

ASET · NSW INC



FOR LABBIES · BY LABBIES

# ASET-NSW NEWSLETTER

August 2019

Volume 2, Number 2

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## Links for Articles

- <https://assist.asta.edu.au/>
- <https://wellingtonconstanz.wixsite.com/constanz19>
- <https://earthwatch.org.au>
- <https://ala.org.au>

## Contact Us

<http://www.asetnsw.org.au>

## Editor

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## Chairperson's Report

Welcome to the 3rd edition of the ASET-NSW newsletter, written after CONASTA68 was over.

The focus of the committee has been on planning the NSW conference, and we have been to visit the facilities at UTS.

I took part in workshops at CONASTA68 - Atomic Spectroscopy, Storytelling in Science, Edible Chemistry - where we made ice cream using liquid nitrogen and dry ice (this was done in a hospitality kitchen so we were able to try the 2 different ice creams). Solving plastics problems with NURDLE knowledge, Working Safely with Glassware, Science is for Everyone and Taking your students out of this world with augmented and virtual reality. I brought back many new ideas and resources for our science department.

Conference Breakfast was held at Crocosaurus Cove, where we could get up close with wildlife.

Post conference tour was to The Territory Wildlife Park. We were taken to the flight deck where the birds were introduced and they entertained the audience. At the nocturnal house some of us were taken backstage to feed the sugar gliders – quite an experience. When we visited the Ooloo Sandbar where some of our group fed the freshwater whip rays, and the Aquarium with the knitted reef showing what is killing parts of the reef.

Will I see you at CONSTANZ19?

Margaret Croucher

## Current Elected Committee Members

Margaret Croucher

*Chairperson, Public Officer*

Loretta Fincato

*Vice-Chairperson, Newsletter Editor*

Julie Ryan

*Secretary*

Laurence Wooding

*Publicity Officer, IT Manager*

Annett Stanley

*Membership Secretary, Treasurer*

Tracey King

*Committee Member*

## Secretary's Report

We have had two sponsors come on board, and thank both Fizzics Ed and Bob Death for their support.

Our Booragul conference went well – a lot of information for a one day seminar. Hoping to extend our next to two days in the future.

Julie Ryan

## Publicity Officer's Report

Our Facebook page is active but the ASET-NSW Facebook Group has now been archived.

Let your principal know that #STARweek is up and running so that your school community can show their thanks. Hopefully this will be taken up and supported by Australian schools. Every one who has an address in our membership database should have received a #STARweek sticker. You should log in to your ASET-NSW account to check if your details have been updated. We have members without contacts and we have seen out emails reminding you to check.

Laurence Wooding



## ASET-NSW Training Conference

The committee has been to visit the new venue for this year's conference. University of Technology at Ultimo has great facilities on site including wet labs and cafes. Central train station is close, and there are hotels and youth hostels for accommodation.

We have a wonderful line up of presenters who can provide us with relevant training, and a keynote speaker that relates to this year's science week theme of Destination Space. See our website for registration.

## Calendar of Events

11 February	International Day of Women & Girls in Science
03 March	Clean Up Australia Day
30 March	Earth Hour
12 April	International Day of Human Space Flight
07-10 July	CONASTA – Darwin Early bird registration closes 31 <sup>st</sup> May
30 July	Australian National Chemistry Quiz
6 August	Astronomy at The Calyx, Royal Botanical Gardens, Sydney
07 August	Australian Science Olympiads Chemistry
10 August	Super Science Saturday, Hyde Park South, Sydney
11 August	Science in the Wild – Dinosaurs vs Superpowers, ABG, Mt Annan
12 August	Science Talks at Warringah Mall Library
14 August	Science Talks at Manly Library
18 August	Science in the Swamp – Dinosaurs vs Superpowers, Centennial Park The Innovation Games – Sydney Olympic Park
10-18 August	Riverina Science Festival – Wagga Wagga, NSW
11-19 August	National Science Week
<b>19-23 August</b>	<b>#STARweek</b>
09-10 September	ASET-NSW Conference 2019 – UTS Campus, Sydney
08-10 October	ConSTANZ19 – Wellington, NZ (registration open Feb 19) Early bird registration closes 31 <sup>st</sup> July
22-28 October	Aussie Backyard Bird Count
12-18 November	National Recycling Week
05-8 July 2020	CONASTA69 – Canberra, ACT

