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PREFACE

This issue of the Information Bulletin (IB) combines two main features: a first set of information for the XXVth General Assembly (GA 25), on the tinted pages, and other reports like those found in any IB, on the white pages. The next IB, which will be issued in January 2003, will contain updated information on all the events during and around GA 25, but meanwhile you will have the updates available via the web page, which you can access either via the IAU home page <http://www.iau.org/> or directly at <http://www.astronomy2003.com/>.

GA 25 will take place at Darling Harbour Convention Centre in Sydney, Australia, during 13-26 July 2003. After the 76th EC meeting, reported elsewhere in this issue, where the principal events of the scientific programme were selected, the time is now ripe to inform you of the attractions awaiting you in Sydney next year. This IB conveys the basic information about all the 6 Symposia, 21 Joint Discussions, 4 Special Scientific Sessions, and 3 Invited Discourses, as well as some preliminary information on sessions organized by Divisions, Commissions or Working Groups. But until IB 92, where more definitive information will be given, remember to keep an eye on the above-mentioned web pages, where new links to specific meetings may appear.

Attendance at IAU General Assemblies is upon the invitation of the IAU President, which you will find first among the tinted pages of this IB. You will also find practical information on how to prepare for attending GA 25, plus a preliminary outline of the tours, visits and excursions offered by our hosts. Updates and supplements to all this information, as well as that on the scientific sessions, will be given in IBs 92 and 93 (January and June, 2003).

The opening session will be held in the famous Sydney Opera House on the evening of Tuesday, 15 July, and the closing session will take place on Thursday afternoon, 24 July. By this arrangement it is possible to schedule a large number of scientific events with a minimum of overlaps or other conflicts. Moreover, Monday, 21 July, is set aside essentially only for meetings of Divisions, Commissions or Working Groups. I think you will find the programme exciting, no matter in which field of astronomy you work.

Please register as early as you find convenient. The preferred mode is interactive via the GA 25 web site but in this IB you will also find forms which can be sent by mail. Hotels in Sydney are relatively inexpensive for a major city, and there are several possibilities to find low-cost accommodation. As usual, the IAU will offer a limited number of Travel Grants to participants who plan to take active part in the scientific events, but cannot obtain the necessary funding from other sources. The deadline for submission of the Travel Grant form is February 15, 2003.

As the only other matter important enough to be mentioned here, let me tell you that our Administrative Assistant, Jodi Greenberg, decided to leave Paris and the IAU partly for health reasons early this year. I'm sorry to have lost such a devoted and skillful staff member, but we all wish her the best as her career now has taken a new turn; I also warmly welcome her successor, Mrs. Estelle Denos who currently works on a half-time basis, and I extend my warm thanks to Monique Léger-Orine for

having taken on an extra, heavy work load during a long transitory period following Jodi's departure.

Hans Rickman, General Secretary

CONTACT NEEDED!

The IAU wants to improve its contacts with you. This should give you more efficient and timely information and updates on important items by means of email. For that purpose we need to check the individual Members' email addresses regularly. As a first step, please check your own entry in the web-based on-line membership directory at

http://www.iau.org/cgi-iau/iau_mem.cgi

and notify the Secretariat at iaupdate@iap.fr, in case corrections are needed!
Please remind your colleagues of this as well!

1. IN MEMORIAM

Emeritus Professor Robert Hanbury Brown (1916-2002), AC, FRS, FAA, President of the IAU from 1982 to 1985, had a distinguished career making major contributions to the development of radar, radio astronomy, optical astronomy, and quantum optics.

Hanbury as he was known to all, was born in India and it was fitting that he was President of the IAU for the General Assembly held in New Delhi in 1985. At the Inaugural Ceremony he spoke with special authority about the great achievements of Indian science.

Hanbury originally trained as an electrical engineer and this led to him joining the team developing radar to the second World War. He made major contributions to the development of airborne radar, particularly for night fighters in the Battle of Britain. He was the prototype Boffin and described the excitement and difficulties faced in this work in his fascinating autobiography "Boffin - A Personal Story of the Early Days of Radar, Radio Astronomy and Quantum Optics."

He joined Sir Bernard Lovell in 1949 at Manchester University to take charge of a "cosmic noise" programme with the 218 foot fixed paraboloid dish at Jodrell Bank. He quickly developed the instrumentation and techniques to map a band of the sky at radio wavelengths and make the first radio map of another galaxy - the Andromeda Nebula. Although new to astronomy. Hanbury's quick grasp of fundamentals, his simple but innovative approach, and his ability to design and build his own equipment enabled him to rapidly establish himself as one of the leading radio astronomers of the day. Recognising the importance of measuring the angular sizes of radio "stars" led him to the idea of the intensity interferometer. Although successful at radio wavelengths, it turned out that its insensitivity to scintillation made it the key to overcoming seeing in optical stellar interferometers. Hanbury's laboratory demonstration with light proved to be controversial with claims that it violated quantum mechanics. Experiments were done that purported to prove this but Hanbury, with Richard Twiss who had worked out the theory, showed that it would have been necessary to integrate for exceedingly long periods in these experiments to observe a result - longer than the age of the Earth in one case! To prove the technique beyond doubt they measured the angular diameter of Sirius from Jodrell Bank - an incredible feat since Sirius reached a maximum elevation of only 20 degrees.

A major instrument followed and resulted in Hanbury's move to the University of Sydney, Australia, as Professor of Physics (Astronomy) in 1964. He told the story of the Narrabri Stellar Intensity Interferometer (NSII) in his book "The Intensity Interferometer". The NSII was an extremely successful instrument doing everything it was designed to do including the measurement of the angular diameters of 32 early-type stars - results that have not been superseded some 30 years later. The NSII achievements have led to the re-juvenation of the field and the resurrection of Michelson's original technique using modern technology. Hanbury was an enthusiastic supporter of these efforts, particularly of the Sydney group that has pursued the field with the development of the Sydney University Stellar Interferometer since his retirement from the University of Sydney in 1981.

Hanbury received many honours including fellowships of the Royal Society and of the Australian Academy of Science, and was appointed a companion of the Order of Australia. He was universally admired and will be remembered, not only for his achievements, but also for his enthusiasm for science, for life, and for his marvellous sense of humour. He is survived by his wife, Heather, and by his daughter and twin sons.

John Davis, Emeritus Professor, School of Physics, University of Sydney, Australia

2. MAIN DEADLINES AND EVENTS 2002-2003

Proposals for IAU Symposia, Colloquia, and co-sponsored meetings
planned for 2004 must reach the Assistant General Secretary

no later than February 28, 2003!

in order to be considered at the 78th Executive Committee meeting.

See <http://www.iau.org/Activities/meetings>

2002

Aug.	05-10	IAU Symposium 214, Suzhou, China PR
Sep.	16-20	IAU Colloquium 189, Nanjing, China PR
Oct.	* 01	Contributions due for Reports on Astronomy Trans. XXVA
	* 01	Contributions due for Inf. Bull. 92 (Dec 2002)
	10-19	COSPAR 34th Scientific Assembly, Houston, Texas, USA
Nov.	* 15	Submit Resolutions type A & B with financial implications
	* 15	Proposals by Division Presidents for new IAU Members
	08-12	IAU Symposium 215, Cancun, Mexico
Dec.	* 15	Submit Budget for 2004-2006 to Adhering Organizations
	* 30	Division/Commission/WG GA meeting requirements due at GS
	08-13	IAU Colloquium 190, Cape Town, South Africa
	TBD	IB 92 issued with full scientific programme of GA XXV

2003

Jan.	* 15	Submit Resolutions type A without financial implications
Feb.	TBD	Officers Meeting, Paris, France
	03-07	IAU Colloquium 191, Yucatan, Mexico
	* 15	Submit Abstracts to Symposium/JD/SPS SOCs
	* 15	Submit Travel Grant applications to GA Symposium SOCs
	* 15	Submit other GA Travel Grant applications to GS
	* 15	Proposals due by Adhering Organizations for new IAU Members

	* 15	Consultants to be proposed by Commissions
	* 15	Proposals due for agenda items of GA XXV
	* 28	Proposals due for meetings in 2004 to AGS
Mar.	* 01	Recommendation to AGS on Symposium Travel Grants
	* 15	Notify all Travel Grant Applicants
	* 15	Send agenda of GA to Adhering Organizations
Apr.	* 01	Contributions due for Inf. Bull. 93 (June 2003)
	* 01	New Div/Comm Officers and Boards/OCs to be nominated
	* 01	Suggest (re-)appointment of Working Groups
	* 01	Nominations to Special Nominating Committee
	* 15	Appointments of National Representatives at GA XXV
	* 15	Submit Resolutions type B without financial implications
	* 15	Invitations to non-Members to GA XXV
	22-26	IAU Colloquium 192, Valencia, Spain
	* 30	Deadline for Early Registration at GA XXV
May	* 15	Submit final Abstracts of accepted papers
June	TBD	IB 93 issued
	23-28	Co-sponsored Symposium, Tatranská Lomnica, Slovakia
July	06-11	IAU Colloquium 193, Christchurch, New Zealand
	11	End of pre-registration GA XXV
	13	Start of on-site registration GA XXV
	13-26	XXVth IAU General Assembly, Sydney, Australia
	13-24	77th EC Meeting, Sydney, Australia
	14-17	IAU Symposium 216, Sydney, Australia
	14-17	IAU Symposium 217, Sydney, Australia
	14-17	IAU Symposium 218, Sydney, Australia
	21-25	IAU Symposium 219, Sydney, Australia
	21-25	IAU Symposium 220, Sydney, Australia
	22-25	IAU Symposium 221, Sydney, Australia
	25-26	78th EC Meeting, Sydney, Australia
Oct.	* 01	Manuscripts for Transactions XXVB due at Secretariat
	* 01	Contributions due for Inf. Bull. 94 (January 2004)
	* 15	Contributions to Highlights 13 due at Secretariat
Nov.	17-21	IAU Colloquium 194, La Paz, Mexico
	*	Denotes Final Deadlines

3. SCIENTIFIC MEETINGS

3.1. Future IAU Symposia

Symposium 214: High Energy Processes & Phenomena in Astrophysics
August 5-10, 2002, Suzhou, China PR

[See IB 90, p. 7](#)

Symposium 215: Stellar Rotation
November 11-15, 2002, Cancun, Mexico

[See IB 90, p. 10](#)

Symposium 216: Maps of the Cosmos
July 14-17, 2003, Sydney, Australia

[See page 30 of this IB](#)

Symposium 217: Recycling Intergalactic & Interstellar Matter
July 14-17, 2003, Sydney, Australia

[See page 30 of this IB](#)

Symposium 218: Young Neutron Stars & their Environment
July 14-17, 2003, Sydney, Australia

[See page 31 of this IB](#)

Symposium 219: Stars as Suns: Activity, Evolution & Planets
July 21-25, 2003, Sydney, Australia

[See page 31 of this IB](#)

Symposium 220: Dark Matter in Galaxies
July 21-25, 2003, Sydney, Australia

[See page 32 of this IB](#)

Symposium 221: Star Formation at High Angular Resolution
July 22-25, 2003, Sydney, Australia

[See page 32 of this IB](#)

3.2. Future IAU Colloquia

Colloquium 189: Astrophysical Tides: The Effects in the Solar & Exoplanetary Systems

September 16-20, 2002, Nanjing, China PR

[See IB 90, p. 10](#)

Colloquium 190: Magnetic Cataclysmic Variables

December 8-13, 2002, Cape Town, South Africa

[See IB 90, pp. 10-11](#)

Colloquium 191: The Environment & Evolution of Binary Stars

February 3-7, 2003, Yucatan, Mexico

Scientific Organizing Committee: Sverre Aarseth (UK), Christine Allen (Co-Chair, Mexico), Francis Frekel (USA), William Hartkopf (USA), Gloria Koenigsberger (Mexico), Patricia Lampens (Belgium), Hugo Levato (Argentina), Eugene Milone (Canada), Bo Reipurth (USA), Luis Felipe Rodriguez (Mexico), Colin Scarfe (Co-Chair, Canada), Andrei Tokovinin (Chile) & Mauri Valtonen (Finland)

Chair, Local Organizing Committee: Christine Allen, UNAM

Principal Topics:

- Observational status of binary & multiple stars, including nomenclature
- Expected impact of future space astrometric & large ground-based telescopes observations of binary stars
- Evolution of young binary & multiple stars in different populations & environments
- Binary & multiple stars in clusters
- Production of X-ray binaries & pulsars in globular clusters

- Formation of hierarchical groups in small clusters; interaction between disks & stars
- Angular momentum loss & its role in the orbital evolution & coalescence of low-mass systems
- Planets & other low-mass components of multiple systems

Contact address: Dr. C.D. Scarfe, Department of Physics & Astronomy, University of Victoria, P.O. Box 3055, CA Victoria, B.C. V8W 3P6, Canada

Tel.: 1 250 721 7740 - *Fax:* 1 250 721 7715 - *Email:* scarfe@uvic.ca

Colloquium 192: Supernovae (10 years of SN1993J)

April 22-26, 2003, Valencia, Spain

Scientific Organizing Committee: Sergei Blinnikov (Russia), Ramón Canal (Spain), Roger Chevalier (USA), Claes Fransson (Sweden), Sri Kulkarni (USA), Bruno Leibundgut (Germany), Juan-Maria Marcaide (Co-Chair, Spain), Kenichi Nomoto (Japan), Jon Elena Pian (Italy), Martin Rees (UK), Brian Schmidt (Australia), Sydney Van den Bergh (Canada) & Kurt Weiler (Co-Chair, USA)

Co-Chairs, Local Organizing Committee: J.M. Marcaide & J.C. Guirado

Principal Topics:

- Nucleosynthesis & explosion mechanisms
- Progenitor stars
- Pulsar & SNR formation
- Interaction with the circumstellar medium
- Particle acceleration mechanisms
- IR, optical, radio, X-ray & gamma-ray studies of Type I & II objects
- Supernova cosmology & GRBs

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Tel.: 34 96 398 3079 - *Fax:* 34 96 398 3084 - *Email:* J.M.Marcaide@uv.es

Colloquium 193: Variable Stars in the Local Group

July 6-11, 2003, Christchurch, New Zealand

Scientific Organizing Committee: Conny Aerts (Belgium), Giuseppe Bono (Italy), Jørgen Christensen-Dalsgaard (Denmark), Margarida Cunha (Portugal), Gilles Fontaine (Canada), Jin-Xin Hao (China), Janusz Kaluzny (Poland), Don Kurtz (Co-Chair, UK), Dante Minniti (Chile), Karen Pollard (Co-Chair, New Zealand), Masao Takata (Japan), George Wallerstein (USA), Patricia Whitelock (South Africa) & Peter Wood (Australia)

Chair, Local Organizing Committee: John Hearnshaw

Principal Topics:

- What variable stars tell about the Local Group
- Variable stars as tracers of different stellar populations
- Early type stars: B, A & F pulsators
- Binary stars & pulsation
- Red Giants, Miras, post-AGB stars & proto-planetary nebulae
- Chemical composition of variable stars
- New theoretical developments in stellar pulsation/variability
- Evolution & pulsation properties of variable stars
- Our future in Space

Contact address: Prof. Don W. Kurtz, University of Central Lancashire, GB Preston PR1 2HE, UK

Tel.: 44 1772 89 3735 - *Fax:* 44 1772 89 2996 - *Email:* dwkurtz@uclan.ac.uk

Colloquium 194: Compact Binaries in the Galaxy & Beyond

November 17-21, 2003, La Paz, Mexico

Scientific Organizing Committee: Jorge Casares (Spain), Phil Charles (UK), J. Echevarria (Mexico), Jochen Greiner (Germany), M. Ishida (Japan), Andrew King (UK), Mario Livio (Israel), Paula Szkody (USA), Gagrik Tovmassian (Co-Chair, Mexico), D. Wickramasinghe (Australia), Janet Wood (Co-Chair, UK), Brian Warner (South Africa) & Lev Yungelson (Russia)

Chair, Local Organizing Committee: Raul Michel

Principal Topics:

- Accretion Disks; mass transfer, observational & theoretical sources (galactic & extragalactic)
- Dwarf Novae; SU UMa (WZ Sge phenomenon), outbursts & superoutbursts
- LMXB; X-ray transients, supersoft X-ray sources (galactic & extragalactic)
- Classical Novae & Nova-likes, Symbiotics (galactic & extragalactic)
- The evolution of close binary systems & links between different classes; Supernova progenitors
- The role of Magnetic Fields
- Results of Observations from New Generation Optical, UV & X-ray telescopes

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Tel.: 52 646 174 4580*235 - *Fax:* 52 646 174 4777

