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INTERNATIONAL  
ASTRONOMICAL  
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INTERNATIONALE

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INFORMATION BULLETIN JULY 2007

100

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## 1. FAITS DIVERS

In November 2006 the IAU was informed by the Peter and Patricia Gruber Foundation of its decisions to increase the annual PPGF Cosmology Prize award, advised by a board with IAU representatives, to USD 500,000; and to increase the funding of the PPGF Fellowship program for postdocs to a level of USD 50,000 per year.

The IAU Officers did meet 30 January-1 February 2007 at the IAU Secretariat in Paris, to handle current affairs and prepare for EC83. A brief report is given in § 4.1 of this *Bulletin*. The entire EC did meet 15-17 May in Cape Town for its EC83 meeting. A brief report is given in § 4.2. Comments on the Prague GA 2006 planet definition resolution were on the agenda of both meetings. It appears that progress is sometimes hard to accept for the community at large. E.g., Guy de Maupassant, Emile Zola, Charles Garnier and Alexander Dumas were among the 300 eminent French figures to sign a petition protesting against the construction of the Eiffel Tower in 1889. However, it is gratifying to note that the influence of the IAU extends beyond the Union: CNN reported on 7 January 2007 that the American Dialect Society had chosen the word “*Plutoed*” (“to pluto” meaning “to demote or to devalue someone or something”) as the 2006 Word of the Year.

The 29<sup>th</sup> IAU International School for Young Astronomers, organized by the IAU Div. XII/Comm. 46/PG on ISYAs, 5-23 March 2007 in Kuala Lumpur and Langkawi, Malaysia, drew the attention of 38 eager young students from the region (see § 9.1 of this *Bulletin*). This ISYA was the eleventh and last one organized by PG-ISYA chairperson Michèle Gerbaldi. Michèle Gerbaldi became vice-chair for IAU ISYAs in 1992 and chair in 1997. The IAU offers no medals nor achievement awards to its active members. But if the IAU would have those, Michèle Gerbaldi would have received at the Malaysian ISYA the highest IAU decoration. Needless to say that the only highest praise Michèle Gerbaldi is willing to accept is the lasting appreciation of her students in the eleven ISYAs she organized.

On 14 March 2007, the GS represented the IAU at a ceremony at ESA HQ, Paris, where an epic space mission and the name of one of the founding fathers of European space research were forever linked. On that day ESA, NASA and COSPAR honored the contributions to space research of the late Hubert Curien (1924-2005), by naming the *Huygens* landing site on Titan, Saturn's largest moon, after him: the *Hubert Curien Memorial Station*, following a naming convention recognized by the IAU Division III WG on *Planetary System Nomenclature*. The Frenchman Hubert Curien in his lifetime was director of CNRS, president of CNES, minister of Research, chairman of the ESA Council, and president of the CERN Council.

On 21 March 2007, the GS represented the IAU at a ceremony at UNESCO, Paris, which celebrated the 50<sup>th</sup> anniversary of the International Geophysical Year, the launch of Sputnik 1 on 4 October 1957, and the 40<sup>th</sup> anniversary of the Treaty on the Peaceful Uses of Outer Space.

From 17 to 20 March 2007, IAU Officers Robert Williams, Karel A. van der Hucht and Ian F. Corbett visited the LOC of the IAU XXVIII<sup>th</sup> General Assembly 2012 in Beijing, China Nanjing; see §5.2 of this *Bulletin*.

At the IAU Secretariat, in September 2006, Ms. Vidonne left the IAU. Since then, the IAU web site is being handled by Lars Lindberg Christensen and Raquel Y. Shida, remotely from ESA/Hubble, ESO. The new assistant at the Secretariat is Ms. Maitena Mitschler, working on IAU data base input matters.

By 1 July 2007, Ms. Monique Orine will have served the IAU as Executive Assistant in a most exemplary way for a period of 20 years. Congratulations, as well as sincere thanks, are in order! In § 3 of this IB 100, presenting flashbacks by twelve IAU General Secretaries, Monique's importance for the IAU as manager of its Secretariat and as its corporate memory is emphasized.

With most of the Proceedings of the 2006 IAU Symposia published, and the Prague 2006 GA *Highlights of Astronomy* and *Transactions B* in the making, the Secretariat can soon fully concentrate on the near-future: the organization of the IAU XXVII<sup>th</sup> General Assembly in Rio de Janeiro, 2009, and aspects of the International Year of Astronomy 2009. For those two major events, as always, the dedication and perseverance of all the IAU members will be an essential condition for success.

*Karel A. van der Hucht, General Secretary, Paris, 13 June 2007*



## 2. EVENTS AND DEADLINES

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Proposals for IAU scientific meetings in 2009: Symposia,  
GA Symposia, GA Joint Discussions and GA Special Sessions,  
should reach the Assistant General Secretary  
via the IAU Proposal Web Server  
<<http://solarphys.uio.no/IAU/>>  
before 1 December 2007, and certainly no later than 15 December 2007.  
Letters-of-Intent should be submitted to the AGS  
before 15 September 2007  
See: <<http://www.iau.org/MEETINGS.6.0.html>>

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### 2007

- |            |   |
|------------|---|
| June 25-29 | IAU S244, <i>Dark Galaxies and Lost Baryons</i> (Cardiff, UK)   |
| July 16-20 | IAU S245, <i>Formation and Evolution of Galaxy Bulges</i><br>(Oxford, UK)   |
| Sept 5-9   | IAU S246, <i>Dynamical Evolution of Dense Stellar Systems</i><br>(Capri, Italy)   |
| Sept 15    | Due date for Letters-of-Intent proposing IAU scientific meetings<br>in 2009: Symposia, GA Symposia, GA Joint Discussions and<br>GA Special Sessions |
| Sept 17-22 | IAU S247, <i>Waves and Oscillations in the Solar Atmosphere:<br/>Heating and Magneto-Seismology</i><br>(Isla de Margarita, Venezuela)               |
| Oct 8-12   | CAP 2007, <i>Communicating Astronomy with the Public 2007</i><br>(Athens, Greece)   |
| Oct 15-19  | IAU S248, <i>A Giant Step: from Milli- to Micro-arcsecond<br/>Astrometry</i> (Shanghai, China Nanjing)  |
| Oct 22-26  | IAU S249, <i>Exoplanets: Detection, Formation and Dynamics</i><br>(Suzhou, China Nanjing)   |
| Oct 22-26  | LARIM 2007, <i>12<sup>th</sup> Latin-American Regional IAU Meeting</i><br>(Isla de Margarita, Venezuela)  |
| Nov 1      | Due date for contributions to IB 101  |
| Dec 1      | Deadline for proposals for IAU scientific meetings in 2009:<br>Symposia, GA Symposia, GA Joint Discussions and GA Special<br>Sessions               |

- Dec 10-14 IAU S250, *Massive Stars as Cosmic Engines*  
(Kauai, HI, USA)
- Dec 15 Due date for agenda items for IAU Officers' Meeting 2008
- Dec 31 Deadline for nominations for the Cosmology Prize 2008 of the Peter and Patricia Gruber Foundation

**2008**

- Jan 29-31 IAU Officers' Meeting, Paris, France
- Feb 18-22 IAU S251, *Organic Matter in Space* (Hong Kong, China Nanjing)
- Mar 1 Deadline for applications for the Fellowship 2008 of the Peter and Patricia Gruber Foundation
- Mar 10-14 IAU S252, *The Art of Modelling Stars in the 21st Century*  
(Hainan, China Nanjing)
- Mar 15 Due date for agenda items for IAU 84<sup>th</sup> EC Meeting
- Apr 5-10 MEARIM 2008, *1<sup>st</sup> Middle-East African Regional IAU Meeting* (Cairo, Egypt)
- May 1 Due date for contributions to IB 102
- May 19-23 IAU S253, *Transiting Planets* (Boston, MA, USA)
- May 22-24 IAU 84<sup>th</sup> EC Meeting, Oslo, Norway
- June 9-13 IAU S254, *The Galaxy Disk in Cosmological Context*  
(Copenhagen, Denmark)
- June 16-20 IAU S255, *Low-Metallicity Star Formation: from the First Stars to Dwarf Galaxies* (Villasimius, Sardinia, Italy)
- July 28-Aug 1 IAU S256, *The Magellanic System: Stars, Gas, and Galaxies*  
(Keele, UK)
- Aug 1-4 APRIM 2008, *10<sup>th</sup> Asian-Pacific Regional IAU Meeting*  
(Kunming, China Nanjing)
- Sept 5-9 IAU S257, *Universal Heliophysical Processes*  
(Ionnina, Greece)
- Oct 13-17 IAU S258, *The Ages of Stars* (Baltimore, MD, USA)
- Nov 1 Due date for Letters-of-Intent proposing to host the IAU XXIX<sup>th</sup> General Assembly in 2015
- Nov 3-7 IAU S259, *Cosmic Magnetic Fields: from Planets, to Stars and Galaxies* (Tenerife, Spain)

**2009**

- Apr 1 Due date for Proposals to host the IAU XXIX<sup>th</sup> General Assembly in 2015
- Aug 3-14 IAU XXVII<sup>th</sup> General Assembly (Rio de Janeiro, Brazil)

**2012**

- Aug 20-31 IAU XXVIII<sup>th</sup> General Assembly (Beijing, China Nanjing)

### 3. REMINISCENCES OF PAST GENERAL SECRETARIES

#### 3.1. Introduction

Past IAU President (1976-1979) Adriaan Blaauw writes in his book *History of the IAU, The Birth and First Half-Century of the International Union* (1994):

(p. 205) "... As one of the first measures, the new (12<sup>th</sup> and 13<sup>th</sup>) General Secretary, Donald Sadler, introduced (in 1958) the IAU Information Bulletin in its present form. Previously, the Secretariat had issued general information in IAU Circulars. New running numbers were introduced: IB No.1 appeared in June 1959, (...) they would appear more or less regularly half way and at the end of the year; thus Secretary Sadler and his successors kept the astronomical community well informed on IAU matters. ..."; and

(p. xvi) "... At the heart of the IAU were always the General Secretaries with, in later years, their staff of collaborators. They are the ones, who spent a considerable part of their time and thought on the Union's business – to the benefit of thousands of IAU members. During the last decades their tasks have become so comprehensive, that for most of them it meant three or even more years of sacrifice of many of the research-pleasures (and credits) that "regular" astronomers enjoy. The debt of honour the IAU owes to them has been expressed regularly by grateful Presidents (and recorded in the Transactions!) at occasions of the changing of the guard. The present History seemed to offer an adequate opportunity to bring them a bit more before the footlights. ...".

Blaauw's *History* ends at 1969. This IAU *Information Bulletin* No. 100 (round numbers call for celebration, reflection and flashbacks) presents brief personal recollections (the one more brief than the other) of twelve past IAU General Secretaries since 1964. Unfortunately, Edith A. Müller (18<sup>th</sup> GS, 1976-1979) and Patrick A. Wayman (19<sup>th</sup> GS, 1979-1982) cannot tell their stories anymore. We are fortunate that the others still can.

Two years from now the IAU will have another celebration: its 90<sup>th</sup> anniversary, on 28 July 2009. For that occasion, the past IAU Presidents will be invited to write their personal recollections, in IAU *Information Bulletin* No.104 (June 2009).

As one past GS rightfully remarked, a vote of thanks should be given to our spouses, who have suffered a similar length of time with (mostly) husbands, who were totally absorbed in the IAU and its peculiar collection of real and self-inflicted problems.

Finally, and unanimously on behalf of the last eight IAU General Secretaries, it is my pleasure to extend our personal thanks and those of the Union to Ms. Monique Orine, Executive Assistant, for her huge efforts and unselfish devotion to the proper functioning of the IAU Secretariat over the last twenty years.

*Karel A. van der Hucht, 28<sup>th</sup> IAU GS, Paris, 13 June 2007*

### 3.2. Jean-Claude Pecker, 14<sup>th</sup> GS, 1964-1967

August 1961, Berkeley. I arrive, full of enthusiasm for the non-LTE analysis of solar spectrum. At my arrival, in my pigeon hole, a word from Donald Sadler: "come and see me immediately"... I had no idea that this piece of paper would mean for me a life-long association with the IAU, first as an AGS, the first one elected as such at Berkeley by the GA (1961-64), then as a GS (1964-67) and as an advisor to the EC (1967-70), finally as a faithful member of IAU (1970-20??). I loved so much the EC meetings that I had the pleasure to attend (in the kitchen!) two more EC meetings, held in my house on the island of Yeu-where I live.

I was appointed Director of the Nice Observatory in 1962, and elected as Professor at the Collège de France in 1963. Commuting (one week out of two in Nice) was a tiring necessity. My secretariat was accordingly located first in Paris (1961-64) with my faithful secretary Geneviève Drouin. The IAU secretariat was still of course in Herstmonceux, where Donald Sadler, my predecessor, friend and mentor, was located. The secretariat moved to Nice in 1964 (till 1967) with Dorothy Bell, who came from Herstmonceux to Nice, and (when she left to get married with Jack Brandt), with Arnost Jappel, the first male "miss IAU", whose name was suggested by Lubos Perek, my selected successor, then AGS. The little group in Nice, working together all the time, almost living together, was a buoying source of ideas, and the exchanges with Lubos the seed of another lifetime friendship, be they occurring in Nice or in Prague, where we had to prepare the GA of 1967 -or sometimes in Paris (or even in front of the Taj Mahal! Remember, Lubos? It was, I believe, at the occasion of an ICSU General Assembly).

My life, first as an AGS, then as a GS, was lucky to start under the rigorous guidance of Donald Sadler. He was a remarkable mentor, in all aspects of the work; Donald and Flora became quickly very dear friends. The relations with my successive Presidents, Viktor Ambartsumian, and Pol Swings were also the beginnings of life-long friendships. The Executive Committee was indeed an occasion for meeting friends, as much as the necessary locus for important decisions. I shall not list here the main topics which marked my time; they are well described in Adriaan Blaauw's *History of the IAU*, an excellent book which fully covers that period. From my period as GS, none of the members of the EC are still with us; only Lubos and I survive. And I do keep a nostalgic remembrance of the old days, and of the friends who are not there anymore.

*Jean-Claude Pecker, Depuis l'île d'Yeu, 12 January 2007*

### 3.3. Lubos Perek, 15<sup>th</sup> GS, 1967-1970

My term of office started at the end of the IAU XIII General Assembly in Prague in 1967 when I succeeded my lifelong friend Jean-Claude Pecker. The Congress was attended by 1835 active participants and 604 guests. Besides the rich scientific program, other activities received the attention of, and appreciation by, all participants: a concert of baroque music in Ledebour Gardens, the inauguration of a two-meter telescope in Ondrejov and awards of honorary doctorates by Charles University to IAU President Pol Swings and to V.A. Ambartsumian.

O. Heckmann of Hamburg Observatory became the new IAU President with Vice-Presidents M. Schwarzschild, A.B. Severny, V. Bappu, L. Gratton, J. Sahade and W.N. Christiansen. Pol Swings and Jean-Claude Pecker served as advisors.

The IAU had a financial problem. National contributions did not balance the cost of free distribution of IAU Transactions to all individual members. The Executive Committee wisely decided to start charging a price for the Transactions but to save the valuable principle of individual membership.

For several reasons the IAU Statutes required a revision. After long discussions in the Executive Committee and after a meeting of a special committee in the prestigious Hotel Frankfurter Hof in Frankfurt am Main, the Statutes of the IAU were updated to better reflect actual situation.

W. Fricke, director of the Astronomisches Rechen-Institut in Heidelberg, supported by IAU Commission 5, chaired by J. Kleczek, suggested in 1969 the termination of the *Astronomischer Jahresbericht* in German and started the publication of *Astronomy and Astrophysics Abstracts* in English. The latter bibliography continued until the year 2000 when electronic means have been resorted to.

During my time in office the secretariat was composed of Mr. A. Jappel and Ms. J. Dankova. Jappel had a doctorate in law but because of political reasons was unable to follow his profession and had difficulties in finding an adequate job. He was proficient in many languages, in particular in English, French and German. Czechoslovak authorities of the time consented, after a struggle, with his stay abroad. In the fall of 1967 Jean-Claude Pecker was kind enough to take Jappel to the Nice Observatory for preparing the move of the secretariat to Prague. After the expiration of my term, both Jappel and Dankova, who is well qualified in languages too, continued serving the IAU in Utrecht with Kees de Jager, in Thessaloniki with George Contopoulos, and in Lausanne with Edith Müller. Jappel died in Prague at the age of 75.

The IAU XIV General Assembly in Brighton in 1970, which concluded my term, had an attendance of 3105 active participants and about 600 guests. Local organization was expertly handled by a former General Secretary, Donald H. Sadler. The Minister of Education and Science, the Right Honourable Margaret Thatcher, in a magnificent hat recalling the style of the Royal Pavilion of

Brighton, offered an unforgettable lunch to the IAU Executive Committee. Another lunch was offered by the Worshipful Company of Clockmakers. I vividly recall the discussion of a clockwork for transforming solar time into sidereal time by cogwheels having the smallest possible prime numbers of teeth.

The symbolic torch was taken over by another lifelong friend of mine, Kees de Jager of Utrecht.

*Lubos Perek, Praha, 22 January 2007*

### 3.4. Cornelis de Jager, 16<sup>th</sup> GS, 1970-1973

#### Two General Assemblies in One Year

My term as General Secretary was characterized, if not overshadowed, by the circumstance that I had to organise in one year two General Assemblies, one in Sydney, Australia, and another one, a so-called Extraordinary General Assembly, a month or so later in Poland. I was strongly against the decision to have that latter meeting, not because I was too lazy for organizing two GA's, nor that I disliked Poland or Polish astronomy –on the contrary, I have many good friends there– but because I found it unfair against our Australian colleagues.

What was the situation? When, in 1967, I attended my first meeting of the Executive Board, with Otto Heckmann as President and Lubos Perek as GS, I learned that the 1973 GA would be held in Sydney, Australia. That would then be “my” GA. It was, in a way, an experiment. Up to that time GA's had exclusively been held in Europe or in Northern America, and never had the IAU met south of the equator. Too long a distance, too costly ...; such were the voices. That Australians, Argentineans and other southern hemisphere astronomers had to pay a lot for attending a GA was realized, of course, but what to do? The majority counts.

But finally, this time, we should go to Sydney. The intriguing question was how many or how few would attend? No one knew; we could only guess. Was it not an experiment?

A severe complication then arose. During the time of Heckmann's presidency it so happened that we got a request from and a visit by the grand old lady of Polish astronomy, Ms. Wilhelmina Iwanowska. She brought to our memory that 1973 would be the year of the 500<sup>th</sup> birthday anniversary of Copernicus. She proposed that the IAU would in that year have a General Assembly in Poland. The answer was, of course, that we had already planned to have one in that same year, in Sydney and two GA's in the same year was impossible according to IAU by-laws. Our request to postpone the Assembly by one year was firmly refused: the anniversary was to be celebrated in 1973, not in 1974. Then the idea arose during the discussions to call the meeting in Poland an “Extraordinary GA”. That is not contrary to the by-laws, but the answer was that such a decision would be very unfair as regards the Australians, being given that it would already be difficult or impossible for many non-Australian

astronomers to go there. At that time Ms. Iwanowska, who certainly was a clever politician, made a slip. She replied that in any case very few astronomers from eastern Europe – we used to call it the Soviet bloc – were planning to make that long and costly trip. It left us with an unanswered question: was that perhaps the main reason?

I recall how difficult the situation was for Heckmann, our German President. He was a truly honest and sensitive man who – slightly more than twenty years after the war – very well realized what Germany had done to Poland. He found it difficult to refuse a request from Poland and that was the main reason for him to consent. I was strongly against, but the voice of an Assistant General Secretary is not as important as the President's. So the decision was taken.

Many astronomers disagreed. I learned during my term (1970-1973) how much opposition arose when the news spread around. Several astronomers, mainly from the US, angrily wrote to me that they would never, repeat: never again join a General Assembly, and that was what they actually did. I did not see them again at a GA.

In spite of this regrettable circumstance the Sidney GA was a nice happening, with about 500 participants. That was much less than the 3000 that appeared three years earlier in Brighton, but only slightly less than the number that we had hoped for. For many participants it was a good and for most of us the first opportunity to get acquainted with Australian astronomy. Regrettably but according to expectation only a few delegates from the Soviet bloc attended.

