EUROPEAN ASTRONOMICAL SOCIETY

NEWSLETTER

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Contents

EDITORIAL

I must confess it is difficult to write the last editorial after been to this service for seven years. I have mixed feelings and I will not forget this period. I thank all those who supported the Newsletter with their contribution and the EAS council members for their help those years. My special thanks are addressed to Jean-Paul Zahn the previous and Harvey Butcher the current EAS presidents for their cooperation and support.

My successor Vassilis Charmandaris an old EAS member, is an accomplished and experienced young colleague with a lot of enthusiasm for the role of EAS in Europe.

Before anything else I like to say about the JENAM in Granada, that it was a rare experience from many points of view, such as the scientific organization, the plenary sessions, the excellent location of the conference centre, the social program and the unforgettable hospitality.

Our president is expressing to the community his skepticism on the slow speed development of EAS, which is mainly due to the lack of funding. I share his views and I wish we could do something about it.

Leonid Gurvits, is skeptical about the European astronomical unification and the role of EAS on this. It is the same problem from a different point of view. We have two articles of the IAU activities on education and the status of women in Astronomy, both very important issues with social impact as well.

Françoise Combes has succeeded to be the first woman, who was admitted to the French Academy of Sciences in the section "Sciences de l'Univers". We congratulate her and wish that more women, with high research accomplishments, would eventually take the credit they deserve.

The usual news from the large astronomy organizations and networks inform us about the program of ALMA site, the thriving activities of OPTICON' s various groups, the astroparticle news and the report of the symposium on the future ESA mission GAIA.

The usual report from several sessions of JENAM 2004 is included along with the 1st announcement of JENAM 2005, which will take place in Liège, Belgium, next July.

An interesting article on the Serbian Astronomical Society's history reminds us the importance of the special actions of the South East-Branch of EAS. I hope that in the near future the local special problems will disappear and astronomy in Europe will become more or less homogeneous.

You will find information about a new Journal on Solar Astronomy. Finally, but a most interesting issue are the comments of two young European Astronomers (one in the USA and the second in Germany), who describe their experience from participating in JENAM 2004 in Granada.

Mary Kontizas

Message from the President

This issue of our Newsletter marks the last to be prepared by our editor of many years, Dr. Mary Kontiza at the University of Athens. Mary has been the heart as well as the organizing force of the Newsletter through several changes of Council. We understand her desire to pass the baton on to another and to return full time to teaching and research, but we will miss her insights and steady organizational capabilities. On behalf of the whole community, Mary, thank you for your long and most effective editorship. We wish you well in future.

Dr. Vassilis Charmandaris has kindly agreed to take over the task of editor, starting with issue nr. 29. Vassilis' research interests center around galaxy interactions to the evolution and morphology of galaxies. He is currently with the Spitzer Space Telescope group at Cornell University but will be returning to Greece in the spring, from where he will organize and edit the Newsletter. Welcome, Vassilis. We look forward to working together.

As is customary in the winter issue, we provide reports on this year's JENAM, held in Granada. The city was a delight for those who had not experienced it before, and colleagues from across the continent were introduced to the Spanish astronomical community. In many countries the community of professional astronomers is relatively stable, but in Spain there has been a spectacular – I can think of no other word for it – growth during the past decade. The Spanish community presented itself impressively well in Granada and convinced that they are becoming important partners in setting the future agenda for our science.

At our EAS meetings in Granada departing Council members Anatol Cherepashchuk (vice-president), Michael Perryman, Peter Shaver and Magda Stavinschi were thanked for providing valuable guidance to the organization for their term of four years, as well as carrying out the various tasks requested of them. New Council members were duly elected by the General Assembly: Yaroslav Yatskiv (Ukraine) was elected vice-president; and Álvaro Giménez (ESA), Sabine Schindler (Austria) and Milcho Tsvetkov (Bulgaria) have become our new Councilors. Welcome, all. We look forward to working together in the coming years. In addition, Joachim Krautter's service as our Secretary was extended for another term, thus ensuring excellent minutes of our meeting and great attention to organizational detail in the coming years. Thank you, Joachim, for your willingness to continue this duty.

Our Society is most fortunate to have a number of very committed and competent officers, but our level of income does not permit us to undertake all the activities Council and indeed, many of our members, would like. Adding value for our community is, and of course should be, commensurate with the willingness of our members to provide finance. But which should come first, the finance or the added value to justify that finance? It is a classic problem for service providers, whether they are commercially oriented or voluntary organisations such as the EAS.

Council has been struggling with this conundrum for some years now. Last year we felt obliged to increase membership fees, but only to be able to maintain our current level of activities. This year no increase was deemed appropriate but our General Assembly in Granada did agree two proposals by Council. The first was to move to email correspondence whenever possible, thus reducing operating costs. In principle, only formal matters relating to elections, invitations to the General Assemblies, and amendments to the Constitution or Bye-laws must in future be by written post. The second action will make it easier for new members to join by removing for most applicants the requirement for obtaining signatures of existing members. And we are also trying to reduce costs by removing colleagues from our membership lists who are delinquent in paying their dues.

