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# PREFACE

The texts published in this IB were mostly written soon after the September 11 terrorist attacks in the northeast part of the United States. I include in Section 13.1 an announcement of three new names of minor planets that the Committee on Small Bodies Nomenclature has unanimously decided upon after these tragic events, honouring compassion, solidarity and magnanimity, and which I personally endorse.

The work on documentation of GA24 in Manchester is now over. At the time of writing, as usual thanks to an enormous and competent effort by our Secretariat, Transactions XXIVB have been delivered to the IAU Publisher, and by the time you read this the book should have appeared. On the other hand, I have taken more time than usual to complete the editing of the Highlights of Astronomy (Vol. 12) because I put my bar of ambition rather high, but the book will appear in early 2002, I'm very glad to say! Nonetheless, the efforts of running the IAU can never subside, and the work is already in progress to assemble the collection of triennial reports that will form Transactions XXVA.

A report on the 75<sup>th</sup> meeting of the Executive Committee is included in this IB, and one of the important decisions was to plan the 76<sup>th</sup> meeting (2002) somewhat earlier than usual, and to have all the Division Presidents attend the meeting in order to secure an optimal, well-balanced scientific menu at GA25. The set of proposals is already shaping up for the Symposia as well as JDs, and it seems that we shall have the possibility to arrange for a very exciting and attractive programme in Sydney. I plan to issue IB 91 in August 2002 with a nearly-final scientific programme that will let all members make up their minds and plan their travels in time. Meanwhile, please read the reports on upcoming GAs in this IB, and consult the web page of GA25: *http://www.astronomy2003.com*. Please note that this address supersedes the preliminary one that was published in IB 88!

Also following decisions at the 75<sup>th</sup> EC meeting, there is now a second WG of the Executive Committee, its topic being *Publishing*. Both it and the other EC WG on Future Large Scale Facilities are presented by their chairpersons in this IB. We also list a new WG on Abundances in Red Giants endorsed by the EC to work under Division IV as well as updates to the addresses of all Commission Officers and WG Chairpersons.

Finally, the IAU Officers and Secretariat wish all of you, a happy and productive 2002!

Hans Rickman, General Secretary

# **1. FAITS DIVERS**

As I write this, I am looking through the window at a clear but somewhat hazy, blue sky. After a spell of bad weather the Sun has come back to Paris. This evening with some luck, the stars will be shining -but then again, of course, only the very bright ones. In Paris like all big cities, we are condemned by city lights not to see the night sky in all its splendour. We all know how modern, industrial society has changed our environment, but many people do not reflect upon this particular change: Not many generations ago, their ancestors may have lived with a grand inspiring sight whose mere existence they are unaware of.

The cover picture of this IB illustrates how bad the situation is with artificial light polluting the night sky over large parts of the world. Still, the scientific concern of the Commission 50 WG on Light Pollution is not only to darken the light parts of this world map but to keep some dark areas dark indeed. An international conference on the hard battle to maintain a chance for instrumentation of ever increasing sensitivity to operate as the environment threatens to degrade is announced in this IB as well as on the IAU News page.

This News page has been expanded to include an item called *Announcements for young astronomers*, which contains job offers, information on courses or PhD programmes etc. I sincerely hope that it will be of good use, and meanwhile I am interested in receiving comments, criticism, and suggestions for improvements. Another News item introduces the first two Gruber Fellows, who are starting their appointments using money from the Peter Gruber Foundation working on theoretical, high-energy astrophysics problems. I am especially pleased that the agreement between the IAU and the PGF provides for such opportunities to young researchers at a critical stage in their careers. The next occasion to apply for the Gruber Fellowships will be in the beginning of 2003.

The beginning of 2001 saw the 200th anniversary of the discovery of (1) Ceres, the first and largest asteroid. But these celebrations and the big "Asteroids 2001" conference in Palermo were barely over, as Ceres seems to have lost its status as the largest minor planet. It is now only the largest member of the main asteroid belt, while the largest known minor planet dwells much further out in the transneptunian belt. Discovered on July 2, 2001 by Robert Millis and his team at Lowell Observatory, it so far only has an official designation, 2001 KX76, but no name. Using the prototype Virtual Observatory *Astrovirtel*, which is coordinated from the European Southern Observatory, a team led by Gerhard Hahn (DLR, Berlin) found older observations that allowed an orbit determination, which pins down the current distance. A realistic assumption of 7% for the albedo gives a diameter of 1200 km, significantly larger than Ceres' 950 km.

# 2. MAIN DEADLINES AND EVENTS IN 2002

Proposals for IAU Symposia, Colloquia, and co-sponsored meetings planned for 2003 must reach the President of the appropriate Division (or Commission for Commissions not attached to a Division)

# no later than February 15, 2002!

in order to be considered at the 76<sup>th</sup> Executive Committee meeting. See http://www.iau.org/Activities/meetings

Note that this refers in particular to proposals for GA Symposia and Joint Discussions at GA 25!

# Date

# Action Item/Event

January	Proposals due for Invited Discourses at GA25
January	IAU Coll. 186, Tenerife, Spain
January	Officers' Meeting, Paris France
Febuary	Proposals due at DPs for 2003 Symposia/Colloquia
Febuary	Proposals due at DPs for JDs at GA25
March	IAU Coll. 198, Miami Beach FL, USA
March	Ranked proposals for Symposia/Colloquia due at AGS
March	Ranked proposals for JDs due at GS
March	Submit matters for discussion at 76th EC meeting
May	Contributions due for IB 91 (August, 2002)
May	76th EC meeting, St Petersburg, Russia
May	IAU Symp. 211, Honolulu HI, USA
June	Notify 2003 meeting proposers
June	IAU Coll. 188, Santorin, Greece
June	Main scientific events at GA25 listed on IAU web page
June	IAU Symp. 210, Uppsala, Sweden
June	IAU Symp. 212, Lanzarote, Spain
July	IAU 8th Asian-Pacific Regional Meeting, Tokyo, Japan
July	IAU Symp. 213, Hamilton Island, Australia
August	IB 91 issued with preliminary announcement of GA25
August	IAU Symp. 214, Suzhou, China
September	Submit quasi-final programmes for GA25 events
September	IAU Coll. 189, Nanjing, China
	January January January Febuary March March March May May June June June June June June June June

*01	October	Manuscripts due for Transactions 25A
*01	October	Contributions due for IB 92 (January, 2003)
10-19	October	COSPAR 34 <sup>th</sup> Scientific Assembly, Houston TX, USA
*15	October	Submit Resolutions type A & B with financial implications
15	October	Submit budget for 2004-2006 to Adhering Organizations
*15	October	Proposals due by DPs for new IAU Members
15	October	Remind Adhering Organizations to propose new Members
08-12	November	IAU Symp. 215, Cancun, Mexico
*30	November	Div/Comm/WG GA meeting requirements due at GS
TBD	December	IB92 issued with full scientific programme of GA25
08-13	December	IAU Coll. 190, Cape Town, South Africa

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\* Denotes Final Deadline

# **3. SCIENTIFIC MEETINGS**

# 3.1. Future IAU Symposia

#### IAU SYMPOSIUM 211 BROWN DWARFS

May 20-24, 2002, Big Island of Hawaii, Hawaii, USA

Scientific Organizing Committee: T. Forveille (France), T. P. Greene (USA), H. Jones (UK), A. Magazzu (Italy), E. L. Martin (Chair, USA), T. Maze (Israel), R. Neuhauser (Germany), Ya. V. Pavlenko (Ukraine), D. Queloz (Switzerland) and T. Tsuji (Japan)

Chair, Local Organizing Committee: Eduardo L. Martin & R. Wainscoat (co-Chair) **Principal Topics:** 

- Imaging surveys for Brown Dwarfs
- Companion detection techniques
- Measurements of fundamental Brown Dwarfs properties

- Classification schemes for ultracool dwarfs

- Origins and evolution of Brown Dwarfs
- Spectroscopic analysis of Brown Dwarfs
- Time variable phenomena in Brown Dwarfs
- Comparisons between Brown Dwarfs and planets
- Sub-stellar Mass Functions
- Future facilities

Contact address: Eduardo L. Martin. University of Hawaii at Manoa, Institute for Astronomy, 2680 Woodlawn Drive, Honolulu HI 96822, USA

Tel.:	1	808	956	8637
Fax:	1	808	956	9580

Email: iau211@ifa.hawaii.edu http://www.ifa.hawaii.edu/iau211

#### IAU SYMPOSIUM 210 MODELING OF STELLAR ATMOSPHERES

June 17-21, 2002, Uppsala, Sweden

Scientific Organizing Committee: Fiorella Castelli (Italy), Kwing Lam Chan (China PR),Peter Hauschildt (USA), Ivan Hubeny (USA), Nikolai Piskunov (Sweden), Sami Solanki (Germany), Kozo Sadakane (Japan), Javier Bueno Trujillo (Spain), Lee Anne Willson (USA) and Werner W. Weiss (Chair, Austria)

Chair, Local Organizing Committee: Nikolai Piskunov Principal Topics:

- 3D hydrodynamic calculations with 3D energy transport
- Convection modeling (the end of era of local models)
- Inclusion of magnetic fields: generation and transfer of polarized radiation
- Surface structures: Doppler- and Zeeman-Doppler imaging
- Vertical structures: stratification by diffusion
- N-LTE radiative transfer
- Dynamic atmospheres: pulsations and winds
- Atomic and molecular data
- Observations
- Bringing it all together: self-consistent determination of abundances and atmosphere models in Sun and stars

*Contact address:* Prof. Nikolai Piskunov, Uppsala Astronomical Observatory, Box 515 S 751 20 Uppsala, Sweden

Tel: 46 18 471 5958 Fax: 46 18 471 5999 Email: piskunov@astro.uu.se http://www.astro.uu.se/iau210

# IAU SYMPOSIUM 212: A MASSIVE STAR ODYSSEY, FROM MAIN SEQUENCE TO SUPERNOVA June 24-28, 2002, Costa Teguise, Lanzarote, Canary Islands, Spain

Scientific Organizing Committee: A.M. Cherepashchuk (Russia), P.A. Crowther (UK), A. Herrero (Co-Chair, Spain), K.A. van der Hucht (Co-Chair, Netherlands), G. Koenigsberger (Mexico), N. Langer (Netherlands), C. Leitherer (USA), A. Maeder (Switzerland), P. Massey (USA), J. Melnick (Chile), A.F.J. Moffat (Canada), P.W. Morris (USA), V.S. Niemela (Argentina), M.S. Oey (USA), J. Puls (Germany), D. Schaerer (France) and J.-M. Vreux (Belgium).

