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FEDERATION OF ASTRONOMICAL SOCIETIES

Issue 63

<http://www.fedastro.org.uk>

Astronomy Convention in Wolverhampton

Wolverhampton Astronomical Society, in Association with Wolverhampton Science Park, presents an Astronomy Convention and exhibition to celebrate 50 Years of Wolverhampton Astronomical Society, on Saturday 24th March 2001 at Wolverhampton Science Park.

Lectures "Ground Based Astronomy Technologies"

Prof. Ian Robson

Director Joint Astronomy Centre
and James Clerk Maxwell
Telescope, Hawaii

The SCUBA Revolution

The Submillimetre is the last of the ground-based 'windows' on the Universe to be explored. Over the last two years the entire field has been revolutionised by the introduction of a new instrument onto the James Clerk Maxwell Telescope in Hawaii. This instrument is called SCUBA, the Submillimetre Common-User Bolometer Array, which was built in the UK.

Dr Andrew Newsam

Liverpool John Moores
University

The Liverpool Telescope

A 2.0 metre fully robotic telescope, under construction at the Observatorio del Roque de Los Muchachos, La Palma, Spain.

Dr Philip Diamond

Jodrell Bank Observatory

Making Movies of Stars

In association with the National Radio Astronomy Observatory (NRAO) in Socorro, New Mexico Dr Diamond and colleagues have for the first time created a time-lapse 'movie' of gas being ejected from the surface of a star. Their images are the most detailed ever obtained of activity close to any star other than the Sun.

Dr Patrick Roache

Oxford University

The Gemini Project

Gemini is a multi-national observatory with twin 8.1 meter astronomical telescopes that utilise new technologies to produce some of the sharpest views of the universe ever. One telescope is located atop Hawaii's Mauna Kea and the other atop Chile's Cerro Pachón - together they provide complete unobstructed coverage of both the Northern and Southern skies.

Wolverhampton Science Park is located near the City Centre and is on local bus routes from the railway station. The lectures are to be held in the modern 200 seat auditorium which has high specification presentation facilities and air conditioning. Cafeteria facilities available. Convention runs from 11:00 a.m. to 8:30 p.m. Entrance is by ticket only with a fee just £5.00 per person. Also available at the convention is space for Society Exhibitions and Trade Stands. If anyone is interested in a Society or Trade Stand please contact the Secretary on 01562 742850 or email secretary@wolvas.org.uk. See www.wolvas.org.uk for latest details. Tickets are available in advance from Michael Bryce, Wolverhampton AS, 16 Yellowhammer Court, KIDDERMINSTER. DY10 4RR.

Cheques to be made payable to Wolverhampton Astronomical Society please.

www.wolvas.org.uk

Searching for Extrasolar Planets and Extraterrestrial Life

A short course from Swinburne Astronomy Online

We are offering a six week internet-based course starting 23rd April 2001. There are no exams but plenty of lively discussion via newsgroups with the instructor and fellow students around the globe. The course fee is \$A275 (about 100 quid !).

For further information and sample course material, go to:
www.swin.edu.au/astronomy/sao/shortcourse/



Astro@swin.edu.au

Swinburne University of Technology,
Hawthorn, VIC 3122, Australia

Proposed New Syllabus for GCSE Astronomy.

By Peter Corbally, FAS Education Secretary

Edexcel, the body which provides the astronomy GCSE course in England and Wales has submitted a 78 page draft specification to the Qualifications and Curriculum Authority for a revised GCSE course in Astronomy (1627) for first examination in 2003. The course has to be revised in response to their latest overhaul of the National Curriculum in May 2000.

There had been some fears that Edexcel wanted to take the opportunity of the revision to drop GCSE Astronomy altogether. Their argument was that it was uneconomic (with very few candidates) and that there was no differentiation or spread in the results (all astronomers are clever !).

The submission to the QCA seems to indicate that Edexcel has changed its mind or they may be just going through the motions to have a new astronomy GCSE ready if necessary.