Email: gag@sciences.sdsu.edu OR gag@astrosen.unam.mx

3.3. IAU General Assemblies

XXVth IAU General Assembly & associated Symposia

13-26 July, 2003, Sydney, Australia

Contact address: IAU Secretariat, 98bis, bd Arago FR 75014 Paris, France

Tel.: 33 1 43 25 8358 - *Fax:* 33 1 43 25 2616

Email: iau@iap.fr - <http://www.astronomy2003.com/>

XXVIth IAU General Assembly & associated Symposia

13-26 August, 2006, Prague, Czech R

Contact address: IAU Secretariat, 98bis, bd Arago FR 75014 Paris, France

Tel.: 33 1 43 25 8358 - *Fax:* 33 1 43 25 2616 - *Email:* iau@iap.fr

3.4. Future Co-Sponsored Meetings

34th COSPAR Scientific Assembly

October 10-19, 2002, Houston, Texas, USA

See IB 90, p. 12

SCOSTEP/IAU co-sponsored Symposium: Solar Variability as an Input to the Earth Environment

June 23-28, 2003, Tatranská Lomnica, Slovakia

Scientific Organizing Committee: Claus Fröhlich (Switzerland), Richard Harrison (UK), P. Manoharan (India), Donald Michels (USA), Vladimir Obridko (Russia), Judit Pap (USA), Margaret Shea (USA), George Simnett (UK), Brigitte Schmieder (France), Julius Sykora (Slovakia), Saku Tsuneta (Japan), Takashi Watanabe (Japan), David Webb (USA) & Shi Tsan Wu (Chair, USA)

Chair Local Organizing Committee: Julius Sykora

Principal Topics:

- Spectral Irradiance Variability Originating in the Photosphere, Chromosphere, Corona
- Magnetic Field Variations through Cycle 23
- Solar Global Changes;
- Atmospheric/Climate Effects of Solar Variability
- Comparison of CME Activity: Solar Cycle Maximum & Minimum
- Initiation of CMEs; Relation to Flares, Dimmings, Waves, Global Magnetic Field
- CMEs, ICMEs & Space Weather
- Origin of the Solar Wind & Propagation of Disturbances through its Shock Waves & Solar Energetic Particles
- Future SCOSTEP Programs/CAWSES

Contact address: Julius Sykora, Astronomical Institute, ISCS 2003, 059 60 Tatranská Lomnica, Slovakia

Tel: 421 52 4467 866 - *Fax:* 421 52 4467 656

Email: iscs2003@astro.sk - <http://www.astro.sk/iscs2003>

3.5. Future Co-Sponsored Workshop

Second COSPAR/IAU Capacity-Building Workshop in X-ray Astronomy

January 2003, Udaipur, India

Scientific Organizing Committee: P.C. Agrawal (India), H. Dave (India), H. Haubold (UN), H. Hermsen (Netherlands), M. Machado (Argentina), R. Manchandra (India), H.S. Sinha (India), N. White (USA) & A.P. Willmore (Chair, UK)

Chair Local Organizing Committee: A.P. Willmore (UK)

Objectives: The workshop is intended to enhance the scientific capability of developing countries by meeting the following objectives:

- to increase knowledge and use of public archives and space data in order to broaden the scope of research programmes of scientists in these countries,
- to provide highly-practical instruction in the use of these archives and the associated publicly-available software so that participants on returning home can readily incorporate them into their research programmes, and
- to foster personal links between participants and experienced scientists attending the workshop to contribute to reducing the isolation often experienced by scientists in developing countries.

Contact address: Peter Willmore, School Physics and Astronomy, Univ. Birmingham, Box 363, GB Birmingham B15 2TT, UK

Tel.: 44 12 14 146 452 - *Email:* apw@star.bham.ac.uk

4. NEWS FROM DIVISIONS

Division I: Fundamental Astronomy (Nicole Capitaine)

Since the beginning of this year, there have been two scientific meetings organized by International Services which are Services of the IAU.

The 3rd IVS (International Service for Geodesy & Astrometry) General Meeting was held, from 4 to 6 February 2002, in Tsukuba (Japan) and was followed by a one-day Workshop. The IVS holds such a meeting every two years. The purpose is to assemble representatives from all IVS components (Network Stations, Operation Centers, Correlators, Data Centers, Analysis Centers, Technology Development Centers and Coordinating Center) to share information, hear reports, and plan future activities. The meeting also provides a forum for interaction with other members of the VLBI and Earth science communities.

A special IERS (International Earth Rotation Service) Workshop, devoted to the "Implementation of the new IAU Resolutions", was organized at Paris Observatory on 18 & 19 April 2002. The purpose of this Workshop was to prepare the scientific community to the implementation of the IAU 2000 (GA XXIV) Resolutions which should become effective on January 1, 2003

(see http://danof.obspm.fr/IAU_resolutions/Resol-UAI.htm).

These Resolutions define a new IAU framework concerning relativity for present and future applications in astrometry, celestial mechanics, time, and geodesy. A new precession-nutation model was adopted, and the new Celestial Intermediate Pole, Celestial and Terrestrial Ephemeris Origins were defined. During this Workshop, there have been fruitful discussions on the reasons for the adoption of the Resolutions, on their consequences as well as on the details concerning their implementation in astronomy, Earth rotation, ephemerides, etc. Some actions were required from the IERS in order to facilitate the practical use of the Conventions and to provide explanations and routines for the conversion between the old and new systems. Some actions were also required in education of the astronomical community. The details of the scientific input should be reflected in the Proceedings of this Workshop which will be published electronically before the end of June 2002 (see http://www.iers.org/workshop_2002/).

Division II: Sun and Heliosphere (Arnold Benz)

There will be a full symposium on solar/stellar physics at the IAU General Assembly in Sydney: Symposium 219: Stars as Suns: Activity, Evolution & Planets (July 21 to 25, 2003; Benz & Dupree). It will concentrate on the results of new instruments (including RHESSI, SOHO, Chandra, XMM) relevant to the Sun and its history. As you probably know, such a symposium enhances the visibility of the field and is a great treasure. It will also be scientifically exciting, particularly if you let Andrea Dupree or me know what your latest results are and how we could present them.

In addition there will be three complementary solar Joint Discussions in Sydney the week before the Symposium:

- JD 03: Magnetic Fields & Helicity in the Sun & Heliosphere (July 16; Schmieder & Rust)

- JD 07: The Sun & the Heliosphere as an Integrated System (July 17; Poletto & Suess)
- JD 12: Solar & Solar-Like Oscillations: Insights & Challenges for the Sun & Stars (July 18 & 19; Bedding & Leibacher)

Division III: Planetary Systems Sciences (Mikhail Marov)

EC 76 which met in early May in Saint-Petersburg, Russia, accepted all four events that Division III proposed to hold during the forthcoming GA in Sydney. These were three Joint Discussions (JD) and one Special Session (SPS). The accepted events are as follows:

- JD 02: Mercury, July 16
- JD 14: Formation of Cometary Material, July 22
- JD 19: Physical Properties and Morphology of Small Solar System Bodies, July 23;
- SPS 1: Recent Progress in Planetary Exploration, July 18 & 19.

Keeping in mind the tough schedule of GA and therefore the time constraints for the accepted scientific meetings (selected by EC from the numerous proposals from the IAU Divisions), we were lucky to be adopted with one day duration for JD 02 and 19, as it was proposed, though the same was decided for JD 14, instead of 1.5 days requested. Finally, for SPS 1, 1.5 days were adopted, as requested.

The Board of the Division feel satisfied that its Commissions will have quite comprehensive and attractive scientific program at the GA. The respective Commission Presidents and SOC Chairs were urged to advance the process of these meeting preparations to ensure their full success.

All Commissions of the Division, as well as the Division itself, plan to have their Business meetings during GA XXV to discuss the most important issues and pursue the election of new Presidents and Board members. An obvious constraint for the schedule of these meetings is to minimize overlap with the respective scientific events of interest.

Division IV: Stars (Beatriz Barbay)

There will be two Joint Discussions sponsored by Division IV at the IAU General Assembly:

- JD 04 Astrophysical Impact of Abundances in Globular Cluster Stars (July 16 & 17, F. D'Antona & R. Gratton). It will cover essentially new results related to elemental abundances obtained with large telescopes, but also some aspects of dynamics of globular clusters.
- JD 15 Elemental Abundances in Old Stars & Damped Lyman-alpha Systems (July 22, P. Nissen & M. Pettini). It will be an interesting comparison of abundances in metal-poor stars with those derived from quasar absorption lines.

Division VII: Galactic System (Georges Meylan)

Future activities: Quite a few very interesting proposals for Symposia and Joint Discussions have been submitted to, and supported by, Division VII, in relation to the next IAU General Assembly in July 2003 in Sydney, Australia. The GA program selected by the IAU Executive Committee during its meeting in early May 2002 is very

rich in meetings related directly or indirectly to the scientific interests of our Division. See information in this Bulletin for all selected Symposia and Joint Discussions. We hope to see many of you in Sydney for the scientific and business meetings of Division VII.

Division VII currently has a web site, reachable via the general IAU web page
<http://www.iau.org/IAU/Organization/divcom/div7.html>.

It contains some information on future IAU activities and on the two constituent Commissions (33: Structure & Dynamics of the Galactic System, and 37: Star Clusters & Associations).

The Division Board elected at Manchester consists of: Gary Da Costa (past President Comm. 37), Ken Freeman (past President Div. VII), Georges Meylan (President Div. VII), Ata Sarajedini (vice President Comm. 37), David Spergel (President Comm. 33), & Patricia Whitelock (vice President Comm. 33).

Quite a few members of Division VII have no or wrong email address. Please, check your addresses on the On-line Membership Directory on the IAU web page at http://www.iau.org/cgi-iau/iau_mem.cgi. If changes are needed, please send any request for changes to the IAU by mailing to iaupdate@iap.fr, otherwise you will remain unreachable.

Division VIII: Galaxies & the Universe (Virginia Trimble)

Division VIII maintains a web site at <http://www.star.bris.ac.uk/iau/>. The webmaster, Mark Birkinshaw, says that he adds relevant new items as soon as he hears about them, lest he forget. He can be reached at mark.birkinshaw@bristol.ac.uk if there is something you would like to have added, linked, or otherwise included.

The Division intends to compile a report of highlights of extragalactic astronomy ("Galaxies & the Universe") published during the past three years for IAU Transactions Vol. XXVA as part of the lead-up to the Sydney General Assembly. Suggestions of items for inclusion are very welcome from both members of Commissions 28 & 47 and from other IAU members and friends. These can be sent to Division President Virginia Trimble at any of the coordinates given inside the back cover of this Bulletin.

If the paper has been published in a major journal, all that is needed is the reference. For something that appeared in a journal that is not widely available or that is in a conference volume, please add a sentence or two about the contents of the paper and why it is a highlight. Please do not send electronic preprints or web addresses. (Paper preprints, if the paper has been accepted and at least a volume number is known, are welcome.) Highlight items should have publication dates between 2000 and 2002. It is OK to suggest papers of which you are an author and even more OK to suggest papers of which you are not an author.

The Division President would also be very glad to hear from any members who might be willing to volunteer to help on scientific organizing committees or other tasks for which the Division is responsible. Nominations of your colleagues who might be willing to help is also appropriate.

Division IX: Optical & Infrared Techniques (Arlo Landolt)

Division IX contains three Commissions, 9 (Instrumentation & Techniques), 25 (Stellar Photometry & Polarimetry), and 30 (Radial Velocities), plus one Working Group (Working Group on Optical & Infrared Interferometry).

All members of these Commissions are asked to check the IAU website at http://www.iau.org/cgi-iau/iau_mem.cgi to ensure that their addresses, both standard and e-mail, as well as their telephone and fax numbers are correct. If changes are needed, please send any request for changes to the IAU by mailing to iaupdate@iap.fr

The Commissions and Division have begun working on agendas both for business meetings and scientific meetings to be held during General Assembly XXV in Sydney in 16-23 July 2003. If you have items that you wish to see addressed, please forward such information both to the Division President (landolt@baton.phys.lsu.edu), and to the appropriate Commission President

- Commission 9: Dr. Ding-qiang Su at dqsu@nairc.ac.cn
- Commission 25: Dr. Chris Sterken at csterken@vub.ac.be
- Commission 30: Dr. Andrei Tokovinin at atokovinin@ctio.noao.edu

as soon as you can after publication of these paragraphs.

Please watch the IAU website for Symposia, Colloquia and other meetings of interest to our Division.

5. COMMISSION MATTERS

5.1. Changes in addresses of Commission Presidents & Vice-Presidents

C 4 *Ephemerides*

Jean Chapront, President, Observatoire de Paris, SYRTE, 61 ave de l'Observatoire, FR 75014 Paris, France

Tel.: 33 1 40 51 2227 - Fax: 33 1 40 51 2291

E-Mail: Jean.Chapront@obspm.fr

C 29 *Stellar Spectra/Spectres stellaires*

Chris Sneden, Vice-President, Astronomy Dpt, University of Texas, US Austin TX 78712 1083, USA

Tel.: 1 512 471 1349 - Fax: 1 512 471 6016

E-mail: chris@verdi.as.utexas.edu

C 45 *Stellar Classification/Classification stellaire*

Tom Lloyd Evans, President, Strath House, 5 Kinaldy Meadows, by St Andrews, GB Fife KY16 8NA, UK

Tel.: 44 133 447 0914 - E-Mail: tlev@nottingham.ac.uk

C 47 *Cosmology/Cosmologie*

President: John Andrew Peacock, Royal Observatory, University of Edinburgh, Blackford Hill, GB Edinburgh EH9 3HJ, UK

Tel.: 44 13 16 688 390 - Fax: 44 13 16 688 416

E-mail: jap@roe.ac.uk

Vice-President: Simon J. Lilly, Herzberg Institute for Astrophysics, 5071 West Saanich Rd, CA Victoria BC V9E 2E7, Canada
Tel.: 1 250 363 0040 - *Fax:* 1 250 363 8483
E-mail: simon.lilly@nrc.ca

5.2. Commission 20: 2001 Annual Report of the Minor Planet Center

Activity in the Minor Planet Center was again up significantly in 2001, which saw a record 12 819 new numberings of minor planets, bringing the total to 32 729. Although just 2446 printed Minor Planet Circulars (MPCs) were issued, in monthly batches, it is important to realize that -as noted in last year's report- these contain only a rather detailed summary of the activity, the totality of it being archived in the 19 280 pages of observations in the Minor Planet Circulars Supplement (MPSS) and 13 500 pages of orbital information in the Minor Planet Circulars Orbit Supplement (MPOS) that are published only electronically. By year's end the total number of pages of these publications issued since their respective inceptions in 1947, 1997 and 2000 were 44 250, 42 712 and 21 170.

More immediate information was published in the 1303 Minor Planet Electronic Circulars issued during the year, 11 percent more than in 2000. Of these, 331 were "Daily Orbit Update" issues listing the new orbits computed (the November 29 issue containing a record 35 965 orbits) and identifications found, as well as observations of near-earth objects (NEOs). In response to requests that observations of main-belt minor planets be published more frequently than once a month, additional "midmonth" batches of MPSs were issued, beginning in April, but these turned out to be less popular than expected, because the community is apparently unable to use them unless that Minor Planet Center subjects the observations to the very extensive filing and archiving process that accompanies the more complete monthly publication. Nevertheless, the ever-increasing pressure on the Minor Planet Center's very small staff has sometimes made it impossible to carry out this process during the few days when the principal observing programs are interrupted around full moon, so on three occasions during the year there were no MPOS and only "mini-batches" of MPCs. Unfortunately, without further financial support, this situation is likely to occur more frequently in the future.

One of the problems with regard to support is the general reluctance of users nowadays to purchase subscriptions for electronic publications, and the number of subscribers to the Computer Service of the Minor Planet Center shares with the Central Bureau for Astronomical Telegrams dropped from 510 to 501 during the year. Even more troublesome is the fact that the number of subscribers, 154, to the printed MPCs at the end of 2001 was down by 40 percent from the peak a decade or so ago. At the same time, observers tend to balk at the idea of paying the Minor Planet Center to process their observations (i.e., the equivalent of the page charges that support many journals, particularly in the U.S.), something that can be quite time-consuming when observations are mistimed or objects misidentified. The idea of making a charge for editing and publishing the citations that accompany the new namings of minor planets was dismissed, largely on the grounds that this was somewhat akin to the unseemly practice of selling star names. Nevertheless, this suggestion got the Committee on Small-Body Nomenclature reexamining the whole issue of naming minor planets, given that the greater-than-exponential rate of numbering must surely dilute the honor many people still equate with the practice. Some medium ground

needs to be found between the extremes of business as usual and stopping the practice completely.

While it is somewhat heartening to see the increase from 65 to 73 in the number of subscribers to the Extended Computer Service, which allows the complete MPC, MPS and MPO to be downloaded each month, this is not likely to have a long-term effect on the Minor Planet Center's finances, for the reason given at the beginning of the previous paragraph. A more pleasant development has been the receipt, near the end of 2001, of a number of donations, specifically from J. Schiff (New Zealand), M. Trueblood and R. Crawford (Arizona), M. Dawson (Luxembourg) & D. Dixon (New Mexico).

In April a contract was signed between the IAU and the Minor Planet Center's host organization, the Smithsonian Astrophysical Observatory, with regard to the Center's future operation. In connection with this, and following the Terms of Reference adopted in 2000 by the IAU Executive Committee, the Minor Planet Center made available in the WWW a large number of unconfirmed single-night observations of unidentified minor planets obtained since 1992. As with the attempt to publish the confirmed observations of known objects more frequently than hitherto, this exercise seems to have had little effect on the advancement of science.

