

INTERNATIONAL YEAR OF ASTRONOMY

The International Year of Astronomy (IYA2009) is a global celebration of astronomy and its contributions to society and culture. With the theme of “*The Universe, Yours to Discover*”, IYA provides a wonderful opportunity for teachers to engage students with topical and exciting science.

Australia is one of over 130 countries celebrating astronomy and promoting science to the public. We are taking part in several of the international IYA projects including *100 Hours of Astronomy*, *She is an Astronomer* and *Dark Skies*. There is also a diverse range of national, regional and local events and programs that you can get involved with. For a full list of IYA activities in Australia visit www.astronomy2009.org.au

To find out more about what is on offer for schools or to discuss opportunities for students please contact the IYA2009 School Coordinator for Australia, Robert Hollow, Education Officer, CSIRO ATNF robert.hollow@csiro.au or 02 9372 4247.

VSSEC TEACHER PROFESSIONAL LEARNING PROGRAM 2009



VSSEC and the Melbourne Planetarium have joined with the CSIRO ATNF (Australia Telescope National Facility) to offer a full day Teacher Professional Learning program on **Thursday 4th June 2009**, which explores resources for teaching astronomy & astrophysics, and programs offered by the participating organizations. Participants will be one of the first to see the *Star Wars: Where Science Meets Imagination*.

The program includes:

- An overview of astronomy in Australia
- Ideas for teaching astronomy effectively in the classroom
- Resources for teaching astronomy and astrophysics
- An introduction to Authentic Investigation tasks in Astronomy such as PULSE@Parkes and Galaxy Zoo
- An overview of VSSEC's Astronomy and Astrophysics programs
- The Melbourne Planetarium VCE Astronomy/Astrophysics show
- Entry to the *Star Wars: Where Science Meets Imagination* exhibition at Scienceworks

For more details and booking visit www.vssec.vic.edu.au

VSSEC VCE ASTRONOMY / VCE ASTROPHYSICS PROGRAMS



VSSEC offers programs that support VCE Physics Unit 1 Detailed Study 3.1, Astronomy and Unit 2 Detailed Study 3.1, Astrophysics. On completion of these two full day programs students have covered all the key knowledge and skills outlined in the Physics Study Design. Both programs use specialist software and the practical application of knowledge to engage students, and highlight career and study options in Australia.

GEMINI SCHOOL ASTRONOMY CONTEST



The *Gemini School Astronomy Contest* is an exciting new opportunity for Australian students to propose an image to be taken by the 8-m Gemini Telescope in Chile. The winning school has their image taken, professionally processed and published plus a visit by a Gemini astronomer. The top three schools also have a *Live from Gemini* video linkup with the Gemini Control Room. For details visit <http://ausgo.aao.gov.au/IYAcontest/>. The Gemini homepage also offers a range of education resources www.gemini.edu

CSIRO ATNF ASTRONOMY FROM THE GROUND UP



CSIRO

Astronomy from the Ground Up is a three-day workshop conducted by the CSIRO ATNF at the Parkes Observatory, in the shadow of "The Dish". The 2009 workshop will be held from 15th – 17th May. Teachers meet professional astronomers, hear lectures on different aspects of astronomy and tour the radio telescope. Emphasis is placed on practical and hands-on activities to use in the classroom. ATNF will be subsidising the cost of this event in 2009 but places are limited.

CSIRO ATNF and Astronomy WA are offering a scholarship for a Western Australian science teacher to participate in *Astronomy from the Ground Up*. For more details and booking information visit <http://outreach.atnf.csiro.au/education/teachers/workshops/afgu.html>

CSIRO PARKES OBSERVATORY OPEN DAYS



On 21 July 1969, Apollo 11 astronauts Neil Armstrong and Edwin Aldrin became the first people to set foot on the surface of the Moon. The television pictures of this historic event were received by the CSIRO Parkes telescope and relayed to 600 million people worldwide. To celebrate this incredible achievement, and the IYA, CSIRO's Parkes Observatory will be hosting open days on the weekend of 18-19 July. The open days will showcase the achievements of the Parkes Radio Telescope as a world-leading astronomical telescope as well as its roles in supporting some of the most significant space missions in history. A limited number of telescope tours will be conducted (enclosed footwear must be worn). For more information email the Parkes Observatory Visitors Centre parkes-vdc@csiro.au

VSSEC ENGINEERING AND SCIENCE CAREERS EXPO



Representatives from Victorian Universities and industry will be at VSSEC on Thursday 20th August to speak to students, teachers and the public about study and career options in science and engineering. Talk to specialists, see science in action with hands-on activities and explore your options. Schools are encouraged to bring groups of students to this **FREE** Science Week event. More details will be available closer to the event but you can secure your booking now by contacting bookings@vssec.vic.edu.au.