Chair, Local Organizing Committee: C. Esteban

- Atmospheres of massive stars
- Interiors of massive stars
- Location and distribution of massive stars
- Environment of and feedback from massive stars

*Contact address:* IAU Symposium No. 212, Instituto de Astrofísica de Canarias, E 38200 La Laguna, Tenerife, Spain

Tel: 34 922 605 261

Fax: 34 922 605 210

Email: iau212@ll.iac.es http://www.iac.es/project/iau212

# IAU SYMPOSIUM 213 BIOASTRONOMY 2002: LIFE AMONG THE STARS

July 8-12, 2002, Hamilton Island, Great Barrier Reef, Australia

Scientific Organizing Committee: B. Blumberg (USA), S. Bowyer (USA), J. Farmer

(USA), G. Lemarchand (Argentina), H.U. Keller (Germany), G. Marcy (USA), M. Marov (Russian Federation), M. Mayor (Switzerland), R.P. Norris (Chair,

Australia), L. Padrielli (Italy), J. Tarter (USA) and C. Tinney (Australia)

Chair, Local Organizing Committee: C. Oliver

**Principal Topics:** 

- Astrochemistry: chemical evolution in the interstellar and interplanetary medium, chirality and complex molecules in space
- Origin, evolution and discovery of planetary systems
- Astrobiology in the solar system (incl. Martian meteorites and transfer to life

between planets, role of comets and meteorites in pre-biotic evolution)

- Biogenesis and the astronomical conditions for evolution of complex life
- SETI: the search for Extraterrestrial Intelligence
- Bioastronomy as a tool for scientific education

Contact address: Ray Norris, CSIRO/ATNF, P.O. Box 76, Epping NSW 1710, Australia Tel: 61 2 9372 4416 Email: Ray.Norris@atnf.csiro.au

Fax: 61 2 9372 4310

# IAU SYMPOSIUM 214: HIGH ENERGY PROCESSES AND PHENOMENA IN ASTROPHYSICS August 5-10, 2002, Suzhou, China PR

Scientific Organizing Committee: G. Hasinger (Germany), R. McCray (USA), F. Mirabel (France), S. Murray (USA), J. Poutanen (Sweden), G. Srinivasan (ex officio, Division XI), L. Ti-pei (China PR), Y. Totsuka (Japan), V. Trimble (Chair, USA), A. Zdziarski (Poland) and W. Zhen-Ru (Co-Chair, China PR)

Chair, Local Organizing Committee: Yang Ji

**Principal Topics:** 

- Shared processes: Relativistic accretion and black hole energy extraction; Shocks and particle acceleration; Jet collimation and acceleration; High energy radiation mechanisms, photon and non-photon;
- Effects of ultra-strong magnetic fields
- Critical data: New results from Chandra and XMM Newton;
- Recent developments in SNe, GRBs, SGRs, SNRs; Recent developments in AGNs and micro-quasars

Contact addresses:

Scientific issues: Virginia Trimble, Dept of Physics & Astronomy, University of California, Irvine CA 92697-4575, USA

Email: ecaac@nju.edu.cn & vtrimble@astro.umd.edu

Logistic issues: Yang Ji, Purple Mountain Observatory, Nanjing 210006, China PR Tel.: 86 25 330 6868 Fax: 86 25 326 0069

Email: jiyang@public1.ptt.ja.cn & loc@jets.pmo.ac.cn

### IAU SYMPOSIUM 215: STELLAR ROTATION

November 11-15, 2002, Cancun, Mexico

Scientific Organizing Committee: B. Barbuy (Brazil), J. Christensen-Dalsgaard (Denmark), I. Howarth (UK), G. Koenigsberger (Mexico), H. Lamers (Netherlands), A. Maeder (Chair, Switzerland), S. Sofia (USA), C. VandenBerg (Canada) and J.-P. Zahn (France)

Chair, Local Organizing Committee: P. Eenens

**Principal Topics:** 

- Observations of rotating stars, from low to high masses: Data in LMC and SMC; Rotation in relation with chemical abundances and magnetic fields; Li abundances; CNO abundances; Magnetic activity and X-ray observations; Solar rotation and asteroseismology; Constraints on physical processes, 2-D and 3-D models; Solar evolution with rotation
- Internal physics and evolution: Instabilities and transport mechanisms; Stellar evolutionary models for low, intermediate and massive stars with rotation; Pre-supernova models
- Winds and asymmetric nebulae: Observations, models, disk formation; Astrophysical consequences of evolution with rotation; Comparison with white dwarfs, neutron stars; Supernovae models; Effects of rotation on the chemical yields and spectral evolution of galaxies

*Contact address:* André Maeder, Geneva Observatory, CH 1290 Sauverny, Switzerland Tel.: 41 22 755 2611 Email: andre.maeder@obs.unige.ch Fax: 41 22 755 3983

# 3.2. Future IAU Colloquia

#### IAU COLLOQUIUM 186: COMETARY SCIENCE AFTER HALE-BOPP

January 21-25 2002, Puerto de la Cruz, Tenerife, Canary Islands, Spain

Scientific Organizing Committee: N. Biver (France), H. Campins (USA), M. Festou (France), K. Jockers (Germany), D. Lazzaro (Brazil), B. Marsden (USA),

J. Ortiz (Spain), R. Schulz (Chair, Netherlands), G.P. Tozzi (Italy), R.M. West (Germany) and M. Womack (USA)

Chair, Local Organizing Committee: Mark R. Kidger Principal Topics:

- Hale-Bopp: What makes a big comet different?
- Physical properties of cometary nuclei
- Split comets
- Coma abundances (including ions) and nuclear composition
- Dust observations and models
- What can we learn from space missions?
- Origin and dynamical evolution in comets
- How can we best benefit from the new 8-10m telescopes and space observations?

*Contact address:* Rita Schulz, ESA/ESTEC, SSD, P.O. Box 299, NL 2200 AG Noordwijk, The Netherlands

Email: Rita.Schulz@esa.int

Tel.: 31 71 565 4821 En Fax: 31 71 565 4697 http://www.iac.es/proyect/halebopp/2ann.html

# IAU COLLOQUIUM 187: EXOTIC STARS AS CHALLENGES TO EVOLUTION

March 4-8 2002, Miami Beach, Florida, USA

Scientific Organizing Committee: A. Burkert (Germany), P.P. Eggleton (UK), Z. Han (China PR), P. Kroupa (Germany), N. Langer (The Netherlands), C. Tout (UK), W. Van Hamme (USA), P. Whitelock (South Africa) and R.E. Wilson (Chair, USA)

Chair, Local Organizing Committee: W. Van Hamme Principal Topics:

- Unusual compact objects and their evolution
- Unusual single stars and their evolution
- Unusual binary star systems and their evolution
- Evolution of triple star systems
- Processing accretion discs and jets
- Stellar winds and bi-polar outflows
- Stellar and disk pulsation
- Pre-planetary disks

Contact address: R. E. Wilson, Astronomy Dept, University of Florida, 211 SSRB, Gainesville FL 32611, USA

Tel.: 1 352 392 2052, ext. 235

Email: wilson@astro.ufl.edu

Fax: 1 352 392 5089

http://www.fiu.edu/~vanhamme/iau187/

# IAU COLLOQUIUM 188: MAGNETIC COUPLING OF THE SOLAR ATMOSPHERE

June 11-15 2002, Santorin, Greece

Scientific Organizing Committee: B. Fleck (ESA), V. Hansteen (Norway), P. Judge

(USA), P. Kostik (Ukraine), F. Moreno-Insertis (Spain), A. Fludra (UK),

R. Rutten (The Netherlands), B. Schmieder (France), K. Schrijver (USA),

U. Schühle (co-Chair, Germany), S. Solanki (Germany), G. Tsiropoula (co-Chair, Greece) and J.-C. Vial (France)

Chair, Local Organizing Committe: G. Tsiropoula Principal Topics:

- Magnetoconvection: Theory and simulations

- Flux tube dynamics
- Spectropolarimetry and magnetography
- Magnetic field dynamics in the photosphere
- Hierarchy of chromospheric structures (fibrils, spicules, macrospicules, surges)
- Magnetic fields and energetic phenomena (flares, CMEs)
- Small-scale transient events and coronal heating
- Magnetic reconnection

- MHD waves and heating of the solar corona

- Highlights from past space observations
- Prospects for new space observations

Contact address:Udo Schüle, Max-Planck-Institu für Aeronomie, D 37191Katlenburg-Lindau, GermanyEmail: schuele@linmpi.mpg.deTel.:49 5556 979 458Email: schuele@linmpi.mpg.deFax:49 5556 979 6458http://www.space.noa.gr/solmag/

# IAU COLLOQUIUM 189: ASTROPHYSICAL TIDES: THE EFFECTS IN THE SOLAR AND EXOPLANETARY SYSTEMS

September 16-20, 2002, Nanjing, China PR

Scientific Organizing Committee: P. Artymowicz (Sweden), C. de Bergh (France),
D. Cruickshank (USA), Chen Daohan (Co-Chair, China PR), S. Ferraz-Mello (Brazil), Wing Ip (Co-Chair, China PR), M. Marov (Russian Federation),
H. Rickman (Sweden), K. Seidelman (USA), G. Valsechi (Italy), I.P. Williams (Chair, UK) and D. Yeomans (USA)

Chair, Local Organizing Committe: Chen Daohan Principal Topics:

- The long-term evolution of the lunar orbit

- The origin of the Moon deductions from orbital evolution
- Motion of the Earth's pole
- Nutation and Tides
- Satellite internal structure and orbital decay
- Tidally driven Volcanism,
- The interplay of tides and resonance
- The Martian satellites
- Tidal effects on the small satellites of the outer solar system
- Tidal effect on rings
- Tidal break-up of comets
- Tides and the production of elongated asteroids
- The role of tides in the formation of planets; gaseous massive
- planets close to the parent star-sides
- The role of tides in known multi-planet systems

*Contact address:* Iwan Williams, Astronomy Unit, Queen Mary, University of London, London E1 4NS, UK

Tel.: 44 20 7882 5452

Email: i.p.williams@qmw.ac.uk

Fax: 44 20 8983 3522

IAU COLLOQUIUM 190: MAGNETIC CATACLYSMIC VARIABLES, MCV3

December 8-13 2002, Cape Town, South Africa

Scientific Organizing Committee: D. Buckley (South Africa), M. Cropper (UK),

- M. Mouchet (France), K. Reinsch (Germany), G. Schmidt (USA), P. Szkody (USA), S. Vrielmann (South Africa), B. Warner (Chair, South Africa)
- and D. Wickramasinghe (Australia)

Chair, Local Organizing Committe: Sonja Vrielmann

Principal Topics:

- Properties of MCVs
- Tomography of MCVs
- Physics of accretion
- Individual polars and intermediate polars
- The white dwarfs in MCVs
- The secondaries in MCVs
- New results from satellite observations
- Observations at other wavelengths (Groundbased gamma-Ray, Radio, etc
- Related objects
- Evolution of MCVs

*Contact address:* Sonja Vrielmann, Department of Astronomy, University of Cape Town, Private Bag, Rondebosch 7701, South Africa

Tel.: 27 21 650 4042	Email: mcv@pinguin.ast.uct.ac.za
Fax: 27 21 650 3342	http://mensa.ast.uct.ac.za/mcv.html

