Research Conference 2016

Improving STEM Learning
What will it take?

7–9 August 2016
Brisbane Convention and Exhibition Centre

Conference program
Sunday 7 August

2.00–5.00*  
**Pre-conference event**  
*STEM digital projects at The Cube*  
*An exploration of The Cube: A digital and interactive STEM learning environment*  
Jacina Leong, Public Programs Curator of The Cube

Jacina Leong will guide participants through an interactive and hands-on exploration of The Cube, one of the world’s largest digital and interactive learning environments.

The Cube, at the Queensland University of Technology Science and Engineering Centre, is dedicated to providing an inspiring, explorative and participatory experience of STEM. It is designed for a diverse community of users, with a strong focus on engagement with school students in Grades 5 to 12. It does this through separate interactive applications, or digital projects that have been designed to enable novel interactions and experiences with curriculum-aligned STEM content.

For more information about The Cube, visit www.thecube.qut.edu.au/about

*Meeting point outside Rydges Southbank, 9 Glenelg Street, South Brisbane for a 20 minute walk and ferry ride, and tea and coffee. Note $3.50 return ticket. Leaving promptly at 2:15 pm (time based on ferry schedule and subject to change). Alternatively meet us at The Cube, Science and Engineering Centre (P Block), Queensland University of Technology, Gardens Point campus, 2 George Street, Brisbane. Arrive for a 3.30 start.*

6.00–7.30  
**Networking drinks (Lego Robotics Challenge display)**  
*Brisbane Convention and Exhibition Centre*
Monday 8 August

8.00–9.00  Registration

9.00–9.30  Acknowledgement of Country and conference opening
Prof Geoff Masters AO, CEO, ACER

9.30–10.45  Keynote 1

10.45–11.15  Morning tea

11.15–12.30  Concurrent session Block 1

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<th>SESSION A</th>
<th>SESSION B</th>
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<tr>
<td><strong>The STEM Teacher Enrichment Academy</strong></td>
<td><strong>Improving achievement and engagement in mathematics by improving the classroom learning experience</strong></td>
<td><strong>Promoting girls’ and boys’ engagement in STEM</strong></td>
<td><strong>Drawing to learn in STEM</strong></td>
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<td>Assoc Prof Judy Anderson, The University of Sydney</td>
<td>Dr Sue Thomson, ACER</td>
<td>Dr Bron Stuckey, independent consultant</td>
<td>Prof Helen Watt, Monash University</td>
<td>Prof Russell Tytler, Deakin University</td>
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12.30–1.30  Lunch

1.30–2.45  Keynote 2
*What can be learnt from developments in STEM education in the UK?*
Pauline Hoyle, STEM Learning, York, UK

2.45–4.00  Concurrent session Block 2

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<tr>
<td><strong>Are Australian mathematical foundations solid enough for the 21st century?</strong></td>
<td><strong>STEM and Indigenous learners</strong></td>
<td><strong>Conversation with a keynote</strong></td>
<td><strong>Step Up project for pre-service teachers</strong></td>
<td><strong>Enhancing students’ mathematical aspirations and mathematical literacy as the foundation for improving STEM learning</strong></td>
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<td>Ross Turner and Dave Tout, ACER</td>
<td>Prof Liz McKinley, The University of Melbourne</td>
<td>Pauline Hoyle, STEM Learning, York, UK (limited numbers)</td>
<td>Prof Les Dawes, Queensland University of Technology</td>
<td>Prof Merrilyn Goos, The University of Queensland</td>
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6.30 for 7.00  Conference dinner
Speaker: Prof Tim Bell, University of Canterbury at Christchurch, NZ

*Rydges Southbank, Level 12 Rooftop, 9 Glenelg Street, South Brisbane*

Extra cost: $135.00. Delegates need to register prior to conference.
Tuesday 9 August

7.00–8.45  
**Leading thinkers breakfast**
*Rydges Southbank, Level 12 Rooftop, 9 Glenelg Street, South Brisbane*
Extra cost: $88.00. Delegates need to register prior to conference.

9.00–10.15  
**Keynote 3**
*What’s all the fuss about coding?*
Prof Tim Bell, University of Canterbury at Christchurch, NZ

10.15–10.45  
Morning tea

11.15–12.30  
**Concurrent session Block 3**

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<th>SESSION M</th>
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<tr>
<td>Addressing the STEM challenge through targeted teaching: What’s the evidence?</td>
<td>Coding in the curriculum: Fad or foundational?</td>
<td>Targeting all of STEM in the primary school: Engineering design as a foundational process</td>
<td>Arts augmentation of STEM education: A 21st-century synergy</td>
<td>Activating teachers’ creativity and moral purpose: Co-constructed professional learning</td>
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<td>Prof Dianne Siemon, RMIT University</td>
<td>Emeritus Prof Leon Sterling, Swinburne University of Technology</td>
<td>Prof Lyn English, Queensland University of Technology</td>
<td>Prof Peter Taylor, Murdoch University</td>
<td>Prof Martin Westwell, Flinders University; Sonia Cooke, Morphett Vale East School R–7</td>
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12.00–1.00  
Lunch

1.00–3.00  
**Debate**
*That research shows the what and the how of improved STEM learning*

3.00  
**Conference close**
Prof Geoff Masters AO, CEO, ACER