

august 2005

canopus

monthly newsletter of the johannesburg centre of assa

Old Republic Observatory, 18a Gill Street, Observatory, Johannesburg
PO Box 412 323, Craighall, 2024



Artist's concept courtesy of Pat Rawlings, NASA/JPL and the Deep Impact Team

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notice of next meeting – assa johannesburg

The next monthly meeting of the Johannesburg Centre of the Astronomical Society of Southern Africa will be held at the old Republic Observatory, 18a Gill Street, Observatory, Johannesburg on Wednesday 10 August 2005 at 20h00
Guest speaker:

Professor Uwe Reimold **“The Vredefort Dome and other impact craters”**

NOTE: Public Viewing Evening – Jupiter Uranus Neptune Show – Saturday, 13 August 2005

Time: 19h30 – 22h00. No pre-booking required. All welcome!

Venue: Old Republic Observatory, 18a Gill Street, Observatory, Johannesburg

R20 entrance fee for ASSA Jhb. members, R30 for non-members. Drinks and eats for sale.

assa johannesburg committee nominees & volunteers for 2005/2006

Name	E-mail	Portfolio/Interest	Contact details
Alec Jamieson	arjam@iafrica.com	Library	(011) 886 7288
Brian Fraser	Brian.Fraser@macsteel.co.za or fraserb@intekom.co.za		(016) 366 0955 after hours
Chris Curry	mwc Curry@iafrica.com		
Chris Stewart	Chris.STEWART@alcatel.co.za	ATM	(011) 763 3301 after hours
Dave Gordon	dave@turboread.com	Treasurer	(011) 702 1219
Dave Hughes	davehu@global.co.za	ATM, Curator of instruments	082 412 6665
Karen Breytenbach	karen@fhc.co.za		083 302 9494
Keith Lou	mwkdklou@mweb.co.za	ATM	083 756 7206
Lerika Cross	lerika@icon.co.za		082 650 8002
Robert Groess	groess@absamail.co.za	Canopus Editor	083 365 8092
Sharon Tait	labelconnection@mweb.co.za		(011) 477 7512

Volunteers:

Ed Finlay	godzilla@telkomsa.net	Assistance with Canopus, Beginners' class	
Ilse von Willich	N/A	Library	
Atze Herder	awherder@wol.co.za	Library	(011) 648 3729 or 083 456 4159
Nils Schwarz	sgc@telkomsa.net	Website	
Jerome Jooste	jerome@ecosat.co.za	HobbyX, Viewing, Beginners Class	(011) 312 0111 or 072 985 8764 (wife Jana) 072 477 2588
Bruce Dickson	bdickson@telkomsa.net	Viewing, ATM	
Evan Dembskey	evan@dembskey.org	Help to get new Librarian and Webmaster going	

ATM: Amateur Telescope Making classes held on the premises of Parktown Boys High School on most Saturday afternoons.

NOTE: Remaining committee portfolios will be voted on after this edition has gone to press. Full committee details to appear in the September 2005 edition.

deep impact

by Gerrit Penning

The much anticipated Deep Impact mission was a success. Monday morning, July 4th, at about 7h52 SA time the impactor craft smashed into comet Tempel 1 at a relative speed of 37,000 km/h, giving off a huge plume of icy dust and debris. Congratulations to the Deep Impact team with this major feat of accomplishment! We look forward to the mission results. Although amateur astronomers reported that it was difficult to find the comet even with medium-sized telescopes, there was apparently a noticeable brightening around the comet - a sign that the explosion gave off materials after impact. Please visit www.jpl.nasa.gov for more information.

unlocking the early secrets of the solar system

excerpt from SpaceTides, 4 July 2005 e-Newsletter



The goal of the Deep Impact mission is to study the interior materials of an active comet (referred to as the “pristine substance”) and verify its composition. Comets contain extremely old material, left over from the early history of the solar system’s formation. They are “time capsules” of solar system origins. By knowing what comets consist of, we will gain a better understanding of how space dust and gas coalesced to form the solar system some 4.6 to 5 billion years ago and may tell us more about the Earth’s formation.

The 373 kg mostly copper impactor, the size of a washing machine, delivered 4.5 tons of TNT energy while vaporizing itself during impact with the city-sized comet.