The new draft specification for GCSE Astronomy 1627 can be viewed at <http://www.edexcel.org.uk>. The proposed course consists of one two hour examination worth 75% of the marks and two pieces of coursework worth 25%. The content for the exam is contained in 5 units -

1. Planet Earth
2. The Moon and the Sun
3. The Solar System
4. Stars and Galaxies
5. Observing Techniques and Space Exploration

The course is provided in one tier (there are no harder and easier papers) producing Grade G to A* . Differentiation is to be achieved by an incline of difficulty within the questions and across the examination paper. In addition activities in the coursework section will provide tasks which reflect differing levels of ability.

In the exam all the questions will be compulsory requiring a variety of responses including structured questions and extended prose answers.

In the Coursework section a radical departure has been made from the old GCSE course which just required the candidates to keep an observing log. Now the specification gives sixteen tasks to choose two from. The course work tasks are divided into two groups - A. Observations and B. Graphical, Computational and Constructional work. List A sets out eight tasks, four naked eye projects and four binocular or telescope, from which the candidates have to choose one. List B sets out four graphical / computational tasks and four constructional tasks from which the candidates choose their second piece of coursework.

The sixteen suggested activities look interesting and do range in complexity to provide for differentiation between weaker and more able candidates. Thus one suggestion from List B1 (graphical and computational) requires "Drawing a large scale chart of the Moon from photographs, marking in and naming prominent features and positions of Apollo and other notable lunar landing sites"

Simple enough but compare that to this project from List B2 (constructional). "Design and make a model of an eclipsing binary system using a motor, lamps and simple electronic components (e.g. LDR). Obtain measurements for drawing a light curve for the model and compare this to the light curve of a real eclipsing binary system."

In addition to the information about the course content and examination, the draft specification lists six textbooks which are "strongly recommended" for GCSE Astronomy and a full list of other materials and contacts.

In general the new proposal looks like an improvement on the old course especially in view of the meatier and more practical coursework activities required. It remains to be seen whether it will be accepted as is by the QCA, revised to fit the National Curriculum more closely and whether Edexcel will actually go ahead with it in view of the outcry created by their proposal to scrap GCSE Astronomy in 2002.

FAS Education Secretary - peter.corbally@btinternet.com

Mir – the end

By Andy Salmon, Midlands Spaceflight Society

After a false dawn in 2000 it seems that the Russian space station Mir will finally fall to Earth in 2001 after 15 years of activity.

Everyone thought the end was nigh for Mir in the autumn of 1999. The Russian government declined to fund further operations because they couldn't keep Mir going at the same time as honouring their commitments to the new International Space Station (ISS).

There were various rumours of Mir being saved by western capitalists but everyone was surprised when the rumours turned out to be true. The Mircorp company was set-up with millions of dollars from two western investors. Launch of a repair crew was financed and they set to work. Mir was re-activated, its air-leak plugged and science activities started again. Several Progress robot logistics flights were also funded – to fire their engines and so keep Mir's 350-400 km high orbit from decaying.

But by the middle of the year 2000 Mir was unoccupied again and precious few sources of income to Mircorp had materialised – apart from the planned flight of two fee paying passengers in 2001 and 2002. The falls in the high-technology stock market meant that Mircorp's investors provided only promises of future cash rather than the much needed hard currency. Mir's owners (and builders) RKK Energia "paid for" a further Progress tanker flight in October 2000 – meaning that they took it from their production line of Progress tankers intended for ISS.

There were several Russian Space Agency meetings in October where it was said the final decision on Mir's future would be made. But no-one wanted to be the person that signed its "death warrant". Ultimately the issue was fudged. The council of chief designers said that Mir was capable of further operations. The head of the Russian Aviation & Space Agency (RAKA) said that Mir should be de-orbited unless further funds were provided from outside the government. And the government itself provided theoretical funding from the proceeds of R&D licences – though this amounted to almost nothing. Old time communists in the Duma (parliament) made lots of noise about government funding for Mir and motions were debated but they amounted to naught.

