

W A S M A L U M N I review

SCHOOL OF MINES ALUMNI MAGAZINE



2020
MENTORING
PROGRAM

SANDVIK
EMPLOYEES
UPSKILL FOR NEW
INDUSTRIAL
REVOLUTION



FAREWELL
TO CURTIN VICE-
CHANCELLOR
DEBORAH TERRY AO



SPRING 2020 | V9

CONTENTS



11

PRESIDENT'S MESSAGE..... 3

SANDVIK EMPLOYEES UPSKILL FOR NEW INDUSTRIAL REVOLUTION..... 4

NEW UNIT GIVES ENGINEERING FIRST YEAR STUDENTS A HOLISTIC APPROACH TO MATERIAL LIFECYCLE AND PROCESSES..... 6

CURTIN-INDUSTRY COLLABORATION..... 7

2020 MENTORING PROGRAM WRAPS UP IN STYLE 8

WASM ALUMNI PROFILE: SAMREID MANEZ..... 10

FAREWELL TO CURTIN VICE-CHANCELLOR DEBORAH TERRY AO 11

Cover image: WASM Alumni President Christian Price with outgoing Curtin University Vice-Chancellor Deborah Terry AO

Magazine Content by Liz Blaxell | admin@wasma.com.au
Magazine Design by Shannon Jones | shannonjonesdesign@bigpond.com





I would like to welcome all of our new members to the WA School of Mines Alumni (WASMA), particularly recent graduates and those coming from the Chemical and Petroleum Engineering disciplines who may not have had any previous interaction with WASMA.

I am excited that this edition is being circulated more widely, providing more opportunity to connect with members across our community.

We are a very inclusive network and I invite all of our Alumni members and supporters to get involved by either joining one of the WASMA Council Sub-committees, attending an event, interacting on our LinkedIn and Facebook pages or by sharing your stories with us via: admin@wasma.com.au

Many of you will know that we recently completed a branding process, the alignment with WASMA's strategy is now being completed and will be rolled out in the coming months.

We also look forward to supporting the WASM initiatives on the Curtin Kalgoorlie Campus to showcase the school, staff and students. We see this as a great opportunity for the Alumni to be a key connector between WASM and the resources sector.

As we cautiously continue to re-build in this challenging year, we are pleased that WASMA is able to offer more opportunities for its people to re-connect in person.

Our Mentoring Program recently came to an end after an incredibly successful six months. It has been fantastic to see the genuine connections being established and hearing about people's experiences. You will hear from several program participants in this edition. We hope many of these connections continue into the future.

We farewelled Curtin Vice-Chancellor Deborah Terry AO in July. Deborah has been a friend and advocate for WASMA and we wish her well in her new role as Vice-Chancellor of The University of Queensland. We look forward to working with interim Vice-Chancellor John Cordery in a similar capacity.

In the coming months, we have several events planned to bring the WASMA community together.

The WIMWA and WASMA Diggers Sundowner will be held during the Diggers & Dealers Conference. Tickets are limited due to Covid-19 restrictions, but we hope to see many of you there.

This year we are holding our Annual Gala event at Crown Ballroom on Saturday 7 November, I would like to extend the invitation to all of our community to join us for a fun-filled evening.

Also in this edition, you will hear about Sandvik employees upskilling for the so-called fourth industrial revolution – Industry 4.0 as well as the success that has been achieved through the new Engineering First Year Unit Resources, Processes and Materials Engineering (PRRE1003).

We hope that as we move closer to the end of the year, the impact of Covid-19 lessens for each of our members and that many of us will be able to come together through the events we have planned for the next few months. ■

Best wishes
CHRISTIAN PRICE
WASMA Alumni President



EVENTS CALENDAR

**WIMWA AND WASMA
DIGGERS SUNDOWNER**
TUESDAY 13 OCTOBER
GRADUATES HALL,
CURTIN KALGOORLIE
CAMPUS

**WASMA ANNUAL
GALA EVENT**
SATURDAY 7 NOVEMBER
CROWN BALLROOM

KEEPING IN TOUCH
WEDNESDAY 2
DECEMBER
THE CELTIC CLUB

SANDVIK EMPLOYEES UPSKILL FOR NEW INDUSTRIAL REVOLUTION



SANDVIK employees from across Australia have jumped at the chance to upskill by enrolling in a course aimed at preparing them for Industry 4.0.