An obscuring cloud of debris was thrown out from the impact site, all the while being carefully studied by the precision instruments onboard the fly-by ship. At time of impact, the comet was 133 million kilometres away from Earth (for comparison, the moon is only 380 000 km away from Earth). The impact was monitored from numerous observatories on Earth (and even by the Hubble Space Telescope!). Boyden Observatory in Bloemfontein also trained its 1.5 meter reflector towards the comet while taking photos.



New insights into the structure and evolution of comets are expected. It might even give us a better understanding on how to divert potentially dangerous comets and asteroids that are on a collision course with Earth. But above all, it will help us understand our origins.

editorial

Robert Groess

It is fitting that this issue of Canopus starts with a bang! Not only was Deep Impact a great success, but it's also that time of year again. One committee wanes while a new committee is anticipated. And so it is with the editor as well.

I'd like to thank the outgoing editor for all the effort and hard work she has put into Canopus, and I'm equally impressed by its proud history. Great words of thanks must also go to members of the outgoing committee, who have been instrumental in setting an impeccable track record for the Johannesburg Centre of ASSA over the past year(s). I was once told, "If everything is going right, management is working VERY hard!"

Once again, in keeping with an unwritten tradition, every new editor makes some cosmetic changes to Canopus – but on the whole, most of your trusted regulars (like "the sky this month" for instance) have made it through in tact. In drawing inspiration over a short period of time, I have picked and plucked at various newsletters (not only Canopus) to try and come up with a balanced design. If resemblances to other newsletters seem obvious to you, it has not been my intention to "copy cat", but rather adopt some ideas that seemed not only astronomically useful, but aesthetically pleasing too.

I also share the previous editor's sentiments about Canopus being OUR newsletter and not being another instance of news from Hubble, Cassini or Spitzer (headlines notwithstanding). In today's information age, it has become very easy for anyone with a computer and internet connection to get the latest details of ... well, almost anything – and in particular of matters astronomical. However, even with this amazing technology, there remains a very pertinent niche for a "publication" such as your dearly beloved Canopus.

It is ASSA Johannesburg's most potent means of communication to its members – to you – and as such, needs to provide just those kinds of benefits that only it can provide. Make sense? For instance, most of our members may not (do not!) have the time or means to attend every monthly meeting. This is, as I see it, Canopus' biggest niche that it needs to cater for – keeping all of our members in the loop, and then some!

In short, Canopus should be of as much interest to the novice member, as to the more experience enthusiast (daring to blur the line between amateur and professional). And so, I warmly invite you to share articles and information you would love to see printed in our newsletter – it's not as intimidating as it may seem. And there is great virtue in simplicity – no article will be "below" sincere consideration. I equally invite you to provide me with some feedback – for feedback is the strength upon which this legacy is based!

Wishing you, and our new committee, a truly astronomical 2005/2006.
The Editor.

chairman's report

Brian Fraser

Thanks to the efforts of a few talented and dedicated members of the society we have successfully completed another active and rewarding year.

I might mention some of the highlights.

In October 2004 we hosted the 6th biennial ASSA symposium and managed to attract an impressive list of top speakers, both amateur and professional. This 3-day event was thoroughly enjoyed by the 70-odd people who attended. It was the first time in the 12-year history of this event that the Johannesburg centre has hosted it.

Then for ScopeX 2005 we managed to get, as the keynote speaker, Mike Melvill, the first private astronaut who flew the rocket ship SpaceShipOne into space in 2004. Despite having rain for most of the day, an annoying fire alarm and finally a power cut, many attendees regarded this ScopeX as the best ever. Thank you to SAASTA and SAA for sponsorship around ScopeX 2005.

We have a very friendly relationship with the new owners of the observatory, SAASTA (South African Agency for Science and Technology Advancement) and in 2004 we were asked to contribute some ideas for the development of the site. Which we did.

We had hoped to have some news this year regarding the future of the observatory, but the wheels of officialdom turn slowly and nothing has been forthcoming yet. Proposals around the establishment of a science park have been put forward and if and when this happens, we could end up as part of a larger scientific community.