#### XXVTH IAU GENERAL ASSEMBLY

13-26 July 2003, Sydney, Australia *Contact address:* IAU Secretariat Email: iau@iap.fr

http://www.astronomy2003.com/

# 3.3. IAU Regional Meeting

IAU 8<sup>th</sup> Asia-Pacific Regional Meeting July 2-5, 2002, Tokyo, Japan

Scientific Organizing Committee: L. Bronfman (Chile), K. Chang (Korea), S. M. Chitre (India), C. Fang (China), B. Hidayat (Indonesia), J. Hearnshaw (New Zealand), S. Ikeuchi (Chair: Japan), N. Kaifu (Japan), I. S. Kim (Russia), V. Rubin (USA) and R. Webster (Australia)

Principal topics:

- Large and New Telescopes

- Cosmology, Galaxy Formation and Evolution
- QSOs and AGN
- ISM and Star Formation
- Compact Objects
- Planets: Discovery and Formation
- Solar and Stellar Activities

*Contact address:* Satoru Ikeuchi, Graduate School of Science, Nagoya University, Nagoya 464-8602, Japan

Tel.: 81 52 789 2427

Fax: 81 52 789 2838

Email: ikeuchi@a.phys.nagoya-u.ac.jp

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# 3.4. Future Co-Sponsored Meetings

# **COSPAR/IAU** WORKSHOP ON PLANETARY PROTECTION

1-4 April 2002, Williamsburg, Virginia, USA,

Co-Chairs: John D. Rummel, NASA HQ, USA and François Raulin, University of Paris, France

**Principal Topics:** 

- Updating and consolidation of COSPAR's Planetary Protection Policy.
- Development of COSPAR policy to address the forward contamination of Europa and other bodies/sites that may support the growth and spread of spacecraft-introduced Earth organisms.
- Development of COSPAR policy to address Mars sample return missions and sample return missions from small bodies of the solar system that may be capable of supporting life.

*Contact Address:* Dr. John D. Rummel, Code S, NASA Headquarters, Washington, DC 20546, USA

Tel: 1 202 358 0702 Fax: 1 202 358 3987 Email: jrummel@hq.nasa.gov

# 34<sup>TH</sup> COSPAR SCIENTIFIC ASSEMBLY

October 10-19 2002, Houston, Texas, USA *Contact:* COSPAR Secretariat, 51 bd de Montmorency, 75016 Paris, France. Tel.: 33 1 45 25 06 79 Email: cospar@cosparhq.org Fax: 33 1 40 50 98 27 http://www.copernicus.org/COSPAR/COSPAR.html

Event Title	Main Scientific Organizer:	
NEO Impact Hazards	WH. Ip:	ip@linmpi.mpg.de
The Moon; Science, Exploration and	Utilization B.H. Foing	bfoing@estec.esa.nl
Interpretation of Remote and InSitu Observations of Small Bodies JC. Worms jc@ensps.u-strasbg.fr		
To the Edge of the Solar System and	Beyond E. Möbius	Eberhard.Moebius@unh.edu
Connections and Reconnections in Solar and Stellar Coronae R. Pallavicini pallavic@oapa.astropa.unipa.it		
Astronomy at IR/Sub-mm Waveleng	ths and the Mi P. Wesselius	crowave Background paul@guspace.rug.nl
Space Debris	W. Flury	Walter.Flury@esa.int

# 4. NEWS FROM DIVISIONS

## **Division I: Fundamental Astronomy (Nicole Capitaine)**

The IAU's SOFA (Standards Of Fundamental Astronomy) initiative seeks to promulgate an authoritative set of fundamental-astronomy constants and algorithms. The work is carried out by a panel called the SOFA Review Board, the membership of which was agreed just prior to the 1997 General Assembly. The Board, chaired by P. Wallace, has recently announced that a first release of software is now available. The SOFA software libraries are a collection of subprogrammes, in source-code form, that implement official IAU algorithms for fundamental-astronomy computations. The subprogrammes at present comprise 27 "astronomy" routines supported by 52 "vector/matrix" routines, all written in Fortran. In future releases, the astronomy library will expand, and implementations in other languages will be introduced. For further details please see the SOFA Center's website at http://www.iau-sofa.rl.ac.uk/.

The Working Group 'Relativity for Celestial Mechanics, Astrometry and Metrology' (RCMAM) is finishing the first draft of an exhaustive paper entitled "The new IAU 2000 conventions for astrometry, celestial mechanics and metrology in the relativistic framework: explanatory supplement" to be submitted to the Astronomical Journal. The aim is to show how the new IAU resolutions work in practical situations and to remove the apparent gap between theoretical concepts and astronomical reality.

The Working Group "Future developments of Ground-based Astrometry" has been set up to suggest scientific programmes that can still be successfully performed with such instruments. A joint discussion on "European astronomy with small telescopes" which has been organised during the JENAM conference in Munich on September 10, 2001, was the first occasion to exchange experience and reflect on the best use of existing instruments.

A new Commission 4 website has been established at the Observatory of Paris: http://danof.obspm.fr/iaucom4/.

#### **Division II: Sun and Heliosphere (Arnold Benz)**

The Working Group on Solar and Interplanetary Nomenclature has published a first essay written by L. Burlaga and commented by C.T. Russell. The articles reflect the current terminology for ejecta in the solar wind. They have appeared in EOS 82, 433 on September 25, 2001. The essays can also be accessed through the WG address at the IAU web site *http://iau.org/Organization/divcom/div2.html*.

The Working Group on Solar Eclipses, headed by Dr. Jay M Pasachoff, has distributed data on solar eclipses of 2001 and in the future, which can also be retrieved through the above web site.

The Working Group for Solar Data Distribution has not yet started to operate. The chairperson, Dr. Kiyoto Shibasaki, will soon distribute his plan for the discussion that will include the future of the Quarterly Bulletin of Solar Activity, formerly published by the IAU.

#### **Division III: Planetary Systems Sciences (Mikhail Marov)**

The Division III activity since the time of the previous report was mostly focused on the development of the Commissions' proposals for meetings to be held during 2002. All the four submitted proposals that were thoroughly evaluated by the Board of the Division met EC approval and support as IAU sponsored events. With a few brief comments, they are as follows:

1. IAU Symp. 213 "Bioastronomy 2002: Life Among the Stars"; Commission 51 Proposal, Supporting Commissions 15, 16, 34, 40, 46 and 50. This is an example of selected interdisciplinary meetings on an outstanding subject from a series that requires frequent updating. It has an excellent scientific rationale addressing coherently the hot problems of life origin/extension from the viewpoints of contemporary biology, planetary sciences and astrophysics. Many advances relevant to this field make this meeting timely.

2. IAU Symp. 211 "Brown Dwarfs"; Commission 51 Proposal, Supporting Commissions 9, 25, 26, 30, 34, 36 and 45. This is an extremely important, well focused, and timely meeting on the subject that has probably seen a larger fractional growth in the last few years than any other topic. The program looks impressive and complete and will undoubtedly attract the attention of numerous specialists within and outside the Division. It addresses the field concisely and will help to coordinate new observational programs and theoretical study.

3. IAU Coll. 189 "Astrophysical Tides: The Effects in the Solar and Exoplanetary Systems"; Commission 16 Proposal, Supporting Commissions 7, 15, 19 and 20. This is quite an original topic applicable in a wide range of areas. It attempts to link objects and physics of considerable diversity together, such as long-term lunar orbital evolution and Io volcanism, with extension to ESPs.

4. IAU Coll. 186 "Cometary Science after Hale-Bopp"; Commission 15 Proposal, Supporting Commissions 20 and 34. This proposal is main-stream cometary science involving many new results, including explanation of X-ray emission from comets, new phenomenology in the splitting of comets, a better understanding of the mixing of comets from different origin, etc. The program is being coordinated to minimize the overlap with the July 2002 Berlin ACM meeting also dealing with small bodies. All of the proposed meetings have merit, as evidenced by the large number of supporting commissions, and speak well about the dynamic character of the Division. The EC decision to support all submitted proposals is highly appreciated. The Division also addressed possible changes of the existing procedure of naming asteroids with the involvement of its responsible bodies (CSBN, MPC, MPCAC). The bottom line for the matter is a rapidly growing activity in the field, when intensive observational programs such as LINEAR have been undertaken and a surplus of asteroids to be named is not properly and timely managed by the different teams. Hence the enormous amount of work to be done by the respective IAU bodies should be somehow facilitated. On the other hand, while amateurs no longer significantly contribute to the asteroids discovery, their rights should be sustained. This problem is currently discussed within the CSBN, and the most troublesome points are being addressed aiming at a reasonable and workable solution.

## **Division IV: Stars (Beatriz Barbuy)**

Division IV has a web page at the address: *http://www.iagusp.usp.br/~barbuy/diviv.html*, which can also be reached from the IAU web page.

The following Working Groups are active :

- Under Division IV:
- a) Hot Massive Stars, Chair: P. Eenens;
- b) Abundances on Red giants, Chair: J. Lattanzio;
- Under Comm. 45 of Division IV:
- c) Standard Stars Chair: C. Corbally;
- d) Ap and related stars Chair: W. Weiss;
- Under Divisions IV and V:
- e) Active B stars Chair: S. Stefl.

More details on the Working Groups can be reached from the Division IV web page or from the IAU web page.

#### Division VIII: Galaxies and the Universe (Virginia Trimble)

Division VIII consists of two Commissions, 28 (Galaxies) and 47 (Cosmology). It has a web site: *http://www.star.bris.ac.uk/iau/* maintained by Mark Birkinshaw, who would appreciate being informed of items that might usefully be added (Mark.Birkinshaw@bristol.ac.uk).

Commission 28 (President Sadanori Okamura) distributed an e-newsletter in September to all Commission members for whom there is an email address on file at IAU headquarters. If you belong to either commission, have an email address, but have not yet communicated it, please do so, to iaupdate@iap.fr.

Looking ahead to Sydney: During the summer, Division officers attempted to identify all proposals for Symposia and Joint Discussions for the 2003 GA that are currently being formulated and that have some "Galaxies and the Universe" content. The list has been sent (a) to all Division board members, (b) to all of the proposers (a few of whom were not aware of each others' plans and may want to do some coordinating), and (c) to the e-linked members of Commission 28, in the September newsletter. The list also follows, in the hope that it will be useful to you, first, in deciding whether you would like to be part of the SOC for some additional proposal (notice that there is clearly room for more JDs, while the symposium list is long compared to the number that can be scheduled) and, second, in making your plans to come to Sydney.

