



PRESENTING THE 2ND ANNUAL

In association with: 

STEM in Defence Summit

21 August 2018 | Hyatt Hotel, Canberra



Tuesday 21st August 2018

08:25 OPENING | Opening remarks from the Chair
Katherine Ziesing, *Editor, Australian Defence Magazine*

08:30 MINISTERIAL ADDRESS |
Senator the Hon Marise Payne, **Minister for Defence**

DEFINING AND IMPLEMENTING STRATEGIES FOR SUCCESS

09:00 The Strategic importance of attracting and developing STEM talent in the Defence Force
Over the next decade, the Australian Defence Force (ADF) will grow from 58,600 to 62,400 as outlined in the Defence White Paper 2016. The attraction and development of a future workforce with relevant STEM skills is critical to ensuring the ADF maintains a warfighting advantage and a broader Defence capability edge. AIRCDRE Sue McGready will discuss challenges for Defence Force Recruiting, provide an update on the Defence STEM strategy and share some Defence Force Recruiting initiatives.
AIRCDRE Sue McGready CSC, *Director General Defence Force Recruiting, Department of Defence*

09:20 KEYNOTE | The Defence Industry Skilling and STEM Strategy
Dr Kearnan will discuss the development of the Defence Industry Skilling and STEM Strategy. The Strategy focuses on helping Australian defence industry to have the workforce it needs with the right skills when required to meet Defence's increasing capability needs over the next decade. The Strategy is addressing the continuum from defence industry's identity as a sector, to early engagement of students, transition of workers into the industry, and the retention and development of the skills required to position defence industry to support Defence and maximise benefits across the Australian economy.
Dr Sheridan Kearnan, *First Assistant Secretary Defence Industry Policy, Strategic Policy and Intelligence Group*

09:40 ROUNDTABLE | Defining 'STEM' and aligning goals between Education, Industry and Defence

- What does a 'successful' STEM engagement program look like? Where to next for existing programs; what is on the defence employer's skills wish list?
- Change, industry collaboration and leadership in schools
- Who is responsible for growing the STEM workforce?
- How do we ensure better coordination of STEM programs between schools, industry and defence?
- How can SMEs engage with schools? How can they absorb apprentices and interns?

Facilitator: Rick Evans, *STEM Workforce Manager, Regional Development Australia – Hunter*
Rick Persse, *Chief Executive, SA Department for Education*
Richard Price, *CEO, Defence SA*
Penny Johnston, *Director Defence Industries, TAFE SA*
Helen Lee, *Executive Director of Teaching and Learning, St Phillip's Christian College Newcastle*

10:20 Army Drones and STEM
Australian Army announced the Military International Drone Racing Tournament program at last year's inaugural STEM in Defence Summit. The Australian Army has embraced the game changing technology of drones. They provide force protection to their soldiers, enhanced situation awareness and efficiency to their missions and provide an outreach mechanism to the STEM community. One year on, see how the Army Drone Program has progressed and improved drone literacy within the community.
LTCOL Keirin Joyce, *SO1 UAS, Australian Army*

10:35 Networking and refreshment break

INDUSTRY-SCHOOL PARTNERSHIPS

11:00 Victorian Space Science Education Centre (VSSEC): Preparing the Future Workforce
Brett Biddington AM, *Chair, Advisory Board of the Victorian Space Science Education Centre (VSSEC)*

11:30 CASE STUDY | P-TECH Schools: a successful model for developing a region's STEM industries with a focus on shipbuilding and maintenance

- Preparing young Australians for 21st Century careers
- Providing hands-on experiences as a means of developing understanding of workplace culture and expectations
- Supportive pathways for youth to engage in workplace experiences and developing understanding of their employment prospects

Andrew Sezonov, *General Manager, Skilling Australia Foundation*

12:00 CASE STUDY | STEM Nation, STEM Sista and Concept2Creation: Impacting our future STEM Leaders our future STEM Leaders

- The importance of early exposure to role models and opportunities in STEM
- What is STEM Sista and Concept2Creation? What and how did the students learn?
- How have the Students used the knowledge and experience they gained on the program in real life?