These are measures around the margins, of course, and do not provide the substantial impulse required. The wider issue concerns the value of the EAS to working astronomers. If we cannot do everything, should we serve the whole community or only our members? Do we focus on promoting the most high profile research activities in European forums, or on integrating members from new and geographically peripheral national societies into wider European involvement? We have endorsed the Washington Charter, which calls among other things for professional societies to embrace public outreach. But to what extent and how exactly should the EAS devote resources to complement national societies in this endeavour? These questions remain effectively unanswered, and before we can expect to increase our resources we must develop a consensus on their resolution.

At the same time, Europe is in historic transition. It should therefore not surprise us that such consensus eludes us at present. Working environments are simply very different across the continent, and needs of members are unlikely soon to assume a significant degree of coherence. Indeed, our secretariat confronts the situation almost daily, where even the simple matter of collecting membership contributions in the different countries remains a complex and to date impossible-to-streamline process.

Nevertheless, to achieve the resources necessary for an effective program, we need to work toward consensus on that program and on the steps we must take to realize it. The first step must surely be a new discussion beyond Council itself, and I believe the time is ripe to begin that discussion. It will be appropriate to raise the issues at the coming several JENAMs, and we in Council in the coming year will work to sharpen the questions to be addressed.

Harvey Butcher

SKEPTIC's CORNER

Unified Europe of Astronomers?

Europe is changing and is doing so very quickly. Integration is perhaps the right word if one wants do describe these changes in the shortest possible way.

Astronomy, the field of our occupation and passion, is no exception. EC-sponsored networks and exchange programmes, collective efforts in future large-scale facilities (ALMA,

LOFAR, ELT, SKA – to mention just a few) are visible examples of growing integration of European efforts in astronomy. How does the European Astronomical Society react on the integration process? In a sense, it does: the very fact of the existence of EAS, a relatively young continent-wide professional association, is an example of "integrating forces" at work. However, it was born as such, not as a product of natural gravitation of smaller in size professional associations – national astronomical societies.

National astronomical societies and associations exist in many countries for decades. For a European astronomer, it is pretty usual to be a member of both – a national astronomical society and the EAS. But does this reflect the reality of our professional activity? I believe it does not. It would be much more natural if national astronomical societies of European countries become chapters of the European Astronomical Society. Membership in a national society would automatically mean membership in the EAS. The membership fee should be adjusted to reflect this structure of the Society, but it is essential to make it flat and affordable. What are the benefits of such the integrated structure of the EAS?

First and foremost, it is the critical mass. As a single body with multi-thousand membership it will be able increase significantly its impact on the standing of astronomy among other scientific disciplines. Public outreach programmes, interaction with non-governmental institutions in Europe and world-wide, participation in the appropriate policy-making mechanisms via the European Parlament and the European Commission – all these areas of activity require a single and loud voice representing the entire astronomical community of Europe. The integrated European Astronomical Society would be able to be on equal footing with its counterpart on the other side of Atlantic, the American Astronomical Society. I would also think that after full integration, the new EAS would be able to take charge of publishing the Astronomy and Astrophysics, the main professional astronomical journal in Europe.

Last but not least: where can I, a European astronomer, publish a popular article on the study conducted by a broad collaboration based in a number of European countries? The answer is simple: either Sky and Telescope, or Astronomy, both – American magazines. Of course, there are national popular astronomical magazines in many European countries. But compartmentalization of their audiences decreases the level of their impact drastically. It would be so much better to have a single high-quality European popular astronomical magazine which, if so desired, could be published in parallel in as many languages as can be afforded.

I underline, that in no way my proposal to integrate national astronomical societies into the new EAS means the end national professional astronomical associations. Let them flourish and continue with their traditional modus operandi. But let them enhance their activities by relying on the powerful backing of their continent-wide envelope – the integrated European Astronomical Society.

Leonid Gurvits
Joint Institute for VLBI in Europe
Dwingeloo, The Netherlands

Report from the IAU Working Group on the Status of Women in Astronomy

Following the approval by the IAU Executive of the establishment of the IAU Working Group on "The Status of Women in Astronomy" at the Sydney General Assembly, we have begun the process of organising the membership, with Prof. Anne Green, of the University of Sydney, and Dr Sarah Maddison, of Swinburne University of Technology, as co-chairs.

Two main activities are planned for the next few months. The first one is to finalise the appointment of the Executive Committee. This follows the email which was sent to a wide list of potential members of the IAU Working Group on "The Status of Women in Astronomy", including all attendees of the Women in Astronomy function at the Sydney GA. This email summarised the issues raised at the function and proposed a strategy for the Working Group. From the list returned by over 50 respondents we are proposing a group of 16 with representation from Europe & the UK (6), North America (4), South America (2), Russia (1), China (1), Australia & the Pacific (2). We have included 2 men in the list of nominations to be approached shortly. It will be the role of the Executive Committee to canvass and encourage participation of a much larger group of Participating Members, which should include all astronomers who are actively working towards improving the status of women in astronomy. A third method of participation grew from one of the key issues raised at the Sydney function, namely the need to collect hard statistics on the status of women in astronomy. While various studies have been conducted in the USA and Europe, there has been no world-wide coordinated collection of data. It is essential that we compile a uniform set of statistics. To date, we have had more than a dozen people who have volunteered to assist with this task that will give us a global picture of the wide range of issues and conditions facing women in astronomy worldwide.

