Conferences/Events

Term 3 PD/conferences and exam prep seminars are now published. Please see pages 7, 8 & 12 for details or visit 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 page 4 or visit our new website at www.oliphantscienceawards.com.au

SASTA Trial Exams

Orders for biology, chemistry, nutrition, physics and psychology trial exams can now be placed online at www.sasta.asn.au or faxed to the SASTA office on 8354 0008. Please include purchase order number.

Early Career Teachers Conference

Friday 10 October
Venue: Immanuel College, Morphett Rd, Novar Gardens
See page 11 for program and check the SASTA website for updates.

www.sasta.asn.au

SASTA is on Facebook go to www.sasta.asn.au
SASTA is on Twitter go to www.sasta.asn.au
2014 SASTA Committee

Patron of the South Australian Science Teachers Association
Dr Barbara Hardy AO

SASTA Board
Karen Palumbo (President)
Mark Divito (Vice President)
John Glistak (Treasurer)
Peter Donnelly
Karen Palumbo
Jeremy LeCornu
Peter Turnbull

Board Representatives

Awards
Chris Jordison

CONASTA 63
Peter Turnbull

PD & Conferences
Peter Donnelly

Journal
John Glistak

Membership
Mark Divito

Oliphant Science Awards
Peter Turnbull

ASTA Councillors
Mark Divito
Karen Palumbo

Honorary Life Members
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Tony Diercks
Elma Gurney
Bob Morton AM
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Lester Russell
Peter Schodde OAM
Jack Smith
Ray Smith
Alby Whitelaw
Dr Jane Wright

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URL: www.sasta.asn.au

Newsletter copy deadlines 2014
(Advertising deadlines one week earlier)

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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 President

I recently attended CONASTA 63 at Adelaide University which was a huge success attracting over 500 delegates from across Australia. I had the opportunity to hear the insights of our keynote speakers who sit at the contemporary forefront of their respective disciplines including Professor Bob Hill, Professor Tanya Monro, Professor Joe Shapter and Professor Chris Daniels. With our interstate and international visitors we shared a few of the world class science education and research facilities Adelaide has established including Adelaide University multimillion dollar wind tunnel, RiAus, Forensics SA, Art Lab and more. This infrastructure will enable South Australia to be a hub of innovation within the international knowledge economy. Most importantly, the conference brought together a diverse field of scientific educators and provided the opportunity to collaborate, share, reflect and improve on our pedagogical practices for the betterment of the profession we are all so passionate about.

At the CONASTA Stanhope Oration a number of awards were presented including the highly prestigious SASTA Metal. This year the SASTA Metal was awarded to Ian Maynard who has made a significant contribution to SASTA over a period of more than eight years and has been actively involved in science education for more than 40 years.

Ian was SASTA Treasurer since 2007 and it has been his commitment to SASTA and his high level of personal skills that have contributed to the Associations overall financial success. He has been a driving force behind the national program Aboriginal Summer School for Excellence in Technology and Science (ASSETS), has been member of the National Science Week Committee for the past decade, ran the eLearning Maths and Science in Industry (MSI) project with DECD and most recently, he has assisted teachers in embracing the Australian Curriculum and the Teaching for Effective Learning (TfEL) Framework. Originally a volunteer explainer at the Investigator Science Centre, Ian mentored many young science communicators, pioneered the introduction of a raft of new science education initiatives and was extremely well respected by all staff and Board members.

SASTA and the CONASTA Organizing Committee collaborated with ASTA to help deliver a most successful CONASTA event that I am sure will be well remembered by our delegates for a long time to come. I would like to thank all CONASTA organisers for your very generous and long term commitments to this 3 year project.

Karen Palumbo
SASTA President

SASTA Early Career Teachers Conference

Friday, 10th October, 9.00am-4.00pm, 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

Five main sessions will run throughout the day each with a different focus:

- The Australian Curriculum: Science
- Engaging with Pedagogy
- Creative Classroom Strategies
- Content Knowledge and Understanding
- Resources to Enhance Learning

This hands-on interactive professional learning day will cater specifically for each level of schooling. Workshops will be offered concurrently at each session so participants can choose to attend those that are most relevant to their area of teaching.

