other workers with different backgrounds, shares the same principles found during group projects; the capability to work with different people with different skillsets.

The biggest piece of advice I have for current students still in their undergraduate studies is to actively pursue an opportunity to work in the industry during holidays. Not because companies only hire people with experience, but the amount of stuff that can

be learnt is a lot. Things are difficult in the beginning, as always, but persevere through, and I believe that you will be able to overcome the obstacles that you face. If landing any industry experience is difficult, look towards applying for summer research or vacation work in Monash University as well.

“Things are difficult in the beginning, as always, but persevere through, and I believe that you will be able to overcome the obstacles that you face.”

During the summer of 2016, I was working on a project with Meng Wai Woo, where he allowed me to get hands on experience when it came to research work. Not only did this spark my interest genuinely down the road, but also allowing me to learn the principles of research work. If you are very well motivated, I am certain that the future will be very bright ahead for you! Good luck and venture forth my young padawans.

- Dylan Lim

Tjun's International Perspective



Being a chemical engineering student in my third year, I was clueless with what career opportunities that I could venture into once I've graduated. Hence, I started looking and applying for internships back in Malaysia over the summer break to obtain a clearer idea of what possible career pathways I could pursue and the different industries that would require a chemical engineering graduate. The application process was competitive and disheartening as I kept getting rejected or not even getting any replies from the companies but I managed to land an internship with a water and wastewater treatment company.

“I was clueless about what career opportunities that I could venture into once I've graduated.”

I've gained valuable experience over the time I've spent as an intern that could never be taught in the classroom. A student without any experience in the working engineering field, I always relied on the knowledge and skills obtained in the classroom which might be different compared to what's applied by an engineer. It was difficult to accept at first as I was already accustomed to strictly following theories for assignments and coursework in university.

Furthermore, this internship has also allowed me to better understand the operations of an organization structure as well as relations with superiors and colleagues. Relations between colleagues in the office is flexible but needs to be maintained at a certain professional level. Finally, I managed to expand my limited knowledge on water and wastewater treatment as well as expose me to the working culture of the company. It has certainly sparked an interest in the industry and I would certainly like to venture into water and wastewater treatment in other companies and countries as the environmental regulations as well as culture would differ.

As a student with minimal experience in professional practice, this internship has been very valuable for me to gain experience and insight towards the professional environment. I've gained knowledge in applied engineering and the job scope as engineers and technicians as well as organisational structure of a certain company.

Besides that, this internship has allowed for some of my shortcomings to surface and brought to attention. It defined some of the strengths and weaknesses I have and need to rectify in the future to further improve myself.

Therefore, I strongly encourage students to pursue an internship over the summer break as there are many valuable experience to be obtained in both conventional and unconventional ways.

- Tjun Hau Leow (TJ)

The SMUCE Chemical Engineering Careers Guide aims to provide both undergraduate and postgraduate students with useful information, hints and advice on career and research opportunities relevant to Chemical Engineering.

This Guide is not intended to be comprehensive. The information in this Guide was compiled by contacting each company/researcher and asking them to complete a short survey about their company/research and providing details of their graduate and vacation employment offerings. The information in this Guide is the compiled information from the companies/researchers and does not represent the opinion of SMUCE or Monash University.

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