*Kees de Jager, Texel, 29 March 2007*

### **3.5. George Contopoulos, 17<sup>th</sup> GS, 1973-1976**

I was elected Assistant General Secretary of the IAU at the General Assembly of Brighton (1970). A few months before that event I had received a letter from Dr. O. Heckmann, President of the IAU, asking me to visit him in Hamburg. He wanted to ask me if I would accept to be the next Assistant General Secretary and, later, General Secretary of the IAU. I was happy to accept, but I warned him that my country was under a military dictatorship. But Dr. Heckmann was thinking that the junta would not dare to harm me if I had such an international position.

I did have several harassments and threats from the Junta, but fortunately the threats never materialized. E.g., whenever I had to travel abroad I had to get a special permission from the police, but even until the plane left I was not sure that I would be allowed to travel.

On one occasion, I had a telephone call from the police. “Did you receive a letter threatening to kill you?” “No”, I said. “You will receive it, but do not be afraid. We will protect you”. Next day I did receive this letter. I called the police and asked “How did you know about that letter?” Finally, they told me that



they had orders to open all my letters. Then I was really afraid, because I had written several letters abroad denouncing the practices of the Junta.

Later, when I was General Secretary, I had two secretaries from the IAU, Mr. A. Jappel and Ms. J. Dankova. One Sunday, a new Junta took over, deposing the former dictator Papadopoulos. Jappel and Dankova had left this morning for an excursion. They noticed several tanks in the streets but they did not worry, until they were stopped by a group of soldiers which told them “Verboten”. “Why Verboten?” asked Jappel. And an officer said in bad German “Wir haben Revolution. Papadopoulos kaput. Andere Papadopoulos, andere Demokratie”.

When I took over as Assistant General Secretary in Brighton (1970), I tried to form a European Astronomical Society. I had strong support from the main European Countries (United Kingdom, France, Germany and the Soviet Union). But when the Soviet representatives returned home, they met an absolute refusal from their authorities. (The European Astronomical Society was finally formed only in 1990.)

Then I made another proposal to the IAU, to have Regional Meetings in Europe and in other parts of the World (Latin America, Asia and the Pacific). This idea was highly successful and we had many regional meetings, starting with a Meeting in Athens in 1972. Besides that I had to supervise the IAU Symposia and Colloquia (about 50 of them), and related duties.

After three years I took over as General Secretary of the IAU at the Sydney General Assembly in 1973. Immediately after that we had an Extraordinary General Assembly in Poland, on the 500<sup>th</sup> anniversary of Copernicus. That was a compromise solution because there were two competing requests, from Australia and Poland, and there was a danger of splitting the Union.

There were several points of friction between the Western and Eastern countries of the IAU at that time. In particular, the president of the IAU, Dr. L. Goldberg, and I had sent a letter of protest when a Soviet astronomer was arrested. We had also expressed our support for Zakharov, who was restricted in Gorki.

After that I had a visit from Ms. Masevich, a high ranking Soviet astronomer. She came to Greece to give a lecture at our Department. Then, during the dinner, she started attacking Zakharov and his followers as “unpatriotic”. I told her “As General Secretary of the IAU, I feel an obligation to all astronomers of the World, including those loyal to your regime, but also your dissidents”. And I mentioned my efforts to support meetings attended by many Soviet astronomers, e.g. the Regional Meetings in Athens and in Tbilisi. I heard similar complaints during my visit to Moscow by Dr. Khromov, an official of the Soviet delegation. He attacked not only Zakharov, but also Shklovsky and Zeldovich. My reply was that the Soviet Union could not possibly bypass names like Shklovsky, Zeldovich and Zakharov.

After these exchanges I wondered what would be the future of our relations. Thus, I was happily surprised when at the Grenoble General Assembly (1976)

both Massevich and Khromov came to thank me for what I had done for the Soviet astronomers. After that, every year Dr. Khromov sends me a Christmas card with a nice picture of a Russian orthodox church.

The Grenoble General Assembly (1976) was my last job as General Secretary of the IAU. I had to supervise the extremely complicated scientific program of the Assembly. There were meetings of about 50 Commissions, several invited lectures, joint discussions, meetings of the representatives of 50 countries, of the presidents of the Commissions, of the Executive Committee, of the Finance Committee, etc, plus two main sessions of the General Assembly. In total, there were about 250 separate meetings and I had to write an enormous number of letters to arrange everything in a proper way.

Nevertheless, I survived. And at the closing session of the General Assembly I was happy to hear the president, Dr. L. Goldberg, to say how much he appreciated “the tact and diplomacy” with which I educated him “to the responsibilities of our respective offices” (He alluded to many difficult times when our views deviated). He further added that he considered “most remarkable” that I had been able to continue my “scientific research in galactic structure, as those of us who have heard your lecture recently can testify”.

In conclusion I have been happy to serve the IAU for six years (1970-1976), especially because I left her in a very healthy position, both as regards scientific progress and human relations. Further details about my work in the IAU and in several Institutions can be found in my book *“Adventures in Order and Chaos. A Scientific Autobiography”* (2004).

*George Contopoulos, Athens, 22 January 2007*

### **3.6. Richard M. West, 20<sup>th</sup> GS, 1982-1985**

I was most fortunate that my term as IAU GS (1982-1985) coincided with that of Robert Hanbury Brown as President. We had a wonderful collaboration and I am deeply thankful to him and the other members of the Executive Committee for their constant support and encouragement.

Following negotiations between French astronomers and my GS predecessors, Edith Müller (1976-1979) and Patrick Wayman (1979-1982), and after six decades of frequent relocations, the IAU Secretariat was installed in 1979 in one of the small guard-houses in front of the 17<sup>th</sup> century Observatoire de Paris. This is where I spent about every third week of my 39-month term, supported by able IAU Secretaries, notably Brigitte Manning. During this time, we took steps to move the IAU administration into the new computer age, by acquiring modern text processing equipment and PCs (as well as a telex machine). Much IAU-related work was also done at my home institute, the European Southern Observatory, where Elisabeth Völk greatly helped to keep matters well on track.

For some time, I had felt that the IAU would do well by opening itself more towards countries in which astronomy had not yet gained a firm foothold and also by reaching out towards the younger generation of scientists.

Consequently, an important part of my work as General Secretary was directed towards these aims, during numerous travels and frequent participation in regional and national meetings, often combined with my duty trips as an ESO astronomer. Also during this time, the road was finally paved for the adherence of China (Beijing). Discussions took place at several levels, in particular at the time of my visit to P.R. China in 1983. As ex-officio IAU representative to the International Council of Scientific Unions (ICSU), I participated in the ICSU General Meeting in September 1982. Here I was elected member of the ICSU Executive Council, a position I held the next four years and during which I worked to strengthen the bonds between the IAU and other international science organizations.

At the initiative of the past IAU President, M.K. Vainu Bappu (who tragically passed away at the time of the 1982 General Assembly), the IAU 1985 GA was held in November of that year at the Vigyan Bhavan in Delhi, India. This majestic building serves as the government's conference center and was kindly put at our disposal by Prime Minister Rajiv Gandhi, who also attended the Opening Ceremony. One of my fondest memories is when Prime Minister Gandhi and IAU President Hanbury Brown (who was born in India) were sitting together in deep discussion, greatly enjoying each other's company.

*Richard M. West, Munich, 4 April 2007*

### **3.7. Jean-Pierre Swings, 21<sup>st</sup> GS, 1985-1988**

Before going into the *Bulletins* I was deeply involved with, I wish to start with a couple of comments. My period as GS was shorter than "usual" since the Delhi General Assembly took place in November 1985 and that the one to organize in Baltimore (to celebrate the launch and first results of *Hubble Space Telescope* ... which happened two years after that GA!) would take place in the summer of 1988. There were fundamental changes concerning the IAU staff in Paris, just one year before the XX<sup>th</sup> GA (Baltimore), which made things quite difficult in 1987 (see later). The contacts between IAU and COSPAR were not always very constructive, which led to some re-definition of the mutual roles of the two organizations, especially concerning the scientific topics to be dealt with at COSPAR plenaries. This made life challenging! A few IAU-sponsored meetings started to be organized in P.R. China, which was really an extremely interesting re-opening of, and to, the scientific world. I actually attended an IAU symposium on observational cosmology in 1986, had several contacts with our Chinese colleagues... who were keen to increase their level of contribution to the IAU: a win-win situation!

*IB 55.* After “A few words of gratitude” that I expressed on behalf of all the participants to the beautifully organized<sup>1</sup> GA in Delhi, I had the unfortunate task to mention the *Challenger* disaster (Jan. 28, 1986) and, thus, the delay of the launch of the *HST*. Besides the “normal business” of an IB, I mention on page 15 the fact that the next, i.e., the 55<sup>th</sup> Executive Committee meeting would take place in Liège: what a mistake, instead of avoiding the burden, and go to a beautiful place under somebody else’s organization! I am not sure my secretary has forgiven me, twenty years later!

*IB 56 and IB 57.* These two *Bulletins* present the preparation of the XX<sup>th</sup> GA in Baltimore, particularly through the efficient leadership of the late Art Davidsen and the competence and organizational skills of Karen Weinstock. In my introduction to IB 57, whose title was “Contrasts”, I called attention to one positive and two negative approaches to light (and worse!) pollutions:

(a) the positive one, and using the words of David Crawford, “astronomers have become evangelists for quality lighting, because that is one thing that will decrease sky glow”. Fortunately in the last 20 years a definite concern, although not yet strong enough, about the protection of the night sky has begun, and many of us do our best to promote the avoidance of light pollution.

(b) the negative ones (remember, we are in 1987!) copied from IB 57, p. 4.

“(i) to mark the centennial of the Eiffel Tower, the Société de la Tour Eiffel, in potential association with the Centre National d’Etudes Spatiales (France), and the European Space Agency<sup>2</sup> plans to put into orbit in 1989 a ring of light that will be visible throughout the world! A string of 100 reflectors appearing to the naked eye as a bit larger than the Moon will thus reflect the sunlight and will be visible at night, and the ring will circle the Earth in about 100 minutes during each orbit. The duration of this birthday present is to be around two years!;

(ii) the office of the Secretary of Transportation of the US Department of Transportation has conditionally approved the Celestis-Space Services payload launch proposal (provided all government launch safety requirements are satisfied). This proposal is to launch cremated human remains into Earth orbit, using highly reflective containers! “*On croit rêver*”, one would say in the other official language of the Union, after reading these last two points. I submit the two proposals to your judgment, and hope to receive your vigorous objections in a very near future, so that

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<sup>1</sup> I had the pleasant opportunity to meet again Professor M.G.K. Menon, the instrumental chairman of the National Organizing Committee in 1984 and 1985, on the occasion of a lunar meeting in Udaipur in November 2005!

<sup>2</sup> Fortunately CNES and ESA clearly withdrew any «potential» support (see IB 58, p. 4)

coordinated actions may be taken on behalf of IAU Commission 50 and of the whole Union.”

So, definitely, let us continue to worry about such detrimental issues, in particular on the occasion of the 2009 International Year of Astronomy, in order to avoid light pollution and “space junk” (see IB 58, p. 4) as much as possible. Starting in 1986, and in the subsequent years, a topic of interest to the Executive Committee, and to the IAU in general, was “fund raising”, the “creation of an endowment fund”, the search for an IAU “financial advisor”: this was of course to be taken up by my successors ... better financial strategists than me, which is easy!

*IB 58.* An interesting project I got involved in was the production of a series of TV broadcasts “*Les palais de la découverte: de Stonehenge au Télescope Spatial*”: many observatories followed my request as IAU GS and opened their doors and facilities, so that the 15 or so one-hour shows turned out to be really beautiful. Art and science can indeed go hand in hand ... .

*IB 59.* The introduction to this *Bulletin* and the note on the following page clearly show that 1987 was indeed a difficult year:

- changes in the Paris Secretariat n° 1:

“Ms. Lours, assistant secretary, resigned on April 27, while Ms. Manning, IAU secretary since 1979, abruptly left on June 25<sup>3</sup>. The Secretariat now consists of Ms. Monique Léger-Orine, administrative assistant, hired on September 1<sup>st</sup> <sup>4</sup> and Ms. Huguette Gigan, part-time bilingual secretary since October 15. Ms. Orine and Ms. Fraipont (in Liège) kindly did their best to help me with the secretariat work during the summer of 1987”.

- Change in the Paris Secretariat n° 2:

“the Secretariat will move from the little house it occupies since 1979 on the premises of the Observatoire de Paris to offices recently constructed by the French Centre National de la Recherche Scientifique” (its present address).

- The French translation of the XX<sup>th</sup> GA Preliminary Program:

less than twenty years ago such a program had still to be bilingual. It actually turned out that this translation took a huge amount of time and effort (in particular for my secretary in Liège and for my colleague Eric Gosset), totally incommensurate with the usefulness of the end product.

One topic worth mentioning is that around the time of IBs 56-58 or so, one witnessed the real beginning of “Bio-astronomy”, which has become quite popular nowadays under the name “Astro-biology”!

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<sup>3</sup> My birthday « present » !?

<sup>4</sup> Hired officially on Sept. 1, 1987, just before an Executive Committee meeting in Santa Cruz; she actually started working with me as of June 22, 1987, thus 20 years ago.

*IB 60.* This *Bulletin*, the last one for me, was prepared shortly before the Baltimore General Assembly; this GA was actually preceded by an Extraordinary GA in order to introduce the nomination of an IAU “President-Elect” who would be member of the Executive Committee in order to familiarize himself with IAU affairs before becoming the next President. One mishap I cannot forget which happened in Baltimore GA was the following. In these days, at the opening ceremony in front of a huge crowd, the GS was supposed to read the list of deceased members during the triennium, which I did shyly. At the end, after a few moments of silence, one “deceased” participant stood up and informed me that he should have not been in my list. Oops ! Of course this did not make it into an IB!

*Jean-Pierre Swings, Liège, 23 March 2007*

### 3.8. Derek McNally, 22<sup>nd</sup> GS, 1988-1991

Reminiscences of IAU General Assemblies 1964-2006

I have attended all 15 IAU General Assemblies since 1964. All have had scientific highlights and of course the one I had to organize must be paramount-though the highlight was not of the most acceptable kind. But highlights need not be scientific. I think of the debate on the conference centre lifts in Prague in 1967 and its resolution by practical observation and the disappointment that the personnel carrier merely did nothing more exciting than move sideways top and bottom; at Brighton the late John Bolton ruined my political anonymity by asking, rather loudly, in one of those moments silence that occur randomly in noisy lunches (this one hosted by our then Minister of Education-Margaret Thatcher ) was our hostess “*hang-em and birch-em Thatcher that I see before me?*”. Not one of those present said another word till I mumbled “yes”-and the general din resumed.

Sydney in 1973 had one glorious highlight-the weekend included a visit to Parkes. After the tour and dinner we were invited to go look at the Southern Sky. We lay on our backs to take in the spectacle and it was simply and unequivocally marvellous.

Grenoble gave an opportunity to visit the home of that king among liqueurs-Chartreuse. It has been top favourite ever since-not yet displaced by single malt whisky.

Patras has two treats-Invited Discourses under the stars in a Greek amphitheatre (but I soon realized where the Stoics were coming from had they been theatre addicts-stone seating has considerable limitations) and, at a reception on the beach, I saw the shortest lunar crescent I have ever seen (I was more or less sober at the time otherwise I might have seen multiple short crescents). The last led to paper which generated considerable personal abuse from lunar observers!

Delhi had the Closing Dinner to end all Closing Dinners.

Kyoto allowed us to travel through Japan from Hokkaido to Kobe and experience some stunning Japanese drumming. A totally unforgettable experience.

But Buenos Aires was something else altogether. Scientifically we took the first steps towards the current organization of the General Assembly. The Executive Committee had accepted the concept of Divisions-but not my suggestion that there should be six Divisions each the charge of a Vice-President. Administratively there was the fire on the penultimate day of the GA. That day my admiration for astronomers knew no bounds. Hugo Levato, Roberto Mendez and their colleagues on the Local Organizing Committee were superb in getting information around and securing the IAU LOC Offices once the Conference Centre could be entered. Once I had established how many meetings had to be held that day-including the first Hubble Results-Juan O'Farrell and I got down to finding rooms to hold the meetings. Juan conjured up meeting rooms, a theatre for the *Hubble* meeting, opened up cafes closed for the winter for small meetings. Juan even persuaded an internationally famous couturier to make their offices available to the IAU staff so they could prepare the papers for the final session of the GA. It was an amazing performance completed by 11.00! Only one meeting was lost and the posters had to be discussed in the open. Patrick Moore stealthily followed Hugo into the Conference centre and rescued the copy for the final day's GA newspaper. The astronomers just got on with the job of discussing astronomy-but it was exhausting work. But the GA ended in good order. I think my wife administered me with more strong coffee that day than I have ever had in a 12hr period. But that day showed the world's astronomers in a great light. It was the only day in my life when no-one argued!

*Derek McNally, Hatfield, 21 February 2007*

### **3.9. Jacqueline Bergeron, 23<sup>rd</sup> GS, 1991-1994**

#### Times of Change

My early involvement with the IAU was limited to attending some General Assemblies and Symposia. I have very fond memories of the “cosy” General Assembly in Prague-1967. It was thus a real surprise when J.-P. Swings approached me for becoming deeply involved with IAU matters. Considering the fast changes in communications within the astronomical community, with a noticeable increase of international meetings, I felt that General Assemblies should become more scientifically attractive in particular for young astronomers. This view was shared by some IAU officials and IAU members. Introducing Symposia within the General Assemblies and extending Joint Discussions was the most favoured possibility, but it implied some restructuring not only of the General Assemblies but also of the Commissions themselves. In 1988, when I started my term as Assistant General Secretary, some IAU officials had proposed such a scheme, but there was also strong resistance to change. In 1991, this new scheme received warm support from incoming members of

the Executive Committee; it was then adopted and implemented in 1994, at the General Assembly in The Hague.

Restructuring of the Commissions was a sensitive issue. Science is evolving all the time and new topics arise that are not well represented by the existing Commissions. Thus a structure with fewer “Large” Commissions of very broad scientific themes could be an answer. This meant either another layer or having fixed-duration only Commissions. In 1993, I was mandated by the Executive Committee to send a proposal to the Commission Presidents and vice-Presidents for a new restructuring of the Commissions and Working Groups, and L. Woltjer, President-Elect, was appointed to make a synthetic report of their answers. The creation of Divisions, while keeping the Commission and Working Group structure, was adopted in 1994 by the Commission Presidents and the General Assembly in The Hague.

Times of change indeed, due to the important geopolitical modifications which happened with the splitting of the Soviet Union in many new nations and the war in Yugoslavia. This period has requested a lot of my attention, taking into account all the personal and political aspects of these different events.

It was fun to upgrade the IAU accounting procedures, since I had some interest in financial structures. Starting 1992, expenditure was recorded on an accrual basis (instead of a cash basis) with introduction of assets and liabilities. Financial specialists of ICSU, AAS and ESO gave me very helpful and friendly advices, and Ms. Léger-Orine implemented the new accounting system.

The involvement of young astronomers in IAU matters is crucial for continuing responding to change and I hope that this will remain the case, including within the Executive Committee. There is still a fast geopolitical evolution, as well as foreseen ones, that the IAU will have to manage and foster adhesion of new national members.

*Jacqueline Bergeron, Paris, 2 June 2007*

### **3.10. Immo Appenzeller, 24<sup>th</sup> GS, 1994-1997**

Remarks on IAU Information Bulletins 74-80 (1994-1997)

An important change in the IAU IBs, initiated while I had the pleasure of being General Secretary, was the installation of the IAU Web page and the beginning of the electronic publication of the IBs. For our younger colleagues it may be difficult to believe that the IAU could exist -and thrive- for 75 years without a web page. However, by 1994 the Internet existed since several years, and its advantages for the rapid communication of information had become obvious. Therefore, an IAU web page was established in December 1994, and IB No. 74 (of January 1995) was the first issue of the *Information Bulletin* which was published (in addition to the paper version) electronically on the web.



Among the changes in the content of the *Bulletin* there were new sections and modifications required by the introduction of Divisions into the organizational structure of the IAU.

Finally a few remarks on what was *not* published in the IB: Significant space in the IAU *Bulletins* Nos. 74-80 was taken up by the preparations of the General Assembly in Kyoto in August 1997. The meeting was brilliantly prepared and supported by the Japanese National Organizing Committee (chaired by Daiichiro Sugimoto) and the Local Organizing Committee (chaired by Toshio Fukushima). During the meeting in beautiful Kyoto, the IAU was honored by the presence of the Emperor and the Empress of Japan, and by a speech given by the Emperor at the opening ceremony. The visits of these high guests required extensive preparations, which took many months. However, as some participants noticed, not a word about the planned presence of our high guests was mentioned in the Information Bulletins. This was due to a request of the Imperial Household Agency, which, being concerned about the safety of the Majesties, had asked us to keep the information about their planned visit strictly confidential until after the beginning of the meeting. In fact, only few persons at the IAU knew the meaning of the code words which were used to prepare these visits. To the scientists involved, accustomed to the free exchange of information, the secrecy concerning these preparations was an interesting new experience.