Push came to shove in November when the government finally got plans from RKK Energia for what to do with Mir in 2001. Government payment for one last tanker flight in February 2001 and then a controlled de-orbit in late February. Or just use the tanker still docked to Mir for the de-orbit engine burn – though this would be less controlled – with less propellant available to cope with any last minute perturbations to the controlled descent. And an "emergency" crew should be available (funded by the government) to take control of Mir or the tanker in the event of a failed tanker docking or any loss of Mir control before the final de-orbit burns. Such a "salvage" crew has docked with a totally out of control space station before (Salyut-7) so it's not as impossible as it sounds.

The Russian government is liable for any damage caused by Mir's return to Earth so they opted for the last tanker flight and agreed for the emergency crew to be placed ready.

Incidentally some of the other suggestions included destruction of Mir by a missile or dismantling Mir into its component modules for separate de-orbit – but these would generate even more uncertainties in the debris spread.

As if to confirm Mir's end, Mircorp made a press announcement on December 12 that "the board took a decision to cease the marketing of the Mir space station" and was throwing in its lot with the Russian part of ISS.

In late January a Progress-M1 tanker with a double load of propellant will dock with Mir. Over several days it, along with another Progress-M tanker already docked to Mir, will make synchronised engine firings. Mir's orbit will be lowered to just 170 km high. Then there is one last 800 second long firing by the Progress-M1,

over Africa. A few minutes later, over Russian tracking stations, the orbit will be fine-tuned. As it passes over Australia, New Zealand and the Marquesas Islands (French Polynesia) on successive orbits, the thicker atmosphere rushes to meet Mir at just 80 km high.

On February 27 or February 28, a strip of sea far to the East of Australia, away from shipping lanes, 200 km wide and 6,000 km long will be showered with whatever survives the entry of the 130 tonne Mir into Earth's lower atmosphere.

A propaganda banner at Russia's spaceport in Kazakhstan, Baikonur Cosmodrome, reads "Russia has been, is, and always will be, a space power". Mir was the last visible manifestation of that for much of the world. But with ISS now up and running Russia can keep its space infrastructure going. Not as prolific as it used to be; and it's no longer in full control; but there is a need for Russian rockets, lifeboats, tanker craft, some flight control, cosmonaut/astronaut training and a spaceport to launch them from.

The sad part is that there are almost no funds for Russian science on ISS and that many tonnes of perfectly usable research hardware will be burnt up on Mir. Expect most of the hardware on the Russian side of ISS to be provided by countries like France and India or even commercial western companies.

Mir has been used for astronomy in the past but most fields of that science can be accomplished far easier from robotic satellites. What Mir, and ISS, is most useful for are the fields of materials science, life science, fundamental physics/biology/ chemistry and space technology (testing hardware for ultimate use on robotics spacecraft). And the often unspoken reason for Mir and ISS: to learn how to preserve human life in space ready for long duration spaceflight. We still have a lot to learn about the psychological and physiological effects of spaceflight and counter-measures for them.

Mir was built to last 5 or 6 years. It has lasted 15 years and is still usable. Please don't remember Mir just for its terrible year of 1997 (the fire; Progress freighter collision; life support and computer failures).

Remember instead the 62 successful robot dockings; the assembly of a space station from 6 add-on modules; the 70 spacewalks – including assembly of 3 solar panels to provide power and construction of a 14 metre high pylon to hold a thruster module; nearly 10 years of continuous occupation; 28 long duration stays by crew; and the 437 day long flight of Medical Doctor Valery Polyakov.

As a footnote to history, on December 8 the Russian Aviation and Space Agency hosted a meeting of the "Transnational Committee on mission support and operation of Mir space station".

The meeting reviewed the results of activities under the space station flight test program for the period of 1986 - 2000.

"It noted that:

- All the activities envisaged in the flight test program for modular space station Mir which was approved in 1986 had been fully completed;
- Technologies for creating, deploying and operating permanently manned space stations have passed developmental tests;
- The research program has been completed;
- Mir space station operational life in orbit has exceeded the originally specified 5-year life in orbit by a factor of three.

