INTERNATIONAL ASTRONOMICAL UNION

UNION ASTRONOMIQUE INTERNATIONALE

> IAU XXVIII GENERAL ASSEMBLY 第二十八届国际天文学联合会大会



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### Preface

When this issue of the IAU Information Bulletin will appear, almost six months will have elapsed since the XXVIIIth General Assembly held in Beijing, China, during the Year of the Dragon. Yet, for the happy ones who had the privilege of being able to attend this event, the latest of the triennial culminations of IAU activities, the memory of the extraordinary moments they took part in or witnessed still lingers on. Indeed, how can one forget the lively forum-like atmosphere shared by nearly 3,000 participants from 70 countries (including over 700 from China), in the vast and impressive "vessel" that was the China National Convention Center, located close to both Beijing's Olympic Park and the modern building complex hosting the National Astronomical Observatories of China ? The scientific quality of the program (based on proposals by the whole astronomical community!) was outstanding, with, exceptionally, eight Symposia instead of the traditional six, along with seven Joint Discussions, eighteen Special Sessions, and four Invited Discourses. Also, about 500 students from all over the world were present and participated in IAU-sponsored events like the Young Astronomers Lunch and Consultant Sevice, or, along with their more senior colleagues, the AAS Publishing Service workshop. Another exceptional event was the Opening Ceremony, in which the IAU and all its members were greatly honored by the high-profile presence and very encouraging discourse by Mr. Xi Jinping, then Vice-President of China, and its President as of next April. More details are given in this issue (Sect.2).

Among the highlights of the General Assembly was the massive approval of a Resolution proposed by the Executive Committee, aiming at revising the IAU Divisional structure from the original twelve administrative Divisions (in force for about twenty years), to nine new, more scientifically focused Divisions. Some colleagues in the audience objected to the Resolution arguing that the proposal led not to an "evolution" of the IAU, but to a "revolution". I and the EC rather took this as a strong argument in favor of the Resolution! Indeed, now that this Resolution has passed with a strong backing of the community, the next step will be, after establishing "Division Steering Committees", to revisit the "roles and goals" of the Commissions and Working Groups. The desired (r)evolution is aimed at promoting an enhanced scientific and educational role of the IAU, in line with the rapid progress made not only on the purely astronomical front, but also in neighboring fields that are emerging from the physics community efforts, such as the so-called "non-electromagnetic messengers" searched by neutrino or gravitational wave detectors, or in contact with other fields like biology, i.e., the search for life in the Universe -which the IAU calls "bioastronomy" but is called elsewhere "astrobiology" or "exobiology". These restructuring efforts, conducted by a new generation of Division Presidents and Vice-Presidents, exceptionally appointed by the Executive Committee, will be the main scientific task of the IAU officers during the present triennium, with the goal of having the new structure up and running before the next General Assembly in 2015. The complete list of the new Divisions, including their reassigned Commissions and Working Groups, is given in this issue (Sect.6).

The IAU has duties (administrative as well as scientific) not only towards the community of professional astronomers, but also has duties towards society, mainly education and outreach. Following the adoption of the IAU "Strategic Plan for Astronomy Development" at the 2009 General Assembly in Rio de Janeiro, this past triennium has seen the establishment of the "Office of Astronomy for Development" (OAD), at the South African Astronomical Observatory in Cape Town, and the appointment of an International Outreach Coordinator, based at the National Astronomical Observatory of Japan in Tokyo. Very recently, a Call for Proposals on educational projects was sent worldwide by the OAD, getting nearly 200 answers. Within the available budget, only 10% of these proposals could be funded, but this demonstrated the success and potentially large impact of the OAD in the coming years. More details are provided in this issue (Sect.5).

As is the case at the end of each General Assembly, the Executive Committee rotates (Sect.4), and, at the same time that we welcome new colleagues, we see others leaving with regret and strong memories of the work accomplished together. While past President Bob Williams and past General Secretary Ian Corbett are still with us as advisers, their predecessors Catherine Cesarsky and Karel van der Hucht, respectively, are definitively leaving the Executive Committee. We owe them all and the leaving Vice-Presidents a huge debt, in particular for having been responsible for the outstanding success of the International Year of Astronomy in 2009 -so long ago, but still so close to us ! The IAU Secretariat in Paris is also undergoing a complete overhaul in staff, as Vivien Reuter, in particular, is leaving (with many projects in her head...). We owe her also an unforgettable debt for her dedication and outstanding service to the IAU in very difficult times. Without the work that Vivien, Karel and Ian achieved during the past years to put the IAU administration fully back in order, it is certain that the Divisional restructuring, elaborated in the past three years, approved in Beijing, and now in the implementation phase, would simply not have been possible.

So we are now looking forward with a lot of enthusiasm to our next global community meetings, i.e., the General Assemblies to be held in Honolulu in 2015, and in Vienna in 2018. With its projects and plans for evolution in close touch with society and other scientific communities, we can say with confidence that the IAU is alive and well, and ready for the future.

Thierry Montmerle General Secretary, January 2013

# 1. Introduction by the incoming President (N. Kaifu)

# Incoming President's Speech at the XXVIII General Assembly Closing Ceremony

I have enjoyed my many years of service to the IAU as a vice-president, as a member of the Working Group of IYA 2009, and as one of four officers since 2009. I have particularly appreciated my association during these years with members of the IAU Executive Committee: Robert Williams, Ian Corbett, Thierry Montmerle, Catherine Cesarsky, Karel van der Hucht and the six Vice Presidents.

I especially thank outgoing president Robert Williams for guiding the Executive Committee and Officers in a very powerful and democratic manner. He led the establishment of the IAU strategic Plan of Astronomy for Development, and he also strengthened ties with many other related organizations. I also deeply thank Ian Corbett, outgoing General Secretary, for his dedicated hard work in serving the IAU by dealing with many complicated tasks. He made also the operating procedures of the IAU simpler and clearer. I extend my sincere thanks to Vivien Reuter, the IAU's Head of Administration, who used her outstanding experience and skills to manage the IAU secretariat office in Paris, especially in its very difficult term.

The Division restructuring had just been adopted by the General Assembly, thanks to attendants, and to Thierry Montmerle for his leadership as a chair of the Task Force. The registration of the Division members and discussion on Commissions and Working Groups under the new Divisions will start immediately. Next year the Executive Committee and the Division Presidents will meet and discuss more detailed plans to update the structure of the IAU. The implementation of this change will produce wider and more flexible IAU activities, and I am very much looking forward to working with new EC members and new Division Presidents throughout the next three years.

The IAU is one of the most active international unions of basic sciences. Among the many remarkable characteristics of the IAU, I will highlight three that fuel its activities. Obviously the first of these is its exciting and continuous progress in understanding the Universe. A second distinctive feature of the IAU is its individual members. Most international scientific organizations have only national members, but the IAU has over ten thousand and further growing individual members who firmly support the growing and evolving activities of IAU. A third characteristic of the IAU relates to the appealing nature of astronomy itself. The wonders of the Universe attract the interest of people worldwide. This is why the IAU can attain such broad and global contact with teachers, children, parents and a vast number of amateur astronomers. Let me expand on this third point a bit. When the IAU held its first General Assembly in 1922, only two of the 15 national members were affiliated with areas beyond the so-called "Western World"; Mexico and Japan. In contrast to this earlier time, the IAU now has 70 national members from all over the world. Although we have a rather good regional distribution, there are still large regional gaps. Let us recall that the United Nations has 193 member countries.

In the IYA 2009, however, 148 counties and territories formally joined –a number more than double the national members of the IAU and nearly 80 percent of the total membership of the United Nations. This participation clearly taught us that the wonders of the Universe attracted everyone, and also demonstrated that we could bridge research and education; professions and children; cutting-edge science and the developing world. The prospect of such possibilities opens the door to a bright future for astronomical research worldwide.

The objective of the IAU since its establishment is to promote astronomy in all its aspects. Now one of our long-term missions is to advance astronomy by widening foothold around the world. The IAU has already begun to implement such mission. We have entered the second three-year term of the IAU's Decadal Strategic Plan, "Office of Astronomy for Development", which aims to promote research, education, and popularization of astronomy in the developing world. The Director of the Office for Astronomy for Development, Kevin Govender, has made excellent progress in organizing support teams and task groups, so we are stepping into the second phase of "Astronomy for the Development" with a firm foundation on which to build further implementation. Together with exciting frontiers of astronomy, and rapid growth of astronomical research in the developing world, we are opening a new era of the IAU and the promotion of astronomy worldwide.

Finally, I express my sincere thanks to all attendees and to all organizers and supporters of this very successful General Assembly in Beijing. I look forward to seeing you all at our next General Assembly in Honolulu, Hawaii in 2015.

Norio Kaifu

# 2. IAU General Assemblies

# 2.1. Brief report on XXVIII IAU GA, Beijing, China Gang Zhao, GA LOC co-Chair

The 28th General Assembly of the International Astronomical Union (IAU) was successfully held at China National Convention Center in Beijing from August 20 through 31, 2012, which was hosted by the Chinese Astronomical Society and organized by the National Astronomical Observatories of the Chinese Academy of Sciences. Nearly 3000 participants from over 76 countries gathered together to present and discuss the latest scientific breakthroughs and discoveries in the rapidly evolving scientific area of astronomy.

Top 10 countries/regions during the 28th IAU/GA			
1	China Mainland	721	
2	United States	438	
3	Germany	152	
3	United Kingdom	139	
5	Japan	127	
6	France	123	
7	Australia	104	
8	Spain	86	
9	South Korea	66	
10	India	57	
	Total	2013	

This General Assembly was a great success. Except for the plenary and business sessions, the Assembly included 8 symposia, 7 joint discussions, 18 special sessions, and 4 discourses, which hit a record high among previous Assemblies. During the Assembly, astronomers from all over the world enjoyed a great time exchanging achievements and ideas, while a number of hot topics were widely discussed, including dynamics of the star-planet relations, a massive, cooling-flow-induced starburst in the core of a galaxy cluster, first galaxies and supermassive black holes, etc. The Assembly introduced to the large audience future large facilities and projects such as next generation of solar telescopes, LSST, Gaia, and many more projects involving closely global collaborations. What is more, this Assembly opened up a valuable chance for astronomers world-wide to get to know about modern facilities and projects lead by China,

e.g., LAMOST, FAST, HXMT, research activities of Chinese astronomers in domestic and international astronomical community, as well as China's close involvement in large projects in Antarctica and extremely large telescopes such as TMT.

For this General Assembly, a special issue of Research in Astronomy and Astrophysics has been published (<u>http://iopscience.iop.org/1674-4527/12/8</u>), and 10 issues (72 pages in total) of daily newspaper named Inquiries of Heaven (<u>www.astronomy2012.org/dct/page/65700I</u>) have been published and distributed during the Assembly. According to incomplete statistics, about 75 journalists from all over the world, including CCTV, Xinhua News Agency, China Daily, Hong Kong's Ta Kong Pao, Indian Times, German public radio, Science, Nature, National Geographic Magazine, etc., reported on the Assembly with about 150 television coverage and written reports.

Mr. Xi Jinping, Vice President of the People's Republic of China, attended the inaugural ceremony and delivered the opening speech. He pointed out the five essential elements to promote the development of science and technology, which is the driving force for humankind's exploration and transformation of the materialistic world, and requires persistent exploration and long term accumulation, to continuously emphasize and strengthen basic research, broad and sound support from the public, and extensive international cooperation. He said, the convening of the 28th IAU General Assembly in China, will certainly promote the friendship between astronomers from China and other countries, promote the exchanges and cooperation of the Chinese and international astronomy communities, and promote the development of China's astronomy and other related sciences.

This aspect was also recognized by Dr. Robert Williams, the outgoing IAU President in his opening speech: "This General Assembly was a landmark for Chinese astronomy." And in the meantime, he sent his congratulations to the success of the General Assembly.

2.2. Resolutions adopted by the XXVIII IAU General Assembly

The Resolutions can be downloaded at: http://www.iau.org/administration/resolutions/general\_assemblies/

2.3. Revision 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. See however the new section on e-voting: http://www.iau.org/administration/statutes\_rules/statutes/ sect. 15a and 15b.

2.4. Young Astronomers Events at the IAU XXVIII GA *Ed Guinan, Villanova University, Villanova, PA (USA)* 

Young Astronomers Events (YAEs) were first introduced at the 2006 IAU General Assembly with the aim of stimulating networking opportunities between senior astronomers and those at the start of their careers. A successful second series of YAEs were held at the Rio GA in 2009, and they have now become a valued regular part of the GA program. Typically a "young astronomer" is loosely defined as a graduate student, post-doc, or astronomers within 5 years of receiving their terminal degrees.

# 2.4.1. Young Astronomers Lunch

The Young Astronomer Lunch at the Beijing GA was jointly sponsored by the U.S. National Academy of Sciences (through the grant from the U.S. National Science Foundation) and the Norwegian Academy of Sciences and Letters (NASL) and the IAU. The program was jointly organized by the IAU Paris office (Vivien Reuter and Michèle Gerbaldi), the Office of Astronomy for Development (OAD/Kevin Govender & Nuhaah Solomon) and the USNC/IAU (Kathie Bailey-Mathae & Edward Guinan). The event took place on Thursday, 23 August from 11:00 to 13:30 PM. About 245 astronomers participated. Welcome presentations were made by Robert Williams, Oddbjørn Engvold (NASL), and Edward Guinan (USNC/OAD).

Eight young astronomers were pre-assigned to tables based on interest in specific topics. Each table typically included two senior astronomers, representing astronomy around the world. The senior astronomers exchanged ideas, provided advice, and discussed opportunities for postdoctoral positions, and other career and employment opportunities. The importance of networking came up at numerous tables, with many young astronomers commenting that they find it difficult to find (and talk to) scientists whom they've never met before at large conferences. Evaluation forms were completed by most of the participants and will be used to improve this already successful program

# 2.4.2. Young Astronomer Consultant Service

The Young Astronomer Consulting Service (YACS), was open throughout most of the Beijing GA to all interested young astronomers. Through YACS, young astronomers could contact a senior astronomer from his/her research field and seek practical advice and assistance. About 50 attendees made use of this service. The scheduling of appointments was organized at the IAU Office of Astronomy for Development (OAD) booth. Michèle Gerbaldi, Vivien Reuter, Kevin Govender, Nuhaah Solomon and the Young Astronomers Supporting Team helped organize this service. 2.5. Women in Astronomy 2.5.1. Events at the GA Francesca Primas, Chair of the LAU Women in Astronomy Working Group (on behalf of the WG Oreanizing Committee)

Monday, August 27 was a remarkable day for the IAU Working Group on Women in Astronomy, with three events organized at the GA. Most notably, the WG held its fourth working lunch in the Plenary Hall of the China National Convention Centre, attended by 300 astronomers, a new record! The keynote speaker was Prof. Xiangqun Cui, President of the Chinese Astronomical Society, who reported on the status of women in astronomy in China, from the very early times to the present. Her speech was followed by a short presentation by Prof. Bryan Gaensler (Director of CAASTRO, Australia) on gender biases and good practices against it. Both presentations are available from the new website of the WG: <u>http://iauwomeninastronomy.org/</u>.

The presentations were followed by break-out sessions, during which individual experiences were shared and compared at each table (8 people each). To facilitate lively discussions, the WG had prepared a flyer with some suggested topics: from dual careers and child care to gender biases in recruitment and promotion processes, non-standard career paths and male pro-activeness to gender issues in professional life. At the end of the lunch meeting, feedback forms were collected from most tables, capturing the most relevant issues and conclusions. These are now being analyzed and will serve as important input for the organization of future events.

The lunch was sponsored by the US National Academy of Sciences, the US National Science Foundation and by the IAU itself. We are very thankful to our sponsors and we firmly believe that the ever-increasing number of participants to this event is a clear appreciation of this initiative. Special thanks go also to our local organizer and WG member, Dr Yanchun Liang, from the National Astronomical Observatories, Chinese Academy of Sciences. Her dedication and support to the organization of all our events has been key to their success!

The Women in Astronomy (lunch) Meeting was preceded by the WG Business Meeting, during which the composition of its Organizing Committee, the achievements/activities from the past three years (2009-12) and what the WG actions plan for the next three years (2012-15) were reviewed and discussed. Six OC members rotated off the WG and six new members were selected and proposed to the IAU Executive. One of the highlights of the WG past activities was the collection of gender statistics for IAU-sponsored meetings. With the establishment of an online post-meeting report form, the WG's website now provides gender statistics on participants, invited and contributing speakers, poster presenters, LOC, SOC and IAU grant recipients. There are currently data

available for 31 IAU meetings held during the period 2006–2012. More details are available at: http://iauwomeninastronomy.org/statistics/iau-stats/iau-meeting-stats/

The website also reports gender statistics per country, with updated numbers for Latin America that cover several countries: Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay and Venezuela. Another important achievement mentioned during the meeting was the organization of Women in Astronomy lunches at IAU Regional Meetings<sup>1</sup>. The record attendance (300 people) at the last GA of the WiA Lunch shows that the interest in the conduct of this WG has significantly increased. The WG strongly supports the organization of WiA lunch meetings at Regional Meetings and hopes that this may become a standard feature and good practice at even more IAU meetings. One WiA Lunch meeting every 3 years (i.e. at each GA) is clearly not enough to keep women visibility high and networking opportunities open. Feel free to contact the WG and its Chair, as we would be happy to advise on this and be available to IAU symposia organizers to set-up such events.

One last appointment sparkled the end of Monday, August 27: an evening mentoring session was hosted by the WG for the first time and attended by approximately 75 people (~25 mentors, ~50 mentees). The WG graciously acknowledged the support received from the National Observatory of China (NAOC) that made possible the organization of this second event. Interested participants (drawn from the list of those who had already registered for the WiA lunch) were asked to register to the event and provide information about their career stage, strengths, weaknesses and future challenges. Based on the responses they had provided, 8 groups were formed, each consisting of 2-3 mentors and 5-6 mentees. Different topics were discussed, as requested by the mentees: from efficient time/task management to successful job-hunting, work-life balance, how to improve in self-confidence and assertiveness. Although it is difficult to assess the impact of such an event on the future careers of the mentees, the WG received very positive feedback from those who participated.

# 2.5.2. Activities & Plans

A report summarizing all GA events held by this WG, past achievements and future plans was submitted to the IAU Executive during the last days of the GA. This report is available on the WiA web page. The report included also the WG's proposal for the 2012-15 Organizing Committee that was then ratified by the Executive. Among the future actions, the WG proposed to continue the collection and publication of gender statistics (for IAU meetings and per country), to increase its visibility also between General Assembly meetings by keeping all parties interested in gender issues better informed on the WG

<sup>&</sup>lt;sup>1</sup> Outside Latin America, where these lunches are already very common.

activities and plans, to organize a special session at the next GA (Hawai'i, USA – August 2015) that focuses on gender biases and related issues. The WG is very pleased of the positive feedback received from the Executive and their renewed support to our mandate and proposed future activities.

Last but not least, we take this opportunity to thank the support and contributions made by the six OC members who have rotated off the WG, some of them after having served for two or even three terms.

The present composition of the WiA WG can be found in its web site, mentioned above.