*Immo Appenzeller, Heidelberg, 13 March 2007*

### **3.11. Johannes Andersen, 25<sup>th</sup> GS, 1997-2000**

A General Secretary has unlimited opportunities for taking action: Wanted or unwanted, it's all your job! Ever the boy scout, I overdosed from Day 1, launching into refurbishing the *Information Bulletin* to the format it still has (cover, "*Faits Divers*", and *Deadlines*) and re-organizing the web site (including the *FAQ* on naming stars) at the same time as signing 748 letters of welcome to new members, editing the *Highlights* and *Transactions*, and finding out what to do in the first place. Immediately, the IAU Executive Assistant was knocked out for some weeks by a tropical infection and a ferocious dog (!). As we were almost back on our feet, the media exploded over a predicted near-miss of Near-Earth Asteroid 1997 XF<sub>11</sub>; eventually, IAU policies on NEAs and the relations with the Minor Planet Center were put in order, which I do count as an achievement (and led the opposing camps to name an asteroid for me!). A year later, the first "*Pluto Affair*" blew up (900 e-mails in a month); but back then it could be stopped by issuing a press release saying no change in status would be considered until we knew what a planet was ... .

Meanwhile, the IAU educational activities were re-organized with better synergy and funding and in concert with such partners as COSPAR and the UN; nothing makes me as proud of the IAU as these wonderful programmes and the unselfish people running them. The final highlight of my term was the privilege of reaching agreement with Peter and Patricia Gruber on the award of the

*Cosmology Prize* and associated fellowships – a gratifying example of good will finding its proper place.

But I left piles of loose ends behind as well: The still-not-really-functioning Division structure, the obsolescent financial management and publication policies, the naive handling of such a major enterprise as the General Assembly, and the long-term issue of staffing realities vs. ambition level come to mind as the most prominent examples.

However, my lasting memory from that time is of the many remarkable people I met – thanks again to all of them!

*Johannes Andersen, Copenhagen, 13 January 2007*

### **3.12. Hans Rickman, 26<sup>th</sup> GS, 2000-2003**

When I came to Paris after the summer holidays of 2000 and the General Assembly in Manchester, the weather was warm and sunny. The boulevards and cafes were as inviting as ever, but alas, there was far too much work to do in the IAU Office – an experience that I guess I share with all the other authors of this series of essays. My signature had to be placed on some 800 letters of welcome to the new Individual Members of the IAU, and many a Working Group needed my attention, whether the issue concerned existence or chairmanship. But in spite of the down-to-earth nature of such matters, and indeed of the daily running of the Union, my office was at the top of the IAP building at Paris Observatory, overlooking the old dome, and I could very well remember what Johannes Andersen had told me of the old days when Ole Rømer had been working there, measuring the speed of light, so I did feel part of a great scientific endeavour, historical as well as international.

During my term as General Secretary, I mainly concentrated on the follow-up and practical implementation of initiatives taken by my predecessors – in retrospect, I cannot think of any revolutionary steps that I took to change the directions of the Union. On organizational matters, most of my attention went to the Commissions “without a Division” in order to support the very important efforts – or struggles - that they are pursuing for the benefit of all scientists and astronomers in particular. The fight against light pollution and radio frequency interference, the defense of free and open access to data, the move into electronic publishing, the care to help development of astronomy teaching and thus contribute to “capacity building” in third world countries, the re-integration of astronomers in countries left outside the IAU for whatever reasons – such were the issues that kept me busy.

In addition, new Near Earth Asteroids kept being discovered, and new circumstances of future close encounters that might lead to impacts onto our planet kept being disclosed and debated. I became more and more aware of the interdisciplinary nature of the question how society should tackle this situation, As a result, the IAU became a leader of an ICSU project dubbed “Comet/Asteroid Impacts and Human Society” in 2004, where we collaborated

with several other Unions and Committees including IUGS and COSPAR. When the year 2006 was approaching, I became aware that the issue of hosting an IAU GA had become an arena of hot competition involving several big countries, contrary to what I had expected, and the trend seems still to be ongoing. Trying to safeguard the possibilities of all astronomers – rich and poor alike – to attend IAU GAs in a situation of competition between major, modern conference facilities, where expenditures threaten to run beyond control, has suddenly become an issue for the IAU EC. The General Assembly of my own concern was to be held in Sydney, thus returning to the place where, in 1973, no more than some 500 astronomers were able to assemble for reasons described above. In fact, for cost reasons, we were a bit worried that, once again, the number of attendees would be severely cut, but at the end of the day we were happy to see about 2000 participants at the Darling Harbour conference centre gather around a very interesting scientific program.

When I left my GS duty and moved out three years and six *Information Bulletins* after my arrival, the Office had moved downstairs to greater comfort though a less impressive view, but the weather was even warmer with temperatures hovering above 40 degrees for weeks. A nice cool beer was an inevitable part of my last visits to the favourite cafes, like Le Village de la Butte aux Cailles ... .

*Hans Rickman, Uppsala, 16 March 2007*

### 3.13. Oddbjørn Engvold, 27<sup>th</sup> GS, 2003-2006

#### IAU Information Bulletins

The *IAU Information Bulletin* is an indispensable channel of information and link between the IAU Representatives and the membership, as well as between IAU members. In June 1959 the *IAU Circulars*, which till then had been issued by the IAU General Secretary, changed its name to *Information Bulletin*. The overall content and layout have remained largely the same over the years. At its meeting in Sydney 2003 the *Executive Committee* of the IAU decided to initiate a gradual transition to e-publishing of the *Information Bulletin*, as well as of its Colloquia and Symposia Proceedings. The transition took place at the same time that the contract with a new IAU Publisher, the Cambridge University Press, was signed early 2004. In the anticipation of a substantial and steady decrease in the number of paper issues of the IBs, it was resolved that the printing of paper issues would no longer be handled by the IAU Publisher, but rather by a small company in Paris. Not surprisingly, since the majority of the members by now were very comfortable with electronic publications, the transition to e-issues was overall favorably received. However, with concern to astronomical libraries, in particular, and to members who for various reasons wanted to receive the paper versions, it was agreed to offer the paper subscription for some time yet. Having only two issues of the *IAU Information Bulletin* per year did not fully satisfy the need for more rapid and more frequent news notices to and from members of the IAU. This fact, combined with the creation and installation of the new IAU database, which also made mass

mailing more simple and practical, enabled the IAU GS early in 2006 to start issuing electronic *IAU Newsletters*. These contain short announcements of relatively urgent nature, which thereby serve to supplement the traditional *Information Bulletins*, which surely will remain an appreciated service to the IAU member community.

My years as GS for the IAU were filled with challenges and rewarding moments, in abundance. The “job” was first of all based on team work with colleague IAU Officers and my work benefited much from Monique Léger-Orine’s invaluable, accumulated knowledge on IAU matters. For all of this, I will always remain grateful. Acknowledgments and reflections from my years as GS are expressed in the *Prefaces* of “my” *Information Bulletins*.

*Oddbjørn Engvold, Oslo, 30 March 2007*

## 4. IAU EXECUTIVE COMMITTEE

### 4.1. Officers' Meeting, Paris, France, 30 January–1 February 2007

*(Brief report)*

The IAU Officers' Meeting 2007 took place in Paris, at the IAU Secretariat, 30 January through 1 February. Present were Catherine J. Cesarsky, President, Robert Williams, President-Elect, Karel A. van der Hucht, General Secretary, Ian F. Corbett, Assistant General Secretary, and Mme Monique Orine, Executive Assistant.

On personnel: Ms. Vidonne left the IAU Secretariat mid-September 2006. The present staff members at the IAU Secretariat are Ms. Monique Orine, Executive Assistant, and Ms. Mary Noël-Giraud, occasional part time Secretariat Assistant. Maintenance and development of the IAU website has been contracted out to ESO, and is presently in the capable hands of Lars Lindberg Christensen and Raquel Y. Shida (ESA/Hubble/ST-ECF, ESO). Investigations to improve the IAU data base and its links of the web site are continuing and appropriate staffing is being sought.

On the IAU XXVI<sup>th</sup> General Assembly: activities have been reviewed, based on extensive reports from the NOC/LOC and IAU bodies who took part in the organization of GA events (see also § 3 of IB99).

The Officers reviewed the adherence level of the IAU National Members and suggested changes on the basis of the present number of Individual Members per National Member.

The IAU Officers decided to set the maximum registration fee for IAU Symposia and Regional IAU Meetings at the level of USD 325 (corresponding to EUR 250 on 31 January 2007), including a copy of the Proceedings.

The Peter and Patricia Gruber Foundation informed the IAU EC that, as of 2007, it has doubled the annual PPGF Cosmology Prize award and the funds for the PPGF Fellowships.

On the International Year of Astronomy 2009: activities have been reviewed. The President, chairing the EC Working Group for the IYA 2009, and its secretary, Lars Lindberg Christensen, have put IYA 2009 on the map in the past six months. The GS participated in inviting Single Points of Contact (SpOCs) in IAU National Member states. A search for sponsors of a dedicated IYA 2009 secretariat is going on.

During a reception in the Cassini Hall of the Observatoire de Paris, the IAU thanked the Institute d'Astrophysique de Paris for its continuing hospitality for the IAU Secretariat, tantamount to a huge in-kind contribution to the funding and functioning of the IAU.

#### 4.2. EC 83, Cape Town, South Africa, 15–17 May 2007

(Brief report)

The IAU Executive Committee held its 83<sup>rd</sup> meeting on 15-17 May 2007 at Cape Observatory, Cape Town, South Africa, being hosted by IAU Vice-President Brian Warner, the South African National Committee for Astronomy, the South African Astronomical Observatory, and the Department of Astronomy of the University of Cape Town. All EC members and Ms. Monique Orine, Executive Assistant, were present. On the occasion, the EC donated to Cape Observatory a specimen of the *Charta Caelestis*, a memento produced in 1978 by the company Franklin Mint, with permission of the IAU, to commemorate the 50<sup>th</sup> anniversary of the establishment by the IAU of the identity and boundaries of the 88 heavenly constellations.

Many agenda items for EC83 had been prepared at the IAU Officers' Meeting 2007, and its recommendations were mostly accepted.

On personnel: a new face at the IAU Secretariat is that of Miss Maitena Mitschler, handling IAU data base input. Further support on data base software improvement will be sought from Lars Lindberg Christensen and co-workers at ESA/Hubble/ST-ECF, ESO.

Recommendations based on experience obtained during the IAU XXVI<sup>th</sup> General Assembly in Prague, 2006, are being considered and implemented in the preparations of the IAU XXVII<sup>th</sup> General Assembly in Rio de Janeiro, 2009. The EC noted that the IAU GA 2006 grants, totaling CHF 520,000 and distributed among selected GA 2006 participants, greatly served the purpose of the IAU financial policy: redistribution of income from its National Members through grants to Individual Members for participation in IAU scientific meetings, and funds for educational projects in countries which are as yet less well developed in astronomy. For some 14 countries the amount of grants received in 2006 exceeded their annual dues to the IAU for that year by factors of up to 4. Following the success of the Young Astronomers Events at GA 2006, Commission 46 is being charged with organizing similar events for GA 2009.

During a telephone conference on 22 March 2007, the EC had already accepted the recommendations of the IAU Division Presidents, acting as selection committee for the nine IAU Symposia Nos. 251 through 259, to be held in 2008. The EC decided to sponsor also a new Regional IAU Meeting (RIM) series. Next to its regular *Asian-Pacific RIM* and *Latin-American RIM* series, the IAU will also sponsor a *Middle-East and African Regional IAU Meeting* (MEARIM) series, the first of which will take place in Cairo, Egypt, 5-10 April 2008.

The EC is, as always, very pleased with the activities of its Div. XII/Comm. 46 *Astronomy Education and Development* Program Groups. The recent IAU *International School for Young Astronomers* in Kuala Lumpur and Langkawi, Malaysia, which was generously supported by the Malaysian authorities, had 38 eager young participants from the region. The EC expressed its sincere

appreciation to Michèle Gerbaldi for her activities as vice-chair and chairperson of the PG on ISYAs in the past 15 years. Jean-Pierre De Greve takes over the helm.

**4.2. IAU Officers' Meeting 2008**

The 2008 IAU Officers' meeting will take place 29-31 January 2008, at the IAU Secretariat, Paris, France. The due date for agenda items is 15 December 2007.

**4.3. EC 84**

The IAU Executive Committee will have its 84<sup>th</sup> meeting in Norway, 28-30 May 2008. The due date for agenda items is 15 March 2008.

## 5. IAU GENERAL ASSEMBLIES

### 5.1. IAU XXVII<sup>th</sup> General Assembly, Rio de Janeiro, Brazil, 3-14 August 2009

For recent information, please visit the IAU XXVII<sup>th</sup> General Assembly web site <<http://www.astronomy2009.com.br/index.html>>.

### 5.2. IAU XXVIII<sup>th</sup> General Assembly, Beijing, China Nanjing, 20-31 August 2012

During its 81<sup>st</sup> meeting, the IAU Executive Committee voted in favor of the proposal of the Chinese Astronomical Society to host the IAU XXVIII<sup>th</sup> General Assembly, in August 2012, in Beijing, China Nanjing.

Upon invitation of the Chinese Astronomical Society (CAS), the organizer of the IAU XXVIII<sup>th</sup> General Assembly in 2012 (GA 2012), a delegation of the IAU Executive Committee visited the National Astronomical Observatories, Chinese Academy of Sciences (NAOC) in Beijing from 17 to 20 April 2007, in order to reach an Agreement between the IAU and the CAS on the organization of GA 2012, and to see the Beijing International Convention Center (BICC), the foreseen venue of GA 2012.

The IAU delegation consisted of Robert Williams, President-Elect, Karel A. van der Hucht, General Secretary, and Ian F. Corbett, Assistant General Secretary. The Chinese hosts were the LOC members Prof. Cheng Fang (IAU Vice-President and CAS Consultant), Prof. Gang Zhao (Chair GA 2012 LOC, CAS President, NAOC Deputy Director), Prof. Shuangnan Zhang (CAS Vice-President), Prof. Xiangdong Li (CAS General Secretary), Dr. Yanchun Liang (CAS Associate General Secretary), Prof. Suijian Xue (CAS Council member), and Prof. Jun-Jie Wang

On 18 April, the IAU delegation and Chinese LOC members met with representatives of the BICC, first at the new premises of the NAOC for a general introduction, and subsequently at the BICC for an *in situ* inspection of the convention center's facilities. In the afternoon, a draft Memorandum of Agreement (MoA), which had been submitted by the IAU to the CAS on 5 December 2006, was discussed with the Chinese LOC in detail. The definitive MoA was agreed on and formally signed by CAS President and GA 2012 LOC chairman, Prof. Gang Zhao, and the IAU General Secretary, in the presence of the GA 2012 LOC members and Mr. ZhenYu Wang, Deputy Director of the Division of International Organization Programs of the Bureau of International Cooperation of the Chinese Academy of Sciences.

On 19 April, kindly hosted and guided by Dr. Yanchun Liang, the IAU delegation visited some historical areas of Beijing, including the Beijing Ancient Observatory (BAO), where the IAU delegation was received by Deputy Director Jun Xiao and Dr. Jin Zhu, Director of the Beijing Planetarium. The BAO, built in 1442 during the Ming Dynasty, has on its roof top a collection of



eight impressive astronomical instruments, built between 1437 and 1744. Since 1949, the BAO is part of the Beijing Planetarium.

**5.3. IAU XXIX<sup>th</sup> General Assembly in 2015 - Deadline for proposals to host**

The IAU Executive Committee solicits proposals for hosting the IAU XXIX<sup>th</sup> General Assembly in July-August 2015. Letters-of-Intent are welcome before 1 November 2008. Complete bid-books should reach the EC before the deadline of 1 April 2009. Rules and Guidelines are available at:  
<[http://www.iau.org/Instructions\\_for\\_Hosting\\_GAs.322.0.html](http://www.iau.org/Instructions_for_Hosting_GAs.322.0.html)>.

## 6. IAU DIVISIONS, COMMISSIONS, WORKING GROUPS AND PROGRAM GROUPS

### 6.1. Div. I/WG on *Numerical Standards of Fundamental Astronomy*

Michael H. Soffel has joined the *IAU Working Group for Numerical Standards of Fundamental Astronomy*, bringing the membership to a total of twelve. Initial discussions have begun to determine the direction of the Working Group. In particular, the list of constants and the relationship between constants and their associated models are being considered.

*Brian J. Luzum, chair, Washington DC, USA, 7 March 2007*

### 6.2. Div. III/Comm. 15 on *Physical Studies of Comets and Minor Planets*

Three new Task Groups of Commission 15 have been formed, with the following web sites and co-chairs:

TG-AM: Task Group on *Asteroid Magnitudes*.

URL: <<http://www.casleo.gov.ar/c15-wg/index-tgh.html>>

Co-chairs: Ricardo A. Gil-Hutton & Edward F. Tedesco.

TG-APAC: Task Group on *Asteroid Polarimetric Albedo Calibration*.

URL: <<http://www.casleo.gov.ar/c15-wg/index-tgap.html>>

Co-chairs: Ricardo A. Gil-Hutton & Alberto Cellino.

TG-CM: Task Group on *Comet Magnitudes*.

URL: <<http://www.lowtem.hokudai.ac.jp/iau-c15-wg/index.html>>

Co-chairs: Tetsuo Yamamoto & Gonzalo Tancredi.

A fourth TG is in the process of being formed on *Cometary X-ray Emissions*.

URL: <<http://www.lowtem.hokudai.ac.jp/iau-c15-wg/index.html>>

Co-chairs: Tetsuo Yamamoto & Carey M. Lisse.

The Commission 15 web site has been set up, but may need a few more modifications to make it fully accessible: URL: <<http://iau15.space.swri.edu/>>

*Walter F. Huebner, president, San Antonio, TX, USA, 8 March 2007*

### 6.3. Div. III/Comm. 16 on *Physical Study of Planets and Satellites*

Commission 16 has created an Electronic Bulletin called *PS2 News* (*PS2* naturally stands for *Physical Study of Planets and Satellites*) which will be distributed monthly to registered researchers<sup>5</sup>.

This bulletin will contain news and announcements concerning the activities of the Commission, as well as abstracts of accepted or submitted articles, short

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<sup>5</sup> To register, send an e-mail to <[sympa@sympa.obspm.fr](mailto:sympa@sympa.obspm.fr)> with the following subject: "subscribe ps2news your-first-name your-last-name" .

reports, colloquia announcements, etc. All back issues of the bulletin will be archived on the Commission web site.

#### **6.4. Div. IV/Comm. 45/ WG on *Standard Stars***

The Working Group on *Standard Stars* is already for a long time a WG of Commission 45, Stellar Classification. When it began its work, before the days of Divisions, it was a WG with a scope well beyond that of Commission 45. Indeed, the masthead of the Standard Star Newsletter still declares that Commissions 25, 29, and 30 are also involved. (See <<http://stellar.phys.appstate.edu/ssn/>>.

Therefore, and with the consent of the Presidents of Divisions IV, V, and IX and the IAU EC, its status has been changed to that of an Inter-Division Working Group of the Divisions IV, V and IX.

#### **6.5. Div. IV-V/WG on *Ap and Related Stars***

During the last IAU General Assembly, in Prague, the Working Group on *Ap and Related Stars* has met for a full day, on Thursday, August 17. The first quarter of the day was devoted to business, and the rest of the day to science. The participation was unexpectedly large, with 32 signed participants, despite the existence of several parallel commission meetings strongly related to the subject of the Working Group (Variable stars, Atomic data, etc.). This should, as much as possible, be avoided during the next GA.

During the Business Meeting two important tasks were defined for 2006/2007, namely, the modernization of the existing "*A peculiar Newsletter*" (ApN) and the preparation of a proposal for a scientific meeting in 2008/2009.

In accordance with the above mentioned decisions, over the past few months the ApN newsletter <<http://ams.astro.univie.ac.at/apn>> has been entirely renovated by the editors to respond more adequately to the community needs. In its modern format, ApN comprises links to lists of papers provided by ADS, selected through adequate key-word filtering. These links substitute the obsolete list of "Abstracts of accepted papers" which depended entirely on submissions of abstracts by the authors to ApN. Moreover, the new version of ApN comprises a public forum in which members of the community may circulate news and discuss scientific issues. It is hoped that the public forum will play an important role in fostering scientific interaction among the Ap and related stars community.

