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UNION ASTRONOMIQUE INTERNATIONALE

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Preface

At the beginning of a new Triennium and after an outstandingly successful 27th General Assembly in Rio de Janeiro, we must start by congratulating and expressing our sincere thanks to the team of organisers of the GA, ably led by Daniela Lazzaro and Beatriz Barbuy. There are too many names to list everyone individually, and we hope that this collective "thank you" will suffice. At the same time, we note with great sadness that Francisco Xavier de Araújo ("Chico"), a founding member of the national Organising Committee and chair of the Sponsorship Sub-Committee, did not live to see his dream become reality. We have included Daniela's tribute to him in this Bulletin. The success of a GA cannot be measured solely in numbers, but it is worth recording that Rio had 2434 registered participants from 76 nations, of whom 796 were IAU members and 526 were students. With the new members admitted, we now have more than 10,000 individual members and 68 national members.

After each GA, we welcome new teams of people at all levels throughout the Union. We should never forget that the Divisions, Commissions, Working Groups and Programme Groups are the heart and soul of the Union, and it is they who will ensure that the IAU continues to be the effective international body for the global development of astronomy. It will be a challenging and interesting three years for us all, as the Union moves forward with its agreed programmes for the future. The new leaders of the Divisions, Commissions, Working Groups and Programme Groups are presented later in this Information Bulletin, and our thanks go to all of them for accepting their responsibilities.

I write this as 2009 draws to a close, and what a phenomenal year for the IAU! First of all, it was the International Year of Astronomy (IYA) which has achieved world-wide success on a scale we could not possibly have expected when the idea was first proposed by Franco Pacini and others, and enthusiastically adopted by the 25th General Assembly in Sydney, Australia. As the Year draws to a close, there are 147 National Nodes with 108 national web sites, 38 Organisational Nodes, and 33 Organisational Associates – truly, the IYA spanned the world! Even the most cursory glance at its dedicated web site shows a vast network of worldwide activities linked by the 12 Cornerstone projects. These have resulted in unprecedented interest and involvement in astronomy at all levels by amateurs, the general public, and above all by young people. IYA will have a powerful and long lasting legacy, and we have already started to build on the success with an active "Beyond the IYA" programme. Our most sincere thanks go to everyone involved in IYA.

2009 also saw the launch of the IAU Strategic Development Plan, welcomed and endorsed at the GA. This ambitious Plan, largely the brainchild of Vice-President George Miley, sees the IAU taking an even more pro-active role in using astronomy to stimulate interest in science and technology. Anyone who

has not read it is urged to do so as soon as possible – it is available on <http://iau.org/static/education/strategicplan_091001.pdf>. A start will be made in 2009-2010, but full implementation depends on additional resources being secured, and an active fund-raising campaign will be run in parallel. The announcement of opportunity to host the Office for Astronomy Development (OAD) has been sent to all National and Individual Members: it can be viewed on <http://iau.org/static/education/announcement_opportunity_oad.pdf>. If you would like to help in any way please contact George Miley.

We say farewell to the outgoing President, Catherine Cesarsky, and General Secretary, Karel van der Hucht, and thank them for their outstanding contribution to the IAU, explicitly recognized by so many people at the General Assembly. We are delighted that they will continue on the Executive Committee as advisers. We also say farewell to three Vice-Presidents, Beatriz Barbuy, Cheng Fang, and Brian Warner, who have contributed enormously to the work of the Union over six years of service, and we welcome their replacements on the Executive Committee.

We now look forward to the activities of the next three years. There is a full programme of symposia in 2010, and we are in the process of selecting the symposia for 2011 from a very strong list of proposals. We have already visited our colleagues in Beijing who will be responsible for organising the General Assembly from 20 to 31 August 2012 and have seen the outstanding facilities offered by the Chinese National Convention Centre situated in the Olympic Park area. We can be confident that the 2012 GA will be another memorable event, with a vigorous scientific programme, and I would take the opportunity to remind you that there is less than a year to go to the closing date for the submission of proposals for 2012.

The 2015 GA is in the experienced hands of our colleagues from the American Astronomical Society, and preparations for that event in Honolulu, Hawai'i, have already started.

Truly, there is much to celebrate from the past, and much to look forward to in the future. Despite the global financial problems, astronomy is in good health and continues to attract public interest and support worldwide. Major new facilities will come on stream, existing facilities will continue to be enhanced, and plans for further advances will continue to be developed and put forward for funding. Long may this continue, and long may the IAU play its part .....

Ian Corbett
General Secretary, December 2009.

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Proposals for IAU Symposia in 2012 should reach the Assistant General Secretary
via the IAU Proposal Web Server
<http://www.iau.org/science/meetings/proposals/lop/>
before 1 December 2010

Letters-of-Intent should be submitted to the IAU web page
<www.iau.org/science/meetings/proposals/loi>
before 15 September 2010
See: <www.iau.org/science/meetings>

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2010

6-9 Jan	**IAU S269, *Galileo's Medicean Moons – their impact on 400 years of Discovery***, *Padova, Italy*
9-10 Jan	Official Closing Ceremony of IYA2009, *Padova, Italy*
15 Jan	Deadline for applications for the Peter and Patricia Gruber Foundation Fellowship 2010
25-27 Jan	Officers' Meeting at IAU Secretariat, *Paris, France*
1 Feb	Due date for agenda items and documents for Officers' Meeting and 88th EC Meeting, 11-13 May 2010
28 Feb	Due date for submission of full proposals to host the Office for Astronomy Development. See: http://iau.org/static/education/announcement_opportunity_oad.pdf
1 May	Due date for contributions to IAU IB 106
3-7 May	**IAU S270, *Computational star formation – playing by the numbers?*** *Barcelona, Spain*
11-13 May	EC88 in *Baltimore, USA*
21-25 June	**IAUS 271, *Astrophysical dynamics – from stars to galaxies***, *Nice, France*
19-23 July	**IAU S272, *Active OB stars – structure, evolution, mass loss, and critical limits***, *Paris, France*
23-26 Aug	**IAU S273, *Physics of Sun and star spots***, *Los Angeles, USA*
6-10 Sep	**IAU S274, *Advances in plasma astrophysics***, *Catania, Italy*
13-17 Sep	**IAU S275, *Jets at all scales***, *Buenos Aires, Argentina*
15 Sep	Due date for Letters of Intent proposing IAU Symposia in 2012
20-24 Sep	**IAU S276, *The Astrophysics of planetary systems formation, structure, and dynamical evolution***, *Torino, Italy*
1 Nov	Due date for contributions to IAU IB 107
1 Nov	Due date for agenda items and documents for Officers' Meeting, January 2011

8-12 Nov	**XIII Latin American Regional IAU Meeting (LARIM 2010)**, *Morelia, Mexico*
30 Nov	Due date for applications for the Peter and Patricia Gruber Foundation Fellowship 2011
1 Dec	Due date for proposals for IAU Symposia in 2012
13-17 Dec	**IAU S277, *Tracing the ancestry of galaxies (on the land of our ancestors)***, *Ouagadougou, Burkina Faso*
15 Dec	Deadline for nominations for the Peter and Patricia Gruber Foundation Cosmology Prize 2011

2011

10-14 April	**2nd Middle East Africa Regional IAU Meeting (MEARIM 2011)**, *Cape Town, South Africa*
24-26 May	EC89 with Division Presidents, Prague, Czech Republic
26-29 July	**XI Asian-Pacific Regional IAU Meeting (APRIM 2011)**, *Chiang Mai, Thailand*

2012

20-31 Aug	**IAU XXVIII General Assembly**, *Beijing, China*

2015

3-14 Aug	**IAU XXIX General Assembly,** *Honolulu, Hawai'i, USA* (dates provisional)

1. INTRODUCTION BY INCOMING PRESIDENT (R. Williams)

Incoming President's Speech at the XXVII IAU General Assembly Closing Ceremony

We are now more than halfway through the International Year of Astronomy and near the end of the General Assembly. This is a good time to take stock of where we are as a community and an organization. Let me begin by saying that I have been impressed with the different ways that many of you have employed to bring astronomy and discovery to the public. The efforts at all levels have been impressive, and there are many contributions that merit acknowledgement. From my standpoint on the Executive Committee, I must begin by thanking Catherine Cesarsky for her efforts, which repeatedly took her around the globe. Her energy on behalf of the IYA and the Union has been remarkable.

Also deserving of comment is the unusual dedication without fanfare of the job that Karel van der Hucht has done as General Secretary. The Paris office went through serious turmoil with the death of our longtime executive assistant, and the way that Karel kept his focus on the job was exemplary. As one of the people who stood to be most affected by a meltdown in the Paris office, I spent some days fearing the worst. It did not happen, and Karel's and our new assistant Vivien Reuter's steadfast, knowledgeable attention to details was a key part of the current healthy state of the IAU.

Then, there are you, the members: the core of the Union. American filmmaker Woody Allen once remarked: 85% of success is showing up. You showed up – both for the IAU and IYA activities. We hope you continue to show up, because this Union has many worthy programmes that need your ingenuity and work, and we hope you participate in those for which you have interest and expertise.

This is an appropriate time to ask ourselves: where should the Union head in the future? Which programs might be expanded, and what new initiatives might we think of undertaking? The Executive Committee has been discussing Union priorities for the past two years, and several relevant events took place at this General Assembly. The first was the revision to the Bye-Laws that in the future allows for electronic voting on non-budgetary matters. We are developing tools that will enable more electronic communication and interaction between the divisions and commissions and the Paris office to take place. There is a divergence of opinions on whether e-voting should be used for scientific issues. The Executive Committee is still debating this issue. The basic question is whether the virtue of inclusiveness of members who are not at the GA outweighs the disadvantage of not being present for a live debate of issues. Some of us feel that both features can be accommodated by supplementing the GA debate with electronic debates on our website for a period after the GA, which would allow all members to vote on scientific issues. The option of allowing electronic votes

on certain issues such as division and commission elections will definitely be pursued.

Another significant event of this General Assembly has been the adoption of a long-range strategy for the IAU. At this GA, we conducted a town hall meeting to discuss the Strategic Plan that a group of members appointed by the Executive Committee and led by Vice President George Miley has developed. The Plan is titled "World Wide Development of Astronomy," and it has just been approved by you by means of a resolution. Astronomy development is not a new activity for the Union, but we will be expanding our efforts in support of the development of astronomy, especially in the area of science education. Specifically, we are trying to arrange for the funding of a Global Development Office that will coordinate a range of activities around the world to be carried out by IAU members.

The International Year of Astronomy has demonstrated the value of engaging the public. The IYA has brought the IAU further into public outreach than ever before. The constant struggle between science and superstition has important consequences for society, therefore the IAU should be deeply involved in educating the public. For some years, the IAU has carried out development activities through Commission 46 initiatives. The Executive Committee wants to strengthen our programmes of International School for Young Astronomers (ISYA), Teaching for Astronomy Development (TAD), and World Wide Development of Astronomy (WWDA), which have made a large contribution to science education in many countries. In order to expand Union efforts in this area, we plan to seek external funding.

The IAU will continue to support the professional astronomy community through our long-standing sponsorship of symposia and issuance of travel grants. A large fraction of Union resources continues to flow back to the members through these grants. This is because the success of the Union depends not so much on the officers and the Executive Committee as on you, the members. We need your participation, and especially the ideas and energy of early career astronomers. Please continue to put forth your ideas and push your initiatives to keep the IAU active. Our mission is to understand the universe and pass this along to society. In doing so, we expose them to a way of thinking that pushes back superstition and confronts preconceived ideas when they are not supported by facts, teaching the importance of being open to new facts and concepts.

This, I believe, is our core mission and I look forward to working with you to accomplish it.

Robert Williams

2. CELEBRATION OF THE INTERNATIONAL YEAR OF ASTRONOMY IN VATICAN CITY

The Governorate of the Vatican City State and the Vatican Observatory organised a celebration of the International Year of Astronomy in Vatican City on 30 and 31 October and invited a group of astronomers, including the Past-President, Past-General Secretary and present General Secretary of the IAU. The two-day event included an address at the Pontifical Academy of Sciences by Prof. John Huchra of Harvard-Smithsonian Center for Astrophysics, President of the American Astronomical Society, with the title "From Galileo to Hubble: Astronomy in the 21st Century." This was followed by a private audience with Pope Benedict XVI who gave a short address to the assembled visitors. His address is reproduced in full below.

The program included a tour of the Tower of the Winds at the Vatican, built in 1582 at the time of the Gregorian Reform of the Calendar and first location of the Vatican Observatory; a visit to the Vatican Secret Archives, the Sistine Chapel, and the exhibition ASTRUM 2009 at the Vatican Museums. On display in this exhibition there are 130 items, including Galileo Galilei's original handwritten notes detailing his observations of the Moon, and his publication "Starry Messenger" from 1610.

On 31 October, the group toured the Vatican Gardens at Castel Gandolfo and visited the new headquarters of the Vatican Observatory, inaugurated by Pope Benedict XVI on 16 September.

The Pope's address

"Your Eminence,
Ladies and Gentlemen,

I am pleased to greet this assembly of distinguished astronomers from throughout the world meeting in the Vatican for the celebration of the International Year of Astronomy, and I thank Cardinal Giovanni Lajolo for his kind words of introduction. This celebration, which marks the four hundredth anniversary of Galileo Galilei's first observations of the heavens by telescope, invites us to consider the immense progress of scientific knowledge in the modern age and, in a particular way, to turn our gaze anew to the heavens in a spirit of wonder, contemplation and commitment to the pursuit of truth, wherever it is to be found.

Your meeting also coincides with the inauguration of the new facilities of the Vatican Observatory in Castel Gandolfo. As you know, the history of the Observatory is in a very real way linked to the figure of Galileo, the controversies which surrounded his research, and the Church's attempt to attain a correct and fruitful understanding of the relationship between science and religion.

I take this occasion to express my gratitude not only for the careful studies which have clarified the precise historical context of Galileo's condemnation, but also for the efforts of all those committed to ongoing dialogue and reflection on the complementarity of faith and reason in the service of an integral understanding of man and his place in the universe. I am particularly grateful to the staff of the Observatory, and to the friends and benefactors of the Vatican Observatory Foundation, for their efforts to promote research, educational opportunities and dialogue between the Church and the world of science.

The International Year of Astronomy is meant not least to recapture for people throughout our world the extraordinary wonder and amazement which characterized the great age of discovery in the sixteenth century. I think, for example, of the exultation felt by the scientists of the Roman College who just a few steps from here carried out the observations and calculations which led to the worldwide adoption of the Gregorian calendar. Our own age, poised at the edge of perhaps even greater and more far-ranging scientific discoveries, would benefit from that same sense of awe and the desire to attain a truly humanistic synthesis of knowledge which inspired the fathers of modern science. Who can deny that responsibility for the future of humanity, and indeed respect for nature and the world around us, demand – today as much as ever – the careful observation, critical judgement, patience and discipline which are essential to the modern scientific method? At the same time, the great scientists of the age of discovery remind us also that true knowledge is always directed to wisdom, and, rather than restricting the eyes of the mind, it invites us to lift our gaze to the higher realm of the spirit.

Knowledge, in a word, must be understood and pursued in all its liberating breadth. It can certainly be reduced to calculation and experiment, yet if it aspires to be wisdom, capable of directing man in the light of his first beginnings and his final ends, it must be committed to the pursuit of that ultimate truth which, while ever beyond our complete grasp, is nonetheless the key to our authentic happiness and freedom (cf. Jn 8:32), the measure of our true humanity, and the criterion for a just relationship with the physical world and with our brothers and sisters in the great human family.

Dear friends, modern cosmology has shown us that neither we, nor the earth we stand on, is the centre of our universe, composed of billions of galaxies, each of them with myriads of stars and planets. Yet, as we seek to respond to the challenge of this Year – to lift up our eyes to the heavens in order to rediscover our place in the universe – how can we not be caught up in the marvel expressed by the Psalmist so long ago? Contemplating the starry sky, he cried out with wonder to the Lord: 'When I see your heavens, the work of your fingers, the moon and the stars which you set in place, what is man that you should be mindful of him, or the son of man, that you should care for him?' (Ps 8:4-5). It is my hope that the wonder and exaltation which are meant to be the fruits of this

International Year of Astronomy will lead beyond the contemplation of the marvels of creation to the contemplation of the Creator, and of that Love which is the underlying motive of his creation – the Love which, in the words of Dante Alighieri, 'moves the sun and the other stars' (Paradiso XXXIII, 145). Revelation tells us that, in the fullness of time, the Word through whom all things were made came to dwell among us. In Christ, the new Adam, we acknowledge the true centre of the universe and all history, and in him, the incarnate Logos, we see the fullest measure of our grandeur as human beings, endowed with reason and called to an eternal destiny.

With these reflections, dear friends, I greet all of you with respect and esteem, and I offer prayerful good wishes for your research and teaching. Upon you, your families and dear ones I cordially invoke Almighty God's blessings of wisdom, joy, and peace."

3. SYMPOSIUM *"ASTRONOMY AND ITS INSTRUMENTS BEFORE AND AFTER GALILEO"*

San Servolo Island, Venice, Italy, 28 September – 3 October 2009
Opening Address
Karel A. van der Hucht, past IAU General Secretary

Nature has given us eyes. Or more accurately: nature has given itself eyes. In his book *Voices from the Sky* (New York: Harper & Row, 1965, p. 10), the late Arthur Clarke quotes: *"… I think, man will see himself as one agent by which the whole Universe of matter is slowly becoming conscious of itself …"*

It is only a few hundred thousand years ago that our ancestors started to walk on two feet. That must have made it easier than before to look up at the sky and to marvel at the daily appearance of the Sun and the Moon, the planets and the stars. Throughout history, astronomical phenomena have amazed mankind on all continents, and in one way or another astronomical phenomena feature in all cultures throughout the world. Naked-eye astronomical observations in the western world predating the 17th century culminated in the scientific work of Copernicus, Tycho Brahe, Johannes Kepler, and many others.

The invention and use of the telescope caused a mega jump of progress in observational astronomy. It took a while to get that far: glass was invented as early as 7000 years ago; clear transparent glass was first produced some 2000 years ago; the magnifying aspects of curved glass were discovered only some 900 years ago; and the application of curved glass for spectacle glasses was introduced some 700 years ago, by the Dominican Alessandro di Spino in 1285. And, as we all know, Venice played a dominant role in glass production.

It may have been the Dutch spectacle glass maker Hans Lipperhey, who produced the first optical telescope in 1608. Anyhow, in 1609 the great Italian scientist Galileo Galilei was the first to interpret astronomical observations he made with a telescope, not far from here. The world commemorates and celebrates that crucial event in the history of mankind in this very year, 2009, the *International Year of Astronomy*, recognized as such by the United Nations and facilitated and promoted by the IAU and UNESCO.

Since 1608, the construction and use of optical telescopes has blossomed steadily, culminating in the present-day 10m-class optical ground-based telescopes and in studies for 40m-class telescopes. Moreover, and notably since the 1950s, telescopes, camera's and detectors for the entire electromagnetic spectrum have been built and employed in ground-based and space-based observatories, in near-Earth orbits and in orbits throughout the Solar System. Early examples are the aging spacecrafts *Voyager-1* and *Voyager-2*, launched 32 years ago to visit and observe the major planets. Having left the Solar System already a few years ago "to boldly go where no one went before," *Voyager-1* and *Voyager-2* are still transmitting signals back to Earth today.

We are fortunate that the world's tax payers allow us to build and operate great astronomical observatories. The role of scientific discovery is accelerating continuously. We will address such matters here in Venice this week.

On behalf of the International Astronomical Union, I do wish you all a most instructive and pleasant symposium. Thank you very much.

4. ASTRONOMERS AND CLIMATE CHANGE

Tony Moffat, Professeur émérite, Université de Montréal, Canada

According to the UN-created International Panel on Climate Change (IPCC) and other reliable sources, there is no doubt now that Climate Change is definitely underway due mainly to anthropogenic emissions of greenhouse gases into the Earth's biosphere. If humanity does not act very soon and revert to more sustainable practices, we will leave a difficult, if not catastrophic, world for our progeny. How incredibly short-sighted and selfish this would be!

As scientists in general and astronomers in particular, we possess considerably more understanding than the average person and even than academics in other pursuits, of what's really at stake here. It is therefore surely incumbent on us to take a stand and become active in the solution of Climate Change. Yet I have the impression that we are acting in the vein of "business as usual," with little regard for our impact on Climate Change. We seem to be travelling more than ever (especially by airplane with a heavy carbon footprint) to increasing numbers

of meetings for science, evaluations and administration. We seem to be printing more documents than ever (despite computers). These are just two activities that appear most crucial to me; there are probably many more.