The number of identified and designated observations of minor planets in the Minor Planet Center's files increased by nearly 67 percent and the number of orbits of individual objects (one out of three involving observations at only a single opposition) increased by nearly 47 percent during the year, to 10 294 501 and 158 311, respectively. The number of new NEOs discovered, 437, was up by 24 percent from 2000. The 80 potentially hazardous asteroids among these were only slightly more numerous than the 74 found in 2000, bringing the total to 361, with half of them discovered since mid-1999.

The number of new transneptunian objects and centaurs found was very comparable to the number found the previous year, the total now reaching 599. Although more than half of these have been observed at only a single opposition, it is gratifying that as many as 35 have orbit determinations considered good enough to qualify for numbering.

Almost 18 000 observations of comets were reported during the year, bringing the total in the Minor Planet Center's files to 139 759. There were also observations of the outer satellites of the giant planets. All 12 of the new Saturnian satellites discovered in 2000 were recovered at their 2001 oppositions, and only one of the 12 new jovian satellites of 1999 and 2000 seems not to have been reobserved.

Most of the Center's work on processing observations of minor planets and computing orbits has been carried out by Associate Director Gareth Williams and by Tim Spahr, who was also named NEO Technical Specialist. Syuichi Nakano has continued to liaise with many Japanese observers, and he and Andreas Doppler now serve as Associates of the Minor Planet Center. Susan Russell has helped with some of the editing of the citations for new namings of minor planets. Muazzez Lohmiller was again responsible for the accounts and mailings, and Billy Duggan oversaw the printing, collating and stapling of the MPCs in the SAO's print shop.

Brian G. Marsden, Director, Minor Planet Center



**INTERNATIONAL ASTRONOMICAL UNION
UNION ASTRONOMIQUE INTERNATIONALE**

XXVth GENERAL ASSEMBLY

July 13-26, 2003

**Sydney Convention and Exhibition Center
Darling Harbour**

Sydney

Australia



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Inserted in central part, Map of Sydney & Forms :

IAU Travel Grant Application Form
Registration & Proceedings Pre-Order Form

INVITATION FROM THE IAU PRESIDENT

It is my great pleasure to invite you to attend the XXV General Assembly (GA) of the International Astronomical Union which will take place in Sydney, July 13-26, 2003.

Australia has contributed very much to the development of astronomy over several decades and, despite the geographical distance, maintains a wide range of close collaborations with the rest of the world. The scientific activity and the beauty of this country will certainly attract a large number of astronomers and accompanying persons.

Astronomy has seen an extraordinary development over the last century. The frontiers of the observable Universe have been enormously enlarged, many phenomena have been discovered (some of them, perhaps, even partly understood). Many new channels of information about the cosmos have led to fundamental discoveries which have captured the imagination of the general public. Astronomy is the most popular of all sciences. While it is certainly true that the diffusion of scientific results is now much more rapid than it was just a few years ago and that IAU events are no longer the only ones where astronomers meet their colleagues, the General Assembly and its associated meetings represent the main occasion where current research is presented and offer an opportunity to learn not only in one's own research area but across the entire field.

A General Assembly also allows us to establish or re-establish new scientific and personal contacts. It is this combination of science and human relations with people coming from countries all over the world which gives the IAU its special interest.

I look forward to meeting you in Sydney.

Franco Pacini, IAU President

HOST ORGANISATIONS

National Committee for Astronomy (of the Australian Academy of Science) & Astronomical Society of Australia

NATIONAL ORGANISING COMMITTEE (NOC)

Co-Chair	Professor A. R. (Harry) Hyland	James Cook University
Co-Chair	Dr. J. B. Whiteoak	Australia Telescope National Facility
	Dr. M. J. Burton	University of New South Wales
	Ms. S. Butterworth	Conference Manager, ICMS Australasia
	Mr. J.R. Everett	University of New South Wales
	Dr. R.F. Haynes	University of Tasmania/ATNF
	Dr. W.A. Lawson	Australian Defence Force Academy
	Dr. N.R. Lomb	Sydney Observatory
	Dr. R.N. Manchester	Australia Telescope National Facility
	Dr. J.W. O'Byrne	University of Sydney
	Dr. B.A. Peterson	Australian National University
	Dr. A.J. Turtle	University of Sydney
	Dr A.E. Vaughan	Macquarie University
	Dr. R.L. Webster	University of Melbourne
	Dr. G.L. White	James Cook University
	Dr. W.J. Zealey	University of Wollongong

WELCOME FROM THE NATIONAL ORGANISING COMMITTEE

Welcome to Australia and to our beautiful city of Sydney. We look forward to your attendance at the XXVth General Assembly of the IAU in July 2003.

The astronomical community of Australia is proud to be hosting the General Assembly in Sydney for the second time. The National Committee for Astronomy and the Astronomical Society of Australia have established the National Organising Committee for the running of the Assembly.

We are expecting to host a very successful General Assembly comprising six exciting Symposia, three in the first week and three in the second, 21 Joint Discussions, four Special Sessions, Division and Commission Meetings. The Assembly will be held in the Sydney Convention & Exhibition Centre in Darling Harbour. The registration area is in the middle of the Centre, and provides a focal point for information about travel, mail and the exhibition. The halls for all of the symposium meetings are contained within the one building, and it is very convenient to move from one meeting room to the next. The venue is also very close to many major hotels and a short monorail ride from the centre of the city.

All information about the General Assembly will be provided on the General Assembly (GA) website at

<http://www.astronomy2003.com>

and facilities for electronic registration and accommodation/tours reservations through the website will be available at time of publication of IB91. Should you register through the website facility, only credit cards are acceptable. ICMS Australasia is the Conference Organiser for the General Assembly, and will process all registration and accommodation bookings. A travel agency, General Travel, will handle all the tours, offering an exciting range of local, pre and post conference tours. A wide range of hotels, and college accommodation at the University of Sydney, are being offered to participants. The social program that has been organised will offer a variety of local venues and entertainment.

There will be an Opening Ceremony at the Sydney Opera House on the evening of Tuesday 15 July, followed by a welcome reception. The Closing Ceremony will be held on Thursday 24 July, followed by the General Assembly Dinner. Further information about these events will be provided at a later stage.

We hope that every participant and guest will thoroughly enjoy the General Assembly and its associated activities, and will take the opportunity to learn more about our wonderful country.

With best wishes,

Harry Hyland & John Whiteoak
Co-Chairs of the NOC

IMPORTANT DATES & ADDRESSES

MAIN DEADLINES

Grant Applications to SOC Chairs (Symposia or GS (others))	February 15, 2003
Submission of abstracts of proposed papers* to Symposium, JD & SPS SOCs	February 15, 2003
Deadline for Early Registration	April 30, 2003
Submission of abstracts of accepted papers* (NB.: <i>Registration required</i>)	May 15, 2003
Deadline for Registration Refunds	June 21, 2003
Closing date for Pre-Registration	July 11, 2003
On-Site Registration Open from	July 13, 2003

* through web site or to contact address of the respective events (Symp., JD or SPS)

ADDRESSES

For inquiries concerning the scientific programme of the Symposia, Joint Discussions & Special Sessions held at the XXVth General Assembly, please see the contact addresses given, for each event, in this Bulletin (pp. 30-45).

For inquiries concerning administrative matters and the general programme of scientific and other meetings held at the XXVth General Assembly, please contact:

Hans Rickman, General Secretary	Tel.: 33 1 43 25 8358
International Astronomical Union (IAU)	Fax: 33 1 43 25 2616
98bis, bd Arago	E-mail: iau@iap.fr
FR 75014 Paris, France	URL: http://www.iau.org/

For all inquiries concerning registration and accommodation in Sydney, please contact:

ICMS Australasia Pty Ltd (IAU GA 25)	Telephone: 61 2 9241 1478
Level 9	Fax: 61 2 9251 3552
234 George Street	E-mail: iau-ga2003@icmsaust.com.au
AU Sydney NSW 2000, Australia	

For all inquiries concerning tour registrations, please contact:

The General Assembly Travel Office	Telephone: 61 2 9954 2600
ABN: 85 003 133 551	Fax: 61 2 9954 0421
C/- General Travel Australia	Email: iau@gtaus.com.au
Level 10, 33 Berry Street	
AU North Sydney NSW 2060, Australia	

UPDATED INFORMATION

Updated information on the General Assembly will be given in IB 92 and IB 93 (January and June 2003), and will be kept constantly updated at the special GA web site:
<http://www.astronomy2003.com/>

This site and the permanent IAU web site (<http://www.iau.org>) will be linked together and also to web sites giving the updated scientific programmes of the individual events listed in this IB.

SCIENTIFIC CONTRIBUTIONS

If you wish to make a scientific contribution, whether oral or poster, to the scientific events listed in this IB, please contact the appropriate meeting contact person and consult the web site for the abstract format. The Chairpersons of the Scientific Organising Committees will inform you whether your contributions have been accepted, and in which form (oral or poster). In order to have the abstract of your approved contribution included in the Abstract Book, and to have actual poster space allocated in case of posters, **your final Abstract and your Registration, with payment, must be submitted by 15 May, 2003.**

PROCEEDINGS OF MAIN SCIENTIFIC EVENTS

The Proceedings of the GA Symposia will be published in the regular IAU *Symposium Series*. Extended summaries of the Invited Discourses, Joint Discussions, and the Special Sessions will be published in the *Highlights of Astronomy Vol. 13*. The IAU Publisher, the **Astronomical Society of the Pacific**, offers participants the option to pre-order one or more of these volumes at the lowest available rate. Refer to the *Proceedings Pre-Order Form* for details.

TRAVEL GRANTS

The IAU devotes a sizeable share of its own budget, with generous extra subventions by major astronomical organizations, to support a limited number of prospective participants intending to contribute actively to the scientific events of the General Assembly, but unable to obtain necessary support from national sources. An *IAU Travel Grant Application Form* is included in this IB and is also available for downloading on the Web in PDF format together with the Rules for IAU Scientific Meetings, with guidelines for the allocation of such grants. If you wish to apply for IAU support, the form should be submitted to the SOC Chair of the Symposium that you wish to attend. For all other events, your applications should be submitted to the IAU General Secretary.

The deadline for all IAU Travel Grant Applications is February 15, 2003.

Prospective applicants should be aware that, despite our commitment of both our own and externally contributed funds, it is only possible to cover a small part of the total justified needs. Only truly deserving applicants can therefore expect support from the IAU. Grant recommendations from all events are checked and coordinated before award letters are sent out so that, at most, a single grant will be awarded to each individual. Grants will normally be paid to the successful applicant, in cash and in Australian Dollars (AUD), upon arrival and check-in at the registration desk.

WHAT TO DO TO ATTEND

THE XXVth IAU GENERAL ASSEMBLY: A QUICK GUIDE

INVITATION

In principle, attendance at an IAU General Assembly is by invitation of the President. Members of the IAU are automatically invited ([see p. 19](#)). Authorisation to extend this invitation to non-members is given to the national Adhering Organisations, Presidents of IAU Divisions and Commissions, and Chairpersons of the Scientific Organising Committees of the Symposia, Joint Discussions and Special Sessions at the GA. Persons unable to use these channels should contact the IAU Secretariat in Paris (address on back cover). It should be noted, however, that an invitation to attend the General Assembly does not by itself imply any financial commitment towards the participant by the IAU or the Australian National Organising Committee.

In addition, each participant, whether IAU Member or Invited Participant, may register one adult and one or more dependent children as Registered Guest(s). *Guests may not attend the scientific meetings (except for the Invited Discourses), but otherwise have the same privileges as participants.*

CONFERENCE ORGANISER

As Conference Managers, **ICMS Australasia** will handle GA registrations and accommodation, whereas tour reservations will be handled by **General Travel** ([see addresses above](#)).

VENUE OF THE GENERAL ASSEMBLY

The GA will be held from Sunday 13 July to Saturday 26 July 2003 at the Sydney Convention & Exhibition Centre, which is situated on the waterfront at Darling Harbour, just a short stroll from the heart of the city. The Convention Centre is the focal point of Darling Harbour, one of the world's most imaginative urban redevelopment projects, alive with shops, restaurants and visitor attractions. The Centre offers first class facilities to both delegates and presenters. Its central location means accommodation, restaurants and the Central Business District are all within walking distance. There is a frequent monorail service linking Darling Harbour with the city centre.

Note: No child-care facilities are available at any of the General Assembly venues. Please enquire at your hotel for assistance if needed.

VISAS

All travellers to Australia, other than Australian and New Zealand citizens, are required to hold a valid visa for Australia. Applications for visas should be made as soon as possible since **the process can take up to 8 weeks**. Please indicate on the *registration form* if you require an invitation letter for visa purposes.

It is strongly recommended that prospective participants check the rules applicable in their case with the Australian Embassy or Consul in their country of residence. **This should be done well in advance of their travel, and in no case later than May 1, 2003.** Travellers from the following countries are eligible to use Australia's electronic travel

authority (ETA) which can be accessed at

www.immi.gov.au/eta/index.htm

Andorra, Austria, Belgium, Brunei, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Iceland, Ireland, Italy, Japan, Liechtenstein, Luxembourg, Malaysia, Malta, Monaco, The Netherlands, Norway, Portugal, Singapore, South Korea, Spain, Sweden, Switzerland, Taiwan*, UK-British Citizen or UK-British National (Overseas)**, USA, Vatican City.

* Holders of Taiwan passports can only be processed for an ETA if resident in and applying in Taiwan.

** Holders of UK passports, who indicate their nationality to be British National (Overseas) can only be processed for an ETA if resident in and applying in Hong Kong.

HOW TO REGISTER

Participants should complete the *Registration and Proceedings Pre-Order Form* attached in this Bulletin and return it to ICMS no later than **Friday, 11 July 2003**. After this date, advance registration will no longer be accepted.

Note that a reduced rate applies to early registrations, no later than **30 April 2003**. Registrations can be sent by **mail, facsimile** and **online** (*electronic registration is the preferred method*) at

www.astronomy2003.com

Late registration is possible from Sunday **13 July 2003** at the registration desk in the Sydney Convention Centre. **Registrations by telephone are not accepted.**

Fees	Early Bird	After 30 April 2003
(All prices in AUD, GST included)	(by 30 April 2003)	
IAU Member/Invited Participant	880	1100
Registered Guest(s) (Above age 11)	230	230

Registration should be accompanied by payment covering the registration fee. **No registration will be confirmed until this payment has been received (See Payment Possibilities, below).** *Registration forms* for all Sydney and pre and post tours are available on the website.

**If you register by 30 April 2003 you will go into a draw to win
 a Sydney Harbour Bridge Climb for two people.
 This voucher will be valid from 1 July 2003 for 6 months.**

CONFIRMATION

Registrations will be confirmed via e-mail/facsimile/mail by the ICMS office approximately two weeks after receipt of the *Registration and Proceedings Pre-Order Form* and payment. If you do not receive a confirmation after four weeks, please contact ICMS.

CANCELLATION & REFUNDS POLICY

100% payment of the fee at the time of registration is requested. In the event of cancellation, **a full refund will be given up to 30 April 2003 less an AUD 150 administration charge.** Between **1 May** and **21 June 2003** a 50% refund will be given less the administration charge of AUD 150. After this date no refund will be made. Guest fees will be refunded in full.

PAYMENT POSSIBILITIES

All payments must be made in Australian dollars. The following methods of payments can be used. In the case of Internet registration, only credit cards may be used:

- A bankers draft in favour of **Astronomical Society of Australia IAU 2003 General Assembly** with all charges payable by the payee prior to sending. This draft *must* be enclosed with your *registration form* and sent to ICMS.
- Credit Cards: Visa, MasterCard, Bankcard, Diners and American Express
- A Personal Cheque drawn on an Australian Bank

Important Note: Badges will be required for all General Assembly meetings and events and also for entering the Sydney Opera House.

REGISTRATION DESK AND GENERAL INFORMATION

The registration desk will be located in the Promenade area of the Sydney Convention and Exhibition Centre. It will be open from Sunday 13 July to Friday 25 July. All participants, including those who have registered by mail, facsimile or Internet must first report to the registration desk and collect their registration package containing the final program, badges, the Abstract Book, etc

ACCOMMODATION RESERVATIONS

Information is given in *Registration and Proceedings Pre-Order Form*

EXHIBITION

An exhibition will be held at the Sydney Convention & Exhibition Centre. If you are interested in being part of this exhibition, please contact ICMS to obtain the full exhibition brochure, costs and *Application Form*.

OVERVIEW OF SCIENTIFIC PROGRAMME

INVITED DISCOURSES

ID 1	Gamma ray bursts	S. Kulkarni
ID 2	The formation of our Galaxy	K. Freeman
ID 3	The chemistry of the interstellar medium	E. van Dishoeck

Note: These titles are only preliminary at this stage.

