

August 2016 SASTA

Newsletter of the South Australian Science Teachers Association Inc.



Conferences/Events

Term 3 PD/conferences and science activities are now published. Please see pages 9 for details or visit the SASTA website www.sasta.asn.au.

Oliphant Science Awards

For the latest information concerning judging, Open Day (including science demonstrations and come and try activities) and other key dates, please see pages 4 & 5 or visit our website at www.oliphantscienceawards.com.au

SASTA Trial Exams

Biology, Chemistry, Nutrition, Physics and Psychology Trial Exams can now be purchased and downloaded immediately online at www.sasta.asn.au

Payment by credit card will provide you with a link to download the product immediately. If you select bank transfer or cheque as the payment option you will receive a link by email to download the product once payment has been received.



Latest Events

For the latest events and Conference information go to SASTA's website: www.sasta.asn.au

For information about science competitions go to: www.oliphantscienceawards.com.au

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Early Career Teachers Conference

Friday 14 October

Venue: Immanuel College, Morphett Rd, Novar Gardens.

See page 6 & 7 for program and check the SASTA website for updates

Call for Presenters: STEM Middle School Conference

Friday 25 November

Submit your abstract on the SASTA website from 31 August – 30 September.



SASTA is on Facebook go to www.sasta.asn.au



SASTA is on Twitter go to www.sasta.asn.au

South Australian Science Teachers Association Inc.

Patron: Dr Leanna Read ABN 22 938 317 192

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Member of Australian Science Teachers Association (ASTA)

Supporting teachers of science • Advancing science education





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Newsletter copy deadlines 2016

(Advertising deadlines one week earlier)

Edition	Deadline
February	11 January
May	11 April
August	11 July
November	10 October

Advertising

Advertising rates & booking form online at www.sasta.asn.au

Views expressed in this newsletter are not necessarily those of SASTA or the editors. Whilst every effort is made to be factual, no liability is accepted for the accuracy of information presented.

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Adhering to the following guidelines would be appreciated:

Save as a Microsoft Word document

Tables to be set up as text with one tab between columns and a return at the end of each row.

For spelling please use the Macquarie Dictionary and where several alternative spellings are listed, use the first. The exception to this is when you are citing, referencing or quoting directly from a source which uses alternative spelling. Photographs should be high quality untouched digital photographs.

From the SASTA Journal Editor



I recently attended the 65th National Conference of the Australian Science Teachers Association, CONASTA65, in Brisbane. The event was held at Somerville House – Brisbane High School for Girls – in South Brisbane.

Due to the CONASTA event clashing with the last week of school here in South Australia, only about 25 from this State attended.

The theme for CONASTA65 was “Superheroes of Science – Unmask Your Potential.”

The two main keynote speakers were excellent.

Professor Neal Menzies, Head, School of Agriculture and Food Sciences, The University of Queensland, explored some of the most pressing environmental issues from our agricultural land use, with particular attention paid to humanity’s addiction to nitrogen fertiliser.

Dr Brad Tucker, Astrophysicist/Cosmologist, and Research Fellow, Mount Stromlo Observatory, spoke upon his current projects

which are trying to discover the true nature of dark energy, the mysterious substance causing the accelerating expansion of the Universe. He also showed how their understanding of these objects has been revolutionised using new techniques included the Kepler Space Telescope and the Hubble Space Telescope.

The Stanhope Oration featured Dr Alan Finkel, Australia’s Chief Scientist.

Of special note to the South Australian Science Teachers community was the awarding of ASTA Honorary Life Membership to Dr Jane Wright. We congratulate Jane on her Award.

The Conference was very well attended with a wide range of workshops on offer as well as a comprehensive array of trade exhibitors on display.

Next year’s CONASTA66 will be held in Hobart, 9-12 July 2017. It will be based at Wrest Point Casino and the nearby University of Tasmania. CONASTA66’s theme is “The Art of Science”.

I hope to see you there.

John Glistak



Somerville House



ASTA President, Anne Disney, with Dr Jane Wright

Exam Prep Seminars for SACE Stage 2 Students

To be held at The University of Adelaide, Napier Building, Lower Ground Floor

Registration fee \$15 (incl.GST) per student. Register online at www.sasta.asn.au For teachers registering a class, please fax a list of participant names with school purchase order number and the school will be invoiced accordingly at \$15 per student. Teachers accompanying a class are free.