DARK SKIES EVENTS

Globe at Night is the first of the global *Dark Skies* events for 2009. Running 16-28 March, people around the world can observe the constellation Orion then submit their observations online. There are excellent materials available for download from their interactive website and would be suitable for Primary students through to upper Secondary. www.globe.gov/GaN

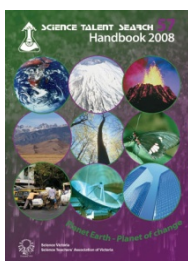
100 HOURS OF ASTRONOMY

100 Hours of Astronomy is a 100-hour, round-the-clock, round-the-globe event that includes live webcasts from research observatories, public observing events and other activities, 2 – 5 April. This is a great time to hold a school or public event. There will be many local community and amateur astronomy club viewing events around Australia. www.100hoursofastronomy.org

CHARLES STURT UNIVERSITY REMOTE TELESCOPE WEBCASTS

The CSU Remote Telescope has been providing students with access to a web-based telescope and associated curriculum material for the past 8 years. During 2009, the CSU Remote Telescope will web-cast images of the southern night sky during **FREE** monthly themed events. For a calendar of events and to request an image visit www.csu.edu.au/telescope

SCIENCE TALENT SEARCH



The **Science Talent Search (STS)** is an annual, science based competition offered by Science Victoria. STS is open to all primary and secondary students in Victoria, Australia. Categories include: Experimental Research, Creative Writing, Working Models, Inventions, Games, Computer Programs, Scientific Wall Charts, Scientific Photography and Video Production. The STS theme for 2009 is *Astronomy: Science without limits*. **Registration for the STS opens on Monday 2nd March** and close on **Friday 29th May**. For more information, conditions and guidelines download the handbook from www.sciencevictoria.com.au/sts/index.html

Science Talent Search has a partnership with the national BHP Billiton Science Awards. Students wishing to enter the BHP Billiton Science Awards must register for Science Talent Search in the Experimental Research Section. For more information visit www.scienceawards.org.au

SWINBURNE ASTROTOURS



The IYA is shaping up to be another big year for astronomy outreach by the Centre for Astrophysics & Supercomputing at Swinburne University of Technology. Highlights for the year will include the ever-popular 3D AstroTours in Swinburne University's high definition Virtual Reality theatre, and the new Free Astronomy Public Lectures, which will be held monthly from February-

November at the Hawthorn campus.

The next series of public AstroTour sessions are on Wednesday, 8 April (3pm) and Thursday, 16 April (7pm). Schools and other special interest groups are invited to book their own customized AstroTour session by contacting Dr Chris Fluke cfluke@swin.edu.au or phone: 9214 5828.

The Free Astronomy Public Lecture series will kick off on Thursday, 19 February at 6:30pm, with a presentation by Professor Matthew Bailes on the hunt for Millisecond Pulsars.

For more information and links to educational resources including podcasts, the Cosmos online encyclopedia of astronomy, and the Astronomical Tourist project visit <http://astronomy.swin.edu.au/outreach>

THE 35TH PROFESSOR HARRY MESSEL INTERNATIONAL SCIENCE SCHOOL: GENES TO GALAXIES



The 35th Professor Harry Messel International Science School: ISS2009 *Genes to Galaxies* will be held at the University of Sydney 12-25 July 2009. The ISS is organised by the Science

Foundation for Physics within the School of Physics at the University of Sydney.

Up to 140 of the brightest and most highly motivated Year 11 & 12 students from around Australia and nine other countries will stay on campus and experience two weeks of lectures, workshops and special activities. This is a scholarship program where all in-country student costs are covered. Please refer to the ISS2009 website for program information and selection criteria. Application Kits for Australian students will be available from mid-February 2009 at www.physics.usyd.edu.au/foundation/index_iss.html. While you're there check out some of the other projects and scholarships the foundation offers for students and teachers.