More than 20 Sandvik staff in four states have signed up for the ground-breaking Diploma of Applied Technologies course being piloted by vocational training bodies across the country. The scheme aims to provide workers in manufacturing and engineering jobs with the skills needed for the so-called fourth industrial revolution (Industry 4.0), in which smart technologies will transform industrial processes. Participants will receive training in areas including cyber-physical systems, digital control systems and digital networks.

Sandvik staff members recently attended a launch for the scheme in Queensland where TAFE Queensland will deliver the course as a 'higher-level apprenticeship', with participants receiving both hands-on learning and sophisticated formal training.

A NATURAL CHOICE FOR SANDVIK

Sandvik Business Line Manager for Service, Nathan Cunningham, says with Sandvik a leading provider of both autonomous underground mining equipment and mining control systems, the company naturally wanted to be involved in the initiative.

"This course gives us a great means to upskill our current employees so that they can better support the new technologies that we've got coming into the industry," he says.

"Having people with the right skills and knowledge means we can get new technologies to work more effectively for customers."



BRIDGING THE SKILLS GAP

Four Queensland staff members have signed up for the course, including Technical Support Manager for Mine Automation Ty Osborne, Technical Support Specialist for Mine Automation Tommi Rautio and service technicians Glenn Coulthard and Yohanes Patintingan.

Ty says the rapid rate of technological change in today's workplace means ongoing training is essential.

"There is definitely a skills gap between what I learned when I first learnt my trade and what I do now," he says.

"Doing the Diploma of Applied Technologies will bridge that gap for me and help me move forward into the next generation of where we need to go."

Ty says his work today centres on ensuring the smooth running of Sandvik underground autonomous vehicles, underground loaders, underground trucks and drills in Australian mines.

"In five years, I would like to see these technologies grow to where we have a larger department to look after automation, a stronger workforce, and for myself to be leading that team."

Sandvik's Nathan Cunningham adds embracing new opportunities and skills is an excellent way of enhancing workplace safety. "One of the benefits with what's happening with technology is that we're able to do things more safely by removing people from harm's way. But in order for this to work, the technology needs to work properly. And that's where training like this has an important role."

From far left, SAGE Group, Chief Operating Officer, Paul Walker; TAFE Queensland - SkillsTech General Manager, John Tucker; Sandvik, Technical Support Manager – Mine Automation, Ty Osborne; Ai Group, Member Relationship Executive, Mel Ireland (back); and Hon. Shannon Fentiman, Minister for Employment and Small Business and Minister for Training and Skills Development.

AN EXCITING OPPORTUNITY

Queensland Minister for Training and Skills Development, Shannon Fentiman, says the course will help develop skills needed for today's in-demand jobs – and for those of tomorrow.

"The new Higher-Level Apprenticeship qualification will continue to provide the hands-on learning of a traditional apprenticeship combined with the cutting-edge training needed for Industry 4.0."

TAFE Queensland Chief Executive Officer Mary Campbell says being the state's first training provider to deliver the Diploma of Applied Technologies made the pilot extremely exciting.

"The pilot will ensure Queensland workforces have access to the new and innovative training techniques needed to keep our state's industries at the forefront of the new digital future," she says.

"The pilot will provide vital training pathways for Queensland businesses to re-skill and up-skill their current workforce and enable them to take advantage of the new technologies and opportunities that Industry 4.0 will provide." . ■



New unit gives Engineering First Year students a holistic approach to material lifecycle and processes

By Begonia Sanchez

Curtin University revitalised the Mining Engineering curriculum this year, but the introduction to the resources industry sector begins in the foundation year, when students start their engineering degree at Curtin.