# 2.6. UNAWE Workshop & Day Camp Pedro Russo (EU-UNAWE, Leiden University), Cristina Olivotto (SterrenLab)

# 2.6.1. Description and Context

The IAU/UNAWE Day Camp is a programme of astronomy-themed activities, organised by the International Astronomical Union (IAU) and Universe Awareness (UNAWE), in collaboration with the science education company SterrenLab. The IUA/UNAWE Day Camp follows recommendations from the IYA2009 Cornerstone Project, "She is an astronomer", to provide support to astronomers attending large conferences with children, like the IAU General Assembly. IAU/UNAWE Day Camp combines professional childcare support for delegates at the IAU General Assembly (IAU GA) with a rich programme of educational astronomy activities for their children. The first ever Day Camp was held at the IAU General Assembly 2012 in Beijing, China. The Day Camp project is open to children aged 5-11 years old

# 2.6.2. Activities

During the IAU General Assembly 2012 the Day Camp programme included hands-on science activities, games and two excursions, one to the Science & Technology Museum and another to the Beijing Planetarium. Local children also attended the IAU/UNAWE Day Camp. The benefit of having local children was twofold: it gave something back to the local community in the GA's host city, and offered the visiting children a unique opportunity to learn about Chinese culture and customs as they played and learned together

# 2.6.3. Feedback

One of the IAU GA 2012 Invited Discourse speakers, Karen Masters, registered both her children to the IAU/UNAWE Day Camp. "It's much easier and simpler to travel alone to attend conferences, but that means only one of [parents] us can attend the meetings," said Masters. "So, particularly for these big conferences, having other options is fantastic." In addition to the convenience of on-site childcare, Masters says her children felt like they were participating in the conference because the activities were astronomy-themed. Masters also commented on the cultural aspects of the Day Camp: "The children might already know a bit about Chinese astronomy, but not a lot, so we were doubly happy that they get the chance to learn a bit more about this part of their background." Besides the great feedback from the parents and children registered, the organisers felt that the local venue wasn't prepared for receiving a group of children during a conference. The room provided for the activities didn't have any windows and the food options available weren't child-friendly. But these are small issues that can easily be improved in the next IAU/UNAWE Day Camp.

### 2.6.4. Future

The organisers plan to run another IAU/UNAWE Day Camp at the 29th IAU GA in Hawaii, USA and the organisation has already started. For more information, please contact info@unawe.org

# 2.7. AAS Publishing Workshop Chris Biemesderfer Director of Publishing American Astronomical Society

The major astronomical journals in North America and Europe co-sponsored a workshop for journal authors and referees at the XXVIII General Assembly of the IAU. The workshop was aimed mainly at young astronomers and astronomers from Asian and developing countries, and covered such topics as how to write a good paper, how to be an effective reviewer, and how the modern scholarly journal system works. The workshops were well received on all accounts, and they were also well attended: in total, 194 unique individuals came to the four workshops. (A couple of people even came back and attended a second time.)

Workshop participants received USB sticks and a book containing essays on a broad array of scholarly publishing topics. Both the stick and the book were very popular. The left over sticks and books remained in China with James Wicker, who is in the editorial office of Research in Astronomy and Astrophysics (RAA) office at the National Astronomical Observatories of the Chinese Academy of Sciences (NAOC). James gets requests for this sort of information routinely from scholars in China, and he will be glad to circulate these materials to satisfy requests as long as a stock of the materials remain.

Several people suggested that similar workshops should be given at other meeting venues. The people who assembled the material wholeheartedly agree, and we made the presentation materials fairly generic precisely for that reason. In the coming months, the material will be available on the AAS website.

2.8. C5 Libraries Workshop Marsha Bishop (NRAO/USA), Robert Hanisch (STScI/USA), co-chairs, Commission 5 Working Group on Libraries

The IAU General Assembly Commission 5 Working Group Libraries (IAU WG Libraries) kicked off its first multi-day meeting on the 23rd of August 2012 in Beijing, China. This meeting was designed to bring astronomy librarians and scientists together to create a synergistic environment for librarians and their customers to better understand the needs and challenges faced by each group. The conference was successful in generating thought-provoking ideas, commentary, and helped to communicate the complex and rapidly changing environment of libraries and scholarly publishing to our users. The attendant group included a mix of Librarians from India, Europe, and the U.S., giving the meeting a very international flavor while highlighting the varied interests of the attendees and presenters. The series of discussions and talks, hosted by the IAU WG Libraries, focused on issues related to astronomy libraries and the role they play in supporting astronomical research. The meeting began with a panel discussion "Scientists' Need for Libraries in the Age of the Internet." Panelists included astronomers Ronald Taam (Taiwan), Ray Norris (Australia), and Pieter Degroote (Belgium), and librarians Christina Birdie (India), Eva Isaksson (Finland), and Sally Bosken (USA).

The discussion resulted in a better understanding of difficulties faced by the two groups and highlighted areas of agreement and misunderstanding.

A particularly timely presentation on "Open Access Publishing in Astronomy" was presented following the panel discussion. Other sessions on the first day included topics on tracking publications, the H-index, and development of astronomy in Hawaii. The day concluded with a working group discussion on the development of an astronomy thesaurus.

Day two saw the topics of bibliometrics, closing a library in a thoughtful and information-retention manner, document preservation, purchasing decisions regarding e-books versus print, resource sharing among observatory libraries, and a method to innervate the physical library. The day concluded with an open discussion of best practices for institutional bibliographies.

The papers from the meeting and attendees photos will be published on the Commission 5 wiki at:

http://iau-Commission5.wikispaces.com/IAU+Commission+5, by mid-january

This meeting would not have occurred without the generous support of our sponsors IOP Publishing, IEEE, Elsevier, and SPIE as well as the IAU LOC, especially Katherine Chen, for outstanding support of IAU Working Group Libraries. Those who participated and presented made this meeting the success it was. We hope the next meeting, scheduled for 2015 in Honolulu, generates even more interest and participation.

2.9. Future General Assemblies 2.9.1. IAU XXIX GA in Honolulu, Hawaiʻi, USA August 3-14, 2015

Preparations for this event are proceeding. The Convention Center where the GA will be held can be seen on the web site: <u>http://www.hawaiiconvention.com/</u>. For more details please refer to: <u>http://www.iau.org/static/publications/IB110.pdf</u> p.71 The GA website address is: http://www.astronomy2015.org

2.9.2. IAU XXX GA in Vienna, Austria August, 2018

Preparations are at an early stage. A memorandum of understanding will be signed with the organisers in 2013.

2.9.3. Letters of Intent for IAU XXXI GA (2021)

# **Deadlines:**

Letters of Intent to host must be received by 1 November, 2014. Full proposals to host must be received by 1 April, 2015 See the conditions for applying at: http://www.iau.org/administration/meetings/hosting\_ga/

# 3. Approved IAU budget for the period 2013-2015

BUDGET OF INCOME 2013-2015 (Euros, rounded):

	2013	2014	2015	TOTAL
National Member Dues	833 250	848 400	866 580	2 548 230
GRANTS	23 469	23 469	23 469	70 407
ROYALTIES FUNDS IN TRANSIT:PPGF	40 000	40 000	40 000	120 000
Fellowship (USD 50 000/yr)	39 115	39 115	39 115	117 345
BANK REVENUE	20 000	20 000	20 000	60 000
TOTAL INCOME TOTAL INCOME w/o	955 834	970 984	989 164	2 915 982
"In Transit"	918 732	933 883	952 064	2 798 637

BUDGET OF EXPENDITURE 2013-2015 (Euros, rounded):

	2013	2014	2015	TOTAL
General Assemblies	10 000	15 000	392 000	417 000
Scientific Activities	237 400	237 900	118 400	593 700
Educational Activities	204 500	214 500	224 500	643 500
Gruber Fellowship (50 000 USD p.a.)	39 115	39 115	39 115	117 345
Cooperation with the other Unions	29 500	30 182	30 881	90 563
Executive Committee	52 000	66 000	78 000	196 000
IAU Information Bulletin	10 000	10 000	12 000	32 000
Secretariat & Administration:				
Staff Salaries, Taxes & Charges	151 000	151 000	151 000	453 000
Outsourced Activities	52 000	50 000	50 000	152 000
General Office Expenditure	29 600	30 050	30 400	90 050
Total Administration	232 600	231 050	231 400	695 050
TOTAL EXPENDITURE	815 115	843 747	1 126 296	2 785 158
INCOME over EXPENDITURE	140 719	127 237	-137 132	130 824



# 4. IAU Executive Committee 4.1. EC91, Beijing, on 19 & 23 August 2012 Brief report

The EC91 meeting, the last of the outgoing Executive Committee, was held during the Beijing GA, in two sessions (19 and 23 Aug. 2013).

The first session was mainly focused on actions to be taken on the occasion of the GA: nomination of the Special Nominating Committee (in charge of looking for candidates for the EC covering the period 2015-2018), and of the Resolutions Committee for the next GA in Honolulu. (These Committees, approved at the second EC session, are listed in Sect.4.3.)

Also, the various Resolutions to be put before the GA were discussed and approved, in particular the EC Resolution on the new Divisional structure. [All Resolutions were subsequently approved by the GA at its second business meeting.]

Changes to the Working Rules, following in particular the introduction of electronic voting (Bye-Laws submitted for approval by the National Members at

the first business session of the GA (see Sect. 2.3)), were presented by General Secretary Ian Corbett and approved by the EC.

There were proposed evolutions in National Membership: Kazakhstan, North Korea and Ethiopia put forward their requests for admission within the IAU, and Vietnam requested to be re-classified as a prospective member. [These requests were approved by the GA at its second business meeting.]

The relations between ICSU and the IAU were discussed again. Following a meeting between the General Secretary and the newly appointed Executive Director of ICSU, S. Wilson, to explain why the IAU had the feeling of not being heard by ICSU in terms of strategy and priorities, it was agreed that the matter would be discussed at high level within ICSU, and S. Wilson agreed to write an article in the present Information Bulletin (see Sect.10.1).

The main item of the second session was the discussion on the proposal by Austria to host the XXXth GA in Vienna in 2018. The presentation by G. Hensler was the subject of discussion on issues like the best venue and financial structure of the organization, and in conclusion the proposal was unanimously accepted.

4.2. EC92, Beijing, on 1 September 2012 Brief report

The EC92 meeting, the first to be held by the new Executive Committee, took place on Sep. 1st and was hosted by the National Astronomical Observatory of China. It was chaired by the new IAU President, Norio Kaifu.

Traditionally, this EC meeting is also attended by the newly appointed Division Presidents, who were usually Vice-Presidents of their Division in the previous triennium. However, because of the Division restructuring, which among other characteristics featured a smaller number of Divisions (from twelve to nine), and the fact that the EC used its prerogative to nominate new Division Presidents and Vice-Presidents, many of them had made no plans in advance to stay until Sep.1st. Only G. Valsecchi (President of Div.E) was present. This drawback is to be compensated by the fact that Division Presidents will be present to discuss the restructuring at the next two EC meetings, in 2013 and 2014.

After the mutual introduction of the new EC members, the Committee heard reports on the GA activities: general presentation by G. Zhao, Young Astronomers by E. Guinan. Also, a telecon was held with S. Maddison in Sydney about the activities and renewal of the "Women in Astronomy" EC WG (see above, Sect 2.1 and Sect. 2.4 respectively).

An update on the preparations of the Honolulu GA was presented by K. Marvel.

A proposal to hold the 2013 EC Meeting (EC93) in Nara (Japan) was presented by N. Kaifu, and accepted. The location of EC94 in 2014 will be decided at the Nara meeting.

4.3. Executive & Administrative Committees 2012-2015

# Executive Committee 2012-2015

President	Norio Kaifu	(Japan)
President Elect	Silvia Torres-Peimbert	(Mexico)
General Secretary	Thierry Montmerle	(France)
Assistant General Secretary	Piero Benvenuti	(Italy)
Vice-President	Matthew Colless	(Australia)
Vice-President	Renée C. Kraan-Kroteweg	(South Africa)
Vice-President	Xiaowei Liu	(China)
Vice-President	Jan Palous	(Czech Republic)
Vice-President	Dina K. Prialnik	(Israel)
Vice-President	Marta G. Rovira	(Argentina)
Advisor	Ian F. Corbett	(United Kingdom)
Advisor	Robert Williams	(United States)

# Special Nominating Committee 2012-2015

Norio Kaifu (Japan), Françoise Combes (France), Malcolm S. Longair (United Kingdom), Matthias Steinmetz (Germany), Edward P.J. Van den Heuvel (Netherlands), Gang Zhao (China)

# Finance Committee 2012-2015

Beatriz Barbuy (Brazil), João Alves (Portugal), Kate J. Brooks (Australia), Zhanwen Han (China), Nikolaos D. Kylafis (Greece), Tushar Prabhu (India), Lee Anne Willson (United States)

# **Resolutions Committee 2012-2015**

Ian F. Corbett (United Kingdom), Bruce Gordon Elmegreen, (United States), Renée C. Kraan-Korteweg (Netherlands), Yanchun Liang (China), Karel A. van der Hucht (Netherlands)

4.4. Officers' & EC Meetings 2013 - 2014

The Officers' Meeting will take place in Paris, France, 7 - 8 Febuary, 2013. The Executive Committee' Meeting will take place in Nara, Japan, 9 - 11 May, 2013

# 5. Educational & Outreach Initiatives

5.1. Office of Astronomy for Development *Kevin Govender, Director of the OAD* 

#### 5.1.1 Background and Overview:

The IAU Office of Astronomy for Development (OAD) was established in order to drive the implementation of the IAU Strategic Plan adopted at the 2009 General Assembly. The OAD is hosted at the South African Astronomical Observatory (SAAO) in Cape Town, South Africa. In previous Information Bulletins, updates on the activities of the OAD have been presented, with a past issue (IB109) reporting on OAD activities until June 2012. Since then there have been several significant events, most notably the IAU General Assembly and the first annual OAD Call for Proposals (along with evaluations of the proposals by the respective Task Forces). These proposals were for projects to be implemented in 2013. The OAD has also been involved in several other activities, the highlights of which are described here. 2013 also sees the appointment of the OAD Project Officer (Jean-Christophe Mauduit) who will deputize the current director (Kevin Govender). Any queries on the OAD and its activities can be directed to Kevin Govender (kg@astro4dev.org) - comments, suggestions, ideas and input are always most welcome.

### 5.1.2 OAD Call for Proposals:

During July and early August 2012 the OAD prepared and launched a global call for proposals in consultation with each of its three Task Force management teams. Proposals were sought from all over the world in each of the areas of (i) Universities and Research, (ii) Children and Schools and (iii) Public Outreach. It was an opportunity for the many OAD volunteers and stakeholders to put their ideas into a proposal structure and obtain the resources they required. The proposals received were evaluated by the OAD's Task Forces and an initial amount of €90 000 was set aside to fund them. Proposals recommended by the Task Forces but not funded in this round go onto a "wish list" which informs the OAD's ongoing fundraising efforts. In summary the OAD received 191 proposals from around the world requesting a total of €1 835 820. After a thorough evaluation process by groups of international experts (the OAD's Task Force Management Teams) this amount was reduced to € 968 940. The IAU is able to directly fund only about 10% of these proposals with its annual allocation for these activities - the rest need to be supported through fundraising activities coordinated by the OAD. The entire process was reviewed by the IAU Extended Development Oversight Committee and in general was considered very successful. Importantly it highlighted the extremely high demand for astronomy-for-development activities globally.

# 5.1.3 Regional Nodes and Language Expertise Centres:

Two Regional Nodes of the OAD have been launched with one serving also as a Language Expertise Centre. The joint Regional Node and Language Expertise Centre is based in China for the East Asian region and Chinese language community around the world. The other Regional Node is based in Thailand coordinating activities in the South East Asian region. These regional nodes are an essential part of the IAU Strategic plan and will work closely with the OAD to implement activities in their regions. Each node comprises an office with at least one full time equivalent staff. Teleconferences have already been held with each node as their implementation plans are being developed. Negotiations are ongoing regarding the establishment of more regional nodes. Notably a Spanish speaking astronomer based in Germany (with Venezuelan roots) visited Colombia on behalf of the OAD to explore the feasibility of an Andean regional node. The OAD also held several meetings in Ethiopia and Uganda (during other visits) regarding the potential establishment of an East African regional node. There have also been meetings in Algeria regarding the establishment of a North African regional node (the IAU was invited to attend the increasingly popular Sirius Astronomy Festival in Algeria, and the OAD used the opportunity to engage with delegates from Algeria, Libya, Tunisia, Egypt, Palestine and Lebanon regarding a North African or Arabic node).

### 5.1.4 IAU General Assembly:

A significant event for the OAD in this quarter was the IAU General Assembly (GA) in August 2012. The OAD's presence at the GA was in the form of an exhibition booth from where the coordination of Young Astronomer events took place (Young Astronomer Lunch and the Young Astronomer Consultancy Service); a Special Session (SpS11) on the IAU Strategic Plan and the OAD; and several side meetings with the relevant collaborators and Commissions of the IAU, the latter being important to ensure a smooth transition into the OAD era with a clarifying of roles and definition of important synergies between the OAD and IAU Commissions 46 and 55. In the time preceding the GA the OAD also released an updated version of the IAU Strategic Plan "Astronomy for Development" which contained revised nomenclature and an update on its implementation. During the GA there were two signing events for the first two Regional Nodes as well as the announcement of several new collaborations described in the next section. The GA was also an opportunity to announce the first annual OAD Call for Proposals (described above) and engage with the members of the Task Forces who would be evaluating the proposals, as well as the many volunteers and stakeholders who would be submitting proposals.

### 5.1.5 OAD Collaborations:

Several agreements of collaboration were concluded during this period. Besides the two regional nodes mentioned above, the OAD finalised agreements with the University of Central Lancashire in the UK (12 distance learning astronomy scholarships to African students) and the Inter-university Centre for Astronomy and Astrophysics (IUCAA) in India (human capital development for people from all over the world - project based at IUCAA - and testing of educational materials). The International Centre for Theoretical Physics (ICTP), and OAD Global Partner, also launched its OAD-ICTP grants webpage seeing the implementation of an agreement signed in May 2012. The OAD also partnered with the United Nations Office of Outer Space Affairs (UNOOSA) to celebrate World Space Week 2012 in Addis Ababa, Ethiopia in the second week of October. This was a high profile event attended by several dignitaries from Ethiopia and abroad and focussed on teacher training and public outreach activities. One of the highlights of the event was the live use of the Las Cumbres Observatory Global Telescope Network conducted by Abiy Tekola and Edward Gomez.

# 5.1.6 OAD and OAO:

An important collaboration which warrants specific mention is that between the OAD and the IAU's Office for Astronomy Outreach (OAO) which is based at the National Astronomical Observatory of Japan. During December 2012, Sarah Reed, who was appointed only a few months before as the IAU International Outreach Coordinator, visited the OAD for 2 weeks. During this time firm synergies between the two IAU offices were established and continue with weekly telecons (see Sect. 5.2).

# 5.1.7 Pilot Project (AsTROW):

During this period the OAD also conducted a very interesting pilot programme called AsTROW (Astronomy Teaching and Research Orientation Workshop) at the SAAO. This was sponsored by the International Science Programme of Uppsala University in Sweden and in close partnership with the SAAO. It was targeted at Physics lecturers from so called "historically black universities" in South Africa (those which were disadvantaged during the era of Apartheid). The objective was to use the tools of astronomy to enhance Physics teaching at universities. The focus was on performing basic measurements on a portable telescope-CCD system and following up with data/tools from the Virtual Observatory. Lecturers attended from the universities of Limpopo, Venda, Fort Hare and Zululand. Feedback from participants was very positive and we are in the process of designing follow up activities.