Taking into account the fact that the Mir space station was in a fully operational condition, the Committee confirmed that its operation could be further extended".

Andy Salmon is a writer and lecturer on spaceflight and astronomy topics.

E-mail: Andy_salmon@compuserve.com

Wolverhampton Astronomical Society

The Society has enjoyed some excellent evenings since resuming formal meetings in September. Beginning with Dr John Lockley from Southampton University who gave an insight into Gamma Ray astronomy including detailed descriptions of the forthcoming Integral Gamma Ray astronomy spacecraft and showed many observations from the NASA Compton Gamma Ray observatory.

The second meeting should have been the Presidents Address but due to work commitments this had to be changed at the last minute and showed what the Society could achieve under pressure. With little more than two hours notice and in true "the show must go on" spirit, the meeting went ahead with short talks given by Sydney Crump, Simon Barnett and Michael Gallea. After the AGM in October, the re-elected Society Council felt that due to the group's forthcoming 50th Anniversary in 2001, and the accompanying celebrations, a long-standing Member should become President. The Council agreed that Mrs Barbara Russell fitted the bill and she was duly elected.

On Saturday 28th October the group was fortunate enough to have a small "star party" held at Sydney Crump's house near Stourport On Severn. It was touch and go with the weather but by early evening clear skies greeted us. We had several excellent views of Jupiter, Saturn, M42 and M31 through Sydney's 10" Newtonian telescope housed in his home built observatory.

Professor Nye Evans from Keele University was our next visiting speaker and he gave an interesting talk about Globular Clusters. In November Mrs Russell presented a meeting with a talk about scientists and astronomers who have their names immortalised as features on the lunar surface. At the second November meeting Dr Trevor Ponman gave a lecture about X-ray Astronomy including some excellent details about black holes and their relationship with galaxy formation. Society member Roger Jones took the final meeting before Christmas with a look at the new Internet television technology and a demonstration of astronomical sites available via the Internet.

The first year of the third millennium is very important for Wolverhampton Astronomical Society as we celebrate our 50th anniversary. Apart from our normal Monday evening meetings we have a special astronomy convention organised in conjunction with Wolverhampton Science Park on Saturday 24th March 2001. Four prominent professional astronomers will present lectures showing the very latest technology available for exploring the depths of the universe from ground-based telescopes. The convention is to be held at the Wolverhampton Science Park and will benefit from a state-of-the-art 230-seat auditorium with full audio-visual and air-conditioned facilities.

Full details of our forthcoming programme and the convention can be found at our web site at www.wolvas.org.uk or by email at secretary@wolvas.org.uk.

Birmingham Astronomical Society Honoured with Asteroid 7573 being named Basfifty by the International Astronomical Union

The announcement citation is:
"Asteroid 7573 Basfifty= 1989VX
Discovered 1989Nov.4 by B.G.W. Manning at Stakenbridge.
England's Birmingham Astronomical Society is currently celebrating its fiftieth anniversary. The society was established in 1950 largely as a result of the University of Birmingham's extramural classes on astronomy."

Brian Manning was a founder member of the Society & discovered 11 asteroids photographically before the CCD camera became generally available to amateurs. He is well known by Brian Marsden & many other professional astronomers for his astrometric work on determining orbits of as-

teroids & comets. He was asked by NASA in 1984 to photograph the approach of Halley's Comet to refine it's orbit.

Asteroid Basfifty is mag 16.5 & presently just below Saturn. 36 observations were made to determine it's orbit & has an orbital period of 5.47 years. Its assumed asteroid diameter is 18.2Km. Distance from earth 244,403,919Km.

A " First Day Cover "dated 17th.March 2000 was presented to Dr Brian Manning at our final Lecture Meeting of the year which has included a weekend coach trip to Sidmouth & Lockyer Observatory and to the Royal Greenwich Observatory to mark our 50th anniversary year.