The unit Resources, Processes and Materials Engineering (PRRE1003) has been incorporated into the Engineering Foundation Year (EFY) curriculum “to demonstrate an ethical and systems thinking approach to processing resources, broaden the exposure of students to a variety of disciplines particularly in Chemical, Mining, Metallurgical and Petroleum Engineering, and introduce the resources industry sector to students, particularly in the context of the University’s position in Western Australia”. This is the rationale to launch a new core engineering unit for all first year undergraduate students, according to Dr Dimple Quyn, Discipline Lead for Chemical Engineering at Curtin University and responsible for leading the introduction of the unit.

Student engineers are able to understand how material structure and properties are related, and apply it to how materials are processed at every

stage of their life cycle. “They are able to look at a product, and identify the materials that make up that product; identify the resources that were used to make those engineering materials, and also identify the key processing steps that were used to convert natural resources to the final materials, and therefore products,” explains Dr Quyn.

The goal is also for them to understand the entire lifecycle of every product including an ethical and sustainable decision-making approach.

“Students are encouraged to take into account that the lifecycle also involves use, disposal and recycling of materials, and that there is a material and energy cost in each of the processing steps. Corrosion, sustainability and the circular economy are also introduced, along with concepts such as embodied energy.

“The unit also gives a comprehensive understanding of the resources industry and the role that future engineers will play.

“The resources industry will undergo several transformations in the next decade, and will need qualified and capable graduates with a broad understanding of

techniques in experimental procedures, understand the difference between thermodynamics and kinetics in engineering processes, and factors that impact scale up to industrial processes.”

WELL RECEIVED AMONG THE STUDENTS

Despite the challenges of the transition to study online due to COVID-19, PRRE1003 has been well received by students, achieving an 85% overall satisfaction rating from 22% of the respondents from a 310 strong cohort. According to Dr Quyn, “this could be largely attributed to the expertise and commitment of a very strong teaching team with lecturers from Mechanical Engineering, Physics and disciplines within WASM:MECE (Exploration Geophysics, Petroleum



its importance and place in the energy economy, particularly in the minerals sector and oil and gas industries. This unit is a step in the right direction to prepare our future engineers for a more sustainable future.”

LAB TIME TO ENCOURAGE A HOLISTIC APPROACH

The practical projects are key for students to start thinking as engineers and solve problems holistically.

“The lab experiments explore the relationship between material structure and its properties; the relationship between material properties, such as thermal electrical, and mechanical; and separation processes such as crystallisation, and solvent extraction,” Dr Quyn says.

“Students are encouraged to think about uncertainties and

Engineering, Metallurgy and Chemical Engineering). As a result, the unit scored particularly well in the quality of teaching (88%), learning experiences (84%), workload (92%), and the ability to motivate and inspire students to learn (85%).”

Student feedback supports this rating.

One student reported, “The main reason why I found this unit extremely enjoyable was due to it showing me many different engineering fields that I could specialise in. The laboratories were also able to communicate complex concepts with simple items, which I greatly admire.”

“Learning about the life-cycle of resources was a helpful aspect in understanding the importance of optimising how we use material more effectively in a modern society,” added another. ■

DIGITAL TRANSFORMATION OF THE MINING PROFESSIONS: CURTIN-INDUSTRY COLLABORATION



Industry partners and WASM staff at the workshop

In light of the rapidly developing, digitisation and automation of the global mining industry, WASM Kalgoorlie recently hosted an event which included WASM academic and professional staff, Curtin Bentley staff including Professor Andrew Rohl, and high-profile industry representatives.

Outcomes from the workshop will inform the Minerals Council of Australia-funded Mining Engineering Curricula pilot. Future workshops where WASM and industry will work together to improve the quality of our Mining and Metallurgical graduates are planned.

The event commenced the evening before with the team enjoying dinner together. It

was a fantastic opportunity for the WASM team to build and strengthen relationships with the Perth-based guests - Curtin colleagues and industry partners, as well as members of the WASM Alumni Kalgoorlie Branch.