JD: Globular Clusters and their Host Galaxies (Terry Bridges)
JD: Environmental Effects of Galaxy Evolution (Gerhard Hensler)
JD: The Southern Sky in Historical Perspective (Wayne Orchiston)
JD: Particle Astrophysics (Marco Salvati)
JD: The Very Local Hubble Flow (Igor Karachentsev)
Symp: Recycling Intergalactic and Interstellar Gas (Pierre-Alain Duc)
Symp: The Cosmic Cauldron: Evolution in Galaxy Clusters (Richard Hunstead)
Symp: Dynamics and Evolution of Dense Stellar Systems (Douglas Richstone)
Symp: Gravitational Lensing and Cosmology (Yannick Mellier)
Symp: Maps of the Cosmos (Lister Staveley-Smith)

#### **Division X Radio Astronomy (Lucia Padrielli)**

The NATO Advanced Study Institute "The Role of VLBI in Astrophysics, Astrometry and Geodesy" closed on September 28th. This school, organized by Franco Mantovani on behalf of the European Consortium for VLBI, was funded by NATO Scientific and Environmental Affairs Division, EU (Infrastructure Cooperation Network in Radio) and CNR, Italy. It introduced the scholars to the potential of the VLBI technique in conjunction with other observing techniques in different bands of the electromagnetic spectrum. More than 70 students from several countries and 17 experienced lecturers worked together for two weeks, guests of Castel San Pietro Terme, Bologna, Italy.

Darrel Emerson, chair of IUCAF, is organising an international Summer School on Spectrum Management, June 10-15, 2002 at the NRAO Green Bank Observatory, WVA, USA. The purpose of this Summer School is to offer, for the first time, a comprehensive view of both technical and regulatory issues related to radio astronomers' use of the spectrum. The intended audience is members of the radio astronomy and related radio engineering community, who are becoming active in this area at the local, national or international level. About 35 students and a dozen of lecturers from Europe, USA and Australia are expected. More details at the site *http://www.iucaf.org/sschool/*.

# 5. COMMISSION MATTERS

# 5.1. Address Updates of Presidents, Vice-Presidents and WG Chairs

A list of coordinates for Commission Presidents and Vice-Presidents was published in IB 89 in pp. 10-17, along with a list of Working Group Chairs and their email addresses in pp. 22-26. This section contains any updates to those lists.

C9	Instrumentation & Techniques/Instrumentaion & techniques Su Ding-Qiang, President Inst Astron Optics & Technology NAOC Nanjing 210042, China PR Tel./Fax: 86 25 540 5562 dqsu@nairc.ac.cn
C14	Atomic & Molecular Data/Données atomiques & moléculaires Sveneric Johansson, Vice-President Lund Observatory P.O. Box 43 SE 221 00 Lund, Sweden Tel.: 46 46 2221583 Fax: 46 46 222 4614 Sveneric.Johansson@astro.lu.se
C29	Stellar Spectra/Spectres stellaires, Chris Sneden, Vice-President Department of Astronomy University of Texas Austin TX 78712-1083, USA chris@verdi.as.utexas.edu
C34	Interstellar Matter/Matière interstellaire Bo Reipurth, President Institute for Astronomy University of Hawaii 2680 Woodlawn Drive Honolulu HI 96822, USA Tel.: 1 808 956 8312 Fax: 1 808 988 2790 reipurth@ifa.hawaii.edu
C35	<i>Stellar Constitution/Constitution des étoiles</i> Don VandenBerg, President Dept. of Physics & Astronomy University of Victoria Box 3055 Victoria, BC V8W 3P6, Canada
C45	Stellar Classification/Classification stellaire Tom Lloyd Evans, President 5 Kinaldy Meadows, by St Andrews, Fife KY16 8NA, Scotland tle@nottingham.ac.uk

EC	Working Group for Future Large Scale Facilities Richard Schilizzi, Chair
	NFRA Postbus 2, NL 7990 AA Dwingeloo, Netherlands schilizzi@jive.nl

Working Group Chairs

DIII	Cttee on Small Bodies Nomenclature p.kilmartin@phys.canterbury.ac.nz	Pam Kilmartin
DX	WG on Global VLBI schilizzi@jive.nl	R. Schilizzi
<b>C9</b>	WG onDetectors tabbott@not.iac.es	Tim Abbott
C15	WG on Minor Planets cellino@to.astro.it	A. Cellino
C25	WG on Infrared Astronomy milone@ucalgary.ca	E.F. Milone

# 5.2. The Inter-Union Commission for History of Astronomy

We are pleased to announce the formation of the Inter-Union Commission for History of Astronomy (ICHA) by the International Astronomical Union (IAU) and the Division of History of Science of the International Union for History and Philosophy of Science (DHS/IUHPS). The ICHA is an international body representing the interests of all professional historians of astronomy worldwide. It encourages research into the history of astronomy, facilitates communication between researchers, organizes scientific meetings, undertakes collaborative projects, and publishes a bi-annual newsletter. The ICHA will also prepare recommendations for the IAU and the IUHPS, and will liaise with other international organisations.

Membership is open to the entire history of astronomy community. Those who are IAU members become full members of the new Commission, while those who conduct their research through the IUHPS become associate members. New members (of either kind) are elected to the ICHA at the triennial General Assemblies of the IAU.

The ICHA is governed by an Organising Committee (OC) of ten. The inaugural OC, which is based on the current OC of Commission 41, comprises:

President:	Prof. Richard Stephenson
	(UK: f.r.stephenson@durham.ac.uk)
Vice-President:	Prof. Alex Gurshtein (Russia: agurshtein@hotmail.com)
Secretary:	Dr. Wayne Orchiston (Australia: wo@aaoepp.aao.gov.au)

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Members:Dr. Christine Allen (Mexico)<br/>Dr. Steven Dick (USA: steve.dick@usno.navy.mil)<br/>Dr. Wolfgang Dick (Germany: wdi@potsdam.ifag.de)<br/>Prof. Rajesh Kochhar (India: rkochhar2000@yahoo.com)<br/>Dr. Tsuko Nakamura (Japan: tsuko@cc.nao.ac.jp)<br/>Prof. Il-Seong Nha (Korea: SLISNHA@chollian.net)<br/>Prof. Woodruff Sullivan<br/>(USA: woody@astro.washington.edu)<br/>Prof. Brian Warner (South Africa:<br/>Warner@physci.uct.ac.za)

Production of the *ICHA Newsletters* is the responsibility of an Editorial Board comprising Dr. Ileana Chinnici (Italy), Prof. Gurshtein and Stephenson, and Dr. Orchiston. Newsletters are scheduled to appear in June and December.

The official establishment of a genuine Inter-Union Commission by the two parent Unions is a major step forward for the history of astronomy community. IAU Commission 41 was founded in 1948, and for decades there has been close cooperation between colleagues from this Commission and those associated with the DHS/IUHPS. During the 1970s an attempt was made to have C41 formally recognized as a joint commission of the two Unions, but this initiative was unsuccessful.

However in 1994 the idea somehow took hold that C41 had become "A joint IAU-IUHPS Commission" (*IAU Transactions XXIIB*, p. 207), even though its status was unchanged, and this notion was perpetuated through the 1994 *ICSU Yearbook* (see p. 104). Once this fiction of a "Joint Commission" or "Inter-Union Commission" was established, it was accepted without question until the true situation was discovered in late 2000.

The quest for a true Inter-Union Commission then became a priority of the C41 OC, and we are delighted to see so pleasing an outcome. Under the aegis of the ICHA, historians of astronomy worldwide can look forward to an era of unprecedented cooperation and harmonious collaboration.

Finally, on behalf of all members of the ICHA we would like to thank the General Secretaries of the IAU and the DHS/IUHPS for their unstinting support and encouragement.

Prof. F. Richard Stephenson (President, ICHA) Prof. Alexander Gurshtein (Vice-President, ICHA) Dr. Steven J. Dick (Immediate Past President, IAU C41) Dr. Wayne Orchiston (Secretary, ICHA)

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# INTERNATIONAL CONFERENCE ON "ASTRONOMICAL INSTRUMENTS AND ARCHIVES FROM THE ASIA-PACIFIC REGION"

A conference on "Astronomical Instruments and Archives from the Asia-Pacific Region" will be held in Cheongju, Korea, July 2-5, 2002 to commemorate the inauguration of the Nha Il-Seong Museum of Astronomy.

This Conference is organised by IAU Commission 41 and the newly-formed Inter-Union Commission for History of Astronomy (ICHA), and will constitute the first formal conference and meeting of the ICHA. In Korea, the Conference will be sponsored by the City of Cheongju, the Korean Astronomy Observatory and the National Science Museum. Meanwhile, the following Scientific Organising Committee has been set up:

> Prof. Il-Seong Nha (Korea: Chairman) Prof. Richard Stephenson (UK: Deputy-Chairman) Dr. Suzanne Debarbat (France) Dr. Kwan-yu Chen (USA) Dr. Steve Dick (USA) Prof. Alex Gurshtein (Russia) Dr. Bambang Hidayat (Indonesia) Prof. Rajesh Kochhar (India) Dr. Lui Ciyuan (China) Dr. Tsuko Nakamura (Japan) Prof. Boonraksar Soonthornthum (Thailand)

The program will include paper sessions, C41/ICHA business meetings. Papers can focus on archives or historical instruments from or pertaining to the Asian region, the Pacific Ocean (including Australia and New Zealand) or the countries of North and South America that have coastlines bordering on the Pacific. The plan is to publish the conference proceedings, and Prof. Nha and Drs Debarbat and Orchiston have agreed to serve as co-editors.

For further information contact Il-Seong Nha (Slisnha@chollian.net) or Wayne Orchiston (wo@aaoepp.aao.gov.au) and http://www.nhamuseum.org/conference2002.

Prof. Il-Seong Nha (Chairman) Prof. F. Richard Stephenson (Deputy-Chairman) Dr Wayne Orchiston (Secretary)

# 6. WORKING GROUPS

#### 6.1. IAU Working Group on Future Large Scale Facilities

The Working Group was first established in 1994 at the IAU General Assembly in the Hague with Harvey Butcher (ASTRON, NL) as chair. He was succeeded by Ron Ekers (ATNF, Australia) for the following three years. The current composition of the Working Group is as follows:

Ron Ekers (radio, Australia) Francoise Genova (databases, optical, France) Gerry Gilmore (optical, UK) Nikolay Kardashev (radio, space, Russia) Jeff Linsky (space, USA) Stefan Michalowski (OECD, France) Jeremy Mould (optical, USA) Rendong Nan (radio, China) Haruyuki Okuda (space, Japan) Richard Schilizzi (chair, radio, NL) Hank Sobel (neutrino, USA) Massimo Tarenghi (optical, Germany) Yoji Totsuka (high energy, Japan) Virginia Trimble (astronomy, USA) Willem Wamsteker (space, UV, Spain) Patricia Whitelock (optical, South Africa)

Catherine Cesarsky, Francoise Praderie, and Lo Woltjer are advisors to the WG.

The tasks of the WG are:

- to promote the early discussion and dissemination of information on potential large scale astronomical projects,
- to maintain an inventory of planned large scale projects in astronomy, to further contacts and cooperation between different projects,
- to identify areas of duplication, and areas where clearly desirable efforts are lacking,
- to promote the development and maintenance of astronomical data archives
  - with open access, and
- to investigate ways to involve smaller countries and agencies into projects of the larger countries.