Because of the uncertainty surrounding the future of the site we deliberately did not embark on any infrastructural work on the observatories and buildings, except for some minor maintenance.

Our secretary Lerika Cross, continues to be the pivot around which the society revolves. Apart from the huge task of organizing ScopeX, including organising sponsorship and exhibitors, she also arranges most of the speakers, books the venues, arranges accommodation and transport for visiting speakers, makes dozens of phone calls and sends out hundreds of emails every year. She has also now assumed the duties of our membership secretary. Her wisdom and energy have played a major role in our success this past year.

Thank you Lerika.

Also a big thank you to Sharon Tait, who has arranged refreshments at nearly all of our functions, including ScopeX. Sharon also attends to most of our PR and media relation needs and it is she who fields those phone calls from inebriated people who want to know "what is that big bright planet in the sky? The one with the flashing red light".

Thanks also to our miserly Treasurer, Dave Gordon, who manages to ensure that our finances are in a sound way. He does this mainly by refusing to re-imburse members for the money they have spent on running the society. Not really. We get refunded. Eventually. Dave has also shared his love of and interest in the planets by presenting a number of short talks at the monthly meetings.

Our mirror making class keeps on rolling along, with a gusto that never seems to stop. Chris Stewart, Dave Hughes, Vince Nettman and others dedicate virtually every Saturday afternoon to helping newer members grind and polish telescope mirrors of all shapes and sizes. They must have supervised the making of more than 200 mirrors over the years. Not all get to be completed but many do and they end up in excellent telescopes.

Chris Penberthy gave up the editorship of Canopus after a successful but taxing spell of some 5 or 6 years. Thanks Chris, for the excellent job you did and for the high standard you achieved. The editorship was taken over by Marianne Botha at the beginning of this year, but due to work commitments she has had to pass it on and from July 2005 we will have a new editor, Robert Groess.

One of the casualties resulting from moving our monthly meetings to the lecture room down the hill, has been the loss of easy access to the library and we need to devise a plan to make it easier for our members to use the library facilities. Our library consists of over 500 books and many years of magazines and newsletters and we hope to find a means of once again making it accessible to all members.

Much work, mainly by Chris Stewart and Evan Dembsky, went into setting up our website. During the year we decided to update it and move to a new computer site. This is taking time and we need the assistance of some of our members to set up this web site and keep it up to date.

We again manned a stand at the HobbyX exhibition and a team of volunteers, led by Jerome Jooste, gave up 3 days of their time to once again ensure that it was a success. Thanks to all those involved.

Talks specifically aimed at beginners were on our schedule for the year, but got lost somewhere along the way. For the upcoming year we hope to revive them, perhaps in a different format. After all we were all beginners at some time and those of us with some experience owe it to the newer members to pass on our knowledge.

Our monthly meetings continue to attract good attendances, thanks to the varied program and excellent speakers we have managed to attract. Attendances have been in the 40-70 range.

Monthly meetings and talks were as follows:

2004	August	Dr Barbara Cunow	“Dust in Galaxies”
	September	Richard Wade	“Great Zimbabwe. Archaeoastronomy”
	October	ASSA Symposium	
	November	Etienne van Zyl	“Sutherland Tour - reminiscences”
	December	Star Party in Henley on Klip	
2005	January	Dave Gordon	“Cassini mission to Saturn”
	February	Brian Fraser	“Astronomical events and the Extinction of the Dinosaurs
	March	Prof Morris Viljoen	“The Geology of planet Earth”
	April	Dr. Chris Engelbrecht	“Hot Topics in Physics”
	May	Planetarium visit	An informal look at interesting objects
	June	Brian Fraser	“Variable Stars – How and Why”

In addition we hosted a Saturn viewing evening with the 26 ½ inch Innes refractor, but unfortunately this was clouded out. The evening was not wasted as Dave Gordon gave an entertaining talk on the giant ringed planet. Although we have the use of this telescope, we seldom do so as it is such a cumbersome instrument to set up and move around.

Membership usually drops off at the beginning of the year as some people don't renew but picks up again steadily throughout the year. Currently we have around 190 members as well as a fair number of family members.