The workshop was an invigorating and inspiring day, where the WASM team heard from industry partners about the challenges and benefits of digitisation and automation and the implications of these for the Mining and Metallurgical professions.

Curtin's Sabina Shugg, Rob Solomon, Paul Nicholls, Associate Professor Sonia Ferns (SAE) and John Curtin Distinguished Professor Andrew Rohl (Head of School, Electrical

Engineering, Computing and Mathematical Sciences or EECMS) also provided overviews of their respective areas.

Several breakout sessions during the day enabled attendees to identify collaborative initiatives to ensure Curtin's graduates and research outcomes meet the needs of the mining industry in the digital and data-driven future. Sincere thanks is extended to industry practitioners including Micheal Renton (BHP), Karl Hackett (Rio Tinto), Matt Schneider (Optika), John Welborn (Resolute) and WASM graduates Michelle Keegan (South32) and Rachel Proud (FMG) who were incredibly candid as they shared their organisation's individual experiences. ■

2020

MENTORING PROGRAM WRAPS UP IN STYLE

WASMA's 2020 Mentoring Program recently concluded after a hugely successful six months.

We are extremely grateful to our sponsors Epiroc and AngloGold Ashanti and the unwavering support from Mentorloop, who enabled the program to take place.

The commitment from WASMA's Sub-committee of Warwick Jones, Darren Stralow, Jayde Webb and Suanlee Heng was central to the program's success – thank you for all your efforts in bringing our mentors and mentees together and guiding them through the program.

Here is a snapshot of the program, highlighting some of the many achievements.

“It's been great to have networked and met someone who I wouldn't have otherwise, and learnt skills I wouldn't otherwise. So I hope that could continue in the future, as I think it could be beneficial to all parties.”

WASMA Participant



JOHN SCHINELLA

*WA School of Mines Alumni
Mentee, Graduate Process
Engineer at South32*

Going into the program, what did you hope to get out of it? Are you on track to accomplish your goals?

My hope for going into the program was to have a mentor who had a long history of industry relevant experience in mining but was also once in my place as a fresh graduate. My main goals are to understand how to establish and organise priorities at work and how to go about in obtaining the most value from them.

Lastly, I wanted to discover and understand what has given my mentor the most value in his career (as a metallurgist). I knew if I could understand this, I would gain a deeper insight that would help me develop new goals as I went further with the WASMA mentoring program. So far, I am on track to achieve and learn everything I have set out to do.

What do you think the 'secret' is to a good mentoring relationship?

The secret to a good mentoring relationship is the same as any other relationship. You must be yourself and be honest about your priorities. This helps to set the initial foundation with your mentor that is key to building the relationship.

What is one way that mentoring has changed your professional or personal life - or someone else's?!

It has made me a much more rounded and organised young professional which is something that is not easily taught. I have learnt the importance of keeping a professional portfolio for all my projects and achievements.

It has also given me the confidence to speak up more now in the workplace when I am interested in a task or if I have a question about something I do not understand.

What tips or advice would you like to share with those new to mentoring?

If you are a mentor or a mentee it is important for you to be vulnerable. If there is a question you want to ask but you are afraid it will make you look silly - make sure you ask it! Not only does this help you learn but it will also open up the other person to ask questions they may have been too shy to ask as well. This vulnerability helps to create a deeper connection with your mentor/mentee which is key to growing and learning together as you both go through the mentoring program.



DEAN VALLVE

*WA School of Mines Alumni
Mentor, Principal Mining
Engineer at Galt Mining
Solutions*

What do you think the 'secret' is to a good mentoring relationship?

Both parties being equally keen to develop their relationship, and understanding of the other parties' circumstances in life.

With COVID-19, we're utilising video conferencing to gain that face-to-face contact and build our relationship in real-time.

Do you have any tips or advice for those new to mentoring?