Surely then, one could expect that a body like the International Astronomical Union (IAU) should take a stand and make a clear statement on how astronomers can relate to Climate Change, which like the IAU, knows no borders. I would also like to see more concrete and significant, real and immediate, coordinated action towards solutions of the Climate Change problem on the part of astronomers, as represented by the IAU, their largest world voice.

5. PRIZES

5.1 THE PPGF COSMOLOGY PRIZE

The Peter and Patricia Gruber Foundation cosmology prize honors a leading cosmologist, astronomer, astrophysicist or scientific philosopher for theoretical, analytical, conceptual or observational discoveries leading to fundamental advances in our understanding of the universe. The gold medal and unrestricted $500,000 cash prize are presented annually. Since 2001, the Cosmology Prize has been cosponsored by the International Astronomical Union. The closing date for nominations is 31 December, 2010. For more information, please see: http://www.petergruberfoundation.org/GruberPrizes/Cosmology.php

5.2 YOUNG ASTROPHYSICISTS' PRIZES

Commission 19 (Astrophysics) of the International Union of Pure and Applied Physics plans to present two young scientists' prizes in astrophysics for 2009 and 2010 at the 25th Texas Symposium on Relativistic Astrophysics in Heidelberg in December 2010. Each prize will consist of 1000 euros, a medal, and probably an invitation to speak at the conference.

Criteria are
- Outstanding contributions by the individual
- Fewer than 8 years of post-PhD research by December 2009 (for the 2009 prize) or by December 2010 (for the 2010 prize). Interruptions for military service, family emergencies, etc. (but not teaching) are allowed.

A nomination package consists of
- A letter from the nominator outlining the reasons for the nomination
- A complete CV and list of publications
- Two supporting letters, at least one of which must come from someone not at the nominee's institution and not a mentor or significant collaborator.

Self-nominations are not permitted, but a candidate could ask a mentor or colleague to provide a nomination.

Nomination packages should be sent either electronically to the C19 chair, Victoria Fonseca <fonseca@gae.ucm.edu> or as paper to the selection committee chair Virginia Trimble (Physics Dept., University of California, Irvine, CA 92697, USA) so as to arrive by 1 June, 2010. The winners will be selected and notified over the next few weeks.

5.3 VIKTOR AMBARTSUMIAN INTERNATIONAL PRIZE

A new international prize in astronomy has been established by the President of Armenia. The prize of USD 500,000 will be awarded every two years, beginning in September 2010, to outstanding scientists of any country or nationality who have made "a significant contribution in physical-mathematical sciences." The prize is awarded for work presented by an individual or group of not more than than three authors, on condition that the work has not already been presented for another international prize.

Nominations may be submitted by university councils and departments, scientific councils of astronomical observatories, the directorates of national science academies, and Nobel Prize winners. The deadline for nominations is 18 March, 2010. Documents should be submitted to: V.A. Ambarsumian Prize Committee, Presidium of the National Academy of Sicences, Marshal Barghramjan ave. 24, Yerevan 0019, Republic of Armenia. The decision will be made before 18 July 2010, and the award ceremony will take place on 18 September, 2010.

Contact: Areg M. Micaelian, Scientific Secretary of the Viktor Amartsumian prize committee, T. +374 - 91 - 195914 ; email: aregmick@aras.am or Anush A. Mikayalyan, Exective Secretary of the Viktor Amartsumian prize committee, T. +374 - 91 - 195911 ; email: anushmikayelyan@yahoo.com or vaprize@sci.am
Official webpage: http://vaprize.sci.am

6. IAU GENERAL ASSEMBLIES

IAU XXVII General Assembly, Rio de Janeiro, Brazil, 3 – 14 August 2009

6.1 Brief report

The XXVII General Assembly of the IAU was held in the Centro de Convenções SulAmérica, Rio de Janeiro from 3-14 August 2009. By any standards it can be regarded as a success for both organisers and participants, and our sincere thanks go to the local organisers led by Daniela Lazzaro and

Beatriz Barbuy. They did a great job! There were 2434 registered attendees, of whom 796 were IAU members and 526 were students. They came from 76 nations, with 414 from Brazil, and 667 were female (27.4%).

The full programme of the General Assembly was given in IB 104, available on the IAU web site. There were six Symposia (IAUS 262 – 267), 16 Joint Discussions, 10 Special Sessions, and 7 scientific sessions in the course of Divisional Business meetings. Divisions, Commissions and Working groups held their usual Business meetings spread throughout the GA. National Members' Representatives held 2 meetings, and there were 2 meetings of the Finance Committee and of the Nominating Committee.

The dynamic and dramatic Inaugural Ceremony was honoured by addresses from national dignitaries and saw the award of the Peter and Patricia Gruber Foundation Cosmology Prize 2009 and the Foundation Fellowship 2009.

The General Assembly took place as usual in two sessions. The first session admitted four new National Members with Interim Status – Costa Rica, Honduras, Panama and Vietnam. We extend a warm welcome to them and note that they bring the total number of National Members to 68. This session of the General Assembly also approved some revisions to the Statutes and Bye-Laws (given later in this Information Bulletin).

On 13 August 2009, the number of IAU Individual Members was 9259, and IAU National Members nominated 882 new Individual Members. In addition, IAU Division Presidents nominated 5 new Individual Members. After being scrutinised by the Nominating Committee, they were recommended for admission. At its second session, General Assembly approved the membership of the nominees, bringing the total individual membership to 10,144. The second session of the GA approved the accounts for 2006 - 2009 and the new IAU budget for 2009-2012 in euros, with details given later in this Bulletin. The GA adopted the proposed unit of contribution as set out in the budgets: 2540 EUR in 2010; 2616 EUR in 2011; and 2695 EUR in 2012.

The Proceedings of the 6 Symposia will be published by Cambridge University Press in the IAU Proceedings series. The Proceedings of the Joint Discussions and the Special Sessions will be published by CUP as Highlights of Astronomy Volume 15, and the Proceedings of the General Assembly itself will be published by CUP as Transactions of the IAU Volume XXVIIB.

6.2 IAU Strategic Plan "Astronomy for the Developing World"

With Resolutions B1 and A1, the GA approved the principles of the Strategic Development Plan and authorised its implementation. The address given by its leading exponent, George Miley, at the Closing Ceremony is reproduced here:

On behalf of the Executive Committee and particularly of Bob Williams and Catherine Cesarsky, I thank you for passing the two resolutions endorsing our new decadal strategic plan "Astronomy for the Developing World" (http://www.iau.org/static/education/strategicplan_090727.pdf).

I have described the plan at length on several occasions during this General Assembly, and I shall not repeat this description here. The plan is an ambitious, flexible and credible blueprint for using astronomy to stimulate sustainable global development. It contains a long term vision, achievable goals and a comprehensive new strategy for attaining these goals. An important element of the strategy is a regional bottom-up approach. The plan will be implemented with an effective and lean organisational structure subject to professional oversight.

Passing the resolutions is only the beginning. Now comes the hard work, and I ask you to help with this. Please go home and discuss the plan with the directors of your institutes and the governing bodies of your universities. Is your institute willing to participate in a long-term twinning scheme with a physics department in a developing country or to fund your staff to give inspirational lectures in a poorer region of the world? Would your department be prepared to function as a regional node or maybe even provide matching funds and host the new Global Astronomy for Development Office? In seeking funding for such activities, please talk to your governments. The rationale for development activities is relevant to government departments that you may not ever have approached before, such as Ministries of International Development or Foreign Affairs. Maybe a bilateral treaty involving your country could be used to fund astronomy development activities. If we in the IAU can help you in these fund raising activities, please let us know.

In seeking resources for the plan, we must be creative. Among the organisations and people to approach are international and national development foundations, multinational companies operating in developing countries, international and regional development agencies and credible philanthropists.

I now address those of you who are involved in proposing new astronomical facilities, on the ground and in space. When writing your proposals, please consider earmarking a few percent of the budget for astronomy development programmes. Devoting a tiny fraction of astronomical resources to global development and education enhances the image of astronomy as a whole and make politicians more receptive to astronomy research proposals.

As we embark on raising funds in support of the plan, it is important to have strong arguments ready to use. In her beautiful address at the opening of this General Assembly, Catherine Cesarsky touched on a few of the reasons why astronomy is of benefit to society. The closing ceremony is a fitting time to

summarise more generally the rationale for astronomy presented in our plan and illustrated on its front and back covers.

Astronomy provides an inspirational and unique gateway to technology science and culture, three fundamental characteristics of developed nations.

- The Universe provides an inexpensive laboratory for studying extreme conditions that are inaccessible on Earth. Stars and galaxies are environments that have produced the chemical elements around us and formed organic molecules, the building blocks of life. During the last century, astronomical studies have led to new discoveries in physics, chemistry and biology and to the creation of the new sciences of astrophysics, astrochemistry and astrobiology. Because of its mathematical basis, astronomy is also an excellent tool for teaching mathematics. Access to several of the most sophisticated astronomical facilities and data archives are open to all. Hence, astronomy enables every country to become involved in *forefront scientific research* at very little cost.
- Astronomy is an important driver for the development of *advanced technology*, such as the most sensitive detectors of light and radio waves and the fastest computers. The need to study the faintest objects possible requires sophisticated electronics and extreme-precision adaptive optics as well as state--of-the-art engineering and innovative software algorithms. Astronomy has also played an important role in the development of space technology that has opened up the Universe for study across the whole electromagnetic spectrum and driven developments in and miniaturization. Modern optical and radio telescopes are among the most advanced machines ever built and are outstanding educational vehicles for becoming familiar with the latest complex technology.
- Astronomy also contributes substantially to modern *culture* and is relevant to several topical issues of present-day society.
    - Astronomers are the ultimate historians. Large telescopes are "time machines" that routinely provide pictures and other information about of the observable Universe close to its "birth," 13.7 billion years ago. Unraveling the history of the Universe has been a crowning achievement of humankind during the last half-century.
    - One of the most important societal functions of modern astronomy is as a tool for education in the broadest sense. Because it is one of the most approachable of sciences, and one that consistently fascinates young people, astronomy is an excellent vehicle for introducing science and technology to children. The accessibility of the sky, the beauty of cosmic objects and the immensity of the Universe are inspirational and provide a perspective that encourages internationalism and tolerance. The excitement of astronomy has stimulated large numbers of young people to choose a career in science and technology, thereby contributing to the "knowledge economy" of many countries.

The South African government's 1996 policy on science & technology puts the cultural argument for astronomy succinctly: "It is important to maintain a basic science competence in 'flagship' sciences such as physics and astronomy for cultural reasons. Not to offer them would be to take a negative view of our future – the view that we are a second-class nation, chained forever to the treadmill of feeding and clothing ourselves."

By mobilizing large numbers of talented and creative scientists, engineers and teachers in the service of our global society, "Astronomy for Development" will be a cost effective spinoff of one of the most profound adventures of our civilization – the exploration of the Universe.

Ladies and gentlemen, the slogan of IYA is "the Universe – yours to discover." A fitting slogan for this IAU decadal plan is "Exploring our Universe for the benefit of humankind."

George Miley <miley@strw.leidenuniv.nl>, IAU Vice President for Education and Development

6.3 Revisions of IAU Statutes, Bye-Laws and Working Rules

These are available on <http://www.iau.org/administration/statutes_rules/> and need not be reproduced in full.

6.4 Resolutions adopted by the IAU XXVI General Assembly

RESOLUTION B1 : On the IAU Strategic Plan: Astronomy for the Developing World

The XXVII General Assembly of the International Astronomical Union,

recognizing

1. the goal of the IAU to encourage the development of astronomy and facilitate better understanding of the universe,
2. that the current activities of the International Year of Astronomy 2009 have made great strides in advancing knowledge of astronomy among citizens of all nations and awareness of its value to society,
3. that science education and research is an essential component of modern technological and economic development,

therefore resolves that the IAU should

1. place increasing emphasis on programs that advance astronomy education in developing countries,
2. approve the goals specified in the Strategic Plan "Astronomy for the Developing World" as objectives for the IAU in the coming decade,
3. assess programs undertaken during the IYA to determine which activities are most effective in advancing astronomy.

RESOLUTION A1 : On Implementing the IAU Strategic Plan

The XXVII General Assembly of the International Astronomical Union,

recognizing

1. the goal of the IAU to encourage the development of astronomy and facilitate better understanding of the universe,
2. that the current activities of the International Year of Astronomy 2009 have made great strides in advancing knowledge of astronomy among citizens of all nations and awareness of its value to society,
3. that science education and research is an essential component of modern technological and economic development,
4. Resolution B1 adopting the IAU Strategic Plan Astronomy for the Developing World passed by the XXVII General Assembly,

therefore resolves that the IAU should

1. give high priority to supporting the development of astronomy infrastructure in emerging nations,
2. proceed with the implementation of the IAU Strategic Plan Astronomy for the Developing World through the creation of a Global Development Office and seek appropriate additional resources for implementing the plan.

Resolution B2 : On IAU 2009 astronomical constants

The XXVII General Assembly of International Astronomical Union,

considering

1. the need for a self-consistent set of accurate numerical standards for use in astronomy,
2. that improved values of astronomical constants have been derived from recent observations and published in refereed journals, and

3. that conventional values have been adopted by IAU GA 2000 and IAU GA 2006 resolutions for a number of astronomical quantities,

recognizing

1. the continuing need for a set of Current Best Estimates (CBEs) of astronomical numerical constants, and

2. the need for an operational service to the astronomical community to maintain the CBEs

recommends

1. that the list of previously published constants compiled in the report of the Working Group on Numerical Standards of Fundamental Astronomy (see http://maia.usno.navy.mil/NSFA/CBE.html) be adopted as the IAU (2009) System of Astronomical Constants,

2. that Current Best Estimates of Astronomical Constants be permanently maintained as an electronic document,

3. that, in order to ensure the integrity of the CBEs, IAU Division I develop a formal procedure to adopt new values and archive older versions of the CBEs, and

4. that the IAU establish within IAU Division I a permanent body to maintain the CBEs for fundamental astronomy.

RESOLUTION B3 : On the Second Realization of the International Celestial Reference Frame

The International Astronomical Union XXVII General Assembly,

noting

1. that Resolution B2 of the XXIII General Assembly (1997) resolved "That, as from 1 January 1998, the IAU celestial reference system shall be the International Celestial Reference System (ICRS),"

2. that Resolution B2 of the XXIII General Assembly (1997) resolved that the "fundamental reference frame shall be the International Celestial Reference Frame (ICRF) constructed by the IAU Working Group on Reference Frames,"

3. that Resolution B2 of the XXIII General Assembly (1997) resolved "That IERS should take appropriate measures, in conjunction with the IAU Working Group on reference frames, to maintain the ICRF and its ties to the reference frames at other wavelengths,"

4. that Resolution B7 of the XXIII General Assembly (1997) recommended "that high-precision astronomical observing programs be organized in such a way that astronomical reference systems can be maintained at the highest possible accuracy for both northern and southern hemispheres,"

5. that Resolution B1.1 of the XXIV General Assembly (2000) recognized "the importance of continuing operational observations made with Very Long Baseline Interferometry (VLBI) to maintain the ICRF,"

recognizing

1. that since the establishment of the ICRF, continued VLBI observations of ICRF sources have more than tripled the number of source observations,

2. that since the establishment of the ICRF, continued VLBI observations of extragalactic sources have significantly increased the number of sources whose positions are known with a high degree of accuracy,

3. that since the establishment of the ICRF, improved instrumentation, observation strategies, and application of state-of-the-art astrophysical and geophysical models have significantly improved both the data quality and analysis of the entire relevant astrometric and geodetic VLBI data set.,

4. that a working group on the ICRF formed by the International Earth Rotation and Reference Systems Service (IERS) and the International VLBI Service for Geodesy and Astrometry (IVS), in conjunction with the IAU Division I Working Group on the Second Realization of the International Celestial Reference Frame has finalized a prospective second realization of the ICRF in a coordinate frame aligned to that of the ICRF to within the tolerance of the errors in the latter (see note 1),

5. that the prospective second realization of the ICRF as presented by the IAU Working Group on the Second Realization of the International Celestial Reference Frame represents a significant improvement in terms of source selection, coordinate accuracy, and total number of sources, and thus represents a significant improvement in the fundamental reference frame realization of the ICRS beyond the ICRF adopted by the XXIII General Assembly (1997),

resolves

1. that from 01 January 2010 the fundamental astrometric realization of the International Celestial Reference System (ICRS) shall be the Second Realization of the International Celestial Reference Frame (ICRF2) as constructed by the IERS/IVS working group on the ICRF in conjunction with the IAU Division I Working Group on the Second Realization of the International Celestial Reference Frame (see note 1),

2. that the organizations responsible for astrometric and geodetic VLBI observing programs (e.g. IERS, IVS) take appropriate measures to continue existing and develop improved VLBI observing and analysis programs to both maintain and improve ICRF2,

3. that the IERS, together with other relevant organizations continue efforts to improve and densify high accuracy reference frames defined at other wavelengths and continue to improve ties between these reference frames and ICRF2.

Note 1: The Second Realization of the International Celestial Reference Frame by Very Long Baseline Interferometry, Presented on behalf of the IERS / IVS Working Group, Alan Fey and David Gordon (eds.). (IERS Technical Note ; 35) Frankfurt/Main: Verlag des Bundesamts für Kartographie und Geodäsie, 2009. See: <www.iers.org/MainDisp.csl?pid=46-25772> or <hpiers.obspm.fr/icrs-pc/> .

RESOLUTION B4 : On Supporting Women in Astronomy

The International Astronomical Union XXVII General Assembly,

recalling

1. the UN Millennium Development Goal 3: promote gender equality and empower women,

2. the IAU/UNESCO International Year of Astronomy 2009 goal 7: improve the gender-balanced representation of scientists at all levels and promote greater involvement by underrepresented minorities in scientific and engineering careers,

recognizing

1. that individual excellence in science and astronomy is independent of gender,

2. that gender equality is a fundamental principle of human rights,

considering

1. the role of the IAU Working Group for Women in Astronomy,

2. the role of the IYA2009 Cornerstone Project She is an Astronomer,

Resolves

1. that IAU members should encourage and support the female astronomers in their communities,

2. that IAU members and National Representatives should encourage national organisations to break down barriers and ensure that men and women are given equal opportunities to pursue a successful career in astronomy at all levels and career steps.

RESOLUTION B5 : In Defence of the night sky and the right to starlight

The International Astronomical Union XXVII General Assembly,

recalling

1. the IAU/UNESCO International Year of Astronomy 2009 goal 8: facilitate the preservation and protection of the world's cultural and natural heritage of dark skies in places such as urban oases, national parks and astronomical sites,
2. the Declaration approved during the International Conference in Defence of the Quality of the Night Sky and the Right to Observe Stars (La Palma, Canary Islands, 2007),

recognising that

1. the night sky has been and continues to be an inspiration of humankind, and that its contemplation represents an essential element in the development of scientific thought in all civilisations,
2. the dissemination of astronomy and associated scientific and cultural values should be considered as basic content to be included in educational activities,
3. the view of the night sky over most of the populated areas of the Earth is already compromised by light pollution, and is under further threat in this respect,
4. the intelligent use of unobtrusive artificial lighting that minimises sky glow involves a more efficient use of energy, thus meeting the wider commitments made on climate change, and for the protection of the environment,
5. tourism, among other players, can become a major instrument for a new alliance in defence of the quality of the nocturnal skyscape,

considering

1. the role of the IAU Division XII Commission 50 and its WG Controlling Light Pollution,
2. the role of the IYA2009 Cornerstone Project Dark Skies Awareness,

resolves that

1. an unpolluted night sky that allows the enjoyment and contemplation of the firmament should be considered a fundamental socio-cultural and environmental right, and that the progressive degradation of the night sky should be regarded as a fundamental loss,
2. control of obtrusive and sky glow-enhancing lighting should be a basic element of nature conservation policies since it has adverse impacts on humans and wildlife, habitats, ecosystems, and landscapes,
3. responsible tourism, in its many forms, should be encouraged to take on board the night sky as a resource to protect and value in all destinations,
4. IAU members be encouraged to take all necessary measures to involve the parties related to skyscape protection in raising public awareness – be it at local, regional, national, or international level – about the contents and objectives of the International Conference in Defence of the Quality of the Night Sky and the Right to Observe Stars (http://www.starlight2007.net/), in particular the educational, scientific, cultural, health and recreational importance of preserving access to an unpolluted night sky for all humankind,

further resolves that

1. protection of the astronomical quality of areas suitable for scientific observation of the Universe should be taken into account when developing and evaluating national and international scientific and environmental policies, with due regard to local cultural and natural values.