The WG defines large scale as costing 100 M\$ or more for ground-based projects, and 400 M\$ or more for space-based instruments. The WG aims to focus on projects in their early phases before they have received financing and on projects only partially funded and in search of partners.

Tables containing entries for future large scale facilities for ground-based optical/IR, radio, space observatories, interplanetary and interstellar probes, and gravitational waves and astroparticle detectors, can be found via the IAU website *http://www.iau.org/*.

Readers are encouraged to consult these tables for information on the facilities and to check the accuracy of the information given. Any errors and omissions should be communicated to the undersigned at schilizzi@jive.nl. Note that the costs of many projects are only vaguely known to the WG, so some projects may have been omitted from the tables that should be included, and vice-versa. We have also included a number of international ground-based projects less than the threshold cost in cases where they are to be located in less-advantaged astronomical regions or countries.

We expect the inventory will assist in furthering the contacts and cooperation between projects, and in identifying areas of overlap and areas where new facilities should be developed. Ideas on ways to involve small countries in large scale facilities are welcome.

We plan to hold an open session on future large scale facilities at the General Assembly in Sydney, and encourage IAU members to attend and air their views on the issues.

Richard Schilizzi Chair of the WGFLSF

# 6.2. IAU Working Group on Publishing

The Working Group on Publishing is a Working Group of the IAU Executive Committee. It has been formed to address the continuing need to determine how the publication of research results should evolve in the world of the Internet, preprint servers and electronic publishing. This includes such issues as investigating bestpractice for publishing research results, helping to ensure that the publication of research results evolves in a direction of maximum benefit to astronomy, and finding techniques to maximise the usefulness of electronic access to research results contained within publications. The Working Group hopes to act as an information conduit between publishers and astronomers. For example, the Working Group on Publishing has recently recommended to publishers that they:

- request that authors use approved nomenclature for astronomical objects,
- request that authors use consistent formatting for electronic-only Tables included with journal publications, and
- ensure that, when electronic Tables are included, the information in a caption or sample Table is adequate to properly describe the content of the full Table.

Further recommendations are being developed.

The Working Group will also work to determine the appropriate role for the IAU in the area of publishing and dissemination of published material. The Working Group is investigating how best to promote fair and equitable access to the published astronomical literature by all astronomers.

A web site is currently being prepared that will describe the activities of the Working Group in more detail.

For more information, please contact: Chair, IAU Working Group on Publishing Dr. Michelle Storey CSIRO Publishing/CSIRO Australia Telescope National Facility PO Box 76 Epping NSW 1710, Australia Email: Michelle.Storey@csiro.au

# 6.3. Divisional Working Groups

At its 75<sup>th</sup> meeting, the IAU EC decided to endorse the formation of a new Working Group under Division IV, as supported by the Board of that Division. The topic is *Abundances in Red Giants*, and the WG is chaired by John Lattanzio j.lattanzio@sci.monash.edu.au of Monash University, Australia. The initial agenda includes:

- to enhance communication among interested researchers,
- to set up a web site for this purpose, and
- to propose a conference during GA25 in Sydney, with the preliminary title "Astrophysics from the Shoulders of Red Giants".

For different reasons, the listing of Working Groups in IB 89 was not quite complete. With the addition of the new one described above, the previous listing of Divisional Working Groups needs to be supplemented as follows.

Abundances in Red Giants		D IV
J. Lattanzio	j.lattanzio@sci.monash.edu.au	
<b>Hot Massive Stars</b> P. Eenens	eenens@carina.astro.ugto.mx	D IV
<b>Archiving Spectroscopic Data</b> R.E. Griffin	remg@astro.ox.ac.uk	D V

# 7. EXECUTIVE COMMITTEE MEETINGS

# 7.1. 75<sup>th</sup> Meeting of the Executive Committee

The 75<sup>th</sup> Meeting of the IAU Executive Committee was held at the Astronomical Observatory of the University of Copenhagen on June 14-15, 2001. In the absence of the President, Franco Pacini, who had to return to Italy for a family emergency, the meeting was chaired by President-Elect Ronald Ekers on June 14 and Vice-President Catherine Cesarsky on June 15. All the other members were present, as well as the full staff of the Secretariat.

The audit report for 2000 was presented, showing that the deficit for this year was about 43,000 CHF larger than budgeted. However, this difference was caused by IAU surplus funding for GA24, the return of which from the LOC occurred too late to be included in the 2000 accounts. With due consideration of this fact the finances of the IAU were found to be in good health. For the near future the GS reported on extra expenditures incurred due to the move of the Office, upgrades of equipment, and the acquisition of much needed, extra work support.

The latter item had been suggested during the 74<sup>th</sup> EC Meeting as well as an initiative to oversee the Statutes, Bye-Laws and Working Rules. While nothing had yet been done about this overhaul, the GS reported that revised documents will be available for possible endorsement at the 76<sup>th</sup> EC Meeting.

Commission 41 had asked to have its links with the Division of the History of Science of IUHPS (International Union for History and Philosophy of Science) formalized by creating the Inter-Union Commission for History of Astronomy (ICHA). In close interaction with the GS, the Officers of Commission 41 had negotiated an agreement with IUHPS about the ICHA, and the EC endorsed its creation. See further Section 5.2.

During the preceding year several important matters had arisen concerning publishing in astronomy. One of these was the termination of Astronomy & Astrophysics Abstracts, which had been produced at Astronomisches Rechen-Institut in Heidelberg since 1969, following 70 years of the Astronomischer Jahresbericht. This raised the question of how the IAU could continue to support some abstracting service with an international scope, like the electronic ADS service of NASA. Other matters too concerned the development of electronic publishing, which was the subject of an ICSU-UNESCO conference in Paris Feb. 2001, where the IAU was represented by Michelle Storey of CSIRO ATNF, Epping, Australia. The EC decided to form a new EC Working Group on Publishing, chaired by Michelle Storey, to pursue these matters. AGS Oddbjorn Engvold will represent the EC on this WG. See further Section 6.2.

As usual, the selection of IAU-sponsored scientific meetings was a major item on the agenda. After careful and penetrating discussions, the EC decided to select five Symposia and five Colloquia for 2002 in addition to the previously selected Symposium 210, which has had to be shifted from 2001 to 2002. In addition, the IAU

will co-sponsor the 34<sup>th</sup> COSPAR Scientific Assembly with a number of IAU-related events as well as a Workshop on Planetary Protection also together with COSPAR (Section 3.4.). An update of the IAU Rules for Scientific Meetings is an ongoing action item for the GS and AGS, but for lack of time, the review of this work was referred to email consultations.

The format of future General Assemblies (GA25 and onward) was discussed, and the EC found it advisable to keep the present general feature with GA Symposia just before and after the two plenary sessions and Division- and Commission-related work in between, but to modify so that the first GA session occurs on a Tuesday afternoon and the second on a Thursday afternoon. This will leave more time for both science and business within the various Divisions, Commissions and Working Groups. The EC recommended that a detailed plan be developed and communicated to all Adhering Organizations and Presidents of IAU bodies well in advance of the realization of the changes.

Concerning GA25, an important topic of discussion was the cost of travel and registration, which may become a limiting factor for attendance. The EC recommended that the National Organizing Committee work to find additional funding sources e.g. by sponsoring in order to trim the registration fee as far as possible. The opinion was reassessed that the Division Presidents should participate more than before in the scientific planning of GA25, and thus the EC decided that all DPs be invited to the 76<sup>th</sup>EC Meeting, where the selection of the main scientific events during GA25 will be made.

# 7.2. 76<sup>th</sup> Meeting of the Executive Committee

The 76<sup>th</sup> Meeting of the EC will take place on May 6-8, 2002 in St Petersburg, Russia at the invitation of Vice President Nikolay S. Kardashev. The major item will be the selection of Invited Discourses, GA Symposia, and Joint Discussions at the 25<sup>th</sup> General Assembly in Sydney, July 2003. All Division Presidents have been invited to participate in the deliberations preceding these decisions as well as discussions of other items on the agenda. Any such matters should be submitted to the General Secretary before March 15, 2002.

# 8. XXV<sup>th</sup> AND XXVI<sup>th</sup> GENERAL ASSEMBLIES: PROGRESS REPORTS

# 8.1. Report on the Planning of the IAU XXV<sup>th</sup> General Assembly

The National Organising Committee (NOC) for IAU 2003 has held two meetings since the last report, April 19 and July 17, 2001. The General Secretary of the IAU, Dr. Hans Rickman attended the April meeting and was warmly welcomed by the NOC. Many issues relating to the organisation of the General Assembly were discussed with Dr. Rickman at the meeting and also at other meetings with members of various sub-committees of the NOC. Dr. Rickman was taken on a tour of the venue for the GA, the Darling Harbour Convention Centre, to see the facilities available. He also visited hotel accommodation and College accommodation that will be available for participants.

The various sub-committees are now in full swing working in concert with our professional conference organiser, ICMS Australia. Accommodation bookings have now been made for 600 places at the Colleges of Sydney University, which is not far from Darling Harbour. Proposals for pre and post GA tours, and tourist trips during the GA itself are being forwarded to the NOC for confirmation. Helen Sim is chairing the Media, Promotions and Newspaper Sub-Committee and is progressing these issues very effectively. Jonathan Nally has been approached to be Editor of the GA Newspaper, and has expressed interest in the position.

The next meeting of the NOC will be held in late October, where possible implications for the GA of the terrorist attacks on the USA will be a major point of discussion.

Harry Hyland for the National Organising Committee, IAU 2003, Sydney, Australia

Prof. A R (Harry) Hyland, Deputy Vice-Chancellor James Cook University, Townsville, Queensland 4811, Australia

Tel.: 61 7 4781 5451 Email: Harry.Hyland@jcu.edu.au Website for IAU 2003: Fax: 61 7 4781 5452

http://www.astronomy2003.com

# 8.2. IAU XXVI<sup>th</sup> General Assembly

The public competition for the selection of the Conference Agency that will manage the General Assembly has been declared to which four competitors responded. A commission named by the National Organizing Committee selected the following two:

ICARIS Conference Management Ltd., to be responsible for the scientific part of the GA;

Congress Business Travel Ltd. (CBT), is responsible for registration, accommodation, social and cultural events, excursions etc.

The contract is supposed to be signed by November 2001. The XXVIth General Assembly will be held in Prague Congress Centre (the capacity of its main Congress Hall being 2800 persons), located near the center of Prague. The reservation has been made (after consultation with the IAU General Secretary) for August 14 - 25, 2006.

During November 2001 the General Secretary and Assistant General Secretary are expected to visit Prague to see the conference site and to meet both conference agencies.