The second activity is to commence planning for the 2006 General Assembly in Prague. The working lunch at the Sydney General Assembly was extremely successful and we are considering staging a similar event in Prague. Via email we will identify a limited number of themes for discussion in the breakout sessions. In addition, it is planned to hold a business meeting of the Executive Committee to ratify its membership and goals and to schedule a session for more detailed reporting from the Participating Members on the database of statistics and issues to be addressed.

Finally, an official website will be linked through the IAU website for Working Groups. To be included are the Terms of Reference, which are currently being drafted, for approval by the members. A set of draft goals was tabled in Sydney and are available at the URL given below.

We would like this Working Group to be open and inclusive in every way possible, and welcome input and suggestions on the most effective way to move forward on improving the status of women in astronomy.

Anne Green & Sarah Maddison
Working Group Co-chairs
URL http://astronomy.swin.edu.au/wam

Congratulations

Françoise Combes is the first woman elected as a member of the Paris Academy of Sciences in the section "Sciences de l'Univers", which gathers Astrophysics and Geophysics.

There are 8 Sections in the Paris Academy of Sciences with about 200 members in all and only 5 women are members so far.

Mary Kontizas

IAU Education Programs

The International Astronomical Union (IAU) was founded in 1922 to "promote and safeguard astronomy and to develop it through international co-operation". There are currently 9114 individual members in 67 countries. The IAU is funded through the adhering countries. Almost all of the funds supplied from the dues are used for the development of astronomy.

One of the 40 IAU "commissions", or interest groups, is Commission 46, formerly called The Teaching of Astronomy and more recently, at the 2000 General Assembly, renamed Astronomy Education and Development. It is the only commission that deals exclusively with astronomy education; a previous Commission 38 (Exchange of Astronomers), which allocated travel grants to astronomers who need them, and a Working Group on the Worldwide Development of Astronomy, have been absorbed by Commission 46.

The Commission's mandate is "to further the development and improvement of astronomy education at all levels, throughout the world". In general, the Commission works with other scientific and educational organizations to promote astronomy education and development; through the National Liaisons to the Commission, it promotes astronomy education in the countries that adhere to the IAU; and it encourages all programs and projects that can help to fulfil its mandate.

The Commission holds business sessions at each IAU General Assembly. Within the format of the IAU General Assemblies, the Commission organizes or co-sponsors major sessions on education-related topics, such as a Special Session held at the 2003 General Assembly in Sydney, Australia, on which a book is now in press: Teaching and Learning Astronomy: Effective Strategies for Educators Worldwide, edited by John R. Percy and Jay M. Pasachoff (Cambridge University Press, 2005).

The Commission has also organized two major conferences on astronomy education-US in 1988, and UK in 1996. The proceedings were published as: Jay M. Pasachoff and John R. Percy, eds., 1990, The Teaching of Astronomy, Proceedings of IAU Colloquium 105 (Williamstown), Cambridge University Press; and L. Gouguenheim, D. McNally, and J.R. Percy, eds., 1998, New Trends in Astronomy Teaching, Proceedings of IAU Colloquium 162 (London), Cambridge University Press.

See also, John Percy, ed., 1996, Astronomy Education: Current Developments, Future Coordination, Astronomical Society of the Pacific Conference Series, vol. 89.

For three decades, the Commission has sponsored one-day workshops for local schoolteachers, as part of every IAU General Assembly, and as part of several IAU regional meetings. Immediately after the conference which is described in the forthcoming book, a very successful teachers' workshop was held in Sydney, organized by Nicholas Lomb, Sydney Observatory.

Until recently, Commission 46 was concerned primarily with tertiary (university-level) education and beyond, but several of its activities have an impact on school-level and public education.

We are now planning a series of sessions and a teachers' workshop for the 14-25 August 2006 IAU General Assembly, to be held in Prague. Rosa Ros (Spain) is the Spanish National Liaison and Margarita Metaxa (Greece) is the Greek National Liaison; they are proposing two of the education-related special sessions. A further special session on communicating astronomy to the public, especially through public information officers of major projects, is being organized by Lars Christensen, chair of the IAU's new Working Group on Communicating Astronomy.

You can find out more about IAU Commission 46 at http://physics.open.ac.uk/IAU46/ and at http://www.astronomyeducation.org

Program Groups of IAU Commission on Education

PG for the Worldwide Development of Astronomy

The role of this PG is to visit countries with some astronomical expertise at tertiary (i.e., post high school) level, which are probably not IAU member states, but which would welcome some development of their capabilities in teaching and/or research in astronomy. For example, as a result of a visit this year, Mongolia might join the IAU and has received advice on broadening their astronomy programs.

PG for Teaching for Astronomy Development

TAD is intended to assist a country with currently little astronomy which wants to enhance its astronomy education significantly. TAD operates on the basis of a proposal from a professional astronomy organization or on the basis of a contract between the IAU and an academic institution, usually a university.