### 5.1.8 Events Highlights:

Two major events were hosted at the SAAO during this period, both in partnership with the South African Department of Science and Technology (DST). One was for an Angolan delegation regarding a South Africa-Angola bilateral programme (Angola is a key partner in terms of the Portuguese speaking countries of Africa and beyond). The other was a high profile evening reception for the EU-Africa Joint Expert Group on Science, Information Society and Space Partnership (JEG-8). This is a group of influential decision makers regarding EU-Africa funding programmes and the OAD had an opportunity to present its activities to them.

### 5.1.9 Meetings and Conferences:

Several meetings and conferences took place during this period which were attended by staff of the OAD (besides the IAU General Assembly mentioned above): (i) European Week of Astronomy and Space Science in Rome; (ii) .Astronomy ("Dot Astronomy") meeting in Heidelberg, Germany; (iii) Visit to ESO in Germany; (iv) Visit to Leiden University (meetings with George Miley, Pedro Russo, Sarah Reed); (v) Participation in the South Africa-India bilateral workshop; (vi) Participation in the National Research Foundation (NRF) Science Awareness Workshop in Pretoria; (vii) Attendance of the Human Science Research Council-NRF conference on the Re-emergence of Astronomy in Africa, Maropeng (viii) SKA Human Capital Development meeting with representatives from 8 partner countries, Cape Town; (ix) Visit to the OAD by Prof Murenzi, head of TWAS (Academy of Sciences for the Developing World). (x) The Southern African Association of Science and Technology Centres (SAASTEC) conference in Pretoria, South Africa (the biggest in terms science education and outreach in the region).

# 5.1.10 Focus on Africa:

As described in the IAU Strategic Plan there should be a focus on the least developed regions of the world, with sub-Saharan Africa being identified as a primary region for focus. Two important activities took place in this region, which are specifically worth noting: (i) The OAD was invited to attend the *Fifth African Ministerial Conference on Science and Technology (AMCOST V)* held in the Republic of Congo in early November 2012. Specifically, the OAD was asked to present the opening talk at a side meeting to set the context of astronomy for African development in light of the outcome of the SKA site decision. This was an opportunity to present to African Ministers in charge of Science and Technology, and their advisors, the activities of the IAU in terms of development, and the potential of astronomy to impact on African Development. The OAD also earned a mention in the AMCOST V Ministerial Decisions document, where all members of the African Union were also encouraged to

participate in astronomy related capacity building programmes. (ii) The third *East African Astronomy Development Workshop* took place in Uganda in November 2012. This was an IAU sponsored event which has traditionally been supported through the TAD (Teaching Astronomy for Development) programme. The first was held in Kenya in 2009, the second in Ethiopia in 2011. This workshop in Uganda was one of the most diverse of the three because speakers included both optical and radio astronomy experts as well as individuals from the South African government who spoke about funding for African astronomy projects. The OAD was also asked to facilitate the establishment of the East African Astronomical Society.

### 5.1.11 Staffing:

Interviews and other appointment procedures were held during this period for the OAD Project Officer with a successful candidate (Jean-Christophe Mauduit) due to start work at the OAD in January 2013. This is a significant move forward for the OAD since part of this person's responsibilities will be to implement projects and to deputize the director – roles that have been urgently needed for some time now. In the meantime the OAD continues its internship programme with several (mainly astronomy student) interns spending varying amounts of time at the OAD to support its activities.

### 5.1.12 Future Outlook:

The OAD currently has the responsibility of administering the various proposals which were funded for the 2013 cycle. This involves the payment of grants, support for projects, monitoring, evaluation and reporting. In parallel the OAD will launch an intensive fund-raising campaign in early 2013 to try to fund those projects on the "wish-list" as well as other activities which may arise within each of the Task Forces. The proposals cycle will be an annual one with a refined call for proposals being released around the middle of 2013 for projects to be implemented in 2014. The OAD also hopes to finalise agreements for more Regional Nodes to be launched in 2013.

# 5.1.13 More information/Contact:

For more information or to provide suggestions and input, please visit the OAD website (www.astro4dev.org) or contact Kevin Govender at kg@astro4dev.org.

5.2. International Outreach Coordinator Sarah Reed, International Outreach Coordinator (Tokyo, Japan)

# 5.2.1 Background information:

The IAU Office for Astronomy Outreach (OAO, formerly known as the IAU Office for Public Outreach) began operations in September 2012, under my leadership as the International Outreach Coordinator. The OAO will be hosted by the National Astronomical Observatory of Japan for the next five years, based in its headquarters in Tokyo, Japan.

# 5.2.2 Goals:

The major goals of IAU OAO are to:

Increase public awareness and knowledge of astronomy and related sciences Connect people with astronomy through the excitement of sky-observing experiences

Facilitate new networks and strengthen existing ones

Ensure that astronomy outreach resources and events are accessible to everyone Promote best practices in astronomy communication and public outreach

5.2.3 Synergy across IAU public outreach and development activities:

It is imperative that the OAO works closely with IAU Commission 55 (C55), Communicating Astronomy with the Public – which now falls under the responsibility of the newly created IAU Division C, Education Outreach and Heritage – and the IAU Office of Astronomy for Development (OAD). To promote synergy across these IAU activities, I have joined the OAD's Task Force 3 (TF3), Astronomy for the Public, and C55's Organising Committee. Furthermore, I have been appointed as Chair of C55's Working Group 'Communicating Astronomy with the Public journal' (CAP journal) and Editorin-Chief of the publication. (My first issue as Editor-in-Chief is currently in production.)

In November 2012, I invited Kevin Govender, the Director of the OAD, and members of TF3 and C55 to participate in a teleconference to give feedback on the planned strategy for OAO, with further follow-up by email. The input of this group of experts is greatly valued and encouraged as the OAO's activities develop, and more teleconferences will be held in the future. In addition to these meetings, Kevin and I have regular teleconferences (usually once per week).

# 5.2.4 Visit to the OAD:

In December 2012, I visited the OAD in Cape Town, South Africa. The main aim of the visit was to meet the OAD team and to discuss synergies between our offices. For example, how the OAD's Language Expertise Centres could support submissions to CAP journal in native languages, and how the OAO can encourage amateur astronomy clubs to apply for project funding during the OAD's next call for proposals. The visit was also a valuable learning experience, in which I gained a greater understanding of the developmental impact of astronomy in Africa and various public outreach activities in Cape Town and Sutherland.

During the trip, I gave presentations about OAO at the South African Astronomical Observatory to an amateur astronomy club and the local astronomy research and outreach communities.

# 5.2.5 IAU National Outreach Contacts (NOCs):

OAO will follow the successful model of the International Year of Astronomy 2009 (IYA2009): to act as central coordination point for activities taking place around the world, while supporting a network of individuals to work on projects at a national level. For IYA2009, this network was referred to as 'Single Points of Contacts' (SPOCs); the OAO will use the title 'IAU National Outreach Contacts (NOCs). They will be appointed on a three-year term, aligning with the IAU General Assemblies.

While the plan for how to appoint the IAU National Outreach Contacts (NOCs) has not yet been formalised, it is envisaged that IAU National Members will apply a set criteria to applicants and nominate a single person to the OAO. In countries that are not IAU National Members, candidates will apply directly to the OAO and the former IYA2009 SPOCs will be consulted.

# 5.2.6 Corporate branding:

The OAO was borne out of a desire to maintain and build on the momentum of the successful IYA2009. To visually demonstrate this link with IYA2009, the design for the OAO's logo incorporates the well-known image of a silhouetted parent and child gazing up to the night sky that was used to brand IYA2009 and Beyond IYA2009 resources. However, this image has been given a new colour scheme and is used on a circular logo in order to establish a unique visual identity for the OAO.



5.2.7 Communication channels:

Management of the Eeducation and Public Outreach (EPO) mailing list that was built during IYA2009 was handed over from the OAD to OAO in November 2012. This is an important communication channel that will grow and be developed further.

Recently, the OAO opened a Twitter account under the username @IAU\_Outreach

5.2.8 Priorities for 2013:

- 1) Establish a network of IAU Outreach Ambassadors
- 2) Start building a global database of amateur astronomy clubs
- 3) Develop a website to act as a one-stop hub for astronomy outreach for the public, amateur astronomy clubs and the public outreach community
- 4) Maintain and develop the IAU EPO mailing list

5) Ensure the highest editorial standards in CAP journal and promote the publication to astronomy communicators

5.3 Astronomy and World Heritage Activities *Clive Ruggles (Leicester University, UK)* 

Following the publication of the ICOMOS–IAU Thematic Study on the Heritage Sites of Astronomy and Archaeoastronomy in 2010 and the public launch of the Astronomical Heritage Web Portal (www.astronomicalheritage.net) during the 28th IAU General Assembly in August 2012, the co-operation between UNESCO and the IAU is moving forward to a stage where the IAU can be more directly involved in the processes leading to the potential nomination of specific astronomical heritage sites for inscription onto UNESCO's World Heritage List.

A very significant development in this regard, following the 2012 meeting of the World Heritage Committee in St Petersburg in July, has been a formal call by the World Heritage Centre to define new partnerships to advance the Astronomy and World Heritage Initiative, which the WHC and IAU have been progressing jointly under the terms of the 2008 Memorandum of Understanding. The call makes explicit reference to the existence of two Working Groups established within the framework of the Initiative: the International Working Group on Astronomy and World Heritage chaired by Clive Ruggles (UK), and the First Expert Working Group on technological heritage connected with space exploration, chaired by Mikhail Marov (Russian Federation).

The following general priorities for World Heritage activities within the IAU are now clear in the medium and longer term:

1. Continue to work with UNESCO's advisory bodies to establish robust general principles for assessing astronomical heritage nominated for inscription onto the World Heritage List.

2. Work with State Parties and relevant organisations to help progress specific nominations.

3. Help interested organisations to encourage their national authorities to consider nominating particular astronomical heritage sites.

Regarding (1), nine 'Extended Case Studies' (reduced from the original eleven when three of them were merged) developed since the publication of the Thematic Study were presented and approved at the General Assembly and are gradually being published on the Web Portal prior to their release in a selfcontained publication that will be a follow-up to the Thematic Study, exploring a number of key issues in greater detail.

There is currently very good potential for (2). At the time of writing, several State Parties are moving to include astronomical heritage sites on their Tentative Lists (inventories of properties that the country in question intends to consider for nomination), and at least three have already done so: Egypt (Helwan Observatory), Ukraine (Astronomical Observatories of Ukraine) and the United Kingdom (Jodrell Bank Observatory).

Regarding (3), the IAU is already fully involved in attempts to advance three projects. All of them represent 'serial' nominations that would involve more than one country. They are:

• Route of astronomical observatories', focusing on classical observatories in Europe and its colonies.

• 'Odyssey of human creative genius', focusing on the technological heritage connected with space exploration.

• Windows to the universe', focusing on some of the world's leading optical observatories and the preservation of their dark skies.

The last two of these relate directly to Extended Case Studies.

Heritage activities within the IAU are not concerned exclusively with potential World Heritage and the Working Group is keen to give due attention to the following.

• Heritage sites that may never demonstrate the 'outstanding universal value' (OUV) necessary to become a World Heritage Site but are nonetheless of great significance on a regional and/or national scale.

• Categories of heritage that are not eligible for inclusion on the World Heritage List, namely moveable heritage (e.g. instruments and artefacts) and intangible heritage (e.g. knowledge and ideas). • The natural heritage of the dark night sky, which cannot in itself be considered under the World Heritage Convention.

A joint science meeting at the Bejing GA jointly organised by the Astronomy and World Heritage Working Group and the Historical Instruments Working Group concluded that the IAU should not try to produce definitive catalogues of any type of heritage since, among other reasons, it would be counterproductive to be seen as an outside body trying to tell others how valuable their heritage is rather than letting them decide for themselves. Instead, the meeting favoured an approach where people are encouraged to develop case studies for comparative purposes and to raise broader issues. This fits in well with the approach already adopted by the web portal.

A key issue that has emerged is that in assessing astronomical heritage it is an absolute necessity to develop a 'science heritage' rather than an 'architectural heritage' approach in which, for example, the value of a 'monument of science' is enhanced, rather than diminished, by changes (such as upgrading and replacing instruments) that lead to further significant discoveries. This has several implications. In particular, it is crucial to change perceptions throughout ICOMOS about how astronomical heritage nominations should be assessed. It is also crucial to work with observatory directors to convince them that acknowledging and maintaining the eventual heritage value of their institution should not be a threat to the continuation of active research.

5.4. Report on the "International school for astronomy, astrophysics and space science" in Kathmandu, Nepal.

Norio Kaifu

.Date of the School: Oct 1st to 10th, 2012

.Host Organization: Ministry of Environment, Science and Technology, Nepal (Mr. Sanat Kumar Sharma, Co-Executive Director)

.Time Table of Visit: Oct 8<sup>th</sup>: Leave Tokyo, arr. Kathmandu via Bangkok Oct 9<sup>th</sup>: Lecture 1: "New Vision of Our Solar System" Visit Ministry of Environment, Science and Technology Oct 10<sup>th</sup>: Lecture 2: "Formation of Stars, Planets & Exo-Solar Planets" Closing Ceremony, address as president of IAU Oct 11<sup>th</sup>: Leave Kathmandu, arr. Tokyo on Oct.12th via Bangkok

# 5.4.1 Background

Nepal, located north of India with population of 29 million, is a non-IAU member country and has no professional astronomer yet. On the other hand

Nepal has almost two thousand faculty members in physics. They also have a number of school teachers who wish to teach astronomy to students. The MEST (Ministry of Environment, Science and Technology) and BPKMPOSMDB (BP Koirala Memorial Planetarium, Observatory and Space Museum) has been organized International School of Astronomy and Astrophysics and Space Science (ISAASS) for graduate course students regularly (roughly twice a year) for more than ten years (this is a lot!). This project has been strongly supported by MEST/ BPKMPOSMDB, and is led by Mr, Sanat Kumar Sharma, an executive staff of MEST and Co-Executive Director of BPKMPOSMDB. They had also organized ISAA-2008 in Nepal, Kathmandu, with four visiting lecturers from IAU (C.Cesarsky, at the time IAU President, M.Gerbaldi, P. Darriulat and E.Guinan) as a course of their long-years' activity. The ISAASS is normally held twice a year, one in Kathmandu, and one in a local city where the university in that area supports the ISAASS. They normally invite several astronomers and rocket engineers from India by the financial support from Indian organizations. I was invited by Mr. Sharma to give lectures in the ISAASS in January 2012, but my schedule did not allow me to do so. Therefore Mr. Sharma invited me for the second ISAAS in 2012. I asked to IAU to pay my travel expenditure and Nepal government provided local expenses.

# 5.4.2 The ISAASS of October 1-10, 2012

I joined the ISAASS of October 2012 only for last two days because of my schedule. I gave two lectures, "New Vision of Our Solar System" and "Formation of Stars, Planets & Exo-Solar Planets" because those areas of astronomy seemed to be lacking in the program. As seen in the attached program lectures are given in one-hour unit, and I gave lectures of two units for each of two titles. The venue was a meeting room in a small and quiet hotel. About 140 graduate-level students were eager and enthusiastic. My topics seemed almost completely new for students, and they asked questions actively. Apparently their knowledge of astronomy was not adequate, but in many cases they showed a rather high level knowledge of Earth science and/or physics.

The closing ceremony was held in the evening of the final day (Oct.10th) with attendance of the Vice President of MEST. I was asked to give an address as president of IAU. All students were given a certificate one-by-one; it was a good moment.

### 5.4.3 Visit to Ministry of Environment, Science and Technology:

Mr. Sharma took me to MEST, and we met Dr. Keshab Man Shakya, Minister of MEST. We talked about promotion of astronomy in Nepal, and he looked very eager to promote astronomy. I told him my very positive impression about the ISAASS activities, and he seemed know it well. Then I visited Mr. Sharma's office in the same building and asked about the situation of astronomy in Nepal. He gave me many publications/journals, unfortunately I could not read written Nepalese letters, but it was apparent that they were doing a tremendous effort in educating astronomy for public and young students.

# 5.4.4 Comments

1) Nepal is continuing a great deal of promotion of astronomy. Through the ISAASS which looks extremely popular for young generations and related activities supported by MEST/BPKMPOSMDB Nepal will be able to grow teachers and researchers in astronomy before long.

2) The program of the ISAASS might be improved in balance of fields and in education efficiency if prepared with help of experienced international group. Also they wish to send good young students to other advanced countries for education and research. Now India is a major country accepting them, but other countries also might be able to help them.

3) Their short-term goal is to establish some formal courses of astronomy in Universities / colleges. It should be accomplishable based on the facts that there are so many physics courses in universities / collages and the ISAASS activities are being made under cooperation with many universities / colleges. However the well-known political situation in Nepal (for many years!) makes everything difficult to change.

4) Nepal has a good possibility to apply for IAU membership. The IAU membership will help promotion of astronomy in Nepal, and Mr. Sharma and MEST has strong wish to do so. The MEST or BPKMPOSMDB can be base of adhering committee. The problem is the political situation again, but we might be able to go ahead to seek for possibilities.

# 6. Scientific Bodies

6.1. Poll on joining Divisions Thierry Montmerle, General Secretary

As a result of the positive vote of the EC Resolution on Division Restructuring at the last GA in Beijing (see the Preface and Sect. 2.2), it was decided to offer the community the choice to join one or more of the new Divisions, in the form of a Union-wide poll.

This poll took place as follows. After discussions with Division Presidents and Vice-Presidents, the reassignment of the existing Commissions to the new Divisions was agreed (see Sect. 6.2). Because of the current IAU Working Rules (Sect. X.42), it is not possible to freely join or leave a Commission, so by default the individual members were assigned to the Division(s) corresponding to the Commission(s) they were already members of. So the choice proposed was more to join one or more additional Division(s), without being member of a Commission. (Possible new rules for joining or leaving Commissions are currently under discussion.) The ultimate goal was to establish the electorate for each Division, to elect 6 members to their "Division Steering Committee".

Organizing the vote required a massive update of e-mails to reach the nearly 11,000 individual members of the IAU, something that had never been undertaken before, and represented a intense effort by the Secretariat and by our ESO colleagues (who maintain the IAU database under contract) until the end of last year. The work was as complete as possible when the vote was organized, but gaps or bouncing e-mails unfortunately still exist, and hopefully will be corrected as new information is coming (contact: iauinfos@iap.fr).

Divisions	Number of members
A Fundamental Astronomy	1251
B Facilities, Technologies & Data	2495
Science	
C Education, Outreach & Heritage	1492
D High-Energy Phenomena &	1576
Fundamental Physics	
E Sun & Heliosphere	1163
F Planetary Systems & Bioastronomy	1730
G Stars & Stellar Physics	2762
H Interstellar Matter & Local Universe	2237
J Galaxies & Cosmology	2634

The results of this general consultation are as follows, by Division:

It is therefore worthy of note that there is no "small" Division, and that the spread between the largest and the smallest Division is less than a factor of 2.5, which is much better than for the previous Divisions, for which the spread was a factor of 4. This is evidence for a high degree of "interdisciplinarity" between members, and can be taken as an additional validation of the Division restructuring.