Note: French translations of the Resolutions are available on the IAU website.

6.5 The IAU & the Peter and Patricia Gruber Foundation

PPGF Cosmology Prize 2009
The prize was awarded in the course of the XXVII IAU General Assembly to Wendy Freedman, Rob Kennicut, and Jeremy Mould.
See <http://www.gruberprizes.org/GruberPrizes/GruberPrizes.php> for more information.

PPGF Fellowship 2009
The fellowship was awarded to Thijs Kouwenhoven from the Department of Physics and Astronomy at the University of Sheffield, United Kingdom. He will go to the newly established Kavli Institute for Astronomy and Astrophysics in Beijing, China.

6.6 Report on the Young Astronomers Events

6.6.1 Report on the Young Astronomers Lunch, Thursday 6 August 2009

Jean-Pierre De Greve, Chair SOC

Objectives

The Young Astronomers Lunch has three objectives: To give young astronomers (YAs) the opportunity to discuss predefined topics of their choice, related to careers and research organisation in astronomy, with more experienced astronomers; to raise the awareness of the YAs of their importance to the IAU; and to enhance networking among YAs of different countries.

Format

The YAL took the form of a served lunch (three courses), with tables of ten (eight YAs + two experienced astronomers), and ran from 11 a.m. to 1.45 p.m. Topics were defined through exchanges of e-mails with the astronomers who had subscribed to the Young Astronomers events upon registration. Each registered YA then had to choose three topics in order of importance from a list of 38 topics based on the survey as well as feedback from the YAs activities at the IAU General Assembly in Prague in 2006. The table seating plan was arranged around the 12 most relevant topics (with 2 or 3 per table), and corresponded as much as possible with the preferences expressed by the YAs.

The lunch

Through an organisational error of communication, the lunch was oversubscribed with 316 subscriptions. An extensive selection procedure reduced the number to some 160 young participants. This group was complemented with two senior astronomers per table. Cancellations were

replaced by participants from the waiting list. This process continued until 6 August – most importantly to replace seniors with last-minute cancellations. On 2 August, the Chair checked the lunch area (originally next to the food court) with Adriana Valio. The seating conditions, with tables of 8 in noisy surroundings, were found to be unacceptable, so the location was moved to the Mezzanine floor, and the participants were duly informed. The lunch went well in all respects (food, service, and lively discussions). Approximately 25 persons did not show up (12.5%), leaving two tables empty and requiring some on-the-spot rearrangement. Participants from 38 countries attended, with a roughly equal distribution between men and women. A few participants arrived between 12:00 and 12:30, because they were attending scientific sessions. The most popular topics were (not surprisingly): career opportunities (specifically at big institutions or agencies), post doc positions and publication strategies. Questions about important future areas of astrophysical research were also raised. Students exchanged information about their research and the working conditions in their respective institutions.

Recommendations for improvement

a. A strict procedure should be adopted on how to notify and inform the YAs about the lunch. This requires a clear announcement of the event on the registration website, avoiding any confusion with other YA events and other lunches. When registering for the lunch, identifying information should be added to the form to enable distinction between YAs and seniors. The list must be easy to edit and contain all necessary information for the organisers (this was not the case with the list on the web page, which merely listed persons expressing an interest in YA events).

b. The lunch requires a dedicated member of the LOC at an early stage to work with the Chair and to arrange the local organizational details well in advance.

c. A lunch at the IAU GA will never have a time slot that is perfect for everybody. Restricting the time to the usual 12:30 - 2:00 pm. lunch slot (~1.5 hr) results in too little time for discussions. Extending the slot either way results in conflicts with the morning or afternoon sessions. Perhaps a dinner format from 18:00 till 20:30 might be a possible solution.

d. The experiences of the GAs in Prague and Rio have provided us a set of topics of interest to most YAs. Using a fixed list of say 10 topics (selected from past experience) for each table, while of course allowing for any additional topic of interest that emerges around the table, would greatly reduce the preparatory work. The main task the Chair would then be to assure a nice mixture of nationalities around each table.

e. The lunch does not require an extended SOC. A small OC (as there is no science involved) of three people should be sufficient for the selection and table seating of YAs and seniors.

6.6.2 Report on the Young Astronomer Consultant Service (YACS)

Jean-Pierre De Greve, Chair SOC,
Ed Guinan & Kam-Ching Leung YACS Supervisers

Objectives

To allow Young Astronomers to have one-to-one discussions with more advanced astronomers on their CV, thesis and research, as well as on jobs in astronomy, in a dedicated place during the GA.

Young astronomers: participants who are enrolled in PhD programmes or who have received their Doctorate degrees within three years before the General Assembly.

Consultant astronomers: senior astronomers with experience in specific research domains and in science management.

Programme Format

The YACS gathers YA requests and offers to assist with the consultancy through various channels. Each YA is then matched to a Consultant with the appropriate expertise, and both are informed by the YACS. The two determine between themselves when to meet.

A specific, appropriately furnished meeting place is dedicated to these meetings. Duration of the service: Each day of the GA, from 9 a.m. to 5.30 p.m.

Signing up for the programme at the XXVII GA

Young Astronomers could sign up in various ways:

a. by filling in the online form on the General Assembly website
b. by filling in the sheet at the entrance of the Young Astronomers Room
c. by contacting one of the consultants directly on sight.

Volunteering consultants could sign up in similar fashion, using either the web page form or the separate sign-up sheet at the YA room. Registered consultants received a green spot for their name tag, so that they could be easily recognized.

Planned procedures: (n.b. The following procedure was foreseen, but could not be implemented due to various circumstances, see Report.)

- Each day, the sign-up lists and the dedicated web list (updated by Luiz Paulo Vaz with the information of the web forms) are checked by the supervisor.
- Each day, the supervisor provides the student assistant with a list of the Consultants who need to be paired with Young Astronomers.
- The student assistant puts messages and evaluation forms in the pigeon boxes of the Consultant and Young Astronomer, so that they

can contact each other and set up their meeting. They are also informed by email.

- The Consultant and YA meet in the YA room (or any other place they may prefer), have their discussion, and fill in the evaluation form. These forms can be put into boxes or handed over to the student assistant.
- At the end of the afternoon, the forms are collected by the student assistant and handed over to the supervisor.

Report

The YACS only started up in the second week of the GA, although a small list of YAs with their requests and names of Consultants had been gathered beforehand. The delay arose from chiefly the following reasons:

a. The YACS requires a dedicated, well identified person in the LOC to take care of all the preparations (automated webpage for YAs and Consultants, specific invitation on the GA registration page) and local needs (various forms for contact, evaluation, tags). In Prague, Michal Dovciak did all this work for both the YA lunch and the YACS, starting a year before the GA. For the GA2009, Luiz Paulo Vaz greatly assisted the Chair in ICT matters, but was not fully responsible for the whole event. Hence, producing a sign-up web page and sending out a sign-up e-mail required a long time and several communciations between the LOC chair and the YAC Chair.

b. As a result of a misunderstanding, an e-mail intended for all participants was only sent to the participants who had signed up for the YA events (who were mainly interested in the lunch). Hence, only a few YAs and two Consultants signed up for the consultancy service before the start of the GA. The e-mail was sent out again to all participants on Wednesday, 5 August, and by Friday, a list of 11 Consultants and 34 YAs had accumulated.

c. A number of supporting materials that had been requested earlier were not yet available at the start of the GA. The requests were processed by at least two people who required further guidance on a number of issues, and as a result, the requested materials were available only on 10 August.

d. Because the Chair was also responsible for the YA lunch and the SpS4, he had insufficient time before and at the beginning of the GA to set up the YACS.

e. The Chair did have a student assistant to take care of processing the evaluation forms after the GA.

Actual running of the service during the second week:

During the second week, the YACS was supervised mainly by Ed Guinan and Kam-Ching Leung, the Chair having left the GA on 10 August. Sign-up

sheets were posted on the office door, and several people signed up for the service. However, it proved difficult to arrange convenient times for discussions. Also, some the volunteer consultants were very busy or had left the GA. Several people availed themselves of the service, but nowhere near the numbers who participated in the previous YACS in Prague. Guinan and Leung made every effort to staff the YACS office but could not be present all of the time. Guinan served as a consultant to four students who wanted information about Post-Docs and employment opportunities in North America.

Recommendations for improvement

The consultancy service requires a dedicated member of the LOC in an early stage to work with the Chair and to arrange the local organisational details well in advance. Preferably, this person should be ICT savvy or have direct access to a person with ICT competence to set up an interactive web list with automatic e-mail responses, etc. Assistance by a student volunteers during the whole GA should be in place before the start.

The service does require a SOC to assist in finding consultants for specific topics. As this mostly needs to be done shortly before or at the beginning of the GA, the members should be committed to assist at this time.

Given that most of the topics of the YAs are related to post-doc careers and the best way to apply for post-doc positions with the right CV, it is worthwhile considering holding one or two 'brown bag' workshops in the YA room during lunchtime. It is strongly recommended that this be done at the next GA.

6.7 Report on Women in Astronomy Luncheon Meeting and Working Group

The Women in Astronomy Working Group held its third working lunch on Monday, 10 August 2009, and more than 240 people from over 30 countries attended. There were two keynote speakers, Duilia de Mello of the Catholic University of America and the Goddard Space Flight Center and Thaisa Storchi Bergmann of the Instituto de Física-Universidade Federal do Rio Grande do Sul, who shared their experiences as Brazilian astronomers working both in and outside of Brazil. The breakout discussions were vibrant and included the present, past and incoming Presidents of the IAU and many younger astronomers. In the last 20 minutes of the lunch, a representative number of tables reported back to the Plenary session. Common themes from the break out discussions included issues of childcare and the "best time" to have a family; the "two body problem"; the importance of "critical mass"; and recognition of women in both prizes and promotion. It is clear that maternity and family-friendly policies vary greatly from country to country (as well as within countries), as do practical

solutions to help with the two-body problem. It was recognised that many established institutes still have a very low percentage of permanent women on their staff, and that the number of permanent women decreases with increasing position status. How career breaks to raise families are actually considered during the hiring and promotion process is unclear, and yet this clearly retards the careers of some women. It is hoped that the new IAU resolution to support women in astronomy will raise awareness of these problems and help develop strategies to address some of them.

As usual, the event was highly oversubscribed. Many participants were interested in presenting reports, which we could not include in the time available during the working lunch. However there was, for the first time, a poster session in conjunction with the 'She Is An Astronomer' IYA2009 cornerstone project. There is a proposal for a one-day Special Session at the next GA which the Working group will consider hosting in 2012 in Beijing.

We would like to thank the local organisers for creating such a successful event, particularly Miriani Postizas and Zulema Abraham, and we gratefully recognise the financial support of the IAU and the US National Committee for Astronomy. For photographs of the women at the astronomy meeting, please see http://astronomy.swin.edu.au/wam/index-2009.html

The business meeting of the Working Group was held prior to the lunch, with 20 people attending. A report on the activities of the Working Group and an update on the IYA2009 She Is An Astronomer project were presented. Actions were agreed upon to promote better gender balance at all IAU-sponsored meetings through stronger guidelines for the constituents of SOCs, invited speakers and session chairs, and to initiate arrangements for affordable childcare. A closer connection with the IAU Executive Committee is envisaged to achieve these objectives. The Working Group strongly supports the appointment of Executive Vice President Martha Haynes as a liaison between the Working Group and the IAU Executive and welcomed Martha's contributions during the Business Meeting discussions.

The Working Group presented a report to the IAU Executive on 14 August, and the new Organising Committee was approved. The Working Group thanks the seven members who stood down for their years of service and welcomes six new members to the Organising Committee. For details about the activities of the Working Group, see http://astronomy.swin.edu.au/IAU-WIAWG/

Resolution B4 from the IYA2009 Cornerstone Project She is an Astronomer, supported by the IAU Working Group on Women in Astronomy, arose from the submissions by female astronomers from many different countries, at different stages in their careers. Each community will approach the issue of 'support and encouragement' in different ways, and the IYA2009 posters at the

General Assembly in Rio de Janeiro showed that countries had already used IYA2009 to raise the profile of female astronomers and encourage more young women to study (and continue studying) science. The 'She Is An Astronomer' website captures the different types of activities and highlights the wide range of possibilities.
Sarah Maddison (current co-chair) and Anne Green (previous co-chair)

6.8 IAU XXVIII General Assembly, Beijing, China
20 – 31 August, 2012

Preparations for this event are proceeding. The Convention Centre where the GA will be held can be seen on the web site <http://en.cnccchina.com>. You will be impressed.

6.9 IAU XXIX General Assembly, Honolulu, Hawai'i, USA
3 – 14 August, 2015 (dates provisional)

Preparations are at an early stage. A memorandum of understanding will be signed with the organisers (AAS) in 2010.

6.10 IAU XXX General Assembly in 2018

Deadlines:
Letters of Intent to host must be received by 1 November, 2011.
Proposals to host must be received by 1 April, 2012.

7. IAU Budget 2010 – 2012

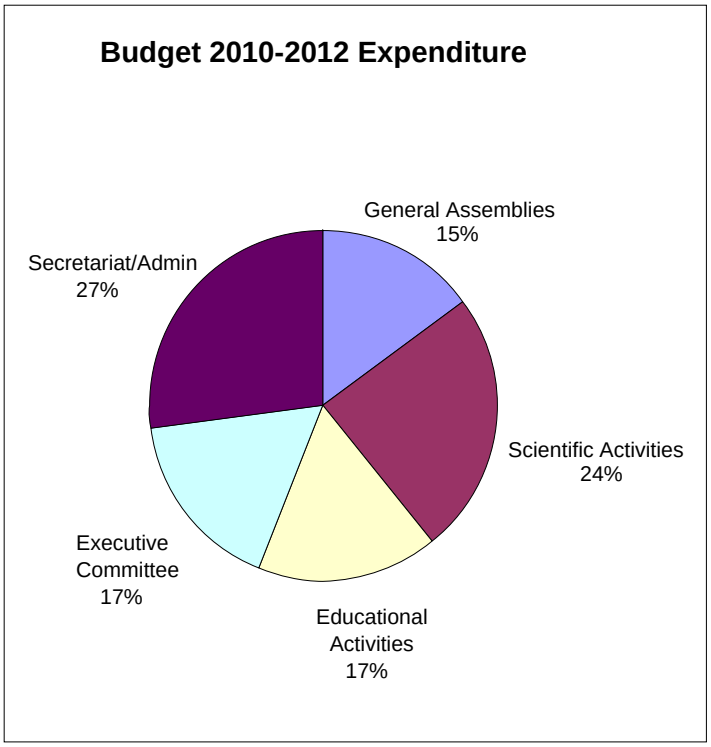
The approved IAU budget for the period 2010 - 2012 is now entirely expressed in euros.

BUDGET OF INCOME 2010 - 2012 (EURO, rounded)

	2010	**2011**	**2012**	**TOTAL**
National Member Dues	765 810	788 720	812 540	2 367 070
GRANTS	22 200	22 200	34 800	79 200
ROYALTIES	32 100	32 100	32 100	96 300
FUNDS IN TRANSIT:				
PPGF Fellowship (USD 50 000/yr)	37 000	37 000	37 000	111 000
BANK REVENUE	14 200	14 200	14 200	42 600
total INCOME	**871 310**	**894 220**	**930 640**	**2 696 170**
total INCOME w/o 'In Transit'	834 310	857 220	893 640	2 585 170

BUDGET OF EXPENDITURE 2010 - 2012 (EURO, rounded)

	2010	**2011**	**2012**	**TOTAL**
General Assemblies	16 000	19 000	350 000	385 000
Scientific Activities	267 400	236 800	122 800	627 000
Educational Activities	144 400	144 400	144 400	433200
PPGF Fellowship (USD 50 000/yr)	37 000	37 000	37 000	111 000
Cooperation with other Unions	23 200	23 500	23 800	70 500
Executive Committee/Officers	86 600	112 550	126 500	325 650
Publications - IBs	14 000	15 000	16 000	45 000
Secretariat and Administration:				
Salaries, Training, and Charges	162 700	167 300	171 900	501 900
Outsourced Activities	33 000	34 150	35 300	102 450
General Office Expenditure	28 900	30 050	31 200	90 150
Total Administration	224 600	231 500	238 400	694 500
TOTAL EXPENDITURE	**813 200**	**819 750**	**1 058 900**	**2 691 850**
INCOME over EXPENDITURE	**58 110**	**74 470**	**-128 260**	**4 320**



8. IAU EXECUTIVE COMMITTEE

8.1 EC 86, Rio de Janeiro, on 2, 6, and 12 August 2009

8.1.1 Brief Report

The 86th meeting of the Executive Committee took place on three separate days, with a morning devoted to presentations by the three candidate venues for the 2015 General Assembly.

The principal items discussed by the EC were the arrangements, schedule and planning of the Rio GA, particularly the Inaugural and Closing Ceremonies, the presentation of the IAU Strategic Plan, the proposed changes to the Statutes and Working Rules, the proposed Resolutions to the GA, and applications for both National and Individual Membership.

The EC noted the proposals of the Special Nominating Committee for the membership of the Executive Committee 2009-2012 and adopted the EC report to be given to the General Assembly by the General Secretary. It noted the financial situation, the audited accounts and the draft budget, and agreed on the presentation to the General Assembly. It reviewed and agreed proposed changes to Working Groups proposed by the Divisions, and noted the changes in Division, Commission and WG officers and OCs.

The EC suggested that the Resolutions Committee and the proposers should work on optimisation of the wording of the proposed Resolutions before their presentation to the GA.

In the final meeting, the EC selected Hawai'i as the location of the 2015 GA and reviewed appointments to the new Nominating Committee and Special Nominating Committee. Finally, the EC completed a list of action items to be passed on to the next Executive Committee.

8.1.2 Executive and Administrative Committees 2009 – 2012

Executive Committee 2009 – 2012

President	Robert Williams	(USA)
President-Elect	Norio Kaifu	(Japan)
General Secretary	Ian F. Corbett	(UK)
Assistant General Secretary	Thierry Montmerle	(France)
Vice-President	Matthew Colless	(Australia)
Vice-President	Martha P. Haynes	(USA)
Vice-President	George K. Miley	(Netherlands)
Vice-President	Jan Palouš	(Czech Republic)
Vice-President	Marta G. Rovira	(Argentina)
Vice-President	Giancarlo Setti	(Italy)
Adviser	Catherine J. Cesarsky	(France)
Adviser	Karel A. van der Hucht	(Netherlands)

Special Nominating Committee 2009 – 2012
Jocelyn S. Bell Burnell (UK), Reinhard Genzel (Germany),
Patricia A. Whitelock, (South Africa), Kenneth C. Freeman (Australia)

Nominating Sub-Committee 2009 – 2012
Mario Hamuy (Chile), Li Xiang-Dong (China Nanjing), Johannes Andersen (Denmark), Christian Henkel (Germany), Rafael Bachiller (Spain),
Nikolai N. Samus (Russian Federation), Paul G. Murdin (UK),
Sara R. Heap (USA)

Finance Sub-Committee 2009 – 2012
Beatriz Barbuy (Brazil), Kevin B. Marvel (USA), Birgitta Nordström, chair, (Denmark), Cyril Ron (Czech Republic), Shuang-Nan Zhang (China Nanjing)

Resolutions Committee 2009 – 2012
Michel Dennefeld (France), Martha P. Haynes (USA), Zoran Knežević (Serbia), Busaba H. Kramer (Thailand), Irina I. Kumkova (Russian Federation), Daniela Lazzaro, chair (Brazil), Silvia Torres-Peimbert (Mexico), Na Wang (China Nanjing)

8.2 EC 87, Rio de Janeiro, 14 August 2009

Daniela Lazzaro, co-Chair of the NOC, presented her preliminary report on the GA. In total there were 2434 attendees: 796 IAU members, 790 non-members, 526 students, 83 guests. Financially the GA was in balance. The Vice-Presidents reported on the Symposia, which had proved very successful, with the Plenary Review talks being widely appreciated. Sarah Madison reported on "Women in Astronomy," and Ed Guinan on "Events for Young Astronomers."

The EC agreed on follow-up actions for the resolutions passed by the General Assembly and specifically the implementation of the Strategic Development Plan. Paul Murdin, as outgoing Chair of the FSC, presented its recommendations, which were adopted by the EC. The EC thanked Paul for his services and welcomed Birgitta Nordström as the new Chair of FSC.

The EC endorsed the ICSU booklet "Freedom, Responsibility, and Universality of Science" as an important contribution to a better understanding of the role and responsibility of science and scientists.