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!!!

National Professional Standards for Teachers:
Teachers will receive a certificate of attendance that details the hours of professional learning and the Standards covered: 2.1, 2.2, 3.2, 6.2, 7.4. See full program page 11.
The Oliphant Science Awards this year!

This year the Oliphant Science Awards has seen some changes, with the release of a new dedicated website for the Awards – www.oliphantscienceawards.com.au

Project and School Coordinator Registrations are now closed for the 2014 competition, after a huge response from almost 100 South Australian Schools, registering almost 2200 projects!

With such a large number of projects registered we are still looking for Judges to assist us in the Models & Inventions, Photography and Poster categories in the R-8 year levels. Judging of these categories will take place this year at the Thebarton Community Centre (60-78 South Road, Thebarton) on Saturday 23rd August from 9am – 1pm (lunch provided).

All Judges will receive a Professional Development Certificate, as well as a chance to network with teachers from around SA and an opportunity to see a huge selection of student work to help you gain ideas for your classroom!

To register as a judge for this year’s event head to http://www.oliphantscienceawards.com.au/get_involved/judging
Reminder of Key Dates for Coordinators

**Monday 21 - Friday 25 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 9 August** – Computer Programming & Robotics Judging Day (time by appointment only) – Coordinators please make sure that your students are aware that they need to call to make a time as appointment times are limited!

**Friday 22 August** – Crystal Investigation, Models & Inventions, Photography & Poster entries to be delivered to Thebarton Community Centre (60-78 South Road, Thebarton) between 9am – 5pm

**Monday 25 August** – Non-winning entries to be collected from Thebarton Community Centre (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!

Open Day 2014

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

This FREE event is open to the general public this year on Sunday 24th August from 12 - 4pm at the Thebarton Community Centre (60-78 South Road, Thebarton).

All the 2014 Oliphant Science Awards prize winning projects will be on display, as well as come and try science activities, a selection of food to purchase and engaging science shows on our main stage to watch the fun and magic of science in action! Invite your family, friends, colleagues and students to attend this event!

Science shows throughout the day will include;
- SciWorld’s Science Spectacular and Liquid Nitrogen Display
- UniSA’s Critical Thinking Magic Show
- Flinders University Palaeontology Bones Box Talk
- CSIRO Labs on Legs Presentation
- Nature Education Centre Animal Show

Full program and more information will be available soon at – www.oliphantscienceawards.com.au
ENJOY
3 or 4 days in which you will be introduced to some of the wonders of science and technology

PERFORM
interesting experiments in a university laboratory

HEAR
leaders in science, technology and engineering

LEARN
about careers in science and technology

LOCATED at 35 campuses nationally

COST is $115 (inc GST) for 3 days and $150 for 4 days

PROGRAMS are non-selective

SPONSORSHIP may be available through Rotary or the National Office

DATES see website www.scienceexperience.com.au

Further information and application forms are available from The ConocoPhillips Science Experience website.

www.scienceexperience.com.au

Early application is advised as we have only limited places available in all programs

The ConocoPhillips Science Experience
PO Box 514 BAYSWATER VIC 3153 Ph: 03 8288 1001
Term 3 Teacher Professional Learning Science

Focus on Science Inquiry Skills!

In Term 3 2014, SASTA Professional Learning for Science Teachers will focus on the Science Inquiry Skills of the Australian Curriculum.

At all levels of science teaching and learning, the Science Inquiry Skills detail what students are expected to be able to do; to pose questions, make decisions, design plans and experiments, discuss, collaborate, communicate results and provide justified answers and explanations when engaged in the inquiry process.

Specific teaching competences are required to guide students and to create opportunities by which students can gather and interrogate evidence and information.

The Workshops

The workshops provided through SASTA will explore what the inquiry process looks like in a science classroom and provide practical strategies and resources to support teachers in promoting this way of learning.

BOOK NOW at: http://www.sasta.asn.au

For Primary Years Teachers:

1. Year 7 Science Series: Physical Sciences

Date: Monday 1st September

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.