VSSEC WATER ROCKET CARNIVAL



The VSSEC Water Rocket Carnival will be held on Wednesday 9th December 2009. The event will include the opportunity for students to launch their own water rockets, new ideas for water rockets and demonstration launches. A limited number of positions

are available for both primary and secondary schools. To register your interest contact bookings@vssec.vic.edu.au

VICTORIAN SPACE SCHOOL



The Victorian Space School will be held at VSSEC 8 – 10 July 2009. The program includes a visit to the Centre for Astrophysics & Supercomputing at Swinburne University of Technology where they will speak with an astrophysicist, get an update on the Square Kilometre Array and experience a 3D AstroTour in the high definition Virtual Reality theatre.

On Thursday and Friday the Victorian Space School will join with the South Australian Space School for a *Mission to Mars* and a *Mission to the Orbiting Space Laboratory*. More information and application forms will be available mid February from www.vssec.vic.edu.au or phone 9379 3456.

SOUTH AUSTRALIAN SPACE SCHOOL



The South Australian Space School is a residential program for year 10 *students*. In 2009 the space school will be held 8 – 11 July 2009 The students will begin their mission briefings in Adelaide on Wednesday 8 July and stay overnight at the Residential Wing of the RAH. The following morning they will fly to Melbourne where they will combine with the Victorian Space School for a *Mission to Mars* and a *Mission to the Orbiting Space Laboratory* at VSSEC.

The SASS program will also include activities such as university laboratory tours, guest presentations by professional scientists and engineers, and a visit to RAAF Base Edinburgh. Applications close Friday 6 March 2009. For more details and application form visit www.spaceschool.com

SPACE CAMP WA

To celebrate the IYA and to encourage awareness and understanding of the Square Kilometre Array (SKA) project, an Astronomy WA Space Camp will be held in early May 2009 for teachers and secondary students from Western Australia and beyond. This three day event will feature a wealth of space themed activities, including opportunities to observe the amazing night sky of Western Australia, to visit several facilities in and around Perth to hear from scientists pushing back the boundaries of Radio Astronomy and also the chance to compete against other schools in a series of stellar challenges. For more information visit www.astronomywa.net.au

Astronomy WA has also produced some excellent resources which can be downloaded free from their website. The *Earth and Beyond* Modules were designed for educators working with students from 14 to 16 years of age in Western Australia.

DISCOVER THE NIGHT SKY AT THE MELBOURNE PLANETARIUM AT SCIENCEWORKS



The Melbourne Planetarium at Scienceworks will present special after-dark sessions, Thursday evenings from 5 to 26 March at 7pm. All evenings include complementary wine and cheese, the opportunity to chat to the Planetarium's Astronomer and be immersed in a planetarium experience. You will finish the evening stargazing through telescopes (weather permitting):

Thursday 5th March: Backyard Astronomy
Thursday 12th March: Travel the Universe
Thursday 19th March: Leaving Earth
Thursday 26th March: Milky Way Galaxy

For more information and bookings please call the Scienceworks on 9392 4819 Monday to Friday.

WINNING SKY PHOTOS: THE DAVID MALIN AWARDS

Some of the most spectacular photographic images of the Australian night sky will be on display as part of the touring exhibition *Winning sky photos: the David Malin Awards*. The display features the winners and selected entries from the annual photography competition named after the world-renowned astrophotographer and competition judge Dr David Malin.

The exhibition will be at the Melbourne Planetarium at Scienceworks 31 Jan - 2 Apr 2009, before moving to the Museum of the Riverina, Wagga Wagga, NSW 11 April - 17 May 2009 and then to the Sir Thomas Brisbane Planetarium, Qld 20 May - 12 July 2009.

