Transforming the nature and delivery of mathematics and science pre-service secondary teacher education in Queensland

**Step Up** aims to increase the quality and quantity of maths and science secondary teachers across the state. We are developing new models to support pre-service teacher practice, integrated teacher education pathways, and other initiatives engaging pre-service teachers with peers, mentors and professional development to benefit the next generation of science and maths education leaders.

This project is led by Queensland University of Technology in partnership with the Australian Catholic University, Griffith University, James Cook University and The University of Queensland, along with education and government partners.

**Find out more and get involved:** [www.stepup.edu.au](http://www.stepup.edu.au)

Step Up is backed by Professor Ian Chubb, Australia’s Chief Scientist, and funded through the Australian Government Office for Learning and Teaching.

"We need to support our science teachers to be confident in their knowledge of their subjects and able to teach science (or teach about science) in a manner that reflects how science is practised – an enquiry-based, sceptical approach that is always looking for better evidence. Inspiring teachers will be those who know their subject well, and can transmit that confidence, and their passion, into the classroom."

Australia’s Chief Scientist Professor Ian Chubb, AC

**Resources for science and maths teachers**

**Step Up** [www.stepup.edu.au](http://www.stepup.edu.au)

**Free sign up to receive emails about the latest innovations in science & technology:**

- Science Alert [www.sciencealert.com](http://www.sciencealert.com)
- RiAus Australia’s National Science Channel [www.riaus.org.au](http://www.riaus.org.au)
- IFLScience [www.iflscience.com](http://www.iflscience.com)

**Access Australian National Curriculum teaching resources:**

- ABC Splash [splash.abc.net.au](http://splash.abc.net.au)
- Australian Institute of Policy and Science Resources [www.aips.net.au/education/resources](http://www.aips.net.au/education/resources)
Access other science teaching resources:


BBC Bitesize  www.bbc.co.uk/education

Concord Consortium  http://concord.org/stem-resources


Forest Learning  http://forestlearning.edu.au/


Khan Academy  www.khanacademy.org

National Center for Case Study in Teaching in Science  sciencecases.lib.buffalo.edu/cs/collection

PhET Interactive Simulations  http://phet.colorado.edu/

Primzome  http://primezone.edu.au/
Gain professional development:

Assessment for Learning [www.assessmentforlearning.edu.au](http://www.assessmentforlearning.edu.au)

Australian Association of Mathematics Teachers [www.aamt.edu.au](http://www.aamt.edu.au)


Google Teachers Workshop Teaching Technology [www.qut.edu.au/study/undergraduate-study/do-you-advice-school-students/resources-for-schools/stem-for-schools/events/event?news-id=87995](http://www.qut.edu.au/study/undergraduate-study/do-you-advice-school-students/resources-for-schools/stem-for-schools/events/event?news-id=87995)

Griffith University Professional Learning Days for teachers and scientific operations officers [www.griffith.edu.au/griffith-sciences/science-on-the-go/events/cutting-edge-science-professional-learning-days](http://www.griffith.edu.au/griffith-sciences/science-on-the-go/events/cutting-edge-science-professional-learning-days)

PICSE Teacher Professional Learning [www.picse.net/HUB/TPD.htm](http://www.picse.net/HUB/TPD.htm)

QIMR Berghofer Medical Research Institute teacher professional development workshops [www.qimrberghofer.edu.au/page/Students/School_students/Teachers](http://www.qimrberghofer.edu.au/page/Students/School_students/Teachers)

Queensland Association of Mathematics Teachers [www.qamt.org/professional-development](http://www.qamt.org/professional-development)

Science Teachers’ Association of Queensland [www.staq.qld.edu.au](http://www.staq.qld.edu.au)


Celebrate and get involved in science:

CoralWatch [coralwatch.org/web/guest/home1](http://www.coralwatch.org/web/guest/home1)

National Science Week [www.scienceweek.net.au](http://www.scienceweek.net.au)
Watch cutting edge science TV shows:

ABC The Science Show [www.abc.net.au/radionational/programs/scienceshow](http://www.abc.net.au/radionational/programs/scienceshow)
Catalyst [www.abc.net.au/catalyst](http://www.abc.net.au/catalyst)

Apply for science teaching awards:


Encourage students to compete:

National Youth Science Forum [www.nysf.edu.au](http://www.nysf.edu.au)
PICSE Science for Growth Awards [www.picse.net/HUB/SGA.htm](http://www.picse.net/HUB/SGA.htm)
QUT’s Nikon Small World Competition for High Schools [www.qut.edu.au/study/undergraduate-study/do-you-advise-school-students/resources-for-schools/stem-for-schools/events/event?news-id=87537](www.qut.edu.au/study/undergraduate-study/do-you-advise-school-students/resources-for-schools/stem-for-schools/events/event?news-id=87537)

QUT’s Vice-Chancellor’s STEM Camp [www.qut.edu.au/study/undergraduate-study/do-you-advise-school-students/resources-for-schools/stem-for-schools/vice-chancellors-stem-regional-camp](www.qut.edu.au/study/undergraduate-study/do-you-advise-school-students/resources-for-schools/stem-for-schools/vice-chancellors-stem-regional-camp)

