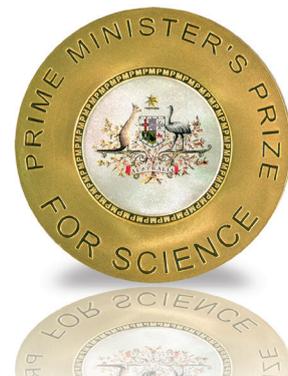




Australian Government

THE PRIME MINISTER'S PRIZES FOR SCIENCE



GARY TILLEY

PRIME MINISTER'S PRIZE FOR EXCELLENCE IN SCIENCE TEACHING IN PRIMARY SCHOOLS



Creating better science teachers

Gary Tilley is mentoring the next generation of science and maths teachers to improve the way these subjects are taught in the classroom.

"In over 30 years of teaching, I've never seen a primary school student who isn't curious and doesn't want to be engaged in science. Once they're switched onto science, it helps their literacy and numeracy skills, and their investigative skills. Science is the key to the whole thing," Gary says.

Gary recognised a long time ago that the way science was taught in primary schools needed to change. So he has taken it upon himself to mentor the younger teachers at his school, and helps train science and maths student teachers at Macquarie University through their Opening Real Science program.

At Seaforth Public School, he and his students have painted almost every wall in their school with murals of dinosaurs and marine reptiles, and created models of stars and planets, to encourage excitement and a love for science. The school is now known by local parents as the 'Seaforth Natural History Museum'.

"Communicating science, getting children inspired with science, engaging the community and scientists themselves with science to make it a better place for the kids—that's my passion," Gary says.

For his contributions to science teaching, and mentoring the next generation of science teachers, Gary Tilley has been awarded the 2016 Prime Minister's Prize for Excellence in Science Teaching in Primary Schools.

As a specialist science teacher, Gary teaches science to every child in the school from kindergarten onwards.

"We start in kindergarten with some experiments with water and gravity. And we build on these concepts in later years, such as in Years 3 and 4 where we look at pollution and improving water quality."

When his previous principal, Ray Ogilvy, gave Gary the opportunity to introduce a new curriculum for science a decade ago, he jumped at the chance and enlisted the help of his colleague Tarni Williams to bring in the Science as Art project.

"We started off with a couple of canvasses of dinosaurs, and it has since grown exponentially," Gary explains.

When you look around the school now, the walls are covered with murals of space images, cretaceous marine reptiles, and dinosaurs, as well as scaled-up models of stars and planets that the children and their families have built.

Gary is also a strong advocate for ongoing professional learning for the other teachers at Seaforth, keeping them informed with how their curricula—in everything from English to music—can be supplemented with science-related activities.

And he's mentoring the next generation of teachers through Macquarie University's Opening Real Science program, which brings together top scientists, mathematicians, and educators to train up teachers and change how science is taught in schools.

"The student teachers at Macquarie University have been tremendously excited by this program because it's all new to them," Gary says.

"I'm heading towards the end of my career as a teacher, but I want to pass on my skills to the next generation."

The mentoring extends to his students too. For the school's annual science fair, scientists from CSIRO help the Year 5 and 6 students prepare a series of experiments, which they in turn teach to the younger kids.

"The older students really love to share their knowledge, so we've harnessed that by encouraging them to mentor younger kids at the science fair."

"Seaforth is a fabulous place to teach. I can't speak highly enough of what the community has done to help science, and the contributions they make to their own children's education in and outside of school is tremendous."

"This prize recognises the fantastic effort that a whole school community has put together. I hope other schools see what we've done and consider it as a road forward for them to make science front and centre, and get their students excited by science too."



Career profile, Mr Gary Tilley

QUALIFICATIONS

1986	Bachelor of Arts (Education and Political Science), Macquarie University
1983	Teaching Certificate, NSW Department of Education
1979	Diploma of Teaching (General Primary), Riverina College of Advanced Education

CAREER HIGHLIGHTS

2015	Outstanding Professional Experience Tertiary Supervisor 2015, Macquarie University
2014–ongoing	Trialling and Practicum Specialist, Opening Real Science project (15-month secondment to Macquarie University)
2014	Exemplar for Science Education, Australian Institute for Teaching and School Leadership website
2014	Japan Science Teacher Exchange, NSW representative of Australian Science Teachers Association
2014	Cited in Teaching Primary Science Constructively, fifth edition
2013	NSW teacher finalist, BHP Billiton Science and Engineering Award
2013	Highly Commended, The Prime Minister's Prize for Excellence in Science Teaching in Primary Schools
2013	"Science as Art" project recognised at the Australian Science Communicators annual conference and published in several journals
2013	Foundation member of the Australian Museum Teacher Advisory Group
2012	Presented at the conference of the Australian Science Teachers Association CONASTA

2011–ongoing	Initiated the annual "Girls in Science Night"
2011–ongoing	Presented at the Macquarie University Astronomy Open Night
2011–ongoing	Accredited teacher with Galileo Teacher Training Program
2011, 2013	Presented at the Annual Conference for the Science Teachers Association of NSW (STANSW)
2010	Honeywell Scholarship to the US Space and Rocket Centre's Space Academy for Educators
2010	Initiated the CSIRO Scientists and Mathematicians in Schools program at Seaforth Public School, and promotes the program widely to other schools
2005–ongoing	Membership and promotion of STANSW and their Young Scientist Awards
2001–ongoing	Specialist Primary Science Teacher, Head of Science and Technology, Seaforth Public School, NSW
1998–2001	Classroom teacher, Forestville Public School, NSW
1994–1998	Classroom teacher, Emu Heights Public School, NSW
1988–1993	Classroom teacher, York Public School, NSW
1982–1987	Classroom teacher, Cartwright Public School, NSW

Further reading

www.educ.mq.edu.au/education_research/opening_real_science
www.seaforth-p.schools.nsw.edu.au