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

2. Investigations in Primary Science

Date: Monday 8th September

Children need opportunities to develop practical and inquiry skills in order to engage with the world in a scientific way and to make sense of what they are learning.

This workshop will look at science investigations in action. Teachers will be led through the elements of a scientific investigation, develop an understanding of how to use an investigation planner and have access to a range of ready to use resources.

Who should attend: Years 3-7 teachers

For Secondary/Middle school teachers:

1. Investigating Physical Sciences: Years 8-10

Date: Friday 15th August

How do I teach Physics? 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.

Who should attend: Secondary/Middle school teachers.
2. Open Investigations in a middle school classroom

**Date:** Thursday 28th August

In this workshop teachers will investigate the process and practicalities of inquiry learning in the Science classroom. They will engage in hands-on activities that will inform their understanding of how to deliver a structured science investigation lesson.

This workshop will provide teachers with explicit curriculum materials, investigations and contemporary pedagogical strategies to enable them to successfully incorporate the Science Inquiry Skills into their lessons.

**Who should attend:** Secondary/Middle school teachers

**Workshop Structure:**
- A one hour presentation that is interactive and engaging.
- Can be held during a staff meeting or any other suitable time as negotiated by the school.
- Can be held in conjunction with any other SASTA Professional Learning program delivered at the school.

**Book Your Session Today!**

For inquiries and bookings please contact the SASTA office on (08) 8354 0006 or email Project Officer, Kate Dilger, at projectofficer@sasta.asn.au

## SASTA In-School Workshops now available!

SASTAs offer a range of Professional Learning workshops which explore science concepts in detail and provide you with hands on and interactive ideas that you can use in your classroom straight away.

Our workshops cover all Science Understanding areas and incorporate Science Inquiry Skills and Science as a Human Endeavour concepts.

Examples of 2 hour workshops are listed below:

### Australian Curriculum Focus
- Science Overview - all Year Level groups

### Science Inquiry Skills Focus
- Science for the Early Years (R-2)
- Open Investigations

### Planning and Assessment Focus
- Integrating Science and Numeracy (Primary)
- Planning for Inquiry – (Secondary)

### Science Understanding Focus
- Biological Sciences
- Chemical Sciences
- Physical Sciences
- Earth and Space Sciences

### Science Pedagogy and Resources Focus
- Working with Primary Connections
- The 5Es
- Setting up Primary Connections Resources
- Investigating in Primary Connections

**Book your session today!**

For enquiries and bookings, please contact SASTA office on (08) 8354 0006 or email SASTA Project Officer; Kate Dilger at projectofficer@sasta.asn.au

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**Time:** All Workshops run from 9.00 am – 3.00 pm  
**Venue:** Education Development Centre, Hindmarsh  
**Cost:** Full Day Workshops: Personal Members $115, Corporate Members $140, Non-members $165 (incl GST)  
**Morning tea and lunch will be provided**

**Australian Professional Teaching Standards:**
All of these workshops reflect the Australian Professional Teaching Standards. Teachers will receive a certificate of attendance that details the Standards covered.

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**BOOK NOW at:** [http://www.sasta.asn.au](http://www.sasta.asn.au)
Call for Workshop Presenters
MASA – SASTA Conference

Friday 28 November 2014
A Science and Mathematics Conference for Middle Years (6-10)
Venue: Norwood Morialta High School (Senior campus)

This conference will provide high quality professional development in addition to extensive networking opportunities. The South Australian Science Teachers Association and the Mathematical Association of South Australia are asking for expressions of interest from Middle Years educators to present practical workshop sessions at this conference.

Presenting workshops for your colleagues is an excellent way to share best practice and develop a community of educators across the State. We encourage educators with all levels of experience to submit an abstract.

All abstracts submitted should identify their target audience and detail the content to be covered.

In accepting workshops the conference committee will be looking for a balance across levels of schooling and Science and/or Mathematics content.