The capabilities of the TAD program are limited to assistance with university-level activities, such as

1. the creation of university-level astronomy/astrophysics courses and the faculty training and equipment associated with the development and first offering of such courses
2. a basic, largely educationally oriented research capability for faculty and students
3. travel (i.e. transportation) costs of foreign visiting lecturers and of students invited for study at foreign universities, and
4. professional preparations needed as a prerequisite for plans to offer astronomy in schools and for the public. TAD can provide advice about education of school teachers, but not financial support. The training of school teachers and the actual performance of school teaching and public outreach is considered to be part of the national resources.

PG for International Schools for Young Astronomers

ISYA seeks the participation of young astronomers mainly, but not exclusively, from astronomically developing countries. Participants should generally have finished first-degree studies. ISYA seeks to broaden the participants' perspective on astronomy by lectures from an international faculty on selected topics of astronomy, seminars, practical exercises and observations, and exchange of experiences.

The most recent ISYA was in Morocco and the next will be in summer 2005 in Puebla, Mexico.

PG for Exchange of Astronomers

The PG makes travel grants to qualified individuals in order to enable them to visit institutions abroad where they may interact with the intellectual life and participate in the research of the host institution. It is the objective of the program that astronomy in the home country be enriched after the applicant returns. The PG publishes, both on the IAU web site and in IAU Information Bulletins, all the information needed to apply for a grant under the IAU Exchange of Astronomers program.

PG for National Liaisons on Astronomy Education

The main duty of the National Liaison on Astronomy Education is 1. to write the triennial national report, to make it a valuable resource for countries wishing to enhance their astronomy education, and 2. to transmit to the educators of his/her own country the insights that they might glean from the reports and conferences.

PG for Collaborative Programs

This Program Group works on activities co-sponsored by UNESCO, COSPAR, UN, ICSU, etc., and carries out interactions with other international organizations.

PG for Commission Newsletter

The Newsletter is published twice a year, and is available (including back issues) at http://www.astronomyeducation.org

PG for Public Information at the Times of Solar Eclipses

Timely advice for countries that will experience a solar eclipse. We maintain a Website at http://www.eclipses.info and consult with local astronomers and with newspapers.

We were also active for the transit of Venus, and we maintain a Website at http://www.transitofvenus.info

PG for exchanges of books, journals, materials

We are restudying the role of this program group in the context of new electronic document possibilities, but we can still link people needing written material with those for whom the material is surplus.

Jay M. Pasachoff, Williams College, USA
President,
IAU Commission on Education and Development

News from EU Organizations & networks

ESA

Gaia Symposium

Between 4-7 October, a major symposium dedicated to the scientific aspects of the Gaia mission was held at the Observatoire de Paris, Meudon, France, as "Les Rencontres de l'Observatoire 2004". Attended by 240 delegates, the four-day meeting was an opportunity to present the current status of the Gaia mission to the interested scientific community, and to hear about the results of investigations carried out in the various areas of the mission over the last four years. The Gaia mission was proposed to ESA in 1994 as part of the Horizon 2000 long-term plan, supported by the Survey Committee if the achievement of 10-microarcsec level accuracies (at 15 mag) could be demonstrated, and approved by ESA's advisory committees in 2000 after a two-year concept and technology study. During 2002, as a cost reduction exercise, the satellite constraints were modified for accommodation in the smaller Soyuz-Fregat launch vehicle, with only a modest loss in astrometric accuracy. Thus the scientific goals established in 2000 – 1 billion stars to 20 mag, with accuracies of 10 microarcsec at 15 mag, multi-epoch, multi-colour (4 broad and 11 medium band) photometry for all objects; and radial velocities to 1-10 km/s down to 16-17 mag – remain applicable. A selection of some of the papers presented is given here to provide a flavour of the meeting.

The Symposium was opened by the Director of the Paris Observatory, Daniel Egret, and Jean Kovalevsky, who stressed the great challenges and scientific rewards of Gaia. ESA's Director of Science, David Southwood, presented Gaia in the context of the current ESA science programme. These were followed by presentations of the satellite status by study manager Oscar Pace, the overall Gaia scientific case (Mignard), an overview of the mission (Perryman), the operational principles (Lindegren), accuracy assessment (de Bruijne), and the radial velocity instrument (Katz, Cropper). Presentations were made on the science impacts expected from the mission, including distance scale (Bono), Galaxy dynamics (Binney), Galaxy structure and evolution (Vallenari, Nissen, Haywood, Spite), stellar physics (Lebreton), dark matter (Wilkinson), atmospheric parameters (Recio-Blanco), exoplanets (Queloz), etc.

Activities and overall progress of the 14 scientific working groups formed a major part of the symposium. Presentations covered the relativistic aspects of the data analysis (Klioner), simulations on planet detections (Lattanzi), duplicity and masses (Pourbaix, Soderhjelm), near-Earth asteroids (Hoeg), variability analysis (Eyer), scientific alerts (Wyn Evans), solar system studies (Muinonen, Cellino, Tanga), on-board detection (Arenou), the photometric systems (Jordi), classification (Bailer-Jones), and the quasar reference frame (Claeskens).