The EC heard a report on ICSU by the Director of the ICSU Latin American and Caribbean Regional Office, Professor Alice Abreu, and a progress report from Professor Gang Zhao on preparations for the 2012 GA, and reviewed IYA activities with particular reference to the role played by amateur astronomers and their possible continued involvement in the activities of the IAU Commission 55.

Finally, the EC agreed on a nominee to the Advisory Board for the Gruber Cosmology Prize and agreed on the composition of the Gruber Fellowship Selection Committee.

9. OM2010, Officers' Meeting, Paris, France, 25-27 January 2010

10. EC 88, Baltimore, USA, 11-13 May 2010

11. EC89, Prague, Czech Republic, 24-26 May 2011
This will include the Division Presidents.

12. EC Working Group on the International Year of Astronomy 2009 Follow-up programmes to IYA 2009

Brief Status Report on the International Year of Astronomy 2009
http://www.astronomy2009.org

The International Year of Astronomy 2009 (IYA2009), a global celebration of astronomy and its contribution to society, will be brought to an official close on 9-10 January 2010 with a ceremony to be held in Padova, Italy, in the Aula Magna of the University of Padova, where Galileo taught experimental physics and astronomy. This report summarizes the status of the main IYA2009 projects and activities and outlines plans for the future.

Participating Nations and Organisations
As of 17 December 2009, 148 National Nodes have signed up to participate in IYA2009. Innumerable professional and amateur astronomers, educators, communicators and enthusiasts have invested time, resources and passion into organising local, regional, national and global activities. The most recent National Nodes are São Tomé and Príncipe, Eritrea, Suriname, Côte D'Ivoire, Guinea Bissau, Liechtenstein and the Principality of Monaco. The full list can be consulted on the IYA2009 website: www.astronomy2009.org/organisation/nodes/national

The IAU is still welcoming suggestions for IYA2009 Single Points of Contact from countries or organisations that are not yet involved, but where future education and outreach activities in astronomy can be implemented.

Astronomy, education and science outreach related organisations and institutions are also participating in IYA2009. So far, 40 such organisations have signed up. The most recently joined Organisational Nodes are the International Society for Optics and Photonics (SPIE,)the International VLBI Service for Geodesy and Astrometry Coordinating Center and the Max Planck Society. The full list is posted at: www.astronomy2009.org/organisation/nodes/organisational/

Organisational Associates
The IYA2009 Organisational Associates provide financial support for the global coordination of IYA2009. The most recently joined Organisational Associates are the Greek National Committee for Astronomy, the Portuguese Astronomy Society, Associated Universities, Inc. and CROSCI. Please see the full list on www.astronomy2009.org/organisation/structure/partners/organisationalassociates

The IAU still welcomes organisations and individuals wishing to join the IYA-2009 Organisational Associates and support its continuing activities. For more information please contact the IYA2009 Secretariat at: <iya2009@eso.org>

Resources
The IYA2009 Secretariat has produced a wide array of resources for use by laypeople as well as professional participants in IYA2009. These include trailers, brochures and presentations that are easily accessible through the IYA2009 website at: www.astronomy2009.org/resources/

Educators and science communicators and the public are free to use them in activities and events after 2009.

IYA2009 Cornerstone Projects
The main development since the last *Information Bulletin* is the Galilean Nights Cornerstone project. Following the unprecedented success of the IYA2009's 100 Hours of Astronomy, Galilean Nights took place on 23-24 October 2009. It saw amateur and professional astronomers around the globe take to the streets and point their telescopes at the wonders that Galileo observed 400 years ago. More than 1 million people participated in 1310 events registered in 88 countries. The project focused on sidewalk observations of the gas giant Jupiter and its moons, and members of the public were also able to observe the Sun, our own Moon and many more celestial marvels with their own eyes, much as Galileo did 400 years ago.

IYA2009 Special Projects
While the focus of the global activities rests on the Cornerstones, Special Projects also contribute towards the vision and goals of IYA2009. The list of IYA-2009 Special Projects is available on:
http://www.astronomy2009.org/globalprojects/specialprojects/

The most recent Special Projects are:

- **Naming Pluto:** A UK 13-minute documentary about Venetia Burney Phair, the English schoolgirl who named Pluto in 1930, aged 11 years. More information: www.fatherfilms.com/films/namingpluto
- **The Eye 3D**: In close cooperation with ESO and as part of its IYA2009 activities, the production companies *parallax raumprojektion* and *fact&film* have produced a unique 3D documentary about the most powerful visible-light telescope in the world, ESO's Very Large Telescope (VLT). Capable of taking some of the sharpest pictures of the night sky, the VLT is located in a breathtaking, arid environment, providing astronomers with superb sky conditions as they study the deep Universe. More information: http://www.theeye3d.eu/
- **Cassini Scientist for a Day**: The Cassini "Scientist for a Day Essay Contest" is an opportunity for students around the world to learn about the Cassini mission to Saturn and to study and write about one of Saturn's three most interesting science topics: Saturn and its Rings, Tethys and Saturn's Rings, and Titan. More information:
  http://saturn.jpl.nasa.gov/education/scientistforaday8thedition/international/

- **The Planets and Pictures World Tour:** Gustav Holst's "The Planets" and "Astronomical Pictures at an Exhibition" are two sequences of high-definition astronomical videos to accompany live performances of classical music works. The videos feature awe-inspiring images, historical illustrations, and visualisations produced by NASA, ESA, NCSA, and the Adler Planetarium. The sequences, produced and directed by Adler Planetarium astronomer and visual artist José Francisco Salgado, follow the tempo and tone set by the music, resulting in an experience where the music and visuals reinforce each other to great effect. They are not intended to be seen as documentaries but as art pieces that aim to inspire audiences and encourage them to learn more about our solar system and the Universe. More information: http://svl.adlerplanetarium.org/videosuites/
- **Scienceface** has created 15 science-oriented videos about black holes that are provided - together with further information - on www.scienceface.org as well as on YouTube for the use of young people, teachers, and other interested non-scientists. This outreach project is designed to inform young people about scientific themes, and bring them to understand that scientific research is an activity that is done by real people and closely integrated into society. Hopefully we will interest a few of them in becoming scientists themselves. More information at: http://www.scienceface.org/
- **The Lives of Galileo:** For the first time, astronomy and Galileo are presented in an historical, accessible and humoristic comic book. In 40 colour-filled pages organised into six stunning chapters, Galileo plays different roles through the ages of great astronomical discoveries. In Babylon, he learns how to write in clay and how to read the sky. In Alexandria, he measures the circumference of the Earth alongside Eratosthenes, using the shade of a stick. On the Ganges, Aryabhata explains to him that the Earth rotates around a central axis. In Venice, he relives the revolutionary moment when he first peered out into the vastness of the Universe. More information: http://www.fiami.ch/

Final Remarks

As the International Year of Astronomy 2009 comes to a close, the true scope of the venture is becoming clear. The final count of countries involved stands at 148 – a staggering number, establishing the IYA2009 network as the largest ever in science. Reports from these participating nations paint a picture of professional and amateur astronomers bringing the Universe down to Earth through countless events and opening the eyes of the public to the wonders above.

IYA2009 was never conceived as a "one-off" event for one year, but rather as a means of creating durable structures for collaboration, ongoing, self-sustaining activities and innovative concepts for the communication of astronomy. Now that 2009 is nearing its end, all involved are working on the continuation of the

mission and goals of IYA beyond 2009. The IYA2009 legacy programme, called "Beyond IYA2009" and to be launched during the IYA2009 Closing Ceremony, will foster the sustainability of the cooperative network, activities and innovative concepts for education and public outreach in astronomy. The IYA2009 Secretariat has prepared a document to give an overview of this legacy to the thousands of involved participants in IYA2009 at all levels – from SPoCs/-project chairs/stakeholders and onwards. We hope that it will inspire nations and projects to find ways for the continuation of activities and collaborations that have a long-term potential. The document will be available on the IAU and IYA websites.

Pedro Russo, on behalf of IAU IYA2009 EC WG and IYA2009 Secretariat

Pedro Russo, IAU IYA2009 Coordinator <prusso@eso.org>
Mariana Barrosa, IAU IYA2009 Coordination Assistant <mbarrosa@eso.org>
Lars Lindberg Christensen, IAU IYA2009 Secretariat Manager/IAU IYA2009 EC WG Secretary <lars@eso.org>

13. IAU Scientific Bodies

13.1 Compositon of IAU Divisions, Commissions and Working Groups

DIVISION I – *FUNDAMENTAL ASTRONOMY*

president	Dennis D. McCarthy (USA)
vice-president	Sergei A. Klioner (Germany)
past president	Jan Vondrák (Czech Republic)
OC members	Daffyd W. Evans (UK), Catherine Y. Hohenkerk (UK), Mizuhiko Hosokawa (Japan), Chengli Huang (China), George H. Kaplan (USA), Zoran Kneževič (Serbia), Richard N. Manchester (Australia), Alessandro Morbidelli (France), Harald Schuh (Austria), Gérard Petit (France), Michael H. Soffel (Germany), Norbert Zacharias (USA)

Div. I / Comm. 4 – *Ephemerides*

president	George H. Kaplan (USA)
vice-president	Catherine Y. Hohenkerk (UK)
past president	Toshio Fukushima (Japan)
OC members	Jean-Eudes Arlot (France), John A Bangert (USA), Steven A Bell (UK), William M. Folkner (USA), Marin Lara (Spain), Elena V. Pitjeva (Russian Federation), Sean E. Urban (USA). Jan Vondrák (Czech Republic), Steven A Bell (UK)

Div. I / Comm. 7 – *Celestial Mechanics and Dynamical Astronomy*

president	Zoran Knežević (Serbia)
vice-president	Alessandro Morbidelli (France)
past president	Joseph A. Burns (USA)
OC members	Evangelia Athanosoula (France), Jacques Laskar (France), Renu Malhotra (USA), Seppo Mikkola (Finland), Stanton J. Peale (USA), Fernando V. Roig (Brazil)

Div. I / Comm. 8 – *Astrometry*

president	Dafydd W. Evans (UK)
vice-president	N. Zacharias (USA)
past president	Irina I. Kumkova (Russian Federation)
OC members	Alexandre H. Andrei (Brazil), Anthony G.A. Brown (Netherlands), Naoteru Gouda (Japan), Petre P. Popescu (Romania), Jean Souchay (France), Stephen C. Unwin (USA), Zi Zhu (China)

Div. I / Comm. 19 – *Rotation of the Earth*

president	Haral Schuh (Austria)
vice-president	Cheng-Li Huang (China)
past president	Aleksander Brzezinski (Poland)
OC members	Christian Bizouard (France), Benjamin F. Chao (China - Taiwan), Richard S. Gross (USA), Wieslaw Kosek (Poland), Zinovy M. Malkin (Russia), Bernd Richter (Germany), David A. Salstein, Oleg Titov (Australia); and representatives from the International VLBI Service for Geodynamics (IVS), the International Earth Rotation and Reference System Service (IERS) and the International Association of Geodesy (IAG)

Div. I / Comm. 31 – *Time*

president	Richard N. Manchester (Australia)
vice-president	Mizuhiko Hosokawa (Japan)
past president	Pascale Defraigne (Belgium)
OC members	E. Felicitas Arias (France), Zhang Shou Gang (China), Philip A. Tuckey (France), Vladimir E. Zharov (Russian Federation)

Div. I / Comm. 52 – *Relativity in Fundamental Astronomy*

president	Gérard Petit (France)
vice-president	Michael H. Soffel (Germany)
past president	Sergei A. Klioner (Germany)
OC members	Victor A. Brumberg (Russian Federation), Nicole Capitaine (France), Agnès Fienga (France), Bernard R. Guinot

(France), Cheng Huang (China), François Mignard (France), P. Kenneth Seidelmann (USA), Patrick T. Wallace (UK)

Div. I / WG – *Numerical Standards in Fundamental Astronomy*

chair Brian J. Luzum (USA)
past chair Brian J. Luzum (USA)

Div. I / WG – *Astrometry by Small Ground-Based Telescopes*

chair William Thuillot (France)
past chair William Thuillot (France)

Div. I-III / WG – *Cartographic Coordinates and Rotational Elements of Planets and Satellites*

chair Brent A. Archinal (USA)
past chair Brent A. Archinal (USA)

Div. I-III / WG – *Natural Satellites*

chair Jean-Eudes Arlot (France)
past chair Jean-Eudes Arlot (France)

DIVISION II – *SUN AND HELIOSPHERE*

president Valentin Martínez Pillet (Spain)
vice-president James A. Klimchuk (USA)
past president Donald B. Melrose (Australia)
OC members Gianna Cauzzi (Italy), Lidia van Driel-Gesztelyi (France, UK, Hungary), Natchimuthuk Gopalswamy (USA), Alexander Kosovichev (USA), Ingrid Mann (Japan), Karel J. Schrijver (USA)

Div. II / Comm. 10 – *Solar Activity*

president Lidia van Driel-Gesztelyi (France, UK, Hungary)
vice-president Karel J. Schrijver (USA)
past president James A. Klimchuk (USA)
OC members Paul Charbonneau (Canada), Lyndsay Fletcher (UK), S. Sirajul Hasan (India), Hugh S. Hudson (USA), Kanya Kusano (Japan), Cristina H. Mandrini (Argentina), Hardi Peter (Germany), Bojan Vršnak (Croatia), Yihua Yan (China)

Div. II / Comm. 12 – *Solar Radiation and Structure*

president Alexander Kosovichev (USA)
vice-president Gianna Cauzzi (Italy)

past president	Valentin Martínez Pillet (Spain)
OC members	Martin Asplund (Germany), Thomas J. Bogdan (USA), Axel Brandenburg (Sweden), Gianna Cauzzi (Italy), Lawrence Edward Cram (Australia), Jørgen Christensen-Dalsgaard (Denmark), Weiqun Gan (China), Laurent Gizon (Germany), Petr Heinzel (Czech Republic), Vladimir D. Kuznetsov (Russian Federation), Marta G. Rovira (Argentina), Nataliya Shchukina (Ukraine), P. Venkatakrishnan (India), Harry P. Warren (USA)

Div. II / Comm. 49 – *Interplanetary Plasma and Heliosphere*

president	Natchimuthuk Gopalswamy (USA)
vice-president	Ingrid Mann (Japan)
past president	Jean-Louis Bougeret (France)
OC members	Carine Briand (France), Rosine Lallement (France), David Lario (USA), P.K. Manoharan (India), Kazunari Shibata (Japan), David F. Webb (USA)

Div. II / WG – *Solar Eclipses*

chair	Jay M. Pasachoff (USA)
past chair	Jay M. Pasachoff (USA)

Div. II / WG – *International Solar Data Access*

chair	Robert D. Bentley (UK)
vice-chair	Mauro Messerotti (Italy)
past chair	Robert D. Bentley (UK)

Div. II / WG – *International Collaboration on Space Weather*

chair	David F. Webb (USA)
vice-chair	Natchimuthuk Gopalswamy (USA)
past chair	David F. Webb (USA)

Div. II / WG – *Comparative Solar Minima*

chair	S. Gibson (USA)

Div. II / WG – *Communicating Heliophysics*

chair	C. Briand (France)

DIVISION III – *PLANETARY SYSTEMS SCIENCES*

president	Karen J. Meech (USA)
vice-president	Giovanni B. Valsecchi (Italy)
past president	Edward L.G. Bowell (USA)

OC members	Dominique Bockelée-Morvan (France), Alan P. Boss (USA), Alberto Cellino (Italy), Guy J. Consolmagno (Vatican City State) Julio A. Fernández (Uruguay), William M. Irvine (USA), Daniela Lazzaro (Brazil), Patrick Michel (secretary, France), Keith S. Noll (USA), Rita M. Schulz (Germany), Jun-ichi Watanabe (Japan), Makoto Yoshikawa (Japan), Jin Zu (China)

Div. III / Comm. 15 – *Physical Study of Comets and Minor Planets*

president	Alberto Cellino (Italy)
vice-president	Dominique Bockelée-Morvan (France)
past president	Walter F. Huebner (USA)
OC members	Björn J. Davidsson (Sweden), Elizabetta Dotto (Italy), Alan Fitzsimmons (UK), Petrus M.M. Jenniskens (USA), Dmitrij F. Lupishko (Ukraine), Thais Mothé-Diniz (Brazil), Gonzalo Tancredi (Uruguay), Diane H. Wooden (USA)

Div. III / Comm. 15 / WG – *Physical Study of Comets*

chair	Daniel C. Boice (USA)
past chair	Tetsuo Yamamoto (Japan)

Div. III / Comm. 15 / WG – *Physical Study of Minor Planets*

chair	Ricardo Gil-Hutton (Argentina)
past chair	Ricardo Gil-Hutton (Argentina)

Div. III / Comm. 16 – *Physical Study of Planets and Satellites*

president	Melissa A. McGrath (USA)
vice-president	Mark T. Lemmon (USA)
past president	Régis Courtin (France)
OC members	Sang-Joon Kim (Rep. of Korea), Leonid V. Ksanfomality (Russian Federation), Luisa Lara (secretary, Spain), David Morrison (USA), Viktor G. Tejfel (Kazakhstan), Padma A. Yanamandra-Fisher (USA)

Div. III / Comm. 20 – *Positions and Motions of Minor Planets, Comets and Satellites*

president	Makoto Yoshikawa (Japan)
vice-president	t.b.d.
past president	Julio A. Fernández (Uruguay)
OC members	

Div. III / Comm. 20 / WG – *Motions of Comets*

past chair	Julio A. Fernández (Uruguay)

Div. III / Comm. 20 / WG – *Distant Objects*

chair	
past chair	Brian G. Marsden (USA)

Div. III / Comm. 22 – *Meteors, Meteorites and Interplanetary Dust*

president	Jun-ichi Watanabe (Japan)
vice-president	Petrus M.M. Jenniskens (USA)
past president	Pavel Spurný (Czech Republic)
OC members	Jirí Borovicka (Czech Republic), Margaret D. Campbell-Brown (Canada), Guy J. Consolmagno (Vatican), Tadeusz J. Jopek (Poland), Jérémie Vaubaillon (France), Iwan P. Williams (UK)

Div. III / Comm. 22 / WG – *Meteor Shower Nomenclature*

chair	Petrus M.M. Jenniskens (USA)
past chair	Petrus M.M. Jenniskens (USA)

Div. III / Comm. 22 / WG – *Professional-Amateur Cooperation in Meteors*

chair	Galina O. Ryabova (Russian Federation)
past chair	Galina O. Ryabova (Russian Federation)

Div. III / Comm. 51 – *Bioastronomy*

president	William M. Irvine (USA)
vice-president	Pascale Ehrenfreund (Netherlands)
past president	Alan P. Boss (USA)
OC members	Cristiano B. Cosmovici (Italy), Sun Kwok (China Hong Kong), Anny-Chantal Levasseur-Regourd (France), David Morrison (USA), Stephane Udry (Switzerland)

Div. III / Comm. 53 – *Extrasolar Planets*

president	Alan P. Boss (USA)
vice-president	Alain Lecavelier des Etangs (France)
past president	Michel Mayor (Switzerland)
OC members	Peter Bodenheimer (USA), Andrew Collier Cameron (UK), Eiichiro Kokubo (Japan), Rosemary A. Mardling (Australia), Dante Minniti (Chile), Didier Queloz (Switzerland)

Div. III / Service – *Minor Planet Center*

director	Timothy B. Spahr (USA)
associate director	Gareth V. Williams (UK)
director emeritus	Brian G. Marsden (UK)

Div. III / AC – *Minor Planet Center Advisory Committee*

Michael F. A'Hearn (USA), Steven R. Chesley (USA), Hans Rickman (Sweden), Giovanni B. Valsecchi (Italy)

Div. III / WG – *Small Bodies Nomenclature*

chair	Jana Tichá (Czech Republic)
secretary	Brian G. Marsden (UK)
past chair	Jana Tichá (Czech Republic)

Div. III / WG – *Planetary System Nomenclature*

chair	Rita M. Schulz (Netherlands)
secretary	Jennifer S. Blue (USA)
past chair	Rita M. Schulz (Netherlands)

Div. I-III / WG – *Cartographic Coordinates and Rotational Elements of Planets and Satellites*

See Division I

Div. I-III / WG – *Natural Planetary Satellites*

See Division I

DIVISION IV – *STARS*

president	Christopher J. Corbally (Vatican City State)
vice-president	Francesca d'Antona (Italy)
past president	Monique Spite (France)
OC members	Martin Asplund (Germany), Corinne Charbonnel (Switzerland), Jose A. Durantez Docobo (Spain), Richard O. Gray (USA), Nikolai E. Piskunov (Sweden)