October 2, 2001 Jan Palouŝ, Jan Vondrák

# 9. EDUCATIONAL ACTIVITIES

#### 9.1. Overview

The individual program groups worked extensively as shown below. Connecting to Commission 46 activities, some national astronomical societies gradually extend to a higher level. The Astronomical Society of Japan holds a session on astronomical education and a session for presentation of high school students during each semiannual meeting; the American Astronomical Society is about to start an electronic newsletter on astronomy education, with wide circulation; and during the 2004 UK National Astronomy meeting at the Open University in Milton Keynes March 28 to April 2, it is expected there will be a session on astronomy education. In some countries, the governments try to reject or reduce astronomy in the primary and secondary school educational curriculum. To counter these plans, Commission 46 is developing an IAU Resolution, which will be discussed as soon as the draft is ready.

For Cooperative Programmes, the long planned COSPAR-IAU co-sponsored workshop at the UN Regional Center in Brazil is now finally scheduled to take place in early December, 2001, and this is the first real "cooperation programme" since the Workshop at UNISPACE III. There are several follow-up initiatives to UNISPACE III. Among those which are relevant to the IAU, the UN office of Outer Space Affairs invited the IAU to work on enhancing capacity building by developing human and budgetary resources, and Syuzo Isobe was assigned to be its IAU contact person for this work item.

John Percy takes a leading position in preparation for the Special Session at the 25th General Assembly in Sydney and reports as follows. Following the success of the Special Session on "Astronomy for Developing Countries" at the 2000 IAU GA in

Manchester, Commission 46 is preparing a proposal for another Special Session, at the 2003 IAU GA in Sydney, on the topic of "Astronomy in the Schools". This is a topic which is critical to the health of Astronomy in all countries - developed and developing. In some countries, there is little or no Astronomy in the school curriculum. In others, Astronomy is in the curriculum, but teachers receive little or no training or support. The proposed Special Session will emphasize: recent research on effective teaching and learning of Astronomy; rationale for Astronomy in the curriculum; exemplary projects and programs for teacher training and support; practical activities and student research; the role of new technology; exemplary (and inexpensive, if possible) resources; interdisciplinary connections (e.g. History of Astronomy, Astrobiology, Light Pollution); the role of planetariums and observatories; and many other related topics.

The intention is that this Special Session should lead to specific action items for the IAU and its member countries. Those with comments or suggestions about this proposal should contact John Percy (jpercy@erin.utoronto.ca) as soon as possible.

As mentioned above: it has been suggested that Commission 46 should develop a Resolution, to be passed by the IAU General Assembly, which would encourage member countries to increase and improve the Astronomy in the school curriculum, and provide more and better training and support for teachers. John Percy (email address above) has developed a first draft of such a Resolution.

The Program Group on Advance Development, chaired by Alan Batten, reports that it initiated contacts with the Philippines for their astronomy development. The announcement of the 2002 ISYA, and reports on the TAD programme and on the activities of the PG dealing with Solar Eclipses are given below.

Syuzo Isobe President of Commission 46

## 9.2. 26th International School for Young Astronomers (ISYA)

The 26th IAU International School for Young Astronomers will be held at El Leoncito, San Juan, Argentina, August 12-30, 2002. The language of the School will be English. Among the topics to be covered are:

- Galaxies, Stellar Populations,
- Active Galactic Nuclei,
- Cosmology,
- Star Forming Regions,
- Dynamics of the Solar System,
- Stellar Astrophysics, Binaries, Extrasolar Planets
- High Energy Astrophysics,
- Large Astronomical Data Bases

More information and an application form can be obtained through the URL: http://lilen.fcaglp.unlp.edu.ar/isya

or by request through e-mail to one of the following addresses: gerbaldi@iap.fr

nidia@fcaglp.edu.ar

Applications should include your achieved level of studies in physics and astronomy and any topic of special interest. A letter of recommendation is required, evaluating academic standing and proficiency in English. Accommodation will be supported by the Argentinian host. Travel grants will be available.

Applications and letters of recommendation should be sent, by air mail, fax or e-mail, to both addresses below, at the latest by **March 29th, 2002:** 

Dr. Michèle Gerbaldi, Chairperson for ISYA Institut d'Astrophysique, 98 bis, Bd. Arago, F 75014 Paris, France Fax: 33 1 44 32 80 01 Email: gerbaldi@iap.fr

and

Dr. Nidia Morrell Facultad de Ciencias Astronómicas y Geofísicas Paseo del Bosque s/n B1900 FWA La Plata, Argentina Fax: 54 221 423 6591 Email: nidia@fcaglp.edu.ar

# 9.3. Teaching for Astronomy Development (TAD) Report

#### Morocco:

Supported travel of John Danziger from Trieste to Casablanca April 15-22, 2001 for a short course, discussions with students, advice on developing astronomy.

Supported travel of Michèle Gerbaldi from Paris to Casablanca September 7-9, 2001 for professional planning of astronomy teaching at several schools in Casablanca (expecting to be using a privately donated small telescope).

Enhanced library in astrophysics and mathematical physics.

## **Central America:**

Travel grants for seven delegates (faculty and students) from the universities of Nicaragua and Panama to attend the Sixth Central American Course on Astronomy,

at the University of Costa Rica March 26 to April 6, 2001, including the meeting of the Central American Astronomical Assembly (the organization adhering to the IAU); support for some meeting expenses.

Travel grants to two students in the Central American M.Sc. program from Honduras and Nicaragua in order to start M. Sc. thesis research in Argentina, with Dr. Silvia Fernandez, Cordoba, and Dr. Nidia Morrell, La Plata.

Travel grant to a student from Guatemala for B.Sc. thesis research with Dr. Armando Arellano, Mexico.

Donat G. Wentzel Chair for Teaching for Astronomy Development (TAD)

# 9.4. Program Group on Public Education at the Time of Solar Eclipses

(Members: Jay M. Pasachoff, chair, Ralph Chou, Julieta Fierro)

The total solar eclipse of 21 June 2001 swept across southern Africa, and provided partial phases for all of Africa south of the Sahara. The Working Group on Eclipses of Division II of the IAU maintained a homepage at *http://www.williams.edu/astronomy/IAU\_eclipses* that provided links to maps, information about observing eclipses, and information on eye safety at eclipses. Jay Pasachoff lectured about watching eclipses safely at a Professional-Amateur Conference on Solar Eclipses held at Antwerp in November 2000 and at various venues in Zambia in March and June 2001.

In spite of the best efforts of all professionals and educators concerned, confusion reigned about when to look at the eclipse through filters and when directly. The growing popularity of solar viewers of Mylar in eyeglass form has probably contributed to the confusion. We are working with the makers of such glasses and viewers to label the products more clearly, assuming people do not read accompanying instructions. In spite of numerous newspaper interviews, newspapers continued to print incorrect information how to observe eclipses.

Solar filter material was distributed at low cost or no cost to universities in Zambia and Zimbabwe, and representatives of many countries in the zone of partial eclipse were advised on safe observing methods. No eye injuries have been reported, to my knowledge. National liaisons were appointed in Zambia, Zimbabwe, and South Africa, and they did their best to provide accurate information.

The forthcoming annular solar eclipse of 14 December 2001 in Costa Rica will provide partial phases from northwestern South America through Central America to all of the United States except for the east. The 10 June 2002 annular solar eclipse will

provide partial phases for viewers in western Asia (including Japan, China, Russia, and Korea) and western Australia and then range across the Pacific Ocean to the western United States and Canada. The 4 December 2002 total solar eclipse will provide partial phases across all of Africa except its northern rim and, at sunset, western Australia. Information about safe watching of partial phases of eclipses should be widely disseminated in those regions. Maps are available on the Web site given above.

A web page for this Program Group has recently been established with the address: *http://www.eclipses.info* or at *http://www.williams.edu/astronomy/IAU\_eclipses* 

Jay M. Pasachoff Chair of the Program Group

# **10. PROTECTION OF OBSERVATORY SITES**

#### 10.1. Overview

An overview of the work of Commission 50 can be found in the proceedings of IAU Symposium 196 "Preserving the Astronomical Sky", published this year by PASP. Broadly speaking our efforts are directed towards:

- monitoring the conditions at astronomical observing sites;
- controlling unwanted emissions (light pollution, radio pollution);
- political action to set appropriate technical standards and regulations;
- education and outreach.

In light pollution issues the Commission works closely with international organizations of lighting engineers, such as the CIE (Commission International d'Eclairage), and with organizations such as the IDA (International Dark-Sky Association). A new Commission 50 Working Group on Controlling Light Pollution has been established under the chairmanship of Malcolm Smith (CTIO), and sponsored two sessions at the XXIV<sup>th</sup> General Assembly in Manchester.

In matters concerning radio interference the Commission works closely with IUCAF, the Inter-Union Commission on Frequency Allocation for Radio Astronomy and Space Science. IUCAF coordinates the radio astronomy input to the World Radio Conferences (WRCs) held by the International Telecommunication Union. WRC-2000 saw great gains for radio astronomy in regulatory protection of the millimetre-wave bands between 71 and 275 GHz. In parallel with these global efforts we are also working to establish radio-quiet zones around sites of major new instruments such as ALMA, to enable these instruments to exploit the radio spectrum outside the frequency bands which are protected by the Radio Regulations. Commission 50 is also in close contact with the new Division X (Commission 40) Working Group on Radio Interference Mitigation, with the CECD Global Science Forum Working Group on Radio Astronomy, and with the considerations of the UN Committee on the Peaceful

Uses of Outer Space (UN-COPOUS) on the protection of the space environment.

# 10.2. Working Group on Controlling Light Pollution

The working group (*http://www.ctio.noao.edu/light\_pollution/iau50/*) has, as its top initial priority, concentrated on taking pragmatic steps to protect major existing and potential astronomical sites. It has also embarked on longer-term programs of educational outreach and patient work with governments at local, regional and national levels.

Given that the working group is small and that many of its members have only small fractions of their time available, its members have found it essential to work especially closely with organizations such as the IDA (*http://www.darksky.org*) based in the USA, the new OPPC (*http://www.opcc.cl*) based in Chile and the Spanish OTPC (*http://www.iac.es/proyect/otpc/*). Each of these now have maintained websites in at least their local language which together provide a useful international platform of information for both the short and long-term efforts of the working group.

The most outstanding product so far on a world-wide scale has been the "First World Atlas of the Artificial Night-Sky Brightness" by working-group member Pierantonio Cinzano and collaborators (MNRAS, in press). Similar data from the US Defense Meteorological Satellite Program have been used by WG member Syuzo Isobe to estimate the upward light being wasted by cities around the world. This can be converted to equivalent costs in the local currency of each city and used to publicize the costly waste associated with light pollution. Much more work will have to be done in the future at international levels on the potential threat of unwanted artificial illumination of the earth from spacecraft.