As we close the year there are a number of unresolved issues that will have to be taken care of by the new committee. Arranging secure tenure with SAASTA, completing the new web site and keeping it up to date, and hosting a series of beginners talks are just some of the items to be arranged.

To all the members of the committee who have given of their time, their ideas and their energy to keep this centre running I would like to say that is not a thankless task, for on behalf of all the members I would like to say a big “Thank You”.



**The Astronomical Society of Southern Africa
Johannesburg Centre
Income Statement for the Financial Year ended 30 June 2005**

	R 2005	R 2004
Income	75,556.75	83,245.39
Members Subscriptions, Joining Fees & Donations	22,902.50	21,987.50
Donations - Non-Members	0.00	1,000.00
Donations - Telescope Making Class	1,500.00	1,000.00
Donation - Web Hosting	624.00	748.80
Donation - Insurance on AV projector	648.00	0.00
Surplus on sale of ASSA CDs & Sky Guides	2,500.00	4,058.40
Special Events - Mike Melville, Mars & Gas Giants, Marsha Ivans	5,558.00	24,140.00
Scope-X Gross Income	26,144.35	28,763.69
Symposium 2004 Income	14,210.01	0.00
Interest on Call Account	1,469.89	1,547.00
Expenditure	63,582.36	73,021.48
Asset Purchases	0.00	14,525.00
Bank Charges	1,329.60	1,425.85
Posters, Framing & Block Mounting, Signage	956.80	875.30
Hobby-X : Printing	0.00	116.00
Hobby-X : Stand Fee	0.00	855.00
Insurance - AV Projector	648.00	0.00
Library Books	0.00	75.00
Meeting Refreshments & Kitchen Consumables	385.20	1,633.52
Post Box Rental	440.00	460.00
Printing & Distribution - Canopus	5,149.01	6,569.17
Rent/Venue Hire - AS&TS	8,214.84	6,357.52
Repairs & Maintenance	0.00	2,602.12
Scope-X Expenses	24,606.33	20,073.53
Security	2,944.94	4,904.50
Sky Guides - Cost	1,500.00	0.00
Speaker's Gifts - monthly meetings	950.00	150.00
Special Events - Mars, & Gas Giants, Marsha Ivans	0.00	11,395.97
Subscriptions - Sky & Telescope, Astronomy	390.00	0.00
Symposium 2004 Expenses	15,359.92	0.00
Web Site Expenses	707.72	1,003.00
Net Surplus	11,974.39	10,223.91
Nedbank Bank Balance at 30 June 2005	7,525.14	7,503.70
Nedbank Call Balance at 30 June 2005	74,033.41	52,279.18
Cash Float at 30 June 2005	210.58	385.00
Amount held in trust for ATM Class	4,442.00	
Accruals (amounts not shown in Cash Book but reflected in Income Statement)		
AS&TS - Rent	6,846.84	3,977.10
AS&TS - Hire of facilities	228.00	228.00
	7,074.84	4,205.10

**The Astronomical Society of Southern Africa - Jhb
Centre
Cash Flow Statement for the month ended July 2003**

	2006	2005	per paying member
Income	19,010.00	21,125.00	
Subscriptions - Current	17,160.00	21,125.00	109
Interest on Call	1,850.00		
Expenses	20,184.00	20,277.84	128
Bank Charges	1,330.00	1,080.00	8
Postbox rental	242.00	215.00	2
Printing & Distribution	7,128.00	8,400.00	45
Rent	7,524.00	6,846.84	48
Security	3,240.00	2,736.00	21
Speaker's Gifts	720.00	1,000.00	5
Net Cash Flow	-1,174.00	847.16	-7

The above makes the assumption that no new members join the society in the next financial year.