Biology

Saturday 3 September 2:30 pm – 5:00 pm

Physics and Psychology

Saturday 10 September 2:30 pm – 5:00 pm

Chemistry

Saturday 17 September 2:30 pm – 5:00 pm



The Oliphant Science Awards this year!

Project and School Coordinator Registrations are now closed for the 2016 competition, after a huge response from almost 100 South Australian Schools, registering almost 2,200 projects!

With such a large number of projects registered we are thankful for all our volunteers who have registered to help judge and run this year's event.

But we are still looking for more volunteers to assist us, especially at this year's Open Day (28 August).

If you are interested please head to our website to find out more and register as a volunteer for 2016: www.oliphantscienceawards.com.au/get_involved/volunteers

If you would like to join our judging team for the Oliphant Science Awards 2017 please register your interest online: www.oliphantscienceawards.com.au/get_involved/judging

Reminder of Key Dates for Coordinators

Monday 25 - Friday 29 July – Delivery Week for Games, Multimedia, Science Writing & Scientific Inquiry entries at SASTA Office (*Only between 9am-4:45pm*). Unfortunately no late entries will be accepted, as our judges have limited time this year to review all projects.

Saturday 13 August - Computer Programming & Robotics Judging Day (time by appointment only) – Coordinators please make sure that your students are aware that they need to call the SASTA office on 8354 0006 by Tuesday 9 August to make a time as appointment times are limited!

Friday 26 August - Crystal Investigation, Models & Inventions, Photography & Poster entries to be delivered to Festival Functions (292 Findon Road, Findon) between 9am – 5pm

Monday 29 August – *All Projects (Winning and Non-winning entries)* to be collected from Festival Functions (9am-5pm) – coordinators please ensure that you contact SASTA if you are going to send a courier to collect your projects, as SASTA will dispose of any uncollected projects after 5pm!

A screenshot of the SASTA Oliphant Science Awards website. The header includes the logo and navigation links: Home, Contact Us, Coordinator Login, About, Event Info, Participant Info, Get Involved, Register. A main banner reads 'Great Opportunities for learning through SCIENCE' with an image of children in a science lab. To the right is a 'Upcoming Key Dates' section with three entries: JUL 29 (Offline Projects Due at SASTA), AUG 13 (Computer Programming & Robotics Judging Day), and AUG 26 (Onsite Projects Due at Festival Functions, Findon). Below are three columns of text: 'Register as a coordinator', 'Student information', and 'Judge Registrations'. The 'Register as a coordinator' section mentions the 2016 theme is 'Drones, Droids and Robots'.





Open Day 2016

Come to see, learn and immerse the whole family in science this year at South Australia's largest student science Competition – The Oliphant Science Awards Open Day!

This event is open to the general public on Sunday 28 August from 12 - 4pm at Festival Functions (292 Findon Road, Findon). Entry gold coin donation.

All the 2016 Oliphant Science Awards Prize Winning Projects will be on display. There will also be a range of Come and Try science activities, a selection of food to purchase and a number of engaging science shows on our two stages to watch the fun and magic of science in action! Invite your family, friends, colleagues and students to attend this event!

Science presentations throughout the day will include:

- Bugs n Slugs
- Mobile Science Education
- Nature Education Centre
- Kids Navigate Neuroscience Workshop by The University of Adelaide
- Roboroos – Student Robotics Club of South Australia

Full Open Day Program and more information will be available soon via our website – www.oliphantscienceawards.com.au



MON 15 AUG – MON 22 AUG

The dates have been set and registrations are open!

**The 2016 Education Perfect/ASTA Science Championships
15 – 22 August 2016**

Register [here](#) with the Partner Code **SASTA** to be entered in the extended prize pool!

Learn, Compete, Win. Let the Championships begin!

SASTA Early Career Teachers Conference



Friday 14th October 2016

8.30am - 4.30pm, Immanuel College

Are you new to teaching Science or in the first 5 years of your career?

