



REGIONAL DAY OUT

2016 - STEM: CHALLENGING + INSPIRING

FRIDAY 4TH NOVEMBER 2016 – 9:00AM TO 5:00PM



Learning Environments Australasia's SA Chapter is hosting the 2016 Regional Day Out on the theme of STEM in Australia; Science, Technology, Engineering and Mathematics. The importance of STEM is a national debate.

As stated in the National STEM school strategy **'A RENEWED NATIONAL FOCUS ON STEM IN SCHOOL EDUCATION IS CRITICAL TO ENSURING THAT ALL YOUNG AUSTRALIANS ARE EQUIPPED WITH THE NECESSARY STEM SKILLS AND KNOWLEDGE THAT THEY WILL NEED TO SUCCEED.'**

Come along and hear what is happening in this important area. The program is action packed with key note speakers

and educational site visits. As referred to in the National STEM School strategy - STEM education is a term used to refer collectively to the teaching of the disciplines within its umbrella – science, technology, engineering and mathematics – and also to a cross-disciplinary approach to teaching that increases student interest in STEM related fields and improves students' problem solving and critical analysis skills. STEM sits within a broader foundational knowledge base and the teaching of STEM is a part, albeit important, of a balanced program of learning. The national strategy is focused on action that lifts foundational skills in STEM learning areas, develops mathematical, scientific and technological literacy, and promotes the development of the

21st century skills of problem solving, critical analysis and creative thinking. It recognises the importance of a focus on STEM in the early years and maintaining this focus throughout schooling.

In keeping with the STEM theme, the Adelaide City Precinct and Flinders University will be our host environment, providing forums with guest University and Education Speakers and tours of South Australia's leading educational site visits. Our Regional Day Out will focus on the education debate regarding STEM and the definition of sophisticated learning spaces that enrich the passion and engagement of STEM studies.

“ In my generation, you had to do maths or science to complete high school. Many parts of Australia now, you don't have to do that. We've got to get back to that and ensure that everyone is very literate in those STEM subjects. Science, maths, technology – that's the future... ”

- Hon Malcolm Turnbull, Prime Minister of Australia, June 2016

“ Technology is changing our economy. STEM disciplines – Science, Technology, Engineering and Mathematics – will be central to the jobs of the future, and people with these skills will be well positioned to succeed in the future... ”

- Hon Bill Shorten, Leader of the Opposition, May 2015

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PROGRAM

8:30am Arrival and morning tea at the National Wine Centre

MORNING SESSION

INTRODUCTION

9.00am Welcome - The Hon Susan Close MP, Minister for Education and Child Development, Minister for Higher Education and Skills.

Keynote:

9:15am Prof Martin Westwell, Strategic Professor, Flinders Centre for Science, Education in the 21st Century, Flinders University

10:30am Morning Tea

SITE VISITS OR WORKSHOP

- 11:00am to 1.00pm**
- Adelaide High School
 - SAHMRI
 - Flinders at Tonsley
 - The Bragg, University of Adelaide
 - Jeffrey Smart Building, UniSA
 - STEM in Primary Schools Workshop

LUNCH

1.00pm to 2.00pm Lunch at the National Wine Centre

IILETC PROJECT PROMOTION

10 minute update on first data collection from 6,000 schools and promotional video.

AFTERNOON SESSION

2.00pm to 2:45pm **Keynote:** Jayne Heath, Director of Professional Learning, Australian Science and Mathematics School

Breaking down boundaries in order to challenge and inspire learning in STEM

Boundaries of learning STEM in our schools are real. Physical boundaries in the form of walls and spaces that limit interaction and hands on inquiry, educational in the form of curriculum and assessment frameworks. Attitudinal boundaries in the form of teacher, student and parent expectations, as well as organisational boundaries in the form of school time tables & teacher

roles and allocations. This presentation will outline what can be achieved when a school community looks to address these boundaries in order to challenge and inspire learning in STEM.

