

STATIC

The Newsletter of the Science Teachers Association of Tasmania.



Save over
\$100
by registering
before 31 May

HOBART 9-12 JULY 2017

the
art of
science
CONASTA 66

REGISTRATIONS
OPEN NOW

Science & Art in Hobart

May 2017, Volume 1




stat.
Science Teachers
Association of Tasmania Inc.



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STAT Activities are managed by a small group of volunteers who are happy to provide further information. If you would like to become involved with this dedicated and professional support group of teachers then let us know. Every science educator in the state is most welcome and science needs you!

	<p>Get Social with STAT!</p> <p>STAT is on social media and we'd love members to join us there to help strengthen our online network.</p> <p>STAT facebook group. STAT Twitter account.</p>	
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Contents

This is an interactive Contents page – click the page number to go straight there!

STAT COUNCIL MEMBERS	2
CONTENTS	3
SCIENCE WEEK 2017: FUTURE EARTH	3
FROM THE EDITOR	4
2017 STATIC THEMES AND DATES	4
STOP PRESS – TEACHER EXCHANGE JAPAN	4
CONASTA SPECIAL – HOBART IN JULY 2017	6
HAVE YOU REGISTERED FOR CONASTA??	7
WILL YOU BE ON FIRE IN JULY 2017?	8
CONASTA WORKSHOP HIGHLIGHTS	9
ROBOCUP JUNIOR – ROBOTICS COMPETITION FOR ALL AGES	10
NEW COURSE: B. EDUCATION (SCIENCE AND MATHEMATICS)	11
YOUNG TASSIE SCIENTISTS – WATCH THIS SPACE!	11
CONOCOPHILLIPS SCIENCE EXPERIENCE	12
FESTIVAL OF BRIGHT IDEAS – DATE SAVER	12
FUTURES ENGINEERING HOBART & LAUNCESTON	13
TASMANIAN SCIENCE TALENT SEARCH – 2017	14
UTAS - SCIENCE INVESTIGATION AWARDS 2017	15

Science Week 2017: Future Earth

National Science Week has released the [schools' theme for 12-20 August 2017: Future Earth](#).

"[Future Earth](#) launched in 2015 and is a major 10-year international initiative to advance global sustainability science. Future Earth's 2025 vision addresses eight key challenges to global sustainability."



From the Editor

There's been a lot going on in STAT lately – from the AGM held in April to the ongoing work of the band of CONASTA organisers getting ready for Hobart to host the science teachers' national conference. The TSTS crew is also getting everyone ready for this year's technology challenge, and other activities.

Further afield Science Week and all the many festivities associated are being prepared and readied around the state, from Festival of Bright Ideas in the south, Tastrofest in the North and Science Open Season in Launceston.

This edition of STATIC hasn't really managed to come out in the planned theme of Science and Art in Hobart, but here are all the stories and news that have been sent in. And there will be heaps of science and art in Hobart at CONASTA in July.

Joee.

STATIC Editor 2017.

editorstatic@gmail.com

2017 STATIC Themes and Dates

10 July 2017	1 August 2017	Science Week: Future Earth What's happening around Tasmania for Science Week? A run down of events and happenings of interest to teachers and students. Also showcasing how teachers will be celebrating in their schools and providing ideas for how to bring the theme into the classroom.
9 October 2017	1 November 2017	CONASTA 2017 Review Findings, photos and all the fun from CONASTA in Hobart. If you're heading to Hobart for CONASTA take photos and review your favourite workshops and send them in!

STOP PRESS – Teacher Exchange Japan

Applications for the 2017 Science Teacher Exchange to Japan NOW OPEN - Looking for an intercultural opportunity to extend your science teaching?

In October, ASTA will be taking a delegation of up to eight Australian science teachers (primary or secondary) to JAPAN.

Absorb the rich culture, improve your intercultural understanding and forge new professional connections with organisations and individuals.

<http://asta.edu.au/programs/asta-japan>

The Art of Science: Baudin's Voyages 1800-1804

After an outstanding reception at the Queen Victoria Museum and Art Gallery (Launceston) and now at the Tasmanian Museum and Art Gallery (TMAG) is an exhibition showcasing stunning original sketches and paintings created during French explorer Nicolas Baudin's voyages around Australia and Tasmania in the early nineteenth century.