Possible Workshop Ideas:
- Hands-on activities for middle school maths and/or science
- Use of technologies in teaching and learning
- Integrated units of work of Science and Mathematics
- Middle years ‘Planning in Science and/or Mathematics’
- Experiences in Planning integrated units of work
- Ways of motivating students to consider maths & science in their future careers
- On-line learning projects
- Improving students confidence and experiences in Science and Mathematics

Workshops should model the explicit pedagogies and content of the Australian curriculum

Application to present a workshop: Persons interested in presenting a workshop at this conference should submit their abstract online at www.sasta.asn.au Workshop presenters will receive a $50 discount on their registration fee.

Supported by:

Call for Annual Conference Convenors

SASTA would like to hear from science teachers who may be interested in convening next year’s Annual Conference & Expo, which is scheduled to held on Monday 13 & Tuesday 14 April 2015. Previous conferences have provided an excellent opportunity for participants to share best practice and access the latest resources. Expressions of interest detailing any relevant experience can be emailed to eo@sasta.asn.au

SASTA Awards

Start thinking now for 2015

There are many great teachers out there that SASTA would like to acknowledge, but often they don’t get nominated for awards because teaching is a very busy job and people don’t get the time to fill in nomination forms. Start thinking now. Alert your Principal.

There are many awards for SASTA members:
- SASTA Medal – for significant contribution to SASTA;
- Credit Union SA/SASTA Outstanding Teacher Award – for junior primary, primary, middle years and senior years teachers;
- Helen Castle Memorial Scholarship – worth $500 for country teachers to attend the SASTA Annual Conference

Nomination forms are available at www.sasta.asn.au. Nominations close Monday 2 March 2015 at 4:00 pm.
Chemistry Investigations Manual
Assessment Of Stage 2 Chemistry Using SACE Performance Standards
A new book for SA Chemistry Teachers.
The Chemistry Investigations Manual has been prepared to meet the needs of teachers and students in line with the new SACE requirements and moderation procedures. The manual contains
• 10 familiar practical activities covering analysis, organic preparation, reaction chemistry and experimental design
• 2 issues investigation activities
• All Assessment Design Criteria are addressed
• A comprehensive Assessment Table for each activity
• A Performance Standards Table matched to each activity
• Intended Student Learnings are identifiable within each activity
• A free set of Teaching Notes provided to assist staff
• Prepared by experienced chemistry teachers and moderators Lynton Hall, Ian McMahon and Clive Nikkerud
• It is a student workbook rather than a photocopiable teacher resource
• Preview sample pages on the SASTA website
Order now from SASTA at the price of $18 incl. GST.
N.B. Minimum order of 5 copies. On Sale Now for $18.00 incl. GST
Purchase online at www.sasta.asn.au or fax a school purchase order to 8354 0008.

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.

KEY FEATURES
• The Print edition of the 2015 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.
# SASTA Early Career Science Teacher Conference