Concerning the second task, over the past months the working group panel has discussed the type of meeting to be organized, as well as the best timing for it, taking into account the history of meetings in the field and the major recent scientific advances. Following that discussion, the panel has decided to prepare a proposal for an IAU meeting in 2009. Meanwhile, several members of the OC of the Working Group are involved in the organization of the Workshop

“CP#Ap Stars” that will take place in Vienna, Austria, from 10-14 September 2007, see: <<http://www.univie.ac.at/cpworkshop2007/>>.

*Margarida Cunha, chair, Porto, Portugal, 7 March 2007*

#### **6.6. Div. IX-X/WG on *International Development of Antarctic Astronomy***

The years 2007-08 have been designated the *International Polar Year* (IPY), 50 years on from the *International Geophysical Year* that opened Antarctica for scientific exploration. A wide range of international science projects have been designated IPY projects. “AstroPoles” is the astronomy community's program for the IPY, aimed at quantifying conditions at sites on the summits of the polar plateaus. In particular, an automated observatory known as PLATO (built in Australia) will be taken to Dome A, the 4,200m summit of the Antarctic plateau by the Chinese-led traverse to this location, as a part of their PANDA IPY program. The observatory will be equipped with instrumentation for measuring critical parameters that determine the suitability of a site for astronomical observations, such as the seeing, the distribution of turbulence in the atmosphere, the infrared sky brightness and the amount of precipitable water vapour in the column of air above the site.

Further information on the IPY can be found at <<http://www.ipy.org>>.

*Michael G. Burton, chair, Sydney, Australia, 28 February 2007*

#### **6.7. Div. X/Comm. 40 on *Radio Astronomy***

##### ***On the Division X web page.***

Based on the web page contents of Div. X during 2003-2006, we renewed it for the period of 2006-2009, which has been ready with the URL address <[http://www.bao.ac.cn/IAU\\_COM40/](http://www.bao.ac.cn/IAU_COM40/)> and has replaced the previous one (2003-2006) <[http://www.astrosmo.unam.mx/IAU\\_Com40/](http://www.astrosmo.unam.mx/IAU_Com40/)>.

##### ***On the inter-union GVWG.***

The Div. X/Working Group on *Global VLBI*: After a series of communications and discussions with Richard Schilizzi, the chair of Commission J of URSI, and Jonathan Romney, current chair of GVWG, Romney agreed to continue as the chair person. Later, he updated both the Terms of Reference, and the membership of the GVWG. Both are shown on the current web page of GVWG, which appears at:

<<http://www.ursi.org/J/workinggroup.htm>>. Based on the history of GVWG, the primary location of its web page is at the URSI website, and it will be presented and linked by the Div. X web page, and referenced by the IAU web site as well.

As requested by the Peruvian and Japanese astronomers, while a donation of a communication antenna by Telefonica Company of Spain to the Peruvian astronomers as a radio telescope met some resistance, we were invited to write a letter, on behalf of the Div. X President and Vice-President, to the President of

Telefonica S.A. Spain, Sr. Cesar Alierta Uzuel, and to the authorities in Peru and related institutions, to encourage the donation and transformation of a communication antenna to radio astronomical facility. Fortunately, the problems are resolved, and we are very pleased to know the consent of this donation.

***On the Div. X-XII Inter-Division Working Group on Historic Radio Astronomy.***

At the Business Meeting of this WG at the IAU GA in Prague, the new WG Committee for the 2006-2009 triennium was finalized and appointed Wayne Orchiston (Australia) and Ken Kellermann (USA) as the WG Chair and Vice-Chair, respectively, meeting during which the term of reference of this group has been updated. Some information on the WG activities can be downloaded in PPT format from the web site

<[http://www.bao.ac.cn/IAU\\_COM40/WG/WgHistRA.html](http://www.bao.ac.cn/IAU_COM40/WG/WgHistRA.html)>. The web site of this WG is under construction. In addition, the papers reporting research by members of the Working Group continue to be published in the Journal of Astronomical History and Heritage.

***On the Div. X Working Group on Interference Mitigation.***

Div. X strongly endorsed continuing this Working Group. The revisions of the term of reference and the rejuvenation of the membership are necessary, and were discussed among the group members, promoted by Tasso Tzioumis (Australia). On the Radio Frequency Interference Mitigation WG, the similar committee exists in the other communities, but this does not influence on its important role in the radio astronomy, as described at: <[http://www.bao.ac.cn/IAU\\_COM40/WG/WgRF.html](http://www.bao.ac.cn/IAU_COM40/WG/WgRF.html)>. In practice, the concrete activities of this group have been in discussion, and will be implemented in the near future.

***On the Inter-Division Working Group on Astronomy from the Moon.***

This Inter-Division WG of Divisions IX, X and XI, has its web page is being constructed at <<http://www.cfa.harvard.edu/moon/>>. The Organizing Committee 2006-2009 was finalized at the Prague meeting with Sallie Baliunas (USA) as a chair and Yoji Kondo (USA) as a vice-chair.

***On the Inter-Division Working Group Encouraging the International Development of Antarctic Astronomy.***

This WG of Div. IX and Div. X continues to have Michael Burton as its chairperson; its web page is under construction.

***On the Working Group Astrophysically Important Spectral Lines.***

This WG, with Masatoshi Ohishi as chair, keeps working perfectly and continues under its previous status.

*Rendong Nan, president, Beijing, China, 20 April 2007*

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

A lighting ordinance has been passed by the Maui county council that will afford significant protection from light pollution to the observatories atop Haleakala, HI, USA. One of the key features is that any light that does not conform to the ordinance must be replaced within 10 years. The radio and TV transmitters on Haleakala are scheduled to be removed late in 2007.

A light pollution meeting was held in Washington DC on February 20-21, 2007. The meeting highlighted the cross-disciplinary nature of the effort to reduce artificial lighting at night, and included presentations that link breast cancer to artificial light at night. Another meeting related to light pollution will be held in the Canary Islands in April 2007.

The *Globe at Night* program will run March 8-21, 2007. This is an educational program that will heighten awareness of light pollution. I will be encouraging all members of Commission 50 to promote this program in their local communities. The URL is <<http://www.globe.gov/GaN/>>.

An extension of the *Globe at Night* program will include use of low cost "Night Sky Quality Meters" which measure the brightness of the night sky in the V band. These simple handheld meters, which cost about USD 100, can be used to assess the sky brightness at observatory sites and other locations.

*Richard J. Wainscoat, president, Honolulu, HI, USA, 1 March 2007*

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

Commission 55 was approved at the IAU General Assembly in Prague and an extensive web site has been set up; see <<http://www.communicatingastronomy.org/index.html>>.

This charts the history of the Working Group that pre-dated the Commission along with its organisation and officers. Because of the nature of the work of the Commission, we are anxious to encourage as many people as possible to become active and spread the word. In that light, we have set up a section where enthusiasts can sign-in as "supporters", on whom we can call for general or specific tasks and propagation of information.

The actual work of the Commission has been split up into a number of working groups. The promulgation of the *Washington Charter* continues to progress satisfactorily; there are now 30 organisations signed up. We will be having a further "push" on this front later in the year. Two new topics included on the web include "training" and a "jobs bank".

A new Working Group was created, following a strong proposal to create a new journal on *Communicating Astronomy*. This has made excellent progress and now has widespread support, including that from the Astronomy Education Review editors. Further information can be found at

<<http://www.communicatingastronomy.org/journal/index.html>>. Unfortunately, due to other work (see below), advance on the "best practices" and "new ways"

Working Groups has not progressed as much as we would have liked, due to lack of human resources.

The reason for this is that by far the most intensive work of the Commission since its inception has been the focus on the organisation for IYA 2009. We have participated in a number of telecons of the IAU Executive Committee Working Group on IYA 2009 (of which two IAU Officers are members) and recently organised the kick-off meeting for the national Single Point of Contacts (SPoCs) at the ESO HQ in Garching on March 3<sup>rd</sup> and 4<sup>th</sup>. This meeting was a tremendous success, with 26 out of the 63 identified SPoCs attending, coming from places as far a field as China, Japan, South Korea, Australia, USA, Canada and Mexico (31 countries represented in total). The web cast of the meetings and the presentations can be found at

[http://www.communicatingastronomy.org/iya\\_eso/programme.html](http://www.communicatingastronomy.org/iya_eso/programme.html)>. During the Saturday evening four attendees conducted a web- and skype-cast of the total eclipse of the moon, linking two schools from Germany and South Africa and many other callers freely joining in. Out of this kick-off meeting has come a number of ideas and themes to be taken forward for IYA 2009. One of the key issues was the agreement of the logo and slogan for IYA 2009, and these are now being spread through the communities by web downloads. The next push will be to encourage SPoCs to complete and link-in their National Node web pages with the IYA 2009 web page <http://www.astronomy2009.org>>.

The next major focus of IYA 2009 activity will take place at the meeting *Communicating Astronomy with the Public 2007* (CAP 2007), to be held in Athens, Greece, 7-10 October 2007; see

<http://www.communicatingastronomy.org/cap2007/>>

*Ian Robson, Dennis Crabtree & Lars Lindberg Christensen, 7 March 2007*

## 7. SCIENTIFIC MEETINGS

### 7.1. IAU Symposia in 2007

Details of the nine 2007 IAU Symposia have been given in IB 98 and IB 99 (see also <[http://www.iau.org/IAU\\_MEETINGS.110.0.html](http://www.iau.org/IAU_MEETINGS.110.0.html)>).

The forthcoming IAU Symposia are:

#### **IAU S244 *Dark Galaxies and Lost Baryons***

25-29 June 2007, Cardiff, UK

*SOC chair:* Jonathan I. Davies & Kenneth C. Freeman

*LOC chair:* Jonathan I. Davies

*Editors:* Jonathan I. Davies & Michael D. Disney

*Contact:* Jonathan I. Davies <[jid@astro.cf.ac.uk](mailto:jid@astro.cf.ac.uk)>

*URL:* <<http://www.astro.cf.ac.uk/iau244/>>

#### **IAU S245 *Formation and Evolution of Galaxy Bulges***

16-20 July 2007, Oxford, UK

*SOC chair:* Martin Bureau

*LOC chair:* Martin Bureau

*Editors:* Martin Bureau, Evangelia Athanassoula & Beatriz Barbay

*Contact:* Martin Bureau <[bureau@astro.ox.ac.uk](mailto:bureau@astro.ox.ac.uk)>

*URL:* <<http://www-astro.physics.ox.ac.uk/~iaus245/>>

#### **IAU S246 *Dynamical Evolution of Dense Stellar Systems***

5-9 September 2007, Capri, Italy

*SOC chair:* Enrico Vesperini

*LOC chair:* Anna Pecoraro

*Editors:* Enrico Vesperini, Mirosław Giersz & Alison I. Sills

*Contact:* Enrico Vesperini <[vesperin@physics.drexel.edu](mailto:vesperin@physics.drexel.edu)>

*URL:* <<http://www.physics.drexel.edu/~iaus246/>>

#### **IAU S247 *Waves and Oscillations in the Solar Atmosphere: Heating and Magneto-Seismology***

17-22 September 2007, Porlamar, Isla de Margarita, Venezuela

*SOC chair:* César A. Mendoza-Briceño & Robert Erdelyi

*LOC chair:* César A. Mendoza-Briceño

*Editors:* César A. Mendoza-Briceño & Robert Erdelyi

*Contact:* César A. Mendoza-Briceño <[cesar@ula.ve](mailto:cesar@ula.ve)>

*URL:* <<http://www.iaus247.org/>>

#### **IAU S248 *A Giant Step: from Milli- to Micro-arcsecond Astrometry***

15-19 October 2007, Shanghai, China Nanjing

*SOC chair:* Michael A.C. Perryman and Shuhua Ye

*LOC chair:* Cheng Huang

*Editors:* Wenjing Jin, Imants Platais & Michael A.C. Perryman

*Contact:* Imants Platais <[imants@pha.jhu.edu](mailto:imants@pha.jhu.edu)>

*URL:* <<http://www.shao.ac.cn/iaus248>>



**IAU S249 *Exoplanets: Detection, Formation and Dynamics***

22-26 October 2007, Suzhou, China Nanjing

*SOC chair:* Sylvio Ferraz Mello and Yi-Sui Sun*LOC chair:* Ji-Lin Zhou*Editors:* Sylvio Ferraz Mello, Yi-Sui Sun & Ji-Lin Zhou*Contact:* Ji-Lin Zhou <zhoujl@nju.edu.cn>*URL:* <<http://iaus249.nju.edu.cn/>>**IAU S250 *Massive Stars as Cosmic Engines***

10-14 December 2007, Kauai, Hawaii, USA

*SOC chair:* Paul A. Crowther and Joachim Puls*LOC chair:* Fabio Bresolin*Editors:* Fabio Bresolin, Paul A. Crowther & Joachim Puls*Contact:* Paul A. Crowther <Paul.Crowther@sheffield.ac.uk>*URL:* <<http://www.ifa.hawaii.edu/iau250/>>

For a complete overview of IAU scientific meetings, see:

<[http://www.iau.org/IAU\\_MEETINGS.110.0.html](http://www.iau.org/IAU_MEETINGS.110.0.html)>.**7.2. Regional IAU Meeting in 2007****LARIM 2007 *12<sup>th</sup> Latin-American Regional IAU Meeting***

22-26 October 2007, Isla Margarita, Venezuela

*Scientific Organizing Committee:*

Manuel Bautista (IVIC, Venezuela), Alberto Bolato (Uruguay), César Briceño (co-chair, CIDA, Venezuela), Gustavo A. Bruzual (co-chair, CIDA, Venezuela), Leticia Carigi (IAUNAM, México), Esperanza Carrasco (INAOE, México), Ignacio Ferrín (ULA, Venezuela), Tabaré Gallardo (UdelaR, Uruguay), Miguel Ibañez (ULA, Venezuela), Claudia Mendes (USP, Brazil), René Méndez, (UCHile, Chile), César Mendoza (ULA, Venezuela), Hernán Muriel (OAC, Argentina), Basilio Santiago (UFRGS, Brazil) &amp; Patricia Tissera (IAFE, Argentina).

*LOC chair:* Anna Katherina Vivas.*Editors:* Gustavo A. Bruzual, Gladis Magris & Leticia Carigi.*Contact:* Gustavo A. Bruzual <bruzual@cida.ve>*URL:* <<http://www.margarita2007.org>>**7.3. IAU SYMPOSIA in 2008****IAU S251 *Organic Matter in Space***

18-22 February 2008, Hong Kong, China Nanjing

*Scientific Organizing Committee:*

Peter F. Bernath (U.K.), Ernest Zinner (U.S.A.), Thomas R. Geballe (U.S.A.), Thomas Henning (Germany), Sun Kwok (co-chair, China Nanjing), Thomas J. Millar (U.K.), Yvonne J. Pendleton (U.S.A.), Scott A. Sandford (co-chair, U.S.A.) &amp; Setsuko Wada (Japan).

*Local Organizing Committee:*

Kwing Lam Chan, Kwong Sang Cheng, Sun Kwok (chair), Steve B. Pointing & Jason C.S. Pun (all at UHK).

*Principal Topics:*

- Astronomical observations of organic compounds
- Organic compounds in solar system objects
- Laboratory spectroscopy and simulations of analogs of organic compounds in space.

*Proceedings' Editors:* Sun Kwok (Chief Editor) & Scott A. Sandford.

*Contact address:* Sun Kwok <sunkwok@hku.hk>

*URL:* <<http://www.hku.hk/science/iau251>>

**IAU S252 *Art of Modeling Stars in the 21st Century***

10-14 March 2008, Sanya, Hainan Island, China Nanjing

*Scientific Organizing Committee:*

France Allard (France), W. David Arnett (USA), Isabelle Baraffe (France), Kwing Lam Chan (Hong Kong, China Nanjing), Cesare S. Chiosi (co-chair, Italy), Werner Dappen (USA), Licai Deng (co-chair, China Nanjing), Friedrich Kupka (Germany), Henny Lamers (Netherlands), Norbert Langer (Netherlands), John Lattanzio (Australia), Georges Meynet (Switzerland), Paolo Ventura (Italy), Achim Weiss (Germany), Lee Anne Willson (USA) & Darun Xiong (China Nanjing).

*Local Organizing Committee:*

Yanchun Liang (chair), Ye Lu National, Yu Xin, Jun Yan & Bing Zhao.

*Principal Topics:*

- Improvements of the physical ingredients of stellar models (opacities, nuclear reaction rates, neutrinos, e.o.s., initial composition)
- Progresses in understanding of physical processes (convection, rotation, internal waves, magnetic fields, mass loss, tidal mixing)
- Modeling the evolution of low and intermediate mass stars
- The evolution of massive stars with new physics on mass loss, rotation and mixing processes
- Physics and modeling of close binary evolution
- Stellar physics in the era of very large telescopes.

*Proceedings' Editors:* Licai Deng (Chief Editor), Kwing Lam Chan & Cesare S. Chiosi.

*Contact address:* Licai Deng <licai@boa.ac.cn>

*URL:* tbd

**IAU S253 *Transiting Planets***

19-23 May 2008, Boston, MA, USA

*Scientific Organizing Committee:*

Gaspar A. Bakos (USA), David Charbonneau (USA), Tristan Guillot (France), David G. Koch (USA), Tsevi Mazeh (Israel), Norman Murray (Canada), Frederic Pont (Switzerland), Didier Queloz (co-chair, Switzerland), Heike Rauer (Germany), Dimitar D. Sasselov (co-chair,

USA), Bun'ei Sato (Japan), Sara Seager (USA), Andrzej Udalski (Poland) & Alfred Vidal-Madjar (France).

*Local Organizing Committee:*

Matthew J. Holman (co-chair), Lisa Kaltenegger, C. Knell, Guillermo Torres (co-chair) & Joshua N. Winn.

*Principle Topics:*

- Modeling the structure and the atmosphere of planets
- Ground base transit surveys
- The Corot mission
- Planet characterization: Planet density (radial velocity follow-ups)
- Anti-transit measurement (planet emerging flux)
- Planet phase function
- Planet exosphere
- Future projects (*Kepler*, *JWST*, ...).

*Proceedings' Editors:* Frederic Pont (Chief Editor), Didier Queloz & Dimitar D. Sasselov.

*Contact address:* Dr. Didier Queloz <didier.queloz@obs.unige.ch>

*URL:* tbd

**IAU S254 *The Galaxy Disk in Cosmological Context***

9-13 June 2008, Copenhagen, Denmark

*Scientific Organizing Committee:*

Beatriz Barbay (Brazil), James J. Binney (UK), Jonathan Bland-Hawthorn (co-chair, Australia), Volker Bromm (USA), Bruce G. Elmegreen (USA), Eva K. Grebel (Switzerland), Bengt Gustafsson (Sweden), Amina Helmi (Netherlands), Ken'ichi Nomoto (Japan), Birgitta Nordström (co-chair, Denmark), Donald A. VandenBerg (Canada), Simon D.M. White (Germany), Rosemary F. Wyse (USA) & P. Tim de Zeeuw (Netherlands).

*Local Organizing Committee:*

Johannes Andersen (chair), Jens Viggo Clausen, Jens Kirkeskov Knude, Birgitta Nordström & Kristian Pedersen.

*Principal Topics:*

- Disk galaxy meets LambdaCDM cosmology: Successes and failures
- Evidence of disk formation at high redshift
- Dark matter and stellar populations in the Milky Way disk and Local Group galaxies
- Stars as drivers and tracers of chemical evolution
- Interstellar matter and disk evolution
- Origin, structure, and evolution of disks
- Formation of the thin and thick disk: the bulge-bar-disk connection
- Abundance gradients and spatial and dynamical structures in disks
- Secular evolution of disks
- Panel discussion: challenges and prospects for the future.

*Proceedings' Editors:* Johannes Andersen (Chief Editor), Jonathan Bland-Hawthorn & Birgitta Nordström.

*Contact address:* Birgitta Nordström <birgitta@astro.ku.dk>

*URL:* <<http://www.nbi.dk/IAU254>>

**IAU S255 *Low-metallicity Star Formation: from the First Stars to Dwarf Galaxies***

16-20 June 2008, Villasimius, Sardinia, Italy

*Scientific Organizing Committee:*

Roger A. Chevalier (USA), Eli Dwek (USA), Richard S. Ellis (USA), Andrea Ferrara (Italy), Leslie Hunt (co-chair, Italy), Deidre A. Hunter (USA), Yuri Izotov (Ukraine), Suzanne Madden (co-chair, France), André Maeder (Switzerland), Francesca Matteucci (Italy), Sandra Savaglio (Germany), Daniel Schaerer (Switzerland), Raffaella Schneider (Italy), Evan D. Skillman (USA) & Eduardo Telles (Brazil).