The Art of Science: Baudin's Voyages 1800-1804 features work by the artists Charles-Alexandre Lesueur and Nicolas-Martin Petit, who travelled with Baudin and a contingent of scientists from Le Havre on the famous expedition.

The exhibition brings a wonderful collection of the original paintings and drawings from the Museum of Natural History in Le Havre to Hobart audiences for the first time.

The Art of Science opens in the TMAG Argyle Galleries 1-3 on Friday 7 April, and continues until Sunday 9 July 2017. To find out more, visit

http://www.tmag.tas.gov.au/whats_on/exhibitions/current_upcoming/2015/the_art_of_science_baudins_voyagers_1800_1804



Image details:
Charles-Alexandre
Lesueur (1778 - 1846)

Short-beaked echidna
(*Tachyglossus aculeatus*)

watercolour on vellum

Collection: Museum
d'histoire naturelle, Le
Havre

Tasmanian Museum and Art Gallery (TMAG) Tour

TMAG is offering CONASTA delegates a free 1 hour guided tour of *The Art of Science: Baudin's Voyagers 1800-1804*. The exhibition showcases original sketches and paintings created by Nicolas Baudin's artists Charles-Alexandre Lesueur and Nicolas-Martin Petit during the voyage of 1800-1804 and fits the 2017 CONASTA theme perfectly.

Free

CONASTA Special – Hobart in July 2017

Save over
\$100
by registering
before 31 May

HOBART 9-12 JULY 2017

the art of science **CONASTA 66**

**REGISTRATIONS
OPEN NOW**

**AUSTRALIA'S MAJOR
SCIENCE EDUCATION EVENT
COMES TO HOBART**

HEAR FROM a world-class
array of keynote presenters

ATTEND a selection
of workshops,
discussion panels, and
post-conference tours

NETWORK with other
like-minded educators at
a variety of social events.

CONASTA.EDU.AU

Have you registered for CONASTA??

Conference of the Australian Science Teachers Association

CONASTA.edu.au

Why attend CONASTA?

In July 2017, CONASTA will be held in Hobart, at Wrest Point and the University of Tasmania Sandy Bay campus. Tasmania only hosts CONASTA about once every 8 years. This is a great opportunity for you to attend without interstate travel costs.

Attending a national science teacher's conference is an opportunity to:

- Hear about cutting edge science.
- Gather ideas for classroom science teaching.
- View the latest science equipment and texts.
- Network with like minded teachers from across the state and country.

Visit the above website for full details, but in brief:

6-8 July – TESEP preconference geology excursion to the Strathgordon area.

8-9 July – Last opportunity to view The Art of Science exhibit of Baudin's work at TMAG.

Welcome function at MONA

10-12 July – CONASTA speaker and workshop program with associated trade exhibit area.

13 July onwards – Post conference excursions.

- Telescopes, tastings and more - a day in the Coal Valley
- Botanic Printmaking
- Styx Valley of the Giants
- Bedlam Walls Tour
- Rock till you drop - A day of geological adventures
- Discover Maria Island (3 day tour)

Will you be on FIRE in July 2017?

CONASTA 66 PRE-CONFERENCE EXCURSION

Fire Ice Rock Excursion



Join the *Teacher Earth Science Education Programme (TESEP)* for a journey into the geological heart of Tasmania to experience **FIRE** from 6th July through to 8th July, 2017.

TESEP is offering conference delegates the opportunity to attend a pre-CONASTA geological excursion into South West Tasmania to view intensely folded Proterozoic rocks, early - middle Paleozoic shallow marine and carbonate sequences, late Paleozoic glaciomarine fossiliferous sediments and hydrocarbon bearing rocks. See the famous Jurassic dolerite sheets and Paleogene basalts.

All this and more in the magnificent South West National Park within the Tasmanian Wilderness World Heritage Area. See the mighty Gordon Dam and the man-made lakes Pedder and Gordon. Get up close with glacial deposits, view stunning glaciated landscapes and become acquainted with the geologically recent active fault scarp at Lake Edgar. Estimated cost will be in the order of \$400 - \$500.

There will be a maximum of ten participants and a place will be secured by the first ten people forwarding a deposit of \$100 by 31st March, 2017. Please note all payments for this excursion will **NOT** be through the CONASTA 66 website. Please email Philip Sansom at TAS_coord@tesep.org.au to register your interest and to be forwarded further information including bank account details for lodgement of payments.