Also, in spite of the relative incompleteness of the database (overall about 10% of the e-mails missing or bouncing), 77 countries with individual members were reached. The percentage of voting members, in numeric and graphic form, is given below (ordered by decreasing country membership).

Members total	Country	%	Members voted
2678	United States	34	919
743	France	36	267
644	Japan	43	276
581	Italy	45	263
560	Germany	38	212
525	United Kingdom	41	216
488	China	28	139
387	<b>Russian Federation</b>	34	130
345	Spain	47	161
285	Australia	42	119
260	Canada	47	123
236	India	31	74
224	Netherlands	38	86
196	Ukraine	27	52
187	Brazil	42	79


161	Poland	39	63
142	Argentina	41	58
135	Korea	26	35
126	Belgium	52	66
123	Mexico	35	43
117	Sweden	36	42
110	Greece	30	33
106	Czech Republic	47	50
104	Chile	58	60
97	Switzerland	40	39
90	Israel	38	34
85	South Africa	49	42
76	Denmark	46	35
73	Finland	37	27
64	Taiwan	31	20
62	Austria	48	30
58	Bulgaria	40	23
56	Hungary	54	30
54	Egypt	17	9



46	Turkey	41	19
46	Ireland	33	15
43	Portugal	42	18
42	Slovakia	43	18
41	Serbia	51	21
35	Norway	26	9
34	Romania	24	8
33	New Zealand	27	9
31	Iran	42	13
26	Estonia	42	11
25	Armenia	24	6
20	Thailand	60	12
19	Venezuela	42	8
19	Lithuania	37	7
18	Croatia	28	5
18	Indonesia	28	5
16	Latvia	25	4
13	Georgia	15	2







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4	Iceland	50	2
4	Lebanon	50	2
3	Emirates	67	2
2	Ethiopia	50	1
2	Sri Lanka	50	1
1	Andorra	100	1
1	Macedonia	100	1
1	Oman	100	1
1	Trinidad Tobago	100	1



The global average voting participation turned out to be around 40%, with a maximum (not counting countries with less than 4 members) of 58% for Chile and 60% for Thailand, and a low of 27% for China among countries with over 100 members. Of course, the significance of these results is limited by small-number statistics for countries with less members. Strictly speaking, they are also lower limits, since "non-voting" members may simply not have been interested in joining Division(s) other than their original one(s).

At the time of printing, the elections for the Division Steering Committees are in progress.

6.2. Composition of IAU Divisions, Commissions and Working Groups (as of Jan.15, 2013)

# Division A – Fundamental Astronomy

President	Sergei A. Klioner (Germany)
Vice-President	Jacques Laskar (France)

### Div. A/ Comm. 4 - Ephemerides

Chair

President	Catherine Y. Hohenkerk (UK)
Vice-President	Jean-Eudes Arlot (France)
Past President	George Kaplan (USA)
OC Members	John A. Bangert (USA), Steven A.Bell (UK),
	Jose Manuel Ferrandiz (Spain), Agnès Fienga (France),
	William M Folkner (USA),
	Marina V. Lukashova (Russian Federation),
	Elena V. Pitjeva (Russian Federation),
	Mitsuru Sôma (Japan), William Thuillot (France),
	Sean E. Urban (USA)

# Div. A/ Comm. 4 / WG - Pulsar-Based Timescales

George Hobbs (Australia)

Div. A/ Comm. 4 / WG – *Standardizing Access to Ephemerides Chair* James Hilton (USA)

# Div. A & F/ Comm. 4 - 7 - 8 - 16 - 20 WG - Natural Planetery Satellites

Chair	Jeau-Eudes Arlot (France)
Past Chair	Jean-Eudes Arlot (France)

# Div. A/ Comm. 7 - Celestial Mechanics & Dynamical Astronomy

President	Alessandro Morbidelli (France)
Vice-President	Christian Beaugé (Argentina)
Secretary	Fernando Virgilio Roig (Brazil)
Past President	Zoran Knežević (Serbia)
OC Members	Alessandra Celletti (Italy), Nader Haghighipour (USA), Piet
	Hut (USA), Jacques Laskar (France), Seppo Mikkola (Finland)

### Div. A/ Comm. 8 - Astrometry

President	Norbert Zacharias (USA)
Vice-President	Anthony G.A. Brown (Netherlands)
Past President	Dafydd Evans (UK)
OC Members	Li Chen (China), Dafydd Wyn Evans (UK),
	Naoteru Gouda (Japan), Valeri Makarov (USA),
	Oleksandr V. Shulga (Ukraine), Jean Souchay (France),
	Ramachrisna Teixeira (Brazil), Stephen C. Unwin (USA)

# Div. A/ Comm. 19 - Rotation of the Earth

President	Cheng-Li Huang (China)
Vice-President	Richard Stewart Gross (USA)
Secretary	Florian Seitz (Germany)
Past President	Haral Schuh (Austria)
OC Members	Christian Bizouard (France),
	Benjamin F. Chao (Taiwan), Wieslaw Kosek (Poland), Zinovy
	M. Malkin (Russian Federation),
	Bernd Richter (Germany), David A. Salstein (USA),
	Oleg A. Titov (Australia)

# Div. A/ Comm. 30 - Radial Velocities

President	Dimitri Pourbaix (Belgium)
Vice-President	Tomaz Zwitter (Rep of Slovenia)
Past President	Guillermo Torres (USA)
OC Members	Alceste Z. Bonanos (Greece), Alain Jorissen
	(Belgium), David A. Katz (France), Tsevi Mazeh
	(Israel), Dante Minniti (Chile), Claire Moutou
	(France), Francesco A. Pepe (Switzerland),
	Matthias Steinmetz (Germany)

# Div. A/ Comm. 30 / WG – Catalog of Orbital Elements of Spectroscopic Binary Systems

President	Dimitri Pourbaix	(Belgium)
Past President	Dimitri Pourbaix	(Belgium)

# Div. A/ Comm. 31 - Time

President	Mizuhiko Hosokawa (Japan)
Vice-President	Elisa Felicitas Arias (France)
Past President	Richard N. Mancherter (Australia)
OC Members	Demetrios N. Matsakis (USA), Philip Tuckey (France),
	Shougang Zhang (China), Vladimir E. Zharov (Russian
	Federation)

# Div. A/ Comm. 52 - Relativity in Fundamental Astronomy

President	Michael H. Soffel (Germany)
Vice-President	Sergei M. Kopeikin (USA)
Past President	Gérard Petit (France)
OC Members	Neil Ashby (USA), William M Folkner (USA),
Daniel Hestroffer	(France), Gérard Petit (France), Jin-he Tao (China)

# Div. A/ WG - Astrometry by Small Ground-Based Telescopes

Co-Chairs	Marcelo Assatin (	Brazıl), Willia	m Thuillot	(France)
Past Chair	William Thuillot (	(France)		

### Div. A/WG - Numerical Standards for Fundamental Astronomy Chair

Brian Luzum (USA)

# Div. A/ WG - Redefinition of UTC

Chair	Dennis Mc Carty (USA)
Co-Chair	Elisa Felicitas Arias (France)

#### Div. A/ WG - Standards of Fundamental Astronomy (SOFA) Chair Catherine Hohenkerk (UK)

#### Div. A/ WG - Multi-Waveband Realisations of International Celestial Reference System Chair Francois Mignard (France)

# Div. A/ WG - Third Realization of the International Celestial Reference Frame

Chair Christopher S. Jacobs (USA)

# Div. A & F/WG - Cartographic Coordinates and Rotational Elements

Chair	Brent A. Archinal (USA)
Past Chair	Brent A. Archinal (USA)

# Division B – Facilities, Technologies and Data Science

President	David Richard Silva (USA)
Vice-President	Pietro Ubertini (Italy)

# Div. B/ Comm. 5 - Documentation & Astronomical Data

President	Robert J. Hanisch (USA)
Vice-President	Michael W. Wise (Netherlands)
OC Members	Heinz J Andernach (Mexico), Marsha Bishop (USA), Daniel
	Egret (France), R. Elizabeth M. Griffin (Canada), Ajit K.
	Kembhavi (India), Tara Murphy (Australia), Fabio Pasian
	(Italy), Anja C. Schröder (South Africa), Douglas Tody (USA)

# Div. B/ Comm. 5 / WG – Astrostatistics and Astroinformatics

Chair Eric D. Feigelson (USA)

#### Div. B/ Comm. 5 / WG – Designations Chair Marion Schmitz (USA)

# Div. B/ Comm. 5 / WG - FITS

Chair Lucio Chiappetti (Italy) Past Chair William D. Pence (USA)

# Div. B/ Comm. 5 / WG - Libraries

Co-Chairs	Marsha Bishop (USA), Robert J. Hanisch (	(USA)
Past Co-Chairs	Marsha Bishop (USA), Robert J. Hanisch (	USA)

# Div. B/ Comm. 5 / WG – Virtual Observatories, Data Centers & Networks

Chair	Robert J. Hanisch	(USA)
Past Chair	Robert J. Hanisch	(USA)

# Div. B/ Comm. 5 / TG Preservation & Digitization of Photographic Plates Chair Elisabeth M. Griffin (Canada) Past Chair Elisabeth M. Griffin (Canada)

# Div. B/ Comm. 6 - Astronomical Telegrams

	0			
President	Hitoshi Yamaoka (Japan)			
Vice-President	Daniel W.E Green (USA)			
Past President	Nikolay N. Samus (Russian Federation)			
OC Members	Kaare Aksnes (Norway), Alan C. Gilmore (New Zealan			
	Syuichi Nakano (Japan), Nikolay N. Samus (Russian			
	Federation), Timothy B. Spahr (UK), Jana Tichá (Czech			
	Republic), Gareth V. Williams (USA)			

# Div. B/ Comm. 14 - Atomic & Molecular Data

President	Lyudmila I. Mashonkina (Russian Federation)		
Vice-President	Farid Salama (USA)		
Past President	Glenn M. Wahlgren (USA)		
OC Members	France Allard (France), Paul S Barklem (Sweden), Peter		
	Beiersdorfer (USA), Helen J. Fraser (UK), Gillian Nave		
	(USA), Hampus Nilsson (Sweden), Glenn Michael Wahlgren		
	(USA)		

# Div. B/ Comm. 14 / WG - Molecular Data

Chair	Steven Federman (USA)
Past Chair	Steven Federman (USA)

# Div. B/ Comm. 14 / WG - Solids and Their Surfaces

Chair	Gianfranco	Vidali	(USA)
Past Chair	Gianfranco	Vidali	(USA)

# Div. B/ Comm. 25 - Astronomical Photometry and Polarimetry

President	Alistair Robin Walter
Vice-President	Saul J. Adelman (USA)
Past President	Eugene Milone (Canada)

OC Members	Barbara J. Anthony-Twarog (USA), Pierre Bastien (Canada),
	Wen Ping Chen (Taiwan), Steve B. Howell (USA) Jens
	Kirkeskov Knude (Denmark), Donald W. Kurtz (UK),
	Antonio Mario Magalhaes (Brazil), John W. Menzies (South
	Africa), J. Allyn Smith (USA), Kevin Volk (USA)

# Div. B/ Comm. 25 / WG - Infrared Astronomy

Co-Chairs	Kevin Volk (USA), Eugene F. Milone (Canada)
Past Chair	Eugene F. Milone (Canada)

# Div. B/ Comm. 40 - Radio Astronomy

President	Jessica Mary Chapman (Australia)
Vice-President	Gabriele Giovannini (Italy)
Past President	Russell A. Taylor (Canada)
OC Members	Christopher L. Carilli (USA), Richard E. Hills (UK), Hisashi
	Hirabayashi (Japan), Justin L. Jonas (South Africa), Joseph
	Lazio (USA), Raffaella Morganti (Netherlands), Ren-Dong
	NAN (China), Monica Rubio (Chile), Prajval Shastri (India)

Div. B/ Comm. 40 / WG - Astrophysically Important Spectral Lines Chair Masatoshi Ohishi (Japan)

Div. B/ Comm. 40 / WG -Historical Radio Astronomy

Chair	Kenneth I. Kellermann
Past Chair	Kenneth I. Kellermann

# Div. B/ Comm. 50 - Protection of Existing & Potential Observatory Sites

President	Richard F. Green (USA)	
Vice-President	Constance Elaine Walker (USA)	
Past President	Wim Van Driel (France)	
OC Members Elizabeth M. Alvarez del Castillo (USA), Beatriz E		
	(Argentina), Margarita Metaxa (Greece), Masatoshi Ohishi	
	(Japan), Ferdinando Patat (Germany), Ramotholo R. Sefako	
	(South Africa), Anastasios Tzioumis (Australia)	

# Div. B/ Comm. 54 - Optical & Infrared Interferometry

President	Gerard T. van Belle (USA)
Vice-President	Denis Mourard (France)
Past President	Stephen T. Ridgway (USA)
OC Members	John Thomas Armstrong (USA), Michael James Ireland
	(Australia), Bruno Lopez (France), Karine Perraut (France),
	Theo A. ten Brummelaar (USA), Eric M. Thiébaut (France),
	Markus Wittkowski (Germany), John Stephen Young (UK)

Div. B/ WG	- Site Testing Instruments
Chair	Andrei Tokovinin (Chile)
Past Chair	Andrei Tokovinin (Chile)

# Division C – Education, Outreach and Heritage

President	Mary Kay M. Hemenwa	ıy (USA)
Vice-President	Hakim Luthfi Malasan (	Indonesia)

# Div. C/ Comm. 41 - History of Astronomy

President	Rajesh Kochhar (India)
Vice-President	Xiaochun Sun (China)
Past President	Clive L.N Ruggles (UK)
OC Members	Juan Antonio Belmonte Avilés (Spain), Brenda G. Corbin
	(USA), Eugene F. Milone (Canada), Raymond P. Norris
	(Austalia), Luisa Pigatto (Italy), Mitsuru Sôma (Japan)

# Div. C/ Comm. 41 / WG - Archives

Chair	Ileana Chinnici (I	(taly)
Past Chair	Ileana Chinnici (I	(taly)

# Div. C/ Comm. 41 / WG - Astronomy and World Heritage

ChairGudrun Wolfschmidt (Germany)Past ChairClives Ruggles (UK)

# Div. C/ Comm. 41 / WG - Historical Instruments

Chair	Yunli Shi (China)
Past Chair	Sara J. Schechner (USA)

# Div. C/ Comm. 41 / WG - Johannes Kepler

Chair	Terence Mahoney (UK)
Past Chair	Terence Mahoney (UK)

# Div. C/ Comm. 41 / WG - Transits of Venus

ChairWayne Orchiston (Australia)Past ChairHimar W. Duerbeck (Germany)

### Div. C/ Comm. 46 - Astronomy, Education & Development

President	Jean Pierre de Greve (Belgium)
Vice-President	Beatriz Elena Garcia (Argentina)
Past President	Rosa M. Ros (Spain)
OC Members	Roger Ferlet (France), Michèle Gerbaldi (France)Edward F.
	Guinan (USA), John B. Hearnshaw (New Zealand), Barrie W.
	Jones (UK), Laurence A. Marschall (USA), George Kildare
	Miley (Netherlands), Jay M. Pasachoff (USA), Rosa M. Ros
	(Spain), Magda G. Stavinschi (Romania), Silvia Torres-
	Peimbert (Mexico)

### Div. C/ Comm. 55 - Communicating Astronomy with the Public

President	Lars Lindberg Christensen (Germany)
Vice-President	Pedro Russo (Netherlands)
Past President	Dennis Crabtree (Canada)
Secretary	Richard Tresch Fienberg (USA)
OC Members	Pete Wheeler (Australia), Kimberly Kowal Arcand (USA),
	Carolina Johanna Ödman (South Africa), Sarah Jane Reed
	(South Africa), Ian E. Robson (UK), Kazuhiro Sekiguchi
	(Japan), Jin Zhu (China)

# Div. C/ Comm. 55 / WG - CAP Conferences

Chair	Ian E. Robson (UK)
Past Chair	Ian E. Robson (UK)

# Div. C/ Comm. 55 / WG - CAP Journal

Chair	Sarah Reed (Japan)
Past Chair	Pedro Russo (Germany)

# Div. C/ Comm. 55 / WG - Communicating Heliophysics

Chair	Carine Briand (France)	١
Past Chair	Carine Briand (France)	

# Div. C/ Comm. 55 / WG - New Ways of CAP

Chair Michael J. West (Chile)

# Div. C/ Comm. 55 / WG – New Media

ChairPamela Gay (USA)Past Co-ChairsLars Christensen (Germany), Pamela Gay (USA)

Div. C/	Comm. 55 /	WG – Public Outreach	Information Management
Chair	Lar	S Christensen (Germany)	

Div. C/ Comm. 55 / WG – Washington Charter for CAPChairDennis Crabtree (Canada)Past ChairDennis Crabtree (Canada)

Div. C/ Comm. 55 / WG – Outreach Professionalization & Accreditation Chair Richard Fienberg (USA)

# Division D - High Energy Phenomena and Fundamental Physics

President	Diana Mary Worrall (UK)
Vice-President	Felix Albert Aharonian (Ireland)

# Div. D/ Comm. 44 - Space & High Energy Astrophysics

President	Christine Jones (USA)
Past President	Christine Jones (USA)
OC Members	João Braga (Brazil), Noah Brosch (Israel), Mattheus de
	Graauw (Chile), Leonid I. Gurvits(Netherlands), George
	Helou (USA), Ian Donald Howarth (UK), Hideyo Kunieda
	(Japan), Thierry Montmerle (France), Haruyuki Okuda
	(Japan), Marco Salvati (Italy), Kulinder Pal Singh (India)

### Division E - Sun and Heliosphere

President	Lidia van Driel-Gesztelyi (UK)
Vice-President	Yihua Yan (China)

# Div. E/ Comm. 10 - Solar Activity

President	Karel Schrijver (USA)
Vice-President	Lyndsay Fletcher (UK)
Past President	Lidia van Driel-Gesztelyi (UK)
OC Members	Ayumi Asai (Japan), Paul S. Cally (Australia), Paul
	Charbonneau (Canada), Sarah Gibson (USA), Daniel O.
	Gómez (Argentina), S. Sirajul Hasan (India), Lidia van Driel-
	Gesztelyi (UK), Astrid Veronig (Austria), Yihua Yan (China)

### Div. E/ Comm. 12 - Solar Radiation & Structure

President	Gianna Cauzzi (Italy)
Vice-President	Nataliia Gennadievna Shchukina (Ukraine)
Past President	Alexander Kosovichev (USA)
OC Members	Michele Bianda (Switzerland), Axel Brandenburg (Sweden),
	Dean-Yi Chou (Taiwan), Sergio Dasso (Argentina), Mingde
	Ding (China), Stuart M. Jefferies (USA), Natalie A. Krivova

(Germany), Vladimir D. Kuznetsov (Russian Federation), Fernando Moreno-Insertis (Spain)

# Div. E/ Comm. 12 / WG – Coordination of Synoptic Obersations of the Sun Chair Alexei Pevtsov (USA)

# Div. E/ Comm. 49 - Interplanetary Plasma & Heliosphere

President	Ingrid Mann (Sweden)
Past President	Natchimuthuk Gopalswamy (USA)
OC Members	Carine Briand (France), Rosine Lallement (France), David
	Lario (USA), P. K. Manoharan (India), Kazunari Shibata
	(Japan), David F. Webb (USA)