Various reports on the massive data analysis preparations gave a detailed perspective on the complexities and challenges facing the on-ground data treatment: the overall simulation

chain (Luri, Babusiaux), the current prototype data analysis system (Torra), Grid-related studies (Ansari), and the photometric data analysis (Brown).

Five participants accepted the delicate challenge of summarising the poster presentations in the various categories: Katz, Bastian, Mignard, Breger, and Luri. This effort contributed significantly to the coverage of a large variety of topics in a limited period of time, and was greatly appreciated by the participants.

Several institute directors, including the ESO Director General, participated in the meeting, underling the long-term strategic importance of Gaia in astronomy. Tim de Zeeuw (Leiden) treated the participants to 30-minutes of inspiring "Concluding Remarks", underlining the strength of the Gaia scientific case, setting Gaia science in the context of astrophysics in the years 2015-20, and acknowledging the huge progress made in the mission definition over the last four years (see http://www.rssd.esa.int/Gaia). A highlight of the Symposium was the award by the Paris Observatory of the degree of Doctor Honoris Causa to the Honorary Chair of the Scientific Organising Committee, Adriaan Blaauw, who celebrated his 90th birthday earlier in the year. The Symposium dinner was held on a Seine river boat navigating Paris by night, and taking time out from the magnificent symposium setting of the Observatoire de Meudon.

The chairs of the SOC, Catherine Turon (Paris-Meudon) and Michael Perryman (ESA) were supported in the organisation of the meeting by the Gaia Science Team, an International Advisory Committee including at least one representative from each ESA member state, and an efficient Local Organising Committee, led by Yves Viala (Meudon) and supported by Karen O'Flaherty (ESA). Generous financial support by various organisations (Paris Observatory, CNES, CNRS, ESA and the Gaia industrial leading groups – EADS-Astrium and Alcatel/Alenia), permitted attendance at the symposium by an unusually large representation of younger scientists (PhDs and post-docs) many of whom are already playing a key role in the preparation of the ambitious Gaia mission. Attendees also included collaborators in Greece (recently members of ESA), and some non-member countries (Slovenia, Lithuania, Estonia, Australia). The proceedings of the symposium will be published by ESA in early 2005.

Catherine Turon and Michael Perryman
ESA

ESO

Construction in Chile begins on the Alma Site

The Atacama Large Millimeter Array, ALMA, is an international astronomy facility. It is an equal partnership between Europe and North America, in cooperation with the Republic of Chile, and is funded in North America by the U.S. National Science Foundation (NSF) in cooperation with the National Research Council of Canada (NRC), and in Europe by the European Southern Observatory (ESO) and Spain. ALMA construction and operations are led on behalf of North America by the National Radio Astronomy Observatory (NRAO), which is managed by Associated Universities, Inc., and on behalf of Europe by ESO. The agreement to build ALMA was signed in Feb. 2003.

ALMA is an interferometer array that will operate in the millimeter and sub-millimeter wavelength range. ALMA will be most sensitive to the radiation from cool gas and dust. ALMA will be used to measure spectral line and continuum radiation. ALMA will provide high angular resolution, high quality images of molecular clouds, star formation regions, galaxies and solar system objects, including the Sun. ALMA will be the millimeter/sub-mm counterpart of large telescopes such as ESO's VLT, the Hubble Space Telescope or the James Webb Space Telescope.

The official groundbreaking was held in Nov. 2003, and construction has now begun on the site in northern Chile. The first phase of the construction involves the Operations Support Facility, OSF, at 2.9 km elevation and the 42 km long private road to the ALMA Operations Site, AOS. The road will be used to transport the 100 ton antennas delivered by contractors to the ALMA site. The ALMA construction camp located at the OSF has been completed and staff has moved to the site in July 2004. Eventually there will be room for more than 30 ALMA staff and over 100 workers at this site.

Once the road to the AOS and the OSF technical buildings are completed, the construction activity will be concentrated on the array site itself, at 5 km elevation. The prime goal will be to finish the AOS building containing the essential electronics and to construct 216 antenna pads spread over 18 km. The antennas will be moved periodically from one pad to another to produce images of different angular resolution. The array operators will be in the AOS building, and will monitor basic array performance. The central correlator will also be in the AOS building. Here the signals from each antenna will be processed to produce the raw data needed for imaging.

The first of the antennas should arrive at the OSF in 2006. The basic ALMA plan calls for 64 such antennas. Each will be tested to determine whether these meet specifications. If so, the antenna will then be brought to the AOS by a special transporter over the 42 km road. At the AOS further tests will be made. Then the antenna will be tested as a part of the interferometer by combining it's output with other antennas. If these tests are successful, these antennas will be incorporated into the array.

Once operations begin, most of the personnel responsible for ALMA will be housed at the OSF at this lower elevation site, where working conditions will be easier. There will be a high speed data link from AOS to OSF for transmitting data taken with the array. At the OSF, the raw data quality and fine details of the operations will be checked.