Div. IV / Comm. 26 – *Double and Multiple Stars*

president	Jose A. D. Docobo (Spain)
vice-president	Brian D. Mason (USA)
past president	Christine Allen (Mexico)
OC members	Frédéric Arenou (France), Yuri Y. Balega (Russian Federation), Terry D. Oswalt (USA), Dimitri Pourbaix (Belgium), Marco Scardia (Italy), Colin D. Scarfe (Canada), Vakhtang S. Tamazian (Spain)

Div. IV / Comm. 26 / WG – *Binary and Multiple System Nomenclature*

chair	William I. Hartkopf (USA)
vice-chair	Brian D. Mason (USA)
past co-chairs	Brian D. Mason (USA), William I. Hartkopf (USA)

Div. IV / Comm. 29 – *Stellar Spectra*

president	Nikolai E. Piskunov (Sweden)
vice-president	Katia Cunha (Brazil)
past president	Mudumba Parthasarathy (India)
OC members	Wako Aoki (Japan), Martin Asplund (Germany), David Bohlender (Canada), Kenneth G. Carpenter (USA), Jorge Melendez (Portugal), Silvia C.F. Rossi (Brazil), Verne V. Smith (USA), David R. Soderblom (USA), Glenn M. Wahlgren (USA)

Div. IV / Comm. 35 – *Stellar Constitution*

president	Corinne Charbonnel (Switzerland)
vice-president	Marco Limongi (Italy)
past president	Francesca d'Antona (Italy)
OC members	Gilles Fontaine (Canada), Jorge Isern (Spain), John C. Lattanzio (Australia), Claus Leitherer (secretary, USA), Jacobus Th. van Loon (UK), Achim Weiss (Germany), Lev R. Yungel'son (Russian Federation)

Div. IV / Comm. 36 – *Theory of Stellar Atmospheres*

president	Martin Asplund (Germany)
vice-president	Joachim Puls (Germany)
past president	John D. Landstreet (Canada)
OC members	Carlos Allende Prieto (USA), Thomas R. Ayres (USA), Svetlana V. Berdyugina (Switzerland), Bengt Gustafsson (Sweden), Ivan Hubeny (USA), Hans G. Ludwig (France), Lyudmila I. Mashonkina (Russian Federation), Sofia Randich (Italia)

Div. IV / Comm. 45 – *Stellar Classification*

president	Richard O. Gray (USA)
vice-president	Birgitta Nordström (Denmark)
past president	Sunetra Giridhar (India)
OC members	Adam J. Burgasser (USA), Laurent Eyer (Switzerland), Ranjan Gupta (India), Margaret M. Hanson (USA), Michael J. Irwin (UK), Caroline Soubiran (France)

Div. IV / WG – *Massive Stars*

chair	Stanley P. Owocki (USA)
vice-chair	Claus Leitherer (USA)
past chair	Stanley P. Owocki (USA)
consultant	Ben Davies (UK)

Div. IV / WG – *Abundances in Red Giants*

chair	John C. Lattanzio (Australia)
vice chair	Jacobus Th. van Loon (UK)
past chair	John C. Lattanzio (Australia)
OC members	Pavel Denisenkov (Canada), Peter H. Hauschild (Germany), Josef Hron (Austria), Thomas Lebzelter (Austria), Maria Lugaro (Australia), Christopher A. Tout (UK), Robert F. Wing (USA), Ernst K. Zinner (USA), Lucy M. Ziurys (USA)

Div. IV-V / WG – *Active B-type Stars*

chair	Geraldine J Peters (USA)
vice-chairs	Carol E. Jones (Canada), Richard D. Townsend (USA)
past co-chairs	Juan Fabregat (Spain), Geraldine J. Peters (USA)
OC members	Karen S. Bjorkman (USA), M. Virginia McSwain (USA), Ronald E. Mennickent (Chile), Coralie Neiner (France), Philippe Stee (France)

Div. IV-V / WG – *Ap and Related Stars*

chair	Gautier Mathys (Chile)
past chair	Margarida Cunha (Portugal)

DIVISION V – *VARIABLE STARS*

president	Steven D. Kawaler (USA)
vice-president	Ignasi Ribas (Spain)
past president	Alvaro Giménez (Spain)
OC members	Michel Breger (Austria), Edward F. Guinan (USA), Gerald Handler (Austria), Slavek M. Rucinski (Canada)

Div. V / Comm. 27 – *Variable Stars*

president	Gerald Handler (Austria)
vice-president	Karen Pollard (New Zealand)
past president	Steven D. Kawaler (USA)
OC members	Timothy R. Bedding (Australia), Márcio Catalán (Chile), Margarida Cunha (Portugal), Laurent Eyer (USA), C. Simon Jeffery (UK), Souza O. Kepler (Brazil), Katrien Kolenberg (Austria), David E. Mkrtichian (Republic of Korea), Katalin Olah (Hungary)

Div. V / Comm. 42 – *Close Binary Stars*

president	Ignasi Ribas (Spain)
vice-president	Mercedes T. Richards (USA)
past president	Slavek M. Rucinski (Canada)

OC members David H. Bradstreet (USA), Petr Harmanec (Czech Republic), Janusz Kaluzny (Poland), Joanna Mikolajewska (Poland), Ulisse Munari (Italy), Panos Niarchos (Greece), Katalin Olah (Hungary), Theodor Pribulla (Slovakia), Colin D. Scarfe (Canada), Guillermo Torres (USA)

Div. V / WG – *Spectroscopic Data Archiving*

chair
past chair Elizabeth Griffin (Canada)

Div. IV-V / WG – *Active B-type Stars*

See Division IV

Div. V-IV / WG – *Ap and Related Stars*

See Division IV

DIVISION VI – *INTERSTELLAR MATTER*

president You-Hua Chu (USA)
vice-president Sun Kwok (China Hong Kong)
past president Thomas J. Millar (UK)
OC members Dieter Breitschwerdt (Germany), Michael G. Burton (secretary, Australia), Sylvie Cabrit (France), Paola Caselli (Italia), Elisabete M. de Gouveia Dal Pino (Brazil), Neal J. Evans (USA), Thomas Henning (Germany), Mika J. Juvela (Finland), Bon-Chul Koo (Republic of Korea), Michal Rozyczka (Poland), L. Viktor Toth (Hungary), Masato Tsuboi (Japan), Ji Yang (China)

Div. VI / Comm. 34 – *Interstellar Matter*

See Division VI

Div. VI / WG – *Star Formation*

Chair
past chair Franceso Palla (Italy)

Div. VI / WG – *Astrochemistry*

chair Ewine F. van Dishoeck (Netherlands)
vice-chair Eric Herbst (USA)
past chair Ewine F. van Dishoeck (Netherlands)

Div. VI / WG – *Planetary Nebulae*

chair Arturo T. Manchado (Spain)

past chair Arturo T. Manchado (Spain)

DIVISION VII – *GALACTIC SYSTEM*

president Despina Hatzidimitriou (Greece)
vice-president Rosemary F. Wyse (USA)
past president Ortwin Gerhard (Germany)
OC members Giovanni Carraro (Italy), Bruce G. Elmegreen (USA), Birgitta Nordström (Denmark)

Div. VII / Comm. 33 – *Structure and Dynamics of the Galactic System*

president Rosemary F. Wyse (USA)
vice-president Birgitta Nordström (Denmark)
past president Ortwin Gerhard (Germany)
OC members Jonathan Bland-Hawthorn (Australia), Sofia Feltzing (Sweden), Burkhard Fuchs (Germany), Dante Minniti (Chile)

Div. VII / Comm. 37 – *Star Clusters & Associations*

president Bruce G. Elmegreen (USA)
vice-president Giovanni Carraro (Italy)
past president Despina Hatzidimitriou (Greece)
OC members Gary S. da Costa (Australia), Richard de Grijs (UK), LiCai Deng (China), Charles J. Lada (USA), Young-Wook Lee (Republic of Korea), Dante Minniti (Chile), Ata Sarajedini (USA), Monica Tosi (Italy)

DIVISION VIII – *GALAXIES AND THE UNIVERSE*

president Elaine M. Sadler (Australia)
vice-president Françoise Combes (France)
past president Sadanori Okamura (Japan)
OC members Roger L. Davies (UK), John S. Gallagher III (USA), Thanu Padmanabhan (India)

Div. VIII / Comm. 28 – *Galaxies*

president Roger L. Davies (UK)
vice-president John S. Gallagher III (USA)
past president Françoise Combes (France)
OC members Stephane J. Courteau (Canada), Avishai Dekel (Israel), Marijn Franx (Netherlands), Chanda J. Jog (India), Sharda Jogee (USA), Naomasa Nakai (Japan), Monica Rubio (Chile), Linda J. Tacconi (Germany), Elena Terlevich (Mexico)

Div. VIII / Comm. 47 – *Cosmology*

president	Thanu Padmanabhan (India)
vice-president	Brian P. Schmidt (Australia)
past president	Rachel L. Webster (Australia)
OC members	Andrew J. Bunker (UK), Benedetta Ciardi (Germany), Yi Peng Jing (China), Anton M. Koekemoer (USA), Ofer Lahav (UK), Olivier Lefevre (France), Douglas Scott (Canada)

Div. VIII / WG – *Supernovae*

chair	
past co-chairs	Wolfgang Hillebrandt (Germany), Brian P. Schmidt (Australia)

DIVISION IX – *OPTICAL AND INFRARED TECHNIQUES*

president	Andreas Quirrenbach (Germany)
vice-president	David R. Silva (USA)
past president	Rolf-Peter Kudritzki (USA)
OC members	Michael G. Burton (Australia), Xiangqun Cui (China), Ian S. McLean (USA), Eugene F. Milone (Canada), Jayant Murthy (India), Steve T. Ridgway (USA), Gražina Tautvaišiene (Lithuania), Andrei A. Tokovinin (Chile), Guillermo Torres (USA)

Div. IX/ Comm. 21 – *Galactic and Extragalactic Background Radiation*

president	Adolf N. Witt (USA)
vice-president	Jayant Murthy (India)
past president	Adolf N. Witt (USA)

Div. IX / Comm. 25 – *Stellar Photometry and Polarimetry*

president	Eugene F. Milone (Canada)
vice-president	Alistair R. Walker (Chile)
past president	Peter Martinez (South Africa)
OC members	Barbara J. Anthony-Twarog (USA), Pierre Bastien (Canada), Jens K. Knude (Denmark), Donald W. Kurtz (UK), John W. Menzies (South Africa), Alexey V. Mironov (Russian Federation), Sheng-Bang Qian (China)

Div. IX / Comm. 25 / WG – *Infrared Astronomy*

chair	Eugene F. Milone (Canada)
vice-chair	Andrew T. Young (USA)
past chair	Eugene F. Milone (Canada)

Div. IX / Comm. 30 – *Radial Velocities*

president	Guillermo Torres (USA)
vice-president	Dimitri Pourbaix (Belgium)
past president	Stephane Udry (Switzerland)
OC members	Geoffrey W. Marcy (USA), Robert D. Mathieu (USA), Tsevi Mazeh (Israel), Dante Minniti (Chile), Claire Moutou (France), Francesco Pepe (Switzerland), Catherine Turon (France), Tomaž Zwitter (Slovenia)

Div. IX / Comm. 30 / WG – *Radial-Velocity Standard Stars*

chair	Stephane Udry (Switzerland)
past chair	Stephane Udry (Switzerland)

Div. IX / Comm. 30 / WG – *Stellar Radial Velocity Bibliography*

chair	Hugo Levato (Argentina)
vice chair	Stella M. Malaroda (Argentina)
past chair	Hugo Levato (Argentina)

Div. IX / Comm. 30 / WG – *Catalog of Orbital Elements of Spectroscopic Binary Systems*

chair	Dimitri Pourbaix (Belgium)
past chair	Dimitri Pourbaix (Belgium)

Div. IX / Comm. 54 – *Optical and Infrared Interferometry*

president	Stephen T. Ridgway (USA)
vice-president	Gerard T. van Belle (Germany)
past president	Guy S. Perrin (France)
OC members	Gilles Duvert (France), Reinhard Genzel (Germany), Christopher Haniff (UK), Christian A. Hummel (Germany), Peter R. Lawson (USA), John D. Monnier (USA), Peter G. Tuthill (Australia), Farrokh Vakili (France)

Div. IX / WG – *Adaptive Optics*

Div. IX / WG – *Large Telescope Projects*

Div. IX / WG – *Small Telescope Projects*

Div. IX / WG – *Sky Surveys*

chair	
past chair	Quentin Parker (Australia)

Div. IX / WG – *Site Testing Instruments*

chair
past chair Andrei A. Tokovinin (Chile)

Div. IX-X / WG – *Encouraging the International Development of Antarctic Astronomy*

chair Michael G. Burton (Australia)
past chair Michael G. Burton (Australia)

Div. IX-X-XI / WG – *Astronomy from the Moon*

chair Heino D. Falcke (Netherlands)
past chair Sallie L. Baliunas (USA)

DIVISION X – *RADIO ASTRONOMY*

president Russell A. Taylor (Canada)
vice-president Jessica M. Chapman (Australia)
past president Ren-dong Nan (China)
OC members Christopher L. Carilli (USA), Gabriele Giovannini (Italy), Richard E. Hills (UK), Hisashi Hirabayashi (Japan), Justin L. Jonas (South Africa), Joseph Lazio (USA), Raffaella Morganti (Netherlands), Monica Rubio (Chile), Prajval Shastri (India)

Div. X / Comm. 40 – *Radio Astronomy*

See Division X

Div. X / WG – *Global VLBI*

chair Steven J. Tingay (Australia)
past chair Jonathan D. Romney (USA)

Div. X / WG – *Interference Mitigation*

chair Willem A. Baan (Netherlands)
past chair Anastasios Tzioumis (Australia)

Div. X / WG – *Astrophysically Important Spectral Lines*

chair Masatoshi Ohishi (Japan)
past chair Masatoshi Ohishi (Japan)

Div. IX-X / WG – *Encouraging the International Development of Antarctic Astronomy*

See Division IX

Div. IX-X-IX / WG – *Astronomy from the Moon*

See Division IX

Div. X-XII / WG – *Historic Radio Astronomy*

chair	Kenneth I. Kellerman (USA)
past chair	Wayne Orchiston (Australia)

DIVISION XI – *SPACE AND HIGH-ENERGY ASTROPHYSICS*

president	Christine Jones (USA)
vice-president	Noah Brosch (Israel)
past president	Günther Hasinger (Germany)
OC members	Matthew G. Baring (USA), Martin A. Barstow (UK), João Braga (Brazil), Evgenij M. Churazov (Germany, Russian Federation), Jean Eilek (USA), Hideyo Kunieda (Japan), Jayant Murthy (India), Isabella Pagano (Italy), Hernan Quintana (Chile), Marco Salvati (Italy), Kulinder Pal Singh (India), Xiaochun Sun (China), Diana M. Worrall (UK)

Div. X / Comm. 44 – *Space and High-Energy Astrophysics*

See Division XI

Div IX-X-XI / WG – *Astronomy from the Moon*

See Division IX

DIVISION XII – *UNION-WIDE ACTIVITIES*

president	Françoise Genova (France)
vice-president	Raymond P. Norris (Australia)
past president	Malcolm G. Smith (Chile)
OC members	Dennis Crabtree (Canada), Olga B. Dluzhnevskaya (Russian Federation), Masatoshi Ohishi (Japan), Rosa M. Ros (Spain), Clive L.N. Ruggles (UK), Nicolay N. Samus (Russian Federation), Virginia L. Trimble (USA), Wim van Driel (France), Glenn M. Wahlgren (USA)

Div. XII / Comm. 5 – *Documentation and Astronomical Data*

president	Masatoshi Ohishi (Japan)
vice-president	Robert J. Hanisch (USA)
past president	Raymond P. Norris (Australia)
OC members	Heinz J. Andernach (Mexico), Marsha Bishop (USA), R. Elizabeth Griffin (Canada), Ajit K. Kembhavi (India), Tara Murphy (Australia), Fabio Pasian (Italy)

Div. XII / Comm. 5 / WG – *Astronomical Data*

chair	Raymond P. Norris (Australia)
past chair	Raymond P. Norris (Australia)

Div. XII / Comm. 5 / WG – *Nomenclature*

chair	Marion Schmitz (USA)
past chair	Marion Schmitz (USA)

Div. XII / Comm. 5 / WG – *Libraries*

co-chairs	Marsha Bishop (USA), Robert J. Hanisch (USA)
past co-chairs	Uta Grothkopf (Germany), Fionn Murtagh (UK)

Div. XII / Comm. 5 / WG – *FITS Data Format*

chair	William D. Pence (USA)
vice-chair	Lucio Chiappetti (Italy)
past chair	William D. Pence (USA)

Div. XII / Comm. 5 / WG – *Virtual Observatories, Data Centers and Networks*

chair	Robert J. Hanisch (USA)
vice-chair	Robert D. Bentley (UK)
past chair	Robert J. Hanisch (USA)

Div. XII / Comm. 5 / TF – *Preservation and Digitization of Photographic Plates*

chair	R. Elizabeth Griffin (Canada)
past chair	R. Elizabeth Griffin (Canada)

Div. XII / Comm. 6 – *Astronomical Telegrams*

president	Nikolay N. Samus (Russian Federation)
vice-president	Hitoshi Yamaoka (Japan)
past president	Alan C. Gilmore (New Zealand)
OC members	Kaare Aksnes (Norway), Daniel W.E. Green (USA), Brian G. Marsden (USA), Syuichi Nakano (Japan), Timothy B. Spahr (USA), Jana Tichá (Czech Republic), Gareth V. Williams

Div. XII / Comm. 6 /Service – *Central Bureau for Astronomical Telegrams (CBAT)*

director	Daniel W. E. Green (USA)
assistant director	Gareth V. Williams (USA)

Div. XII / Comm. 14 – *Atomic and Molecular Data*

president	Glenn M. Wahlgren (USA)

vice-president	Ewine F. van Dishoeck (Netherlands)
past president	Steven R. Federman (USA)
OC members	Peter Beiersdorfer (USA), Milan S. Dimitrijevic (Republic of Serbia), Alain Jorissen (Belgium), Lyudmila I. Mashonkina (Russian Federation), Hampus Nilsson (Sweden), Farid Salama (USA), Jonathan Tennyson (UK)

Div. XII / Comm. 14 / WG – *Atomic Data*

co-chairs	Glenn M. Wahlgren (USA), Jeffrey R. Fuhr (USA)
past chair	Gillian Nave (USA)

Div. XII / Comm. 14 / WG – *Molecular Data*

Co-chairs	Steven R. Federman (USA), Peter Bernath (UK), Holger S.P. Mueller (Germany)
past chair	John Black (Sweden)

Div. XII / Comm. 14 / WG – *Collision Processes*

chair	Gillian Peach (UK)
past co-chairs	Gillian Peach (UK), Milan S. Dimitrijevic (Serbia), Phillip C. Stancil (USA)

Div. XII / Comm. 14 / WG – *Solids and their Surfaces*

chair	Gianfranco Vidali (USA)
past chair	Gianfranco Vidali (USA)

Div. XII / Comm. 41 – *History of Astronomy*

president	Clive L.N. Ruggles (UK)
vice-president	Rajesh Kochhar (India)
past president	Nha Il-Seong (South Korea)
Secretary:	J. A. Belmonte (Spain)
OC members	Brenda Corbin (USA), Teije De Long (Netherlands), Ray Norris (Australia), Luisa Pigatto (Italy), Mitsuru Soma (Japan), Chris Sterken (Belgium), Xiaochun Sun (China)

Div. XII / Comm. 41 / WG – *Archives*

chair	Ileana Chinnici (Italy)
vice-chair	Oscar Matsuura (Brazil)
past chair	Ileana Chinnici (Italy)

Div. XII / Comm. 41 / WG – *Historical Instruments*

chair	Sara J. Schechner (USA)
vice-chair	Tsuko Nakamura (Japan)
past chair	Louisa Pigatto (Italy)

Div. XII / Comm. 41 / WG – *Transits of Venus*

Chair	Hilmar W. Duerbeck (Germany)
past chair	Steven J. Dick (USA)

Div. XII / Comm. 41 / WG – *Astronomy and World Heritage*

Chair	Clive L.N. Ruggles (UK)
Vice-chair	Gudrun Wolfschmidt (Germany)
past chair	Clive L.N. Ruggles (UK)

Div. XII / Comm. 46 – *Astronomy Education and Development*

president	Rosa M. Ros (Spain)
vice-president	John B. Hearnshaw (New Zealand)
past president	Magdalena G. Stavinschi (Romania)
OC members	Chantal Balkovski (France), Jean-Pierre De Greve (Belgium), Susana E. Deustua (USA), Edward F. Guinan (USA), Hans J. Haubold (Austria), Barrie W. Jones (UK), Rajesh Kochhar (India), Hakim L. Malasan (Indonesia), Laurence A. Marshall (USA), George K. Miley (IAU VP, ex-officio, Netherlands), Jay M. Pasachoff (USA), Silvia Torres Peimbert (Mexico)