About the provider: The Teacher Earth Science Education Programme www.tesep.org.au provides a range of professional development workshops in Earth Science for teachers across most Australian states, develops educational resources for teachers and students, and leads field excursions to enhance the ability of teachers to provide hands on and engaging experiences for their students

CONASTA Workshop Highlights

Pssst Thinking about registering for CONASTA 66 in Hobart but not sure what is going on and what workshops will be offered. Well here is a brief indication of just some of the highlights.

First some general information for those who have not been before. The main portion of CONASTA is on for three full days – 9 to 12 July. There are also some preconference entrée activities on Friday, and Saturday (6 & 7 July) and post conference excursions after, but the main feast starts with the Welcome function on Sunday evening 9 July, followed by workshops and keynotes on Monday through Wednesday. We have workshop presenters from around Australia including a goodly number from Tas. There is even someone visiting from the U.S. We have practical sessions, and hands-on workshops if you like to interact or, if you like to listen and learn, there are seminars. There will be workshops for early childhood through to senior secondary and pre-service teachers as well as laboratory managers. Of course, you can choose from whatever you are interested in, even if it is “outside” your work area.

The theme of the conference is The Art of Science so let’s start with a few of these workshops. Many of the themed offerings are happening on Tuesday (but not all). This is just one which caught my eye from Monday; *The Spark - igniting new Science learning in students using Dance and The Arts for engagement*. Then on Tuesday there is a wonderful array of Art and Science related presentations. Well known educators Professor Russel Tytler and Professor Vaughan Prain combine with associates to present *Linking Science and the Arts in Secondary Schools*. Dr Sven Kratz is presenting *Critical Connections: Art and Design in STEM Education*. For something totally different there is also *Poet as Scientist; Scientist as Poet*, or *A 21st century Mona Lisa in your Science classroom? Why not? 10 embedded STEAM paradigms for science classes*. This is not the end, there are more so have a look at the program list to find them if these are your interest.

There are of course more traditional Science offerings, for example, well known Tassie adventurer Andrew Hughes will present *The Treehouse Challenge and other adventure learning ideas for classrooms* or this one sounded like fun *Inspiring Inquiry - Pasta car to OneCar*. There is some serious Biology *Agarose Gel Electrophoresis - Dye, DNA and Protein Separation* and Physics *Dissection for a Physics Class - Microwave Ovens* and don’t think that Earth Science or Chemistry have missed out – there are offerings in these areas as well. Want a few more?: Jenny Dudgeon and Chris Haas will use *The potential of a pumpkin* to explore *learning opportunities for participants to discuss and expand their ideas about the pedagogy of science and sustainability in the early years*. This one also caught my eye *Making with MakeyMakey for high school students*. And it would not be CONASTA without a space related workshop - *Houston, we have lift off!* from Wendy Shearer who attended the International Space Education Professional Development Program held at NASA and the Johnson Space Centre in Houston, USA last year.

Tuesday afternoon also has a range of half day excursions alongside workshops so register early if you are interested in one of these. I won't give you these details, you will need to look. (Some may have a charge for entrance or transport.)

By the way don't be worried that some days are better than others as each day has an excellent range of workshops. This one sounded Interesting from Wednesday - *Winogradsky 101: an enriching tool for exploration and experimentation in science and art.* Of course, what sounds good to me may not be your cup of tea, but hopefully this will give you a bit of an idea. Enjoy the banquet

Jill Reade
Workshop Convenor

RoboCup Junior – Robotics Competition for all ages

Do you have budding young programmers at your school? Have a cupboard full of Lego robots crying out for attention? Looking for a fun, challenging project for your students?

RoboCup Junior is a fun challenge for students of all ages – students design, build and program a robot to compete in one of three categories on competition day; Dance (robots perform in time to music), Rescue (robots navigate along a winding path to rescue a 'victim'), and Soccer (where students program two robots to compete against an opposing team to move an IR-transmitting ball into their goal). Students prepare their robots and bring them along to compete at the competitions in Hobart (regional comp) and Launceston (State Final).