Tom Wilson
European ALMA Scientist,
ESO

Information for the European Astronomical Society Newsletter, December 2004.

Astronomy and the second DG RTD call for Research Infrastructures under FP6

Standard Disclaimer

This document expresses solely the current views of unit RTD-B.3 of the European Commission's services. Readers should not regard these views as a statement of the official position of the European Commission nor indeed of its Directorate-General for Research.

As a follow-up to the information on FP6 published in the EAS newsletters of June 2002 and of December 2003, a summary of the outcome of the second call for Research Infrastructures run by DG RTD is presented here.

The second call[1] had an indicative budget of 70 million euros, and proposers could apply for the following schemes:

- ***Design Studies;***
- ***Construction of New Infrastructures;***
- ***Accompanying Measures.***

It was the first time that a Framework Programme was offering support for Design Studies[2] and especially for Construction of New Infrastructures.

All 3 schemes are implemented as ***Specific Support Actions***, and proposals could have been submitted even by a single participant.

At call closure, on 4 March 2004, 118 eligible proposals were received, requesting a total funding of almost 400 million euros. This represented an oversubscription by a factor of more than five, a rate similar to that of the first call. Almost half (55) of the proposals applied for a ***Design Study***, another 34 were projects for ***Construction of New Infrastructures*** and the remaining 29 were ***Accompanying Measures***.

Although 83% of the proposals were above the scientific threshold, due to the high oversubscription, only 17% of them could be included in the main short list. The main short list includes 13 Design Studies, 5 Construction projects and 2 Accompanying Measures. Astronomy was well served in this short list, as it includes, in high positions, the Design Studies for the ELT and the European Virtual Observatory. Subject to successful negotiations, the corresponding contracts are expected to be signed in March 2005.

It is currently under discussion whether it would be possible to substantially increase the financial allocation to this call. In such a case, and depending on the size of this increase, it might be possible to fund two other important projects for Astronomy: the Design Study for the Square Kilometre Array and the enhancement of the ALMA construction project.

The next opportunities for bottom-up financing of Research Infrastructures lie within the call for Transnational Access, Integrated Infrastructures Initiatives, Coordination Actions and Accompanying Measures that has been published on 4 November 2004 with a deadline of 3 March 2005[3].

Panayotis Moschopoulos (European Commission - DG Research)

[1] Call identifier: FP6-2003-Infrastructures-4. The call documents are still available on the site: http://fp6.cordis.lu/infrastructures/call_details.cfm?CALL_ID=76

[2] Some «quasi design studies» had been funded in FP5 as RTD projects.

[3] http://fp6.cordis.lu/infrastructures/call_details.cfm?CALL_ID=169 call identifier: FP6-2004-Infrastructures-5.

Opticon

The OPTICON FP6 programme is now well underway with most of the scheduled activities in full swing. Regular readers will know that the OPTICON programme is an EC funded 'Integrated Infrastructure Initiative' which comprises networking, a trans-national access programme and a series of 6 technology projects called Joint Research Activities (JRA). In this report I will concentrate on a few recent developments in the networking and transnational access activities. A more detailed report on the Progress of the JRAs will be given in a later issue.

The ELT science working group. This networking activity is charged with updating and expanding the scientific case for a European Extremely Large telescope. This science case, which was begun at a workshop in Leiden in 2001, will form the science input to a separately funded EC design study for a European ELT (this design study contract is presently in the negotiation phase and will probably start in early 2005). To move this activity forward OPTICON has sponsored, in partnership with the UK science agency PPARC, the appointment of a dedicated project scientist for ELTs. Dr Isobel Hook of Oxford University took up this appointment in the summer.

The European ELT team was well represented at the recent Berlin Conference 'Exploring the Cosmic Frontier' and the day

before that event held a separate working meeting with representatives of the US GSMT project. In early November OPTICON sponsored a three day workshop in Florence to further develop the science case and to crystallise it into a form that could be used as an input to the ELT design study once this project gets underway. About 50 people attended this lively and productive meeting. A brochure, highlighting specific parts of this science case, is being produced and will be distributed widely in the coming months.

The Network for UV Astronomy (NUVA) is a working group, lead by Ana-Ines Gomez de Castro, which is trying to develop a way forward for European UV astronomy by bringing together the activities of what has been up until now a fairly diverse community. This objective has taken on special importance with the failure of the STIS instrument on HST and the likely delay or cancellation of its replacement, the COS, following new NASA policies after the loss of the Space Shuttle Columbia and its crew. The NUVA held a four day workshop at the University Complutense of Madrid from 21-24 September at which they began to develop a case for the future of UV astronomy in the next decade. It was a classic workshop format with short overview sessions and then breakout groups to develop specific topics in more detail. The proceedings of this meeting are to be published in a special book and preparations for this are already well underway.

The Key Technologies Working group has begun its programme of 'roadmaping' the key issues for astronomical technology. A meeting chaired by Colin Cunningham was held in Grenoble in the autumn, and was attended by a number of organisations and what seems to have been many thousands of 'post-it' notes.