The cover picture is taken from the "First world atlas of the artificial night sky brightness" by Cinzano, Falchi and Elvidge (2001, MNRAS, in press). These radiancecalibrated, high-resolution DMSP satellite data have been combined with the US Department of Energy population density database to determine the fraction of population who are living under a sky of given brightness. Assuming average eye functionality, about one fifth of the World population, more than two-thirds of the US population and more than half of the EU population have already lost naked-eye visibility of the Milky Way. The opening sentence of this paper reminds us that "One of the most rapidly increasing alterations to the natural environment is the alteration of the ambient light levels in the night environment produced by man-made light".

# 10.3. Astronomical Site Evaluation Workshop

A Technical Workshop on Astronomical Site Evaluation was held in Marrakesh, Morocco, in November 2000, with 120 participants. The goal of the meeting was to assess the state of the art with regard to astronomical site testing in the visible, infrared and radio wave bands. The proceedings will be published in the ASP Conference Series.

#### **10.4.** Forthcoming Events

An international Conference on Light Pollution will be held in La Serena, Chile, in March 2002 (*http://www.iau.org/IAU/News/lightpoll.html*). The conference will discuss light pollution and radio pollution, and will bring together the astronomical community, the lighting industry, public authorities and government representatives. The WG on Controlling Light Pollution will also meet in conjunction with this conference.

The IAU has been invited to provide a background paper on Obtrusive Space Advertising to the next meeting of the Scientific and Technical Sub-Committee of COPUOS, the United Nations Committee on the Peaceful Uses of Outer Space, in February 2002, in preparation for the Committee's deliberations on this issue of potential future concern. This follows successful presentations on radio astronomy issues to the previous meeting of COPUOS S&T in February 2001, reported in IB89, item 11.1, p.30.

An international Summer School on Spectrum Management for Radio Astronomy will be held at NRAO Greenbank, USA, in June 2002 (*http://www.iucaf.org/sschool/*). The summer school, the first of its kind, will offer a comprehensive introduction to the technical and regulatory issues related to radio astronomers' use of the spectrum. Hopefully it will help to inspire the next generation of spectrum managers for radio astronomy.

The next World Radio Conference will be held in June/July 2003 in Caracas, Venezuela: the agenda includes ten items impacting on radio astronomy, including in particular agenda item 1.8.2 concerning unwanted emissions from satellites.

Jim Cohen and Malcolm Smith President and Vice-President of Commission 50

# **11. RELATIONS TO OTHER ORGANIZATIONS**

# 11.1. ICSU

The application by the IAU and COSPAR for a programme on *Science Development* and *Capacity Building in Latin America* was unfortunately left without funding. However, on the positive side, ICSU accepted to sponsor the International Conference on *Women in Physics* for which the IAU supported IUPAP. This meeting will be held at UNESCO in Paris on March 7-9, 2002. Information may be obtained through the website: <u>http://www.if.ufrgs.br/~barbosa/conference.html</u>

ICSU is planning to prepare official statements on a number of issues, whereamongst the one of access to data and databases, and the IAU was invited to contribute to this work. It is indeed an important policy matter for the IAU to safeguard intellectual freedom in research and the open access to astronomical data, and the Commission 5 WG on Astronomical Data (chaired by Ray Norris of CSIRO, Epping, Australia) has identified this as an urgent action item. Ray Norris therefore serves as the IAU contact person, while also representing CODATA, for this very welcome initiative.

# 11.2. COSPAR

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* 

# 11.3. UN/COPUOS

In order to follow up on the recommendations made at the UNISPACE III congress held in Vienna, July 1998, the UN Office of Outer Space Affairs decided to form action groups on a number of topics. The IAU was requested to name contact persons for those action groups, with the following results:

Mitigation of space debris	Walter Flury
Int'l coordination on NEOs	Hans Rickman
Minimize radio interference	Harvey Butcher
Enhance capacity building	Syuzo Isobe
Education opportunities in	-
space science & technology	Peter Willmore

In later reports I hope to come back to specific results of the work in those groups. For the moment it is gratifying to know that within the UN circuits, the recommendations are taken with an appropriate degree of seriousness, so that in the end they should not be just beautiful but empty words!

Hans Rickman

# **12. MEMBERSHIP**

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 89.

Hughes, Victor A	Petri, Winfried
Jenkins, Louise F	Reynolds, John H
Kharadze, Jevgeni K	Scheuer, Peter A G
Merman, Natalia V	Walker Jr., Arthur B C
Molotaj, Olexandre	Wenzel, W
Nilson, Peter	Wyller, Arne A
Overbeek, Michiel	Zook, Herbert
	Jenkins, Louise F Kharadze, Jevgeni K Merman, Natalia V Molotaj, Olexandre Nilson, Peter

# **13. ANNOUNCEMENTS**

#### **13.1.** Three Special Minor Planet Names

The minor planet circulars that were issued on 2 October 2001 contained the following names and citations for three minor planets discovered at observatories on three continents, intended as a positive statement abhorring the tragedy that occurred on a fourth.

#### (8990) Compassion = 1980 DN

Discovered 1980 Feb. 19 at the Klet Observatory.

Named by the Committee for Small-Body Nomenclature to honor the compassion of people around the world for the friends and families of the victims of disasters, exemplified by the terrorist attacks on New York and Washington on 2001 Sept. 11, with the hope that they will overcome their sorrow.

#### (8991) Solidarity = 1980 PV1

Discovered 1980 Aug. 6 at the European Southern Observatory.

Named by the Committee for Small-Body Nomenclature to honor the solidarity of people around the world with both victims and survivors of terrorist attacks like those on New York and Washington on 2001 Sept. 11, in the goal of eliminating terrorism from the world.

#### (8992) Magnanimity = 1980 TE7

Discovered 1980 Oct 14 at the Purple Mountain Observatory.

Named by the Committee for Small-Body Nomenclature to honor the magnanimity of people around the world in dealing with terrorist attacks like those on New York and Washington on 2001 Sept. 11, in the hope that terrorism will be countered with justice for all, not with revenge.

## **13.2.** The Cosmology Prize of the Peter Gruber Foundation

Nominations for the 2002 Cosmology Prize may be submitted by individuals, organizations and institutions (comprising individual IAU Members and astronomical institutions) and are hereby solicited. For information on the required procedures and for the nomination forms to be used, please refer to the web page of the Peter Gruber Foundation, *http://www.petergruberfoundation.org/awards.htm*.

Please include a concise letter of motivation and brief description of the nominee's achievements in addition to the required data on the form. The deadline for receipt of such nominations at the PGF is **May 15, 2002.** 

## 13.3. IAU Representative to ITU - R

In addition to the IAU representatives to International Organizations 2000-2003, listed in Section 11 of IB 88, the following is to be noted. The IAU Representative to **ITU-R**, the Radiocommunication Bureau of the International Telecommunication Union, is *W. Klepczynski*.

Upon an invitation from ITU-R, the IAU has nominated the chairman of the Division I WG on Redefinition of UTC, Dennis D. McCarthy, to participate in an ITU-R Special Rapporteur Group on the definition and use of UTC, thereby representing our Union in an effort together with several other organizations.

# 13.4. Information on UTC - TAI

No positive leap second will be introduced at the end of December 2001. The difference between UTC and the International Atomic Time TAI is :

from 1999 January 1, 0h UTC, until further notice : UTC-TAI = -32 s

Leap seconds can be introduced in UTC at the end of the months of December or June, depending on the evolution of UT1-TAI.

# **14. PUBLICATIONS**

## 14.1. General

The production of IAU Symposium volumes since Symposium 190 is in the hands of the Astronomical Society of the Pacific. All preceding volumes were published by Kluwer Academic Publishers. Complete, up-to-date lists of IAU Symposia and other publications are maintained at the IAU web site under Publications. Together with other ASP products, notably the ASP Conference Series, they can be inspected and ordered at *www.astrosociety.org.* IAU Members are entitled to purchase the IAU publications at specially discounted prices.

1. Symposia Non-Member/Library/Institution: \$95.00 IAU Member/Symposium Attendee: \$42.00

2. Transactions Non-Member/Library/Institution: \$125.00 IAU Member: \$80.00

3. Highlights Non-Member/Library/Institution: \$95.00 IAU Member/Symposium Attendee: \$56.00

Note: discounts are for IAU Individual Members ONLY. If you would like to establish a standing order for the IAU or Conference Proceedings, please email the ASP at: orders@astrosociety.org OR geaton@astrosociety.org.

The IAU Colloquia are published independently, but must mention IAU sponsorship and are listed here separately. We would like to build up a complete collection of Colloquium volumes at the Secretariat and maintain a list of missing books at our web site. Any donations of older colloquium volumes that could help fill these gaps are gratefully received (and shipping costs refunded). We also cordially thank those members who have helped us to complete the collection of IAU Transactions in the Archives (see IB 83).

Some publishers send copies of recent astronomy books to the Secretariat. These are listed in each IB (see below). Members in developing or similar countries may request these books for their personal use on a first come, first serve basis by contacting the Secretariat.

# 14.2. IAU Publications

### IAU Symposia

196	PRESERVING THE ASTRONOMICAL SKY: AN IAU/COSPAR/UN SPECIAL ENVIRONMENTAL SYMPOSIUM Vienna, Austria, July 12-16, 1999 Eds. R.J. Cohen & W.T. Sullivan Astronomical Society of the Pacific, ISBN 1-58381-078-1, 2001
197	ASTROCHEMISTRY: FROM MOLECULAR CLOUDS TO PLANETARY SYSTEMS Sogwipo, Rep. of Korea, August 23-27, 1999 Eds. Y.C. Minh & E.F. van Dishoeck Astronomical Society of the Pacific, ISBN 1-58381-034-X, 2000
203	<b>RECENT INSIGHT INTO THE PHYSICS OF THE SUN AND HELIOSHPERE:</b> 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

# IAU Colloquia

 179 CYCLICAL EVOLUTION OF SOLAR MAGNETIC FIELDS Kodaikanal, India, December 13-16, 1999
 Eds. P. Venkatakrishnan, O. Engvold & A.R. Choudhuri Journal of Astrophysics and Astronomy, Bangalore, India, Vol. 21, Nos. 3 & 4, pp. 101-476, 2000

# **Other IAU Publications**

# SPECIAL SESSION OF XXIV GENERAL ASSEMBLY Astronomy for Developing Countries Ed. A. Batten Astronomical Society of the Pacific, ISBN 1-58381-067-6, 2001

# 14.3. Other Publications Received

ASP C	onference Series, San Francisco CA, USA
222	THE PHYSICS OF GALAXY FORMATION
	Eds. M. Umemura & H. Susa, ISBN 1-58381-054-4 (HB)
223	COOL STARS, STELLAR SYSTEMS AND THE SUN
	Eds. R.J. Garcia Lopez et. al., ISBN 1-58381-056-0 (HB)
224	PROBING THE PHYSICS OF ACTIVE GALACTIC NUCLEI BY MULTIWAVELENGTH MONITORING
	Eds. B.M. Peterson et. al., ISBN 1-58381-055-2 (HB)
225	VIRTUAL OBSERVATORIES OF THE FUTURE Eds. R.J. Brunner et. al., ISBN 1-58381-057-9 (HB)
226	<b>12TH EUROPEAN CONFERENCE ON WHITE DWARFS</b> Eds. J.L. Provencal et. al., ISBN 1-58381-058-7 (HB)
227	BLAZAR DEMOGRAPHICS AND PHYSICS
	Eds. P. Padovani & C.M. Urry, ISBN 1-58381-059-5 (HB)
	ridge University Press, Cambridge, UK D Pluto
Ed. J. I	Davies, ISBN 0-521-80019-6 (HB) GB£17.95
	AMBRIDGE DICTIONARY OF SPACE TECHNOLOGY Williamson, ISBN 0-521-66077-7 (HB) US\$39.95