Div. XII / Comm. 46 / PG – *International Schools for Young Astronomers*

chair	Jean-Pierre De Greve (Belgium)
vice-chair	Kam-Ching Leung (USA)
past chair	Jean-Pierre De Greve (Belgium)

Div. XII / Comm. 46 / PG – *World-Wide Development of Astronomy*

chair	John B. Hearnshaw (New Zealand)
past chair	John B. Hearnshaw (New Zealand)

Div. XII / Comm. 46 / PG – *Teaching for Astronomy Development*

co-chairs	Edward F. Guinan (USA), Laurence A. Marshall (USA)
past co-chairs	Edward F. Guinan (USA), Laurence A. Marshall (USA)

Div. XII / Comm. 46 / PG – *Collaborative Programs*

chair	Hans J. Haubold (Austria)
past chair	Hans J. Haubold (Austria)

Div. XII / Comm. 46 / PG – *National Liaisons on Astronomy Education and Newsletter*

chair	Barrie W. Jones (UK)
past chair	Barrie W. Jones (UK)

Div. XII / Comm. 46 / PG – *Public Understanding at the Times of Solar Eclipses and Transits*

chair	Jay M. Pasachoff (USA)
members	Julieta Fierro (Mexico) and Ralph Chou (Canada)
past chair	Jay M. Pasachoff (USA)

Div. XII / Comm. 46 / PG – *Collaborative Programs; activities cosponsored by UNESCO, COSPAR, UN, ICSU, etc.*

chair	Hans Haubold (Austria)
past chair	Hans Haubold (Austria)

Div. XII / Comm. 46 / PG - *Network for Astronomy Education NASE*

chair	Rosa M. Ros (Spain)
vice-chair	Beatriz García (Argentina)

Div. XII / Comm. 50 – *Protection of Existing and Potential Observatory Sites*

president	Wim van Driel (France)
vice-president	Richard F. Green (USA)
past president	Richard J. Wainscoat (USA)
OC members	Elizabeth M. Alvarez del Castillo (USA), Carlo Blanco (Italy), Dave L. Crawford (USA), Margarita Metaxa (Greece), Masatoshi Ohishi (Japan), Woodruff T. Sullivan, III. (USA), Anastasios Tzioumis (Australia)

Div. XII / Comm. 50 / WG – *Controling Light Pollution*

chair	Richard J. Wainscoat (USA)
past chair	Richard J. Wainscoat (USA)

Div. XII / Comm. 55 – *Communicating Astronomy with the Public*

president	Dennis Crabtree (Canada)
vice-president	Lars Linberg Christensen (Germany)
past president	Ian E. Robson (UK)
OC members	Anja C. Anderson (Denmark), Richard T. Fienberg (USA), Anne Green (Australia), Ajit K. Kembhavi (India), Damineli Neto (Brazil), Oscar Alvarez Pomares (Cuba), Pedro Russo (secretary, Germany), Kazuhiro Sekiguchi (Japan), Patricia Ann Whitelock (South Africa), Jin Zhu (China)

Div. XII / Comm. 55 / WG – *Washington Charter*

chair	Dennis Crabtree (Canada)
past chair	Dennis Crabtree (Canada)

Div. XII / Comm. 55 / WG – *Virtual Astronomy Multimedia Project*

chair Robert L. Hurt (Germany)
past chair Adrienne J. Gauthier (USA)

Div. XII / Comm. 55 / WG – *Communicating Astronomy Journal*

chair Pedro Russo (Germany)
past chair Pedro Russo (Germany)

Div. XII / Comm. 55 / WG – *CAP Conferences*

chair Ian E. Robson (UK)
past chair Ian E. Robson (UK)

Div. XII/Comm. 55/ WG – Johannes Kepler

chair Mahoney, Terence (UK)

Div. XII/Comm. 55/ WG – New Media

chair Lars Christensen (Denmark), Pamela Gay (USA)

Div. X-XII / WG – *Historic Radio Astronomy*

See Division X

13.2 EC Working Groups & NEO Advisory Group

- **Future Large Scale Facilities**
  This WG is currently being reformed.

- **Women in Astronomy**
  Chairs: Sarah T. Maddison (Australia) & Francesca Primas (Germany)

- **International Year of Astronomy 2009**
  Chair: Catherine Cesarsky (France)
  This WG will be disbanded in the course of 2010.

- **IAU General Assemblies**
  Chair: Daniela Lazarro (Brazil)

- **Advisory Committee on Hazards of Near-Earth Objects**
  Chair: David Morrison (USA)

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14. IAU SCIENTIFIC MEETINGS

14.1 IAU Symposia in 2010

IAU S269 **Galileo's Medicean Moons: their Impact on 400 Years of Discovery**

Date and place: 6-9 January, 2010, in Padova, Italy

Coordinating Division: III - Planetary Systems Sciences

Chairs of SOC: Cesare Barbieri (Italy), Angioletta Coradini (Italy), Michael Mendillo (USA), Toby Owen (USA)

Members of SOC: Sushil Atreya (USA), Antonella Barucci (France), Supriya Chakrabarti (USA), Marcello Coradini (France), George Coyne (Vatican), Therese Encrenaz (France), Manuel Grande (UK), Donald Hall (USA), Wing Ip (China, Taipei), Torrence Johnson (USA), H. Uwe Keller (Germany), Sohichi Okano (Japan), Robert Pappalardo (USA), Robert Williams (USA), Nick Schneider (USA), Alexander Zakharov (Russia)

Chairs of LOC: Francesca Ferri, Monica Lazzarin, (Italy)

Members of LOC: Stefano Casotto, Mauro D'Onofrio, Elisa Segato, Lara Vanzan (Italy)

Editors of Proceedings:
Cesare Barbieri (Italy), Marcello Coradini (France), Supriya Chakrabarti (USA)

Topics

1 - The discovery of the Medicean Moons, the history, the influence on science and humanity
2 - The Medicean Moons, Jupiter's system, the legacy of NASA Galileo mission, future missions to Jupiter
3 - Our solar system after Galileo Galilei, the grand vision
4 - New telescopes, new solar systems, new people out there?

Contact: Cesare Barbieri <cesare.barbieri@unipd.it>
URL: http://www.unipd.it/astro2009/iniziative.html

IAU S270 **Computational Star Formation: Playing by the Numbers?**

Date and Place: 31 May-4 June 2010, in Barcelona, Spain

Coordinating Division: VI - Interstellar Matter

Chairs of SOC: J. Alves (Spain), B. Elmegreen (USA), V. Trimble (USA)

Members of SOC: T. Abel (USA), J. Ballesteros-Paredes (Mexico), I. Bonnell (UK), F. Bournaud (France), A. Burkert (Germany), C. Dobbs (UK), G. Gensler (Austria), J. Girart (Spain), W-T. Kim (Republic of Korea), R. Klessen (Germany), M. Krumholz (USA), J. Makino (Japan), F. Nakamura (Japan), A. Nordlund (Denmark), R. Pudritz (Canada), A. Tutukov (Russia)

Chairs of LOC: J. Alves, J. Girart (Spain)
Members of LOC: J. Isern, R. Estalella (Spain)

Editors of Proceedings:
J. Alves (Spain), B. Elmegreen (USA), V. Trimble (USA)

Topics

1 - Computer and algorithmic techniques for gas dynamics and particle dynamics
2 - Special purpose versus generalized hardware
3 - Simulations of single star formation
4 - Simulations of star formation in clusters
5 - Simulations of early phase cluster evolution
6 - Simulations of late phase cluster evolution
7 - Simulations of the IMF
8 - Simulations of young galaxy evolution
9 - Simulations of star formation triggering during galaxy interactions
10 - Simulations of star formation in normal galaxies

Contact: Joao Alves, <jalves@caha.es>
URL: http://www.iaus270.org

IAUS 271 **Astrophysical Dynamics: from Stars to Galaxies**
Date and Place: 21-25 June 2010, in Nice, France

Coordinating Division: IV - Stars

Chair(s) of SOC: Nic Brummell (USA), Allan Sacha Brun (France)

Members of SOC: Kwing Chang (China, Nanjing), Paul Charbonneau (Canada), Joergen Christensen-Daalsgaard (Denmark), David Galloway (Australia), Douglas Gough (UK), Siraj Hasan (India), Mark S. Miesch (USA), Keith Moffatt (UK), Yannick Ponty (France), Annick Pouquet (USA), Steve Tobias (UK), Nigel Weiss (UK), Ellen Zweibel (USA), Jean-Paul Zahn (France)

Chairs of LOC: Allan Sacha Brun, Yannick Ponty (France)

Members of LOC: Nicolas Bessolaz, Pascale Chavegrand, Laurène Jouve, Stephane Mathis, Sylvie Szeles, Bruno Thooris (France)

Editors of Proceedings:
Nic Brummell (United States), Allan Sacha Brun (France), Yannick Ponty (France), Mark S. Miesch (USA)

Topics
1 - The Sun and Stars: Observational constraints, theory and models
2 - Galaxies: Observational constraints, theory and models
3 - Nonlinear Astrophysics
4 - Astrophysical turbulence
5 - Cosmic magnetism

Contact: Allan Sacha Brun <sacha.brun@cea.fr>, Nic Brummell <brummell@soe.ucsc.edu>
URL: http://irfu.cea.fr/Projets/IAUSymp271

IAU S272 **Active OB stars: structure, evolution, mass loss, and critical limits**
Date and Place: 19-23 July 2010, in Paris, France

Coordinating Division: IV - Stars

Chair of SOC: Coralie Neiner (France)

Members of SOC: J.-C. Bouret (France), L. Cidale (Argentina), J. Fabregat (Spain), M. Gagne (USA), D. Gies (USA), E. Janot-Pacheco (Brazil), G. Meynet Switzerland, G. Peters (USA), T. Rivinius (Chile), H. Saio (Japan), R. Townsend (USA), G. Wade (Canada)

Chairs of LOC: E. Alecian, M. Floquet, A.-M. Hubert, O. Martins, A. Oger (France)
Members of LOC: B. de Batz, F. Espinosa, Lara B. Leroy, C. Neiner, T. Semaan, S. Taburet, S. Kimmel, L. Gareaux (France)

Editors of Proceedings:
C. Neiner (France), G. Wade (Canada), G. Meynet (Switzerland), G. Peters (USA)

Topics
1 - internal structure of active massive stars: pulsations, rotation, magnetism, transport processes
2 - their evolution: stellar environment, formation, binaries, late stages

(including magnetars and GRBs)
3 - their circumstellar environment: disks, magnetospheres, the Be phenomenon, wind, clumping
4 - active massive stars as extreme condition test beds: critical rotation, mass loss, radiation fields
5 - 'normal' massive stars as calibrators: fundamental parameters, astronomical quantities
6 - populations of massive stars: stellar population studies, tracers of galactic structure, cosmic history

Contact: Coralie Neiner <coralie.neiner@obspm.fr>
URL: http://iaus272.obspm.fr/

IAU S273 **Physics of Sun and Star Spots**
Date and Place: 23-26 August, 2010, in Los Angeles, California, USA

Coordinating Division: II - Sun & Heliosphere

Chairs of SOC: Debi Prasad Choudhary (USA), Klaus G. Strassmeier (Germany)

Members of SOC: Jan O. Stenflo (Switzerland), Carsten Denker (Germany), Eric Priest (UK), Edward Rhodes (USA), T. Sakurai Japan, Haimin Wang (USA), Cristina Mandrini (Argentina), Donald B. Melrose (Australia), Z. Hongqi (China, Nanjing), Oddbjørn Engvold (Norway), Brigitte Schmieder (France), Michal Sobotka (Czech Republic), Suzanne Hawley (USA), Ashoke K. Sen (India), Siraj Hasan (India), Karel A. van der Hucht (Netherlands)

Chairs of LOC: Ana Cristina Cadavid, Debi Prasad Choudhary, (USA)
Members of LOC: Gary Chapman, Anna Cristina Dadavid, Jan Dobias, Dora Preminger, John Lawrence, Dora Preminger Cristian Damian, Angie Cookson, John Hodgson, (USA)

Editors of Proceedings:
Debi Prasad Choudhary (USA), Klaus G. Strassmeier (Germany)

Topics
1 - Formation and Decay of Sunspots
2 - Solar Magnetism
3 - Origin of Solar Activity
4 - Formation and Evolution of Star Spots
5 - Stellar Magnetism
6 - Star Spots and Stellar Activity

7 - Observational Techniques
8 - Unified Approach in Understanding Sun and Star Spots

Contact: Debi Prasad Choudhary <debiprasad.choudhary@csun.edu>
URL: http://www.csun.edu/PhysicsAndAstronomy/IAUS273.htm

IAU S274 **Advances in Plasma Astrophysics**
Date and Place: 6-10 September, 2010, in Catania, Italy

Coordinating Division: II - Sun & Heliosphere

Chairs of SOC: A. Bonanno (Italy), E. de Gouveia dal Pino (Brazil), R. Rosner (USA), A. Kosovichev (USA)

Members of SOC: A. Brandenburg (Sweden), A. J. Green (Australia), M. Goossens (Belgium), G. Haerendel (Germany), Eun-Jin Kim (UK), H. Ji (USA), K. Shibata (Japan), R. Lovelace (USA), G. Belvedere (Italy), Michael Shats (Australia), K. Otmianowska-Mazur (Poland), L. Vlahos (Greece), L. Zeleny (Russia), D. Wu (China, Nanjing)

Chairs of LOC: A. Bonanno, G. Belvedere (Italy)
Members of LOC: D. Recupero G.Santagati, G. Umana, C. Trigilio, P. Romano, S. Ivanovski, N. Gammino, S. Tudisco (Italy)

Editors of Proceedings:
A. Bonanno (Italy), A. Kosovichev (USA)

Topics
The symposium topics will focus on recent observational, theoretical and experimental efforts in understanding the basic plasma processes in the Universe, with broad synergies with many areas of astrophysics, including the origin and dynamics of magnetic fields (the dynamo problem), the origin of x-ray emitting coronas and the role of magnetic reconnection, acceleration of charged particles and cosmic rays, the ejection of winds and jets from highly-evolved stars and supernova remnants, plasma radiation processes, MHD turbulence in astrophysical objects and in the interstellar medium and the solar wind, and other key problems in modern plasma astrophysics.

Contact: Alfio Bonanno <abo@oact.inaf.it>
URL: http://plasma.oact.inaf.it/

IAU S275 **Jets at All Scales**
Date and Place: 13-17 September, 2010, in Buenos Aires, Argentina

Coordinating Division: XI - Space & High Energy Astrophysics

Chair of SOC: Gustavo E. Romero (Argentina)

Members of SOC: Tomaso Belloni (Italy), Alberto J. Castro-Tirado (Spain), Stephane Corbel (France), Elena Gallo (USA), Marat Gilfanov (Germany), Elisabete M. de Gouveia Dal Pino (Brazil), Jochen Greiner (Germany), Emrah Kalemci (Turkey), Amir Levinson (Israel), Sera Markoff (Netherlands), Shin Mineshige (Japan), Josep M. Paredes (Spain), Rita M. Sambruna (USA), Rashid Sunyaev (Germany), Jörn Wilms (Germany)

Chair of LOC: Gustavo E. Romero (Argentina)
Members of LOC: Deborah Aguilera (Argentina) Ileana Andruchow (Argentina), Sergio A. Cellone (Argentina), Sofía A. Cora (Argentina), Jorge A. Combi (Argentina), Leonardo Pellizza (Argentina), Mariana Orellana (Chile), Matías Reynoso (Argentina)

Editors of Proceedings:
Gustavo E. Romero (Argentina), Rashid Sunyaev (Germany), Tomaso Belloni (Italy)

Topics
1 - Formation and content of astrophysical jets
2 - Jets from protostars
3 - Jets from microquasars
4 - Jets from Active Galactic Nuclei
5 - Jets from Gamma-Ray Bursts
6 - Accretion and its relation to jets
7 - Black hole physics
8 - Neutron stars and jets
9 - Multiwavelength observations of jets
10 - Radiative processes in jets

Contact: Gustavo Romero, <romero@iar-conicet.gov.ar>
URL: http://jaas.iar-conicet.gov.ar/

IAU S276 **The Astrophysics of Planetary Systems: Formation, Structure and Dynamical Evolution**
Date and Place: 11-15 October, 2010, in Torino, Italy

Coordinating Division: III - Planetary Systems Sciences

Chair of SOC: Alessandro Sozzetti (Italy)

Members of SOC: Yann Alibert (France), Pawel Artymowicz (Canada), Isabelle Baraffe (France), Alan Boss (USA), Eric Ford (USA), Raffaele Gratton (Italy), Wilhelm Kley (Germany, Maciej Konacki (Poland), David Latham (USA), Gregory Laughlin (USA), Michel Mayor (Switzerland), Tzevi Mazeh (Israel), Tatiana Michtchenko (Brazil), Richard Nelson (UK), Ji-Lin Zhou (China, Nanjing)

Chair of LOC: Alessandro Sozzetti (Italy)
Members of LOC: Maria Teresa Crosta, Mario Lattanzi, Roberto Morbidelli, Maria Sarasso, Alberto Vecchiato (Italy)

Editor of Proceedings:
Alessandro Sozzetti (Italy)

Topics
1 - Multiple-Planet Systems: Observations
2 - Multiple-Planet System: Models of Formation, Structure, and Evolution
3 - Multiple-Planet Systems:
4 - Long-Term Dynamical Evolution

Contact: Alessandro Sozzetti <sozzetti@oato.inaf.it>
URL: http://iaus276.oato.inaf.it/IAUS_276/index.htm

IAU S277 **Tracing the Ancestry of Galaxies (on the land of our ancestors)**
Date and Place: 13-17 December, 2010, in Ouagadougou, Burkina Faso

Coordinating Division: VIII - Galaxies & the Universe

Chairs of SOC: Claude Carignan (Canada), Ken C. Freeman (Australia)

Members of SOC: Leo Blitz (USA), David Block (South Africa), W. J. G. de Blok (South Africa), Martin Bureau (UK), Françoise Combes (France), Stéphane Courteau (Canada), Kambiz Fathi (Sweden), Natascha M. Förster Schreiber (Germany), Rafael Guzman (USA), Claudia Mendes de Oliveira (Brazil), Julio Navarro (Canada), Max Pettini (UK), Yoshiaki Sofue (Japan), Matthias Steinmetz (Germany)

Chairs of LOC: Monique Mujawamariya (Canada), Juliette Bouda (Burkino Faso)
Members of LOC: Hamado Tougri (Burkina Faso), Juliette Bouda (Burkina Faso), Pierre Sanon (Burkina Faso), Zacharie Kam Sié (Canada & Burkina Faso), Yacouba Djabo (Canada & Burkina Faso), Luc Turbide (Canada), Marie-Maude de Denus-Baillargeon (Canada), Olivier Hernandez (Canada)

Editors of Proceedings:
Claude Carignan (Canada), Ken C. Freeman (Australia), Françoise Combes (France)

Topics
1 - Multi-wavelength surveys of deep fields
2 - Multi-wavelength surveys of large nearby galaxy samples (UV, optical, IR, CO, HI, …)
3 - 3D surveys of low, intermediate and high redshift galaxies
4 - Interpretation of high redshift kinematical data (mergers, star bursts, …)
5 - High redshift progenitors of local galaxies
6 - Downsizing, high redshift red galaxies, bimodal galaxy populations, scaling relations
7 - Baryon acquisition and settling of baryons in cold disks
8 - Integrated and resolved stellar populations
9 - Star formation and mass assembly history of galaxies

Contact: Claude Carignan <claude.carignan@umontreal.ca>
URL: http://www.iaus277.org/

14.2 Regional IAU Meetings in 2010 and 2011

LARIM-2010 XIII Latin American Regional IAU Meeting
Date and Place: 8-12 November, 2010, in Morelia, Mexico

Coordinating Division: X - Radio Astronomy

Chair of SOC: Luis F. Rodriguez (Mexico)

Members of SOC: Luiz P. R. Vaz (Brazil), Rene Mendez (Chile), Gustavo Romero (Argentina), Vladimir Avila-Reese (Mexico), Gonzalo Tancredi (Uruguay), Anna K. Vivas (Venezuela)

Chair of LOC: Enrique Vazquez-Semadeni (Mexico)
Members of LOC: Adriana Gazol, Yolanda Gomez, Ricardo Gonzalez, Jane Arthur, Will Henney (Mexico)

Editors of Proceedings:
Will Henney (Mexico), Silvia Torres-Peimbert (Mexico)

Topics
1 - Solar and Planetary Astronomy
2 - Stellar Astronomy

3 - Interstellar Medium
4 - Galactic Structure
5 - Extragalactic Astronomy
6 - Cosmology
7 - Multiwavelength Astronomy
8 - Instrumentation and telescopes

Contact: Luis F. Rodriguez <l.rodriguez@crya.unam.mx>
URL: t.b.d.