If so then this conference is a great opportunity for you to be involved in **interactive and fun learning activities** as well as **gather resources** that will enrich and inform your science teaching.

The Program includes specialized workshops for **both Primary and Secondary Teachers.**

National Professional Standards for Teachers:

Teachers will receive a certificate of attendance that details the hours of professional learning and Standard 2 Focus Areas 2.1 and 2.2, Standard 3 Focus Area 3.2, Standard 6 Focus Area 6.2 and Standard 7 Focus Area 7.4

The workshops will focus on:

- **The Australian Curriculum: Science**
- **Engaging with Pedagogy**
- **Creative Classroom Strategies**
- **Using ICT**
- **Resources to Enhance Learning**

This hands-on interactive professional learning day will cater specifically for each level of schooling.

Morning Tea and lunch will be provided and there will also be a chance to network with other teachers and the presenters at the **HAPPY HOUR!!!**

8.30 am	Registrations			
8.45 am	Opening and Welcome			
9.00-10.10 am Session 1	S101 Measurement in science, what's the big idea in the primary years Adrian Dilger Catholic Education SA	S102 Differentiation in Middle School Science Lara Lang Science Coordinator, Cabra Dominican College	S103 Integrating Maths and science in cell biology Ann Ruckert MASA Professional Officer	S104 Concept mapping for rapid development of essays and PowerPoints Paul Gavini Marryatville High School
Year level Focus	Primary Years	Middle Years		Secondary
10.10 am	MORNING TEA			
10.30-11.40 am Session 2	S201 Fun with block coding Sue Gaardboe Edwardstown Primary School	S202 Medieval Madness: integrated curriculum in a multi-age classroom Alex Fowler and Karina Darling Woomera Area School	S203 Stage 1 Science subjects – Implementation in 2017 Lois Ey Senior SACE Officer Curriculum, SACE Board of South Australia	
Year level Focus	Primary Years	Middle Years		Secondary
11.45–12.55 pm Session 3	S301 A STEM based approach to investigating in science Kate Dilger SASTA Project Officer	S302 Inquiry design in Middle School Science Lara Lang Science Coordinator, Cabra Dominican College	S303 Motion and image analysis in Physics Paul Gavini Marryatville High School	
Year level Focus	Primary Years	Middle Years		Secondary
1.00 pm	LUNCH			
1.30–2.40 pm Session 4	S401 Digital technologies that enhance learning TBA	S402 Helpful science resources for new teachers Bruce Baker SASTA	S403 Active Learning with iPhones Sivam Krish PhoneLabs	S404 Conducting and implementing Lab work Priya Ghosal
Year level Focus	Primary Years	Middle Years	Secondary	Secondary
2.45–3.55 pm Session 5	S501 TBA	S502 All you need to know as an early career teacher about the Australian Professional Standards for Teachers Belinda Radcliffe Program Manager Teacher Certification, DECD	S503 Chemistry practicals for years 8-10 Rhys Lewis Adelaide High School	
Year level Focus	Primary Years	All		Secondary
4.00 pm	CLOSE AND HAPPY HOUR			



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WWW.GAPMEDICS.COM.AU

Term 3 2016 Teacher Professional Learning

The workshops provided through SASTA will **provide practical strategies and resources to support teachers** in the development of teaching and learning programs that embed science Inquiry Skills and provide clear opportunities for reflection and recording of student achievement.

For Primary Years Teachers:

Year 7 Science Series: Physical Sciences

Date: Friday 19th August, 9.00am-3.00pm

This workshop will support teachers to further develop their current understanding of the Science Understanding Strand: Physical Sciences.

The workshop aims to build teacher knowledge and conceptual understandings while participants are actively engaged in science investigations using the Science Inquiry Skills. The workshop will use an inquiry approach to the learning of science, providing teachers with the confidence and resources to implement the requirements of the Australian Curriculum in their classrooms.

Structure of Workshops

- **Big Science Ideas** – mapping of the concepts explored in the sub strand, what is your part in the story?
- **Building Understanding** – hands- on investigations that allow participants to explore the concepts and build understanding using explicit and modelled pedagogy.
- **Resource Development** – opportunity to explore a range of quality resources.