If you have any interesting science stories, photos, hints, tips or freebie suggestions, and they haven't been published on other forums, please send me an email so I can publish in the next edition of the newsletter. Please put NEWSLETTER in the subject time.

fincatol@stmarks.nsw.edu.au

## SUPPLIER SUGGESTION

Science supplies from Bunnings are easy to obtain if the school opens a trade account. Discounts will apply & delivery will sometimes be free if you make an agreement with an individual store. Stock availability can be ascertained by using the store locator function on their website. Bunnings do not transfer stock between stores, but will order it for you. Once you have a purchase order, you can scan it & forward to the trade desk email account. If you want to collect goods, staff will pick for you & let you know when it is ready for collection. For sale are hydrochloric acid 32%, kerosene, distilled water, fertiliser & methylated spirits. Outdoor meters, thermometers, soil pH test kits, tubing, plants & storage solutions. The little Brickor stackable trays can be used for small quantities of practical ingredients or bottles.



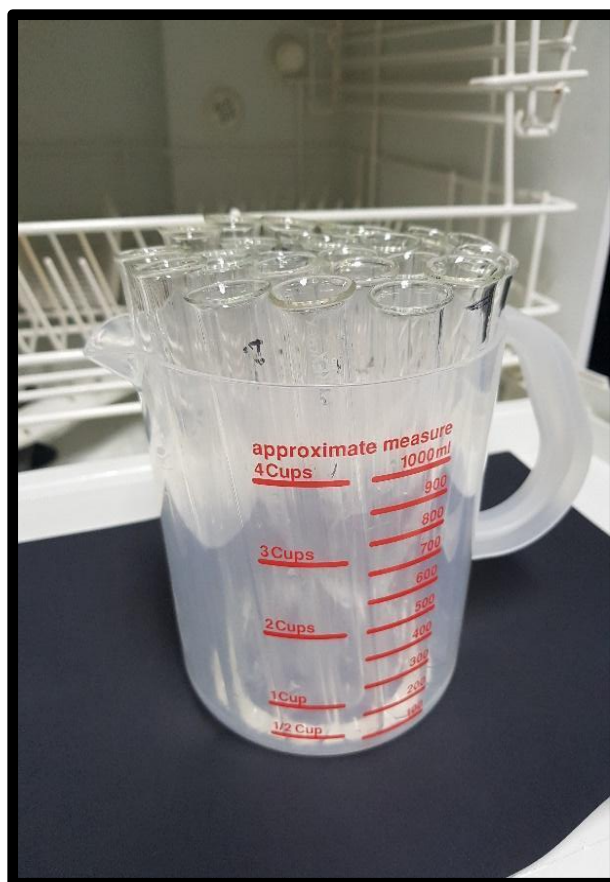
## TEST TUBE STORAGE

Straight edged jugs like the Décor brand are good for storing test tubes upright. About 20 will fit and when you need to rinse or soak multiple test tubes, it can reduce handling as the whole jug can be run under a tap.

Don't let the students place full test tubes containing lead or copper waste upside down. That allows chemicals to contaminate the plastic. If you get around 10 to 20 of these jugs, they will fit onto a shelf for storage, and they are great for packing up after a practical, as they can be safely carried by the handle, straight to the glasswasher.

To fill a jug up with test tubes, place the jug on its side and the handle will stop it rolling around. Then stack the tubes from the bottom until the opening is full.

This type of jug is also good for disinfecting slides and storing forceps.



## Freebies

Students looking for relevant environmental projects can help the Earthwatch Institute collect & share data by observing nature. There are self-guided tours and project sheets on the websites. Check out:-

[Earthwatch.org.au](http://Earthwatch.org.au)

[Climatewatch.org.au](http://Climatewatch.org.au)

[Atlas Of Living Australia – ala.org.au](http://Atlas Of Living Australia – ala.org.au)



**CONASTA68**  
**Darwin High School,**  
**Bullocky Point, Northern Territory**  
**7 – 10 July 2019**

### A “Top End” Experience by Loretta Fincato

I was excited to leave wintry NSW and head to Darwin and its warmer climate. The program contained several seminars relevant for lab techs, and it is always interesting to see the set up in other high schools. This high school had its own science block with very large spacious rooms.