MEARIM 2: **2nd Middle-East Africa IAU Regional Meeting**
Date and Place: 10-14 April, 2011 (t.b.c.), in Cape Town, South Africa.

Chair of SOC: to be confirmed
Chair of LOC: to be confirmed

Topics: All areas in Astronomy and Astrophysics.
Contact: P Charles <pac@saao.ac.za>

APRIM 2011: **XI Asian-Pacific Regional IAU Meeting**
Date and Place: 26-29 July, 2011, in Chiang Mai, Thailand

Coordinating Division: I - Fundamental Astronomy

Chairs of SOC: Boonrucksar Soonthornthum, Busaba Kramer (Thailand)

Chairs of LOC: Boonrucksar Soonthornthum (Thailand), Sampan Singharajwarapan (Thailand)

Topics: All areas in Astronomy and Astrophysics
Contacts: <busaba@narit.or.th> or <kbusaba@gmail.com>

14.3 Post Meeting Reports 2009

These will be on the IAU website early in 2010.

15. Other meetings of astrophysical interest

Putting our Solar System in Context: Origin, Dynamical and Physical ; Evolution of Multiple Planet Systems
25 - 30 April 2010

Universitätszentrum Obergurgl, Austria
Organised by the ESF in partnership with LFUI
Chairs: Mario G. Lattanzi and Alessandro Sozzetti, Osservatorio Astronomico di Torino, Italy <http://www.oato.inaf.it/>
Closing date for applications: 31 January, 2010

Future Professional Communication in Astronomy II
13-14 April, 2010
Harvard Smithsonian Center for Astrophysics, Cambridge, MA, USA
http://conf.adsabs.harvard.edu/FPCA2/

Probing Strong Gravity with Gravitational and Electromagnetic Waves
18-25 July, 2010 at the 38th COSPAR Scientific Assembly
Bremen, Germany
Abstract Submission Deadine: 19 February, 2010

For more information, see:
www.cospar2010.org/index.html
www.cospar-assembly.org/
www.cospar-assembly.org/admin/congress_overview.php?sessionid=216
www.brera.inaf.it/gravity2010/index.html
Contact: gravity2010@brera.inaf.it

COSPAR Capacity Building Workshop on: X-ray Astrophysics; an advanced school for Latin American astronomers
July 2011 in San Juan, Argentina
Jointly organised by the Instituto de Ciencieas Astronómico de la Tierra y del Espacio, ICATE-CONICET, the Universidad Nacional de San Juan, and the Observatorio Astronomico de La Plata

16. IAU PUBLICATIONS

16.1 Highlights and Transactions

IAU Highlights of Astronomy 15
This will be published by CUP early in 2010.

IAU Transactions XXVIIB and XXVIIIA
Transactions XXVIIB will be published by CUP in 2010.
Transactions XXVIIA will be published by CUP in 2012.

16.2 IAU Symposium Proceedings

Published in 2009:

IAU S256 The Magellenic System: Stars, Gas, and Galaxies
28 July – 1 August 2008, Keele University, Staffordshire, UK
Eds. J. Th. Van Loon, J. M. Oliveira
(Cambridge: CUP) ISBN: 9780-52188-987-2 March 2009

IAU S257 Universal Heliophysical Processes
15-19 September 2008, Ionnina, Greece
Eds. N. Gopalswamy, D. F. Webb
(Cambridge: CUP) ISBN: 9780-52188-988-9 March 2009

IAU S258 The Ages of Stars
13-17 October 2008, Baltimore, MD, USA
Eds. E. Mamajek, D. R. Soderblom, R. F. Wyse
(Cambridge: CUP) ISBN: 9780-52188-989-6 June 2009

IAU S259 Cosmic Magnetic Fields: from Planets, to Stars and Galaxies
3-7 November 2008, Puerto Santiago, Tenerife, Spain
(Cambridge: CUP) ISBN: 9780-52188-990-2 April 2009

To be published in 2009/2010:

IAUS 260 The Role of Astronomy in Society and Culture
19-23 January 2009, Paris, France
Ed. David Valls-Gabaud & A. Boksenberg
(Cambridge: CUP) ISBN: 9780-521-76477-3

IAUS 261 Relativity in Fundamental Astronomy
27 April - 1 May 2009, Virginia Beach, USA
Ed. S. Klioner, K. Seidelmann, M. Soffel
(Cambridge: CUP) ISBN: 9780-521-76481-0

IAUS 262 Stellar Populations – Planning for the Next Decade
3-7 August 2009, Rio de Janeiro, Brazil
Eds. G. Bruzual & S. Charlot
(Cambridge: CUP) ISBN: 9780-521-76484-1

IAUS 263 Icy Bodies in the Solar System
3-7 August 2009, Rio de Janeiro, Brazil
Eds: J. Fernandez, D. Lazzaro, D. Prialnik-Kovetz
(Cambridge: CUP) ISBN: 9780-521-76488-9

IAUS 264 Solar and Stellar Variability – Impact on Earth and Planets
3-7 August 2009, Rio de Janeiro, Brazil
Eds. A. Andrei, A. Kosovichev, J-P Rozelot
(Cambridge: CUP) ISBN: 9780-521-76492-6

IAUS 265 Chemical Abundances in the Universe – Connecting First Stars to Planets
10-14 August 2009, Rio de Janeiro, Brazil
Eds. K. Cunha, M. Spite, B. Barbuy
(Cambridge: CUP) ISBN: 9780-521-76495-7

IAUS 266 Star Clusters – Basic Galactic Building Blocks throughout Time and Space
10-14 August 2009, Rio de Janeiro, Brazil
Eds. R. de Grijs, J. R. D. Lépine
(Cambridge: CUP) ISBN: 9780-521-76499-5

IAUS 267 Co-evolution of Central Black Holes and Galaxies
10-14 August 2009, Rio de Janeiro, Brazil
Eds. B. Peterson, R. Somerville, T. Storchi-Bergmann
(Cambridge: CUP) ISBN: 9780-521-76502-2

IAUS 268 Light Elements in the Universe
9-13 November 2009, Geneva, Switzerland
Eds. C. Charbonnel, M. Tosi, F. Primas, C. Chiappini
(Cambridge: CUP) ISBN: 9780-521-76506-0

To access the CUP IAUS Proceedings go to
http://journals.cambridge.org/action/displayJournal?jid=IAU

For a complete list of IAU Symposium and Colloquium Proceedings, see:
http://www.iau.org/science/publications/iau/colloquium/list/
http://www.iau.org/science/publications/iau/symposium/list/

16.3 IAU Editorial Board 2009 – 2012

The IAU Editorial Board comprises the Chairman (the Assistant Secretary General), three advisers, and the chief editors of the IAU symposia for that year.

The EB for 2009, post the General Assembly, is:
Chair
Thierry Montmerle, *Laboratoire d'Astrophysique, Observatoire de Grenoble, 414, Rue de la Piscine, Domaine Universitaire, BP 53, F-38041 Grenoble Cedex 09, France*
Advisers:
Ian F. Corbett, IAU General Secretary, *IAU Secretariat, 98bis, bd Arago, 75014 Paris, France*
Uta Grothkopf, *ESO Library, Karl-Schwarzschild-Str 2, D-85748 Garching, Germany*
Christiann Sterken, *University of Brussels, Pleinlaan 2, 1050 Brussels, Belgium*

Members
IAUS 260 D. Valls-Gabaud, *GEPI - Observatoire de Paris, 92195 Meudon, France*
IAUS 261 S. A. Klioner, *Dresden Technical University, 01062 Dresden, Germany*
IAUS 262 G. R. Bruzual, *CIDA, 5101-A Merida, Venezuela*
IAUS 263 J. A. Fernandez, *Depto. Astronomia, 11400 Montevideo, Uraguay*
IAUS 264 A. Kosovichev, *Stanford University, Stanford, CA 94305-4085, USA*
IAUS 265 K. Cunha, *NOAO, La Serena, Chile*

IAUS 266 R. de Grijs, *Kavli Institute for Astronomy and Astrophysics, Peking University, Beijing 100871, China Nanjing and University of Sheffield, Sheffield, UK*
IAUS 267 B. Peterson, *Ohio State University, 43219 Columbus, USA*
IAUS 268 C. Charbonnel, *Geneva Observatory, CH-1290 Sauverny, Switzerland*

The EB for 2010 is:
Chair
Thierry Montmerle, *Laboratoire d'Astrophysique, Observatoire de Grenoble 414, Rue de la Piscine, Domaine Universitaire, BP 53, 38041 Grenoble Cedex 09, FRANCE*
Advisers:
Ian F. Corbett, IAU General Secretary, *IAU Secretariat, 98bis, bd Arago, 75014 Paris, France*
Uta Grothkopf, *ESO Library, Karl-Schwarzschild-Str 2, 85748 Garching, Germany*
Christiann Sterken, *University of Brussels, Pleinlaan 2, 1050 Brussels, Belgium*

Members :
IAUS 269 C. Barbieri, *University of Padua, Department of Astronomy, 35122 Padova, Italy*
IAUS 270 J. Alves, *Calar Alto Observatory – CAHA, 04004 Almeria, Spain*
IAUS 271 N. Brummell, *Applied Mathematics and Statistics, University of California Santa Cruz, Santa Cruz, CA 95064, USA*
IAUS 272 C. Neiner, *GEPI, Observatoire de Meudon, 92195 Meudon Cedex, France*
IAUS 273 D. Choudhary, *Department of Physics and Astronomy, California State University Northridge, Northridge, CA 91330-8229, USA*
IAUS 274 A. Bonanno, *INAF - Catania Astrophysical Observatory, 95125, Catania, Italy*
IAUS 275 G. Romero, *Instituto Argentino de Radioastronomía (IAR), Villa Elisa 1894, Provincia de Buenos Aires, Argentina*
IAUS 276 A. Sozzetti, *INAF - Osservatorio Astronomico di Torino, 00025 Pino Torinese, Italy*
IAUS 278 *C. Carignan, Laboratoire d'Astrophysique Expérimentale (LAE), Université de Montréal, Montréal, Qc, H3C 3J7, Canada*

16.4 Proceedings of Regional IAU Meetings

These are published by the local organisers and not the IAU.

Proc. 1st Middle East and Africa Regional IAU Meeting (MEARIM 2008)
5 - 10 April 2008, Cairo, Egypt
Eds. Athem W. Alsabti, Ahmed Abdel Hady & Volker Bothmer
(Cairo: University of Cairo Press), 2009

Proc. 10th Asian-Pacific Regional IAU Meeting (APRIM 2008)
3 - 6 August 2008, Kunming, China
Eds. Shuang-Nan Zhang, Yan Li, Qingjuan Yu & Guo-Qing Liu

(Beijing: China Science & Technology Press), June 2009

17. Scientific Committee on Solar-Terrestrial Physics (SCOSTEP)

17.1 New Scientific Program

The primary scientific activity of the Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) has been the CAWSES (Climate and Weather of the Sun-Earth System) program, since 2004. It ended in 2008. During the past year, there has been extensive discussion on the follow up to the successful CAWSES program. The SCOSTEP Bureau has approved a new program CAWSES II to start in the year 2010. The CAWSES II program will promote the successful aspects of the CAWSES program and initiate activities to address the following scientific questions: (1) What are the solar influences on Earth's climate? (2) How will geospace respond to an altered climate? (3) How does short-term solar variability affect the geospace environment? (4) What is the geospace response to variable waves from the lower atmosphere? Six task groups have been established to achieve the objectives of the CAWSES-II program.

- Solar influences on climate
  Co-chairs: J. Haigh (UK) and I. Usoskin (Finland)
  This task group will study the solar variability that drives geo-space and the atmosphere on time scales ranging from minutes to millennia.
- Geospace response to an altered climate
  Co-chairs: D. Marsh (USA) and J. Laštovička (Czech Republic)
  This group will study the radiative, chemical, and dynamical forcing from below that contributes to disturbances of the upper atmosphere and ionosphere.

- Short-term solar variability and the geospace environment
  K. Shibata (Japan) and J. Borowski (USA)
  This task group will study how solar flares, coronal mass ejections, and high speed streams affect the magnetosphere, ionosphere, and the atmosphere due to plasma and energetic particle impact.

- Geospace response to variable waves from the lower atmosphere
  J. Oberheide (Germany) and K. Shiokawa (Japan)
  This group will investigate how the tropospheric weather (rain storms, lightening, hurricanes) affects space weather.

- Capacity building
  R. Vincent, B. Schmieder, CAWSES leadership
  This group will work on how to support of scientists, graduate students and young scientists to attend scientific meetings and access data, tools and models.

- Escience and cyberinfrastucture
  Janet Kozyra and Peter Fox
  This group will work on the development of cyber infrastructure to organize and conduct science and help create an International Virtual Institute for CAWSES science.

17.2 Preparation of STP-12

SCOSTEP's Symposium STP12 to be held in Berlin 12-16 July, 2010. This is the twelfth in the series of Solar-Terrestrial Physics Symposia organized by SCOSTEP. The symposium will focus on the understanding of the short term (Space Weather) and long term (Space Climate) variability of the integrated solar-terrestrial environment. Each morning the symposium will offer tutorial lectures/keynotes that will be of interest to all participants and will provide more focused sessions in the afternoon. The scientific organizing committee is headed by R. Vincent, and the local organizing committee is chaired by F. J. Luebken. The URL of the conference web site is:
http://www.iap-kborn.de/SCOSTEP2010/index.php

17.3 Outreach Activities

SCOSTEP/CAWSES has undertaken an effort to popularize solar-terrestrial science to the general public by promoting the "cartoon books" initiated by the Solar-terrestrial Environment Laboratory in Nagoya, Japan. Currently nine comic books are available online at the SCOSTEP website and can be freely downloaded at <http://www.scostep.ucar.edu>. The comic books are published in English and Japanese. In addition, a blank "balloon" version of these books is available for translation into other languages. We have received requests to translate comic books into twenty languages besides English and Japanese: Chinese, Czech, Danish, Greenlandic, French, Finnish, Hebrew, Italian, Korean, Russian, Spanish, Swedish, Thai, Turkish, two Indian languages (Hindi and Marathi), and four Nigerian languages (Hausa, Igbo, Yorba, and Pidgin). So far selected comic books have been translated into Hindi, French, Italian, Spanish, and Korean. Selected comic books in Italian are also available on SCOSTEP website.

17.4 SCOSTEP Bureau Meetings

Two SCOSTEP bureau meetings were held recently: The first one in Boulder Colorado (18 April, 2009) and the second during the IAGA scientific assembly in Sopron, Hungary (30 August, 2009). The primary purpose of these meetings was to finalize the scientific activities in each of the task groups and appointing the scientific leads. The Bureau meetings were attended by S. Avery and A. Rodger, who have been appointed to lead the CAWSES-II program. Nat Gopalswamy attended both the meetings as the IAU member of the bureau.

17.5 SCOSTEP Sponsored Scientific Meetings and Workshops

SCOSTEP either endorsed or provided financial support to the following meetings:

- The 12th International Symposium on Equatorial Aeronomy (ISEA-12), 18-24, May 2008, Crete, Greece.
- The International Workshop on Solar Variability, Earth's Climate and the Space Environment, 1-6 June, 2008, Bozeman, Montana, USA
- The CAWSES Tidal workshop, 18-22 August, 2008, Fredericton, New Brunswick, Canada
- 5th IAGA/ICMA/CAWSES workshop "Long Term Changes and Trends in the Atmosphere, 9-12 September, 2008, St. Petersburg, Russia
- The African IHY School, 10-22 November, 2008, Enugu, Nigeria
- The International School on Atmosphere-Ionosphere Remote Sounding and Modeling, 6-17 October, 2008, Chung-Li, Taiwan
- The IHY Africa/SCINDA 2009 Workshops, 8-12 June, 2009, Livingstone, Zambia
- The UN/ESA/NASA/JAXA Workshop on Basic Space Science and IHY, 22 -25 September, 2009, Daejeon, Korea

17.6 SCOSTEP Publications

Selected Papers from the 2007 Kyoto Symposium have recently published in a book, "Climate and Weather of the Sun-Earth System (CAWSES)," edited by T. Tsuda, R. Fujii, K. Shibata, and M. A. Geller. The book is available on-line: http://www.terrapub.co.jp/onlineproceedings/ste/CAWSES2007/index.html

Nat Gopalswamy, IAU Representative to SCOSTEP, 04 November 2009
NASA/GSFC, Greenbelt MD, USA <nat.gopalswamy@nasa.gov>

18. Commission 41: Highlights of the Kazan conference on "Astronomy and World Heritage: Across Time and Continents"

As part of the cycle of activities planned by the UNESCO - IAU Astronomy and World Heritage Initiative during 2009, within the framework of the IYA Global Cornerstone Project on Astronomy and World Heritage, an international conference on "Astronomy and World Heritage: Across Time and Continents" was held at Kazan in the Russian Federation on 19-23 August, at the kind invitation of the Government of the Republic of Tatarstan and the Russian National Commission for UNESCO.

One of the aims of the meeting was to discuss and provide input for the Thematic Study on the Heritage Sites of Astronomy and Archaeoastronomy being prepared by the IAU's Working Group on Astronomy and World Heritage together with the International Council on Monuments and Sites (ICOMOS),

the Advisory Body to UNESCO that assesses nominations of cultural sites for inscription onto the World Heritage List.

Four members of the Working Group who are contributing to the Thematic Study provided introductory case studies illustrating the chronological range that the document has to span. These were Michael Rappenglück (Germany) on the astronomical heritage of the palaeolithic epoch; Clive Ruggles (UK) on archaeo-astronomical sites and monuments; Gudrun Wolfschmidt (Germany) on modern observatories and instruments; and Jarita Holbrook (USA) on indigenous astronomy and its heritage. Two days of scientific papers provided numerous case studies split roughly equally between "cultural astronomy" (i.e. ancient and indigenous astronomy) and the heritage of modern scientific astronomy. The geographical focus was on Asia and Eastern Europe, to complement other meetings being held during the year. In addition, a special expert group chaired by Academicians Mikhail Marov and Alexander Boyarchuk together with Cosmonaut Georgy Grechko submitted a formal proposal for the Thematic Study regarding the technological heritage connected with space exploration.

One of the key outcomes of the meeting was a resolution formally agreed and accepted during a cruise up the River Volga that provided the culmination of an excellent social programme. This provides a set of key recommendations including:

- The need for inter-convention recognition. This is extremely important, because the significance to humankind of a place connected with astronomy is not just a consequence of the "tangible immoveable" heritage that remains there – the monuments, buildings and fixed instruments that are eligible for inscription onto the World Heritage List – but also of the moveable items (portable instruments and artefacts, archives, etc.) and the range of intangible heritage (ideas, discoveries, people) that are linked with the place.
- That States Parties who wish to submit nominations relating to astronomical heritage should be authorised to do this in addition to their existing quota, until the point is reached at which astronomical heritage properties constitute at least 1% of all World Heritage properties.
- To promote the creation of networks between directors of observatories to consider astronomical heritage issues.
- To promote the recognition of the ability to see natural starlight in a truly dark night sky as a contributing factor to the natural heritage of a place.

Our expectation is that these resolutions will be passed on in due course to the UNESCO World Heritage Committee.

Clive Ruggles, President of Commission 41

19. Activities Related to the IHY Program

The International Heliophysical Year (IHY) is an international program of scientific research and collaboration to understand the external drivers of the space environment and climate. Planning began in 1999 culminating in the "year" spanning 2007-2009 (the 50th anniversary of the International Geophysical Year). The IHY involved utilizing the existing assets from space and ground as a distributed Great Observatory and the deployment of new instrumentation, new observations from the ground and in space, and public and student education. There were IHY national committees in 78 nations, involving the efforts of thousands of scientists. IHY officially closed on February 18, 2009 at a ceremony at the United Nations in Vienna, Austria. Many IHY follow-on activities will continue over the next few years and will be transitioned to the new International Space Weather Initiative (ISWI). A preliminary ISWI work plan was adopted by the UN Office of Outer Space Affairs for 2010-2012. A steering committee has been established, and the first instrument coordination workshop took place 19-20 November, 2009 in Rabat, Morocco. An ISWI space science school for graduate students is being planned for Autumn 2010 in Ethiopia.