**October 10th 2014 Immanuel College**

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<th>Session/Activity</th>
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<td>8.30 am</td>
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<td>Opening and Welcome</td>
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<td><strong>Focus of Presentation</strong></td>
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<td>9.00 am</td>
<td><strong>Session 1</strong>&lt;br&gt;<strong>Australian Curriculum</strong>&lt;br&gt;Science as a Human Endeavour in the Australian Curriculum&lt;br&gt;Megan Ballantyne&lt;br&gt;Coordinator Primary Australian Curriculum &amp; Primary Science Specialist&lt;br&gt;The Essence of Science&lt;br&gt;Katrina Elliot&lt;br&gt;DECD Teaching and Learning Services&lt;br&gt;All you need to know as an early career teacher about the Australian Professional Standards for Teachers&lt;br&gt;Leila Kasprzak&lt;br&gt;DECD</td>
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<td><strong>Year level Focus</strong>&lt;br&gt;Primary Years&lt;br&gt;Middle/Senior Years&lt;br&gt;All Year Levels</td>
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<td>10.15 am</td>
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<td>10.30 am</td>
<td><strong>Session 2</strong>&lt;br&gt;<strong>Engaging with Pedagogy</strong>&lt;br&gt;Numeracy Strategies in Primary Science&lt;br&gt;Adrian Dilger&lt;br&gt;Catholic Education SA&lt;br&gt;Critical and Creative Thinking Strategies&lt;br&gt;Deb Forder&lt;br&gt;Immanuel College&lt;br&gt;Differentiated Learning&lt;br&gt;Christine Grzesik&lt;br&gt;Seymour College&lt;br&gt;Engaging Middle School students with Inquiry Based Activities and Assessment&lt;br&gt;Kate Morgante and Grace Napoli&lt;br&gt;Gleeson College</td>
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<td><strong>Year level Focus</strong>&lt;br&gt;Primary Years&lt;br&gt;Middle Years&lt;br&gt;Secondary</td>
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<td>11.45 am</td>
<td><strong>Session 3</strong>&lt;br&gt;<strong>Creative Classroom Strategies</strong>&lt;br&gt;Classroom Strategies that Enhance Learning&lt;br&gt;Lynda Garwood&lt;br&gt;Catholic Education SA&lt;br&gt;Creating a Blended Learning Classroom&lt;br&gt;Joanne Cowley&lt;br&gt;Immanuel College&lt;br&gt;Using ICT to Enhance Learning&lt;br&gt;Jeremy LeCornu&lt;br&gt;Brighton Secondary School</td>
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<td><strong>Year level Focus</strong>&lt;br&gt;Primary Years&lt;br&gt;Middle Years&lt;br&gt;Secondary</td>
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<td>1.00 pm</td>
<td>LUNCH</td>
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<td>1.30 pm</td>
<td><strong>Session 4</strong>&lt;br&gt;<strong>Content Knowledge and Understanding</strong>&lt;br&gt;Using Magic in Science Lessons&lt;br&gt;James Young&lt;br&gt;Retired Primary Educator&lt;br&gt;Physics is Fun – let the questions begin!&lt;br&gt;Paula Mills&lt;br&gt;Prince Alfred College&lt;br&gt;Snap Crackle Pop!-Chemical Sciences 8-10&lt;br&gt;Belinda Hawker&lt;br&gt;Hamilton Secondary College</td>
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<td><strong>Year level Focus</strong>&lt;br&gt;Primary Years&lt;br&gt;Primary/Middle Years&lt;br&gt;Secondary</td>
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<td>2.45 pm</td>
<td><strong>Session 5</strong>&lt;br&gt;<strong>Resources to Enhance Learning</strong>&lt;br&gt;Primary Connections and the Australian Curriculum&lt;br&gt;Peter Turnbull&lt;br&gt;Sustainability Across the Australian Curriculum&lt;br&gt;Angela Andrews&lt;br&gt;Cool Australia&lt;br&gt;Space Science in Schools&lt;br&gt;Flavia Tata Nardini&lt;br&gt;Launchbox</td>
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<tr>
<td>4.00 pm</td>
<td>CLOSE AND HAPPY HOUR</td>
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Registration and Cost

Registration is only available online at www.sasta.asn.au. The cost of this 2.5 hour session is $15. Early bird registration is available for $10.

For teachers registering a class, please fax a list of participants names with school purchase order number and the school will be invoiced accordingly.

Biology Saturday 6 September
2:30pm - 5:00pm

Physics and Psychology Saturday 13 September
2:30pm - 5:00pm

Chemistry and Nutrition Saturday 20 September
2:30pm - 5:00pm

Copy of some past editions of the SASTA Study Guides, including exam answers, are available for $15.00

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

2014 Exam Prep Seminars

Gain maximum benefit from your study time

• meet the Study Guide editorial teams, consisting of many of our most experienced teachers.
• discuss exam techniques and receive hints for answering questions.
• discuss the Chief Examiner’s comments for last year’s exam paper.
• discuss the extended response requirements.

To be held in September
Bookings are required. Students are encouraged to bring their Study Guides with them for each session.

Venues
All seminars will be held at The University of Adelaide, Napier Building, Lower Ground Floor.

Study Guides can be purchased online at www.sasta.asn.au

www.sasta.asn.au
Supporting Teachers of Science
Advancing Science Education