Who should attend: Year 6/7 teachers or specialist science teachers

For Secondary/Middle school teachers:

Investigating Earth and Space Sciences: Years 8-10

Date: Friday 9th September, 9.00am-3.00pm

How do I teach Earth and Space Science? What activities can I do? Where can I find relevant and engaging activities and resources? This program will allow you to answer these questions and more.

This is the third in a series of workshops for secondary science teachers that aims to give teachers the opportunity to expand their subject knowledge and gather new ideas about how to teach some of the more difficult concepts in this Sub Strand of the Australian Curriculum: Science.

The workshop aims to give teachers the opportunity to:

- Gain in-depth knowledge of the Earth and Space Sciences sub strand
- Learn instructional tips and techniques
- Perform some investigations and classroom activities
- Build resources
- Share best practice with colleagues

Who should attend: Secondary/Middle school teachers

Time

All Workshops run from 9.00am–3.00pm

Venue

Education Development Centre, Hindmarsh

Registration Fees

- **Personal Members \$130**
- **Corporate Members \$165**
- **Non-members \$190**

Program details and registration available online at – http://www.sasta.asn.au/professional_learning

Morning tea and lunch will be provided

Introduction to New SACE Stage 1 Physics

Date: Thursday 18 August, 4:30 pm – 7:30 pm

Venue: SACE Board of SA 60 Greenhill Rd. Wayville

Registration Fees: Personal Members \$66, Corporate Members \$88, Non-members \$99

Presenters: Dr Paula Mills and Michael Smith

The new Stage 1 Physics course will be discussed for implementation in 2017. The presenters will offer advice on structuring a program for the course and assessment design. Exemplars of assessments and programs will be provided for discussion.

The evening will also have a focus on Nuclear Models and Radioactivity as a new Stage 1 topic and the Science as a Human Endeavour assessment.

Intended audience: new and experienced Physics teachers

Key Topics

- Program Design
- Assessments
- New Content for Stage 1

Professional Standards Referenced:

- Standard 2: Focus Areas 2.1, 2.2 and 2.3
- Standard 3: Focus Areas 3.1 and 3.2

Register online at www.sasta.asn.au

NB New SACE Stage 1 Biology and Chemistry workshops have been booked out but further workshops are currently being scheduled. Please see website for details.

The SASTA Biology Practical e-manual

All of the contents for the popular Biology Practical Manual now available as .docx and .pdf files on CD.

STAGE 2 BIOLOGY
Practical e-manual
DIGITAL

Key Features

- The Print edition of the current Manual will still be available as usual
- Two 'Completion' type and Two 'Design' type Practicals are provided for each of the Four major Topics
- Assessment tables that can be used to meet SACE requirements according to Performance Standards
- An annotated exemplar Practical report
- A sample Exam-style Practical Question with suggested answer
- Comprehensive Teaching Notes for all Practicals for Staff information
- The annual School Site Licence fee will depend on the size of the school and will be about half the cost of the paper version

Visit the SASTA website for pricing and sample .docx/.pdf files – freely available to download and trial in your school.

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- ★ Highlights the Science Inquiry Skills
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SASTA study guides (approx. 200 pages) are the complete resource for students preparing for Year 12 SACE Board of SA exams.

These guides include questions with worked solutions covering each topic in the Subject Outline and address all sections of the exam.

Please fax school purchase order to 8354 0008 or order online at www.sasta.asn.au

Inquiries concerning resources can be answered by the SASTA office by telephoning 8354 0006 or email office@sasta.asn.au



Supporting Teachers of Science
Advancing Science Education

www.sasta.asn.au

SACE Stage 2 Trial Exams 2016



The SASTA SACE Stage 2 Trial Exams are a 'must have' resource, developed by leading teachers to support SACE Stage 2 teachers of:

- Biology;
- Chemistry;
- Nutrition;
- Physics and
- Psychology.



**Editable Word format
with fully worked
solutions and
marks scheme**

This vital resource will familiarize teachers and students with the SACE Stage 2 exam format. Teachers will be able to use the resource as a revision for students, stand-alone assessment tool or to develop exam preparation skills.

DISTRIBUTION: Early term 3

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