3.00pm to 3.45pm

Panel Facilitator, Amanda Blair
Panel discussion;

- Dr. Kristin Alford, Director of the Science Creativity Studio (Sci.C.Ed), University of South Australia
- Tony Crawshaw, Communications and Outreach Coordinator of the ARC Centre of Excellence for Nanoscale BioPhotonics (CNBP).
- Jayne Heath, Director of Professional Learning, Australian Science and Mathematics School
- Prof Martin Westwell, Strategic Professor, Flinders Centre for Science, Education in the 21st Century, Flinders University
- Anita Zocchi, Principal, Adelaide High School

DEBRIEF + DRINKS

4-4.30pm Close with LEA AGM

OPENING BY



Susan Close MP

Minister of Education and Child Development, Minister of Higher Education and Skills.

Susan Close was first elected as the State Member for Port Adelaide in February 2012. She was appointed Parliamentary Secretary to the Minister for the Public Sector in February 2013.

Following the 2014 State election, Dr Close was appointed Minister for Manufacturing, Innovation and Trade and Minister for the Public Sector. She was appointed Minister for Education and Child Development in February 2015 and gained the Higher Education and Skills portfolio in January 2016. Dr Close has also chaired two parliamentary select committee inquiries. Before entering parliament, Dr Close was an executive in the public service and previously worked at Adelaide University as director of student services. She and her partner, Declan, have two children who attend public schools.

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OUR MASTER OF CEREMONIES



Amanda Blair
Our Master of Ceremonies

Amanda Blair is a Board member of The Independent Gambling Authority, The South Australian Housing Trust, and Nature Play SA. She was formerly the Co-Chair of the Premier's Council for Women and was on the Social Inclusion Board and the Adelaide Festival Board, the board of the Australian Dance Theatre and the Adelaide Festival Centre Trust. She was also a member of the Contemporary Collectors at the Art Gallery of South Australia. She's a member of the Australian Institute of Company Directors.

Amanda won a MO Award for Best Live Show in Australia in 2003 and in 2011 she won the St Mary of the Cross MacKillop Award for outstanding contribution to the Media from Archbishop Philip Wilson. Her individual fundraising efforts have raised over 1 million dollars and she's twice been nominated for South Australian of the Year. She writes for a column for the iconic Australian Women's Weekly.

OUR SPEAKERS (IN ALPHABETICAL ORDER)



Dr. Kristin Alford
Director of the Science Creativity Education Studio (Sci.C.Ed)
University of South Australia

Kristin is a futurist and the inaugural Director of the Science Creativity Education (Sci.C.Ed) Studio at the University of South Australia. SciCEd (pronounced 'psyched') is a public space for inspiring young people about the potential of science at the intersection of art and innovation. Kristin is an experienced facilitator in science communication, marketing, human resources and metallurgy, and postgraduate degrees in foresight and engineering.



Tony Crawshaw
Communications and Outreach Coordinator of the ARC Centre of Excellence for Nanoscale BioPhotonics (CNBP).

Tony Crawshaw is the Communications and Outreach Coordinator of the ARC Centre of Excellence for Nanoscale BioPhotonics (CNBP). Through engaging in STEM outreach and educational activities the CNBP has explored how the space, environment and resources with which STEM education is facilitated impacts the outcomes and legacy of the learning opportunity. This approach has dissolved boundaries of conceptual scale and size to enlighten and excite students about the amazing world of the nanoscale.



Jayne Heath
Director of Professional Learning,
Australian Science and Mathematics School

Jayne Heath, has a BEd, Grad Cert Professional Learning, MEd, and currently is an EdD Candidate has worked in secondary schools for over 30 years. As Director Professional Learning Services, Jayne is responsible for designing the professional learning environment to support teachers to work in the internationally renowned Australian Science and Mathematics School. A key role has also been to build capacity for innovative approaches to science and mathematics education at a state-wide level. Jayne has co-authored a number of nationally and internationally published articles on innovative approaches to schooling and teacher professional learning and is actively involved in collaborative national and international work focused on transforming schooling. As a school leader Jayne is interested in factors of influence that afford development of professional capital and quality outcomes for all learners.



Prof Martin Westwell
Strategic Professor,
Flinders Centre for Science, Education in the 21st Century, Flinders University

Martin is the Strategic Professor in the Science of Learning at Flinders University and the Director of the Flinders Centre for Science Education in the 21st Century where the research and innovation programs revolve around evidence-informed innovation through collaboration and co-construction with educators. Martin has worked with educators from the early years through all levels of schooling into tertiary education. He serves on the SACEBoard where he chairs the Innovation Development Advisory Group and he has been the DECD Scientist-in-Residence. Nationally, he chairs the Research Use and Evaluation Committee for Evidence for Learning and, internationally, he is a member of UNESCO's Education Research Network steering Group.



