## NATIONAL SCIENCE TEACHERS SUMMER SCHOOL

**Sunday 8 January – Saturday 14 January, 2017**

### Hosted by the National Youth Science Forum at The Australian National University (ANU)

#### Sunday 8 January

- 2.00pm-6.00pm Residential participants arrive and check in to Ursula Hall
- 6pm-8.30pm Welcome dinner (optional/at own expense)

#### Monday 9 January

- 9.00am-9.30am Arrival & Registrations
- 9.30am-10.00am Welcome activities and address
- 10.00am-10.45am Presentation: Dr Tracey-Ann Palmer
  - Dr Tracey-Ann Palmer, from University of Technology Sydney, has worked in research science (biochemistry) and is qualified to teach chemistry, physics and biology at secondary school level. Her thesis, Fresh Minds for Scientists, attempts to understand how students choose their subjects for study in Years 11 and 12, and how the choice of science is influenced by this decision-making process. Tracey-Ann will discuss her work and engage in a Q&A session.
- 10.45am-11.15am Morning Tea
- 11.15am-12.30pm Speaker
- 12.30pm-2.00pm Lunch at the National Arboretum & travel to CDSCC
- 2.00pm-4.30pm Tour: Canberra Deep Space Communication Complex
  - The Canberra Deep Space Communication Complex at Tidbinbilla, ACT, is one of three sites that make up NASA’s Deep Space Network. Participants will learn about the complex and its work, the role it plays in space exploration, and the technologies and science at play.
- 4.30pm-5.00pm Travel to Mount Stromlo Observatory
- 5.00pm-10.00pm Mount Stromlo Observatory
  - Mount Stromlo is the headquarters of the ANU Research School of Astronomy and Astrophysics. Your visit to this site will include a tour of the facilities, a presentation by Dr Brad Tucker and a look at the new McNamara-Saunders Astronomical Teaching Telescope. Dinner will be a barbeque under the stars.

#### Tuesday 10 January

- 9.30am-12pm Lab Visit: University of Canberra
  - Dr Allan Shield, Assistant Professor: Pharmacy at the Faculty of Health, will lead this hands-on session, where participants will be exposed to a range of health science research, focusing on pharmacy. Participants will gain practical ideas for laboratory experiments that can be applied to the classroom.
- 12.00pm-12.30pm Travel to Meroo High School
- 12.30pm-1.00pm Tour of Meroo High School science facilities, and overview of its science program
- 1.00pm-1.30pm Lunch and informal Q&A with Geoff McNamara
- 1.30pm-2.15pm Presentation: Programs to bring science to the classroom
  - Presenters from different educational outreach programs will discuss how their programs can help high school science teachers provide engaging, real world science experiences in their classrooms while ensuring curriculum relevancy.
- 2.15pm-2.30pm Travel to new faculty tour
- 2.30pm-5.30pm Medical research tour
- 5.00pm-6.30pm Welcome dinner (optional/at own expense)
- 6.00pm-6.30pm Welcome dinner (optional/at own expense)

#### Wednesday 11 January

- 9.00am-11.00am Workshop: Engineering and Computer Science
  - Hosted by Engineers Without Borders (EWB) and the ANU College of Engineering & Computer Science. EWB has well established, highly regarded national education programs for school and university students.
- 10.30am-11.00am Travel to Research School of Astronomy and Astrophysics
- 11.30am-12.30pm Presentation: Flipped Classrooms: How to make the best use of everyone’s time
  - Presented by Professor Joseph Hope, from Department of Quantum Science Physics Education Centre, ANU. Dr Hope will share his approach to teaching, demonstrating how flip teaching enables him to better teach complex scientific topics to his students.
- 12.30pm-2.00pm Lunch and travel to CSIRO Black Mountain
- 2.00pm-4.30pm Workshop: CSIRO Black Mountain
  - CSIRO delivers innovative learning opportunities to schools, teachers and the wider community. In this visit NSTSS participants will explore the Black Mountain site and gather ideas for how to bring Australian science to life in the classroom.
- 4.00pm-4.15pm Travel
- 4.15pm-5.00pm Final Discussions and Program Wrap Up
  - A chance for participants to discuss what they’ve learnt over the last week, and make plans for how they will implement these new ideas in their classrooms.

#### Thursday 12 January

- 9.00am-10.30am Workshop: Visualisation Technologies in the Classroom
  - Hosted by the National Computational Infrastructure
- 10.30am-11.00am Travel to Research School of Chemistry and morning tea
- 11.00am-12.00pm Lab Visit: Research School of Chemistry, ANU
  - Hosted by Dr Mark Ellison of the Research School of Chemistry, ANU, this hands-on session will focus on practical chemistry activities and demonstrations that participants can easily implement into their own classrooms.
- 1.00pm-2.00pm Lunch in the Parliamentary Triangle
- 2.00-4.00pm Questacon visit
  - A fun way to wrap up the program! Participants will have a chance to explore the exhibits and on-display shows of Questacon.
- 4.30pm-7.00pm Travel back to accommodation, dinner and free time
- 7.30pm-8.00pm Final dinner

#### Friday 13 January

- 8.30am -10.30am Workshop: Seismometers in Schools Project
  - In this session Dr Michelle Salmon, from the Research School of Earth Sciences, ANU will demonstrate how the Australian Seismometers in Schools project is bringing earth science to life in classrooms across the country.
- 10.30am-11.00am Travel and Morning Tea
- 11.00am-1.00pm Workshop: Parliamentary Role Plays and their role in STEM Education
  - In this session participants will tour chambers at Australian Parliament House, and then learn about how the Parliamentary Education Office role-play programs can be used in classrooms to bring science and science policy to life.
- 1.00pm-2.00pm Lunch in the Parliamentary Triangle
- 2.00-4.00pm Seismometers in Schools Project
  - In this visit participants will have the opportunity to explore Geoscience Australia’s Education Centre, participate in hands-on and interactive sessions with GA researchers, and learn about the variety of classroom resources GA offers to secondary teachers.
- 4.00pm-4.15pm Travel
- 4.15pm-5.00pm Final Discussions and Program Wrap Up
  - A chance for participants to discuss what they’ve learnt over the last week, and make plans for how they will implement these new ideas in their classrooms.
- 5.00pm-6.30pm Free time
- 6.30pm-8.00pm Final dinner