Lottery Grant !

After reading about two Societies obtaining a lottery grant we applied & got one for an LX200 10" together with a CCD camera for our observatory £4707 - A great Tip Off!

ASTRA (The Association in Scotland to Research into Astronautics)

Astra is a charitable organization, dedicated to the education of Astronomy and Science subjects amongst the general public. We have existed for over 45 years and have been active in Airdrie since 1977 when we became curators to the public observatory above Airdrie Library on behalf of the local council.

The First Lottery Grant was awarded in June 1999 (£3,302) Whereby we were able to purchase some computer equipment. This equipment will advance our ability to educate the public as well as produce circulars and aid the smoother running of ASTRA.

A Second Grant was awarded around January 2000 (£2,300) and this time allowed ASTRA to purchase further computer equipment for our Glasgow branch headquarters.

A Third Grant - again from the national lottery was awarded in December 2000 (£2,745) and it will allow us to restore the observatory to its past glory by purchasing a brass orary, a brass gregorian telescope, a barograph, weather equipment, brass timepieces and a new drive for the observatory dome. It is intended that this equipment will show how the observatory was run from the 1920's as well as complementing the existing 6" brass Cooke telescope which has been present there for around 75 years. The telescope was originally a donation from a local man - a Mr. Coates who we believe was a local businessman who used the telescope for his own personal use. The age of the telescope is believed to date back to around the 1870's.

ASTRA Meet every Friday at 7:30 pm in Airdrie Arts Centre. Non members are always welcome to come along. For further information, contact Paul Clark on 01935-421844 (h) or 0700-5609545 (m) or alternatively Mr George McCue on 01236-602076.

Please visit our website at www.astra.org.uk

Editor's Spot

Just a brief note of thanks to everyone who has sent items for inclusion into this edition of the Newsletter. I think I have included something from everyone that has provided information either through the post or by email. If your society does not appear then most likely I have not received anything !

A few societies have also been sending me copies of their own Newsletters which have indeed been interesting reading. It is great to learn about the work going on by societies around the country, please keep them coming !

I am also always on the lookout for larger articles on any aspects of amateur astronomy. If you have an article in mind please get in touch.

Callum Potter, FAS Newsletter Editor

REDSHIFT ④



New!

RedShift 4 is the latest version of Maris Multimedia's award-winning desktop planetarium software. RedShift 4 allows you to recreate a view of the night sky from anywhere in the Solar System from 4700BC to 9999AD.

Using the latest orbital theories, star catalogs and galaxy catalogs RedShift 4 delivers the universe onto your desktop at unprecedented levels of accuracy. RedShift 4 has been designed to make knowledge of the heavens available to the beginner, amateur and professional astronomer alike.

Tycho-2 star catalog alongside the Hipparcos catalog giving precise astrometric measurements on 2.5 million stars down to 11th magnitude.

4M catalog and the Hubble Guide Star Catalog covering a further 15.5 million stars down to 20th magnitude.

New General Catalog of Variable Stars and the Washington Double Star Catalog to provide further information on stellar systems.

Principal Galaxies Catalog containing details on over 70,000 galaxies.

RedShift 4 uses multiple windows allowing you to simultaneously view events from multiple locations.

The latest algorithms for plotting the positions of planets and moons in the Solar System giving positional accuracy of the planets to less than 1 arc second for at least 2000 years into the past or future.

The Asteroid Orbital Elements Database giving the positions of 15,000 asteroids.

The 13th edition of the Catalog of Cometary Orbits containing over 1,700 comets.

Updated!

Jacqueline Mitton's Dictionary of Astronomy.

Photo Gallery.

Sky Diary allowing you to plan your observations.

Interface design giving you greater control over how you view the universe.

Minimum system requirements:

Pentium processor 200 MHz or equivalent.

Windows®95, 98,2000.

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800x600 resolution. 64k/16 bit color.

2MB Video RAM.