If you are new to robotics and need some help, or want to learn more about supporting students to enter a particular category, please get in touch to enquire about upcoming workshops. For more information, please check <http://www.robocupjunior.org.au/tas> or contact Bob Elliott (Robotics Tasmania) at rcelliott@yahoo.com

Dates for RoboCupJunior 2017:

- **Saturday 29 July – Southern Regional** competition at New Town High School
- **Saturday 19 August – State Finals** at UTAS Launceston (Newnham campus)
Please note – you do not need to qualify through regionals to enter the state final!
- **Weekend of 23-24 September** – RoboCup Junior Australian Open Championships at the University of Queensland, Brisbane



New Course: B. Education (Science and Mathematics)

Please spread the word to your students and other teachers.

UTAS now offers a BEd (Science and Mathematics). It is a pre-service teaching degree, which prepares students to teach Science and Mathematics from Grade 7 through to Grade 12. This four-year, accredited course incorporates coherent sequences of study in Science and Mathematics disciplines alongside the study of units from the Education discipline. Currently students are able to enrol in a Chemistry, Biology, Physics, or ICT major each with a Mathematics minor.

The course was developed collaboratively by staff from the faculties of Education, Science, Engineering and Technology, and Health Science, the Australian Maritime College (AMC) and Institute of Marine and Antarctic Studies (IMAS), with the aim of developing a coherent program of study across the disciplines. It enables students to develop an understanding of the disciplines of science and mathematics alongside an appreciation of how the nature of these disciplines impact upon the ways in which they are taught and learned.

The new BEd allows flexibility as it is provided through blended delivery, which means that students can choose to take units either fully face-to-face, on campus or online. Some units require hands-on learning and for these units, students will be required to attend a residential school on one of the UTAS campuses in Tasmania.

We are very keen for Science and Mathematics teachers to know about the BEd (Science and Mathematics) so that you can encourage your students to think about enrolling in it. You may know students who have an interest in science or mathematics and in becoming a teacher in secondary schools who would be interested in knowing more about our course: <http://www.utas.edu.au/courses/edu/courses/43m-bachelor-of-education-science-and-mathematics>

Please contact us if you would like more information
Associate Professor Sharon Fraser
Faculty of Education, UTAS
Sharon.fraser@utas.edu.au
+61 3 6324 3083

Young Tassie Scientists – watch this space!

Free school incursions throughout August

Bring young, enthusiastic scientists into your classroom this August to celebrate National Science Week! Our team of early-career researchers give short, interactive presentations suitable for various ages (K-12). No school is too remote – and visits are completely free thanks to support from National Science Week and the University of Tasmania. In a typical visit, 3 or 4 Young Tassie Scientists will be at your school for 60-80 minutes and can speak with up to 4 classes of students. Registrations for free YTS visits will open in June at www.youngtassiescientists.com



ConocoPhillips Science Experience

Launceston, Burnie, Hobart - Hands-on science workshops for grade 9/10 students – 2017 dates announced

The Science Experience is a three-day program of science activities held s for Year 9 and 10 students and hosted by universities across Australia. Students participate in a range of hands-on science and engineering activities held on campus under the guidance of university researchers, and take part in laboratory sessions, fieldwork, tours of facilities, and team challenges.

Upcoming Science Experience program dates at the University of Tasmania:

- Burnie on **29 November - 1 December** 2017
- Launceston on **5-7 December** 2017
- Hobart on **11-13 December** 2017

PLEASE NOTE – these programs are now running at the end of term 4, and not in the summer holidays as in previous years.

Numbers are strictly limited – for now, please register no more than 4 students per school – extra students will be able to register closer to the date if places are available.

For more information about the programs, please see www.bit.ly/scienceexperienceutas or to register a student, please see www.scienceexperience.com.au

Festival of Bright Ideas – Date Saver



Futures Engineering Hobart & Launceston



Do you like working in a team to solve problems?

Do you enjoy studying Maths and Science?

Are you aware of the true impact engineering has on contributing to our community?

If you're in Year 10 or 11 in Tasmania and are interested in seeing what an engineering career actually involves, the 2017 *Futures in Engineering* program is for you.

It provides an authentic engineering experience through an opportunity to interact with engineering professionals and academics across a range of interesting activities and projects.