Div. E/ WG – Internation	al Collaboration o	n Space	Weather
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Co-Chairs	David Webb	(USA), Luc Dame (France)
Past Chair	David Webb	(USA)

# Div. E/WG - International Data Access

Robert D. Bentley (UK)

# Div. E/ WG - Solar Eclipses

Chair

Chair	Jay M. Pasachoff (USA)
Past Chair	Jay M. Pasachoff (USA)

# Div. E & F/ WG – Impact of Magnetic Activity on Solar and Stellar Environments

Chair Dibyendy Nandi (India)

# Div. E & G/WG - Solar-Type Stars

Chair Pascal Petit (France)

# Division F - Planetary Systems and Bioastronomy

President	Giovanni B. Valsecchi (Italy)
Vice-President	Nader Haghighipour (USA)

# Div. F/ Comm. 15 - Physical Study of Comets & Minor Planets

President	Dominique Bockelée-Morvan (France)
Vice-President	Ricardo Alfredo Gil-Hutton (Argentina)
Secretary	Daniel Hestroffer (France)
Past President	Alberto Cellino (Italy)
OC Members	Irina N. Belskaya (Ukraine), Björn J.R. Davidsson (Sweden),
	Elisabetta Dotto (Italy), Alan Fitzsimmons (UK), Hideyo

Kawakita (Japan), Javier Licandro (Spain), Thais Mothé-Diniz (Brazil), Diane H. Wooden (USA), Hajime Yano (Japan)

# Div. F/ Comm. 15 / WG - Albedo - Polarimetric relation

Chair Past Chair Ricardo Gil-Hutton (Argentina) David Tholen (USA)

### Div. F / Comm. 15 / WG - Asteroid Families Chair

Alberto Cellino (Italy)

#### Div. F/ Comm. 15 / WG -Asteroid Magnitute Chair Muinonen Karri (Finland) Past Chair David Tholen (USA)

#### Div. F / Comm. 15 / WG – Data Bases for Comet Spectroscopy Chair Simonia Irakli (Georgia)

# Div. F/ Comm. 15 / WG - Physical Studies of Asteroids

Chair David Tholen (USA) Past Chair Ricardo Gil-Hutton (Argentina)

# Div. F/ Comm. 15 / WG - Physical Studies of Comets

Chair	Daniel C. Boice (USA)
Past Chair	Daniel C. Boice (USA)

# Div. F/ Comm. 16 - Physical Study of Planets & Satellites

President	Mark T. Lemmon (USA)
Past President	Melissa A. McGrath (USA)
OC Members	Kim Sang Joon (Rep. of Korea), Leonid V. Ksanfomality (Russian Federation), Luisa M. Lara (Spain), David Morrison
	(USA), Viktor G. Tejfel (Kazakhstan), Padma A.
	Yanamandra-Fisher (USA)

### Div. F & A/ Comm. 4 – 7 – 8 – 16 – 20 WG - Natural Planetery Satellites See Division A

# Div. F/ Comm. 20 - Positions & Motions of Minor Planets, Comets & Satellites

President	Steven R. Chesley (USA)
Vice-President	Daniela Lazzaro (Brazil)
Secretary	Andrea Milani Comparetti (Italy)
Past President	Makoto Yoshikawa (Japan)
OC Members	Shinsuke Abe (Taiwan), Alan C. Gilmore (New Zealand),
	Mikael Matias Sebastian Granvik (Finland), Robert Jedicke

(USA), Petr Pravec (Czech Republic), Timothy B. Spahr (USA), Jana Tichá (Czech Republic), Jin Zhu (China)

# Div. F/ Comm. 22 - Meteors, Meteorites & Interplanetary Dust

President	Petrus Matheus Marie Jenniskens (USA)
Vice-President	Jiri Borovicka (Czech Republic)
Secretary	Tadeusz Jan Jopek (Poland)
Past President	Jun-ichi Wanatane (Japan)
OC Members	Shinsuke Aab (Taiwan), Guy Joseph Consolmagno (Vatican
	City State), Masateru Ishiguro (Rep of Korea), Diego Janches
	(USA), Galina O. Ryabova (Russian Federation), Jérémie J.
	Vaubaillon (France), Jin Zhu (China)

# Div. F/ Comm. 51 - Bio-Astronomy

President	Pascale Ehrenfreund (USA)
Vice-President	Sun Kwok (China)
Past President	William M. Irvine (USA)
OC Members Muriel Gargaud (France), Nader Haghighipour (	
	G. Holm (Sweden), Ray Jayawardhana (Canada), Anny-
	Chantal Levasseur-Regourd (France), Charles H. Lineweaver
	(Australia), Masatoshi Ohishi (Japan)

# Div. F/ Comm. 53 - Extrasolar Planets

President	Alain Lecavelier des Etangs (France)
Past President	Alain P. Boss (USA)
OC Members	Peter Bodenheimer (USA), Andrew Collier Cameron (UK),
	Eiichiro Kokubo (Japan), Rosemary A. Mardling (Australia),
	Dante Minniti (Chile), Didier Queloz (Switzerland)

# Div. F/WG - Near Earth Objects

Chair	Alan W. Harris (USA)
Past Chair	David Morrison (USA)

# Div. F - /WG Planetary System Nomenclature (WGPSN)

Chair	Rita Schulz (Netherlands)
Past Chair	Rita Schulz (Netherlands)

# Div. F/ WG - Small Bodies Nomenclature

Chair	Jana Tichá (Czech Republic)
Past Chair	Jana Tichá (Czech Republic)

**Div. F & A/ WG -** *Cartographic Coordinates and Rotational Elements* See Division A

# **Div. F & E / WG – Impact of Magnetic Activity on Solar and Stellar Environments** See Division E

# Division G – Stars and Stellar Physics

President	Ignasi Ribas (Spain)
Vice-President	Corinne Charbonnel (Switzerland)

# Div. G/ Comm. 26 - Double & Multiple Stars

President	Brian D. Mason (USA)
Vice-President	Yurij Yu Balega (Russian Federation)
Past President	Jose A. D. Docobo (Spain)
OC Members	Frédéric Arenou (France), Jose-Angel Docobo (Spain),
	Patricia Lampens (Belgium), Bo Reipurth (USA), Marco
	Scardia (Italy), Vakhtang S. Tamazian (Spain), Theo A. ten
	Brummelaar (USA), Andrei A. Tokovinin (Chile)

Div. G / Con	nm. 26 / WG – Maintenance of the Visual Double Star
Database	
Chair	William I. Hartkopt (USA)
Past Chair	William I. Hartkopt (USA)

# Div. G/ Comm. 27 - Variable Stars

President	Karen Pollard (New Zealand)
Vice-President	Christopher Simon Jeffery (UK)
Past President	Gerald Handler (Austria)
OC Members	Márcio Catelan (Chile), Laurent Eyer (USA), Saskia Hekker
	(Netherlands), S. O. Kepler (Brazil), Katrien Kolenberg
	(USA), David E. Mkrtichian (Ukraine), Dennis Stello
	(Australia), Klaus G. Strassmeier (Germany), Katrien
	Uytterhoeven (Spain)

# Div. G / Comm. 27-29-42 / WG - Active B Stars

Chair	Carol E. Jones (Canada)
Past Chair	Juan Fabregat (Spain)

# Div. G/ Comm. 29 - Stellar Spectra

President	Katia Cunha (Brazil)
Past President	Nikolai E. Piskunow (Sweden)
OC Members	Wako Aoki (Japan), Martin Asplund (Australia), Kenneth G.
	Carpenter (USA), Paul A Crowther (UK), Vanessa M. Hill

(France), Jorge Melendez (Brazil), Nikolai E. Piskunov (Sweden), David R. Soderblom (USA), Kimberly A. Venn (Canada), David Yong (Australia)

# Div. G/ Comm. 35 - Stellar Constitution

President	Marco Limongi (Italy)
Vice-President	John C. Lattanzio (Australia)
Past President	Corinne Charbonnel (Switzerland)
OC Members	Inma Dominguez (Spain), Jordi Isern (Spain), Amanda I alia),
	Claus Leitherer (USA), Marcella Marconi (Italy), Giora Shaviv
	(Israel), Jacco Th. van Loon (UK)

# Div. G/ Comm. 36 - Theory of Stellar Atmospheres

President	Joachim Puls (Germany)
Vice-President	Ivan Hubeny (USA)
Past President	Martin Asplund (Australia)
OC Members France Allard	France Allard (France), Carlos Allende Prieto (Spain), Martin
	Asplund (Australia), Thomas R. Ayres (USA), Mats Carlsson
	(Norway), Bengt Gustafsson (Sweden), Rolf-Peter Kudritzki
	(USA), Tatiana A. Ryabchikova (Russian Federation)

# Div. G/ Comm. 42 - Close Binary Stars

President	Mercedes T. Richards (USA)
Vice-President	Theodor Pribulla (Slovakia)
Past President	Ignasi Ribas (Spain)
OC Members	David H. Bradstreet (USA), Horst Drechsel (Germany), Carla
	Maceroni (Italy), Joanna Mikolajewska (Poland), Ulisse
	Munari (Italy), Andrej Prša (USA), Colin David Scarfe
	(Canada), John Kevin Southworth (UK), Shay Zucker (Israel),
	Tomaž Zwitter (Rep of Slovenia)

# Div. G/ Comm. 45 - Stellar Classification

President	Birgitta Ingrid Nordström (Denmark)
Vice-President	Caroline Soubiran (France)
Past President	Richard O. Gray (USA)
OC Members	Carlos Allende Prieto (Spain), Adam J. Burgasser (USA),
	Ranjan Gupta (India), Margaret Murray Hanson (USA), Sandy
	K. Leggett (USA), Harinder P. Singh (India), Werner W.
	Weiss (Austria)

# Div. G / WG - Ap & Related Stars

Chair	Gautier Mathys (Chile)
Past Chair	Gautier Mathys (Chile)

# Div. G / WG - Massive Stars

Chair	Artemio Herrero (Spain)
Past Chair	Joachim Puls (Germany)

# Div. G & E/WG - Solar-Type Stars

See Division E

# Division H – Interstellar Matter and Local Universe

President	Ewine F. van Dishoeck (Netherlands)
Vice-President	Jonathan Bland-Hawthorn (Australia)

# Div. H / Comm. 33 - Structure & Dynamics of the Galactic System

President	Birgitta Ingrid Nordström (Denmark)							
Vice-President	Jonathan Bland-Hawthorn (Australia)							
Past President	Rosemary F. Wyse (USA)							
OC Members	Evangelie (Lia) Athanassoula (France), Sofia Feltzing							
	(Sweden), Chanda J. Jog (India), Felix J. Lockman (USA),							
	Dante Minniti (Chile), Annie C. Robin (France)							

# Div. H / Comm. 34 - Interstellar Matter

President	Sun Kwok (China)						
Vice-President	Bon Chul Koo (Rep of Korea)						
Past President	You-Hua Chu (USA)						
OC Members	Dieter Breitschwerdt (Germany), Michael G. Burton						
(Australia), Sylvie Cabrit (France), Paola Caselli (U							
Elisabete M. de Gouveia Dal Pino (Brazil), Neal J. E							
	(USA), Thomas Henning (Germany), Mika J. Juvela (Finland),						
	Michal Różyczka (Poland), Laszlo Viktor Tóth (Hungary),						
	Masato Tsuboi (Japan), Ji Yang (China)						

# Div. H / Comm. 37 - Star Clusters & Associations

President	Giovanni Carraro (Italy)
Vice-President	Richard de Grijs (China)
Past President	Bruce G. Elmegreen (USA)
OC Members	Barbara J. Anthony-Twarog (USA), Bruce Gordon Elmegreen
	(USA), Douglas Paul Geisler (Chile), Simon P. Goodwin
	(UK), Dante Minniti (Chile), Peter B. Stetson (Canada)

# Div. H / WG - Planetary Nebulae

Chair	Letizia Stanghellini (USA)
Past Chair	Arturo Manchado (Spain)

### Division J - Galaxies and Cosmology

President	Françoise Combes (France)
Vice-President	Thanu Padmanabhan (India)

# Div. J/ Comm. 21 - Galactic and Extragalactic Backgroud Radiation

President	Jayant Murthy (India)
Past President	Adolf N. Witt (USA)
OC Members	William J. Baggaley (New Zealand), Eli Dwek (USA), Bo A.S.
	Gustafson (USA), Anny-Chantal Levasseur-Regourd (France),
	Ingrid Mann (Sweden), Kalevi Mattila (Finland), Jun-ichi
	Watanabe (Japan)

# Div. J/ Comm. 28 - Galaxies

PresidentJohn S. Gallagher III (USA)Past PresidentRoger L. Davis (UK)OC MembersStephane J. Courteau (Canada), Avishai Dekel (Israel), Marijn<br/>Franx (Netherlands), Chanda J. Jog (India), Shardha Jogee<br/>(USA), Naomasa Nakai (Japan), Monica Rubio (Chile), Linda<br/>J. Tacconi (Germany), Elena Terlevich (UK)

# Div. J/ Comm. 47 - Cosmology

President	Brian P. Schmidt (Australia)
Past President	Brian P. Schmidt (Australia)
OC Members	Andrew J. Bunker (UK), Benedetta Ciardi (Germany), Yipeng
	Jing (China), Anton M. Koekemoer (USA), Ofer Lahav (UK),
	Olivier Le Fèvre (France), Douglas Scott (Canada)

6.3. EC Working Groups

# . Future Large Scale Facilities

Chair: Roger L. Davies (UK)

# . Women in Astronomy

Chair: Francesca Primas (Germany)

# . IAU General Assemblies

Chair: Gang Zhao (China)

# 7. Scientific Meetings

7.1. Post-meeting reports 2012

These are available on the IAU website at: http://www.iau.org/static/scientific\_meetings/postmr12.pdf

7.2. IAU Symposia 2013

<i>IAUS 296</i>	<i>Supernova environmental impacts</i>						
Date & place:	7-11 January, 2013 in Kolkata (Calcutta), India						
CO-Chairs of SOC: Chevalier (USA)	Alak	Ray	(India),	Dick	McCray	(USA),	Roger

Members of SOC: Evgeny Berezhko (Russia), Catherine Cesarsky (France), Claes Fransson (Sweden), Marianne Lemoine-Goumard (France), Fangjun Lu (China Nanjing), Virginia Trimble (USA), Massimo Turatto (Italy), Jacco Vink (Netherlands), Daniel Wang (USA), Chan Yang (China Nanjing)

Chair of LOC: Alak Ray (TIFR, Mumbai)

Members of LOC: Sayan Chakraborti (Harvard University, USA), Poonam Chandra (RMC, Canada & NCRA (TIFR), Pune), Pankaj Joshi (TIFR, Mumbai), Brijesh Kumar (ARIES, Nainital), Somak Raychaudhary (Presidency University, Kolkata & Univ. Birmingham, UK), Firoza Sutaria (IIA, Bangalore), Naveen Yadav (TIFR, Mumbai)

Editors of Proceedings: Richard McCray (USA), Alak Ray (India)

# **Topics:**

- 1- Historical Supernovae and Supernova Remnants
- 2- Core collapse/supernovae: surveys, light curves, and progenitors
- 3- Physics of core collapse supernova light curves and spectra
- 4- Supernovae and star formation
- 5- Particle acceleration in supernova shocks
- 6- Radiation from supernova remnants from radio to gamma rays

7- SN1987A at 25 years.

Contact:	Alak Ray <akr@tifr.res.in></akr@tifr.res.in>
URL:	http://www.tifr.res.in/~iau296/

IAUS 297	The diffuse interstellar bands	
Date & place:	20-24 May, 2013 in Haarlem, Netherlands	
CO-Chairs of SOC:	Harold Linnartz (Netherlands), Nick Cox (Belgium)	

Members of SOC: Martin Cordiner (USA), Pascale Ehrenfreund (Netherlands), Gazinur Galatzutdinov (Chile), Cornelia Jager (Germany), Jacek Krelowski (Poland), Sun Kwok (China Nanjing), Farid Salama (USA), Peter Sarre (UK), Timothy Schmidt (Australia), Theodore Snow (USA), Paule Sonnentrucker (USA), Donald York (USA)

Chair of LOC: Harold Linnartz (Netherlands)

Members of LOC: Lex Kaper, Xander Tielens, Wim Ubachs, Anton Walsh, Dongfeng Zhao (Netherlands)

Editors of Proceedings: Jan Cami (Canada), Nick Cox (Belgium)

# Topics:

1- Astronomical surveys: overall properties and statistics of the Diffuse Interstellar Bands (DIBs) and their relation to known interstellar species and components (C, Si, atomic and molecular hydrogen, C2, dust, ...).

2- DIB behaviour in different (and extreme) environments.

3- What can we learn from analyzing DIB line profiles and correlations?

4- DIBs and the connection to other astronomical phenomena (Extended Red Emission, Unidentified InfraRed bands, UV extinction,...)

5- Laboratory Astrophysics: current status and limitations of spectroscopy of potential DIB carriers.

6- Laboratory Astrophysics: what carriers can thrive & survive in DIB environments: stability & irradiation studies, hydrogenation, ...

7- General properties of the most commonly suggested classes of DIB carriers: carbon chains, polycyclic aromatic hydrocarbon (PAH) molecules, fullerene compounds.

8- Theoretical and computational approaches & needs: quantum chemistry calculations (DFT, ...), chemical network models, astrophysical models.

9- How can recent and future observatories & instruments (HST/COS, SOFIA, ALMA, JWST, VLT, ELTs,...) contribute to help narrowing or eventually solving the DIB problem?

10 -What are the most promising avenues toward identifying the DIB carriers?