RACI Chem Central Competitions [www.schoools.raci.org.au](www.schoools.raci.org.au)


Sleek Geeks Science Eureka Prize [eureka-entry.australianmuseum.net.au](eureka-entry.australianmuseum.net.au)


University of Western Sydney Australian Brain Bee Challenge [www.abbc.edu.au](www.abbc.edu.au)

Engage with STEM Professionals:


CSIRO Scientists in Schools [www.scientistsinschools.edu.au](www.scientistsinschools.edu.au)

CSIRO Mathematicians in Schools [www.mathematiciansinschools.edu.au](www.mathematiciansinschools.edu.au)

I’m a Scientist, Get me out of here [imascientist.org.au](imascientist.org.au)

Join the conversation:

ScienceRewired [sciencherewed.org](sciencherewed.org)

DET Education Discussion Groups [discussions.eq.edu.au/listserv/index.html](discussions.eq.edu.au/listserv/index.html)

Experience awesome science incursions and excursions:


Questacon: The National Science and Technology Centre [www.questacon.edu.au](http://www.questacon.edu.au)

QUT Engineering Link Project [www.qut.edu.au/study/undergraduate-study/do-you-advice-school-students/resources-for-schools/stem-for-schools/events/event?news-id=72596](http://www.qut.edu.au/study/undergraduate-study/do-you-advice-school-students/resources-for-schools/stem-for-schools/events/event?news-id=72596)


Robotics@QUT [www.ncsehe.edu.au/robotics-qut](http://www.ncsehe.edu.au/robotics-qut)


UQ Young Scholars [www.uq.edu.au/young-scholars-program](http://www.uq.edu.au/young-scholars-program)

Follow national and state STEM policy:

- Inspiring Australia: National strategy for science engagement [inspiringaustralia.net.au](http://inspiringaustralia.net.au)
- Science and Technology Australia [scienceandtechnologyaustralia.org.au](http://scienceandtechnologyaustralia.org.au)

Watch some funky online science videos:

- AsapSCIENCE [www.youtube.com/user/AsapSCIENCE/featured](http://www.youtube.com/user/AsapSCIENCE/featured)
- CrashCourse [www.youtube.com/user/crashcourse](http://www.youtube.com/user/crashcourse)
- It’s Okay To Be Smart [www.youtube.com/user/itsokaytobesmart](http://www.youtube.com/user/itsokaytobesmart)
- MinuteEarth [www.youtube.com/user/minuteearth](http://www.youtube.com/user/minuteearth)
- MinutePhysics [www.youtube.com/user/minutephysics](http://www.youtube.com/user/minutephysics)
Periodic Videos [www.youtube.com/user/periodicvideos](www.youtube.com/user/periodicvideos)
Physics Girl [www.youtube.com/user/physicswoman](www.youtube.com/user/physicswoman)
SciShow [www.youtube.com/user/scishow](www.youtube.com/user/scishow)
SciShow Space [www.youtube.com/user/scishowspace](www.youtube.com/user/scishowspace)
Target 100 [www.youtube.com/user/Target100AUS](www.youtube.com/user/Target100AUS)
The Naked Scientists [www.thenakedscientists.com/HTML/](www.thenakedscientists.com/HTML/)
Veritasium [www.youtube.com/user/1veritasium](www.youtube.com/user/1veritasium)
Vsauce [www.youtube.com/user/Vsauce/videos](www.youtube.com/user/Vsauce/videos)

**Share experiences:**

Queensland College of Teachers [www.classmoviestv.com/qct](www.classmoviestv.com/qct)

**Read in-depth features about science:**

BBC Science [www.bbc.co.uk/science](www.bbc.co.uk/science)
Nature [www.nature.com](www.nature.com)
New Scientist [www.newscientist.com/](www.newscientist.com/) (paid subscription required for full access)
Science [www.sciencemag.org](www.sciencemag.org)
Smithsonian [www.smithsonianmag.com/science-nature](www.smithsonianmag.com/science-nature)

**Engage in science communication:**

BrisScience [brisscience.wordpress.com](brisscience.wordpress.com)
The Australian & New Zealand Association for the Advancement of Science [www.anzaas.org.au](www.anzaas.org.au)
The Australian Science Media Centre [www.smc.org.au](www.smc.org.au)
Three Minute Thesis [threeminutethesis.org](threeminutethesis.org)

**Explore Australia’s science organisations:**

Australian Academy of Science [www.science.org.au](www.science.org.au)
Australian Academy of Technological Sciences & Engineering [www.atse.org.au](www.atse.org.au)

CSIRO [www.csiro.au](www.csiro.au)


Queensland Department of Agriculture and Fisheries [www.daf.qld.gov.au](www.daf.qld.gov.au)


Science & Technology Australia [scienceandtechnologyaustralia.org.au](scienceandtechnologyaustralia.org.au)

### Seek advice:

Queensland College of Teachers [www.qct.edu.au](www.qct.edu.au)

Queensland Teachers’ Union [www.qtu.asn.au](www.qtu.asn.au)

This listing is continually being updated as new resources become available – see [http://www.stepup.edu.au/collaborators-resources-links](http://www.stepup.edu.au/collaborators-resources-links)

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