64 MB of RAM

80MB Hard Disk Space

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OUR OFFER

Red Shift 4 - retail price £19.99 + post & packing

Orders in response to the advertisement £18.50 inclusive of post & packing.

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As usual – pay when you have received the goods. **To order** email, write, phone.

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Ray@lambdapub.demon.co.uk

Dark Skies Spot Roy Foster and Dark Skies Campaign

I have known Roy Foster for some years now, he is a member of the North Devon Astronomical Society, and has been campaigning for dark skies for as long as I can remember.

Roy, who lives in Great Torrington, North Devon, wrote and petitioned to several local councils and Devon County Council, the petition was on two fronts:

1/: Light pollution, **astronomically**, not very good for seeing the faintest objects, just some bright stars and the moon.

2/: Light pollution, **residential**, where people like you and I have Sodium lamps outside our homes, which, putting it mildly, is annoying.

As we all know, when walking or driving, the light street lamps emit (whether high or low pressure sodium) goes everywhere, and not where it's supposed to. Take super-market car parks, town car parks, housing estates, no wonder we cannot see the heavens properly.

When you are out of city or town, the light pollution they emit is like yellow hallows above them.

After what seems like years, Devon County Council, have now agreed to renew any lamps that are 25 to 30 years old, and install a

new type with down reflecting hood. This also applies to new lamps in new housing estates and new roads.

Roy has told me, that a street near to where he lives has had one side done with the new hood, and the other side left alone. The result, I have been told, is amazing.

I have to admit, the only time I ever go to Torrington is in the day time, to see my astronomical friends. But, I hope to see this street for myself, and photograph it, so that you will be able to see it at the astro-fest, on the FAS stand.

The only councils in Devon that Roy does not know whether they will adopt the new idea are Plymouth and Torbay.

All I can say is a big thank you to Roy, and all the people in Devon who have complained, petitioned and written to Devon County Council, and have got them to do what they have done so far.

John Parratt, Secretary North Devon As
Publicity Officer F.A.S

Many societies are active in promoting an awareness of Dark Sky issues in their areas. If you have had a particular success or failure, perhaps why not share your experiences by sending in an item for the "Dark Skies Spot".—Ed.

SALFORD Astronomical Society November 2000 Leonids

In the Salford and surrounding areas, the November 1999 maximum night of the Leonids was clouded out and so, for the 2000 event myself and four society colleagues decided on a two night stay at the Fieldview Astronomy Centre in Norfolk.

We arrived early evening on Friday 17th November. Our luck was in, the sky was clear, the milky way was visible, and shortly after 8.00 pm we commenced observing. A little later on we were joined by our hosts, Christine Parker and Simon Batty, plus two London guests and two from the local North Norfolk Society and among other objects, we observed a few Leonids. Around 12.30 am the show proper started (or so we thought at the time) with a rate of one to three bright meteors per minute (the fainter ones being washed out by the now rising moon) for a period of twenty to thirty minutes. About 1.30 am, thinking the maximum was over, five of the party retired, leaving myself, Chris and four others still observing. At 2.30 am the shower peaked again for about 30 minutes and this time it was even more spectacular, with at times, 15 meteors per minute.

Retiring at 4.00 am, we estimated that during the night of Nov. 17/18th we had collectively observed around three hundred meteors, including a few magnitude -2 fireballs. The latter left long green trails that remained for a couple of seconds or so after the Leonid had disappeared. I took some photographs, it was a fantastic night and we all had a great time. The following night it was raining continuously.

Meanwhile, back in the Salford area, it was again a none-event as cloud dominated the skies throughout the night.

Andy Carroll,
Salford Astronomical Society

SHEFFIELD AS

The past year has been very exciting at Sheffield AS. The committee and members have worked very hard and have seen the society revitalised. In 1999 we moved from a venue in the city centre to a dark sky site. This year we have obtained two 10 inch

Meade LX200's, one through a swap for one of our antique scopes and one through a grant from the "Millennium Awards for All" scheme. Membership has continued to grow and we have recently been given access to the University of Sheffield's 24 inch observatory telescope. Our recent member's observing evenings have been well attended and we have taken part in many local events. The future of the society looks very promising.

