



An innovative & collaborative research project connecting university, government, education and industry. The project is funded by the Department of Industry & Skills and supported by the SA chief scientist.

Project aim

To increase high school students' understanding of how science, technology, engineering and maths (STEM) are used in real world contexts, by allowing pre-service teachers of science to experience first-hand the practical application of STEM theory within industry.

The intention is that this experience improves the student teacher's ability to provide secondary school students with a greater appreciation of the value of learning and understanding STEM skills, ideally with a demonstrated change in attitude regarding their interest in learning about STEM.

How will we achieve this and how you can help?

By allowing student teachers to have a real-world experience involving a visit to industry in order to understand how STEM is being applied, to identify an industry issue and then involve research scientists to assist with providing expert thinking towards addressing the issue and communicating this information back to industry.

After the experiential learning experience, students will create unit plans based on the science, technology, engineering and maths they saw in their placement industry. **Ideally these unit plans will be used, or will inform teaching, during the student teachers final high school practicum, subject to your approval.**

Progress so far...

To date, 51 student teachers have visited 12 industries to identify how science was being used in the industry and to consider any industry issues that they were alerted to. The student teachers also met with research scientists from Flinders University to help inform their observations, and to give them further insights into the application of science in industry.

Please see overleaf for participating industries and overview of the plan for industry placement.

How can you help?

By partnering with Flinders University to mentor a student teacher from the project, in your school on his/her final practicum and affording him/ her the opportunity to teach a part of their unit of work designed for years 8 – 10.

Free Professional Development Conference

Dr Carol Aldous, Project leader of the Bridging the Gap team, along with invited guests, will conduct a one-day conference for secondary school teachers interested in participating in the project. Your attendance and willingness to mentor a student teacher would be very much appreciated. The conference will run on Friday 22nd March 2019. Please register your interest in the event with the link at the bottom of this information sheet.

Benefits of participating

- Potential to influence high school science students' perceptions of STEM pathways through student teacher practicums and ultimate work placements
- Contributing in the longer term to improved science education in Australia.
- Potential to build relationships between industry and your school.
- Potential to benefit from the pre-service teacher's experience of real-world applications of STEM.
- Support involvement in an innovative approach to teaching of STEM.
- Involvement and collaboration with the College of Education, Psychology and Social Work and College of Science and Engineering at Flinders University.
- Involvement in innovative & collaborative research project involving university, business, government and high schools.

To register your interest

Register your interest in this free one day professional development conference at Flinders University here:

https://bridgingthegap.edu.au/teacher_conference





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Industries Engaged



Industries this year:

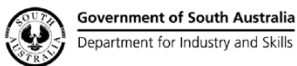
APA Group - Australian Gas Networks
Earth Sciences, Engineering
apa.com.au

SAGE Automation
Engineering, Human Systems
gotoSAGE.com



BAE Systems Australia
Aerospace, Mechanical Engineering
baesystems.com

SA Power Networks
Applied Physics, Electricity
sapowernetworks.com.au



Department of Human Services
Public Health, Information Technology
humanservices.gov.au

SIMEC Mining
Earth Sciences, Engineering
simecmining.com



Overview of the plan for industry placement

Identify

Visit 1 2nd week in October
4 hours at the industry site

The student teacher will **identify** where and how science, technology, engineering and maths is being used in your industry; and with your help, an issue/problem related to STEM in your industry.

Translate

Analysis of Visit 1
between industry visits

The student teacher will **translate** the STEM problem into scientific approaches towards a possible solution; with help from a suitable **research scientist**, facilitated by **New Venture Institute**.

Communicate

Visit 2 4th week in October
4 hours at the industry site

The student teacher will **communicate** possible ways of approaching a solution to the industry problem, potentially accompanied by a suitable **research scientist**. With support from the Bridging the Gap team.

Student teachers will incorporate their industry experiential learning in their teaching placement at a high school in May 2019