Mentoring is a learning journey for both parties. Keep an end goal in mind, but be open to conversations and opportunities that may present along the way.

Going into the program, what did you hope to get out of it?

Primarily I wanted to make a positive impact and "return the favour" by sharing my experiences (good and bad!) with new mining professionals. I'm glad to act as a sounding board for my mentee and I'm able to reflect on my own career journey at the same time.

What is one way that mentoring has changed your professional or personal life - or someone else's?!

Being able to discuss career paths and share in a mentee's journey – ranging from the initial conversation about what they would like to be, and then providing suggestions on how to achieve their goals.



DREW NOBLE

*WA School of Mines Alumni
Mentor, Group Metallurgist
at Regis Resources*

What is one way that mentoring has changed your professional or personal life - or someone else's?!

I have enjoyed reviewing their early professional engagements and site practices. Their enthusiasm is contagious.

Do you have any tips or advice for those new to mentoring?

Do it - it is rewarding. It isn't that time consuming a process and I have learnt new things as we review their operations and how they involve themselves within an operating mine.

Going into the program, what did you hope to get out of it?

I wanted to pass on my experience to people beginning their career, to help guide them.

What do you think the 'secret' is to a good mentoring relationship?

Be open and honest and provide an environment where they can ask any question to assist them.



RICHARD PRICE

*WA School of Mines Alumni
Mentor, Director, Manager
and Mining Engineer*

What is one way that mentoring has changed your professional or personal life?

It has been a good experience and it's really nice to have the opportunity to give back.

Do you have any tips or advice for those new to mentoring?

We have two ears and one mouth. Mentors should be prepared to listen.

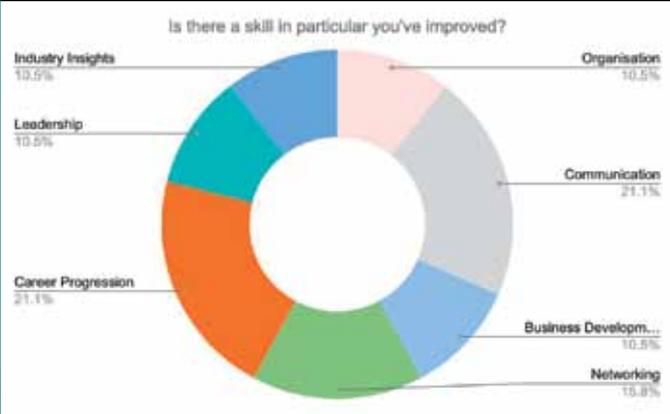
Going into the program, what did you hope to get out of it? Are you on track to accomplish your goals?

Going into this program my goal was simply to be a mentor and to mentor someone. I hoped to do a good job in my role as mentor. Yes I believe I'm on track at the moment to accomplish my goals.

What do you think the 'secret' is to a good mentoring relationship?

Ask questions. Be a good listener. Let the mentee guide the relationship.

100% OF PEOPLE AGREED THAT THE MENTORING PROGRAM SHOULD CONTINUE TO BE OFFERED AT WA SCHOOL OF MINES ALUMNI.



“Grateful to have such a knowledgeable mentor at this time in my career. During the mentoring program I was able to secure a promotion.” *WASMA Mentee*

WASM ALUMNI PROFILE: SAMREID MANEZ



WASM Alumni members come from a range of disciplines and pursue various pathways once they finish their studies.



Samreid Manez studied a Bachelor of Science in Applied Geology. He has since explored his interest in education which led him to develop a startup company to help improve education for students across many backgrounds. The company ManezCo is already finding success as it works towards taking its minimum viable product (MVP) to market.

Sam shared his journey from his early years growing up in country WA to following his passion after leaving University.

Tell us about yourself - what did you study and what were your interests as a student?

My parents are migrants from Malaysia who settled here in the 1990s. I was born and raised in WA. We moved to a small country

town, Boddington in 2007 as my parents both received teaching postings there. I went through my entire high school career in a rural town, doing most of my ATAR subjects online through the School of Isolated and Distance Education, I was fortunate enough to graduate as dux of the school.