2005			
Member Profile	#	Unit	Gross
		R	R
Ordinary	130	125.00	16,250.00
Pension/Students	30	R 62.50	R 1,875.00
		R	
Family	20	150.00	R 3,000.00
			R
Total Members	180		21,125.00
Gratis	20	R 0.00	R 0.00

2006			
Member Profile	#	Unit	Gross
		R	R
Ordinary	128	120.00	15,360.00
Pension/Students	30	R 60.00	R 1,800.00
			R
Total Members	158		17,160.00
Gratis	18	R 0.00	R 0.00

assa johannesburg atm class report: june 2005

by Chris Stewart

It is the nature of Amateur Telescope Making that people proceed at their own pace on their projects, this pace being influenced by multitudinous extraneous demands on their time. At times, it is necessary to put a project on ice, hopefully to revive it at a later stage. Therefore, it is difficult to say with certainty just how many people are “in the class” at any one time – people come and go. Nevertheless we are always happy to see someone coming back after a long absence, as the goal of the class is to promote completion of instruments. That having been said, it has been quite gratifying to see that the class has been very active and full for most of the year, with peak attendances above 30 people. A total of about 90 “regulars” have signed the register this past year.

In an effort to assist in the induction process and to ensure that all participants have a clear understanding of how the class works, an “ATM Class Manifesto” was drawn up and introduced in mid-January. To date, 45 people have signed this, i.e. about half the number that has been associated with the class this past year.

Vince Nettmann, in conjunction with the Johannesburg Planetarium, has been involved in an enrichment program for bright high-school children. Of this group, a hand-selected few have been sponsored to join the class and acquire materials; they are doing very well indeed. It is hoped that they will spread a passion for astronomy within their communities and also support the next batch to be selected for this program.

Once more, Jerome Jooste, Keith Lou and several other members of the ATM class put up an excellent ATM display at HobbyX. They spent 3 days, explaining, explaining, explaining...

Again, class members past and present put in a magnificent effort for ScopeX. Keith Lou and Vince Nettman's young ATM team from the Planetarium did sterling work, answering interminable questions and demonstrating mirror grinding to the visitors. ScopeX once again generated many new members, a number of whom will hopefully complete their scopes before year-end.

As usual, we have also tried to help those in outlying districts, providing advice and encouragement (and even occasionally materials). It has been heart-warming to see the Durban group grow, and impressive that the Bloemfontein group were able to exhibit a few completed instruments at ScopeX event although they only started during this past year. We would like to see them grow from strength to strength.

One of the paths to success in this hobby is to avail one's self of whatever materials are to hand, and press these into service. This approach not only saves money, but promotes

ingenuity and variety, apart from being a particularly effective recycling mechanism (good for the planet). Occasionally, one gets lucky; this year we had a real windfall. A large quantity of good quality plate glass was salvaged from the old Durban Oceanarium as it was being demolished. Through a co-ordinated effort, we were more successful in this, than in the previous lot from the Cape Town Oceanarium (though at 24mm the glass was unfortunately not quite as thick as that from Cape Town). A large number of sizeable disks - up to 16 inches in diameter - were cut, and distributed country wide. We would like to thank all those who assisted with the logistics (information, co-ordination, transport, negotiations, etc.) of this whole mission - particularly Neville Graham, Gerhard Koekemoer, Brian Fraser, Chris Curry and Lerika Cross. We hope that the glass will be well used, resulting in some large instruments manifesting at future ScopeX events.

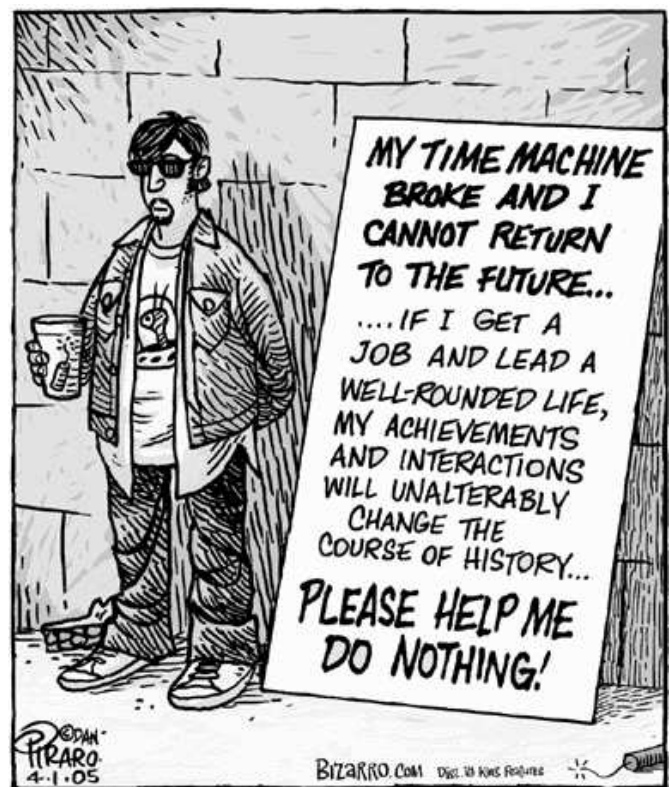
I would like to extend a big “thank you” to all who give so selflessly of their precious time week after week - especially Dave Hughes, Vincent Nettman, and Keith Lou – as well as the others such as Lerika Cross and Bruce Dickson who pop in from time to time to assist or who provide background support. Without this commitment, there would be no class.