Contact:	Jan Cami <jcami@uwo.ca></jcami@uwo.ca>
URL:	http://www.iau297.nl/

IAUS 298	Setting the scene for Gaia and LAMOST - the current and next generations of surveys and models		
Date & place:	20-24 May, 2013 in Lijiang (Yunnan Province), China Nanjing		

CO-Chairs of SOC: Gang Zhao (China Nanjing), Sofia Feltzing (Sweden)

Members of SOC: Emilio Alfarro (Spain), Timothy Beers (USA), Masashi Chiba (Japan), Gaynadhi de Silva (Australia), Eva Grebel (Germany), Amina Helmi (Netherlands), Jacques Lépine (Brazil), François Mignard (France), Julio Navarro (Canada), Timo Prusti (Netherlands), Sofia Randich (Italy), Becham Reddy (India), Nicolas Walton (UK), Patricia Whitelock (South Africa), Manuela Zoccali (Chile)

CO-Chairs of LOC: Zhanwen Han (Yunnan Astronomical Observatory, NAOC, China), Haining Li, Yujuan Liu (NAOC, China) Members of LOC: Chenzhou Cui (NAOC, China), Rui Guo (Yunnan Astronomical Observatory, NAOC, China), Xiang Li (NAOC, China), Meng Zhai (NAOC, China), Shilin Zhang (NAOC, China)

Editors of Proceedings:

Sofia Feltzing (Sweden), Nicolas Walton (UK), Patricia Whitelock (South Africa), Gang Zhao (China Nanjing)

# Topics:

1- The Milky Way as we know it

2- Updates on on-going and upcoming Galactic surveys

3- The state of the art of Milky Way modeling and how ongoing surveys and Gaia will inform these studies

4- The role of Interstellar medium, variable stars, astrometry in large scale surveys of the Galaxy

Contact: URL:	Sofia Feltzing <sofia@astro.lu.se> http://iaus298.csp.escience.cn/</sofia@astro.lu.se>
IAUS 299:	Exploring the formation and evolution of planetary systems
Date & place:	2-7 June, 2013 in Victoria, Canada
Chair of SOC:	James Graham (Canada)
Members of SO	C: France Allard (France), Antonio Heles (Chile),

Paul Kalas (USA), Matthew Kenworthy (Netherlands), Anne-Marie Lagrange (France), Doug Lin (China Nanjing), Bruce Macintosh (USA), Sarah Maddison (Australia), Dimitri Mawet (Chile), Amaya Moro-Martín (Spain), Ruth Murray-Clay (USA), Don Pollacco (UK), Didier Queloz (Switzerland), Motohide Tamura (Japan), David Wilner (USA)

Chair of LOC: Brenda Matthews (Canada)

Members of LOC: Mark Booth, Alice Chow, James Di Francesco, Wesley Fraser, Raphael Galicher, James R. Graham, JJ Kavelaars, Christian Marois, Brenda Parrish, Gerald Schieven (Canada)

Editors of Proceedings: Brenda Matthews (Canada), James Graham (Canada)

Topics:

- 1- Diversity and Evolution of Planetary Systems
- 2- Protoplanetary discs: high resolution imaging, composition and structure
- 3- Grains and Planetesimals
- 4- Disc Chemistry
- 5- Initial conditions of planet formation; planet formation pathways
- 6- Signposts of planetary systems
- 7- Dynamics in Planetary Systems: migration, multiplicity
- 8- Exoplanet Atmospheres; composition, radiative transfer and circulation
- 9- Interior Structure and Planetary Composition

Contact:	Brenda Matthews <brenda.matthews@nrc-cnrc.gc.ca></brenda.matthews@nrc-cnrc.gc.ca>
URL:	http://www.iaus299.org

IAUS 300	Nature of prominences and their role in space weather
Date & place:	10-16 June, 2013 in Paris, France
Co-Chairs of SOC:	Brigitte Schmieder (France), S.T. Wu (USA)

Members of SOC: Lidia van Driel-Gesztelyi (Hungary), Nat Gopalswamy (USA), Valentin Martinez Pillet (Spain), David Webb (USA), Sara Martin (USA), Nandita Srivastava (India), Petr Heinzel (Czech Republic), Holly Gilbert (USA), Ducan MacKay (UK), Sergio Dasso (Argentina), Jonchul Chae (Korea), Moira Jardine (UK)

Co-Chairs of LOC: Brigitte Schmieder, Jean-Marie Malherbe (LESIA, Observatoire de Paris, France)

Members of LOC: Etienne Pariat, Sylvain Cnudde, Guillaume Aulanier, Eric Buchlin, Marie Pierre Issartel, Isabelle Buale (France)

Editor of Proceedings: Brigitte Schmieder (France)

# **Topics:**

- 1- Prominences : formation, dynamics
- 2- Prominence plasma properties, including prominence seismology
- 3- Magnetic field : measurements, topology, support

4- Large-scale patterns and cyclic evolution

5- Prominence destabilization, CMEs, reconstruction in 3D

6- ICMEs in the heliosphere, magnetic clouds; their impact on the Earth environment

7- Stellar quiescent and eruptive prominences and stellar CME

8- Requirements for future instrumentation and prospects for future missions

Contact:	Brigitte Schmieder <brigitte.schmieder@obspm.fr></brigitte.schmieder@obspm.fr>
URL :	http://iaus300.sciencesconf.org/

IAUS 301	Precision asteroseismology		
Date & place:	19-23 August, 2013 in Wroclaw, Poland		
Chair of SOC:	Hiromoto Shibahashi (Japan)		

Members of SOC: Annie Baglin (France), William Chaplin (UK), Jørgen Christensen-Dalsgaard (Denmark), Gilles Fontaine (Canada), Joyce Guzik (USA), Marcella Marconi (Italy), Margarida Cunha (Portugal), Karen Pollard (NewZealand), Juan Carlos Suárez (Spain), Werner Weiss (Austria)

Co-Chairs of LOC: Jadwiga Daszynska-Daszkiewicz, Andrzej Pigulski (Poland)

Members of LOC: Urszula Bąk-Stęślicka, Barbara Cader-Sroka, Zbigniew Kołaczkowski, Grzegorz Kopacki, Marek Stęślicki, Przemysław Walczak (Poland)

Editors of Proceedings: William Chaplin (UK), Joyce Guzik (USA), Gerald Handler (Poland), Andrzej Pigulski (Poland)

# **Topics:**

1- photometric and spectroscopic data,

- 2- space observations, data analysis,
- 3- stellar structure and evolution,
- 4- pulsating stars, convection, rotation,
- 5- mass loss, microphysics data, public outreach

Contact:	Jadwiga	Daszynska-Daszkiewicz
<daszynska@astro< td=""><td>o.uni.wroc.pl&gt;</td><td></td></daszynska@astro<>	o.uni.wroc.pl>	
URL/	http://	iaus301.astro.uni.wroc.pl/index.php

<i>IAUS 302</i> Date & place:	<i>Magnetic fields throughout stellar evolution</i> 25-30 August, 2013 in Biarritz, France			
CO-Chairs of SOC: Spruit (Germany)	Moira Jardine (UK), Pascal Petit (France), Henk			

Members of SOC: Gibor Basri (USA), Matthew Browning (UK), Corinne Charbonnel (France), José-Dias do Nascimento (Brazil), Siraj Hasan (India), Oleg Khochukov (Sweden), Renada Konstantinova Antova (Bulgaria), Hiroaki Isobe (Japan), Stephen Marsden (Australia), Sami Solanki (Germany), Henk Spruit (Germany), Klaus Strassmeier (Germany), Asif Ud-Doula (USA), Gregg Wade (Canada)

Co-Chairs of LOC:	Jérôme Ballot, Laurène	Jouve (	France)	)
	, , , , , , , , , , , , , , , , , , , ,	, ,	. /	

Members of LOC: Marie-Ange Albouy, Michel Aurière, Boris Dintrans, Maria-Eliana Escobar, Dolorès Granat, Fabrice Herpin, Nicole Le Gal, Laura Léal, Pascal Petit, Pierre Vert

Editors of Proceedings: Pascal Petit (France), Moira Jardine (UK), Henk Spruit (Germany)

# **Topics:**

- 1- Stellar structure and evolution
- 2- Magnetized accretion and outflows in young stellar objects
- 3- Magnetic braking of PMS stars

4- Solar and stellar activity in photospheres, chromospheres and coronae, and stellar cycles

- 5- Magnetism in very low-mass stars and brown dwarfs
- 6- Star-planet interaction
- 7- Stellar dynamos across the HR diagram
- 8- Magnetic field origin and stability in massive stars
- 9- Magnetically-confined winds of massive stars
- 10- Dynamo and mass-loss in giant and supergiant stars
- 11- Final phases of stellar evolution : magnetism in compact objects

Contact:	Pascal Petit <u>ppetit@irap.omp.eu</u>
URL:	http://iaus302.sciencesconf.org/

IAUS 303	The galactic center: Feeding and feedback in a
	normal galactic nucleus
Date & place:	30 Sep. to 4 Oct. 2013 in Sante Fe, USA

CO-Chairs of SOC: Cornelia Lang (USA), Michael Burton (Australia), Sera Markoff (Netherlands)

Members of SOC: Roland Crocker (Germany), Lorant Sjouwerman (USA), Masato Tsuboi (Japan), Sungsoo Kim (Korea), Paul Ho (China Taipei), Mark Morris (USA), Jesus Martín-Pintado (Spain)

CO-Chairs of LOC:	Lorant Sjouwerman, Juergen Ott
Members of LOC:	Cornelia Lang, Amy Mioduszewski, Greg Taylor

Editors of Proceedings:

Lorant Sjouwerman (USA), Jürgen Ott (USA), Cornelia Lang (USA)

# **Topics:**

Large-scale feeding/feedback: 1- The role of the Galactic bar in feeding the Galactic nucleus 2- The ISM and star formation in the Central Molecular Zone 3- The Galactic Center stellar population 4- - 3-D large-scale structure of the Galactic nucleus and comparisons to other nuclear regions I Small-scale feeding/feedback: 5- Astrophysics of feeding and feedback near supermassive nuclear black holes like Sgr A\* 6- Nuclear Feedback: Stellar, magnetic and high energy processes Contact: Jürgen Ott <jott@nrao.edu>

Contact:	Jurgen Ott <jott@nrao.edu></jott@nrao.edu>
URL:	https://science.nrao.edu/science/meetings/IAU303-
	GC2013/index

<i>IAUS 304</i>	<i>Multiwavelength AGN surveys and studies</i>
Date & place:	7-11 October, 2013 in Byurakan, Armenia
CO-Chairs of SOC:	Felix Aharonian (Germany), David Sanders (USA)
Members of SOC:	Roger Blandford (USA), George Djorgovski (USA),
Malcolm Longair (UK), 1	Laura Maraschi (Italy), Enrico Massaro (Italy), Felix

Mirabel (France), Ray Norris (Australia), Paolo Padovani (Germany), Bradley Peterson (USA), Elaine Sadler (Australia), Hélène Sol (France), Tadayuki Takahashi (Japan), Yervant Terzian (USA), Megan Urry (USA), Lutz Wisotzki (Germany)

Chair of LOC: Areg. M. Mickaelian

Members of LOC: Abrahamyan H., Aramyan L., Hakobyan A., Harutyunian H., Harutyunyan G., Magakian T., Nazaryan T., Nikogossian E., Paronyan G., Vardanyan V. (Armenia)

Editors of Proceedings:

Areg Mickaelian (Armenia), Felix Aharonian (Germany), David Sanders (USA)

# **Topics:**

1- Historical surveys: spectral and colorimetric surveys for AGN, surveys for UV-excess galaxies;

2- AGN from IR/submm surveys: 2MASS, IRAS, ISO, AKARI, SCUBA, SST, WISE, Herschel;

3- AGN from radio/mm surveys: NVSS, FIRST, ALMA, Planck, and Others;

4- AGN from X-ray/gamma-ray surveys: ROSAT, ASCA, BeppoSAX, Chandra, XMM, INTEGRAL, Fermi, HESS, MAGIC, VERITAS;

5- Multiwavelength AGN surveys, AGN statistics and cross-correlation of multiwavelength surveys;

6- Unification models of AGN, other AGN models, accretion modes;

7- Understanding of the structure of nearby AGN from IFUs on VLT and other telescopes;

8- Study of unique AGN and AGN variability;

9- Future large projects;

10- The Phenomena of Activity.

Contact:	Areg Mickaelian <aregmick@aras.am></aregmick@aras.am>
URL:	http://iaus304.aras.am/

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Proposals for IAU Symposia in 2015 should reach the Assistant General Secretary via the IAU Proposal Web Server <http://www.iau.org/science/meetings/proposals/lop/> before 15 December 2013 Letters-of-Intent should be submitted to the IAU web page <www.iau.org/science/meetings/proposals/loi> before 15 September 2013 See: <www.iau.org/science/meetings> 7.3. IAU Regional Meetings 2013 - 2014

<i>LARIM 2013:</i> Date & Place:	<i>XIV Latin American Regional IAU Meeting</i> 25-29 November, 2013 in Florianopolis, Brazil
Chair of SOC: Members of SOC: (UNLP, Argentina) Mexico), Tabaré G (CIDA, Venezuela)	Roberto Cid Fernandes (UFSC, Brazil Fernando Roig (ON, Brazil), Alejandro Córsico , Leopoldo Infante (PUC, Chile), William Lee (IA-UNAM, allardo (Facultad de Ciencias, Uruguay), Cesar Briceño Avila
Chairs of LOC: Hetem (IAG/USP,	Roberto Cid Fernandes (UFSC, Brazil), Jane Gregorio-Brazil)
Members of LOC: (UFSC, Brazil), I (UESC, Brazil), Na Silvia Alencar (UFN	Abilio Mateus Jr. (UFSC, Brazil), Bernardo Borges Daniela Pavani (UFRGS, Brazil), Jacqueline Vasconcelos talia Asari (UFSC, Brazil) AG, Brazil)
Editors of the Proc Roberto Cid Ferr Brazil)	eedings: landes (UFSC, Brazil), Jane Gregorio-Hetem (IAG/USP,
Topics:	Planetary Systems Stars, stellar systems and star formation Interstellar medium Galaxies (including AGNs) Cosmology High Energy Astrophysics Instrumentation History, teaching and outreach
Contact: Z URL:	Zulema Abraham: <u>zulema@astro.iag.usp.br</u> www.larim2013.org.br
MEARIM 2014:	Third Middle-East and Africa IAU Regional Meeting
Co-Chairs of SOC: George Helou (Cal	Edward Sion (Villanova University, USA), ifornia Institute of Technology, USA), Mounib El-Eid (AUB,

Lebanon)

Members of SOC: L. MacFaden (NASA, United States), M. Lopez Morales (CFA, United States) D. Calzetti\*\* (UMass, United States), F. Boulanger\*\* (IAS, France), S. Baraka\*\* (Islamic Univ. of Gaza), S. Mohamed\*\* (SAAO, South Africa), E. Guinan\*\* (Villanova University, United States), F. Genova\*\* (CDS, France), M. Sarazin\*\* (ESO, Germany), H. Khoroshahi\*\* (IPM, Islamic Rep. of Iran), Y. Terzian\*\* (Cornell University, United States), N. Guessoum\*\* (AUS, United Arab Emirates), M. A. Hamdy\*\* (NRIAG, Egypt), C. Carignan\*\* (Univ. of CapeTown, South Africa)

Members of LOC: C. Nehme (NDU, Lebanon), M. Gebran (NDU, Lebanon), J. Bittar (LU, USJ, & NDU, Lebanon), E. Matar (LU & NDU, Lebanon), A. Shaalan (LU, Lebanon), All Other members of the TFAA, Lebanon

Editors of the Proceedings:

Roger Hajjar (NDU, Lebanon), Nelly Mouawad (LAU, Lebanon), Bassem Sabra (NDU, Lebanon)

Topics:	Galaxies & Cosmolgy Stars and Environments Sun, Heliosphere, and Space Weather Solar System & Exoplanets Astronomical Projects with small telescopes Archives and Virtual Observatories Telescopes & Instrumentation
	Astronomy for Development
Contacts:	Roger Hajjar: rhajjar@ndu.edu.ib

Contacts: URL: TBD

# APRIM 2014: The 12th Asian-Pacific Regional IAU Meeting

Date & place: 19-22 Auguste 2014 in Daejeon, Korea

Chairs of SOC: Young Chol Minh (Korea), Young-Woon Kang, (Korea)

Members of SOC: Hidehiko Agata (Japan), Mhd Fairos Asillam (Malaysia), Michael Burton (Australia), Chul-Sung Choi (Korea), Shuhrat A. Ehgamberdiev (Uzbekistan), Gregory Fahlman (Canada), Toshihiro Handa (Japan), Masahiko Hayashi (Japan), Xiaoyu Hong (China), Wing-Huen Ip (Taiwan), Busaba Hutawarakorn Kramer (Germany), Sun Kwok (China - Hong Kong), Nguyen Quynh Lan (Vietnam) Hyung Mok Lee (Korea), Steve Maddox

(New Zealand), Haking L. Malasan (Indonesia), Chingis Omarov (Kazahkstan), Tushar Prabhu (India), Boonrucksar Soonthornthum (Thailand), Ronald E. Taam (Taiwan), John L. Tonry (USA), Irina Voloshina (Russia), Peter Wood (Australia), Gang Zhao (China)

Chair of LOC: Ho-Il Kim (Korea)

Editors of Proceedings:

Young Chol Minh (Korea), Young-Woon Kang (Korea)

Topics:	Solar System and Sun-Earth Interactions
	Interstellar Matter, Star Formation and the Milky Way
	Stars, Exoplanets and Stellar Systems
	Galaxies, AGN and Cosmology
	Compact Objects and High Energy Astrophysics
	Large Observing Facilities and Instruments
	Historical Astronomy, Astronomy Education and Public outreach

Contacts: Young Chol Minh minh@kasi.re.kr

7.4. Other meetings of astrophysical interest

See the web site maintained by the Canadian Astronomical Data Center: http://www1.cadc-ccda.hia-iha.nrc-cnrc.gc.ca/meetings/

# 8. The IAU & The Gruber Foundation

8.1. The Gruber Foundation Cosmology Prize

Charles L. Bennett and the Wilkinson Microwave Anisotropy Probe (WMAP) team are the recipients of the 2012 Cosmology Prize from the Gruber Foundation. They used observations of the Cosmic Microwave Background radiation to determine the Universe's age, content, geometry, and origin. This achievement has helped to transform cosmology into a precision science.

8.2. The Gruber Foundation Fellowship

With the aim to promote the science of cosmology and other branches of astronomy, The Gruber Foundation has created the TGF Fellowship Programme.

Since 2001, the Gruber Foundation has entrusted the IAU with the selection of one TGF fellow each year. The IAU TGF **Fellowship** is awarded to a young postdoc working in any field of astrophysics, either theoretical, observational or experimental

# 8.3 The Gruber Foundation at Yale

Established in 2011 by the Gruber Foundation, the Gruber Science Fellowship at Yale is awarded to incoming PhD students in the life sciences, cosmology, and astrophysics. Students from around the world are eligible for this award.

Gruber Science Fellows at Yale receive a stipend supplement and a research account in addition to the standard stipend and tuition award given to students in their respective PhD programmes. This programme is run by Yale University, and the IAU is not involved in the selection of the Fellows.

A report on the inaugural class of Gruber Science Fellows is at: http://www.yale.edu/graduateschool/publications/news/201111/gsasnews-201111.html

For further information about the Gruber Science Fellowship at Yale, please contact the Fellowship Director, Dr. Carl Hashimoto: carl.hashimoto@yale.edu

# 9. Prizes

9.1. The 2012 KAVLI Prize in Astrophysics Robert Williams, LAU Past President

The international Kavli Prizes were established to recognize outstanding scientific research, to honor highly creative scientists, to promote public understanding of scientists and their work, and to foster international cooperation among scientists. They are awarded biannually in astrophysics, nanoscience, and neuroscience with the recipients receiving a medal and a cash award of US \$1 million.

The Kavli Prize in Astrophysics is awarded for outstanding achievement in advancing our knowledge and understanding of the origin, evolution, and properties of the universe, including the fields of cosmology, astrophysics, astronomy, planetary science, solar physics, space science, astrobiology, astronomical and astrophysical instrumentation, and particle astrophysics. As part of the selection process in astrophysics the Norwegian Academy of Science and Letters (NASL) has entered into an agreement with the International Astronomical Union to advise it on the selection of the prize committee. As part of the agreement between the IAU and the NASL, the NASL funds an International School for Young Astronomers each year.