Sunday’s program began with a welcome function and then delegates walked to Mindil Beach night markets to watch the sun set.

The school’s gymnasium was built inside a very large concrete water tank, and is known as “The Tank.” The exhibitors and catering were in the undercover playing field. There was a chill out zone and the occasional free ice cream and massage provided by a sponsor.

Monday’s keynote speaker was Dr Alan Andersen who is an ant specialist. He studies the ecology of ant communities and uses them as a bioindicator. Aussie ants love dry or arid regions even those affected by fire. There so many ants here (in the top ten for biomass) that sometimes DNA testing is required to determine new species. *Iridomyrmex* is the most diverse species and one of the more numerous.

Tuesday’s speaker was Dr Graeme Sawyer who is an environmental education specialist and winner of the Serventy Conservation Award. He enthralled us with tales of his early teaching and research career in NT remote communities. His work can be found in *Questacon* and on [www.biodiversitywatch.org](http://www.biodiversitywatch.org). He explained how integrating the natural world into science learning can engage students and deliver powerful messages.

Also speaking was Professor Lyn Beazly who was the first female Chief Scientist appointed in Western Australia. She explained some of the outreach and STEM programs that are preparing students for a fast-changing world. Recommended was the Sonic Boom Little Scientists Educator Conference in Sydney on 21-22 August for primary teachers. Mrs Beazly recommended the following activities that can stimulate engagement in science at school level.



1. Set up a beehive.
2. Millennium Kids – Green Lab bush restoration
3. Conversation of local animal species with a university partner.
4. Monitor and protect local biodiversity.
5. Sponsor and experience local science research.
6. Promote agricultural science degrees. Australia only has 500 graduates a year but needs 2000 per year.
7. Promote Geoscience – see Suzy Urbanizck.
8. Institute a low carbon school program or carbon neutral exercise.
9. Microscopes in Schools via Rotary International.
10. Astronomy – Fireballs in the Sky program
11. A school laboratory technician for every school – one hour teaching = 0.6 technician support.



**Prof Lyn Beazly with laboratory technicians from around Australia**

CSIRO sponsored a panel on Wednesday which brought together experts in Learning on Country. Aboriginal communities and schools are working on Two-Way Science programs. Teaching is done in the student's first language if some concepts haven't been translated into English. Communities are asked what they want VET to teach their kids. Facilitators co-ordinate between rangers and educators. High demand for conservation land management skills and ranger jobs. Engaging students improves literacy and numeracy skills. Outdoor lessons and native language is taught by elders so that science is explained in the context of cultural history. They may explore an area throughout the seasons, and track flora/fauna. This also has the advantage of teaching kids how to survive in their country.

Two-Way Science reconnects young adults back to culture especially if they have been absent from country. Teaching is done by rangers, elders, visitors and trainees. Great videos can be found on ACARA website. Look under elder culture or Areyonga School.

Dr Ian Morris is a biologist, educator and conservationist. He began his teaching career in Arnhem Land in 1971 and he spoke about what he learned whilst teaching and living in remote communities. All the classes were multilingual with up to 18 dialects being spoken in Arnhem Land. You would learn your father's language first, then your mother's. You belonged to your father's clan and your spirit country was your mother's. Clan totems were protected in the environment. Weather and food calendars provided botanical clues to know when to hunt a food source at its peak harvest season time. The locals had an empathy with their food. He recommended that we read "Dark Emu" by Bruce Pasco.



**Stile Trivia Night**



**Welcome to Country**



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- ✓ Full risk assessments
- ✓ Easy to arrange
- ✓ Small groups or whole school