astro news briefs

2005 Astronomy Day Award Winners

The Cradle of Aviation Museum was chosen by the Astronomical League as the top winner for this year's SKY & TELESCOPE Astronomy Day Award. The annual prize consists of a commemorative plaque and a \$250 gift certificate from Sky Publishing.

Based in Garden City, New York, the Cradle of Aviation Museum involved many other organizations and hosted special activities on Astronomy Day last April, attracting 2,412 attendees plus an additional 3,272 during Astronomy/Space Week. In addition to the top prize, the museum also won the award for "Best New Idea" by inviting firefighters from Nassau County to demonstrate spinoff technologies that were derived from the US space program.



interview with Eben van Zyl, 7 July 2005

Elphin Lodge, 5 Cedar Park, PO Box 891 039, Lindhurst, 2106

Dave Gordon, Brian Fraser and Chris Stewart listed a number of questions they would like to pose to Eben van Zyl; Johan van Rensburg relayed these questions to him. On 7 July 2005 Lerika Cross visited Oom Eben and took down the answers from him. Before getting into the Q & A session, he told this story to Lerika:

“The first morning I walked to school with my mother (which by the way happened to be the start of the 2nd school quarter of the year, I only started at the 2nd quarter because I was ill – one could start school at any quarter) and I asked my Mom “Please remind me again what is 5 plus 7?” She said “12”. When I got to the class, the teacher asked me: “What is 5 plus 7?” Well, I could have said “I spotted the question”. I said “12”. I was then put into Grade 2 instead of Grade 1 - interesting system they had back then.

questions:

You were a school principal? Tell us a bit of your working career.

Yes, I was a school Principal, at Kensington High School. I resigned as principal after 12 years to take up a post at the University, at Wits, as lecturer in Applied Mathematics. And I also was appointed there as lecturer at the Planetarium, and that suited me down to the ground. At University I was taught the finance of maths including probability and insurance and things like that.

You have always liked mathematics? Which mathematician has made the most contribution to astronomy, do you think?

Yes. The mathematicians that stand out are of course the one and only Einstein, but also Mach, Lorentz, and Laplace and Newton. But Einstein and Mach stand out.

When did you first become fascinated/interested in astronomy?

I first became interested in astronomy in 1924. Mars was at its proximity to earth in one of its close approaches, which we learnt happens only once in every 15 years - and in newspapers they wrote they were going to send radio signals to the Martians. And this tickled my fancy and got me interested in reading books on astronomy.

What is your personal favourite branch of astronomy?

I've always liked Cosmology the most. But bright stars, dimmer stars and variable stars tickled my fancy as well.

What is your opinion regarding the current state of amateur astronomy in South Africa?

Should be very much more supported. It doesn't get the help and assistance that it should do.

What do you think should be done by the amateur astronomy societies and clubs to improve the awareness of astronomy in South Africa?

Classes! Hold classes for the new members and teach them about astronomy.

What do you think the Johannesburg Centre could do differently to what it is doing now?

I think it would be a good thing if the Centre can get a person to make a summary of a lecture that is given and that summary can be printed in Canopus. Does not have to always be the same person, different persons to fit the various subjects.

What is your view on the handling of things astronomical by the school system and do you have any suggestions in that regard?

Astronomy should be made a subject for grades 10, 11 and 12. Not a compulsory subject, no subject should be compulsory.

You wrote some quality books on astronomy – was it a very difficult exercise? Did you enjoy it?