Teresa Janowski, *General Manager, STEM Nation*

RETENTION AND RESKILLING IN A CHANGING DEFENCE LANDSCAPE

12:30 Investing in the STEM pipeline and career pathways

Defence capability is powered by people who are experts in science, technology, engineering and mathematics (STEM). As the leader of science and technology for Defence and national security, Defence Science and Technology (DST) Group requires a skilled and innovative STEM workforce. As the demand for STEM skills continues to grow, Defence and industry are challenged with a shortage of graduates choosing careers in STEM fields. DST's STEM engagement supports all stages of the education pipeline, with initiatives aimed at building early exposure to STEM careers, through to cadetships, and graduate and post-graduate recruitment programs. DST is also focusing on ensuring the STEM career pathways are attractive to STEM graduates through providing a progressing and innovative 21st century workplace.

Dr Todd Mansell, *Chief Science Strategy and Program, Department of Defence*

13:00 Lunch and networking break

14:00 Disruption, diversity and award-winning innovation

Our STEM workforce is experiencing a profound digital disruption and engineering is no exception. The problems we need to solve as engineers are getting increasingly complex ("wicked") in nature. This means we need a new breed of engineers who are diverse in their thinking, collaborative in practice and have deep empathy for the needs of humanity and our planet. Learn how these insights can be applied as Dr Kayvani shares how Aurecon is positioning its workforce and practice to redefine a new vision for engineering.

Professor Kourosh Kayvani, *Managing Director Design, Innovation & Eminence, Aurecon*

14:30 ROUNDTABLE | Priorities and strategies for attracting and keeping STEM Talent

- The changing landscape of work in Defence and Defence Industry: the need for transformation and innovation
- How to better attract talent to STEM pathways specifically in defence and defence industry? What are the key messages that will resonate? What is the role of parents, the education system, and industry?
- The importance of vocational skilling and reskilling programs

Facilitator: Dr Andrew Dowse AO, *Director, Defence Research and Engagement, Edith Cowan University*

Megan Lilly, *Head of Workforce Development and Education, Ai Group*

Matt Opie, *Director Defence, University of South Australia*

Stephen Hayes MBE, *National Defence Industry Workforce and Skills Facilitator, Department of Defence*

Claire Johnson, *Naval Architect, Department of Defence*

DIVERSITY AND CHANGE

15:00 **ROUNDTABLE** | Defence Diversity and Inclusion

- Realising the strategy and goals for diversity and inclusion within Defence
- Implementing the Indigenous Engagement Program
- Value of employment post-service into defence industry
- Planning for transition into civilian work

Facilitator: Dr Andrew Dowse AO, *Director, Defence Research and Engagement, Edith Cowan University*

John Bale, *CEO and Managing Director, Soldier On*

Shanaye Baxter, *Assistant Director Indigenous Engagement, Defence Science and Technology*

Rowena Bain, *Acting First Assistant Secretary, People Policy and Culture, Department of Defence*

15:30 **Networking and refreshment break**

16:00 **WORKSHOP** | Strategies and tools for achieving gender equity in STEM

This workshop will give attendees strategies and tools to achieve gender equity throughout the stages of the STEM pipeline, with a particular focus on the university and industry sectors.

Dr Francesca Maclean, *Consultant, Arup, Co-Founder and Strategic Director, Fifty50 and Engineer in Residence, Swinburne University of Technology*

16:30 **CASE STUDY** | Building a national challenge program for cyber security

AustCyber's development of a national program of cyber security challenge competitions across industry, academia and government is designed to mobilise young people and grow the pool of cyber security professionals to make Australia a global cyber security leader. Hear insights and reflections on the 2017 delivery of Australia's first defence industry cyber challenge.

Owen Pierce, *Program Manager, National Research and Education, AustCyber*

17:00 **CLOSING** | Closing remarks from the Chair

17:05 **Address from the Networking Drinks Sponsor**

Associate Professor Jonathan Binns, *Deputy Associate Dean Research, University of Tasmania*

17:15 **END OF CONFERENCE** | Networking Drinks

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