This full-day program includes:

- Activities and tours of the engineering facilities and labs at Australian Maritime College;
- a fun and interactive group activity hosted by Defence Force Recruiting demonstrating key skills required by engineers;
- opportunities to meet engineers currently working in the industry; and
- a variety of short presentations from industry, Defence Force Recruiting and academics demonstrating what engineering is, what engineers do, how to become an engineer, and where engineering can take you!

Places are strictly limited. To apply for this program, please complete the registration via the link below and tell us in 100 words (or less) on why you want to attend.

SPONSORED BY:



DEFENCE FORCE RECRUITING

SUPPORTED BY:



**UNIVERSITY of
TASMANIA**



DATE & TIME

Thursday 6 July 2017
8:45am – 3:45pm

VENUE

Australian Maritime College (AMC)
Newnham Campus

REGISTER

Dr Diana Nahodil
Engineers Australia
03 6218 1903
dnahodil@engineersaustralia.org.au

RSVP

Applications close 19 May 2017

REGISTER NOW

engineersaustralia.wufoo.com/forms/futures-in-engineering-application/

Hobart details and applications online here: Engineers Australia.

Tasmanian Science Talent Search – 2017

“Future Earth”

What a great theme to work with this year. There are lots of options but you might consider pursuing the following ideas:

- ▶ Deliver water, energy, and or food for all
- ▶ Decarbonise socio-economic systems to stabilise the climate
- ▶ Safeguard the terrestrial, freshwater and marine natural assets underpinning human well-being
- ▶ Build healthy, resilient and productive cities
- ▶ Promote sustainable rural futures
- ▶ Improve human health
- ▶ Encourage sustainable consumption and production patterns
- ▶ Increase social resilience to future threats.



Ideas can be as **simple as recycling** and caring for your local spot to as complex as **Climate Change**.

Depending on the year/s you are responsible for, choosing the topic which best fits with your curriculum obligations. Focus on one aspect and do it well.

Themed sections include Posters, Photographic Essays, Creative Writing and Digital Interactives. Check out the STAT web site www.stat.org.au and go to the TSTS page for details of closing dates and the full booklet of information.

Technology Challenge Professional Learning coming up. This is in the second week in May – watch your emails, and the STAT Web Site for details.

GREAT NEWS: STAT has increased sponsorship, specifically to support students from schools who have not entered in the very recent past. There are some great opportunities here for students to succeed – give them a chance by sharing this opportunity with them. This is particularly important for students in years 7 – 12 but the increase in support means greater chances for everyone.

Would you like to know more about how to get started? Contact the TSTS director, Marj Colvill on marjcol@bigpond.net.au STAT can support you to be involved in a variety of ways so irrespective of location , consider having a go. STAT is looking forward to your students' contributions and Marj would love to hear from you.

UTAS - Science Investigation Awards 2017

The Science Investigation Awards is a competition for students to conduct a science project of their choice using the scientific method.

Students present their projects in a poster and report, which are judged by representatives from science research, industry and education. Prizes are awarded for outstanding investigations, and are supported by business and industry, along with professional and research organisations.

Who Can Enter? The Science Investigation Awards are open to any students in Years 5-12, as individuals or in groups of up to three students. Entry is free and registration is online.

When and Where are the Awards held?

Northern Tasmania: Tuesday 5 September
University of Tasmania, Newnham, Launceston.
North West Tasmania: Thursday 7 September
University of Tasmania, Cradle Coast, Burnie.
Southern Tasmania: Thursday 14 September
University of Tasmania, Sandy Bay, Hobart.



What's Involved?

Students plan and complete a scientific investigation addressing a question of interest. Teachers are encouraged to provide support and direction; other people may be enlisted as scientific mentors. Students are free to choose their own topic and complete their investigation in their own time or at school.

Project posters and reports are presented by the students on the Awards Day. Students speak with judges about their project and their results. These interviews are a valuable part of the judging experience. All our judges volunteer their time each year to be involved in the Science Investigation Awards.

Winning students and their families, teachers and principals, as well as judges and supporters, are invited to attend the Awards Evening, where students are presented with their awards by representatives from research, industry and government. All students receive a Certificate of Participation.

For more information and entry details, see:

www.utas.edu.au/science-investigation-awards

or contact Jeannie-Marie Leroi, Faculty of Science,
Engineering & Technology, University of Tasmania.

Email: JeannieMarie.Leroi@utas.edu.au | Ph: 03 6226 7477