*Local Organizing Committee:*

Emanuela Masini (chair), Leslie Hunt & Raffaella Schneider.

*Principal Topics:*

- Population III and metal-free star formation
- Observational signatures of low-metallicity star formation
- Stellar populations at low metallicity
- Gamma-ray bursts and supernovae in low-metallicity environments
- The metal-poor interstellar medium: dust and atomic and molecular gas
- Metal enrichment and feedback.

*Proceedings' Editors:* Leslie Hunt (Chief Editor), Suzanne Madden & Raffaella Schneider.

*Contact address:* Leslie Hunt <hunt@arcetri.astro.it>

*URL:* <<http://www.arcetri.astro.it/iaus255/>>

**IAU S256 *The Magellanic System: Stars, Gas, and Galaxies***

28 July-1 August 2008, Keele University, Staffordshire, UK

*Scientific Organizing Committee:*

Beatriz Barbuy (Brazil), You-Hua Chu (USA), Gary S. Da Costa (Australia), Michael W. Feast (South Africa), Yasuo Fukui (Japan), Eva K. Grebel (Switzerland), Despina Hatzidimitriou (Greece), Mohammad Heydari-Malayeri (France), Jacobus Th. van Loon (chair, UK), Ben Moore (Switzerland), Wolfgang Pietsch (Germany), Monica Rubio (Chile), Snezana Stanimirovic (USA), Nolan R. Walborn (USA), and Lukasz Wyrzykowski (Poland).

*Local Organizing Committee:*

Nye W. Evans, Joana M. Oliveira, Jacobus Th. van Loon, Pauline Weston & Barry Smalley.

*Principal Topics:*

- recent/on-going surveys of the Magellanic System
- the structure and dynamics of the Magellanic System
- the properties of the interstellar and intergalactic medium
- the star formation process in the Magellanic Clouds
- the star formation history and chemical evolution

- the Magellanic Clouds as laboratories of stellar astrophysics
- the late stages of stellar evolution and stellar feedback
- Magellanic type systems as a class.

*Proceedings' Editors:* Jacobus Th. van Loon (Chief Editor) & Joana M. Oliveira.

*Contact address:* Jacobus Th. van Loon <jacco@astro.keele.ac.uk>

*URL:* <<http://www.astro.keele.ac.uk/iaus256/>>

### **IAU S257 *Universal Heliophysical Processes***

5-9 September 2008, Ionnina, Greece

*Scientific Organizing Committee:*

Costas Allisandrakis (Greece), Arnold O. Benz (Switzerland), Lidia van Driel-Geszelyi (Hungary), Sarah Gibson (USA), Jean-Louis Bougeret (France), Walter Gonzalez (Brazil), Natchimuthuk Gopalswamy (co-chair, USA), Cristina Mandrini (Argentina), P. K. Manoharan (India), Marius S. Potgieter (South Africa), Peter A. Robinson (Australia), Kasunari Shibata (co-chair, Japan), Alexander V. Stepanov (Russian Federation), Bjoan Vrsnak (Croatia), David F. Webb (co-chair, USA), and Mei Zhang (China Nanjing).

*Local Organizing Committee:*

Costa Allisandrakis, Angeliki Fotiadi, Alexander Nindos (chair), Vassiliki Tsikoudi & Georgia Tsiropoula.

*Principal Topics:*

- Solar sources of heliospheric variability
- Origin, evolution and dissipation of magnetic structures
- Transport in heliospace: impact of magnetic structures
- Plasma processes: flows, obstacles, circulation
- Energetic particles in the heliosphere
- Heliophysical boundaries and interfaces including shock waves
- Solar-heliospheric variability on different time scales
- 3-D reconnection processes
- Turbulence in heliospace
- Physical processes in stellar systems.

*Proceedings' Editors:* Natchimuthuk Gopalswamy (Chief Editor) & David F. Webb.

*Contact address:* Nat Gopalswamy <gopals@ssedmail.gsfc.nasa.gov>

*URL:* tbd

### **IAU S258 *The Ages of Stars***

13-17 October 2008, Baltimore, MD, USA

*Scientific Organizing Committee:*

H.M. Antia (India), Nobuo Arimoto (Japan), Michael S. Bessell (Australia), Corinne Charbonnel (France/Switzerland), Vanessa M. Hill (France), Lynne A. Hillenbrand (USA), Birgitta Nordström (Denmark), David R. Soderblom (chair, USA), Helio J. Rocha-Pinto (Brazil/USA), Eline

Tolstoy (Netherlands), Donald A. VandenBerg (Canada), Rosemary F. Wyse (USA) & Maria Zoccali (Chile).

*Local Organizing Committee:*

Thomas Brown, Katrina Exter, Roelof de Jong, Charles D. Keyes, I. Neill Reid, Massimo Roberto, Eva Villaver & Jeff Valenti (chair).

*Principal Topics:*

- The current state of solar and stellar models
- Observations and models of Population I clusters
- Observations and models of globular clusters
- Observations of resolved populations in the Local Group
- Evidence for age spreads within clusters and populations
- The star formation history of the Milky Way and Local Group galaxies
- Spectroscopic age indicators for stars: Li, rotation, activity, U/Th/Eu
- Age-metallicity relations
- Ages of planet-bearing stars and stars with proto-planetary disks
- Looking forward: Preparing for GAIA, SIM, JWST, and the next generation.

*Proceedings' Editors:* Eric Mamajek (Chief Editor), David R. Soderblom & Rosemary F. Wyse.

*Contact address:* David R. Soderblom <drs@stsci.edu>

*URL:* <<http://www.stsci.edu/institute/conference/iau258>>

#### **IAU S259 *Cosmic Magnetic Fields: from Planets, to Stars and Galaxies***

3-7 November 2008, Puerto Santiago, Tenerife, Spain

*Scientific Organizing Committee:*

Eduardo Battaner (Spain), Rainer Beck (Germany), John E. Beckman (co-chair, Spain), Claude Catala (France), Andrew Collier-Cameron (U.K.), Richard M. Crutcher (USA), Alina C. Donea (Australia), Karl-Heinz Glassmeier (Germany), Karel A. van der Hucht (Netherlands), Alexander Kosovichev (co-chair, USA), Cristina H. Mandrini (Argentina), Gauthier Mathys (Chile), Hiromoto Shibahashi (Japan), Klaus G. Strassmeier (co-chair, Germany), Lev M. Zeleny (Russian Federation) & Shuang Nan Zhang (China Nanjing).

*Local Organizing Committee:*

Rainer Arlt, John E. Beckman (chair), Thorsten Carroll & Valentin Martinez Pillet.

*Principal Topics:*

- magnetic fields in star-forming regions
- the multi-scale field of the Sun and its interior
- the Jupiter-Io system
- heliospheric and interplanetary fields
- Earth's magnetic field
- surface fields of cool and hot stars and of degenerate objects
- planetary-nebulae shaping by magnetic fields, jet and accretion-disk fields: from stars to AGNs and beyond

- fields around stellar black holes and magnetars, supernovae, the magnetic field of the Galactic center; the Galactic field (is there a magnetic web in our Milky Way?)
- fields of spiral galaxies
- instrumentation and techniques for measuring magnetic fields across all wavelengths, from the ground and space, with emphasis on soon-to-come facilities (optical, IR, FIR/sub-mm, radio).

*Proceedings' Editors:* Klaus G. Strassmeier (Chief Editor), Alexander Kosovichev & John E. Beckman.

*Contact address:* Klaus G. Strassmeier <kstrassmeier@aip.de>

*URL:* <<http://www.aip.de/IAUS259/>>

#### 7.4. Regional IAU Meetings in 2008

##### **MEARIM 2008 *1st Middle-East Africa Regional IAU Meeting***

5-10 April 2008, Cairo, Egypt

*Scientific Organizing Committee:*

Ali Ajabshirizadeh (Iran), Athem W. Alsabti (co-chair, Iraq/UK), Hassan Basurah (Saudi Arabia), Volker Bothmer (Germany), Khalil Chamcham (Morocco), Ahmed Abdel Hady (co-chair, Egypt), Abouazza Elmhamdi (Morocco), Amr El-Zant (Egypt), Moneer A.M. Hamdy (Egypt), M. Tarek Hussein (Egypt), Salah Mahmoud (Egypt), Wanas Mamdouh (Egypt), Guessoum Nidhal (Algeria), Adi Nusser (Israel), Atila Ozgac (Turkey), Mosalam A.M. Shaltout (Egypt), Ali Talib (Iraq), and Georgia Tsiropoula (Greece).

*Local Organizing Committee:*

Athem W. Alsabti, Ahmed Abdel Hady (chair), Ahmed Khater, Salah Mahmoud, and Wanas Mamdouh.

*Proceedings' Editors:* Athem W. Alsabti (Chief Editor), Ahmed Abdel Hady & Volker Bothmer.

*Contact address:* Ahmed Abdel Hady <aahady@cu.edu.eg>, <aahady@yahoo.com>

*URL:* <<http://www.mearim.cu.edu.eg/>>

##### **APRIM 2008 *10<sup>th</sup> Asian-Pacific Regional IAU Meeting***

1-4 August 2008, Kunming, China Nanjing

*Scientific Organizing Committee:*

Brian J. Boyle (Australia), Gregory G. Fahlman (Canada), Russ Taylor (Canada), Leonardo Bronfman (Chile), Yan Li (China Nanjing), Gang Zhao (chair, China Nanjing), Shuang Nan Zhang (China Nanjing), Sun Kwok (China Nanjing), Jayant Vishnu Narlikar (India), Hakim L. Malasan (Indonesia), Premana W. Premadi (Indonesia), Satoru Ikeuchi (Japan), Norio Kaifu (Japan), Shin Mineshige (Japan), John B. Hearnshaw (New Zealand), Iraida S. Kim (Russian Federation), Hyung Mok Lee (Korea R) & John P. Huchra (USA).

*Local Organizing Committee:*

Weiqun Gan (PMO), Xiaoyu Hong (SAO), Yan Li, chair (YAO),  
Jiangcheng Wang (YAO) & Yi Wang (NAO).

*Proceedings' Editors:* Shuang Nan Zhang, Yan Li & Qing Juan Yu.

*Contact:* Jiancheng Wang <j.c.wang@public.km.yn.cn>

*URL:* <<http://www.ynao.ac.cn/~aprim/index.html>>

**7.5. Post Meeting Reports 2006**

Post Meeting Reports of IAU meetings are available at  
<[http://www.iau.org/Post\\_Meeting\\_Reports.326.0.html](http://www.iau.org/Post_Meeting_Reports.326.0.html)>.

**7.6. Other Meetings of Astrophysical Interest**

**CAP 2007 - *Communicating Astronomy with the Public 2007, an IAU  
Commission 55/National Observatory of Athens/Eugenides Foundation Conference***

8-11 October 2007, Athens, Greece

*Contact:* Lars Lindberg Christensen <lchriste@eso.org>

*URL:* <<http://www.communicatingastronomy.org/cap2007/>>

**WSEF 2007 - *World Space Environment Forum***

20-25 October 2007, Alexandria, Egypt

*Contact:* Mosalam Shaltout <wsf2007@bibalex.org>

*URL:* <<http://www.cea.inpe.br/wiser>>

**COSPAR 2008 - *50<sup>th</sup> Anniversary Assembly***

37<sup>th</sup> Scientific Assembly of the Committee on Space Research and  
Associated Events:

13 - 20 July 2008, Montreal, Canada

*Contact:* COSPAR Secretariat, c/o CNES, 2 place Maurice Quentin,  
F-75039 Paris Cedex 01, France <cospar@cosparhq.cnes.fr>

*URL:* <<http://www.cospar2008.org/>>, <<http://www.cospar-assembly.org/>>

For all other meetings of astrophysical interest, see the International Astronomy Meetings List, maintained by Liz Bryson of the Canada-France-Hawaii Telescope Corporation, at <<http://cadwww.dao.nrc.ca/meetings/meetings.html>>.



## 8. IAU PUBLICATIONS

### 8.1. IAU Highlights of Astronomy

#### Highlights of Astronomy, Volume 13

*AS PRESENTED AT THE XXV<sup>th</sup> GENERAL ASSEMBLY OF THE IAU*

Sydney, Australia, 13-26 July 2003

Ed. Oddbjørn Engvold

(San Francisco: ASP) ISBN: 1-58381-189-3, August 2006

#### Highlights of Astronomy, Volume 14

*AS PRESENTED AT THE XXVI<sup>th</sup> GENERAL ASSEMBLY OF THE IAU*

Prague, Czech Republic, 14-25 August 2006

Ed. Karel A. van der Hucht

(Cambridge: CUP) (in preparation)

### 8.2. IAU Transactions

#### Transactions of the IAU, Volume XXVB

*PROCEEDINGS OF THE XXV<sup>th</sup> GENERAL ASSEMBLY OF THE IAU*

Sydney, Australia, 13-26 July 2003

Ed. Oddbjørn Engvold

(San Francisco: ASP) (in preparation)

#### Transactions of the IAU, Volume XXVIA

*REPORTS ON ASTRONOMY 2003-2006*

Ed. Oddbjørn Engvold

(Cambridge: CUP) ISBN-10: 0-521-85604-3, March 2007

URL: <<http://journals.cambridge.org/action/displayIssue?jid=IAU&volumeId=1&issueId=T26A>>

#### Transactions of the IAU, Volume XXVIB

*PROCEEDINGS OF THE XXVI<sup>th</sup> GENERAL ASSEMBLY OF THE IAU*

Prague, Czech Republic, 14-25 August 2006

Ed.: Karel A. van der Hucht

(Cambridge: CUP) (in preparation)

### 8.3. IAU Symposium Proceedings, published in 2007

As of 2004, starting with IAU S222, the IAU Symposium Series is being published by Cambridge University Press, Cambridge, UK (CUP).

E-version, see: <<http://journals.cambridge.org/action/displayJournal?jid=IAU>>.

Print, see: <<http://www.cambridge.org/uk/series/sSeries.asp?code=IAUP>>.

- IAU S235** *Galaxy Evolution across the Hubble Time*  
 14-17 August 2006, Praha, Czech Republic  
 Eds. F. Combes & J. Palous  
 (Cambridge: CUP) ISBN: 0-521-86344-9, March 2007
- IAU S236** *Near Earth Objects, our Celestial Neighbors: Opportunity and Risk*  
 14-18 August 2006, Praha, Czech Republic  
 Eds. A. Milani, G.B. Valsecchi & D. Vokrouhlicky  
 (Cambridge: CUP) ISBN: 0-521-86345-7, May 2007
- IAU S237** *Triggered Star Formation in a Turbulent ISM*  
 14-18 August 2006, Praha, Czech Republic  
 Eds. B.G. Elmegreen & J. Palous  
 (Cambridge: CUP) ISBN: 0-521-86346-5, April 2007
- IAU S238** *Black Holes: from Stars to Galaxies- across the Range of Masses*  
 21-25 August 2006, Praha, Czech Republic  
 Eds. V. Karas & G. Matt  
 (Cambridge: CUP) ISBN: 0-521-86347-3, May 2007
- IAU S239** *Convection in Astrophysics*  
 21-25 August 2006, Praha, Czech Republic  
 Eds. F. Kupka, I.W. Roxburgh & Kwing Lam Chan  
 (Cambridge: CUP) ISBN: 0-521-86349-X, May 2007
- IAU S240** *Binary Stars as Critical Tools and Tests in Contemporary Astrophysics*  
 22-25 August 2006, Praha, Czech Republic  
 Eds. W.I. Hartkopf, P. Harmanec & Edward F. Guinan  
 Cambridge: CUP) ISBN: 0-521-86348-1 (July 2007)
- IAU S241** *Stellar Populations as Building Blocks of Galaxies*  
 10-14 December 2006, La Palma, Canary Islands, Spain  
 Eds. A. Vazdekis & R.F. Peletier  
 (Cambridge: CUP) ISBN: 0-521-86350-3 (due September 2007)
- IAU S242** *Astrophysical Masers and their Environments*  
 12-16 March 2007, Alice Springs, Australia  
 Eds. J.M. Chapman & W.A. Baan  
 (Cambridge: CUP) ISBN: 0-521-87464-5 (in preparation)
- IAU S243** *Star-Disk Interaction in Young Stars*  
 21-25 May 2007, Grenoble, France  
 Eds. J. Bouvier & I. Appenzeller  
 (Cambridge: CUP) ISBN: 0-521-874653 (in preparation)

For a complete list of IAU Symposium Proceedings, please check:  
 <[http://www.iau.org/Symposia\\_Colloquia.122.0.html](http://www.iau.org/Symposia_Colloquia.122.0.html)>.

#### 8.4. 2008 Pricing of the IAU Proceedings Series

##### *Annual subscription*

(9 Symposium Proceedings and 1 Highlights/Transactions volume per year)

Institution	Online + Print	Online only	Print only
	GBP 655	547	603
	USD 1231	1028	1134
<b>IAU Member</b>			
	GBP 327	180	296
	USD 615	338	556

##### *Individual volumes*

	Online + Print	Online only	Print only
	GBP 91	27	68

##### *Bulk order*

(for Symposium Attendees only)

	Online + Print	Online only	Print only
	GBP 46	14	34

#### 8.5. Other IAU-Related Publications

##### *Comet/Asteroid Impacts and Human Society, An Interdisciplinary Approach*

Peter Bobrowsky and Hans Rickman, eds., 2007

(Berlin, Heidelberg: Springer Verlag) ISBN-13: 978-3-540-32709-7

##### *Astronomy for the Developing World*

John Hearnshaw and Peter Martinez, eds., 2007

Proceedings of Special Session no. 5 of the XXVI<sup>th</sup> IAU General Assembly, Prague, Czech Republic, 2006 (Cambridge: CUP, in preparation)

## 9. IAU EDUCATIONAL ACTIVITIES

### 9.1. Div. XII/Comm. 46/PG on *International Schools for Young Astronomers (ISYAs)*

The *29th International School for Young Astronomers (ISYA)* took place in Malaysia (Selangor and Langkawi Island), 5-23 March 2007. ISYA 2007 was organized by the International Astronomical Union (IAU) with the Universiti Kebangsaan Malaysia (UKM) and with the cooperation of National Space Agency of Malaysia (ANGKASA), Ministry of Science, Technology and Innovation (MOSTI) and the Universiti Malaya (UM). It must be strongly emphasized that this ISYA benefited from ANGKASA at a level of involvement and financial support never met before in any ISYA.

The School took place at the University Kebangsaan Malaysia (UKM), Selangor (5-9 March 2007) and then at the MARA Junior Science College, Langkawi Island, where is located the National Observatory (10-23 March 2007).

The members of the National Organizing Committee ISYA 2007 were:

- Prof. Dr. Mazlan Othman, Director General of ANGKASA, Secretary General of Academy Sciences of Malaysia. Chairperson;
- Mr. Mhd Fairos Asillam, Science Officer in ANGKASA. Secretary;
- Prof. Dr. Mohd Zambri Zainuddin, Head of Space Science Laboratory and Deputy Dean of Malaya University;
- Prof. Dr. Baharudin Yatim, Director of Space Science Institute, National University of Malaysia;
- Mr. Kassim Bahali, Head of Astronomy Programme, Al-Khawarizmi Observatory, Malacca.

38 participants were selected (9 females and 29 male), among them 10 Malaysian and 28 foreigners from 11 countries: China Nanjing (2), Korea DPR (3), India (3), Indonesia (7), Nepal (1), New Zealand (1), Philippines (4), Sri Lanka (1), Taiwan (1), Thailand (3), and Vietnam (2). The students had very mixed academic backgrounds and experience, ranging from a M.Sc. degree to having finished their Ph.D.

The faculty members and *lectures* were:

- Prof. N. Udaya Shankar, India, Raman Research Institute: ***Radioastronomy***;
- Assoc. Prof Mamoru Doi Japan University of Tokyo: ***Galaxies***;
- Dr. Chenzhou Cui, China Nanjing, National Astronomical Observatory: ***Virtual Observatory***;
- Prof. Dr. K.R. Lang, USA, Tufts University: ***the Sun***;
- Prof Dr. Jean-Pierre De Greve, Belgium, Free University Brussels: ***Binary stars, evolution with massive components***;

- Prof. Dr. Mohd Zambri Zainuddin, Malaysia, Universiti Malaya: ***Astronomy***;
- Prof. Dr. Edward Guinan, USA, Villanova University: ***Binary stars***;
- Dr. Hakim L. Malasan, Indonesia, Institut Teknologi Bandung: ***Stellar observations***;
- Assoc. Prof. Mark Rast, USA, University of Colorado: ***Solar astrophysics***;
- Prof. Dr. Michèle Gerbaldi, France, Institut d'Astrophysique de Paris: ***Stellar Atmospheres***.