After graduation, I knew I wanted to study some form of science at University, but I couldn't decide on a specific niche. I decided on Geology for two main reasons; Earth science encompasses so many scientific processes and areas that I could gain a large volume of knowledge in many areas, and that there are two large mines operating in my town, offering a pretty good chance of employment.

I studied a Bachelor of Science in Applied Geology at Curtin and I thoroughly enjoyed my time! Standout subjects to me were in the spheres of Palaeontology, Environmental studies, Hydrogeology, and Planetary sciences/Astrogeology - we mainly touched on these in portions of some first-year units and in tectonics as well.

What has been your journey since leaving University?

A few months before graduation, I decided to volunteer in some schools. During my time with the students, I quickly identified areas that were lacking in their education, namely their online learning platforms. I started to develop a passion for education and decided to create my own startup company to help improve education for students across the board.

Our journey has had roadblocks and adversity to overcome, pivoting was needed, but overall we've had a great time and have achieved some things that we're very

proud of. My accolades include receiving the Young ESTEAM champion of the year award from Peel Bright Minds, Young Australian Citizen of the Year award in Boddington two years in a row, winning PlusEight's SPRINT pre-accelerator pitch night - awarding us a 'golden ticket' at the larger event in November, presenting at Scitech for gifted and talented students, and featuring in a Peel Government documentary.

My academic journey since finishing at Curtin has included studying coding online, attending Waseda University in Tokyo for a short Japanese course, and studying Instructional Design and Educational theory at the University of Illinois online. We are currently recruiting a team of more experienced developers to help take our MVP to market.

How have your studies influenced your pathway?

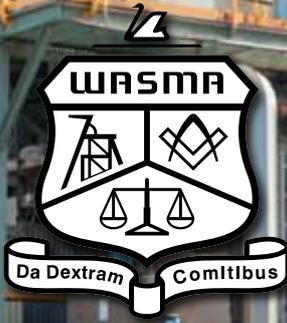
University taught me so much, a whole range of topics that I found a deep interest in. However, the most beneficial thing that Curtin taught me was how to learn. It invoked a deep longing for knowledge within me, causing me to keep striving to learn more about the world around me. It made me critical and analytical, and provided me with the skills to learn in a deeper, more efficient manner. These skills have been invaluable to me, I'm certain it will remain that way throughout my whole life.

What advice would you give to WASM undergrads and recent grads about pursuing their passions and forging a career?

I wish the utmost success to my fellow WASM graduates and students, I know they've been in great hands. The best advice I can give them is:

- Focus on passion and enacting change, instead of individual gain. If you find a passion that can cause a net benefit in the world, your journey will be a lot more sustainable and satisfying. You'll also find that others will support your cause and help to motivate you.
- Go for the company with the stronger company culture, job satisfaction, and employee autonomy. Salaries are important, but don't get bogged down in the financials whilst you trade away your happiness and motivation. Identify workplaces that will allow you to flourish, this will invariably lead to a more successful career journey.
- Get enough sleep and eat right; taking care of your body and health is the most important step to success in any area.

For more information about Sam's company visit: manezco.com



Each of our sponsors plays an integral part in helping the WASMA community to thrive.
THANK YOU FOR YOUR SUPPORT.

**PLEASE EMAIL ADMIN@WASMA.COM.AU
FOR SPONSORSHIP ENQUIRIES**



NOV 7

**7PM -
MIDNIGHT**

WASMA ANNUAL GALA EVENT

COCKTAIL ATTIRE | CROWN BALLROOM
TICKETS ON SALE AT: [EVENTBRITE.COM/E/WASMA-ANNUAL-GALA](https://www.eventbrite.com/e/wasma-annual-gala)
FOR MORE INFORMATION CONTACT: ADMIN@WASMA.COM.AU



FAREWELL TO CURTIN VICE-CHANCELLOR DEBORAH TERRY AO