Amateur photographers and students should start preparing their entries for the 2009 competition. Refer to the following website for more details www.parkes.atnf.csiro.au/news_events/astrofest/awards/

SCIENCEWORKS EXHIBITION: EARTH QUEST - OUTER SPACE TO INNER EARTH



The Earth Quest: Outer Space to Inner Earth exhibition is at Scienceworks now and will run until the 19th April 2009. Visitors will go on a voyage from the outer limits of the Milky Way to the very centre of planet Earth. The interactive exhibits cover a wide range of topics including astronomy, geology, geography, environmental science and biology. Discover why we have seasons, how mountains are formed, how animals have adapted to life in different climates and what's at the centre of the Earth. For more information visit <http://museumvictoria.com.au/scienceworks/>

NATIONAL GALLERY OF VICTORIA EXHIBITION: THE SHARED SKY

Coinciding with the IYA, The National Gallery of Victoria is holding two exhibitions, *Shared Sky* at the Ian Potter Centre and *Light Years: Photography and Space* at NGV International.

Shared sky explores the cultural experience of the night sky over our southern continent. Artists of different cultural backgrounds and locales explore humanity's enduring psychological engagement with the southern stars over the centuries. This exhibition of prints and drawings by Indigenous and non-Indigenous artists from the NGV collection also includes sculpture, painting and photography.

The exhibition will be held from 13 March–2 August 2009 at the Ian Potter Centre: NGV Australia. Admission is FREE. For more information visit www.ngv.vic.gov.au/sharedsky

Light Years: Photography and Space will bring together works from the NGV Collection including photographs from the archives of NASA; imagined space travel; images of astronomical and scientific experimentation; and photographs that show the aesthetic influence of space and scientific research on popular culture.

The exhibition will be held from 8th May – 27th September 2009. Admission is FREE. For more information visit www.ngv.vic.gov.au

Two student programs are available in conjunction with the *Shared Sky* exhibition; an **Introductory Tour** and **Stories of the Southern Sky Workshop**. In *Stories of the Southern Sky* students explore the stories of the stars from a range of cultures that share the southern sky. Students then complete their own creative writing piece and artwork based on a theme of constellations and celestial bodies. For more details visit www.ngv.vic.gov.au/ngvschools/programs/prg_sharedsky.html

New Frontiers in Space and the Curriculum is a professional learning program linking Art, Science and English through a focus on works of art representing diverse cultural, historical, scientific, social and personal perspectives on the southern sky and space exploration. Program includes an exhibition viewing and introduction to *Shared Sky*, and an overview of the *Light Years* exhibition.

Friday 20th March, 9.30am–4pm. Cost \$99 includes lunch and morning tea.

SVAA ASTRONOMY CAMPS



Snake Valley is nestled between Ballarat and Beaufort in western Victoria. The Snake Valley Astronomical Association (SVAA) are fortunate to have very dark country sky, which they share by holding 'Snake Valley Astronomy Camps' each March and November at the 'Crystal Lake Cabins'.

Participants can pitch a tent or book a cabin. During the day many people take advantage of the sites around Ballarat like Sovereign Hill and the Wineries and there is a small lake for fishing, swimming or canoeing, and a BBQ area with undercover seating. In 2009 the camps will be held 27th - 31st March and 13th-17nd November 2009. For more information about the camps visit the SVAA website <http://svaatest.site88.net/>

QUEENSLAND ASTROFEST



The Queensland Astrofest is the major star party in Queensland and is open to all amateur astronomers. It is held annually at Lions Camp Duckadang, Linville, Queensland situated 166 kilometres north-west of Brisbane under dark skies. There are talks and workshops on equipment, tools and techniques, Guest Speaker Address, and the ATM Awards are presented for the Best Dobsonian Telescope, Best Equatorial Telescope, Best Accessory (attached to a telescope), and Best Observing Aid. The Erwin van der Velden Memorial Trophy for Astro-Photography is also presented as part of the event. This year's Queensland Astrofest will be held from 14th – 23rd August. For more details visit www.qldastrofest.org.au

INTERNATIONAL ASTRONAUTICAL CONGRESS

The 60th International Astronautical Congress (IAC 2009) will take place in Daejeon, South Korea, from 12 to 16 October 2009. The 2009 theme is "Space For Sustainable Peace and Progress." As well as a comprehensive technical program the conference offers a student program, a young professional program and student paper competitions. The Space Generation Congress and UN/IAF Workshop are both held in association with the IAC prior to the commencement of the technical program. For more information visit www.iac2009.kr.