Well, there was a lot of research work that I had to do, to co-ordinate things and to bring the notes that I had up to modern standards. It took 5 years to write the first one and it was hard work. I decided to typeset it myself and the typing took me 134 days working from early morning to late in the evening.

Which of your books sold the most copies?

The best seller was “Ontsluier die Heelal” – the 2nd edition is just about sold out.

Do you have any advice, as a result of your experience, for those wishing to write a book on astronomy?

If anyone wants to write a book on astronomy, they must not underestimate their reader and avoid mathematics like the plague. One can explain the math used in annexures at the back of the book that even a Standard 6 child could understand. I have received many letters in which people thanked me for having used school mathematics.

Do you have any advice for the armchair astronomer who is wishing to become more involved in amateur astronomy in South Africa?

I would tell an armchair astronomer to get going, either by practical astronomy or by reading. He/she must get going. It won't come to you.

The percentage of the South African population involved in amateur astronomy appears miniscule?

You must bear in mind that the Afrikaners to a great measure don't like astronomy - it breaks into their religious sentiments. One elder of the church said to me, when I explained to him what an ellipse is and what an orbit is, he shook his head and shrugged his shoulders and said “these are the things that astronomers should rather leave alone”. This was when they were sending up satellites, like Sputnik 1. At my school they had a debate (the

debating society had a meeting every month or so) and at this one meeting they discussed whether sending up satellites is of any value. All of 3 votes said they were of value. I was one of the 3 votes. So yes, only a small percentage is interested.

What would you consider man's greatest achievement in both astronomy and space exploration to be?

Well, landing on the moon and the journey of the space probe Voyager and now of course, Deep Impact. I think that Deep Impact is a fantastic achievement; to hit an object of no more than 8 kilometres in size after an almost 6 months journey of about 134 million kilometres, is something fantastic.

Oom Eben, do you think there is intelligent life on other planets?

There must be. If conditions are exactly right, the evolution of life must take place; if conditions are not exactly right, it won't take place. We have enough examples where life hasn't taken place, like Venus, Mercury, Mars (not sure about Mars, Mars may have had life), Jupiter, the gas giants – life can't take place on the gas giants - no side walk to walk on, and no water to swim in.

Also bear in mind that the number of planets must be at least 10 times the number of stars. What kinds of stars are likely to have planets? Stars F6 to F9, G0 to G9 and K0 to K2. They comprise about 25% of the stars that we can observe. And also bear in mind that any of the red dwarfs are too small, too faint, to be observed. F6 up to K2 stars have the right size, temperature, magnetism, gravity to develop for planets such as the earth.

In the meanwhile, I will say: carry on with ScopeX - it is an excellent event!

astronomy is a dangerous sport...

by Bruce Dickson

I had just mounted my 12" on its final resting place – a 15 ton concrete column through my garage and poking skywards. I sat down to admire my handiwork.

There was a plaintive meeeew from somewhere between my feet. I looked down and Miss Wanda Cat – then 8 weeks old – was staring at me from below the floor of my observatory. I bent down to pick her up, but couldn't reach. I knelt at the base of the pier, but still couldn't reach. I bent down fast, cracked my head on the pier and lay down for an impromptu nap.

Some time later I awoke from my doze, wiped the blood from my forehead and observed two blue eyes staring at me from about 2 inches away.

Hmmm, must put some padding there...

subscription renewals for 2005/2006

The new (reduced) subscription rates for 2005/2006 have been set as follows:

Ordinary:	R 120.00
Pensioners/Students:	R 60.00
New Member Joining Fee	R 50.00

The family category has been done away with. Families pay the ordinary fee (i.e.: R 120 per family) as they are issued with one copy of Canopus per family. The subscription period corresponds to the Centre's administrative year, 1 July 2005 to 30 June 2006.

Details to pay directly into the Centre's bank account:

Please contact the Treasurer, Dave Gordon, (011) 702 1219, and notify him of your deposit/transfer.