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SPS 4	Effective Teaching & Learning of Astronomy	45

OTHER EVENTS

In addition to the above, there will be many more events where astronomical science will be discussed, but it is too early to list them in detail now. These will be sessions organised by Divisions, Commissions and Working Groups, and according to the preliminary planning at this stage, the following are to be noted:

Division VIII plans to hold a half-day science session on supernovae and gamma-ray bursters, and Division XI plans to hold another one of the same length on the latest results from new space missions of relevance to astrophysics, especially of high energies. There is also going to be a rich programme of scientific meetings for historians of astronomy, organised by Comm. 41, on July 21-23, and there is in particular a session about Early Australian Radio Astronomy, where also Comm. 40 participates. Moreover, we expect both EC Working Groups, for Future Large Scale Facilities, and for Publishing, to organise discussion meetings relevant to their topics.

More may be added later, and everything will be fully described in IB 92.

	HA1	HA2	P1+2	HM3	HM4	TA	TM1+2	TB1	TB2	To be defined
Sun 13 : 1										EC 77
Sun 13 : 2										EC 77 & Division Presidents
Sun 13 : 3, 4										EC 77 (Cont'd)
Mon 14 : 1	S 216									EC 77 (Cont'd)
Mon 14 : 2	S 216	S 217								EC 77 (Cont'd)
Mon 14 : 3	S 216	S 217				S 218				National Representatives, Finance Cttee
Mon 14 : 4	S 216	S 217				S 218				& Nominating Cttee Meetings
Tue 15 : 1	S 216	S 217				S 218				EC 77 (Cont'd)
Tue 15 : 2	S 216	S 217				S 218				EC 77 (Cont'd)
Tue 15 : 3	S 216	S 217				S 218				
Tue eve	----- Sydney Opera House - GA 25 : 1 Opening + Reception -----									
Wed 16 : 1	S 216	S 217	JD 01	JD 02		S 218	JD 03	JD 04	JD 05	
Wed 16 : 2	S 216	S 217	JD 01	JD 02		S 218	JD 03	JD 04	JD 05	
Wed 16 : 3	S 216	S 217	JD 01	JD 02		S 218	JD 03	JD 04	JD 05	
Wed 16 : 4	S 216	S 217	JD 01	JD 02		S 218	JD 03	JD 04	JD 05	
Wed eve	----- HA 2 - Invited Discourse No. 1 -----									
Thu 17 : 1	S 216	S 217	JD 01	JD 06		S 218	JD 07	JD 04	JD 05	
Thu 17 : 2	S 216	S 217	JD 01	JD 06		S 218	JD 07	JD 04	JD 05	
Thu 17 : 3	S 216	S 217	JD 08	JD 06		S 218	JD 07	JD 09		
Thu 17 : 4		S 217	JD 08	JD 06		S 218	JD 07	JD 09		
Fri 18 : 1	SPS 1	JD 10	JD 08				JD 11		JD 12	
Fri 18 : 2	SPS 1	JD 10	JD 08				JD 11		JD 12	
Fri 18 : 3	SPS 1	JD 10	JD 08	SPS 2		JD 13	JD 11		JD 12	
Fri 18 : 4	SPS 1	JD 10	JD 08	SPS 2		JD 13	JD 11		JD 12	
Fri eve	----- HA2 - Invited Discourse No. 2 -----									
Sat 19 : 1	SPS 1	JD 10	JD 08	SPS 2		JD 13			JD 12	
Sat 19 : 2	SPS 1	JD 10	JD 08	SPS 2		JD 13			JD 12	

SCHEDULE OF MAIN EVENTS

	HA1	HA2	P1+2	HM3	HM4	TA	TM1+2	TB 1	TB2	To be defined
Mon 21 : 1, 2	----- Commission/Division meetings -----									
Mon 21 : 3	S 219									
Mon 21 : 4	S 219	S 220								
Tue 22 : 1	S 219	S 220		JD 14		JD 15	JD 16	JD 17	S 221	
Tue 22 : 2	S 219	S 220		JD 14		JD 15	JD 16	JD 17	S 221	
Tue 22 : 3	S 219	S 220		JD 14		JD 15	JD 16	JD 17	S 221	
Tue 22 : 4	S 219	S 220		JD 14		JD 15	JD 16	JD 17	S 221	
Tue eve	----- HA2 - Invited Discourse No. 3 -----									
Wed 23 : 1	S 219	S 220	JD 18	JD 19	JD 20			JD 21	S 221	
Wed 23 : 2	S 219	S 220	JD 18	JD 19	JD 20			JD 21	S 221	
Wed 23 : 3	S 219	S 220	JD 18	JD 19	JD 20			JD 21	S 221	Nominating Cttee, Finance Cttee
Wed 23 : 4	S 219	S 220	JD 18	JD 19	JD 20			JD 21	S 221	& National Representatives Meetings
Thu 24 : 1	S 219	S 220	JD 18	SPS 3	JD 20			SPS 4	S 221	EC 77 (Cont'd)
Thu 24 : 2	S 219	S 220	JD 18	SPS 3	JD 20			SPS 4	S 221	EC 77 (Cont'd)
Thu 24 : 3, 4	----- HA 2 - GA 25 : 2 Closing -----									
Thu eve	----- GA Banquet -----									
Fri 25 : 1	S 219	S 220						SPS 4	S 221	EC 78 & Division Presidents
Fri 25 : 2	S 219	S 220						SPS 4	S 221	EC 78 (Cont'd)
Fri 25 : 3		S 220						SPS 4	S 221	EC 78 (Cont'd)
Fri 25 : 4								SPS 4	S 221	EC 78 (Cont'd)
Sat 26 : 1										EC 78 (Cont'd)
Sat 26 : 2										EC 78 (Cont'd)
HA1	Harbourside Auditorium 1									
HA2	Harbourside Auditorium 2									
P1+2	Pymont Meeting Rooms 1 + 2							TA		Tumbalong Auditoriu
HM3	Harbourside Meeting Room 3							TB1		Tumbalong Ballroo 1
HM4	Harbourside Meeting Room 4							TB2		Tumbalong Ballroo 2
							TM1+2			Tumbalong Meeting Rooms 1+2

SCHEDULE OF MAIN EVENTS (Cont'd)

PRELIMINARY SCIENTIFIC PROGRAMME

SYMPOSIA

Symposium 216

MAPS OF THE COSMOS

July 14-17, 2003

Scientific Organizing Committee: D. Alloin (Chile), R. Cannon (Australia), M. Colless (Australia), J. Huchra (USA), G. Kauffmann (Germany), J. Peacock (UK, Co-Chair), D. Spergel (USA), L. Staveley-Smith (Australia, Co-Chair), A. Szalay (USA), P. Vettolani (Italy), K. Wakamatsu (Japan) & R.E. Williams (USA, ex officio)

Chair, Local Organizing Committee: L. Staveley-Smith

Principal Topics:

- Low redshift ($z < 0.5$) galaxy surveys
- High redshift galaxy (including AGN) surveys
- Large-scale structure evolution
- Cosmic microwave background
- Galaxy and structure formation theory

Contact Address: L. Staveley-Smith, ATNF, CSIRO, P.O. Box 76, AU Epping NSW 1710, Australia

Tel: 61 2 9372 4271 - *Fax:* 61 2 9372 4310 - *E-mail:* Lister.Staveley-Smith@csiro.au

Symposium 217

RECYCLING INTERGALACTIC & INTERSTELLAR MATTER

July 14-17, 2003

Scientific Organizing Committee: H. Böhringer (Germany), J. Braine (France), E. Brinks (Mexico), P.-A. Duc (France, Chair), K. Freeman (Australia), U. Fritze-v. Alvensleben (Germany), J. Gallagher (USA), B. Koribalski (Australia), F. Mirabel (Argentina), M. Pettini (UK), Y. Taniguchi (Japan) & S. Torres-Peimbert (Mexico, ex officio)

Chair, Local Organizing Committee: Bärbel Koribalski

Principal Topics:

- Starburst driven superwinds
- AGN-driven outflows
- Tidal and ram-pressure ejections
- Processed material within the intergalactic medium
- Re-accretion processes
- Tidal Dwarf Galaxies

Contact Address: P.-A. Duc, Service d'Astrophysique, CEA Saclay, FR 91191 Gif-sur-Yvette, France

Tel: 33 1 69 08 92 68 - *Fax:* 33 1 69 08 65 77 - *E-mail:* paduc@cea.fr

Symposium 218

YOUNG NEUTRON STARS & THEIR ENVIRONMENT

July 14-17, 2003

Scientific Organizing Committee: W. Becker (Germany), D. Bhattacharya (India), C.R. Canizares (USA), R.A. Chevalier (USA), S. Johnston (Australia), V.M. Kaspi (Canada), A.G. Lyne (UK), R.N. Manchester (Australia, Co-Chair), F. Nagase (Japan), F. Pacini (Italy, ex officio) & F. Verbunt (Netherlands, Co-Chair)

Chair, Local Organizing Committee: Simon Johnston

Principal Topics:

- Birth properties of neutron stars
- Radio pulsar surveys and timing
- Supernova remnants and pulsar wind nebulae
- Anomalous X-ray pulsars, soft gamma-ray repeaters and magnetars
- Jets and interactions in young supernova remnants
- Emission processes in rotation-powered pulsars
- Thermal emission from pulsars and radio-quiet neutron stars
- Galactic distribution and evolution of pulsars, AXPs and SGRs

Contact Address: R.N. Manchester, ATNF, CSIRO, P.O. Box 76, AU Epping NSW 1710, Australia

Tel.: 61 2 9372 4313 - *Fax:* 61 2 9372 4310 - *E-mail:* Dick.Manchester@csiro.au

IAU Symposium 219

STARS AS SUNS: ACTIVITY, EVOLUTION & PLANETS

July 21-25, 2003

Scientific Organizing Committee: A. Benz (Switzerland, Co-Chair), A.P. Boss (USA), L. Cram (Australia), D. Dravins (Sweden), A. Dupree (USA, Co-Chair), O. Engvold (Norway, ex officio), E. Guinan (USA), T. Kosugi (Japan), R.P. Lin (USA), R. Rebolo (Spain) & J. Schmidt (Germany)

Chair, Local Organizing Committee: Lawrence Edward Cram

Principal Topics:

- Solar/stellar magnetic activity and evolution
- Coronal heating
- Magnetic structures in single and binary stars
- High-energy phenomena and flares and transient events
- Atmospheric abundance anomalies
- Winds and mass loss
- Characteristics of stars hosting planets
- Interactions between planets and their parent cool stars

Contact Address: A.O. Benz, Inst. of Astronomy, ETH, CH 8092 Zürich, Switzerland

Tel.: 41 1 632 4223 - *Fax:* 41 1 632 1205 - *E-mail:* benz@astro.phys.ethz.ch

Symposium 220

DARK MATTER IN GALAXIES

July 21-25, 2003

Scientific Organizing Committee: K. Freeman (Australia, Co-Chair), J. Kormendy (USA), M. Milgrom (Israel), K. Pounds (UK, ex officio), J. Primack (USA), V. Rubin (USA), R. Sancisi (Italy), M. Walker (Australia, Co-Chair), S. White (Germany) & T. de Zeeuw (Netherlands)

Chair, Local Organizing Committee: TBD

Principal Topics:

- Dynamics of the central regions of galaxies: observations versus theory
- Direct and indirect detection of dark matter in galaxies
- Information on dark halo properties from gravitational lensing
- The nature of the "Baryonic Tully-Fisher Relation", and other galaxy scaling relationships
- The angular momentum, shapes and substructure of dark halos
- Formation history of galactic dark halos
- Dark matter in the Galaxy; the extent of the Galactic dark halo
- The dark matter distribution in dwarf and high/low surface-brightness galaxies
- Physical properties of dark matter candidates, and their implications for galaxies
- Alternatives to dark matter

Contact Address: M. Walker, School of Physics A28, Univ. of Sydney, AU Sydney NSW 20006, Australia

Tel.: 61 2 9351 2546 - *Fax:* 61 2 9351 7726

E-mail: m.walker@physics.usyd.edu.au

Symposium 221

STAR FORMATION AT HIGH ANGULAR RESOLUTION

July 22-25, 2003

Scientific Organizing Committee: T. Bourke (USA, Co-Chair), M. Burton (Australia, Co-Chair), C. Cesarsky (Germany, ex officio), T. Henning (Germany), R. Jayawardhana (USA, Co-Chair), K. Koyama (Japan), A.-M. Lagrange (France), D. Mardones (Chile), Y.C. Minh (Korea), A. Natta (Italy) & A. Sargent (USA)

Chair, Local Organizing Committee: Michael Burton

Principal Topics:

- Molecular clouds to protostellar cores
- Massive star formation
- Low mass star formation
- Extragalactic star formation
- Jets, outflows and disks
- Planets

Contact Address: M. Burton, School of Physics, Univ. of New South Wales, AU Sydney NSW 2052, Australia

Tel.: 61 2 9385 5618 - *Fax:* 61 2 9385 6060 - *E-mail:* M.Burton@unsw.edu.au

JOINT DISCUSSIONS

Joint Discussion 01

NON ELECTROMAGNETIC WINDOWS FOR ASTROPHYSICS

July 16 & 17, 2003

Organized by Division XI - Participating Commissions: 44 & 47

Scientific Organizing Committee: R. Blandford (USA), J.A. de Freitas Pacheco (France), D. Jauncey (Australia), J. Narlikar (India), A. Olinto (USA), M. Salvati (Italy, Chair), B.F. Schutz (Germany), P.F. Smith (UK), Y. Totsuka (Japan) & V. Trimble (USA)

Editors of Proceedings: M. Salvati (Chief Ed.) & P. Blasi

Contact Address: M. Salvati, INAF - Osservatorio Astrofisico di Arcetri, Largo E. Fermi 5, IT 50125 Firenze, Italy

Tel.: 39 055 275 2312- *Fax:* 39 055 220 039 - *E-mail:* salvati@arcetri.astro.it

Preliminary Scientific Programme Topics:

- Nuclear Reactors
- MeV Neutrinos
- Cosmic ray accelerators
- High energy neutrinos
- Cosmic ray accelerators
- UHECR
- Collapsing/coalescing systems
- Gravitational waves
- Dark matter - Decay products

Joint Discussion 02

MERCURY

July 16, 2003

Organized by Division III - Participating Commissions: 16, 49 & WGESP

Scientific Organizing Committee: L. Iess (Italy), W.-H. Ip (China Taipei), L. Ksanfomality (Russia), A. Penny (UK), A. Sprague (USA), R. Schulz (Netherlands, Co-Chair) & N. Thomas (Germany, Co-Chair)

Editors of Proceedings: N. Thomas (Chief Ed.), R. Schulz & A. Sprague

Contact Address: N. Thomas, MPI für Aeronomie, Max-Planck-Str. 2, DE 37191 Katlenburg-Lindau, Germany

Tel.: 49 5556 979 437 - *Fax:* 49 5556 979 141 - *E-mail:* thomas@linmpi.mpg.de

Preliminary Scientific Programme Topics:

- The physical & compositional properties of Mercury's atmosphere, surface & interior
- Mercury's interplanetary environment
- The significance of Mercury-like planets to theory of solar system formation
- Scientific gains of space missions to Mercury for planetary & heliospheric research

Joint Discussion 03
MAGNETIC FIELDS & HELICITY
IN THE SUN & HELIOSPHERE

July 16, 2003

Organized by Division II - Participating Commissions: 10, 12 & 49

Scientific Organizing Committee: M. Berger (UK), D. Canfield (USA), J. Chae (Korea), G. Field (USA), C. Mandrini (Argentina), D. Melrose (Australia), D. Rust (USA, Co-Chair), B. Schmieder (France, Co-Chair), K. Shibata (Japan) & V. Yurchyshyn (Ukraine)

Editors of Proceedings: B. Schmieder (Chief Ed.) & D. Rust

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Tel.: 33 1 45 07 78 17 - *Fax:* 33 1 45 07 79 59

E-mail: brigitte.schmieder@obspm.fr

Preliminary Scientific Programme Topics:

- Magnetic helicity generation inside the sun
- Solar dynamos under the constraint of magnetic helicity conservation
- Limits of magnetic helicity conservation in solar & heliospheric plasmas
- Sources & sinks for helicity in active regions
- Techniques for inferring active region magnetic helicity content
- Magnetic helicity generation in the solar atmosphere
- Signatures of magnetic helicity in solar coronal features
- Magnetic helicity in coronal mass ejections & magnetic clouds
- Spectrum of magnetic helicity in the solar wind
- Magnetic helicity at the boundary of the heliosphere

Joint Discussion 04
ASTROPHYSICAL IMPACT OF ABUNDANCES
IN GLOBULAR CLUSTER STARS

July 16 & 17, 2003

Organized by Division IV - Participating Commissions: 29, 35 & 37

Scientific Organizing Committee: B. Barbuy (Brazil), G. Cayrel (France), F. D'Antona (Italy, Co-Chair), G. Da Costa (Australia), P. Denissenkov (Russia), R. Gratton (Italy, Co-Chair), R. Kraft (USA), G. Meylan (USA), K. Nomoto (Japan), J. Truran (USA), D. VandenBerg (Canada)