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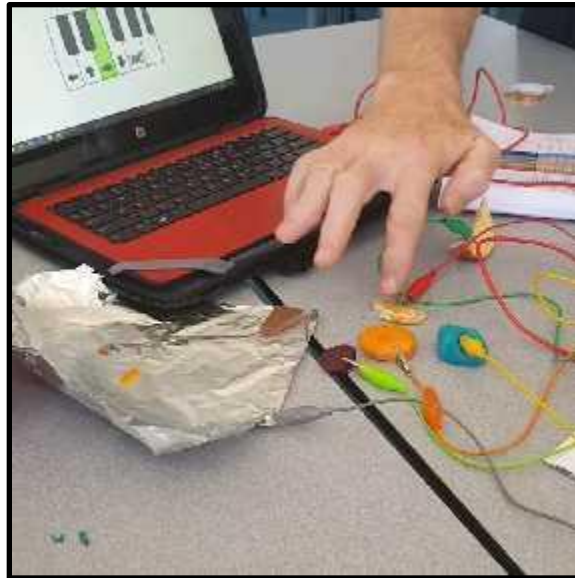
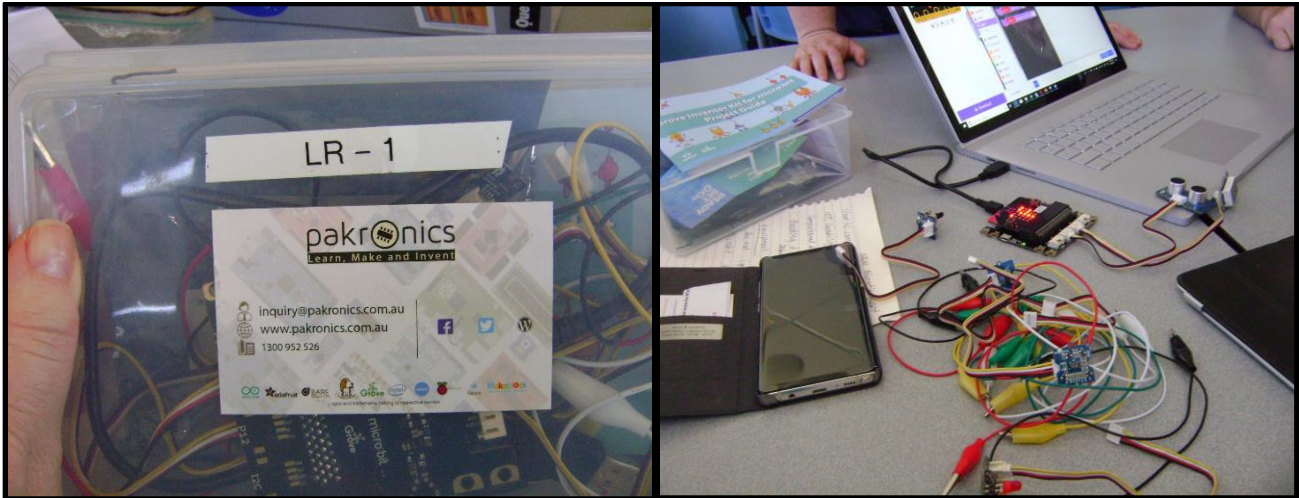
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## STEM Resources – e-Pads in the Classroom

The NSW Education Department provides STEM training for public schools & the workshop at Conasta68 was all about bringing technology & coding into the science lab. There are training officers available to travel to schools for workshops. Here are some of the concepts, programs & equipment that were recommended. Some of the apps are free and most of the equipment could be bought in kit form on-line. Most require a e-pad or laptop.

- Stem4L.com
- Box mats (grid mats for robots like Spheros)
- Microbit – works on batteries and can be used instead of expensive dataloggers for outdoor projects
- Makey Makey – datalogger devices & useful to apply coding as well
- Tynker
- Tinker CAD – great for designing some thing like a Rube Goldberg machine
- School Cam
- Co Spaces EDU
- Photo Math
- Playground Physics
- Australian Computing Academy – Biology 5-week coding course
- Office Lens – take photo, turn into PDF & then write your notes on top
- Google Expeditions – augmented reality
- Google Router (home) – virtual reality
- Insight Heart – 3D biology tool
- TouchCast Studio – would require lapel mikes to create videos
- Free Rivers – WWF program that demonstrates the effect of dam building
- Jig Space – virtual workshop
- Coder Dojo – popular coding app already used in many schools
- ACS – Australian Computer Society
- RiAus Education





**Microbit & Makey Makey Kits - just add your imagination.**

## **BOB'S INSTRUMENT SERVICE**

Bob's Instrument Service specialises in the service and repair of school science lab equipment including microscopes, balances, power supplies, panel meters and other equipment throughout NSW and ACT.

Please feel free to contact Bob Death on 0416 721 011 or [bobsinstruments@gmail.com](mailto:bobsinstruments@gmail.com) to discuss your school's needs.