The ISYA students were encouraged to describe their current research. Six sessions were organized for the 27 talks given, each of them lasting 15 minutes plus 5 minutes for questions. Emphasis has been put on the Virtual Observatory and data base concepts by Dr. Chenzhou Cui. For that purpose, a network of 22 computers under LINUX/Windows was set up and image processing software installed. The practical classes were based on access to real data. The participants also had to conduct optical observations. Six observing sessions took place at the Langkawi National Observatory for imaging and spectroscopy with the robotic 0.5 m telescope. These observing sessions were directed by Dr. Hakim L. Malasan with M. Ridwan Hidayat, Ms. Lau Chen Chen and M. Karzaman Ahmad. Reduction of the images and spectra taken were done under the guidance of Dr. Chenzhou Cui and Dr. Hakim L. Malasan.

An half-a-day session was devoted to solar observations at the Langkawi Solar Observatory. Solar images with H $\alpha$  and CaII-K line filters were taken under the direction of Assoc. Prof. Mark Rast and Prof. Dr. Edward Guinan. Besides the academic programme of the ISYA, the lecturers gave several conferences at the National Science Museum and National Planetarium, at Kuala Lumpur, at the MARA Science College, Langkawi, and at the Terengganu University. Besides the intensive academic programme, the students also had the opportunity to experience the environment of the Langkawi island through a series of cultural visits at the weekends.

This ISYA is the starting point for the development of new programmes in Malaysia, in particular related to the use of the Langkawi National Observatory in both stellar and solar domains.

*Prof. Dr. Mazlan Othman, chairperson NOC ISYA 2007*

*Mr. Mhd Fairus Asillam, Science Officer ANGKASA, Secretary NOC ISYA 2007*

*Dr. Michèle Gerbaldi, chairperson for the 29<sup>th</sup> LAU ISYA educational programme  
Paris, France, 22 May 2007*

## **9.2. Div. XX/Comm. 46/PG on *Teaching for Astronomy Development***

The IAU Commission 46 Program Group on *Teaching Astronomy for Development* (TAD) has identified several countries which have expressed interest in receiving support for activities that, in agreement with the stated mission of

TAD, aid in “the enhancement of the country's astronomy education and astronomical research in support of education.”

The programs that TAD plans to support in 2007/08 are activities in Vietnam, Mongolia, Morocco, Nicaragua, Kenya/South Africa, Trinidad & Tobago, and the Philippines. More recently a possible new TAD initiative was added for the Democratic People’s Republic of Korea. We briefly summarize these programs below:

***Vietnam.***

Support for Hanoi, Vietnam School on Astrophysics and the Universe. 21-30 August, 2007. Organized by the Department of Physics, Hanoi National University of Education and the Vietnamese Astronomical Society. 30-40 participants expected.

Contact: Nguyen Quynh Lan <nquynhlan@hnue.edu.vn>.

The final program for the School is being worked out with Dr. Lan and TAD co-chair Guinan. Three IAU representatives will attend, and present lectures: John Hearnshaw (New Zealand), Ed Guinan (USA) and Michèle Gerbaldi (France). Partial support also will be provided for some of the expenses of local participants that include travel to Hanoi and living expenses. Joel Weisberg, Carleton College (USA), is visiting Vietnam in June, 2007, on a family trip and may deliver lectures and establish additional contacts with the Vietnamese astronomers. TAD program will provide modest support, and may look for his help in establishing continuing contacts.

***Mongolia, initial TAD program.***

An invitation has been extended to Batsukh Garmaa <bats\_g@yahoo.com>, National University of Mongolia (MUN), to visit the US in fall 2007 or winter 2008 to observe astronomy and astrophysics classes at Gettysburg and Villanova Universities. He will also learn about CLEA activities in astronomy, have an opportunity to use modern CCD cameras at the Gettysburg Observatory, and possibly visit other astronomical sites in the area (such as Green Bank and STScI). In future years, we expect to reciprocate by sending TAD representatives to Mongolia to lecture.

More recently Tsolmon Renchin <tsolmon@num.edu.mn> of MUN has invited Larry Marschall to visit Ulaanbaatar to give lectures and to discuss future TAD activities in Mongolia. This visit is under consideration for June or July 2007.

***Philippines.***

TAD is supporting the travel of astronomers between Gunma Astronomical Observatory in Japan and the visiting staff of PAGASA (Philippine Atmospheric, Geophysical, and Astronomical Administration) to give Philippine scientists experience in astronomy research and to give lectures. Contact is Cynthia Celebre, chief, Astronomy Research and Development Section (AsRDS), PAGASA <cynthia\_celebre@hotmail.com>.

***Nicaragua.***

TAD is supporting the *Los Cursos Centroamericanos de Astronomía y Astrofísica* (CURCAA), a series of lectures in astronomy and astrophysics to be held in Managua, Nicaragua, 25-29 June, 2007. See:

<<http://www.unan.edu.ni/oanun/xicurcaa/XICURCAA101.htm>>. The support will include sending at least one and possibly two IAU representatives as well as providing travel support for some professors and students. Contact is Maria Cristina Pineda de Carias, chair, Central America Suyapa Astronomical Observatory, National Autonomous University of Honduras, <[mcarias@cablecolor.hn](mailto:mcarias@cablecolor.hn)>. We are awaiting the final program for this meeting.

We plan to use this opportunity to urge the participating countries to join the IAU. It is possible that a representative from the IAU EC will join to discuss IAU issues and IAU National Membership.

***Kenya/South-Africa Astronomer Training and Education Program.***

The program is co-sponsoring (with the IAU Comm. 46 PG on *Exchange of Astronomers*) the visit to South Africa of Paul Baki of Kenya to learn first hand astronomical instruments, data acquisition and reduction techniques. The plan is for him to return to Kenya and transfer his training and experience to his students and colleagues. South Africa is contributing financial and logistical support for the visit. Contact person is Peter Martinez, SAAO <[peter@saao.ac.za](mailto:peter@saao.ac.za)> or <[peter@da.saao.ac.za](mailto:peter@da.saao.ac.za)>.

***Trinidad and Tobago & Caribbean Region, Outreach & Education Program.***

The TAD program enthusiastically supports this project to develop a Television-based Astronomy Education and Public Outreach program for Trinidad & Tobago and the surrounding Caribbean region. Shirin Haque (University of the West Indies, St. Augustine Campus, Trinidad) has requested TAD for funds to partially support the production of this program. This program is expected to reach over one million prospective viewers in the Caribbean region. Contact person: Shirin Haque <[shirin@tstt.net.tt](mailto:shirin@tstt.net.tt)>.

***Continuation of the IAU TAD program in Morocco.***

Hassane Darhmaoui, Associate Professor School of Science & Engineering, Al Akhawayn University in Ifrane, Morocco, has requested IAU TAD support for a visit to Ifrane of Ghassan Yassin of Oxford University. Ghassan Yassin is working with the Cosmology group in Oxford. Last summer, he supervised the capstone project and internship of Moroccan student Hassan Bourhrous. The title of his research there under Yassin's supervision is "A Planar Switch for Cosmology Instruments". Yassin is also visiting Morocco to investigate opportunities for additional Moroccan students to study at Oxford and work with him and the Oxford Group. TAD approves this project.

***Democratic People's Republic of Korea: A Possible TAD initiative.***

During the 29<sup>th</sup> ISYA program in Malaysia (March 2007) promising contacts have been established with a Korea DPR Embassy representative in Kuala Lumpur. This opportunity was used to discuss a possible IAU TAD program for Korea DPR, and the possibility that the Korea DPR wishes to re-join the IAU in the near future. TAD is considering to provide for astronomy text books and proceedings to astronomical institutes in Korea DPR and to support participation of astronomers from the Korea DPR to attend the 8<sup>th</sup> Pacific RIM Conference on Stellar Astrophysics (PRCSA 2008), to be held in Phuket, Thailand, 5-9 May 2008.

*Ed Guinan, Larry Marschall, co-chairs, 29 March 2007*

**9.3 Div. XII/Comm. 46/PG on *World-wide Development of Astronomy* (PG WWDA)**

I recently undertook an astronomical tour to Thailand and Laos, sponsored by IAU Commission 46, as part of the activities of the Program Group for the World-wide Development of Astronomy (PG WWDA).

***Thailand.***

This country has just joined the IAU at the occasion of the past General Assembly (Prague, 2006). It is a strongly developing country, both economically and astronomically. The recent decision by the Thai government to establish the National Astronomical Research Institute of Thailand (NARIT) means that in the coming 5 to 10 years, Thailand can be expected to become a strong regional centre for astronomical research and education. By the end of 2008, a 2.4-m optical telescope should be installed on Doi Inthanon (2550 m), Thailand's highest mountain, near Chiang Mai in the north of the country. This will be the largest optical telescope in Asia when it is completed. In addition, Thailand hopes to train four new Ph.D. students in astronomy at overseas universities each year for the next several years, in order to create a pool of talent to staff the new institute. The new institute in Chiang Mai is directed by Professor Boonrucksar Soonthornthum, who completed his M.Sc. in astronomy in New Zealand in 1980 and who hosted my visit to Chiang Mai.

I visited four universities in Thailand in January 2007 and gave a series of lectures. These were the universities of Chiang Mai, Naresuan (in Phitsanulok), Khon Kaen and Mahidol (in Bangkok). All of these employ astronomers in physics departments, and research interests are in optical stellar astronomy, cosmology and solar physics. Chiang Mai has the strongest involvement in terms of numbers, with several astronomers and a small observatory (Sirindhorn Observatory) which is operated just out of the city. Mahidol University has an active research group in solar physics and cosmic rays, headed by expatriate American, Prof. David Ruffolo.



**Laos.**

I visited the National University of Laos in Vientiane, and had a very cordial reception by the Physics Department there, and my host there was Dr. Khamphouth Phomassone, a geophysicist and Assistant Dean of Science. Two astronomers with M.Sc. degrees from Chiang Mai University in Thailand are employed to teach astronomy to physics students as part of the bachelors' program in physics at NUL.

The university is on a pleasant and spacious campus on the north-east part of the city. At this stage no graduate program in physics or astronomy exists, though one is planned in the next few years. The university would benefit from many more computers (students have limited or no internet access) and a small telescope would do wonders for the teaching of astronomy. Laos is a much less affluent country than Thailand, although the two share very similar languages, culture and ethnicity. But economically they are a long way apart. In spite of that, the biggest asset is, as in many developing countries, the students, and I found a tremendous enthusiasm for astronomy and learning, perhaps just as strong in Laos as in Thailand, if not more so.

For further information, readers can refer to my full report to the IAU to be found at <<http://www2.phys.canterbury.ac.nz/~jhe25/pgwwda/index.html>>. This gives contact information for astronomers in the two countries.

*John B. Hearnshan, chair IAU Div. XII/Comm. 46/PG-WWD.A  
University of Canterbury, New Zealand, 26 February 2007*

**9.4. COSPAR Capacity Building Workshops, co-sponsored by IAU****7<sup>th</sup> Regional Workshop on Planetary Science for Latin America**

23 July–3 August 2007, Montevideo, Uruguay

*Contact:* Gonzalo Tancredi <[cospar2007@fisica.edu.uy](mailto:cospar2007@fisica.edu.uy)>

Further information can be obtained at:

<http://www.astronomia.edu.uy/cospar2007/>

**8<sup>th</sup> Regional Workshop on Space Astrophysics with the Swift, Chandra, and XMM/Newton Missions - A High-Energy Data-processing Workshop for Young Physicists and Astronomers from North Africa and the Middle East**

19 January-1 February 2008, Alexandria, Egypt

*Contact:* Alaa Ibrahim <[alaa@gwu.edu](mailto:alaa@gwu.edu)>

Further information can be obtained at: <http://cais.cu.edu.eg/astro>

## 10. THE IAU AND THE PETER AND PATRICIA GRUBER FOUNDATION

### 12.3 PPGF Cosmology Prize 2007

Information on the annual PPGF Cosmology Prize is available on-line at [http://www.iau.org/PETER\\_AND\\_PATRICIA\\_GRUBER\\_FOUN.98.0.html](http://www.iau.org/PETER_AND_PATRICIA_GRUBER_FOUN.98.0.html). The PPGF Cosmology Prize 2007 will be awarded in September 2007.

### 12.3 PPGF Cosmology Prize 2008

Nomination of candidates for the PPGF Cosmology Prize 2008 can be submitted up to 31 December 2007. Nomination information is available at: <http://www.gruberprizes.org/Nominations/Cosmology.php>.

### 10.3. PPGF Fellowship 2007

Information on the annual PPGF Fellowship for postdocs is available at [http://www.iau.org/PETER\\_AND\\_PATRICIA\\_GRUBER\\_FOUN.98.0.html](http://www.iau.org/PETER_AND_PATRICIA_GRUBER_FOUN.98.0.html). For the PPGF Fellowship 2007, 13 applications have been received. The successful applicant is Dr. Krzysztof Bolejko (Poland), who will spend his fellowship at the Astrophysics Group of the School of Physics, University of Melbourne, Victoria, Australia.

### 10.4. PPGF Fellowship 2008

The deadline for application of the PPGF Fellowship 2008 is 1 March 2008.

## 11. IAU MEMBERSHIP

### 11.1. DECEASED MEMBERS

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

Frank Maine M.O. BATESON, New Zealand, 16 April 2007  
Gheorge Dorin CHIS, Romania, 2003  
Wilbur N. (Chris) CHRISTIANSEN, Australia, 26 April 2007  
Cornelia G. CRISTESCU, Romania, 2004  
Konradin GRAF FERRARI D'OCCHIEPPO, Austria, 18 March 2007  
Tor HAGFORS, Norway/Germany, 17 January 2007  
Edward R. HARRISON, USA, 27 January 2007  
E. Ruth HEDEMAN, USA, 2006  
Franklin C. HOUSE, Ireland, 28 January 2007  
Alan H. JARRETT, South Africa, 28 January 2007  
Roger C. JENNISON, UK, 29 December 2006  
Takeo KOSUGI, Japan, 26 November 2006  
Oleg A. KUZNETSOV, Russian Federation, June 9, 2007  
Pierre LANTOS, France, 1 March 2007  
Leslie T. LITTLE, UK, 17 December 2006  
Virpi S. NIEMELA, Argentina, 18 December 2006  
Donald E. OSTERBROCK, USA, 11 January 2007  
Bohdan PACZYNSKI, USA, 19 April 2007  
Arpad PAL, Romania, 2006  
Eugenia RADU, Romania, 2004  
Mogens RUDKJØBING, Denmark, 28 February 2007  
Michael J. SEATON, UK, 23 May 2007  
Alan H. SHAPLEY, USA, 20 October 2006  
Yurij P. SHITOV, Russian Federation, 20 January 2007  
Alla S. SOCHILINA, Russian Federation, 12 June 2007  
James H. TREXLER, USA, 2006  
James A. VAN ALLEN, USA, 9 August 2006  
George W. WETHERHILL, USA, 19 July 2006

## 12. REPORTS FROM IAU REPRESENTATIVES TO INTERNATIONAL ORGANIZATIONS

### 12.1. Consultative Committee on Time and Frequency (CCTF)

<<http://www.bipm.fr/cc/CCTF/Allowed/16/cctf04-15.pdf>>

Report on the Meeting of the Consultative Committee on Time and Frequency (CCTF) of the Bureau International des Poids et Mesures (BIPM), Sèvres, France, 14-15 September 2006.

The topic “Progress in Frequency Standards” was addressed in a number of presentations by timing laboratories. These presentations discussed progress in both primary and secondary standards and were presented by representatives from Australia (NMIA), Canada (NRC), China Nanjing (NIM), France (LNE-SYRTE), Germany (PTB), Italy (INRIM), Japan (NICT), Korea R (KRISS), Russian Federation (VNIIFTRI), Switzerland (METAS), UK (NPL), and USA (NIST). Many of the laboratories are making progress in developing cold atom fountains. Work is also progressing on optical standards with some reaching a precision of  $10^{-16}$ .

Frequency Standards in TAI were described in a report by G. Petit of the BIPM. Caesium fountains appear to provide an improvement in precision by a factor of two over previous primary Caesium standards. However, significant systematic differences among the fountains exist.

T. Parker (NIST), chair of the Working Group on Primary Frequency Standards, reported that six laboratories currently provide data from primary standards. The Working Group is developing procedures to document existing biases in primary standards and to facilitate comparisons among laboratories. It is planning a one-day workshop in 2007.

F. Riehle (PTB) and P. Gill (NPL), co-chairs of the Working Group on Secondary Representations of the Second, reported that the group had selected four optical frequencies as secondary representations of the second. They will continue to investigate more possibilities, and their findings will be listed on the BIPM web site.

G. Petit of the BIPM reported on the realization of Terrestrial Time, noting that it is realized either by TAI + 32.184s or by specific BIPM realizations that are specified TT(BIPM). TT is considered to be stable at the level of  $1 \times 10^{-15}$ .

F. Arias of the BIPM reported on the activities of the Time and Gravity Section of the BIPM. Approximately 300 clocks are used to form TAI/UTC. Data from seven cold atom fountains and eleven primary standards are also used.

P. Tavella of I.N.R.I.M., chair of the CCTF Working Group on TAI, reported that the main source of uncertainty in the formation of TAI is the error in the time links. She suggested more use of GPS geodetic receivers and noted that there are two sub-groups, one to investigate the use of the GPS all-in-view techniques, and another to investigate time link optimization. J. Levine, (NIST),

chair of the GPS all-in-view sub-group reported that the all-in-view technique, while providing some improvement in link precision, did not have a significant effect on the errors of TAI. D. Matsakis, U. S. Naval Observatory (USNO), provided a brief report of the sub-group on link optimization.

G. Petit of BIPM showed comparisons of time transfer data using geodetic precise point positioning techniques that demonstrated that this technique is capable of sub-nanosecond precision and could be valuable for time links. Revision of the RINEX file format and improved calibrations will be needed to make the technique operational.

R. Beard, Naval Research Laboratory (NRL), Chair of the International Telecommunications Union, Radiocommunication Sector (ITU-R) International Working Party 7A, reported the outcome of the ITU-R meeting on the possible future re-definition of UTC. He noted that there have been 13 responses to the recent request from the Working Party for information on the possible issues with the implementation of the most recent leap second. The Working Party has decided that more information on the topic is required before action can be taken, and they have requested that the BIPM provide their opinion on the topic.

W. Klepczynski, chair of the Working Group on Two-Way Satellite Time Transfer reported that the major issue for the group is paying for the commercial time on the *INTELSAT* communications satellite. There is currently a five-year contract with *INTELSAT* funded principally by NIST and PTB. Future work will investigate carrier phase Two-Way Satellite Time and Frequency Transfer, improving links to the Pacific and ties to QZSS, GAGAN and Galileo positioning systems.

W. Lewandowski, BIPM, presented a report on calibration of GPS receivers. During the period from 2004 to 2006, twenty stations have been calibrated in six campaigns. Ten more stations are scheduled to be calibrated during the remainder of 2006. The uncertainty of each calibration is about  $\pm 3$  nanoseconds. G. Petit, BIPM, reported uncertainties of  $\pm 5$  ns including random and systematic errors.

J. Dow, ESOC/ESA and K. Senior, NRL, reported on the clock products of the International Global Navigation System Service (IGS). The stability of the IGS time scale is  $1 \times 10^{-15}$  at one day. The most significant problem is the error caused by steering to the GPS time scale. Work is proceeding on steering to an ensemble of Hydrogen masers and a new clock RINEX format is being developed.

J. Levine, NIST chair of the Working Group on GNSS time transfer standards, reported that a change in format is required to accommodate systems other than GPS. They are also re-evaluating the requirement for a 13-minute track length.

In other reports G. Petit, BIPM, discussed the status and plans for the Conventions Product Center of the International Earth Rotation and Reference

Systems Service, and P. Tuckey reported on the status of the PHARAO cold atom clock.

F. Arias outlined the work plan for the succeeding years for the Time and Gravity Section. These include more calibration trips for GPS receivers, studying new GPS receivers, improving the accuracy of TAI, moving to all-in-view GPS time comparisons, continuing efforts in GPS carrier phase and TWSIT, and incorporating new primary standards. Long-term plans include developing plans to use optical standards.