Editors of Proceedings: F. D'Antona (Chief Ed.) & G. Da Costa

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E-mail: dantona@coma.mporzio.astro.it

Preliminary Scientific Programme Topics

- Spectroscopy & abundance determinations
- Formation of globular clusters
- Stellar evolution
- Nucleosynthesis

Joint Discussion 05

WHITE DWARFS: GALACTIC & COSMOLOGICAL PROBES

July 16 & 17, 2003

Organized by Division V - Participating Commissions: 42, 26, 27 & 35

Scientific Organizing Committee: G. Chabrier (France), F. D'Antona (Italy), G. Fontaine (Canada), D. Koester (Germany), H. Shipman (USA, Chair), E. Sion (USA), P. Szkody (USA), D. Wickramasinghe (Australia), R.E. Williams (USA) & L. Yungelson (Russia)

Editors of Proceedings: H. Shipman (Chief Ed.) & E.M. Sion

Contact Address: H. Shipman, Dept. of Physics & Astronomy, Univ. of Delaware, US Newark DE 19716, USA

Tel.: 1 302 831 2986 - *Fax:* 1 302 831 1637 - *E-mail:* harrys@straus.udel.edu

Preliminary Scientific Programme Topics:

- White dwarfs as probes of galactic structure & cosmology
- Age of the galactic disk
- Age from white dwarfs in globular clusters
- White dwarf disk & halo luminosity functions
- White dwarfs as dark matter candidates
- White dwarfs in open clusters & open cluster ages
- White dwarfs as Type Ia supernova progenitors
- Double degenerates & gravitational radiation
- White dwarf accretion in close binary systems
- Supersoft X-ray binaries, symbiotics, cataclysmic variables, novae

Joint Discussion 06

EXTRAGALACTIC GLOBULAR CLUSTERS & THEIR HOST GALAXIES

July 17, 2003

Organized by Division VII - Participating Commissions: 28, 33, 37 & 47

Scientific Organizing Committee: T. Bridges (Australia, Co-Chair), J. Brodie (USA), G. Da Costa (Australia), D. Forbes (Australia, Co-Chair), U. Fritze-v. Alvensleben (Germany), D. Hanes (Canada), P. Jablonka (France), D. Minniti (Chile) & R. Sharples (UK)

Editors of Proceedings: T. Bridges (Chief Ed.) & D. Forbes

Contact Address: T. Bridges, Anglo-Australian Observatory, P.O. Box 296, AU Epping NSW 1710, Australia

Tel.: 61 2 9372 4839 - *Fax:* 61 2 9372 4880 - *E-mail:* tjb@aaoepp.aao.gov.au

Preliminary Scientific Programme Topics:

- Overview of globular cluster systems
- Globular cluster formation & destruction
- Globular cluster systems of early-type galaxies, spirals & dwarf galaxies
- Young massive clusters in star-forming regions & mergers
- Kinematics of globular cluster systems
- Ages, abundances, & star formation histories of globular clusters
- Implications for globular cluster & galaxy formation models

Joint Discussion 07

**THE SUN & THE HELIOSPHERE
AS AN INTEGRATED SYSTEM**

July 17, 2003

Organized by Division II - Participating Commissions: 10, 34, 44 & 49

Scientific Organizing Committee: H. Cane (Australia), B. Fleck (Netherlands), R. Forsyth (UK), R. Lallement (France), G. Poletto (Italy, Co-Chair), S.T. Suess (USA, Co-Chair), A.V. Usmanov (Russia), J.X. Wang (China Nanjing), H. Washimi (Japan) & T. Zurbuchen (USA)

Editors of Proceedings: G. Poletto (Chief Ed.) & S.T. Suess

Contact Address: G. Poletto, Oss. Astrofisico di Arcetri, Largo Enrico Fermi 5, IT 50125 Firenze, Italy

Tel.: 39 055 275 2252 - *Fax:* 39 055 220 039 - *E-mail:* poletto@arcetri.astro.it

Preliminary Scientific Programme Topics:

- 3D structure & the Sun; Inner heliosphere
- 3D structure & the outer heliosphere; Interstellar medium; Termination shock, heliosheath, bow shock, & their remote sensing
- Temporal & evolutionary changes; Solar cycle evolution & CMEs across the solar system
- Composition; The signatures of solar processes & interstellar pickup ions throughout the heliosphere
- Energetic particles & cosmic rays; Energetic particle modulation over the solar cycle & throughout the solar system
- New missions

Joint Discussion 08

**LARGE TELESCOPES & VIRTUAL OBSERVATORY:
VISIONS FOR THE FUTURE**

July 17, 18 & 19, 2003

Organized by Commissions 5 & 9

Participating Commissions/Division: 25, 28 & 47 / VI

Scientific Organizing Committee (incomplete): J. Andersen (IAU), J. Breckinridge (USA), R.D. Cannon (Australia), O. Dluzhnevskaya, (Russia) F. Genova (France, Co-Chair), R. Gilmozzi (ESO), R. Hanisch (USA), M. Iye (Japan), A. Kembhavi (India), R. Norris (Australia), P.J. Quinn (ESO), L.M. Stepp (USA) & Ding-qiang Su (China PR, Co-Chair)

Editors of Proceedings (tentative): F. Genova (Chief Editor) & Ding-qiang Su

Contact Addresses:

- Françoise Genova, Observatoire, 11 rue de l'Université, FR 67000 Strasbourg, France
Tel.: 33 3 90 24 2476 - *Fax:* 33 3 90 24 2432 - *E-mail:* genova@astro.u-strasbg.fr
- Ding-Qiang, Institute for Astronomical Optics & Technology, NAOC, CN Nanjing 210042, China PR
Tel.: 86 25 540 5562 - *Fax:* 86 25 540 5562 - *E-mail:* dqsu@nairc.ac.cn

Preliminary Scientific Programme Topics:

- Science drivers for future giant telescopes (FGTs)
- Technological challenges for FGTs
- International collaboration in locating and building FGTs
- The International Virtual Observatory (IVO): breaking down the boundaries
- Key technological challenges for the IVO
- International organisation and collaboration on the IVO

Joint Discussion 09

ASTROTOMOGRAPHY

July 17, 2003

Organized by Division V - Participating Commissions: 28, 29 & 42

Scientific Organizing Committee: R. Baptista (Brazil), V. Dhillon (UK), J.-F. Donati (France), E. Harlaftis (Greece), L. Morales Rueda (UK), B. Peterson (USA), N. Piskunov (Sweden), M. Richards (USA), A. Schwope (Germany) & S. Vriellmann (South Africa, Chair)

Editors of Proceedings: S. Vriellmann (Chief Ed.), A. Collier Cameron & A. Schwope

Contact Address: S. Vriellmann, Univ. of Cape Town, ZA Rondebosch 7700, South Africa

Tel.: 27 21 650 4042- *Fax:* 27 21 650 3342- *E-mail:* sonja@pinguin.ast.uct.ac.za

Preliminary Scientific Programme Topics:

- Doppler tomography of stars, accretion disks & streams
- Eclipse mapping of accretion disks
- Accretion stream mapping of polars
- Spot-mapping of Stellar surfaces
- Stokes imaging of white dwarfs
- Zeeman-Doppler mapping of stars
- Echo/Reverberation mapping of AGNs
- Objects: Solar system bodies, exo-planets, Algols, cool stars, WUMas, cataclysmic variables, AGNs

Joint Discussion 10

THE COSMIC CAULDRON: EVOLUTION IN GALAXY CLUSTERS

July 18, 2003

Organized by Division VIII - Participating Commissions: 40, 28, 44 & 47

Scientific Organizing Committee: M. Arnaud (France), R. Carlberg (Canada), W. Couch (Australia), A. Fabian (UK), L. Feretti (Italy, Co-Chair), I.M. Gioia (Italy), R. Hunstead (Australia, Co-Chair), G. Kauffmann (Germany), L. Lubin (USA), G. Miley (Netherlands), T. Ohashi (Japan) & P. Thomas (UK)

Editors of Proceedings: R.W. Hunstead (Chief Ed.), B. Gibson & P. Nulsen

Contact address: R.W. Hunstead, School of Physics, Univ. of Sydney, AU Sydney NSW 206, Australia

Tel.: 61 2 9351 3871 - *Fax:* 61 2 9351 7726 - *E-mail:* rw@physics.usyd.edu.au

Preliminary Scientific Programme Topics:

- Cluster formation & evolution
- Cluster galaxies
- Radio galaxies & their interaction with the ICM
- Intracluster medium
- Mass, cosmology, high-z clusters
- Models & simulations

Joint Discussion 11

DYNAMICS & EVOLUTION OF DENSE STELLAR SYSTEMS

July 18, 2003

Organized by Division VII - Participating Commission: 37

Scientific Organizing Committee: F. Combes (France), Y.N. Efremov (Russia), K. Freeman (Australia), M. Giersz (Poland), D. Heggie (UK), P. Hut (USA), J. Makino (Japan), G. Meylan (USA), M. Pettini (UK), D. Richstone (USA, Chair) & R. Spurzem (Germany)

Editors of Proceedings: D. Richstone, P. Hut

Contact Address: D. Richstone, Dept. of Astronomy, Dennison Bldg, Univ. of Michigan, US Ann Arbor MI 48109-1090, USA

Tel.: 1 734 764 3440 - *Fax:* 1 734 763 6317 - *E-mail:* dor@umich.edu

Preliminary Scientific Programme Topics:

- The formation of dense star clusters
- The evolution of star clusters due to internal processes
- The role of black holes of all masses & their ubiquity
- Nuclei at $z \sim 3$; mergers & evolution
- Connecting small-scale star formation to star clusters
- The role of stellar interactions/coagulation in planet formation & determining stellar masses
- Formation processes for black holes of intermediate & high mass
- Young stellar clusters as precursors for globular clusters or galactic nuclei

Joint Discussion 12

SOLAR & SOLAR-LIKE OSCILLATIONS:**INSIGHTS & CHALLENGES FOR THE SUN & STARS**

July 18 & 19, 2003

Organized by Division V

Participating Commissions: 9, 10, 12, 25, 27, 29, 30, 35, 36 & 44

Scientific Organizing Committee: H.M. Antia (India), T. Bedding (Co-Chair, Australia), F. Bouchy (Switzerland), Dean-Yi Chou (Taiwan), J. Christensen-Dalsgaard (Denmark), W. Dziembowski (Poland), Y. Elsworth (UK), J. Leibacher (Co-Chair, USA), M.P. di Mauro (Italy) & H. Shibahashi (Japan)

Editors of Proceedings: T.R. Bedding & J. Leibacher (Chief Ed.)

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Preliminary Scientific Programme Topics:

This meeting will cover “solar-like” oscillations, meaning those that are excited stochastically by convection. They occur in the Sun & in solar-type stars, but also in sub-giant stars (F & G) & giant stars (G, K & M). Topics to be covered are:

- Asteroseismology:
 - * theoretical investigations: stellar models & oscillation amplitudes
 - * observational techniques: velocity & photometry measurements; relationship to exoplanet searches; frequency extraction
 - * observational results: ground-based velocity measurements; space-based photometric measurements
- Helioseismology:
 - * sub-surface structures & flows revealed by local area helioseismology, acoustic tomography & holography
 - * convection zone, tachocline & core structure variations with the activity cycle
 - * low-degree helioseismology & implications for asteroseismology
- Future ground- and space-based facilities

Joint Discussion 13

EXTRAGALACTIC BINARIES

July 18 & 19, 2003

Organized by Division V - Participating Commissions: 25, 27, 30, 42 & 47

Scientific Organizing Committee: J.V. Clausen (Denmark), K.H. Cook (USA), A. Gimenez (Netherlands, Co-Chair), E.F. Guinan (USA), R.W. Hilditch (UK), V.S. Niemela (Argentina), J.D. Pritchard (Chile), I. Ribas (Spain, Co-Chair), K.Z. Stanek (USA) & A. Udalski (Poland)

Editors of Proceedings: A. Gimenez (Chief Ed.) & I. Ribas

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Tel.: 34 93 402 1126 - *Fax:* 34 93 402 1133 - *E-mail:* iribas@am.ub.es

Preliminary Scientific Programme Topics:

- Binaries in other galaxies - Introduction & historical perspectives
- Discoveries of binaries by MACHO, OGLE, EROS, DIRECT programs
- The calibration of the Cosmic Distance Scale (LMC & M31)
- Extragalactic binaries as "astrophysical laboratories": mass-luminosity law, effective temperature scale, stellar structure & evolution in environments with different chemical & dynamical properties
- Update of SNIa as "standard candles" - the accelerating universe
- Determination of the 3-D structure of galaxies using eclipsing binaries & variable stars as probes
- Instrumentation & techniques: Current & future prospects

Joint Discussion 14

FORMATION OF COMETARY MATERIAL

July 22, 2003

Organized by Division III - Participating Commissions: 15 & 34

Scientific Organizing Committee: Y. Aikawa (Japan), P. Caselli (Italy), P. Ehrenfreund (Netherlands), D. Gautier (France), W.F. Huebner (USA, Chair), W.M. Irvine (USA), H.U. Keller (Germany) & D.H. Wooden (USA)

Editors of Proceedings: W.F. Huebner (Chief Ed.), P. Ehrenfreund & H.U. Keller

Contact Address: W.F. Huebner, Southwest Res. Inst., P.O. Drawer 28510, US San Antonio TX 78228-0510, USA

Tel.: 1 210 522 2730 - *Fax:* 1 210 543 0052 - *E-mail:* whuebner@swri.edu

Preliminary Scientific Programme Topics:

- Results from spacecraft investigations of Comet Hale-Boop & from observations of recent bright Comets Hale-Boop, Hyakutake & others
- Formation of comets from interstellar gases:
 - * Interstellar material processing
 - * The strength of the solar nebula accretion shock
 - * Mixing with highly processed materials from near the Sun
 - * Formation of crystalline silicates
- What can be learned from comet observations about the solar nebula, interstellar medium, dark interstellar clouds & star-forming regions?

Joint Discussion 15

**ELEMENTAL ABUNDANCES IN OLD STARS
& DAMPED LYMAN-ALPHA SYSTEMS**

July 22, 2003

Organized by Division IV - Participating Commissions: 28, 29, 35, 36 & 47

Scientific Organizing Committee: R. Cayrel (France), R. Cen (USA), F. Matteucci (Italy), P.E. Nissen (Denmark, Co-Chair), K. Nomoto (Japan), M. Pettini (UK, Co-Chair), F. Primas (Germany), J. Prochaska (USA), R. Rebolo (Spain), C. Sneden (USA) & A. Songaila (USA)

Editors of Proceedings: P.E. Nissen (Chief Ed.) & M. Pettini

Contact Address: P.E. Nissen, Dept. of Physics & Astronomy, Univ. of Aarhus, Ny Munkegade, DK 8000 Aarhus, Denmark

Tel.: 45 89 42 3608 - *Fax:* 45 86 12 0740 - *E-mail:* pen@obs.aau.dk

Preliminary Scientific Programme Topics:

- Metallicity-age & metallicity redshift relations
- Abundance ratios as function of metallicity
- Nucleosynthesis & chemical evolution of galaxies
- The first stars & elemental abundances in the intergalactic medium at high redshifts
- The nature of Damped Lyman- α systems

Joint Discussion 16

**THE INTERNATIONAL CELESTIAL REFERENCE SYSTEM:
MAINTENANCE & FUTURE REALIZATION**

July 22, 2003

Organized by Division I - Participating Commissions: 4, 8 & 19

Scientific Organizing Committee: G. Beutler (Switzerland), N. Capitaine (France), J. Chapront (France), V. Dehant (Belgium), T. Fukushima (Japan), R. Gaume (USA), C. Ma (USA), Z. Malkin (Russia), D.D. McCarthy (USA, Co-Chair), F. Mignard (France, Co-Chair), M. Soffel (Germany), J. Souchay (France), M. Standish (USA), W. Jin (China Nanjing) & J. Vondrák (Czech R)

Editors of Proceedings: R. Gaume, D. McCarthy (Chief Ed.) & J. Souchay

Contact Address: F. Mignard, CERGA, Av Copernic, FR 06130 Grasse, France
Tel.: 33 4 93 40 53 82 - *Fax:* 33 4 93 40 53 33 - *E-mail:* mignard@obs-azur.fr

Preliminary Scientific Programme Topics:

- International Celestial Reference Frame (ICRF)
- Future improvement of ICRF
- Maintenance of models defining the ICRF
- Extension of ICRF to other wavelengths

Joint Discussion 17

ATOMIC DATA FOR X-RAY ASTRONOMY

July 22, 2003

Participating Commissions: 14 & 44

Scientific Organizing Committee: N. Brickhouse (USA), J. Dubau (France), A. Fabian (UK), H. Hasan (USA), J. Houck (USA), J. Kaastra (Netherlands), S. Kahn (USA), T. Kallman (USA), T. Kato (Japan), F. Keenan (UK), H. Netzer (Israel), K. Phillips (UK), A.K. Pradhan (USA, Chair), P.L. Smith (USA) & Y. Yamashita (Japan)

Editors of Proceedings: A.K. Pradhan & P.L. Smith (Chief Ed.)