The Interferometry forum, which forms part of a wider European Interferometry Initiative is also in full swing. The first programme of exchange visits, in which OPTICON sponsors astronomers to spend about one month at another laboratory in the network, are taking place and an opportunity to apply for next years programme will close in March 2005. The interferomety forum is anxious to expand this programme to a wider range of countries than was represented in the first round. A major workshop 'The Science Case for Next Generation Optical/Infrared Interferometric Facility' (the post VLTI era) was held in Liege, Belgium between 23-27 August 2004. Details are available at

http://www.astro.ulg.ac.be/colloques/2004/

The OPTICON telescope network and transnational access programme is also very busy. The transnational access programme is aimed at improving co-operation between European medium sized telescopes, providing access to new users to these facilities and organising a range of activities to enhance European research activities. The telescope directors had their annual meeting at the Observatoire de Haute Provence in November where top of the agenda were the issues raised by the high level of interest in the Access programme. Even in its first year this programme has attracted considerable number of qualifying runs and is running at a level which exceeds the likely budget for the activity. About two-thirds of the qualifying runs are new users, but many are from established research teams. The telescope directors re-affirmed their commitment to using the limited OPTICON resources available to try and improve access to communities which do not have major national infrastructures and which could not otherwise afford to get access to such facilities.

While scientific merit remains the primary factor in allocating observing time, OPTICON support for travel and subsistence will be prioritised to achieve the goal of widening access to new users. In this regard the network recognised the relatively low level of applications from Central and Eastern Europe and resolved to further expand their efforts to promote the programme in these countries. Members of the OPTICON team would be delighted to visit national astronomy meetings to present the programme and to answer questions about it, to arrange such a visit please contact the Project Scientist at the address below. Full details of the programme can be found at a special web-site prepared by the OPTICON Access Office at the IAC in LA Laguna, Tenerife which can be found at the following URL: http://www.otri.iac.es/opticon

The director's forum was also told of good progress in the development of the Greek 2m Telescope Aristarchos which has now seen its first light from its location on the Helmos Astronomical Station. Final commissioning and acceptance testing of this instrument is expected to take place in the spring and summer of 2005. Once this has been done, and an EC mandated peer review has taken place, it is hoped that Aristarchos can be integrated into the transnational access programme soon afterwards.

As always, details of forthcoming OPTICON activities can be found at our website www.astro-opticon.org

The website also has a number of handouts and posters which can be downloaded and distributed at your local institutions.

John Davies, OPTICON Project Scientist,
UKATC, Royal Observatory, Edinburgh
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ILIAS

Considerable progress has been made in the first 7 months of the ILIAS European project. A core component of the ILIAS programme concerns the four deep underground laboratories in Europe: Gran Sasso, Modane, Canfranc and Boulby. The activities are focused on background measurements and data-base construction, as well as the dark matter and double beta decay investigations.

The field of gravitational waves is the other major ILIAS programme. The key objective of the research programme is to develop common schemes to reduce detector thermal noise by one order of magnitude.

ILIAS 2nd annual meeting will take place on February 7 and 8, 2005, in Prague. Besides the presentations of ILIAS activities, additional talks will be devoted to the fields of astroparticle physics not covered by ILIAS, as well as European projects in Astronomy and Astrophysics.

For more information please visit the ILIAS Website: http://ilias.in2p3.fr/ and check "Events".

Bijan Saghai, ILIAS Coordinator
bsaghai@cea.fr

The South-East Branch of EAS after four years

In October 2000 the South-East Branch of the European Astronomical Society was set up. It consists of the following countries: Bulgaria, the Republic of Macedonia, Romania, Serbia and Montenegro, Ukraine, Greece, Turkey. These countries, probably with the exception of the last two, have still a lot to do and are still faced with an entirely special situation. Consequently, the common idea is to find first the solutions at home and then to resort to the international bodies. They are united in the first place by the difficulties they encounter, especially the brain drain, as well as by the geographic proximity which facilitates their exchanges and their common observation and research programs.

This is also the reason why so far, two regional reunions have been organized ("Solar Researches in the SEE Countries: Present and Perspectives", 2001, Bucharest; "New Results in Stellar Physics", 2002, Timisoara; Balkan Astronomical Meeting, Rozhen, 2004), as well as summer schools for the young astronomers from the zone.

Solutions have been found: contracts of "research associated" concluded with the young people who work abroad, the attraction of the astronomers of Romanian origin (http://www.astro.ro/who.htm). New topics are now approached with the supervision of well known specialists from other countries.

A novelty has been the setting up of the Sub-Regional European Astronomical Committee within the framework of the UNESCO-ROSTE funded Project "Enhancing Astronomical Research and Observation in SEE and Ukraine", which has already had its first reunion in Bucharest, in May 2004. The program of this Committee makes us believe that the cooperation of the astronomers from this part of Europe will be beneficial both for the promotion of Astronomy here, as well as for the creation of the conditions for an integration as fast as possible of these countries in Europe, where they actually are.

The activity of the South-East Branch of the European Astronomical Society was otherwise presented more detailed during the last General Assembly of the EAS at Granada, on 15 September 2004.