Recommendations that were agreed to at the meeting were:

- a. Establishment of a joint CCL (Consultative Committee on Length) CCTF working group on secondary representations of the second.
- b. Recommended list of secondary representations of the second.
- c. Requesting the Working Group on Primary Frequency Standards to evaluate results from new Primary Frequency Standards before they are incorporated in TAI.
- d. The use of GPS carrier phase for time comparison.
- e. Reporting data in formats accommodating positioning systems other than GPS
- f. Establishing a Working

In addition, one “declaration” was adopted formalizing the membership of the Working Group on TAI.

*Dennis D. McCarthy, IAU Representative, Washington DC, 27 September 2006*

## **12.2. Committee on Data for Science & Technology (CODATA)**

<<http://www.codata.org>>

Highlights of the IAU-CODATA interaction in 2006-7 include:

A continuing e-discussion on optimising data management, with cross-fertilisation between astronomy and other disciplines, culminating in a session at the CODATA general Assembly in Beijing in October 2006 on “Astronomical Data Management”, with talks given by Alex Szalay, myself, and others.

My appointment (as IAU representative) to the CODATA Executive Committee, so Astronomy is now well represented in CODATA discussion and decisions.

My appointment (proposed by CODATA) to the ICSU Strategic Committee on Information and Data (SCID). Amongst other things, SCID will be proposing a future direction for FAGS (Federation of Astronomical and Geophysical Services, which includes valuable astronomical services like CDS, IVS, and IERS) and WDC (World Data Centers). This complements my recent appointment to the FAGS Executive Council as the second IAU delegate (the first being Nicole Capitaine), and hopefully will result in an outcome for FAGS

and WDC which deliver good value to astronomy and to our (already high-performing) astronomical data centres. A particular challenge will be to restructure FAGS (and perhaps WDC) in such a way that astronomical data centres such as NED and ADS, who are not currently members of FAGS or WDC, can gain some real value. One way may be to generate cross-fertilisation between astronomical data centres and those in other fields. For example, in astronomy we still face a bottleneck in transferring data from journals to data centres. This difficult challenge is being faced by several disciplines, and we have much to learn from each other. Another potential example is that ICSU may be useful in helping these centres achieve their ambitious goals. But it is early days, and we are only just starting to explore potential ways forward.

CODATA has proposed a new initiative called the “Global Information Commons for Science Initiative” (GICSI). This closely mirrors what we are trying to do in Astronomy in terms of Open Access to Astronomical Data, which will be an essential underpinning to the Virtual Observatory, but is promoting it across all sciences. The prospects here for further cross-fertilisation are excellent, and we can both learn from other fields (particularly the geosciences) and also pass on some of the lessons we have learnt in the VO. I am hoping that some very healthy collaboration will emerge from this. GICSI is already being hotly pursued in the US, and a European GICSI initiative is just taking shape.

A further CODATA initiative is ADMIRE (Advanced Data Methods and Information technologies for Research and Education), which seeks to strengthen linkages between discipline based groups such as the Virtual Observatory and the computer science community involved in data mining, data integration, artificial intelligence, grid computing, etc. This initiative is only now taking form, so has not yet impacted on the VO community, but my hope is to use this to foster interactions between that community and the computer science community.

*Ray Norris, LAU Representative, Sydney, Australia, 27 March 2007*

### **12.3. International Council for Science (ICSU)**

<http://www.icsu.org/index.php> )

Preceded by an informal meeting of the GeoUnions (IAU, International Geographical Union (IGU), International Society for Photogrammetry and Remote Sensing (ISPRS), International Union for Quaternary Research (IUQUA), International Union of Geodesy and Geophysics (IUGG), International Union of Geological Sciences (IUGS), International Union of Soil Sciences (IUSS), and Union Radio Scientifique International (URSI)), 21-22 April in Rome, ICSU had its annual Unions Meeting, 23-24 April 2007, in Rome.

The theme of the meeting was “ICSU and its Unions working together to deliver the ICSU strategy”, hence the choice of main topics covered. All the main unions were represented, and many members of the ICSU Executive

Board participated. The President, Mehta, gave an excellent introductory talk in which he outlined the way ICSU was changing and assured the unions that their concerns had been noted (he listed them correctly) and were being addressed. He ended by saying that he wanted a new relationship with the Unions based on “mutual respect and good two-way communications”.

***Finances***

The increased expenditure is spread over many lines and covers the new Regional Centres and increased staff to carry out the increased programme of the Strategic Plan. The Unions only contribute 8% of the total income.

***Grants.***

ICSU would like to re-introduce grants with a strong focus on “capacity building” and “emerging interdisciplinarity”.

***International Years.***

The *International Polar Year* and the *International Year of Planet Earth* are following similar lines to IYA 2009, but with a much greater emphasis on dedicated science programmes. The *International Year of Biodiversity* is proposed for 2010. The *International Year of Chemistry* is proposed for 2011.

***Regional Offices.***

There are now ICSU Regional Offices in Asia-Pacific (Kuala Lumpur), Africa (Pretoria), and Latin America (Rio de Janeiro), and there will soon be one in the Middle East. All Unions were urged to use these offices, and particularly to inform them of any union activities planned for their regions, since the local organizers of unions’ activities may well be unaware of the existence of the ICSU Regional Offices. It was suggested that each Union should appoint a link person to each Regional Office.

***Conclusion.***

ICSU has set out its strategic priorities and is pursuing them with determination. There are interface problems with Unions to be addressed, but they seem to be understood and there seems to be a willingness to tackle them urgently. Given the strategic priorities it is inevitable that the basic sciences are not in the forefront, but they are an important part of the “knowledge base” on which the key programmes depend, and the importance of “capacity building” in basic science areas like mathematics and physics is explicitly recognised. IAU has a contribution to make to, and can draw benefit from, ICSU.

*Ian F. Corbett, IAU Representative, Abingdon, UK, 24 April 2007*



#### 12.4. International Earth Rotation and Reference Systems Service (IERS)

<<http://www.iers.org/>>

The 43<sup>rd</sup> IERS Directing Board (DB) meeting was held in San Francisco during the time of the fall AGU (American Geophysical Union) meeting. The DB meeting was mainly devoted to reference systems issues, both terrestrial and celestial. Regarding the terrestrial system, the new realization (October 2006) of the International Terrestrial Reference Frame, called ITRF 2005, was presented by the Head of the ITRF IERS Product Center and discussed. The representatives of the various techniques contributing to the IERS work described how they were using ITRF 2005 and compared its properties with respect to the previous realization of the ITRF, called ITRF 2000. A new process for adopting the future ITRF was discussed. There was a general agreement by the IERS DB that a better defined evaluation process was mandatory, including an IERS workshop before releasing the final solution. Regarding the celestial system, the purpose and membership of the IAU Working Group on the *Second realization of International Celestial Reference Frame* (ICRF), that was established at the XXVI<sup>th</sup> IAU General Assembly in Prague, were presented. The proposed tasks of a corresponding IERS/IVS working group were discussed as well as the coordination between those two working groups in order to best realize the new ICRF. The IERS DB approved that IERS / IVS working group to be set up according the IERS rules. It was suggested that IAG should be involved in the approval of the next ICRF. Regarding the Earth Orientation Parameters, the updated IERS solution, denoted C04, that is consistent with ITRF 2005, was presented and discussed, as well as the recent improvements by the Rapid Service and the IERS plans for developing new processes in the combination of the results of the various techniques. The current status of the IERS Conventions updates was reported. Plans for scientific meetings for discussing those issues were considered. The IERS workshop on the Global Geophysical Fluids Center (GGFC) that was held in San Francisco on December 5 and 6, 2006, was reviewed. The IERS DB agreed that the GGFC chair will draft a plan for improving the GGFC data and in particular products from the Special Bureau for Loading to get more acceptance by the community. A combined presentation about the international GGOS and GEO activities, organization and work plans, was made. It was reported that the 2007-2009 GEO work plan includes task AR-07-03 "Global Geodetic Reference Frames", which is especially relevant to the IERS activities. The main activities, resolutions and results of the XXVI<sup>th</sup> IAU General Assembly, Prague, Czech Republic, 14-25 August 2006, and the plans for re-organization of FAGS were summarized. Plans for the forthcoming IUGG and IAG meetings were mentioned.

*Nicole Capitaine, IAU Representative, Paris, 18 January 2007*

### 12.5. International Geosphere-Biosphere Programme (IGBP)

<<http://www.igbp.kva.se/>>

The IGBP is a body, set up by ICSU 20 years ago, in order to promote and coordinate international, interdisciplinary research bearing on the environment and global change. (For more information, see <[www.igbp.net](http://www.igbp.net)>). Since late 2006, I have been in contact with Dr. Erik Huss, IGBP Science Editor. The IGBP publishes a quarterly newsletter, and I have agreed to write a general piece on astronomical topics related to global change. For the last issue of the IGBP NewsLetter, see:

<[http://www.igbp.net/documents/recources/NL\\_67.pdf](http://www.igbp.net/documents/recources/NL_67.pdf)>

*Richard G. Strom, IAU representative, Dwingeloo, the Netherlands, 27 March 2007*

### 12.6. International Heliophysical Year 2007 (IHY 2007)

<<http://ihy2007.org/>>

The *International Heliophysical Year* is an international program of scientific research and collaboration to understand the external drivers of the space environment and climate. It has been planned to begin this year, 2007, the 50<sup>th</sup> anniversary of the *International Geophysical Year*. The IHY involves utilizing the existing assets from space and ground as a distributed Great Observatory and the deployment of new instrumentation, new observations from the ground and in space, and public and student education. The IHY officially was launched on 19-20 February 2007 with a “kick-off” ceremony and workshop in Vienna (see [http://ihy2007.org/newsroom/opening\\_ceremony.shtml](http://ihy2007.org/newsroom/opening_ceremony.shtml)).

IHY science is organized through science working groups that coordinate analysis and modeling efforts, and are responsible for planning IHY meetings, symposia and workshops through three major thrusts: scientific observing campaigns known as the Coordinated Investigation Programs (CIPs), data analysis workshops, scientific meetings and publications, and public outreach. There are currently about 65 CIPs that have been proposed. The IHY Secretariat in Washington, D.C. provides international coordination and maintains the IHY website at <<http://www.ihy2007.org/>>. IHY news updates and the monthly IHY newsletter are available at:

<<http://ihy2007.org/newsroom/newsroom.shtml>>.

Within the IAU, coordination of IHY activities is within the IAU Division II on *Sun and Heliosphere*, with Donald B. Melrose, President. David F. Webb is the IAU representative to the IHY and Nat Gopalswamy is the chair of the IHY subgroup within the IAU Working Group for International Collaboration on Space Weather (ICSW). Hans Haubold leads the IHY effort for the United Nations under the auspices of COPUOS and the UN Basic Space Science (UNBSS) program.

Internationally IHY is organized into eight regions: North America, Latin America, Africa, Western Europe, Eastern Europe/Asia, Balkan/Black Sea, Western Asia, and Asia-Pacific. Each region has a regional planning committee and coordinates regional IHY activities. In addition, more than 65 countries

have national IHY committees or activities, including many developing nations. Recent national and regional activities can be found at the IHY newsroom website.

A key aspect of the IHY program is the cooperative initiative with the UNBSS program, through which the IHY is assisting in deploying arrays of small instruments to make global measurements. The program provides meaningful participation for developing nations and facilitates contacts between the instrument providers and university groups from potential host nations. The UNBSS program has a 3-year work plan through 2008, approved by COPUOS and the UN General Assembly, that is providing the IHY links to developing nations. The program has already facilitated scientist contacts in almost 200 countries.

Currently 15 instrument concepts have been developed and many of these are being deployed. These include a network of radio telescopes to observe CME-related radio bursts, chains of magnetometer arrays to observe magnetic activity, and hundreds of GPS receivers to observe the ionosphere. These concepts have been presented and discussed at the annual IHY-UN UNBSS workshops in November 2005 in the United Arab Emirates and in November 2006 in Bangalore, India <<http://www.iiap.res.in/ihy/index.html>>. The third workshop is planned for Tokyo, Japan from 18-22 June 2007 <[http://solarwww.mtk.nao.ac.jp/UNBSS\\_Tokyo07/](http://solarwww.mtk.nao.ac.jp/UNBSS_Tokyo07/)>. Two more workshops are planned for 2008 and 2009; the IAU is a cosponsor of all of these meetings.

Many scientific meetings and workshops related to IHY are planned for this year. These include:

- May 7-10, 2007, IHY Workshop on Super Active Regions of Solar Cycle 23 and their Geo-Space Impact, Nainital, India;
- May 14-18, 2007, International Heliophysical Year: From the solar source to the interstellar boundary, Bad Honnef, Germany;
- May 21-25, 2007, Special Sessions at the AGU Joint Assembly, Acapulco, Mexico;
- June 18-22, 2007, IHY: 2nd European General Assembly, Torino, Italy;
- October 4-10, 2007, the World Space Week will be celebrated worldwide with the Sputnik 50<sup>th</sup> Anniversary Celebration and Symposium, Washington DC, USA;
- November 5-10, 2007, IHY2007: New insights into solar-terrestrial physics Symposium and Sputnik 50<sup>th</sup> Anniversary Celebration, Zvenigorod, Moscow, Russian Federation;
- November 11-16, 2007, Second IHY SCINDA Workshop and IHY-Africa Space Weather Science and Education Workshop, Addis Ababa, Ethiopia.

IAU Symposium No. 257, involving IHY science topics has been approved for next year. It is called *Universal Heliophysical Processes* and is planned for Sept. 5-9,

2008 in Ioannina, Greece. The SOC co-chairs are Nat Gopalswamy, David F. Webb and Kasunari Shibata, and the LOC chair is Alexander Nindos.

The IHY Gold History initiative has the goals of identifying and recognizing participants in the first International Geophysical Year (IGY), preserving memoirs, etc., of historical significance for the IGY, making them available to historians and researchers, spreading awareness of the history of geophysics, and planning special events. One of these will be the "IGY+50" Celebration at the IUGG meeting in Perugia, Italy, July 2-13, 2007.

IHY Outreach activities include spreading knowledge of space science and exploration to the public and inspiring the next generation of space scientists, and these are led by Cristina Rabello-Soares. There are now outreach coordinators in 18 countries. A resource CD is being developed and IHY-related materials are being translated into various languages. IHY supports *Yuri's Night World Space Party*, held each year on April 12 to celebrate the Anniversary of Human Space Flight. June 10, 2007 has been declared an "Open Doors" Day at many observatories and musea honoring the IHY. This is a special activity coordinated by IHY-EUROPE where institutions, observatories, and educational sites open their doors to the public and host special presentations on the heliophysical environment.

IHY Outreach also includes the IHY Schools program led by David F. Webb. Presently, six major IHY schools are being planned for 2007-2009. The first will be in Boulder, CO, USA, 30 July-7 August 2007 to serve North America and is affiliated with the NASA *Living With a Star* program. The second school will be held 10-22 December 2007 at the Kodaikanal Observatory and is organized by the Indian Institute of Astrophysics (IIA), Bangalore. Others will be held in 2008: one at the International Center for Theoretical Physics in Trieste, Italy in September for the European/African region; the school for Latin America will be organized by CRAAM in Sao Paulo, Brazil in November; and one for the Asia-Pacific region is planned to be held in China Nanjing. The last school will be held in Malaysia in March 2009 with the theme *Living with the Sun*.

The purpose of the schools is to educate students about universal processes and the objectives of the IHY science themes. We are developing a general curriculum as a model for the IHY schools and will support related schools in other countries. We also hope to link the IAU ISYA (International School for Young Astronomers) and IHY programs, at least for 2007-08, and to collaborate with COSPAR Capacity Building Workshops.

*David F. Webb, IAU Representative, Hanscom, MA, USA, 24 May 2007*

#### **12.7. The International Space Environment Service (ISES)**

<<http://www.ises-spaceweather.org/>>

The International Space Environment Service, in its modern form, has its origins in the International Geophysical Year, largely because of the efforts

of Alan Shapley. Thus the death of Dr Shapley on October 20, 2006 at age 87 marks the passing of a person who has played a key role in the development of ISES and space weather forecasting. Dr Shapley served as Vice-Chairman of the U.S. Committee for the International Geophysical Year (IGY) and was a very active member of the International Special Committee for the IGY as coordinator for the World Days Program and the International Geophysical Calendar. He was also instrumental in setting up the system of Regional Warning Centers and was for many years the director of the International Ursigram and World Days Service (IUWDS), the fore-runner of ISES. David Boteler, Helen Coffey, and Joe Kunches had the privilege of interviewing Dr Shapley a few years ago and he was very helpful in filling in the history of IUWDS.

When Dr. Shapley retired from IUWDS in 1973 the internet had not yet been invented, forecasting magnetic disturbances was still seen as a waste of time by many scientists, and the term “space weather” had not been invented. Thus Dr. Shapley’s words, written in July 1973 in the Introduction to the third edition of the URSIgram code book, show what a keen vision he had of the future:

*“I am convinced that still more huge steps are before us. At some time, whether before the year 2000 or after, there will be a full-flowered “Weather Service for the Space Environment” in several countries, tied together by a world organisation of space environment services. We will not be struggling along on an ad hoc basis as now, we will be recognized as a needed, bona fide activity both for practical space activities, manned and unmanned, and for increasing complex scientific experiments and explorations.”*

Extensive space weather services are now provided by twelve Regional and Associate Warning Centres around the world, located in China (Beijing), USA (Boulder), Russian Federation (Moscow), India (New Delhi), Canada (Ottawa), Czech Republic (Prague), Japan (Tokyo), Australia (Sydney), Sweden (Lund), Belgium (Brussels), Poland (Warsaw) and France (Toulouse) and a collaborative expert centre at the European Space Agency. The internet has greatly improved the flow of space weather data into the forecast centres and the delivery of space weather forecasts to users. All this is coordinated by the organisation founded by Shapley, which changed its name, in 1996, to the International Space Environment Service.

ISES, under the framework of the International Heliophysical Year, is leading a coordinated investigation program: “Space Weather in the Solar System (SWISS)”. This aims to provide information on current, past and future (forecasted) space weather conditions in the Solar system, useful for planned and current space missions and to provide boundary conditions for more detailed models and case studies. It will also provide a common frame for numerical models of solar wind-planetary magnetospheres interaction during quiet and disturbed times. Further details of this joint ISES/IHY program are available at <<http://ihy2007.org.uk/CIPs.shtm>>.

*Helen E. Coffey, IAU Representative, Boulder, CO, USA, 19 April 2007*

### 12.8. Scientific Committee on Frequency Allocations for Radio Astronomy and Space Science (IUCAF)

<<http://www.iucaf.org/>>

IUCAF was formed in 1960 by its sponsoring Scientific Unions, the IAU, URSI and COSPAR. It represents the interests of the worldwide radio astronomy community in matters of spectrum management. Its brief is to study and coordinate the requirements of radio frequency allocations for passive (i.e., non-emitting) radio sciences, such as radio astronomy, in order to make these requirements known to the national and international bodies that allocate frequencies. IUCAF operates as an inter-disciplinary committee under the auspices of ICSU, the International Council for Science, and it is a Sector Member of the International Telecommunication Union (ITU).

Following the 2006 IAU General Assembly, the composition of membership for IUCAF was as follows: IAU: H. Chung (Korea), R.J. Cohen († 11/2006, UK), D.T. Emerson (USA), M. Ohishi (Japan), K.F. Tapping (Canada); URSI: S. Reising (USA), U. Shankar (India), W. Swartz (USA), A. Tzioumis (Australia), W. van Driel (Chair, France); COSPAR: J. Romney (USA); members at large: W.A. Baan (Netherlands), K. Ruf (Germany).

Current priorities, which will certainly keep us busy through the next years, include studies on potential interference into radio astronomy bands from satellite downlinks in nearby bands, the coordination of the operation in shared bands of radio observatories and powerful transmissions from downward-looking satellite radars, the possible detrimental effects of ultra-wide band transmissions, high-tension power line communications and Solar Power Satellites on the Radio Astronomy Service, and studies on the operational conditions that will allow the successful operation of future giant radio telescopes.

During the year 2006, IUCAF members represented the interests of radio astronomers at all relevant meetings of the ITU, where the work was focused largely on the preparations for WRC-07, the ITU World Radiocommunication Conference to be held in November 2007. Of particular concern to IUCAF is the protection of the 1400-1427 MHz band, which contains the heavily observed interstellar 21-cm neutral hydrogen line, from unwanted emissions from satellite feeder links in nearby bands.