Contact Address: A. Pradhan, Dept. of Astronomy, Ohio State Univ., US Columbus OH 43210-1106, USA

Tel.: 1 614 292 5850 - *E-mail:* pradhan@astronomy.ohio-state.edu

Preliminary Scientific Programme Topics:

- New X-ray observations
- Laboratory measurements
- Atomic theory
- X-ray plasma modeling

Joint Discussion 18

QUASAR CORES & JETS

July 23, 2003

Organized by Division X - Participating Commissions: 40, 41 & 44

Scientific Organizing Committee: C. Fanti (Italy), G. Hasinger (Germany), H. Hirabayashi (Japan), D.L. Jauncey (Australia, Chair), N.S. Kardashev (Russia), K.I. Kellermann (USA), G. Krishna (India), E. Pian (Italy), E. Valtaoja (Finland) & J. Wall (UK)

Editors of Proceedings: D.L. Jauncey (Chief Ed.), K.I. Kellermann & J.V. Wall

Contact Address: D.L. Jauncey, ATNF, CSIRO, P.O. Box 76, AU Epping NSW 1710, Australia, *Tel.:* 61 26216 7220 - *Fax:* 61 26216 7222 - *E-mail:* djauncey@atnf.csiro.au

Preliminary Scientific Programme Topics:

- Quasar & AGN jet kinematics
- Gamma-ray & TeV emission from quasars & AGN
- X-ray emission from jets & inverse Compton radiation
- Accretion onto the central AGN black hole
- Generation & collimation of jets
- High brightness temperatures in AGN
- Interstellar scintillation & microarcsecond imaging
- Unification schemes for quasars & radio galaxies
- Scaling laws & micro-quasars

Joint Discussion 19

**PHYSICAL PROPERTIES & MORPHOLOGY
OF SMALL SOLAR SYSTEM BODIES**

July 23, 2003

Organized by Division III - Participating Commissions: 7, 15, 16 & 22

Scientific Organizing Committee (incomplete): A. Cellino (Italy), G. Cremonese (Italy), D. Cruikshank (USA), J.D. Hadjidemetriou (Greece), W.F. Huebner (USA), H.U. Keller (Germany, Co-Chair), V. Porubcan (Slovakia) & E.F. Tedesco (USA, Co-Chair)

Editors of Proceedings: W.F. Huebner, E.F. Tedesco (Chief Ed.) & H.U. Keller

Contact Address: E.F. Tedesco, TerraSystems Inc., Space Science Research Division, 59 Wednesday Hill Rd, US Lee NH 03824 6537

Tel.: 1 603 359 5620 - *Fax:* 1 603 359 2982 - *E-mail:* etedesco@terrasys.com

Preliminary Scientific Programme Topics:

- Results from space missions to small bodies (comets, asteroids, moons)
- Results from ground-based & earth-orbiting observations
- What can be learned about the structure, composition, & material properties
- How can we extrapolate from the few well studied bodies in order to optimise future space missions

Joint Discussion 20

FRONTIERS OF HIGH RESOLUTION SPECTROSCOPY

July 23, 2003

Organized by Division IX - Participating Commissions: 40, 14 & 44

Scientific Organizing Committee: J. Bally (USA), R. Booth (Sweden), N. Brickhouse (USA), D. Gray (USA), J. Linsky (USA, Chair), G. Mathys (Chile), M. Mayor (Switzerland), R. Pallavicini (Italy), N. Piskunov (Sweden) & A. Vidal-Madjar (France)

Editor of Proceedings: J. Linsky

Contact Address: J.L. Linsky, JILA, Campus Box 440, Univ. of Colorado, US Boulder
CO 80309-0440, USA

Tel.: 1 303 492 7838 - *Fax:* 1 303 492 5235 - *E-mail:* jlinsky@jila.colorado.edu

Preliminary Scientific Programme Topics:

- Providing insights into major questions of astrophysics:
 - * examples of new results
 - * future, specific major questions
- Cross-cutting technologies & data analysis techniques across the electromagnetic spectrum
- Future instrument plans across the electromagnetic spectrum
- Tomographic & Doppler imaging techniques
- Recent results on precise abundances
- Recent results on planet detection & the interstellar medium

Joint Discussion 21

THE ASTROCHEMISTRY OF EXTERNAL GALAXIES

July 23, 2003

Organized by Division VI - Participating Commissions: 14, 28, 34 & 40

Scientific Organizing Committee: J. Black (Sweden), L. Bronfman (Chile), C. Carilli (USA), J. Chengalur (India), F. Combes (France), S. Curran (Australia), E. van Dishoeck (Netherlands), C. Henkel (Germany), T. Millar (UK, Chair) & Y. Sofue (Japan)

Editor of Proceedings: T.J. Millar

Contact Address: T.J. Millar, Dept. of Physics, UMIST, P.O. Box 88, GB Manchester
M60 1QD, UK

Tel.: 44 161 2000 3677 - *Fax:* 44 161 200 4303

E-mail: Tom.Millar@umist.ac.uk

Preliminary Scientific Programme Topics:

- The influence of environment on extragalactic molecular clouds
- Molecular material at high redshift
- Probing physics & chemistry with molecular lines
- Current models & identification of improvements
- Future prospects - observations, theory, data needs

SPECIAL SESSIONS

Special Session 1

RECENT PROGRESS IN PLANETARY EXPLORATION

July 18 & 19, 2003

Organized by Division III & Commission 16

Scientific Organizing Committee: C. de Bergh (France, Co-Chair), A. Coradini (Italy), D.P. Cruikshank (USA, Co-Chair), L.V. Ksanfomality (Russia), T.C. Owen (USA) & N. Thomas (Germany)

Editors of Proceedings: D. Cruikshank (Chief Ed.) & C. de Bergh

Contact Address: D.P. Cruikshank, MS 245-6, NASA Ames Research Center, US Moffett Field CA 94035-1000, USA

Tel.: 1 650 604 4244 - *Fax:* 1 650 604 6779

E-mail: dcruikshank@mail.arc.nasa.gov

Preliminary Scientific Programme Topics:

- Composition and structure of the atmosphere of Jupiter from the Galileo and Cassini missions
- Views of the history of the surface of Venus
- Recent water and volcanism on Mars; the new evidence
- The atmosphere and surface of Titan on the eve of the Cassini-Huygens mission
- Pluto and Charon; gateway to the Kuiper Disk

Special Session 2

ASTRONOMY IN ANTARCTICA

July 18 & 19, 2003

Scientific Organizing Committee (incomplete): M. Burton (Chair, Australia), J. Carlstrom (USA), A. Ferrari (Italy), E. Fossat (France), A. Landolt (USA) & H. Rickman (Sweden)

Contact Address: M. Burton, Joint Australian Centre for Astrophysical Research in Antarctica, School of Physics, Univ. of New South Wales, AU Sydney NSW 2052, Australia

Tel.: 61 2 9385 5618 - *Fax:* 61 2 9385 6060 - *E-mail:* [M. Burton@unsw.edu.au](mailto:M.Burton@unsw.edu.au)

Preliminary Scientific Programme Topics:

- Review of experiments of the past decade
- Plans for the next decade
- Highlights from science conducted in the infrared, sub-mm, CMBR and in particle astrophysics
- The South Pole
- Dome C

Special Session 3

A NEW CLASSIFICATION SCHEME FOR DOUBLE STARS

July 24, 2003

Organized by Division IV & Commissions 5, 8, 26, 30, 40, 42 & 45

Scientific Organizing Committee: A.P. Boss (USA), H.R. Dickel (USA), W.I. Hartkopf (Co-Chair, USA), J. Kovalevsky (France), T. H. Lloyd Evans (UK), R.M. Manchester (Australia), B.D. Mason (Co-Chair, USA), T. Mazeh (Israel), C.D. Scarfe (Canada) & A.A. Tokovinin (Russia)

Contact Address: B.D. Mason, USNO, 3450 Massachusetts Av. NW, US Washington DC 20392, USA

Tel.: 1 202 762 1412 - *Fax:* 1 202 762 1516 - *E-mail:* bdm@draco.usno.navy.mil

Preliminary Scientific Programme Topics:

- Introduction to the nomenclature problem
- The Washington Multiplicity Catalog as a possible solution
- Example problems:
 - * Complex multiple systems;
 - * Extra-solar planets;
 - * Transient events;
 - * Systems with unknown hierarchies
- Status of the program and plan for implementation of the full catalog
- Discussion and further recommendations

Special Session 4

EFFECTIVE TEACHING & LEARNING OF ASTRONOMY

July 24 & 25, 2003

Organized by Commission 46

Scientific Organizing Committee: J. Dunlop (New Zealand), J. Fierro (Mexico), M. Gerbaldi (France), M.K. Hemenway (USA), S. Isobe (Japan), B. Jones (UK), M. Metaxa (Greece), J. Narlikar (India), W. Orchiston (Australia), J.M. Pasachoff (USA), J.R. Percy (Chair, Canada), C. Rijsdijk (South Africa), R. Ros (Spain) & G. White (Australia)

Contact Address: J.R. Percy, Science Div., Erindale College, Univ. Toronto, CA Mississauga ON L5L 1C6, Canada

Tel.: 1 905 828 5351 - *Fax:* 1 905 828 5425 - *E-mail:* jpercy@utm.utoronto.ca

Preliminary Scientific Programme Topics:

- Overview of astronomy in the schools
- Rationale for astronomy in the curriculum
- Research on effective learning and teaching of Astronomy
- Appropriate astronomy curriculum material
- Effective teacher education
- Roles of planetariums, science centers, science parks and public observatories in supporting formal education
- Resource material

MISCELLANEOUS

SOCIAL FUNCTIONS

CLOSING DINNER

The Closing Dinner will be held in the Bayside Banquet Hall, Sydney Convention & Exhibition Centre following the Closing Ceremony of the General Assembly on Thursday 24 July. The cost will be AUD 130. Please tick the Social Functions section on the *Registration Form* to reserve seats for this outstanding evening. Places are limited and therefore will be sold on a first come, first served basis. We guarantee a truly Australian evening, with some surprises.

CULTURAL EVENT

A cultural evening will be planned for Thursday 17 July. The details will be included on the website as soon as available.

PUBLIC EVENTS

A wide program of astronomical public events and other outreach activities across Australia is being planned around the GA, across Australia. The program will feature events before, during and after the GA. Information on these events will be available through the GA website.

TOURS, VISITS & EXCURSIONS

Out and about in Sydney - the program of day, half-day, overnight, cultural and social activities is designed to provide a diversity of interest and activities for all attendees and families. The activities range from: self-guided walks, guided tours and site-seeing trips, through to serious adventure activities in and around Sydney. Sydney offers a huge range of activities and places of interest. Of course, participants can enjoy many activities without the efforts of guides. However, we believe it desirable to provide a full range of activities to encourage group participation and involvement in the cosmopolitan atmosphere and spectacular scenery that Sydney offers. We hope the activities will also make your visit to Sydney with your partner and family a wonderful experience.

A selection of pre and post tours has been proposed specifically for delegates, family and friends. These will cater for the adventurous and more sedate travellers. This is your chance to enjoy the superb attractions of this vast island continent.

Please refer to the website www.astronomy2003.com for tour details and the travel booking form. A printed version will be included in IB 92.

Tours are offered at a wide range of prices. Day or half-day tours include, e.g.: Sydney City Tour, Harbour Coffee Cruise, Koalas and Kangaroos, Harbour Bridge Climb, Aboriginal Whatabout, Creation of an Opera, Bushwalk Du-ring-gai, Sydney Observatory Visit, Blue Mountains, Northern Beaches, Canberra Tour, Hunter Valley, Australian Sheep Station. Pre and post tours of longer duration include: Tasmania Adventure tour, Broken Hill Tour, Red Cente Tour, Cruising the Barrier Reef, Observatories and New South Wales Tour, Kakadu and ArnHemland Tour, Kimberley Highlights Tour, Astronomy and the Outback by DC3.

TRAVEL DESK

A tour desk will be staffed from Sunday 13 July to Friday 25 July where additional tour tickets can be purchased.

BANKING FACILITIES

Banks in Australia are open from 0930 to 1600 Monday to Thursday and 0930 to 1700 on Fridays. Banks are closed all day Saturday and Sunday. Exchange facilities are available at the airport and most major hotels. Automatic Teller Machine (ATM) facilities are available at a wide variety of outlets.

MAIL, PHONE, FACSIMILE, PHOTOCOPIER AND ELECTRONIC MAIL

Each participant will have his/her own labelled mail box in the Sydney Convention & Exhibition Centre. The postal address of participants during the XXVth General Assembly will be

Name

Registration number (see "ref" on registration confirmation)

IAU XXV General Assembly

Sydney Convention & Exhibition Centre

Darling Harbour

Sydney NSW 2000, Australia

Note that this address is only valid during the General Assembly

There are phone boxes within the Sydney Convention & Exhibition Centre. The telephone number of the registration desk will be 61 2 9282 5780. Note this number is only for receiving urgent messages to participants.

Photocopying and faxing will be available at the Convention Centre via the business centre on the ground floor. There will be a charge for using these services. The fax number at the registration desk will be 61 2 9282 5782. Note this fax is only available for receiving urgent messages for participants.

INTERNET CAFE

Throughout the General Assembly, computers with access to the Internet and e-mail will be available within the exhibition area.

DAILY NEWSPAPER

A newspaper of the General Assembly will be produced daily. It will carry articles of general interest to the astronomical community and reports on scientific and social programs for the days to come.

TRANSPORT

Sydney's public transport network allows easy travel around the city. There is a frequent monorail service linking Darling Harbour with the city and a regular ferry service (15 minutes each trip) between Darling Harbour and Circular Quay (downtown).

PUBLIC TRANSPORT FROM AIRPORT (PRICES AS AT JULY 2002)

The Airport Shuttle bus runs from both the Sydney International and Domestic Terminals to various points throughout Sydney including Darling Harbour. The cost is AUD7.50 one way (subject to change). The efficient train link from Sydney Airport to Central Station is AUD10.00 one way (subject to change) and the journey takes approximately 10 minutes. A taxi fare from the airport to the Central Business District is approximately AUD30.00.

ELECTRICITY, WEATHER AND CLOTHING

The weather in Sydney can be variable. Average temperatures in July will be in the range 7-17 degrees Celsius. Rain showers are typical, so it is advisable to bring waterproof clothing and an umbrella. Warm casual clothing will be suitable for daytime use. The evenings will be quite cool, therefore sweaters and jackets are recommended.

The electrical supply is 240 volts, 50 Hz. The connection for appliances is a three flat-pin plug. Most hotels provide 110 volt outlets for shavers. Adapters to European and American designs are readily available

6. EXECUTIVE COMMITTEE MEETINGS

6.1. 76th Meeting of the Executive Committee

This meeting was held on 6-8 May, 2002, in St Petersburg, Russia, at the Institute of Applied Astronomy of the Russian Academy of Sciences, kindly hosted by the Institute's Director, Prof. Andrej M. Finkelshtein. All practical arrangements were superbly managed by Dr. Irina Kumkova. For the first time outside General Assemblies, all Division Presidents were invited to the EC meeting, and the opportunity to discuss the scientific programme for GA 25 as well as several long-term policy issues were felt by all to be a great success. All EC members and Division Presidents were present, except N. Kaifu, R.P. Kraft, & G. Srinivasan, who were unable to attend.

The main issue was the selection of IAU-sponsored scientific meetings in 2003, including the Symposia, Joint Discussions and Special Sessions to be held during GA 25 in Sydney. The EC was pleased to have a very large number of high-quality proposals to choose from, and even though the interval between the GA sessions has been extended, it was not possible to schedule them all. In all, 6 Symposia, 21 JDs, and 4 Special Sessions were selected, so everybody should have several scientific reasons to attend the GA!

In addition to the GA events, four Colloquia and two co-sponsored meetings were approved for 2003 ([See § 3](#)). Note that, of these, IAU Colloquium 193 will be held at Christchurch, New Zealand, immediately before GA 25; it was unanimously considered that this would add to rather than detract from the attraction of the GA itself.

Among other issues, the future structuring of the IAU Divisions and Commissions was of special importance. After a thorough debate, it was decided not to propose any change in the election procedures for the Executive Committee, but to continue the practice of inviting all Division Presidents to the EC meetings during years preceding GAs. It was, however, agreed to propose that newly created and existing Commissions should in the future be given a default life span of six years, after which their continued existence would require a demonstration of relevant activity and clearly identified future goal. The decision, to be taken triennially, should be in the hands of the parent Division(s), with the approval of the EC. Also, the currently very vague rules for electing new Division Presidents will be replaced by more specific and useful guidelines. These principles will be incorporated into a set of thoroughly revised Statutes and Bye-Laws which will be submitted to GA 25 for approval.