The Astrophysics Prize committee is comprised of five international leaders in astrophysics chosen by the Norwegian Academy from nominations made by the Max Planck Society (Germany), the National Academy of Sciences (USA), the Norwegian Academy of Science and Letters, and the Royal Society (UK). Specific information about the Astrophysics Prize can be found on the IAU web site: www.iau.org/grants\_prizes/kavli\_prize and the Kavli web site: http://www.kavliprize.no/seksjon/vis.html?tid=27452

In a ceremony held last September in Oslo and presided over by H.M. King Harald V of Norway, the 2012 Kavli Astrophysics Prize was awarded jointly to David C. Jewitt, University of California, Los Angeles, Jane X. Luu, MIT Lincoln Laboratory, Lexington, and Michael E. Brown, California Institute of Technology, Pasadena "for discovering and characterizing the Kuiper Belt and its largest members, work that led to a major advance in the understanding of the history of our planetary system." In citing the work of the awardees the Prize committee acknowledged Drs. Jewitt and Luu, who discovered the Kuiper Belt, and Dr. Brown, who discovered many of its largest members. Their discoveries were each the result of cleverly designed observational campaigns aimed specifically at detecting new classes of distant objects in the Solar System. Their research required creative strategies, a great deal of persistence, and an open-minded approach to expect the unexpected.

# 10. Cooperation with other Unions & International Organisations

10.1. Contribution by ICSU

The International Council for Science: A Roadmap for Science and Society in the 21st Century Steven Wilson (UK), ICSU Executive Director

Our mission at the International Council for Science (ICSU) is to strengthen international science for the benefit of society, and we proudly represent a global membership of 31 International Scientific Unions, such as the IAU, and 120 national scientific bodies. We have a rich history going back to 1931 and earlier, and with our membership and the wider scientific community have championed major programmes over the years, including the International Polar Year (2007-08), the International Geophysical Year (1964-1974) and the International Biological Programme (1964-1974). But the most recent of these oft-mentioned achievements took place five years ago. How relevant is ICSU to its membership today?

Before joining in April 2012 as the new ICSU Executive Director, I asked myself this question, and it is a question that I revisit regularly.

Prior to ICSU, I spent thirteen years with the main funder of environmental research in the UK, the Natural Environment Research Council (NERC). At NERC, I worked on Earth observation, extending an interest developed previously at the Met Office (the UK National Meteorological Service), before becoming the NERC Director responsible for science strategy and partnerships, and latterly the interim chief executive.

I was, and am attracted to ICSU because of the opportunities to support international collaborative science, the remarkable community of scientists working together on interdisciplinary programmes such as the International Geosphere-Biosphere Programme and the unique nature of our membership – a family which brings together disciplinary excellence through the Unions and national academy members.

But when I talk to some our members, most notably the Unions – support for ICSU is equivocal. There are concerns about the benefits of membership, that ICSU has an unbalanced portfolio with too much emphasis on the environment and sustainability, and more generally, that ICSU is losing touch with its members. I've also received one or two tutorials (or even lectures!) on the ICSU history and name, and a recurring theme is which came first, ICSU or the Unions.

At ICSU, we place a very high premium on this feedback, and are grateful for suggestions as to how ICSU and its Union members can work together more closely, so as to strengthen our collective impact. ICSU today is at a crossroads, and it is critical that ICSU listens carefully to the concerns of its members and responds effectively.

In reality, ICSU programmes are already delivering a great deal. The suite of global environmental change programmes – Diversitas, the International Human Dimensions Programme, the International Geosphere-Biosphere Programme and the World Climate Research Programme – inspire scientists throughout the world to develop shared research agendas, deliver what can only be achieved through international collaboration, and contribute vital synthesis to intergovernmental assessments, including the Intergovernmental Panel on Climate Change (IPCC) and the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBeS). In 2012, Diversitas played a key role in the establishment of IPBeS – which is just one of many examples of how the ICSU family enhances real science-policy links. These global environmental change programmes draw together world-class physicists, chemists, biologists,

mathematicians, social scientists and economists to work on the problems of the environment, and they provide the foundation for the new research programme on sustainability – Future Earth.

Secondly ICSU interdisciplinary bodies such as CODATA, the World Data System and the Committee on Freedom and Responsibility in the conduct of Science (CFRS, an ICSU policy committee) – play important roles for scientists from all disciplines – be they related to open access publication, fundamental physical constants, data management, interoperability and access, and protecting the freedoms of scientists worldwide. Scientists from the full range of ICSU national and union membership participate and benefit from these and similar activities.

Thirdly, the truly global nature of our membership is a defining and important characteristic of ICSU. The strength of engagement with the rapidly developing scientific powerhouses and less-developed nations in Latin America, Asia and Africa provides an outstanding opportunity for truly global participation in excellent collaborative science. The ICSU member academies and organisations in these regions are particularly dynamic, and offer excellent opportunities to work together scientifically, regionally and globally. The ICSU regional presence through our offices in Pretoria, Kuala Lumpur and Mexico City together with ICSU's growing partnership with development funders such as SIDCA (Swedish International Development Cooperation Agency) have provided mechanisms and support to make this happen.

But equally, I recognise that there is room for improvement. Whilst the environment and sustainability are natural areas for international collaboration and draw on the full range of scientific disciplines, I believe that the ICSU portfolio is too narrowly focussed in these areas. Recent initiatives in Urban Health and Disaster Risk provide balance, but there is scope for more broadening of our portfolio. One example is growing interest by a number of ICSU Unions and Interdisciplinary bodies in Nanotechnology, notably relating to characterisation of new nanoscale species. Developing this area into a more extensive ICSU programme will require serious commitment from those groups, but the potential is definitely there.

Additionally, the engagement of scientists from the Unions in ICSU interdisciplinary programmes could be stronger – and this reflects a missed opportunity to bring excellent disciplinary science to these important initiatives. There are also many opportunities to work together – for example, on science education, policy for science, capacity building and societal engagement – which are not necessarily discipline specific, but contribute to sustaining and developing an excellent, renewed and global science base, and ensuring that the role of science in society is truly recognised. For example, ICSU has much to learn from the very successful International Year of Astronomy.

We need your help to develop a robust, societally relevant roadmap for Science and Society in the 21st Century, one that delivers direct benefits to our members.

I am therefore inviting your ideas on opportunities for ICSU to work more closely with IAU in particular and its Union members more generally. Turning these ideas into reality will take commitment from all of us, and learning from previous experiences, but the starting point is to get exciting new ideas flowing, and a more active channel of discussion going across the ICSU family. Professor YT Lee, the ICSU President, myself and my team here that the ICSU secretariat really looks forward to hearing your suggestions.

So, returning to my question - how relevant is ICSU to its membership today? That is for you to decide. While I would argue that the ICSU family is delivering excellent collaborative science, there are clearly opportunities for us to work more closely together. Let's begin that conversation today.

10.2. IAU Representatives 2012 - 2015

# INTERNATIONAL ORGANISATION

# International Council for Science (ICSU)

Ian F. Corbett

icorbett@eso.org

World Data System (WDS-SC) http://www.icsu.org/1\_icsuinscience/DATA\_WDS\_1. Françoise Genova francoise.genova@astro.unistra.fr

Strategic Coordination Committee on Information and data (SCCID) http://www.icsu.org/5\_abouticsu/STRUCT\_Comm\_Adhoc\_SCCID. Masatoshi Ohishi masatoshi.ohishi@nao.ac.jp

# Bureau International des Poids et Mesures (BIPM)

http://www.bipm.org/

Consultative Committee for Time and Frequency (CCTF) http://www.bipm.org/cc/CCTF/ Toshio Fukushima Toshio.Fukushima@nao.ac.jp Consultative Committee for Units (CCU) http://www.bipm.org/en/committees/cc/ccu/ Nicole Capitaine nicole.capitaine@obspm.fr

*Compagnie Internationale de l'Eclairage (CIE)* TBD

Committee on Data for Science and Technology (CODATA) http://www.codata.org/ Raymond P. Norris Ray.Norris@csiro.au

# Committee on Space Research (COSPAR)

http://cosparhq.cnes.fr/index\_org.html

Committee on Space Research Council (Council) Jean-Claude Vial jean-claude.vial@ias.u-psud.fr

Space Studies of the Earth-Moon System, Planets and Small Bodies of the Solar System (SC B) Mikhail Ya. Marov marov@spp.keldysh.ru

Space Plasmas in the Solar System, including Planetary Magnetospheres (SC D)

Marek Vandas vandas@ig.cas.cz

Research in Astrophysics from space (SC E) Mariano Mendez m.memdez@sron.nl

Galactic and Extragalactic Astrophysics (SC E1) G. Srinivasan srini@rri.ernet.in

The Sun as a Star (SC E2) Arnold O. Benz benz@astro.phys.ethz.ch
## International Astronautical Federation (IAF)

http://www.iafastro.com/ Henk Olthof

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## International Council for Scientific and Technical Information (ICSTI)

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# International Earth Rotation and Reference Systems Service (IERS) http://www.iers.org/sid\_571E3BE58335C303D1E3ECFF4CD7F66E/IERS/ EN/IERSHome/home.html?\_\_nnn=true Aleksander Brzezinski alek@cbk.waw.pl

## International Geosphere-Biosphere Programme (IGBP)

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# International Space Weather Initiative (ISWI) http://www.iswi-secretariat.org/

David F. Webb David.Webb@hanscom.af.mil

## International Space Environment Service (ISES)

http://www.ises-spaceweather.org/ Helen E. Coffey helen.e.coffey@noaa.gov

## International Telecommunication Union (ITU)

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> Radiocommunication Bureau (ITU-R) Masatoshi Ohishi masatoshi.ohishi@nao.ac.jp

# Scientific Committee on Frequency Allocations For Radio Astronomy and Space Science (IUCAF)

http://www.iucaf.org/	
Wim van Driel	wim.vandriel@obspm.fr
Willem A. Baan	baan@astron.nl
Darrel T. Emerson	demerson@nrao.edu

## International Union of Pure and Applied Physics (IUPAP)

http://www.iupap.org/ Ian F. Corbett

icorbett@eso.org

Commission on Cosmic Rays (C4) Heinrich J. Völk Heinrich.Voelk@mpi-hd.mpg.de

Commission on Astrophysics (C19) Virginia L. Trimble vtrimble@uci.edu

## International VLBI Service for Geodesy and Astrometry (IVS)

http://ivscc.gsfc.nasa.gov/ Patrick Charlot Patrick.charlot@obs.u-bordeaux1.fr

## Scientific Committee on Antarctic Research (SCAR)

http://www.scar.org/ John W. V. Storey

j.storey@unsw.edu.au

# Scientific Committee on Problems of the Environment (SCOPE)

http://www.scopenvironment.org/ Derek McNally dmn@star.herts.ac.uk

Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) http://www.ngdc.noaa.gov/stp/SCOSTEP/scostep.html Nat Gopalswamy gopals@fugee.gsfc.nasa.gov United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS)

http://www.unoosa.org/oosa/en/COPUOS/copuos.html Karel A. van der Hucht K.A.van.der.Hucht@sron.nl

## Union Radio-Scientifique Internationale (URSI)

http://www.ursi.org/en/home.asp Luis F. Rodríguez l.rodriguez@astrosmo.unam.mx

#### **Publications** 11.

The Proceedings of all the Symposia of 2011 but one have been published. The remaining one (IAUS281) is being printed. Among the Symposia of 2012, the Proceedings of IAUS288 is close to be printed, those of IAUS289, IAUS290 and IAUS291 are in production. The draft files of IAUS292 have been received. The remaining ones are pending.

Latest publications

IAUS 279 The Death of Massive Stars: Supernovae and Gamma-Ray Bursts 12-16 March 2012, Nikko, Japan Eds. Peter W.A. Roming, Nobuyuki Kawai, Elena Pian Cambridge University Press ISBN 9781107019799

IAUS 283 Planetary Nebulae: An Eye to the Future 25-29 July, Puerto de la Cruz, Tenerife Eds. A Manchado, L Stanghellini, D Schönberner Cambridge University Press ISBN 9781107019836

IAUS 284 The Spectral Energy Distribution of Galaxies 5-9 September 2011, Preston, United Kingdom Eds. Richard J Tuffs, Cristina C Popescu Cambridge University Press ISBN 9781107019843

IAUS 286 Comparative Magnetic Minima: Characterizing quiet times in the Sun and Stars Mendoza, Argentina October 2011 Eds. David Webb and Cristina Mandrini Cambridge University Press ISSN: 1743-9213

IAUS 287 Cosmic Masers - from OH to Ho 29 Jan - 3 Feb, Stellenbosch, South Africa Eds. R.S. Booth, E.M.L. Humphreys, W.H.T. Vilemmings Cambridge University Press ISBN 9781107032842

## 12.

Membership of the IAU 12.1 New individual members (family name, first name)

Abrevaya, Ximena	Asano, Katsuaki	Bianchi, Stefano
Absil, Olivier	Asanok, Kitiyanee	Bietenholz, Michael
Acton, Charles H.	Aufdenberg, Jason P.	Bigdeli, Mohsen
Aghaee, Alireza	Augereau, Jean-Charles	Birkmann, Stephan
Aharonian, Felix A.	Axelsson, Magnus	Bishop, Marsha J.
Ahn, Sang-Hyeon	Baba, Junichi	Bjælde, Ole E.
Aigrain, Suzanne	Baines, Ellyn K.	Bodaghee, Arash
Airapetian, Vladimir	Balman, Solen	Bodewits, Dennis
Ajhar, Edward, A	Balyshev, Marat A.	Böhm, Johannes
Ak, Tansel	Baneke, David M.	Bon, Natasa Z.
Ak, Serap	Banerjee, Dipankar	Bon, Edi
Akashi Muhammad, S	Bannikova, Elena Y.	Bonfils, Xavier
Alibert, Yann	Barkhouse, Wayne A.	Boquien, Médéric
Allan, Alasdair A.	Barrantes, Marco N.	Borczyk, Xojciech
Alonso Sobrino, Roi	Bartczak, Przemyslaw	Borisov, Galin B.
Alonso-Herrero A.	Bartlett, Jennifer L.	Borisov, Borislav S.
Althaus, Leandro G.	Basu, Kaustuv	Borisova, Ana P.
Alves, Virginia M.	Bauer, Amanda E.	Borka Jovanović, V
Ambrocio-Cruz, Silvia	Bear, Ealeal	Bortoletto, A.
Ammons, Stephen M.	Beck, Sara C.	Bosch-Ramon, V.
An, Tao	Behar, Ehud	Bosken, Sarah M.
Anderson, Jay	Bekki, Kenji	Bot, Caroline L.
Anderson, Joseph P.	Beklen, Elif	Botti, Thierry
Andruchow, Ileana	Belkacem, Kevin	Bourda, Geraldine
Antokhina, Eleonora	Benacquista, Matthew	Bouton, Ellen N.
Antoniou, Vallia	Benisty, Myriam	Bouwens, Rychard
Arbutina, Bojan R.	Benkhoff, Johannes J.	Boyajian, Tabetha
Aret, Anna	Berger, Jean-Philippe	Braithwaite, Jonathan
Arifyanto, Mochamad	Bernardini, Federico	Brammer, Gabriel
Arregui, Inigo	Bertello, Luca	Brandeker, Alexis

Brandner, Wolfgang Brenneman, Laura W. Breton, René Bretones, Paulo S. Bromberg, Omer Brough, Sarah Brown, David A. Brown, Joanna M. Brozovic, Marina Brunner, Robert J. Brunthaler, Andreas Buchhave, Lars A. Bueno de Camargo, J. Burikham, Piyabut Busarev, Vladimir V. Bushby, Paul J. Cabanac, Remi A. Cai, Yong Cai, Mingsheng Campana, Riccardo Campbell, Simon W. Campo Bagatin, Adriano Cannon, Kipp Canto Martins, Bruno L. Čapek, David Caputi, Karina I. Carciofi, Alex C. Carlin, Jeffrey L. Casassus, Simon Cassan, Arnaud

Cassano, Rossella Cazaux, Stéphanie Ceccarelli, Cecilia Cenko, Stephen B. Cesetti, Mary Ch, Ishwara Chandra Chakrabarti, Supriya Champion, David J. Chang, Hong Chaplin, William J. Chauvin, Gaël Chelliah Subramonian Chelouche, Doron Chemin, Laurent Chen, Yanmei Chen, Dongni Chen, Linfei Chen, Xinyang Chen, Zhijun Chernyakova, Maria Chiang, Hsin C. Chou, Mei-Yin Chung, Eduardo E. Cieza, Lucas A. Clark, David M. Clarkson, Chris Clocchiatti, Alejandro Cohen, David Collet, Remo Comerón, Sebastien

Conti, Alberto Copin, Yannick Cora, Alberto Corral, Luis J.H. Cottin, Hervé Courtois, Hélène Cracco, Valentina Crause, Lisa A. Creech-Eakman, Cremades F. Cristallo, Sergio Cristóbal, David Croft, Steve Crosta, Mariateresa Croston, Judith H. Csabai, Istvan Cuadra, Jorge Cui, Wei Dai, Zhibin Dalton, Gavin B. Damé, Luc D'Ammando, F. Dannerbauer, H. Davies. B. Davis, Timothy Day-Jones, Avril De Becker, M. De Grus, R. De Lucia, G. de Mink, Selma

De Petris, Marco	Ederoclite, Alessandro	Forero Villao, V.
De Rossi, Maria E.	Edwards, Philip	Foucaud, Sébastien
de Silva, Gayandhi M.	Edwards, Louise O.V.	Fouchard, Marc
de Swardt, Bonita E.	Ehrenreich, David	Foullon, Claire
de Ugarte Postigo, Antonio	Ekström García Nombela,	Fox-Machado, L.
de Val-Borro, Miguel	Eldridge, John J.	Fraschetti, Federico
Del Popolo, Antonino	Ellison, Sara	Frew, David
Deleuil, Magali A.M	Emonts, Bjorn	Fromang, Sébastien
Deller, Adam T.	Engelbrecht, Chris	Fruscione, Aldo
Demarco, Ricardo J.	Esguerra, Jose Perico H.	Frutos-Alfaro, F.
Demory, Brice Olivier	Espenak, Fred	Gabányi, Krisztina
DeNisco, Kenneth R.	Fabiani, Sergio	Gábor, Pavel
Denney, Kelly D.	Faifer, Favio R.	Gadotti, Dimitri A.
Depagne, Eric	Falize, Emeric	Gallazzi, Anna R.
Derekas, Aliz	Fan, Yufeng	Gal-Yam, Avishay
DeRosa, Marc L.	Farrell, Sean A.	Gammie, Charles F
Derriere, Sébastien	Faure, Cécile	Gandolfi, Davide
Díaz-Santos, Tanio	Fernández, Yanga R.	Gangadhara, R.T
Dionatos, Odysseas	Ferrari, Fabricio	Gao, Jian
Dobrotka, Andrej	Ferreira, Pedro G.	Garcia, Miriam
Dole, Hervé	Ferrusca, Daniel	García-Hernández,
Domiciano de Souza, A.	Feulner, Georg	Garcia-Segura , G.
Dotter, Aaron L.	Figer, Donald F.	Garrido, César J.
Dou, Jiangpei	Figueiredo, Newton	Gastaldello, Fabio
Dougados, Catherine L.	Filippov, Boris P.	Gavras, Panagiottis
Downes Wallace, Juan J.	Finch, Charlie T.	Gavrilov, Mikhail
Druckmüller, Miloslav	Fletcher Andrew F.C	Gawroński, Marcin
Dufour, Patrick	Fletcher, Leigh N.	Gay, Pamela L.
Dunne, Loretta	Floyd, David J.E	Geller, Aaron M.
Easther, Richard	Ford, Eric B.	Gentile, Gianfranco