IUCAF maintains regular contact with the supporting Unions and with ICSU, who play a strong and much appreciated supporting role for IUCAF. Among the IAU activities, of particular interest to IUCAF are the Working Group on Radio Frequency Interference Mitigation (technical methods to eliminate unwanted emissions from radio astronomy data), and Commission 50 on the Protection of Existing and Potential Observatory Sites. From IUCAF, Jim Cohen was Chair of Commission 50 in 2000-2003 and the present IUCAF Chair, Wim van Driel, joined its Organizing Committee in 2006.

The link between the IAU and IUCAF is especially important in view of the possibility, actually under study at the ITU, of including frequency allocations in the infrared and optical wavelength domain in the ITU-R Radio Regulations, which form the framework for international spectrum management.

In 2006, IUCAF worked towards the organization of future international meetings: a Symposium on “Keeping Passive Radio Observations Free of Interference” at the 2008 COSPAR Scientific Assembly in Montreal, and a 2009 Summer School on Spectrum Management for Passive Radio Sciences, planned to be held in Korea.

*Wim van Driel, IUCAF chair, IAU Representative, Meudon, France, 23 May 2007*

### **12.9 Scientific Committee on Solar-Terrestrial Physics (SCOSTEP)**

<<http://www.ngdc.noaa.gov/stp/SCOSTEP/scostep.html>>

Background: The Climate and Weather of the Sun-Earth System (CAWSES) is an international program sponsored by SCOSTEP established with an aim of significantly enhancing our understanding of how the Sun affects the space environment and the resulting impacts on life and society. This is SCOSTEP's comprehensive international Solar Terrestrial Physics program for 2004 – 2008. CAWSES comprises four scientific “themes” represented by four Working Groups (WGs): WG-1: Solar Influence on Climate, WG-2: Space Weather: Science & Applications, WG-3: Atmospheric Coupling Processes, and WG-4: Space Climatology. CAWSES program is relevant to IAU Commissions 10, 12, and 49.

The following are the key scientific questions the CAWSES community is striving to address:

- a. How can we link the end-to-end processes that produce geoeffective coronal mass ejections, facilitate their transfer through the heliosphere, their interaction with the magnetosphere, and the production of geomagnetic storms that affect Earth's atmosphere?
- b. What is the evidence for long-term variations of solar luminosity related to solar activity and resultant impacts on global change, compared with other climate change mechanisms?
- c. To what extent are the magnetosphere and ionosphere-thermosphere systems modulated by solar activity on long time scales, including the solar cycle, and how do variations driven by different processes interact with dynamical and radiative forcing processes from below?
- d. How can we reconcile apparent responses of the middle and lower atmosphere to solar activity, identify the physical mechanisms, in comparison with anthropogenic influences, and estimate future ozone changes?

CAWSES activities relevant to IAU: CAWSES scientific activities include scientific campaigns involving space and ground based instruments, focused

workshops on the four themes, and comprehensive workshops encompassing all four themes. CAWSES is also involved in outreach activities.

CAWSES International Workshop on Space Weather Modeling (CSWM). Advancement in our understanding of the space environment is in great demand now as the dynamic activities of the Sun, solar wind, magnetosphere and ionosphere can influence modern technology systems and endanger human life and health. The numerical simulation and modeling driven by integrated observations are powerful methods for understanding the complex Sun-Earth system, and they are an important means for predicting space weather. To address this issue, a workshop on Space Weather Modeling was organized at the Earth Simulator Center in Yokohama, Japan during November 14-17, 2006. This workshop provided a forum for review of the recent progress and the scientific challenges in space weather modeling research. The presentations included key observations, physical processes involved and current status of modeling efforts. Initial results from the Solar-B space mission (now known as Hinode) were also presented. N. Gopalswamy (SCOSTEP Bureau Member representing IAU) served on the Scientific Organizing Committee and presented a scientific paper on Coronal Mass Ejections and Adverse Space Weather.

CAWSES workshop on Comparative Study of Solar Flares and Magnetospheric Substorms. The recent CAWSES workshop on Comparative Study of Solar Flares and Magnetospheric Substorms (March 18-20, 2007 in Fairbanks, USA) focused on the following topics:

- a. Comparison of physical processes for solar flares and magnetospheric substorms;
- b. Role of reconnection in flares and coronal mass ejections on the one hand, and substorms on the other;
- c. Fundamental processes in solar, interplanetary and magnetospheric storms; and
- d. Extreme space weather events that occurred in recent years.

Future Activities: The SCOSTEP International CAWSES Symposium will be held in Kyoto, Japan during October 23 – 27, 2007 to review the progress made in achieving the objectives of the CAWSES program so that future activities can be appropriately planned. (The CAWSES program will officially end in 2008. Efforts are underway to extend the CAWSES program for another 4 year period. A SCOSTEP subcommittee has taken charge of defining the new program.) The symposium is hosted by Kyoto University. N. Gopalswamy will serve on the Scientific Program Committee and present an invited talk on coronal mass ejections.

*Natchimuthuk Gopalswamy, IAU Representative, Greenbelt, MD, USA, 30 March 2007*



### 12.10. United Nations Committee on the Peaceful Uses of Outer Space (UN-COPUOS)

<<http://www.unoosa.org/oosa/en/COPUOS/copuos.html>>

Statement of the IAU to the 44<sup>th</sup> Session of the United Nations COPUOS Scientific and Technical Subcommittee, Vienna, 13 February 2007.

Madam Chairperson, distinguished delegates and representatives,

The *International Astronomical Union* welcomes the continuing progress in the implementation of the recommendations of UNISPACE III. Several of these are of great importance for the future of astronomy, and several require the support of the international scientific community. The *IAU*, representing the world's community of astronomers, is pleased to contribute to these issues together with interested delegations and other partners. A few of these issues will briefly be mentioned here.

#### ***On Near Earth Objects, and the IAU.***

The issue of forecasting and potentially mitigating future impacts of asteroids on Earth has been before this Subcommittee repeatedly in the past. In recent years, there has been an increasing awareness of the hazards posed by Near-Earth Objects (NEO) to the Earth and its inhabitants.

NEOs can be asteroids or comets, whose variable orbits can bring them into the Earth's neighbourhood. Planetary perturbations cause small changes to orbits of asteroids and comets. If an initial NEO orbit is well determined, its future behaviour can be calculated and a future close encounter or collision predicted. Therefore, the initial goal of the *Spaceguard* project, defined in 1994 and started in 1998, was to discover and obtain orbits of 90% of all NEOs larger than 1 km in diameter. Excellent progress has been made towards achieving this goal, with the current level of completeness being close to 70%.

While the *IAU* is not directly involved in NEO search programs, individual members of the *IAU* are, of course. To be of lasting value, the orbital data for all discoveries have to be verified, confirmed and catalogued. In this aspect the *IAU* plays a vital role, notably via its *Minor Planet Center (MPC)* at the Harvard-Smithsonian Center for Astrophysics (MA, USA). The *MPC* acts as a gateway of observations relevant to the positions and motions of all small bodies in the solar system, including NEOs, making these observations public and performing identifications and orbital computations.

Naturally, NEOs are far easier to detect when close to the Earth. But then they appear to move very fast against the background sky, and, unless additional observations are obtained very quickly, the NEO may easily be lost. In such an event, the *MPC* may become pro-active and solicit observations from known observers, or may release a preliminary orbit, so that other observers can conduct a search for it. Sometimes a NEO is found also in archival records. At the completion of this process, the object and its orbit are then archived by the *MPC*, and the orbit is improved when new observations emerge. Recently, attention has been focused on the need to monitor even smaller NEOs, down

to a few hundred metres in diameter, whose impacts may have serious consequences on a regional scale. New large sky surveys are soon coming on line in the USA, such as project *Pan-STARRS*, and as a result the burden on the *IAU MPC* is undergoing a dramatic further increase. A recently signed, renewed contract between the *IAU* and the Harvard-Smithsonian Center for Astrophysics on the running of the *MPC* gives good hope of coping with this new situation.

Recently, the *IAU* has been leading a project funded by the *International Council for Science (ICSU)*, called “Comet/Asteroid Impacts and Human Society”. An international, multi-disciplinary workshop was held in December 2004, and the proceedings of this event have recently been published by Springer Verlag. In parallel with this publication, which provides a compilation of reports on the various scientific issues involved, work is proceeding on a white paper, targeted at political decision makers, that summarizes the current knowledge and makes recommendations on possible actions in relation to comet/asteroid impacts.

Near Earth Objects will be discussed further under item 9 of the agenda of this Subcommittee session.

***On Education and Capacity Building, and the IAU.***

Education and capacity building have high priority for the *IAU* and we support the work of Action Team 17, led by Japan, with enthusiasm. The *IAU* is pleased to continue its co-sponsoring of the series of successful Capacity Building Workshops in Basic Space Science organized by *COSPAR*, in addition to its own range of educational activities.

***On the International Heliophysical Year-2007 (IHY-2007), and the IAU.***

The *International Heliophysical Year (IHY)* is an international program of scientific research and collaboration to understand the external drivers of the space environment and climate, organized for 2007, the 50<sup>th</sup> anniversary of the International Geophysical Year. The *IHY* is utilizing the existing assets from space and ground as a distributed Great Observatory, and is utilizing the deployment of new instrumentation, new observations from the ground and in space, and public education. The “kick-off” ceremony will be held here in Vienna, February 19-20, 2007 (see item 11 of the agenda of this Subcommittee session).

*IHY* science is organized through science working groups, which are coordinating analysis and modelling efforts and are responsible for planning *IHY* meetings, symposia and workshops through three major thrusts: (a) scientific observing campaigns known as the Coordinated Investigation Programs (CIPs); (b) data analysis workshops, scientific meetings and publications; and (c) public outreach. Currently some 50 CIPs have been proposed.

In 2006 much progress has been made in planning for *IHY* activities. Internationally, *IHY* is organized into eight regions: North America, Latin

America, Africa, Western Europe, Eastern Europe/Asia, Balkan/Black Sea, Western Asia, and Asia-Pacific. Each region has its own regional planning committee and coordinates regional IHY activities. More than 65 countries now have national IHY committees or activities.

Prof. Hans J. Haubold leads the IHY effort for the *United Nations* under the auspices of *UN-COPUOS* and the *UN Basic Space Science program (UN-BSS)*. A key aspect of the IHY program is this cooperative initiative with this *UN-BSS* program, through which the IHY assists in deploying arrays of small instruments to make global measurements. The program provides meaningful participation for developing nations and facilitates contacts between the instrument providers and university groups from potential host nations. The *UN-BSS* program has a 3-year work plan through 2008, approved by *UN-COPUOS* and the *UN General Assembly*, which is providing the IHY links to developing nations. The program has already facilitated over 2000 scientist contacts in 200 countries. Eleven instrument concepts are being developed and have been discussed at IHY *UN-BSS* workshops in November 2005 in the United Arab Emirates and 2006 in Bangalore, India. The third is planned for Japan late in 2007 and two more in 2008 and 2009. The *LAU* co-sponsors these meetings.

Coordination of IHY activities within the *LAU* is under the IAU Division II on Solar and Heliosphere Physics, with Prof. Donald B. Melrose from Australia as its current President. Prof. David F. Webb is the IAU representative to the IHY, and Prof. Natchimuthuk Gopalswamy is the chair of IHY activities within the IAU Working Group for International Collaboration on Space Weather (ICSW).

The IHY Gold History initiative has the goals of identifying and recognizing participants in the first IGY, in 1957, preserving memoirs, etc., of historical significance for the IGY, and making them available to historians and researchers, etc. IHY Outreach activities involve spreading knowledge of space science and exploration to the public and inspiring the next generation of space scientists. There are now such outreach coordinators in 18 countries. Outreach activities include education involving solar eclipses in 2007-09, and are coordinated with the *LAU* through the Working Group on Eclipses in IAU Division II. IHY Outreach also includes the IHY Schools program led by Dr. David F. Webb, whose purpose is to educate students about universal processes and the objectives of the IHY science themes. Major schools are planned in 2007 in North America (USA), Europe/Africa, Latin America (Brazil), and Asia-Pacific (India). Other schools with IHY themes are being planned, some in relations with the IAU Program Group for International School for Young Astronomers (IAU PG-ISYA) in 2007 and 2008.

***On the International Year of Astronomy-2009 (IYA 2009), and the IAU.***

At the IAU XXV General Assembly in Sydney, Australia, July 2003, the *LAU* voted unanimously in favour of a resolution asking the *United Nations* to declare the year 2009 as the *International Year of Astronomy*. This particular year in

recognition of the Italian astronomer, physicist and philosopher Galileo Galilei (1564-1642), who observed in 1609 the heavens for the first time with an optical telescope (invented by a Dutch physicist the year before), and discovered in that way craters on the Moon and moons around Jupiter, dramatically revising mankind's understanding of the solar system. But, of course, astronomy is the oldest science of mankind, as far as known in the past 6000 years.

The formal initiative in this respect started at *UNESCO* in 2004, by the Permanent Representative of Italy, Ambassador Francesco Caruso. As such, a project of resolution was presented by Italy to the 33<sup>rd</sup> *UNESCO General Conference*, in October 2005, with co-support of Brazil, France, Japan, UK, Northern Ireland and Germany. The approved text -Resolution 33 C/67- established that *UNESCO* recommended to the *General Assembly of the United Nations* the proclamation of 2009 as the International Year of Astronomy.

The *IAU* sincerely hopes to promote that, following *UNESCO*, the *UN* will proclaim the IYA 2009 during the *UN General Assembly* in 2007. In anticipation of the desired proclamation by the *UN*, the *IAU* will continue to coordinate this important event through the *IAU EC Working Group on International Year of Astronomy 2009*, with assistance of the *IAU Working Group on Communication with the Public*, and in close consultation with educators and historians within and outside the *IAU*.

The *IAU* is proud to be the leading organization for IYA 2009 and recently has launched its web site <<http://www.astronomy2009.org/>> on the subject. The vast majority of IYA 2009 activities will take place on several levels: locally, regionally and nationally. Numerous countries have already formed so-called National Nodes to prepare activities for 2009.

The *IAU Working Group IYA 2009* is setting up IYA meetings in March 2007 in Garching, Germany

(see: <[http://www.communicatingastronomy.org/iya\\_eso](http://www.communicatingastronomy.org/iya_eso)>),

as well as in October in Athens, Greece

(see: <<http://www.communicatingastronomy.org/cap2007/>>),

and is presently seeking funding for and setting up an IYA 2009 secretariat in München. The WG will maintain close coordination with the large national and international organizations such as *ICSU*, the *American Astronomical Society (AAS)*, *NASA*, the UK *Particle Physics and Astronomy Research Council (PPARC)*, the *Royal Astronomical Society (RAS)*, the *European Space Agency (ESA)*, the *European Southern Observatory (ESO)*, etc., as well as with numerous smaller national astronomical societies, organizations and agencies.

The *IAU* is seeking further support from *ICSU* and its union members in this respect, as well as from national astronomical societies. The *IAU* hopes and believes that by declaring 2009 the *International Year of Astronomy*, universities, schools, musea, observatories, societies, and others will be encouraged to increase their efforts to reach out to the public, especially young people, and to enthuse them about astronomy in particular, and about science in general.

In the year 2009 itself, the opening ceremony of the IYA 2009 will be in Paris in January, the closing ceremony in Italy in December, and in-between activities will be organized in all countries around the world during the whole year 2009. Notably, IYA 2009 activities will be highlighted during the *IAU XXVII<sup>th</sup> General Assembly* in Rio de Janeiro, Brazil, 3-14 August 2009.

The IYA 2009 will be a global celebration of astronomy and its contributions to society and culture, stimulating worldwide interest not only in astronomy, but in science in general, with a particular slant towards young people. IYA 2009 will mark the monumental leap forward that followed Galileo Galilei's first use of the telescope for astronomical observations in 1609, and portray astronomy as a peaceful global scientific endeavour, that unites astronomers around the world in an international, multicultural family of scientists, working together to find answers to some of the most fundamental questions that mankind has ever asked itself. A network of hundreds if not thousands of astronomical organizations, nationally and internationally, will be one of the heritages of IYA 2009 that will last far beyond the year 2009.

The IYA 2009 is, first and foremost, an activity for the citizens of Planet Earth. It aims to convey the excitement of personal discovery, the pleasure of sharing fundamental knowledge about the Universe and our place in it, and the value of the scientific culture.

The IYA 2009 has the potential to become one of the largest and most successful global astronomy outreach events in history, and will hopefully leave an imprint of inspiration and awe of our origin in the universe on millions of young minds.

***Conclusion.***

The *IAU* is gratified to acknowledge the progress which is being made on several issues that are high on the priority list of astronomers worldwide, and emphasizes its concern and efforts in the fields expressed above, both for the sake of our science and for that of the world in which our descendants will live. This Subcommittee, and other international bodies such as the *Organisation for Economic Co-operation and Development (OECD)*, the *International Telecommunication Union (ITU)*, and *ICSU*, are contributing to this progress within their respective fields. It will help us all, if Delegates would call the attention of their Governments to this spectrum of parallel activities, and to the value of establishing synergy between them.

Madam Chairperson, I thank you for the opportunity to share these views with you and the distinguished delegates and representatives.

*Karel A. van der Hucht, IAU Representative, Utrecht, the Netherlands, 11 February 2007*

### 13. THE INTERNATIONAL YEAR OF ASTRONOMY 2009

#### ***Vision.***

The vision of the *International Year of Astronomy 2009* (IYA 2009) is to help the citizens of the world rediscover their place in the Universe through the day- and night time sky, and thereby engage a personal sense of wonder and discovery. All humans should realize the impact of astronomy and basic sciences on our daily lives, and understand better how scientific knowledge can contribute to a more equitable and peaceful society.

#### ***Mission.***

The IYA 2009 will be a global celebration of astronomy and its contributions to society and culture, highlighted by the 400<sup>th</sup> anniversary of the first use of an astronomical telescope by Galileo Galilei. The aim of the Year is to stimulate worldwide interest, especially among young people, in astronomy and science under the central theme “*The Universe, Yours to Discover*”. IYA 2009 events and activities will promote a greater appreciation of the inspirational aspects of astronomy that embody an invaluable shared resource for all nations.

#### ***Goals and Objectives.***

1. Increase scientific awareness.
2. Promote widespread access to new knowledge and observing experiences.
3. Empower astronomical communities in developing countries.
4. Support and improve formal and informal science education.
5. Provide a modern image of science and scientists.
6. Facilitate new networks and strengthen existing ones.
7. Improve the gender-balanced representation of scientists at all levels and promote greater involvement by underrepresented minorities in scientific and engineering careers.

The IYA 2009 activities will take place locally, regionally and nationally. National Nodes in each country have been formed to prepare activities for 2009. These Nodes establish collaborations between professional and amateur astronomers, science centers and science communicators. At the global level the IAU will play a leading role as a catalyst and coordinator. While the IAU will organize a small number of truly global or international events such as the Opening and Closing Events, the main activities will take place at the national level and will be coordinated by the IYA 2009 National Nodes in close contact with the IAU EC Working Group on the *International Year of Astronomy 2009*.

For detailed information on current actions and on-going planning of the IAU EC Working Group on IYA 2009, see: <<http://www.astronomy2009.org/>>.

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**INTERNATIONAL ASTRONOMICAL UNION**  
**UNION ASTRONOMIQUE INTERNATIONALE**

The mission of the International Astronomical Union (IAU), founded in 1919, is to promote and safeguard the science of astronomy in all its aspects through international cooperation. The IAU, through its scientific bodies-- 12 Divisions, 40 Commissions and some 76 Working and Program Groups, which cover the whole spectrum of astronomy-- wishes to promote and coordinate international cooperation in astronomy. As of September 2006, the IAU has over 9700 individual members in 87 countries. Of those, 64 countries are National Member. The IAU is member of the International Council for Science (ICSU).

The organization of scientific meetings is the IAU's key activity. Every year the IAU sponsors nine international Symposia. The *IAU Symposium Proceedings* series is the flagship of the IAU publications. Every three years the IAU has its General Assembly, during which six of the IAU Symposia of that year are incorporated in the scientific programme of that GA. A GA 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 these proceedings are published by Cambridge University Press.

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

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

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**Cover picture legend: Spiral galaxy M106 (NGC 4258). In visible (shown in gold) and infrared (red) light, two prominent arms emanate from the bright nucleus and spiral outward. But in radio (purple) and Chandra's X-ray (blue) images, two additional spiral arms are seen. All together appear as a cosmic pinwheel. Chandra Photo Album NGC 4258, 10 April 2007. See also: ESA News 10 April 2007 and the article by Y. Yang, B. Li, A.S. Wilson & C.S. Reynolds, C.S. 2007, ApJ 660, 1106. Credit: Optical: Pal. Obs. DSS; IR: NASA Spitzer; Radio: VLA; X-ray: NASA Chandra, ESA XMM-Newton.**

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