Within the IAU, coordination of IHY activities has been within the Solar and Heliosphere Division (II). David Webb is the IAU representative to the IHY and will continue as the representative for the new ISWI. Hans Haubold has led the IHY effort for the United Nations under the auspices of the United Nations Committee on the Peaceful Uses of Outer Space (CUPOUS) and the U.N. Basic Space Science (UNBSS) program.

A total of 65 science campaigns were initiated for the IHY, including the Whole Heliosphere Interval (WHI), which involved over 100 scientists and 50 instruments. IHY science sessions were held worldwide, and many IHY meetings helped expand the frontier of heliophysical research into the developing world. An annual series of workshops from 2005-2009 focused on UNBSS activities identifying and implementing science and instrumentation opportunities in developing nations.

A major achievement of the IHY was the deployment of instrument arrays, particularly in regions where measurements were most needed. Each program involved a team of scientists working together on problems of mutual interest. The distributed instrument program, also developed through the UNBSS program, facilitated the deployment of a wide range of instrument arrays all over the world, including places that were thought to be unreachable.

IHY's focus on developing new and exciting EPO programs provided unique opportunities for the global community to increase the visibility and accessibility of heliophysics outreach programs. IHY Outreach activities were led by Cristina

Rabello-Soares and included spreading knowledge of space science and exploration to the public and inspiring the next generation of space scientists. To address this focus, the IHY Secretariat developed an IHY Schools Program that developed and promoted a series of schools in 2007 and 2008, with the purpose of educating students about Universal Processes and providing them with an opportunity to view their own research interests in a new context. Universal Processes are the organizational principles and universal laws that underlie our understanding of the universe. The IHY Schools Program was organized and operated by the IHY Schools Committee, chaired by David Webb and consisting of select members of the IHY Secretariat, the IHY Steering and Advisory Committees, the IHY Regional Coordinators, and coordination teams of the individual schools.

Five main IHY schools were held: 1) The North America school in Boulder, CO, USA, July-August 2007, with 34 students; 2) The first Asia-Pacific school at IIA; Kodaikanal Observatory in Bangalore, India, December 2007, with ~50 students; 3) The Latin America school at CRAAM; Presbyterian Mackenzie Univ. in Sao Paulo, Brazil, February 2008, with ~80 students; 4) The 2nd Asia-Pacific school at the Center for Space Science and Applied Research (CSSAR), Chinese Academy of Sciences in Beijing, China, October 2008, with ~40 students; and 5) The Europe-Africa school at the University of Nigeria in Nsukka, Nigeria, November 2008, with ~60 students.

The IGY Gold History initiative had the goals of identifying and recognizing participants in the first IGY, preserving memoirs, etc., of historical significance for the IGY, making them available to historians and researchers, spreading awareness of the history of geophysics, and planning special events. About 250 IGY Gold members have now been recognized.

Many scientific meetings and workshops related to IHY were held in 2007-2009 in many countries including India, China, Japan, Korea, Thailand, Germany, Italy, Bulgaria, the Czech Republic, Romania, the UK, France, Austria, Greece, Russia, Mexico, Brazil, Argentina, South Africa, Nigeria, Ethiopia, Zambia, the USA and Canada. In 2009 alone there were the following IHY-related meetings: The IHY Africa 2009 Workshop in June in Livingstone, Zambia, held in conjunction with the SCINDA 2009 workshop; an IHY session at the International Association of Geomagnetism and Aeronomy (IAGA) 11th Scientific Assembly in Sopron, Hungary, in August; the Final IHY/ UNBSS Workshop in Daejeon, Korea, in September; a Joint Discussion (#16) on the results of the IHY Whole Heliosphere Interval in August at the IAU General Assembly in Rio de Janiero, Brazil; and a second workshop following up on the successful 2008 WHI workshop will be held in Boulder, CO, USA, 10-13 November, 2009.

Several books and articles have or are now being published regarding IHY-related activities. These include the following: 1) Two versions of the Final

Report of the International Heliophysical Year to CUPOUS will be available: a 50-page summary of IHY activities was published in 2008 by the UN, and a longer, complete report is being published by Springer. 2) The Proceedings of IAU Symposium 257 on "Universal Heliophysical Processes," held in Ioannina, Greece, in September 2008, was published for the IAU by Cambridge University Press in 2009, eds., Nat Gopalswamy and David Webb. Seventy nine papers appear in the book. 3) Sixty-five papers based on the IHY/UNBSS meeting held in Sozopol, Bulgaria, in 2008 will be published in a special issue of the journal *Sun and Geosphere*. 4) A book on universal physical processes will be published by Springer based on the IHY School in Kodaikanal, India. 5) A summary of the papers presented at the IAU JD16 meeting on WHI, edited by David Webb and Sarah Gibson, will be published in the *IAU Highlights of Astronomy*, Vol. 15. 6) Brief reports by David Webb summarizing the IHY activities as related to the IAU have been published in the IAU Information Bulletins over the past few years. This will be the last one to appear.

David Webb, the IAU representative for IHY

20. IAU REPRESENTATIVES TO INTERNATIONAL ORGANISATIONS 2009 – 2012

At its EC86 meeting, held 2 August, 2009, during the XXVII IAU General Assembly in Rio de Janeiro, Brazil, the IAU Executive Committee appointed IAU representatives to international scientific organizations for the triennium 2009-2012.

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International Council for Science (ICSU) www.icsu.org/	***Ian F. Corbett*** <icorbett@eso.org>
Bureau International des Poids et Mesures (BIPM) www.bipm.fr/	
• Consultative Committee for Time & Frequency (CCTF) www.bipm.org/en/committees/cc/cctf/	***Demetrios N. Matsakis*** <demetrios.matsakis@usno.navy.mil>
• Consultative Committee for Units (CCU) www.bipm.fr/en/committees/cc/ccu/	***Nicole Capitaine*** <nicole.capitaine@obspm.fr>
• International Commission on Illumination (CIE) www.bipm.org/en/bipm/mou/cie.html	***Elizabeth M. Alvarez del Castillo*** <ema26@cornell.edu>

Committee on Data for Science and Technology (CODATA)
<www.codata.org/>
Raymond P. Norris
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Committee on Space Research (COSPAR)
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• Council	***Jean-Claude Vial*** <jean-claude.vial@ias.fr>
• SC-B: Space Studies of the Earth-Moon System, Planets and Small Bodies of the Solar System	***Mikhail Ya. Marov*** <marov@spp.keldysh.ru>
• SC-D: Space Plasmas in the Solar System, including Planetary Magnetospheres	***Marek Vandas*** <vandas@ig.cas.cz>
• SC-E Research in Astrophysics from Space	***Mariano Méndez*** <mariano@astro.rug.nl>
• SC-E1 Galactic and Extragalactic Astrophysics	***Ganesan Srinivasan*** <srini@rri.res.in>
• SC-E2 The Sun as a Star	***Arnold O. Benz*** <benz@astro.phys.ethz.ch>

International Astronautical Federation (IAF)
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International Earth Rotation and Reference Systems Service (IERS)
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International Geosphere-Biosphere Programme (IGBP)
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International Space Weather Initiative (ISWI)
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International Space Environment Service (ISES)
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International Union of Pure and Applied Physics (IUPAP)
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• Commission 4 on Cosmic Rays
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• Commission 19 on Astrophysics — ***Virginia L. Trimble*** <vtrimble@uci.edu>

International VLBI Service for Geodesy and Astrometry (IVS) — ***Patrick Charlot***
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Scientific Committee on Antarctic Research (SCAR) — ***John W.V. Storey***
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Scientific Committee on Problems of the Environment (SCOPE) — *(vacant)*
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Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) — ***Natchimuthuk Gopalswamy***
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UN Committee on Peaceful Uses of Outer Space (UNCOPUOS) — ***Karel A. van der Hucht***
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International Union of Radio Science (URSI) — ***James M. Moran***
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21. MEMBERSHIP OF THE IAU

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Alecian, Evelyne
Alejandra, Recio-Blanco
Alencar, Silvia
Allard, France
Alonso, Maria
Amati, Lorenzo
Andrade, Manuel
Andries, Jesse
Antipin, Sergei
Antonelli, Lucio Angelo
Antonova, Antoaneta
Apai, Daniel
Arakida, Hedeyoshi
Arcidiacono, Carmelo
Ardila, David
Arefiev, Vadim
Argo, Megan
Arias, Maria
Arion, Douglas
Ashby, Neil
Aungwerojwit, Amornrat
Aussel, Herve
Aya, Bamba
Aya, Yamauchi
Babkovskaia, Natalia
Babul, Arif
Bacham, Eswar
Baddiley, Christopher
Badescu, Octavian
Baek, Chang Hyun
Bailey Mathae, Katherine
Bakker, Eric
Balbi, Amedeo
Balland, Christophe
Bamford, Steven
Baran, Andrzej
Baransky, Olexander
Barban, Caroline
Barber, Robert
Barden, Marco
Baret, Bruny
Barlow, Nadine
Barmby, Pauline
Barrientos, Luis
Bartkiewicz, Anna
Barway, Sudhashu
Bary, Jeffrey
Baryshev, Andrey
Bauer, James
Baumgardt, Holger
Bayet, Estelle
Bazzano, Angela
Beckmann, Volker
Bendjoya, Philippe
nitez, Erika
Benjamin, Robert
Bennett, David
Benson, James
Bentz, Misty
Bernardi, Fabrizio
Bertone, Emanuele
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Bhattacharyya, Sudip
Biazzo, Katia
Bignall, Hayley
Bitner, Martin
Böhm, Asmus
Bojurova, Eva
Bonfils, Xavier
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Bordé, Pascal
Boroson, Bram
Boschin, Walter
Bouchard, Antoine
Bowen, David
Branchesi, Marca
Brentjens, Michiel
Bresolin, Fabio
Briand, Carine
Brinchmann, Jarle
Briquet, Maryline
Brotherton, Michael
Brown, Jo-Anne
Brown, Michael
Browning, Matthew
Brož, Miroslav
Brun, Allan Sasha
Bruno, Roberto
Bryant, Julia
Buccino, Andrea
Buchlin, Eric
Bursa, Michal
Buscher, David
Butkovskaya, Varvara
Bychkov, Konstantin
Cai, Kai
Cami, Jan
Cantiello, Michele
Cao, Li

Cao, Zhen
Caon, Nicola
Caproni, Anderson
Caretta, Cesar
Carruba, Valerio
Casasola, Viviana
Cattaneo, Andrea
Cecconi, Baptiste
Celotti, Anna Lisa
Chadid, Merieme
Chae, Kyu-Hyun
Chamel, Nicolas
Chaname, Julio
Chapanov, Yavor
Chaty, Sylvain
Chen, Alfred
Chen, An-Le
Chen, Guoming
Chen, Huei-Ru
Chen, Lin-wen
Chen, Pisin
Chen, Xuefei
Chen, Xuelei
Chen, Yuqin
Chen, Zhiyuan
Chentsov, Eugene
Cherchneff, Isabelle
Choe, Gwangson
Choudhury, Tirthankar
Christensen, Lise
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Clegg, Andrew
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Conrad, Albert
Constantini, Elisa
Cornelisse, Remon
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Córsico, Alejandro
Cottini, Valeria
Coustenis, Athena
Couto da Silva, Telma
Couvidat, Sebastien
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Croton, Darren
Cuby, Jean-Gabriel
Cuesta Crespo, Luis
Cui, Chenzhou
Cui, Wen-Zuan
Cuillandre, Jean-Charles
Cure', Michel
Cypriano, Eduardo
Da Rocha, Cristiano
da Silveira, Enio
Daisaku, Nogami
Daisuke, Iono
Dale, James
Dall, Thomas
Dalla Bonta', Elena
Damljanovic, Goran
Danchi, William
Darhmaoui, Hassane
Darriulat, Pierre
Dasyra, Kalliopi
Davis, A.E.L.
De Bernardis, Paolo
de Diego Onsurbe, José
de Gregorio-Monsalvo, I.
de Kertanguy, Amaury
de Lange, Gert
de Toma, Giuliana
Dechev, Momchil
Del Santo, Melania
Del Zanna, Luca
Delplancke, Françoise
Delsanti, Audrey
Désert, François-Xavier
Devost, Daniel
Diaz, Ruben
Diaz Trigo, Maria
Dieleman, Pieter
Dietrich, Jörg
Docenko, Dmitrijs
Dodson, Richard
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Du, Lan
Dubus, Guillaume
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Edwards, Suzan
Èfroimsky, Michael
Eggenberger, Patrick
Ehle, Matthias
Eisner, Josh
Elmhamdi, Abouazza
Elyiv, Andrii
Emel'yanenko, Vacheslav
Emsellem, Eric
Enoch, Melissa
Enoki, Motohiro
Eriksen, Hans Kristian
Esamdin, Ali
Escapa, Alberto
Esenoğlu, Hasan
Esimbek, Jarken
Evans, Daniel
Falceta-Goncalves, Dego
Falcón Barroso
Famaey, Benoit

Fan, Yuhong
Fathi, Kambiz
Fatkhullin, Timur
Feain, Ilana
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Fernandes, Francisco
Fernández Lajús, Eduardo
Field, J.V.
Filacchione, Gianrico
Florido, Estrella
Folkner, William
Fornasier, Sonia
Fors, Octavi
Foschini, Luigi
Foster, Tyler
Furlanetto, Steven
Füzfa, Andre
Gabriel, Carlos
Gaensler, Bryan
Gajdoš, Stefan
Gallagher, Sarah
Gamen, Roberto
Gangui, Alejandro
Ganguly, Rajib
Gao, Yu
Garcia, Michael
Garcia-Lario, Pedro
Garcia-Lorenzo, Maria
Gavignaud, Isabelle
Gendre, Brude
Geng, Lihong
George, Kosugi
Getino Fernandez, Juan
Gezari, Suivi
Giani, Elisabetta
Gibson, Sarah
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Giorgi, Edgard
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Gitti, Myriam
Glazebrook, Karl
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Götz, Diego
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Gün, Gulnur
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Hidenori, Kokubun
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Hiroko, Naghara
Hiroshi, Akitaya
Hiroshi, Yoshida
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Hobbs, George
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Hollow, Robert
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Homeier, Derek
Hora, Joseph
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Iwata, Ikuru
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Jahnke, Knud
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Jeffers, Sandra
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Jiang, Aimin
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Kapferer, Wolfgang
Käpylä, Petri
Karakas, Amanda
Karatekin, Özgür
Karpov, Sergey
Katarzyński, Krzysztof
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Kelly, Brandon
Kenji, Nakamura
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Khumlumlert, Thiranee
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Koza, Julius
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Mikhailov, Andrey
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Panei, Jorge
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Pantoja, Carmen
Paragi, Zsolt
Pariat, Etienne
Parimucha, Stefan
Park, Byeong-Gon

Park, Yong-Sun
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Zhu, Liying
Zhu, Wenbai
Zitrin, Adi
Zucker, Shay
Zwaan, Martin

21.2 Deceased Individual Members

The Union is saddened to learn that the following members and former members passed away, as has been reported to the IAU Secretariat:

Henri **ANDRILLAT** (… - 2009), France, 8 January 2009
Francisco Xavier **DE ARAÚJO** (1958 - 2009), Brazil, 10 July, 2009
Alfred **BEHR**, Germany (1914 - 2008), Germany, 7 March 2008
Meidong **CHEN** (1942 - 2008), China, 27 December 2008
Stanley J. **CZYZAK** (2016 - 2008), USA, 10 June 2008
André **DEPRIT** (1926 - 2006), USA, 7 November 2006
Jürgen **EHLERS** (1929 - 2008), Germany, 20 May, 2008
Roy H. **GARSTANG** (1925 - 2009), USA, 1 November 2009
Vitalij **GINZBURG** (1916 - 2009) Russian Federation, November 2009
Timothy G. **HAWARDEN** (1943 - 2009), UK, 10 November, 2009
Arkadij **KUZMIN** (1925 - 2009) Russian Federation, May 2009
Dietrich **LABS** (1921- 2008), Germany, March 2008
Frank J. **LOW** (1934 - 2009), USA, 11 June 2009
Grijo A. K. **OLIVEIRA** (1948 - 2009), Brazil, 6 March 2009
Roberto **PALAVICINI** (1948 - 2009), Italy, 10 January, 2009
Maria A. C. **POCH** (1926 - 2009), Spain, 3 July 2009
Dmitry **POLOZHENTSEV** (1929 - 2009), Russian Federation, 2009
Richard L. **SEARS** (1933 - 2009), USA, 29 January, 2009
Martin J. L. **TURNER** (1942 - 2009), United Kindom, 6 May 2009
Heinrich J. **WENDKER** (1939 - 2008), Germany, 3 April 2008
Zezong **XI** (1927 - 2008), China, 27 December 2008

21.3 FRANCISCO XAVIER DE ARAÚJO

Francisco Xavier de Araújo passed away on July 10th 2009, just few weeks before the XXVIIth IAU General Assembly in Rio de Janeiro, to which he had devoted so much of his time throughout the years of planning and preparation.

Born in Rio de Janeiro, Francisco obtained a Physics degree from the Federal University of Rio de Janeiro, followed by a Masters and PhD degree in astronomy from the Observatório Nacional. In 1986, he joined the Observatório Nacional as a researcher, and over the years held various administrative positions: from head of the astronomy department to vice-president of the observatory – always with remarkable dedication, personal energy and persistence. At the time of his death, he was the head of the graduate course in astronomy, a position he had occupied several times before, in accordance with his belief in

the key role of new and well prepared researchers for the institution and the country.

As a researcher, Francisco had the ability to move with ease from theory to observations. Thus, he constructed a model for non spherical radiative stellar wind which remained one of the most complete in the world for a period of several years. At the same time, his main research area was the study of circumstellar envelopes and the physiccal interpretation of stars with emission line, including: Be, B[e], WRs, pre-PN and PN as well as pos-AGBs. He was also a very talented and much appreciated teacher, who contributed to the training of several astronomers from undergraduate to pos-doc studies and degrees.

Francisco, or Chico as he was known by his friends, was one of the most active members of the National Organizing Committee of the XVIIth IAU General Assembly. In 2002, together with a few other colleagues, he prepared the bid to host the GA in Rio, and since then, up until a few weeks before the meeting, he was the heart of the organisation. His kindness, natural skill for negotiation and high commitment to the success of the meeting proved essential, and the success of the meeting was a tribute to his perseverance in realising the dream of the Brazilian astronomical community to host this important event. He is survived by his wife, Silvia, his daughter and his grandson.

Daniela Lazzaro
Rio de Janeiro, 21 December, 2009

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INTERNATIONAL ASTRONOMICAL UNION
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The International Astronomical Union (IAU) was founded in 1919 to promote and safeguard the science of astronomy in all its aspects through international cooperation. Operating through its scientific bodies - 12 Divisions, 40 Commissions and some 75 Working and Program Groups, the IAU covers the whole spectrum of astronomy. The IAU currently has almost 10,000 individual members distributed over 87 countries. Of those, 63 countries are National Members. The IAU is member of the International Council for Science (ICSU).

The organization of scientific meetings is the IAU's key activity. Every year, the IAU sponsors nine international Symposia. The IAU Symposium Proceedings series is the flagship of the IAU publications. Every three years, the IAU holds its General Assembly. Six of the IAU Symposia of that year are incorporated in the scientific programme of the GA. Each General Assembly further offers some 25 Joint Discussions and Special Sessions, the proceedings of which are published in the Highlights of Astronomy series. The reports of the GA Business Meetings are published in the Transactions of the IAU - B series. All IAU proceedings are published by Cambridge University Press.

Among the other tasks of the IAU are the definition of fundamental astronomical and physical constants; unambiguous astronomical nomenclature; promotion of educational activities in astronomy; and early informal discussions on the possibilities for future international large-scale facilities. Furthermore, the IAU is the sole internationally recognized authority for assigning designations and names to celestial bodies and their surface features.

The IAU works to promote astronomical education and research in developing countries through its Program Groups on International Schools for Young Astronomers (ISYA), on Teaching for Astronomy Development (TAD), and on World Wide Development of Astronomy (WWDA), as well as through joint educational activities with COSPAR and UNESCO.

The IAU web site provides on-line information on the Union's activities and links to the web sites of the IAU Divisions, Commissions, Working Groups, and Program Groups. Contact with the IAU membership is maintained through this Information Bulletin, published twice per year, with a paper version as well as an e-version, available via the IAU web site.

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Cover picture:

Community outreach activity for children organised by the South African Astronomical Observatory (SAAO) at Sutherland in the Northern Cape. As illustrated in the IAU Strategic Plan 2010 - 2020 "Astronomy for the Developing World," page 33.

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