Anita Zocchi
Principal,
Adelaide High School

Anita Zocchi has been Principal at Adelaide High School since 2011. Prior to this she has held other leadership roles at Adelaide High School as was Principal of at Seaview High School in South Australia. Anita has taught in country and metropolitan high schools and spent a year teaching English in an Italian state school in Rome. Anita has a passion for languages learning and celebrating cultural diversity and has led Adelaide High School in accreditation processes for the Council of International Schools. She is currently an elected member of the South Australian Secondary Principals Association, is actively involved in the accreditation processes for the Council of International Schools (CIS) and is convenor of the South Australian Chapter for CIS.

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SITE TOUR DETAILS

There are six events available on the day: five Site Tour Visits and one Workshop. **PLEASE SELECT ONE** event only. Places allocated subject to availability.



ADELAIDE HIGH SCHOOL

The new Learning Centre is the first stage of redevelopment for this high profile, State Heritage listed, Adelaide High School. The new 3 level building uses the existing building's radial planning and materiality to generate a new teaching and library wing for the school's expanding student base.

Through extensive workshopping and school engagement, 21st Century Learning pedagogical principle opportunities were explored and incorporated into the new Learning Centre design. Subtly nourishing the school's culture through the impact and sensitive integration of the new with the old has reached beyond a functional brief to respond to the heritage of this school and significance of the site. In addition, historic and contemporary education practices have been explored and expressed to create new ways of interacting, challenging convention. The school community as a public realm and place of learning is an age-old tradition. This design reflects this tradition but also its place, its culture and its moment in time.

SAHMRI

Recognising the challenges facing health and medical research, the South Australian Government commissioned the Review of Health and Medical Research in South Australia, conducted by Professor John Shine and Mr Alan Young AM, which recommended the establishment of a dedicated, flagship research institute for South Australia. In response to this recommendation, the South Australian Government committed to establish SAHMRI in 2008, and the Federal Government allocated \$200 million to build our research facility. In December 2009, SAHMRI was incorporated as the state's first independent flagship health and medical research institute. SAHMRI represents an exciting new statewide concept that brings together basic and translational research, South Australia's three universities and the health system. This has enabled us to provide statewide leadership and strengthen the collaborations and partnerships that already exist. Our research focuses on improving the prevention, treatment and diagnosis of some of the greatest health issues that face our community, including chronic disease, obesity, cardiovascular disease, diabetes and mental health. Our research themes were selected based on the most important health issues we currently face, but also their intersection with each other, and the research collaborations they will create. We have attracted world class leaders in their fields to lead each of the themes.

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SITE TOUR DETAILS CONTINUED.....



FLINDERS AT TONSLEY

Students at Flinders University, South Australia are being encouraged to 'think like an entrepreneur' with the opening of its \$120 million state-of-the-art teaching and research facility. The six-storey 16,000 square metre Flinders at Tonsley building unites education, innovation, business and commercial start-up ventures in one precinct, giving students first-hand experience of industry and helping stimulate economic growth in the region. Speaking at the official opening of Flinders at Tonsley, the University's vice-chancellor Professor Colin Stirling said the new development brought together the sharpest minds, boldest researchers and proven business leaders under one roof to spark innovation and drive new business opportunities. Flinders at Tonsley co-locates the University's School of Computer Science, Engineering and Mathematics, with the Flinders Medical Device Research Institute and Centre for NanoScale Science and Technology. It is also a hub for entrepreneurs and next-generation start-ups through the New Venture Institute (NVI), which runs programs, mentors and helps the next generation of ideas to become reality.

THE BRAGGS, UNIVERSITY OF ADELAIDE

The Braggs is the new transdisciplinary research Institute for Photonics and Advanced Sensing (IPAS) at the University of Adelaide. The facility completes the newly developed science and research precinct on the North Terrace campus, housing both research, and undergraduate laboratories, and a 420 seat lecture theatre. The central philosophy of the building is to enable researchers from different disciplines - physics, chemistry, biology - to come together to enable a transdisciplinary approach to research. The methodology has required a building that supports and fosters both formal and informal collaboration. As such, the building investigates methods of three dimensional connection of space within the tight security and safety requirements of a leading laboratory environment, through its positioning on campus, its relationship to campus life, and its strategic inclusion of two vibrant internal vertical streets.