AN INTRODUCTION TO CLOSE BINARY STARS Ed. R. Hilditch, ISBN 0-521-24106-5 (HB) US\$110.00

SUPERNOVAE AND GAMMA-RAY BURSTS Eds. M. Livio, N. Panagia & K. Sahu, ISBN 0-521-79141-3 (HB) US\$ 55.00

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**THEORETICAL ASTROPHYSICS 2** Ed. T. Padmanabhan, ISBN 0-521-56631-2 (HB) US\$120.00

Kluwer Academic Publishers, Dordrecht, The Netherlands CHEMICAL EVOLUTION OF THE GALAXY Ed. F. Matteucci, ISBN0-7923-6552-6 US\$ 106.00

THE INFLUENCE OF BINARIES ON STELLAR POPULATION STUDIES Ed. D. Vanbeveren, ISBN 0- 79237-104-6 (HB) US\$ 211.00

STAR BRIEFS 2001

Ed. André Heck, ISBN 0-7923-6510-0 (HB) GB£215.00

Astronomical Observatory of Jagiellonian University, Poland Publications free of charge by email request to the library: library@oa.uj.edu.pl RELATIVISTIC JETS IN AGNS

Eds. M. Ostrowski, M. Sikora, G. Madejski, M. Begelman, ISBN 83-908592-1-1

**PLASMA TURBULENCE AND ENERGETIC PARTICLES IN ASTROPHYSICS** Eds. M. Ostrowski & R. Schlickeiser, ISBN 83-908592-0-3

# **15. OTHER MEETINGS ON ASTRONOMICAL TOPICS**

#### **OBSERVING WITH THE VERY LARGE TELESCOPE INTERFEROMETER**

February 3-8, 2002, EuroWinter School at Les Houches, France.Contact: Guy Perrin, Observatoire de Paris, 5, place Jule Janssen, F 92190 Meudon,France.Tel.: 33 1 45 07 79 63Fax: 33 1 45 07 71 02

Tel.: 33 1 45 07 79 63 Fax: 33 1 Email: guy.perrin@obspm.fr http://www-laog.obs.ujf-grenoble.fr/~jmmc/obsvlti/

BLACK HOLES: THEORY CONFRONTS REALITY - THREE YEARS LATER

February 25-28, 2002, Institute for Theoretical Physics, University of California, Santa Barbara, CA 93106, USA.

*Contact:* Dorene Iverson, Institute for Theoretical Physics, UCSB, Santa Barbara CA 93106, USA.

Fax: 1 805 893 2431

Email: dorene@itp.ucsb.edu http://www.itp.ucsb.edu/activities/conferences/

Tel.: 1 805-893-3178

# INTERNATIONAL CONFERENCE ON LIGHT POLLUTION

March 5-7, 2002, La Serena, Chile.Contact: Hugo E. Schwarz, CTIO, Casilla 603, La Serena 4th Region, Chile.Tel.: 56 51 205200Fax: 56 51 205212Email: light@ctio.noao.eduhttp://www.opcc.cl

GALACTIC STAR FORMATION ACROSS THE STELLAR MASS SPECTRUM March 10-15, 2002, La Serena, Chile. *Contact:* James De Buizer, Cerro Tololo Inter-American Observ., 950 N. Cherry Ave., Tucson, AZ 85719, USA. Tel.: 56 51 205210 Fax: 56 51 205212 Email: jdebuizer@ctio.noao.edu http://www.ctio.noao.edu/~debuizer/Conference.html.

#### GALAXY EVOLUTION: THEORY AND OBSERVATIONS

April 8-12, 2002, Cozumenl, Mexico.Contact: Vladimir Avila-Reese, Institutio de Astronomia, UNAM, AP 70-264, MexicoDF 04510.Tel.: 52 56223916Fax: 52 56160653Email: galaxies@astroscu.unam.mxhttp://www.astroscu.unam.mx/galaxies/

### 5TH ALEXANDER FRIEDMANN INTERNATIONAL SEMINAR ON GRAVITATION AND COSMOLOGY April 24-30, 2002, Joao Pessoa, Brazil.

*Contact:* J.B. da Fonseca or V.M. Mostepanenko, Departamento de Fisica, CP 5008, Universidade Federal da Paraiba, Cidade Universitaria, Joao Pessoa, Paraiba 58059-970, Brazil. Tel.: 55 83 216-7542 Email: jfonseca@fisica.ufpb.br or mostep@fisica.ufpb.br http://www.fisica.ufpb.br/~jfonseca/friedmann

### **1ST POTSDAM THINKSHOP: SUNSPOTS AND STARSPOTS**

May 6-10, 2002, Potsdam, Germany. *Contact:* K.G. Strassmeier, Astrophysical Institute Potsdam (AIP), An der Sternwarte 16, Potsdam, Germany D 14482 Tel.: 49 331 7499 295 Email: kstrassmeier@aip.de http://www.aip.de/thinkshop

#### MASS-LOSING PULSATING STARS AND THEIR CIRCUMSTELLAR MATTER

May 13-16, 2002, Sendai, Japan. *Contact:* Munezo Seki, Astronomical Institute, Tohoku Univeristy, Aoba-ku, 980-8578 Sendai, Japan. Tel.: 81 22 217 6512 (Secretary) Fax: 81 22 217 6513 Email: wsloc@astr.tohoku.ac.jp http://www.astr.tohoku.ac.jp/ws2002/

#### **CLASSICAL NOVAE**

May 20-24, 2002, Sitges (Barcelona), Spain. *Contact:* Margarida Hernanz and Jordi Jose, Inst. Spatial Studies of Catalonia (IEEC-CSIC-UPC), C/Gran Capita, 2-4, E 08034 Barcelona, Spain. Tel.: 34 93 280 20 88 Fax: 34 93 280 63 95 Email: novaconf@ieec.fcr.es THE NATURE OF TIME: GEOMETRY, PHYSICS AND PERCEPTION (NATO ADVANCED RESEARCH WORKSHOP), May 21-24, 2002, Tatranska Lomnica, Slovak Republic. *Contact:* Dr. Metod Saniga, Astronomical Institute, Slovak Academy of Sciences, SK 05960 Tatranska Lomnica, Slovak Republic. Tel.: 421 52 4467 866 Email: msaniga@astro.sk http://www.astro.sk/~msaniga/nato\_arw/

#### **XXTH INTERNATIONAL CONFERENCE ON NEUTRINO PHYSICS AND ASTROPHYSICS** May 25-30, 2002, Munich, Germany.

*Contact:* Neutrino 2002 Conference Secretaries, Mrs. A. Fueldner and Mrs. S. Rodriguez, Technische Universität München, Physik Department E15, D 85747 Garching, Germany. Fax: 49 89 289 12680 Email: neutrino2002@ph.tum.de http://neutrino2002.ph.tum.de

#### **5TH MICROQUASAR WORKSHOP**

May 26-June 1, 2002, Cargese (Corrsica, France). *Contact:* Philippe Durouchoux, Service d'Astrophysique, CEA Saclay, F 91191 Gif sur Yvette, France . Tel.: 33 1 69 09 88 12 Fax: 33 1 69 08 65 77 Email: pdurouchoux@cea.fr

### SYMBIOTIC STARS PROBING STELLAR EVOLUTION

May 27-31, 2002, La Palma, Canary Island, Spain. *Contact:* R. Corradi, Isaac Newton Group of Telescopes, Apartado de Correos 321, Santa Cruz de la Palma, E 38700 Canary Islands, Spain. Tel.: 34 922 425461 Fax: 34 922 425401 Email: symbio@ing.iac.es http://www.ing.iac.es/conferences/symbiotics/

#### THE SEVENTH INTERNATIONAL SYMPOSIUM ON NUCLEI IN THE COSMOS (NIC7)

July 8-12, 2002, Fuji-Yoshida, Yamanashi, Japan.Contact: Shigeru Kubono, Center for Nuclear Study, Univ. of Tokyo, Hirosawa 2-1,Wako, 351-0198 Saitama, Japan.Tel.: 81 48 464 4542Fax: 81 48 464 4554Email: nic7@cns.s.u-tokyo.ac.jphttp://www.cns.s.u-tokyo.ac.jp/nic7

# PACIFIC RIM CONFERENCE ON STELLAR ASTROPHYSICS

July 11-17, 2002, Xi'an, China.Contact: Prof. Zhigang Li, Chair of Shaanxi Astronomical Observatory, 710600,China.Tel.: 86 29 3890207Fax: 86 29 3890196Email: lizgms.sxso.ac.cnhttp://bohr.physics.hku.hk/~xian2002

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STRINGS 2002 July 15-20, 2002, Cambridge, UK. *Contact:* Michael B. Green, DAMTP, Cambridge, Wilberforce Road, Cambridge, CB3 OWA UK. Tel.: 44 1223 37873 Fax: 44 1223 337918 http://www.damtp.cam.ac.uk/strings2002/

# THE EVOLUTION OF GALAXIES III: FROM SIMPLE APPROACHES TO SELF-CONSISTENT MODELS

July 16-20, 2002, Kiel, Germany. *Contact:* Gerhard Hensler, Universitat Kiel, Olshausenstr. 40, D 24098 Kiel, Germany Tel.: 49 431 88 04 125 Fax: 49 431 88 04 100 Email: hensler@astrophysik.uni-kiel.de http://www.daec.obspm.fr/ThreeConf.html

# 11TH UN/ESA WORKSHOP ON BASIC SPACE SCIENCE

September 9-13, 2002, Institute for Higher Space Studies, "J. Mario Gulich", Cordoba, Argentina. *Contact:* Prof. Hans J. Haubold, United Nations, Wagramerstr. 5 or PO Box 500, A-1400 Vienna, Austria. Tel.: 43 1 26060 4949 Fax: 43 1 26060 5830 Email: haubold@kph.tuwien.ac.at http://www.seas.columbia.edu/~ah297/un-esa

# CNO IN THE UNIVERSE

September 10-14, 2002, Saint-Luc (Valais, Switzerland). *Contact:* Georges Meynet, Geneva Observatory, 51, Ch. des Maillettes, Ch 1290 Sauverny, Switzerland. Email: cnoloc@obs.unige.ch http://obswww.unige.ch/cno

# STAR FORMATION THROUGH TIME

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