Bank:	Nedbank
Acc. No.:	1921 013761
Acc. Name:	ASSA Johannesburg Centre
Acc. Type:	Current Account
Branch:	Park Plaza
Branch No.:	19 21 42 44

Alternatively please mail cheques marked "**Not Transferable**" made out to "**ASSA Johannesburg Centre**", to PO Box 412 323, Craighall, 2024

canopus classifieds

For Sale – Various items of Astronomical Equipment. All prices quoted negotiable / nearest cash offer.

A 6" short focal length Dobsonian telescope, good optics, with eyepiece, no finder scope	R2500
An equatorial motorised fixed mount, suitable for an observatory. Will suit a 6" telescope, but can be altered.	R5000
A 2m telescope tube suitable for a 6" mirror. Can be cut to size and will suit telescope maker	R150
6" mirrors of various focal lengths, one incomplete	R2000 each
Various optical bits and pieces, including a right angle finder scope, lenses, eyepieces [for 1 ¼" telescopes and for microscopes, mirrors etc, suitable for experimentation. Available individually	Offer
A Vickers triple turret biological microscope restored and eyepiece. Sturdy.	R450
A brass Beck microscope triple turret with eyepieces, circa 1915, in wooden box	R1000

Contact Trevor 083 212 8945

the sky this month

august 2005

dd hh	dd hh
03 12 Pollux 1.7N of Moon	14 14 Antares 0.4S of Moon Occn.
04 06 Saturn 4.5S of Moon	15 12 Mercury stationary
05 01 Moon at apogee	19 01 Neptune 4.2N of Moon
05 03 NEW MOON	19 07 Moon at perigee
06 01 Mercury inferior conjunction	19 19 FULL MOON
06 14 Regulus 3.2S of Moon	20 14 Uranus 2.2N of Moon
08 05 Venus 1.2S of Moon	24 02 Mercury greatest elong W(18)
08 17 Neptune at opposition	25 04 Mars 5.3S of Moon
10 08 Jupiter 1.1N of Moon Occn.	26 16 LAST QUARTER
11 01 Spica 1.3S of Moon	30 18 Pollux 1.6N of Moon
13 03 FIRST QUARTER	31 19 Saturn 4.4S of Moon

september 2005

dd hh	dd hh
01 03 Uranus at opposition	15 10 Neptune 4.3N of Moon
01 07 Moon at apogee	16 15 Moon at perigee
02 00 Venus 1.2S of Jupiter	16 23 Uranus 2.2N of Moon
02 12 Mercury 2.5S of Moon	18 03 FULL MOON
02 20 Regulus 3.1S of Moon	18 03 Mercury superior conjunction
03 03 Pluto stationary	22 05 Mars 5.7S of Moon
03 19 NEW MOON	22 23 Equinox
04 16 Mercury 1.0N of Regulus	25 08 LAST QUARTER
06 11 Venus 1.7N of Spica	27 01 Pollux 1.5N of Moon
06 23 Jupiter 1.6N of Moon	27 22 Jupiter 3.1N of Spica
07 07 Spica 1.2S of Moon	28 08 Saturn 4.4S of Moon
07 09 Venus 0.5N of Moon	28 17 Moon at apogee
10 20 Antares 0.2S of Moon Occn.	30 03 Regulus 3.2S of Moon
11 12 FIRST QUARTER	

local times of rise and set for the major planets

site location: lat. **26.0 deg S** long. **28.0 deg E** local time – UT = **+2.0 hrs.**

Date	Sun		Mercury		Venus		Mars		Jupiter		Saturn	
	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
Aug 9	6.42	17.47	6.12	17.27	8.31	20.19	23.37	11.00	9.42	22.07	5.58	16.44
Aug 19	6.34	17.52	5.33	16.35	8.25	20.33	23.20	10.37	9.07	21.35	5.23	16.10
Aug 29	6.24	17.56	5.33	16.37	8.18	20.47	23.01	10.12	8.33	21.04	4.48	15.36
Sep 8	6.14	18.00	5.53	17.17	8.11	21.00	22.37	9.44	7.59	20.33	4.12	15.02
Sep 18	6.03	18.04	6.09	18.03	8.06	21.14	22.09	9.12	7.25	20.02	3.36	14.27
Sep 28	5.51	18.09	6.17	18.42	8.02	21.28	21.36	8.37	6.52	19.32	3.00	13.52