Georgoulis, Manolis K.	Hagele, Guillermo F.	Ho, Wynn
Georgy, Cyril	Haghi, Hosein	Hobider, T.
Getling, Alexander V.	Hakopian, Susanna A.	Honda, M.
Gilbank, David G.	Hallinan, Gregg	Hönig, Sebastian F.
Gill, Michael J.	Han, Inwoo	Horn, Martin E.
Gilles, Dominique	Hanado, Yuko	Horns, Dieter
Gillon, Michaël	Hanna, David S.	Hou, Xiyun
Girard, Julien H.V	Hannah, Iain G.	Hsieh, Henry
Gnat, Orly	Hao, Lei	Huang, Hui-C
Goicoechea, Luis J.	Hasegawa, Sunao	Huertas-Company,
Gomez, Edward L.	Hattori, Takashi	Husárik, Marek
Gomez, Haley L.	Hatziminaoglou, Evanthia	Hwang, Junga
Gömöry, Peter	Hayashi, Keiji	Ibata, Rodrigo A.
Gong, Biping	Hayes, Matthew J.	Ikeda, Norio
González, Gabriela	Hazumi, Masashi	Ikonnikova, Natalia
Gorbaneva, Tatyana I.	He, Han	Ilić, Dragana
Gordon, Karl D.	Heinz, Sebastian	Iliev, Ilian
Gordon, Christopher	Hekker, Saskia	Ilin, Gennadii N.
Goswami, Aruna	Helled, Ravit	Ioannou, Zacharias
Granvik. Mikael M.S	Heng, Kevin	Iorio, Lorenzo
Grillmair, Carl J.	Hernández-Monteagudo,	Isaak, Kate G.
Groh, Jose H.	Hersant, Franck	Ishihara, D.
Grundstrom, Erika D.	Hervik, Sigbjorn	Ishii, Miki
Gu, Minfeng	Hess, Kelley M.	Itoh, Yoichi
Guglielmino, Salvatore L.	Heyl, Jeremy S.	Ivanov, Pavel B.
Gunár, Stanislav	Hiramatsu, Masaaki	Ivanova, Natalia
Guo, Ji	Hirose, Shigenobu	Izmailov, Igor S.
Haas, Martin F.	Hirv, Anti	Izzard, Robert G.
Haas, Rüdiger	Hjalmarsdotter, Linnea	Jáchym, Pavel
Hackman, Thomas	Hledik, Stanislav	Jacobs, Christopher

Jacobs, Carla Jäggi, Adrian Jamrozy, Marek Janches, Diego Janik, Jan Jelić, Vibor Jha, Saurabh W. Ji, Li Jia, Lei Jiang, Zhibo Jin, Liping Joblin, Christine Johansen, Anders Johns, Bethany R. Johnson, Christian Johnston-Hollitt, Melanie Jones, David Jubier, Xavier M. Kabath. Petr Kafka, Styliani (Stella) Kaisin, Serafim S. Kajisawa, Masaru Kaltenegger, Lisa Kamazaki, Takeshi Kamegai, Kazuhisa Kameno, Seiji Kaminker, Alexander D. Kamiński Krzysztof Z. Kang, Xi Kaňuchová, Zuzana

Karami, Kayoomars Karoff, Christoffer Karouzos, Marios Kasiviswanathan, S Kausch, Wolgang Kaviraj, Sugata Kaydash, Vadym G. Kayo, Issha Keenan, Ryan C. Keeney, Brian A. Kemper, Francisca Kent. Brian R Kenworthy, Matthew A. Kern. Pierre Y. Kervella, Pierre Keshet, Uri Khodachenko, Maxim L. Khomenko, Elena Khrutskaya, Evgenia V. Kikwaya, Jean-Baptiste Kilçik, Ali Kim, Joo Hyeon Kim, Ji Hoon Kim, Woong-Tae Kim, Sang Chul Kim, Sang Hyuk Kim, Minsun Kimball, Amy E. Kimura, Hiroshi Kiss, Csaba

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Kusakabe, Motohiko	Li, Yuqiang
La Mura, Giovanni	Li, Min
Labbe, Ivo	Liang, Guiyun
Lake, George	Libert, Anne-Sophie
Lammer, Helmut	Liermann, Adriane
Lammers, Uwe	Lin, Lihwai
Langlois, Maud	Lin, Yen-Ting
Lapi, Andrea	Lin, Jun
Las Vergnas, Olivier	Lin, Chuang-Jia
Laufer, Diana	Lintott, Chris J.
Laugalys, Vygandas	Liu, Siming
Le Bouquin, J-B	Liu, Yujuan
Le Poncin-Lafitte, C.	Liu, Tao
Lee, Chung-Uk	Liu, Guoqing
Lee, Ki-Won	Liu, Chengzhi
Lee, Jae Woo	Liu, Guangqian
Lee, Joon Hyeop	Liu, Xiaoqun
Lee, Hyun-chul	Liu, Jifeng
Lee, Jeong-Eun	Livadiotis, George I.
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Lee, jun	Lobel, Alex J.
Lee, Sang-Sung	Lopes, Paulo A A
Leenaarts, Jorrit	Lopes de Oliveira, R.
Lefloch, Bertrand	Lopez, Bruno
Leloudas, Georgios	López, Alejandro M.
Lenc, Emil	Loubser, Susan I.
Letarte, Bruno	Lovis, Christophe
Levenson, Nancy A.	Lowentha, James D.
Li, Jian-Yang	Lu, Youjun
Li, Li-Xin	Lucero, Danielle M.

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Mateu, Cecilia	Monaco, Lorenzo
Matsumura, Tomotake	Monard, Libert A.G
Matsunaga, Noriyuki	Montalb'an, Josefina
Matsushita, Kyoko	Montgomery, Michele
Matthews, Sarah A.	Moodley, Kavilan
Mawet, Dimitri P.	Mookerjea, Bhaswati
Mazumdar, Anwesh	Moon, Hong-Kyu
McBride, Vanessa A.	Moór, Attila
McCall, Benjamin J	Mordasini, Christoph
McCracken, Henry J.	Morel, Thierry
McGehee, Peregrine	Morelli, Lorenzo
McKean, John P.	Morokuma, Tomoki
McMillan, Paul J.	Morris, Patrick W.
Medina, Etelvina	Morsony, Brian J.
Meibom, Soren	Mörtsell, Edvard
Melbourne, Jason L.	Mosoni, Laszlo
Melikidze, Giorgi I.	Mousis, Olivier
Mel'nik, Anna M.	Mukhopadhyay, Banibrata
Meyer, Michael R.	Müller, Jürgen, E.
Middleton, Christopher T.	Murakami, Naoshi
Miesch, Mark	Muraoka, Kazuyiki
Migaszewski, Cezary	Murayama, Hitoshi
Miglio, Andrea S.	Nagataki, Shigehiro
Miller, Eric D.	Nakar, Ehud
Millour, Florentin A.	Nakata, Fumiaki
Minazzoli, Olivier L.	Nammahachak, Suwit
Minowa, Yosuke	Nandi, Dibyendu
Miszalski, Brent	Narbutis, Donatas
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Naroenkov, Sergey Nazé, Yaël Nedbal Dalibor Nedelcu, Dan A. Nesvadba, Nicole Neustroev, Vitaly V Nguyễn, Phuong T Nguyễn, Lan Q. Nguyễn, Khanh V. Nieva, Maria F. Niinuma, Kotaro Nikoghosyan, Elena Nilsson, Tobias Ning, Xiaoyu Nitschelm, C. Nitta, Atsuko Niwa, Yoshito Nixon, Conor A. Noll, Stefan Nota, Antonella Noterdaeme, P. Novaković, Bojan S Nowotny-Schipper, Noyelles, Benoît B. Nuza, Sebastian E. Nymark Tanja, K. Oberst, Thomas E. O'Donoghue, A. Oezisik, Tuncay Ofek, Eran O.

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Pat-El, Igal O. Patton. David R. Peel, Michael W. Peng, Eric W. Penny, Matthew T. Pentericci. Laura Percheron, Isabelle Perets, Hagai B. Pérez-Garrido, Antonio Pérez-González, Pablo Perozzi, Ettore Perraut, Karine Petrov, Sergey D. Pham, Diep N. Phan, Dong V. Pietrukowicz, Pawel Pilbratt, Göran L. Pilling, Sergio Pinte, Christophe Piotrovich, Mikhail Y. Pitkin, Matthew D. Pooley, David Potapov, Vladimir A. Pović, Mirjana Poznanski, Dovi Pretorius, Magaretha Price, Charles A. Price, Daniel J. Prša, Andrej Pshirkov, Maxim S.

Puech, Mathieu Pulatova, Nadiia G. Pushkarev, A. Pustil'nik, Lev A. Puxley, Phil Puzia, Thomas H. Qu, Jinlu Quanz, Sascha P. Ramos-Larios, G. Rank-Lueftinger, T. Rassat, Anais M. Rastegaev, Denis A Rathborne, Jill M. Rauch, Michael Rea. Nanda Read, Justin I. Redman, Stephen L Reid, Michael Reid. Warren A. Reisenegger, A. Reitze, David H. Rekola, Rami T F. Reyes, Reinabelle Reves-Ruiz, M. Rhee, Jaehyon Rho, Jeonghee Rhodes, Jason D. Richard, Johan Richard, Oliver A. Richardson, Derek

Richer, Michael G. Ricker, Paul M. Riles, Keith Risaliti, Guido Rizzi, Luca Robberto, Massimo Rogister, Yves J G. Rojas, Gustavo Romano, Paolo Román-Zúñiga, Carlos Rosińska, Dorota H. Rosolowsky, Erik W. Rossi, Elena M. Roth, Ilan Rowell. Gavin Różańska, Agata Rubio-Herrera. E. Ruffle, Paul M. Rushton, Anthony P. Russell, Alexander J B. Ruždjak Domagoj Sabin, Laurence Saenz. Eduardo Safari, Hossein Saffari. Reza S. Saha, Prasenjit Sakamoto, Tsuyoshi Sakon, Itsuki Salaris, Maurizio Sánchez-Blázquez, P.

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Shimon, Meir Shirahata, Mai Shirasaki, Yuji Shoemaker. David Shoyoqubov, S. Shrbený, Lukáš SHU, Fengchun Siebert, Arnaud N. Sigismondi, C. Simic, Sasa Simić, Zoran J. Simón-Díaz, Sergio Simonia, Irakli Simons, Douglas A. Simunac, Kristin Siringo, Giorgio Sivakoff, Gregory R Skurikhina, Elena A Slaný, Petr Slavcheva-Mihova, Šlechta, Miroslav Šmída, Radomír Smirnova, Olesja Smirnova, Tatiana Smirnova, A. Smith Castelli, A. Smolec, Radoslaw Smolinski, Jason P. Snik, Frans Sobreira, Paulo

Sódor, Ádám Song, Yong-Seon Soria, Roberto Srivastava, Nandita Stachowski, Grzegorz S. Stacy, Athena R. Stadel, Joachim G. Stancliffe, Richard J. Steenbrugge, Katrien C. Steigenberger, Peter Štěpán, Jiří Stergioulas, Nikolaos Stewart, Susan, Gessner Stewart-Mukhopadhyay, S Stone, Jennifer M. Stonkutė, Rima Stott, John P. Stoyanov, Kiril A. Strubbe, Linda E. Sudar, Davor Suleymanova, Svetlana Süli, Áron L. Sullivan, Mark Sumi. Takahiro Sumiyoshi, Kosuke Sundqvist, Jon O. Sung, Hyun-il Surkis, Igor Susa, Hajime H. Švanda, Michal

Sybiryakova, Yevgeniya. Szabó, Gyula M. Székely Péter Takada, Masahiro Takahashi, Rohta Takahashi, Hidenori Takahashi, Kunio Tammi, Joni Tan, Baolin Tanaka, Masayki Tanaka, Ichi M. Taris, François Tashiro, Makoto S. Tempel, Elmo Templeton, Matthew R. Teng, Stacy Tepper Garcia, Thorsten Terada, Yukikatsu Tessema, Salomon B. Teyssier, Romain Thaller, Daniela Thaniavur, Karunananth Thiébaut, Eric M. Thomas, Maik Thöne, Christina C. Thurston, Mark R. Tian, Feng Titov, Vladimir B. Todt, Helge Tokas, Ewa L.

Tominaga, N. Török, Gabriel Torres-Papaqui, JP Trần, Ha Quoc Tremonti, Christy Trenti, Michele Tresse, Laurence Tripathi, Durgesh Trippe, Sascha Tristram, Konrad Tsai, An Li Tseng, Yao-Huan Tsiganis, Kleomenis Tsygankov, Sergey Turcu, Vlad S. Tzanavaris, P. Úbeda, Leonardo ud-Doula, Asif Ueda, Haruhiko Ueta, Toshiya Ulla Miguel, Ana Unda-Sanzana, E. Urata, Yuji Usuda, Tomonori Uttley, Philip Uvtterhoeven, K. Vaccari, Mattia Vakoch, Douglas Valdivielso, Luisa Valeev, Azamat F.

Valiviita, Jussi-Pekka Valluri, Monica van den Berg, Maureen van der Bliek, Nicole S. Van Doorsselaere, Tom van Eymeren, Janine van Kampen, Eelco Varela López, Jesús Vasquez, Javier Vasta, Magda Vavrek, Roland D. Vega, Olga Velikodsky, Yuri I. Venter, Christo Venters, Tonia M. Vergani, Daniela Verma, Aprajita Viall, Nicholeen M. Vidotto, Aline A. Vierdayanti, Kiki Viironen, Kerttu E. Vlahakis, Catherine E. Vlemmings, Wouter H T. Voit. Gerard M. Vukotić, Branislav Wadadekar, Yogesh G. Wagner, Robert M. Wakelam, Valentine Wandel, Amri S. Wang, Guangchao

Wang, Junzhi Wang, Bo Wang, Shiang-Yu Wang, Xiaoya Wang, Yulin Wang, Yu Wang, Guangli Wang, Min Wang, Chen Wang, Sen Wannawichian, Suwicha Wayth, Randall B. Wei, Erhu Weiss, John W. Wendt, Harry W. Wendt, Martin Weratschnig, Julia M. Wesson, Roger Westera, Pieter W. Wicenec, Andreas J. Willis, Jon P. Wilson, Gillian Winter, Lisa M. Wittenmyer, Robert A. Wolleben, Maik Womack, Maria P. Wong, Tony H. Woo, Jong-Hak Wood, Brian E. Worters, Hannah L.

Wu, Chin-Chun Wu, Xue-Feng Wu, Zhen-Yu Wulandari, Hesti Xiao, Dong Xie, Yi Xu, Ye Yair, Yoav Yamada, Shimako Yamamoto, Hiroaki Yaron, Ofer Yokoyama, Takaaki Yonetoku, Daisuke Young, John S. Yu, Cong Yu. Qingjuan Yun, Min S. Zadnik, Marjan G. Zaritsky, Dennis F. Zasche, Petr Zdanavičius, Justas Zeiler, Michael N. Zejda, Miloslav Zender, Joe J. Zhang, Jie Zhang, Yuying Zhang, Yong Zhang, Chengmin Zhang, Shu Zhang, Yang

Zhilkin, Andrey	Zhu, Qingfeng	Zirm, Andrew W.
Zhou, Xia	Zhuk, Alexander	Zoccali, Manuela
Zhu, Ming	Zibetti, Stefano	Zwintz, K.

#### 12.2. 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:

Roger A. Bell, (1935-2012), United Kingdom, 1 September 2012 J. R. Buchler, (1942-2012), United States, 16 October 2012 Guisa Cayrel de Strobel, (1920-2012), France, 14 September 2012 David **Dewhirst**, (1927-2012), United Kingdom, 23 September 2012 Carl Hansen, (1934-2011), United States, 3 July 2011 Jan Horsky, (1941-2012), Czech Republic, 29 Febuary 2012 Masatoshi Kitamura, (1926-2012), Japan, 13 July 2012 Mohammed Loucif, (1948-2012), France, 28 September 2012 Bernard Lovell, (1913-2012), United Kingdom, 06 August 2012 Arthur A. Page (1922-2011), Australia, 1st Febuary 2011 Alfred Petford, (1931-2012), United Kingdom, 13 April 2012 Wallace Sargent, (1935-2012), United States, 30 October 2012 Meir Semel, (1934-2012), France, 16 March 2012 Evgenij Sheffer (1942 – 2012), Russian Federation, 5 December 2012 Piero Tempesti, (1917-2011), Italy, 28 August 2011 Gart Westerhout, (1927-2012), United States, 14 October 2012 Kenneth Yoss, (1927-2012), United States, 4 August 2012 Chia Chio Lin (1916-2013), United States, 13 January 2013

## Jorge Sahade, (1915-2012), Argentina, Past President of the IAU (1985-1988)

Dr. Jorge Sahade, one of the most relevant Argentinian astronomers, passed away on 18th December, 2012, at the age of 97. He earned the first title as Surveyor at the University of Córdoba in 1937. In 1943 he received his PhD in Astronomy and Related Sciences at the University of La Plata. From 1943 to 1946 he was granted a scholarship in the Yerkes Observatory of the University of Chicago, where he worked under the supervision of Prof. Otto Struve. The well known Struve-Sahade effect in double-lined spectroscopic binary stars resulted from his research at those times. In 1955 he won a Guggenheim Foundation Fellowship in the Department of Astronomy, University of California, Berkeley. He was university professor in Argentina, England, Belgium, France, and Germany, and academician at the National Academies of Sciences of Buenos Aires and Córdoba and the Royal Academy of Exact, Physical and Natural Sciences of Madrid, among others.

He was Vice-President of the IAU Executive Committee in two opportunities from 1967 to 1970 and from 1970 to 1973, becoming IAU President from 1985 to 1988. His activity at IAU was within Commissions 29 (Stellar Spectra), 42 (Close Binaries), 44 (Space and High Energy Astrophysics, and 46 (Astronomy Education and Development).

After being director of observatories and astronomy institutes in Argentina, he became the first President of the National Commission for Space Activities (Comisión Nacional de Actividades Espaciales, CONAE) in 1991. He published around 200 papers and two books in subjects related to interacting binary systems and massive stars, among others. Argentina owes its largest optical telescope, which now bears his name, to his decision, effort, and perseverance.

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## DIVISION E Sun & Heliosphere

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## DIVISION C Education, Outreach & Heritage

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# PUBLIC OUTREACH & ASTRONOMY FOR DEVELOPMENT

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# INTERNATIONAL ASTRONOMICAL UNION UNION ASTRONOMIQUE INTERNATIONALE

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 – 9 Divisions, 40 Commissions and some 56 Working and Programme Groups, the IAU covers the whole spectrum of astronomy. The IAU currently has over 10,000 individual members distributed over 91 countries, of which 68 are National Members. The IAU is member of the International Council for Science (ICSU).

The organisation 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 recognised 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 "Office for Astronomy Development" (OAD), though its Programme Groups "International Schools for Young Astronomers" (ISYA), "Network for Astronomy School Education" (NASE), "Teaching for Astronomy Development" (TAD), and "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 Programme 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:

The XXVIIIth General Assembly, held in Beijing (August 2012): the final on-stage gathering of about a hundred volunteers who helped make the event a great success behind the scenes (top), and a gracious "astronomical ballet", created and performed by the staff and students of the National Astronomical Observatory of China (bottom).

Credit: Babak Takeshi