

## ScopeX 2009

ScopeX is an annual Telescope and Astronomical Exposition hosted very successfully by the Johannesburg Centre since 2002. ScopeX provides a special day devoted to our hobby, in which we can:

- Educate the public and spread enthusiasm about astronomy, sky gazing, related sciences, astrophotography, and amateur telescope making (ATM).
- Meet people who share our passion for these pursuits and promote friendship within this select community.
- Show off our ATM-handiwork and exchange ideas, knowledge and experience.
- Recruit new ASSA members.

**ScopeX 2009** will be held on Saturday, 30 May 2009 at the Military History Museum, Saxonwold, Johannesburg.

Email [info@scopex.co.za](mailto:info@scopex.co.za) or call 011-717 1397/2 (office hours) if you wish to:

- Be one of the select ScopeX commercial exhibitors.
  - Participate as an amateur by exhibiting:
    - Any telescope-related item you may have built and wish to enter into the Amateur Telescope Making (ATM) Competition.
    - Your astrophoto(s) to enter it into the Astrophotography Competition.
  - Contribute to - or help with the day's activities.
- Sponsor or donate items which can be given away as prizes.



## news notes

### Union/Republic Observatory Archives

The CSIR Archive in Pretoria at present contain the Archives of the former Union (later Republic) Observatory, which was located in Observatory, Johannesburg. This institution formed part of the CSIR and was merged with SAAO when the latter was created in 1972.

The CSIR Archive is rapidly running out of space and is seeking another home for this material. The written archives are likely to be transferred to the National Archives in Cape Town but the plate archives are in all probability going to be disposed of within the next 6 months. It is not clear

to the writer (ISG) what they consist of, but probably they include Franklin-Adams plates and items relating to minor planets. So far as is known, nobody has shown interest in them for over 30 years.

For reference, the archivist of the CSIR is Mrs Annette Joubert and her email address is [ajoubert1@csir.co.za](mailto:ajoubert1@csir.co.za). ☆

## Comet Lulin

The unusually shaped comet Lulin reached perihelion (0.41 AU) on 24 February 2009 when it reached almost naked eye brightness, an easy binocular target under moderately dark skies. It was well placed for viewing, passing close by Saturn when it was near opposition. In long exposure pictures Lulin appeared noticeably green in colour, caused by cyanogen (CN: a poisonous gas found in many comets) and diatomic carbon (C<sub>2</sub>) in its Jupiter-sized atmosphere.

The comet was named after the Lulin Observatory in Taiwan from where the

discovery-photo was taken by Taiwanese astronomer Chi Sheng Lin during a sky patrol. The actual discovery was made in July 2007 by 19 year old meteorology student, Quanzhi Ye, from China's Sun Yat-sen University. Back in 1996, when Ye was 7-years old, he was beaten by Messrs Hale and Bopp in discovering a comet, but this time he got revenge.

Comet Lulin is rather unusual in that it is orbiting in the opposite direction to the planets. Its parabolic orbit will take it far out into the Solar System only to return to the Earth's vicinity in more than a thousand years. So, if you missed, you've had your chance. ☆



**Dr Dieter Williasch of Somerset West imaged Comet Lulin on 25 February 2009, shortly after perihelion. He stacked a series of 2 minute RGB-filtered exposures using a SBIG STL 11000M camera on a 130mm f/6 refractor.**

## South African Space Agency due to be established this year

On 15 January 2009, President Kgalema Motlanthe signed a Bill into law that paves the way towards the creation of South Africa's own Space Agency later this year. The National Space Agency Act will pull together all space-related activities under one banner and will provide for the establishment of a National Space Agency to implement a space programme in South Africa. It will also implement the National Space Strategy which was approved by Cabinet in December last year, to stimulate the capability to place South Africa among the leading nations in the innovative use of space science and technology.

The agency is also expected to bring together the work of several institutions and harness their capacities to boost the economy and create more jobs. Some of the projects it will coordinate include the Square Kilometre Array bid, the Southern African Large Telescope and South Africa's second indigenous satellite, Sumbandilasat.

As a major role player, the Department of Science and Technology (DST) would promote the peaceful use of outer space, foster research in astronomy, earth observation, communications, navigation and space physics, foster international cooperation in space-related activities and advance scientific, engineering and technological competencies through human capital development.

The first step towards establishing the agency would be to appoint a board of 10 to 15 members, a CEO who will also act as an ex-officio member and a chairperson who will be appointed by the Minister of Science and Technology.

The DST regards the enactment of the law as a step in the right direction, given South Africa's rich heritage of involvement in modern astronomy, which dates back to 1685 when the first temporary observatory was established in Cape Town. ☆

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## First Obama budget for NASA

All eyes were on the Obama administration to see what his first proposed budget for NASA would look like. Taking into account the current economic climate, most people were not disappointed with the \$2.4 billion increase over 2008 funding levels which effectively continues to support the Bush administration's directive to finish the Space Station and

retire the Shuttle in 2010 and to return astronauts to the Moon around the end of the next decade.

This money will also enable NASA to build on its vision to send a broad suite of robotic missions to destinations throughout the solar system and develop a bold new set of astronomical observatories

to probe the mysteries of the universe, increasing investment in research, data analysis, and technology development in support of these goals.

The present planning is to retire the Shuttle fleet in 2010 on completion of the Space Station and rely on the Russian Soyuz rockets for shuttling personnel

and supplies there and back until the next generation of reusable space vehicles, which would also be able to go to the Moon, are in operation only by late 2014 or early 2015. Although Obama said during the presidential campaign that he hoped to narrow this five-year gap, this was not specifically addressed in his budget. ☆

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### Asteroid sample being returned to Earth

At the time when virtually every soccer fan on Earth's attention will be focused on South Africa, a Japanese spacecraft with a very precious load is scheduled to make a parachute landing in Australia. On board this JAXA (Japan Aerospace Exploration Agency) probe, Hayabusa, is potentially the first ever rock sample from an asteroid.

We say 'Potentially' because the mission was not quite without difficulty. Hayabusa spent three months near asteroid Itokawa in late 2005, studying it and attempting a series of close approaches to collect bits of rock and dirt. A pellet was to be fired into the asteroid's surface, forcing some rock through a funnel into a container into which it was to be sealed for the voyage back to Earth. Unfortunately these plans did not materialize and Hayabusa spent up to 30 minutes on the asteroid's surface during a failed retrieval attempt. Officials later reviewed telem-

etry data from a subsequent attempt and determined that the pellet probably did not fire because the system had been disarmed. Scientists still hope that some particles were funnelled into the collection chamber, even if the pellet did not fire as planned.

In early February 2009 this probe ignited a single ion engine to begin pulsing it for up to 8 000 hours to propel it back towards the Earth. The spacecraft's revolutionary ion propulsion system has already completed more than 31 000 hours of operations since its launch in 2003. It consists of four ion engines, but it is feared that some of these devices are not capable of long-duration firings, hence the conservative approach of using a single engine to reduce the odds of a major failure. The ion engine must accelerate Hayabusa to nearly 1 400 km/h by March 2010 when it will be turned off for the final approach to Earth. ☆