The IAU publishing contract expires by the end of 2003, and upon the suggestion of the Working Group on Publishing, the EC decided to seek a new contract, which focusses on electronic publishing. The series of IAU Symposia and Colloquia should be continued, but their proceedings should principally be produced in electronic form with paper copies available at a price set by the demand. A strict deadline for the finishing of such proceedings will be a straightforward matter, whereas it is currently very hard to enforce. With such a Publisher, the future of the Information Bulletins, whose mailing costs currently represent an important expense line in the budget, should rather go to electronic distribution including downloading via Internet.

Concerning the functioning of the Secretariat, a pressing need was identified to improve the communication links with the individual members. An effort should be made to get email addresses updated and to initiate regular electronic communication between the officers and divisions of the Union and its members. [See page 3!](#)

6.2. 77th & 78th Meetings of the Executive Committee

These EC meetings will be held at Darling Harbour Convention Centre in Sydney in connection with GA 25. The 77th meeting will start July 13 and continue until noon, July 15, with a final session in the morning of July 24. The 78th EC meeting will take place July 25 and July 26. As usual, the Division Presidents are invited to attend these meetings (outgoing DPs for EC77, incoming DPs for EC78).

7. GA XXIV TYPE C RESOLUTIONS

In the recently published Transactions of the IAU, Vol. 24B, recording the proceedings of the 24th General Assembly, two resolutions are unfortunately missing. These were duly prepared and evaluated during a specially convened multi-Division, multi-Commission meeting and thus do not belong under any single body, so they were not included into any of those reports. Instead the intention was to publish them as "Resolutions of Type C" in Chapter IV, but they were mistakenly omitted, for which your GS and Tr24B editor is very sorry.

Their full texts are found below, and they are also accessible via the IAU web page at <http://www.iau.org/IAU/News/>.

Resolution C1 on the Definition of a Spectroscopic "Barycentric Radial-Velocity Measure"

Divisions I, IV, V, VI, VII, IX and X, and Commissions 8, 27, 29, 30, 31, 33, 34 and 40 of the International Astronomical Union

Recognising

1. That recently improved techniques for determining radial velocities in stars and other objects, reaching and exceeding precision levels of meters per second, require the definition of "radial velocity" to be examined;
2. That, due to relativistic effects, measurements being made inside gravitational fields, and alternative choices of coordinate frames, the naive concept of radial velocity being equal to the time derivative of distance, becomes ambiguous at accuracy levels around 100 m/s;

Considering

1. That, although many effects may influence the precise shifts of spectroscopic wavelengths and frequencies, only local ones (i.e. arising within the solar system, and depending on the gravitational potential of the observer, and the observer's position and motion relative to the solar-system barycenter) can in general be reliably calculated;
2. That, although the wavelength displacement (or frequency shift) corrected for such local effects can thus be derived from spectroscopic measurements, the

resulting quantity cannot unambiguously be interpreted as a radial motion of the object;

Therefore recommend

That, whenever radial velocities are considered to a high accuracy, the spectroscopic result from a measurement of shifts in wavelength or frequency be given as the "barycentric radial-velocity measure" cz_B after correcting for gravitational effects caused by solar-system objects, and effects by the observer's displacement and motion relative to the solar-system barycenter.

Here, c equals the conventional speed of light = 299,792,458 m/s, and $z_B = (\lambda - \lambda_0)/\lambda_0$, where λ_0 is the rest-frame wavelength and λ the wavelength observed by a hypothetical observer at zero gravitational potential, located at, and being at rest with respect to, the solar-system barycenter. The epoch of the observation equals the barycentric time of light arrival.

The radial-velocity measure cz_B is expressed in velocity units: to first order in z_B it coincides with the classical concept of "radial velocity", while avoiding the implicit interpretation as physical motion. The solar-system barycenter is defined by Resolution A4 adopted at the IAU XXIst General Assembly in 1991, and supplemented by Resolution B6 at the IAU XXIIIrd General Assembly in 1997.

The text of this resolution is available at the following URL:

<http://www.astro.lu.se/~dainis/HTML/RADVEL.html>

Resolution C 2 on the Definition of "Astrometric Radial Velocity"

Divisions I, IV, V, VI, VII, IX and X, and Commissions 8, 27, 29, 30, 31, 33, 34 and 40 of the International Astronomical Union

Recognising

That recently improved astrometric techniques may permit the accurate determination of stellar radial velocities independent of spectroscopy, thus requiring a definition independent from spectroscopic measures;

Considering

That the change in the barycentric direction \mathbf{u} to objects outside of the solar system is customarily expressed by the proper-motion vector $m = d\mathbf{u}/dt_B$, where t_B is the barycentric coordinate time (TCB) of light arrival at the solar system barycenter;

Therefore recommend

That the geometric concept of radial velocity be defined as dr/dt_B where r is the barycentric coordinate distance to the object and t_B the barycentric coordinate time (TCB) for light arrival at the solar system barycenter.

The text of this resolution is available at the following URL:

<http://www.astro.lu.se/~dainis/HTML/ASTRVEL.htm>

Note: The barycentric celestial reference system (including the barycentric coordinate time) is defined in resolutions B1.3 and B1.5 adopted at the IAU XXIVth General Assembly in 2000.

See IAU Transactions XXIVB, pp. 37-43 & 44-49 or

http://danof.obspm.fr/IAU_resolutions/Resol-UAI.htm

8. EDUCATIONAL ACTIVITIES

8.1. Overview

As seen below, different Program Groups now function well and some activities start now. PG on Newsletter published Newsletter No. 56 of our Commission 46, which can be seen at <http://physics.open.ac.uk/IAU46>. We also see several international meetings which contain educational session such as

- Communicating Astronomy held at La Laguna in Tenerife, Canary Islands, Spain, February 25-March 1, 2002
- Light Pollution held at La Serena, Chile, March 5-7, 2002, and
- International Solar lectures held at Nanjing, China, August 5-12, 2002 (Contact person: **Dr. G. L. Huang, guangli@public1.ptt.js.cn**).

Commission 46 expects that other international meetings will hold such an education session within their program.

Commission 46 is organizing a Special Session at GA XXV in Sydney on the topic of "Effective Teaching & Learning of Astronomy". This will be held on Thursday 24 & Friday 25 July, thus joining with the following, traditional Teachers' Day, which is organized by Dr. Nick Lomb of Sydney Observatory.

Syuzo Isobe, President of Commission 46

8.2. PG on Teaching for Astronomy Development (TAD)

VIETNAM

- Conference in Hanoi, December 5 - 10, 2001 for 13 university astronomy teachers and 13 students from all over Vietnam.
- Foreign faculty Prof. N. Q. Rieu, France.
- Discussions on teaching with the new textbook, which will be reprinted.
- Approval of plans to bring the telescope in Hanoi up to its capabilities and planning of additional activities by the Vietnamese Astronomical Society to promote astronomy, in part with support from Prof. Y. Kozai, Japan.
- Support of travel of Mr. N. A. Vinh, Hanoi, to Gunma Astronomical Observatory, Japan, for training in use of CCD.

MOROCCO

Support of one student to visit Obs. Pic du Midi for ten days to study there with Dr. Michèle Gerbaldi, France.

CENTRAL AMERICA

- Support of travel of Dr. Nidia Morrell, Argentina, to Nicaragua to advise on beginning an astronomy program and train students
- Astronomical observing at the National University of Nicaragua.

Don Wentzel, Chairman for TAD

8.3. PG on Advance Development (AD)

The Special Session on "Astronomy for Developing Countries" was held at the Manchester General Assembly by efforts of the present PG on Advance Development. The Proceedings appeared in June 2001 and a shorter account will appear in

In late November 2001, Ed. Guinan visited the Philippines to assess the desirability of instituting a TAD programme there. His recommendation is favourable. Now, TAD team starts to take it into consideration.

Alan Batten, Chairman for AD

8.4. PG on Collaborative Programs (CP)

INITIATIVE AT THE UNITED NATIONS

At its meetings in Vienna February 25-March 8, 2002, the Scientific & Technical Subcommittee of the UN Committee on the Peaceful Uses of Outer Space (UN-COPUOS for short) discussed a large set of initiatives to implement the recommendations of the UNISPACE III conference in Vienna in 1999 (during which, I recall, the IAU, COSPAR, and the UN Office of Outer Space Affairs organised a Special Educational Workshop, the recommendations of which became part of the Final Report of UNISPACE III).

"Action Team" No. 17 consists of several Member States led by Japan, as well as several NGOs, including the IAU (represented by C46 President Syuzo Isobe) and COSPAR (represented by Prof. Peter Willmore). As I was the only IAU (and COSPAR) representative actually present in Vienna at the time, I attended the March 1 meeting of this Action Team. Its theme is the UNISPACE III recommendation "To enhance capacity-building through the development of human and budgetary resources; the training and professional development of teachers; the exchange of teaching methods, materials, and experience; and the development of infrastructure and policy regulations". Only a handful of countries were represented, but the Japanese meeting organisers were clearly very motivated, constructive, and well organised.

Preliminary plans before the meeting included the set-up of a list of available fellowships in space science and engineering; the creation of a collection of available teaching methods and materials; and the organization of a meeting in late 2002 to discuss experience and plans. These plans were discussed in some detail, both as regards the intended level (Students? School teachers? High school/college teachers? Universities? Postgraduate?) and line of specialisation (Astronomy? Basic or applied space science? Space engineering?).

On behalf of the IAU and COSPAR, I urged that,

- To "enhance", one needs to be proactive and ambitious and not limit the scope to making inventories of the present situation;
- To do so, specific goals, milestones, and roadmaps must be set up so that progress towards the goals can be measured and monitored; and
- In order to be most useful, inventories of teaching methods, materials, and experience should be structured based on the different levels of development of the country, region, or institution in question, and on the disciplines one wants to promote in each case - i.e. the old idea of an 'IAU Cookbook' where one would be able to find a description of the situation one is in (our TAD programme offers a wide selection of typical situations!) and be directed to a set of advice, resources, and recommendations based on experience from similar settings.

I really do believe that the IAU could do the cause a valuable service by preparing the first example of such a document (for astronomy, obviously). Once it has been set up and proved to work, adapting it to neighbouring disciplines will be much easier. And of course it should be a living thing, presumably residing on the web and updated every 1-3 years as experience accumulates and new initiatives or resources are developed. I actually think it would be a fun thing to do!

More input is to be directed to the Japanese organisers before the June meeting of COPUOS itself; a meeting is then likely to be organised late in the year to discuss this input and develop strategies and plans for the future. IAU members should be able to provide much valuable input to this process.

Johannes Andersen, Member of the PG on CP

COSPAR/IAU WORKSHOP ON X-RAY ASTRONOMY

Two IAU Commission 46 Program Groups (Collaborative Programs and the International School for Young Astronomers) helped plan the COSPAR/IAU workshop on X-ray astronomy that took place at INPE in Brazil in December 2001. Judging both by the on-the-spot impressions of lecturers and the remarks of students, and by the evaluation questionnaires, it was a great success.

In the event we had 24 students - just short of our target of 25 - from Argentina, Brazil, Mexico, Chile, and Bolivia, but predominantly from the first three countries. The selection panel consisted of Braga (Brazil), Machado (Argentina), Page (Mexico), Reisenegger (Chile) and myself. The students ranged from university faculty, post-docs, graduates and even a few final-year undergraduates, which meant there was also a range of scientific maturity, but generally they were of high ability.

The time was divided almost equally between lectures and practical computer sessions, in which each student carried out a project related to their research, and intended to be the basis for further work when they returned to their home institute or university. Each was assigned a scientific supervisor for the period of the workshop, and the final activity was a short poster session based on their work. Early next year a website will be set up by a group of Argentinian students where the posters can be viewed.

The demands of this workshop on the host institute and on the lecturers should not be undervalued. INPE had to set up labs containing 24 good performance PCs with LINUX operating systems and a good network. The work of Joao Braga and Thyrso Villela and their helpers before and during the meeting was crucial, as was that of Keith Arnaud, Christian Erd, Carlos Gabriel & Randall Smith, who set up the Chandra and XMM operating systems.

The first day of the computer classes showed that we were making huge demands on the INPE network, and the computers were rapidly reconfigured to reduce this. The other staff members were Francisco Jablonski, Ben Maughan, Mariano Mendez, Trevor Ponman and myself. Everyone took on the job of supervising students, and almost everyone (that really means except me) was pretty continuously involved in giving computing advice. Now it is over, I am glad we did not take on more students and I note that keeping things going was a full-time job for this quite large staff group.

I am particularly grateful to all those mentioned in the last paragraph for the enthusiastic, resourceful and dedicated way in which they approached this workshop, which I believe will have broadened the research horizons of many of the students who took part. Everyone, staff and students alike, worked extraordinarily hard and it was difficult to extract them from INPE in the evenings (the bus leaving time got later and later as time went on).

Besides those mentioned above, I am grateful to the selection panel for their efforts, and to Nick White and Wim Hermsen for valuable advice. In addition to our core funding from COSPAR and IAU, we received contributions in kind from ESA and NASA and a grant from FAPESP (Brazil). The administrative arrangements were made by Tania Sausen of INPE.

Peter Willmore, Member of PG on CP

8.5. PG on Exchange of Astronomers (EA)

During the period since August 2000, the following seven grants have been provided, corresponding to an amount of over USD 6500:

- Chen Li (Shanghai Observatory, PR China) to Dominion Astrophysical Observatory, Victoria, Canada, Oct. 2000 - Feb. 2001
- Rupinder Brar (Queen's University, Kingston, Canada) to Ntl. Centre for Radio Astrophysics, Pune, India, June 1 - Aug. 31, 2000
- Carlos Valotto (Observatorio Astronomico, Cordoba, Argentina) to Cornell University, USA, March 5, 2001 - Feb. 28, 2003
- Badie A. Korany (Helwan Obs., Egypt) to Astrophysikalisches Institut Potsdam, Germany, April 2001 - June 2001
- Anyaegbunam A. Ubachukwu (Univ. of Nigeria) to Inter-University Centre for Astronomy and Astrophysics, Pune, India, June 28 - Sept. 29, 2001
- Ilsoon Park (Sejong University Observatory, Sejong, Korea) to Louisiana State University, USA, Aug. 2001
- J. Javaraiah (Indian Institute of Astrophysics, Bangalore, India) to Observatoire de la Côte d'Azur, Grasse, France, April 1 - May 31, 2001

A certain decline of the number of applications was noted, especially in the second half of 2001. However, more were received in early 2002 and there are at this moment 5 additional cases at different stages of preparation or evaluation.

It is noted that several recent cases are concerned with stays shorter than the stipulated three months. Moreover, some applications were received in connection with intended observing stays and were thus incompatible with the current rules. In view of these trends, and also on the background of greatly improved communication facilities between geographically distant institutions, it may be useful to re-discuss the rules for this IAU programme in order to ensure its continued efficiency.

Richard M. West and Charles R. Tolbert, Chairman & Vice-Chairman for EA

8.6. PG on Public Education at the Time of Solar Eclipse (SE)

We maintain a Web page at <http://www.eclipses.info> that provides information on forthcoming solar eclipses, including not only maps but also how to observe eclipses safely. There are also links to other Web pages and descriptions of past and current eclipse expeditions. One link at the site is to an explanation of shadow bands by Barrie Jones (UK).

Jay M Pasachoff, Chairman for SE

8.7. PG on International Schools for Young Astronomers (ISYA)

26th IAU ISYA

As previously planned, the 26th IAU International School for Young Astronomers will be held at El Leoncito, San Juan, Argentina, August 12-30, 2002.

Michèle Gerbaldi, Chairperson for ISYA

REVIEW OF ISYA HELD JULY 1997 IN ZANJAN, IRAN

(Institute for Advanced Studies in Basic Sciences, Dr. Y. Sobouti, Director)

This is the first ISYA for which nearly all participants have a working e-mail address four years after the event. IASBS provided most of the addresses of the Iranian participants. Nearly half of both Iranian and foreign participants (23/48) responded, compared to an average of one-third for the earlier reviewed ISYA. Nearly all participants had a good science background and at least a useful minimum of English. All responses were positive and many were enthusiastic about ISYA.

Important for this ISYA seems to have been the Iranian participants' perceived national scientific isolation. Dominant in many evaluations was the exciting international personal contact with foreign faculty and students. Now, somewhat over four years later, a remarkable nine out of 16 responding Iranians have studied, are studying or are a post-doc outside Iran (4 in USA/Canada, 3 in Europe, 2 in India), five of them in astronomy or closely related subjects. Except for one student now studying with faculty member Guinan, ISYA apparently contributed to this development mainly by raising the students' self-confidence. Most of the other Iranian participants still have some connection to astronomy through teaching (university and high-school level), eclipse observations of 1999, continued study, a completed PhD thesis related to astrophysical plasmas, or as organizer of an amateur group and translator. Phrases in the evaluations include "ISYA caused my serious

study of astronomy", "ISYA made me more interested in astronomy", and "without ISYA my interest in science would have died down".

Of the seven foreign participants reporting, all are in astronomy or very closely related subjects, ranging from a M.Sc. expected soon to a completed Ph.D. followed by a research position, plus one science administrator (Ph.D. prior to ISYA). One foreign participant is said to have left science.