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SITE TOUR DETAILS CONTINUED.....



JEFFREY SMART BUILDING, UNISA

In August of 2010 the University of South Australia secured \$30 million from the Federal Government's Education Investment Fund towards the \$95 million Participate@UniSA project, including a new Learning Centre valued at over \$85m for the City West campus. This active learning centre engages with a diversity of educational modes and resources. Wrapping around a central courtyard as the green common, this building incorporates a diverse spectrum of teaching and learning spaces, library, student and staff services. The central courtyard, with its open air cinema screen, green public area and an established tree, works to reinforce the urban character of the campus. The community of learning and theatre of student activity animates all levels of this building. At the scale of the student and academic, a range of differing places and enclosures are provided that facilitates these different modes of learning. The contemporary learning narrative includes books and small-scale study areas, digital and virtual resources as well as more collaborative and social learning environments. Spaces and experiences shift in orientation and scale, becoming less inwardly focussed as they progress up through the building and more aligned to the world beyond.



THE BRAGGS, University of Adelaide. BVN Architecture/John Gollings Photography/Orange Lane Studios | **JEFFREY SMART BUILDING**, UniSA. John Wardle/Phillips Pilkington Architects in Association/ Sam Noonan Photography | **ADELAIDE HIGH SCHOOL**, JPE Design Studio | **FLINDERS AT TONSLEY**, Flinders University, Hassell/ Sam Noonan Photography | **SAHMRI**, Woods Bagot



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WORKSHOP AT THE WINE CENTRE

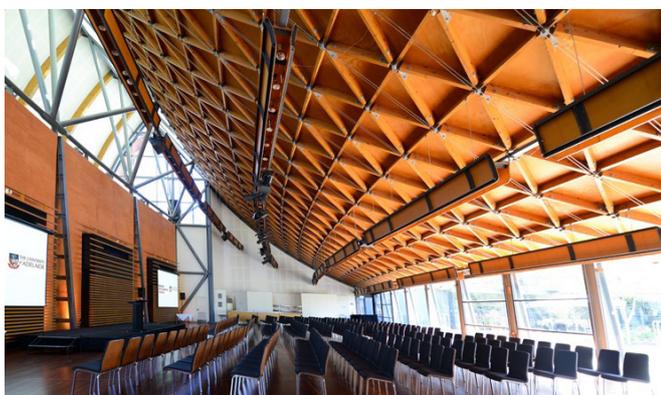


ST PETER'S WOODLANDS ELC-7 | Don Price Photography

STEM FOR PRIMARY SCHOOLS

Experience an engaging workshop with Educators and Architects involved in new STEM spaces specifically designed for Primary Years students. Collaborators involved in two current South Australian examples, St Peter's Woodlands and Swallowcliffe P-7, will present stories of their journey through their perspectives as Early Years /Primary Years Educators and consultants. **Not to be missed!**

OUR VENUE



Situated on the edge of Adelaide's stunning Botanic Gardens the National Wine Centre of Australia provides a flexible function venue and outdoor terrace areas with views of the stunning Botanic Gardens. The venue is a short distance from the North Terrace Health Precinct, a A\$3.6 billion investment creating the biggest medical and health precinct in the Southern Hemisphere, featuring:

- the new Royal Adelaide Hospital – one of the largest and most advanced hospitals in the world.

- South Australian Health and Medical Research Institute (SAHMRI), an iconic building and institution that is attracting the world's best and brightest medical researchers
- University of Adelaide's Health and Medical Sciences Building - host to medical, nursing and dentistry students and 400 health sciences researchers.
- University of South Australia's Health Innovation Building - incorporating the Centre for Cancer Biology, the Science, Creativity and Education Studio and the Innovation and Collaboration Centre.

REGISTRATION

TICKETS AVAILABLE AT

LEA Members	\$200 + GST
Non Members	\$250 + GST
Students	\$75 + GST

BOOKING DETAILS

<http://learningenvironments.wildapricot.org/event-2248588>

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