Meetings start at 19:30 and end around 22:00 on most second and fourth Mondays of each month at Mayfield Environmental Education Centre, David Lane, Sheffield S10. This is situated to the west of Fulwood village centre. Follow the signs to Mayfield Chapel, which is nearby.

For further information contact Darren Swindells on 0114-269-2291, email sheffieldastro@hotmail.com, or see our website at www.sheffieldastro.org.uk

UK to Join European Southern Observatory

On the 22nd November an announcement was made by the UK Government and PPARC that funds would be available to join the European Southern Observatory (ESO).

This will keep UK astronomers and physicists at the forefront of international research, and will be the foundation for cutting edge research over the next 10 years. Facilities at ESO include the 8m VLT telescopes.

More information about ESO can be found on the web at:

<http://www.eso.org>

FAS Web Site On The Move

You may have noticed that the FAS web site has moved to our own domain. If you have a link from your society site, please can you make sure you change the link to:

<http://www.fedastro.org.uk>

SOCIETY NEWS ROUND UP

CARDIFF AS

Meetings alternate Thursdays, September to July, 7.30 pm. at Dept of Physics and Astronomy, Univ. of Wales, 5 The Parade, Newport Road, Cardiff. Contact David Powell (secretary), 029 2055 1704. Email CAS@ilddat.demon.co.uk.

Web site: http://carina.astro.cf.ac.uk/cas/cas_home.html

- 1 Mar Where have all the Martians Gone. Mr. Trevor Sproston, Letchworth, Herts.
15 Mar Why is a spiral galaxy spiral, Dr. D Ward Thompson, University College Cardiff.
29 Mar Astronomical imaging from La Palma, Ian King / Nik Szymanek, West Horndon, Essex
12 Apr AGM
26 Apr Super cool astronomy, Prof Walter Gear, University College Cardiff
10 May Making astronomical mirrors, Mr. Steve Harris, Newbury Astronomical Society
24 May Astronomical Instrumentation before the telescope, Dr. Mike Leggett, Milton Keynes.

COTSWOLD AS

Meetings 2nd Saturday of the month. Contact Duncan Willoughby 01452 416405.

- 10 Mar AGM
14 Apr Astrophotography, John Fletcher
12 May Space Guard, Jay Tate

CRAWLEY AS

Secretary is now Sue Hudson-Cook, 28 North End, London Road, East Grinstead, RH19 1QJ Tel: 01342 312034
E-mail: suelcook@aol.com

EASTBOURNE AS

Meetings held on Saturdays in Willingdon Memorial Hall, Church Street, Willingdon.

Contact Bob Cripps, tel. 01323 732067 or Peter Gill, tel. 01323 646853

- 10 Mar Astronomical Photography, H.J.P. Arnold.
7 Apr Supernovae! Dr. Robert C. Smith, & Supernovae and the Amateur Astronomer, Mark Armstrong.
12 May Aurorae and Noctilucent Clouds, Dr. Dave Gavine

FARNHAM AS

Contacts: Laurence Anslow (01252) 681754, Lbanslow@aol.com, Barry Bellinger (01252) 661842 barry.bellinger@nokia.com Stewart Moore (01252) 624088 slm@sigarro.demon.co.uk
Farnham web link: <http://www.astronomy-world.co.uk/>

Meetings are held on the second Thursday of each month at the Central Club, South Street, Farnham, Surrey.

- Mar 8 Large telescopes Optics, David Sinden
Apr 12 TBA
May 10 Impacts and Dinosaurs, Dr Malcolm Coe
Jun 14 AGM + Society members talk
Jul 12 2001 Solar eclipse

HANNEY & DISTRICT AS

Meetings held at the Hanney War Memorial Hall, East Hanney, Oxfordshire at 8.00 pm.