There were unusually few comments about the actual courses. Their breadth and academic level seems to have largely matched the needs and expectations of the audience. But there were some favorable comments about nearly all the courses, the practical exercises including with telescope and computer, teaching discussions, library, and useful study materials. All valued the practice of English. Faculty members Guinan and Touma made the most effective contacts with the participants. Except for one complaint that it was too hot, the living conditions and academic atmosphere were unanimously lauded, with phrases including "friendly ambiance", "enjoyable", and "excellent".

Submitted by Donat G. Wentzel, May 2002

9. PROTECTION OF OBSERVATORY SITES

Report on International Conference on Light Pollution

The international conference on Light Pollution held in La Serena, Chile from 5th-7th March 2002 was a great success, with 132 registered participants from 12 countries. In addition to light pollution, radio frequency interference (with special reference to ALMA), space advertising, and aircraft contrail pollution were discussed in both English and Spanish (with full translations).

A very encouraging feature was the strong local interest in the issues. Many important local and national authorities attended. Media coverage was extensive, with full-page articles in national and regional Chilean newspapers, as well as TV and radio interviews. During the opening ceremony, awards were presented to lighting engineers and local politicians responsible for advances in light pollution control in Chile. There were displays of public lighting fixtures (surprisingly large when seen at ground level!) by companies from Chile and abroad.

Among many highlights of the conference was the presentation by Falchi of the World Atlas of Light Pollution, with predictions for the growth of sky brightness over Chile. A round-table discussion at the close of the meeting concluded that a second edition of the Atlas is essential, despite funding uncertainties. It is also important to extend the monitoring of sky brightness from observatories, to complement and cross-calibrate the satellite data. The meeting also learned that the International Telecommunications Union will vote, at its plenipotentiary meeting in September this year, on whether to extend its regulatory powers to include optical and infrared frequency bands which are already in use for satellite communications.

A full report on the conference, with links to the presentations, is available on the Commission 50 website <http://www.jb.man.ac.uk/iaucom50/aSerena.html>. The proceedings will be published by Kluwer, edited by Hugo Schwarz.

Jim Cohen, President of Commission 50

10. RELATIONS TO OTHER ORGANIZATIONS

10.1. ICSU

The IAU submitted two proposals to the ICSU Grant programme for 2003 and supported several others, submitted by other Unions and Committees. Of the two IAU-led proposals, one concerns a multi-disciplinary study of the effects of impacts by Near Earth Objects, including and emphasizing the societal consequences that are bound to occur already when an impact is predicted at a high level of confidence. The other deals with a capacity-building effort in southern Africa, exploiting the South African facilities and led by South African astronomers.

10.2. COSPAR

COSPAR/IAU CAPACITY-BUILDING WORKSHOP ON X-RAY ASTRONOMY

See § 3.5.

34th SCIENTIFIC ASSEMBLY OF COSPAR AND WORLD SPACE CONGRESS II

The 34th Scientific Assembly of COSPAR and World Space Congress II will take place in Houston TX, USA, on 10-19 October, 2002. As usual, there are a number of scientific events of special interest to astronomers, where the IAU has nominated SOC members, and the IAU acts as a co-sponsor of the whole Assembly. Particularly noteworthy events to IAU members are listed in section 3.4. Information may be obtained through the website: <http://www.copernicus.org/COSPAR/COSPAR.html>.

10.3. UN/COPUOS

INITIATIVE AT THE UNITED NATIONS

See § 8.4.

11. MEMBERSHIP

On the ground of unfortunate mistakes in the past, the Secretariat is applying rigorous procedures to confirm any reports received on the decease of IAU members. Nevertheless, one member whose death was reported in IB 90 (p. 34) kindly informs us that this information is in fact incorrect: Dr. W. Wenzel. We are most happy to learn that Dr. Wenzel is alive and healthy and look forward to a long and fruitful continued cooperation with him, but do apologize most sincerely to him for this mistake and for any inconvenience it may have caused him.

The General Secretary regrets to report the names of former and current IAU members whose death has been communicated to the Secretariat since the previous list published in IB 90:

Abbasov, Alik	Banin, Valerij V.	Chistyakov, Vladimir E.
Covington, Arthur	Davies, Merton	Dunkelman, Lawrence
Efremov, Yuri I.	Goldsworthy, F.A.	Greenberg, J. Mayo
Groushinsky, Nikolai P.	Guérin, Pierre	Hanbury Brown, Robert *
Hunger, Kurt	Jensch, Alfred	Kerr, Franz
Kresáková, Margita	Kuklin, Georgij V.	Kumsishvili, J.

Laffineur, Marius	Luccin, Francesco	Magnaradze, Nina
Merman, Natalia	Mihalov, John	Natarajan, Visvanathan
Nezlin, Mikhail V.	O'Keefe, John	Ozernoy, Leonid M.
Protich, Milorad B.	Russel, John A.	Seiden, Philip E.
Shcheglov, P.V	Silberg, Rein	Smith, Alex G.
Stephenson, Bruce C.	Stobie, Robert	Swensson, John
Tseytlin, Naum N.M.	van Blerkom, David J.	Weniger, Schame
Whitford, A.	Zhevakin, S.A.	

* [See § 1 of this IB.](#)

12. ANNOUNCEMENTS

12.1. IAU Representative to IAF

S. Shostak has been nominated as IAU Representative to the International Astronautical Federation, in replacement of Dr. J. Tarter.

12.2. The ADS needs your Help

The ADS provides access, among other things, to scanned articles covering a large part of the astronomical literature. In order to continue to improve this coverage, we need help in two areas:

- We have permission from the IAU to scan all IAU Symposia older than 5 years. We need extra copies of some volumes that can be destroyed since they need to be cut for sheet feeding through the scanner. If you have one of the following IAU Symposia volumes, please consider donating it to the ADS for scanning Volumes 69, 89, 91, 93, 95, 99, 109, 136, 175, 177

A list of all volumes that we need for scanning is available at

http://ads.harvard.edu/pubs/missing_journals.html

- We have recently put on-line about 500 volumes of historical observatory publications, and we expect to get another 500 volumes over the next year. The list of volumes is on-line at <http://adsabs.harvard.edu/historical.html>

We currently do not have any metadata for these scans, not even the page numbers for each page image. We are asking for help with assigning metadata to these scans.

There is a demonstration page available so you can get an idea how the metadata capture tools work. Go to <http://adsbit.harvard.edu/cgi-bin/preserve/hLogin.py> and select one of the preview sessions.

We will appreciate any help, even if you can process only one volume. If you are interested in helping with this project, please contact the ADS Project Scientist Guenther Eichhorn at gei@cfa.harvard.edu.

Guenther Eichhorn, Harvard-Smithsonian Center for Astrophysics

13. IAU PUBLICATIONS

13.1. IAU Symposia

- 195 Highly Energetic Physical Processes and Mechanisms for Emission from Astrophysical Plasmas
Bozeman, Montana, USA, July 6-10, 1999
Eds. P.C.H. Martens, S. Tsuruta & M.A. Weber
Astronomical Society of the Pacific, ISBN 1-58381-038-2, 2000
- 197 Astrochemistry: From Molecular Clouds to Planetary Systems
Sogwipo, Korea R, August 23-27, 1999
Eds. Y.C. Minh & E.F. van Dishoeck
Astronomical Society of the Pacific, ISBN 1-58381-034-x, 2000
- 203 Recent Insight Into The Physics Of the Sun and Heliosphere:
Highlights from Soho and other Space Missions
Manchester, UK, August 7-11, 2000
Eds. P. Brekke, B. Fleck & J. Gurman
Astronomical Society of the Pacific, ISBN 1-58381-069-2, 2001
- 204 The Extragalactic Infrared Background and Its Cosmological Implications
Manchester, UK, August 15-18, 2000
Ed. M. Harwit
Astronomical Society of the Pacific, ISBN 1-58381-062-5, 2001
- 205 Galaxies and Their Constituents at the Highest Angular Resolutions
Manchester, UK, August 15-18, 2000
Eds. R.T. Schilizzi, S. Vogel, F. Paresce & M. Elvis
Astronomical Society of the Pacific, ISBN 1-58381-066-8, 2001

13.2. IAU Colloquia

- 172 Impact of Modern Dynamics in Astronomy
Namur, Belgium, July 6-11, 1998
Eds. J. Henrard & S. Ferraz-Mello
Kluwer Acad. Publ., ISBN 0-7923-5842-2, 1999
- 183 Small-Telescope Astronomy on Global-Scales
Kenting, Taiwan, January 4-8, 2001
Eds. W.-P. Chen, C. Lemme & B. Paczynski
Astronomical Society of the Pacific, ISBN 1-58381-084-6, 2001

14. OTHER MEETINGS ON ASTRONOMICAL TOPICS

Chemical Evolution of Dwarf Galaxies-Present Status & Perspectives
July 28- August 2, 2002, Ringberg Castle, Germany
Contact: Eva K. Grebel, Max Planck Institute for Astronomy, Königstuhl 17,
DE 69117 Heidelberg, Germany
Tel.: 49 6221 528 225 - *Fax*: 49 6221 528 246 - *E-mail*: grebel@mpia.de

Chemistry as a Diagnostic of Star Formation

August 21-23, 2002, University of Waterloo, Waterloo, Ontario, Canada

Contact: Michel Fich, University of Waterloo, Physics. Dept., Waterloo, CA Ontario N2L 3G1, Canada

Tel.: 1 519 888 45677*2725 - *Fax*: 1 519 746 8115*E-mail*: fich@astro.uwaterloo.ca - <http://astro.uwaterloo.ca/sfchem2002>

Astronomical Telescopes & Instrumentation into the New Millennium (SPIE)

August 22-28, 2002, Hilton Waikoloa Village Hotel, Hawaii, USA

Contact: SPIE

Tel.: 1 360 676 3290 - *Fax*: 1 360 647 1445 - *E-mail*: spie@spie.org<http://spie.org>

Extragalactic Globular Cluster Systems

August 27-30, 2002, ESO, Garching, Germany

Contact: Christina Stoffer, ESO, Karl-Schwarzschild-Str. 2, Garching, DE 85748 Germany

Tel.: 49 89 320060 - *Fax*: 49 89 32006320 - *E-mail*: globsys2002@eso.org<http://www.eso.org/globsys2002>

From Observations to Self-Consistent Modelling of the ISM in Galaxies

September 3-6, 2002, Porto, Portugal

Contact: Miguel A. de Avillez, University of Evora, Department of Mathematics, R. Romao Ramalho 59, PT 7000 Evora, Portugal

Tel.: 351 266 744 616 - *Fax*: 351 266 744546 - *E-mail*: mavillez@galaxy.lcs.uevora.pt<http://www.sp-astronomia.pt/jenam2002/ws-ism>

X-Ray Surveys, in the Light of the New Observatories

September 4-6, 2002, Santander, Spain

Contact: Francisco Carrera, Instituto de Fisica de Cantabria (CSIC-UC), Avda Los Castros, ES 39005 Santander, Spain

Tel.: 34 942 201340 - *Fax*: 34 942 200935 - *E-mail*: xray@ifca.unican.es.

11th UN/ESA Workshop on Basic Space Science

September 9-13, 2002, Institute for Higher Studies, "J.Mario Gulich", Cordoba, Argentina

Contact: Prof. Hans J. Haubold, United Nations, PO Box 500, AT 1400 Vienna, Austria

Tel.: 43 1 26060 4949 - *Fax*: 43 1 26060 5830 - *E-mail*: haubold@kph.tuwien.ac.at<http://www.seas.columbia.edu/~ah297/un-esa>

CNO in the Universe

September 10-14, 2002, Saint-Luc, Switzerland

Contact: Georges Meynet, Geneva Observatory, 51, Ch. Des Maillettes, CH 1290 Sauverny, Switzerland

E-mail: cnoloc@obs.unige.ch - <http://obswww.unige.ch/cno>

The Physics of Relativistic Jets in the Chandra & XMM Era

September 23-27, 2002, Bologna, Italy

Contact: G. Brunetti, Istituto de Radioastronomia del CNR, via P. Gobetti, 101, IT 40129 Bologna, Italy

Tel.: 39 051 6399395 - *Fax*: 39 051 6399431 - *E-mail*: gbrunetti@astbo1.bo.cnr.it

Star Formation through Time

September 24-28, 2002, Granada, Spain

Contact: Enrique Perez, Instituto de Astrofísica de Andalucía (CSIC), Camino Bajo de Huetor 24, Aptdo 3004, ES18080 Granada, Spain

Tel.: 34 958 121311 - *Fax*: 34 958 814530*E-mail*: estela@iaa.es - <http://www.iaa.csic.es/~estela>

International Meteor Conference 2002

September 26-29, 2002, Frombork, Poland

Contact: Ina Rendtel, International Meteor Organization, Mehlbeerenweg 5, DE 14469 Potsdam, Germany

Tel.: 49 331 520 707 - *Fax*: 49 331 288 2310*E-mail*: treasurer@imo.net - <http://www.imo.met/news/imc.html>

Light from Black Holes

September 29 - October 4, 2002, Kathmandu, Nepal

Contact: Andrzej Zdziarski, N. Copernicus Astronomical Center, Bartycka 18, PL 00 716 Warsaw, Poland

Tel.: 48 22 8410041 - *Fax*: 48 22 8410046*E-mail*: aaz@camk.edu.pl - <http://cc.oulu.fi/~jpoutane/nepal.html>

The Emergence of Cosmic Structure

October 7-9, 2002, University of Maryland, College Park, Maryland

Contact: Susan Lehr, Department of Astronomy, University of Maryland, US College Park MD 20742, USA

Tel.: 1 301 405 1507 - *Fax*: 1 301 314 9067 - *E-mail*: october@astro.umd.edu<http://www.astro.umd.edu/october/2002/2002.html>

Outer Edges of dIrr Galaxies: Stars & Gas

October 10-11, 2002, Flagstaff, Arizona, USA

Contact: Deidre Hunter & Sally Oey, Lowell Observatory, 1400 W. Mars Hill Rd, US Flagstaff AZ 86001 USA

Tel.: 1 928 774 3358 - *Fax*: 1 928 774 6296*E-mail*: lowell02@lowell.edu - <http://www.lowell.edu/Workshops/Lowell02/>

Challenges to the Standard Paradigm: Fundamental Physics & Cosmology

November 1-3, 2002, Irvine Campus, Irvine, CA, USA

Contact: Miriam Heston, National Academy of Sciences, 2101 Constitution Avenue NW, US Washington DC 20418 USA

Tel.: 1 202 334 2445 - *Fax*: 1 202 334 2153*E-mail*: mheston@nas.edu or marc@astro.berkeley.edu

Carnegie Observatories Centennial Symposium II: Measuring & Modeling the Universe

November 17-22, 2002, Carnegie Observatories, Pasadena, CA, USA

Contact: Wendy Freedman, Carnegie Observatories, 813 Santa Barbara Street, US Pasadena CA 9110 USA

Tel.: 1 626 304 0204 - *Fax*: 1 626 795 8136*E-mail*: wfreedman@ociw.edu - <http://www.ociw.edu/ociw/symposia/symposium2>

XXI Texas Symposium on Relativistic Astrophysics

December 9-13, 2002, Florence, Italy

Contact: LOC, Arcetri Astrophysical Observatory, Largo E. Fermi 5, IT 50125 Firenze, Italy

Tel.: 39 055 2752232 - *Fax:* 39 055 220039*E-mail:* texas_florence@arcetri.astro.it

Carnegie Observatories Centennial Symposium III

Clusters of Galaxies: Probes of Cosmological Structure & Galaxy Evolution

January 26-31, 2003, Carnegie Observatories, Pasadena, CA, USA

Contact: John Mulchaey, Carnegie Observatories, 813 Santa Barbara Street, US Pasadena CA 91101, USA

Tel.: 1 626 304 0257 - *Fax:* 1 626 795 8136*E-mail:* jmulchaey@ociw.edu

Gravitation Lensing: Strong, Weak & Micro

April 7-12, 2003, Les Diablrets, Switzerland

Contact: Georges Meylan, Space Telescope Science Institute, 3700 San Martin Drive, US Baltimore MD 21218, USA

Tel.: 1 410 338 4483 - *Fax:* 1 410 338 4767 - *E-mail:* gmeylan@stsci.edu<http://obswww.unige.ch/saas-fee/>

The Multiwavelength Approach to Unidentified Gamma-Ray Sources

May 19-23, 2003, The University of Hong Kong, Hong Kong, China

Contact: Prof. K.S. Cheng, Department of Physics, University Hong Kong, Pokfulam Road, CN Hong Kong, China

Tel.: 852 2859 2368 - *Fax:* 852 2559 9152*E-mail:* hrspksc@hkucc.hku.hk - <http://www.physics.hku.hk/~2003conf/>

Astrophysics of Dust

May 26-30, 2003, Estes Park, Colorado, USA

Contact: Adolf N. Witt, The University of Toledo, Ritter Observatory, MS 113, US Toledo OH 43606, USA

Tel.: 1 419 530 2709 - *Fax:* 1 419 530 2723*E-mail:* awitt@dusty.astro.utoledo.edu - <http://www.physics.utoledo.edu/~aod03/>

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