Contact Bob Church, tel. 01235 764089

- 22 Feb Mr Lee McDonald, "Observing the Sun"
29 Mar AGM (starts 7.30pm.) followed by Mr Richard Fleet, "D-I-Y telescopes"

HUDDERSFIELD ASTRONOMICAL AND PHILOSOPHICAL SOCIETY

Frequent meetings at 4A, Railway Street, Huddersfield, or Huddersfield Town Hall. Details from: Robert Williams, 01484 348754. Email: raw-ginger@hps27.freereserve.co.uk.

- 9 Mar Meteors from comet to camera, Dr. C. Steele
20 Apr The Galileo/Europa missions to Jupiter, Paul Money

LIVERPOOL AS

Weekly observing meetings, monthly lecture meetings and frequent public observing sessions.

Contact: Ken Clark, 31 Sandymount Drive, Wallasey, Wirral, CH45 0LJ.

Web site: <http://www.liv.ac.uk/~ggastro/>

LOUGHTON AS

We meet every Thursday at 8.00pm in the Scout Hall, Loughton Lane, Theydon Bois, Essex. We also hold Open Evenings every second Sunday evening 7.00 - 9.00pm until April at our Observatory in Loughton Hall, Rectory Lane, Loughton, Essex. Contact: Charles Munton, 14a Manor Road, Wood Green. London N22 8YJ, tel: 020 8889-9253, e-mail: charles@munton.u-net.com
Web site: <http://las-astro.org.uk>

- 22 Feb Jerry Workman, Mercury and Venus
1 Mar Annual General Meeting
8 Mar Dr Stephen Smart, Astronomy with the Hubble Space Telescope - the First Ten Years
22 Mar David Whitehouse, Astronomy in the Media
19 Apr Dr Roger O'Brien, TBA
10 May Dr Bob Forrest, TBA
24 May Jerry Workman, Mars
31 May Dr Paul Hewitt, Extra-solar Planets

SALFORD AS

HQ: The Salford Observatory, Chasely Field, Chasely Road, Salford, M6 7DZ.

Contact: Kath Redford, 2 Ablemarle Road, Swinton, Manchester, M27 5ST. Tel. 0161 794 3179

Email: salfordac@ast.man.ac.uk

Web site: <http://www.salfordastro.org.uk>

TIVERTON AS

Meetings first Friday of the month during term time, 7.30pm at Blundells School, Tiverton.

Contact Neil Purves, Great Meadows, Plymtree, Cullompton, Devon, EX15 2LN

Web site: <http://www.tivas.org.uk/>

VECTIS AS

Meetings 7.30pm on fourth Friday of each month at Newport Parish Church Centre, Town Lane, Newport.

Contact Rosemary Pears (Mrs.).Tel/Fax 01983 853126.

E-Mail may@tatemala.freereserve.co.uk

Web site: <http://www.wightskies.fsnet.co.uk>

If the society you are looking for is not listed try the FAS Handbook or FAS web site which contain details of all societies in the FAS.

If your society wishes to be mentioned in the round-up send in your events / change of meeting / location etc.

In Newsletter editions which are pushed for space, entries which duplicate the handbook or have been published previously may be removed.

Astro-Fest 2001 2nd/3rd February 2001

Although maybe you may not receive this newsletter before the event, the FAS will be present with a stand at this years Astro-Fest.

If you are visiting please stop by and say "hello".

LIST OF OFFICERS 2000/2001

President: **Malcolm Jones**,
See front cover for details

Vice President: **Pam Spence**
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Advertising Space

Small adverts for members and their societies are free. For adverts of a more commercial nature we can provide up to A5 size in area for a small fee. The newsletter has a circulation over 4000 to a specialised readership.
Contact the Editor for details.

Membership Changes

Remember to send society contact changes to the Membership Secretary, Eric Hutton, 29, Paternoster Close, Waltham Abbey, Essex, EN9 3JU.
Tel: 01992610243

Deadline for submission for next newsletter, 31st March 2001.

Please remember to send ALL articles to the Editor, Callum Potter. Regrettably material can only be returned if supplied with a SAE.