Magda Stavinschi

YOUNG PEOPLE'S CORNER

A USA based European in JENAM

As a participant in the recent JENAM meeting, I believe that it was a mind-opening experience. JENAM, although has been introduced relatively recently in the astronomical community, is becoming a great place for astronomers from all over the globe to present their work, be updated on current achievements and exchange ideas, giving the chance for new collaborations to thrive. It is also a precious opportunity for young scientists to interact with their senior colleagues and present their research. The plenary sessions were wisely chosen to cover a wide spectrum of fields, and the invited talks were exceptionally informative on current developments. In addition, the convention center in the heart of Granada was an excellent, spacious location for such a meeting. Having said that, it is important to note that the poster session was not well attended, likely due to its separate location from the main lobby in which all the participants were concentrated during breaks. As a suggestion for future meetings, it would be nice if the location of the posters is intermingled with the coffee area. This would provide easier access to them, and encourage interactions among the presenters and the participants. In addition, it would be useful to include a hard copy of the list of participants with their contact information (e-mail) as a part of the introduction package which would serve as an instantaneous reference guide.

I leave Granada with the best of impressions. The entertaining social activities allowed for new acquaintances to form and were a testimony of the reputable Spanish hospitality. JENAM was a good learning experience; it is becoming an established European/international meeting designed for a fair exchange of knowledge and recent developments in Astronomy. It provides a great opportunity for young scientists to introduce themselves in the astronomical community and interact with it, by presenting their ork and getting ideas for their ongoing research. Such meetings keep knowledge flowing and reminds us how astronomy is a dynamic, still growing database, which can always excites and surprise us. I am looking forward to next year's meeting.

Styliani Kafka
Indiana University

A Solar Astronomer in JENAM

This was my first meeting, and solar physics was not the main topic of it.

Positive coments:
The meeting was in general very well organized. The social events were superb. The plenary sessions were well choosen with a fair balance of topics.

Negative comments:
For solar physics the number of participants (~20) was too small for an extended interchange of ideas. Some of the participants additionally had no common field of research.

The time schedule for the session "The Sun and planetary systems" was too tight with only 7 minutes for an oral presentation (solar section). A limitation of the number of speakers would have been better.

For the talks on night astronomy I did not like two items:
Shortcuts were frequently used without any explanation (e.g., IMF = initial mass function is not known outside night astronomy/cosmology). This made it very difficult to follow some of the talks.

Christian Beck
University of Freiburg

Affiliated Societies

Serbian Astronomical Society and Astronomy in Serbia

On the JENAM 2000 in Moscow Serbian Astronomical Society joined the European Astronomical Society entering in the large family of European astronomers. The principal merit for this have Lukav C. Popovi'c and Jean Paul Zahn who discussed all points and prepared the admission.

The founding meeting of the Society of mathematicians and physicists of Serbia took place on 4 January 1948, where the astronomers were present from the very beginning. The astronomical section of the Serbian society has been founded on 16 June 1959 and its name became Society of mathematicians, physicists and astronomers of Serbia on the assembly which took place on 5 November 1961. In the year 1981 from this Society the Serbian Astronomical society was created while its first elected president was Bovzidar Popovi'c. The League of Societies of mathematicians, physicists and astronomers of Yugoslavia and Serbian society after 1991, have organized 13 national conferences as well as VI ERMA in 1981.

The principal astronomical institution in Serbia is the Belgrade Astronomical Observatory. The decree of its founding conjointly with the Meteorological Observatory was signed on 20 March (7 April) 1887. Milan Nedeljkovi'c was appointed the first director. Nedeljkovi'c was at the head of the Observatory until 30 January 1924. A break took place only between 5 July 1899 and 31 October 1900, when at the head was Djordje Stanojevi'c, the first Serbian astrophysicist, later on the rector of Belgrade University. After the second retirement of Nedeljkovi'c, at the head of the Astronomical Observatory Vojislav V. Mivskovi'c, was appointed in 1925, who in 1929 succeeded in getting funds for the constructions of a new, modern, observatory. In 1936 Mivskovi'c started issuing the Bulletin de l'Observatoire astronomique de Belgrade, a scientific periodical which from No. 157 for 1998 on appears under the name Serbian Astronomical Journal.

After Mivskovi'c, the academician Milutin Milankovi'c was appointed to the post of Observatory's director, who went down in history of science, by his having explained the ice ages phenomenon through the slow changes in the Earth's insolation in consequence of the Earth's axis inclination and its motion around Sun, undergoing changes produced by various influences. Milankovi'c elucidated also the history of the climate of Earth and other planets, being the originator of the mathematical theory of the Earth's poles motion.

After him the Observatory was governed by V. Mivskovi'c (1951-1954), M. Proti'c (1954-1960), V. Oskanyan up to 1965, P. Djurkovi'c (1965-1970), again M. Proti'c (1971-1975), M. Mijatov (1975-1981), M. Mitrovi'c (1982-1989), I. Vince (1990-1993), M. S. Dimitrijevi'c (1994-2002), and since 2002 by Z. Knevzevi'c.

During the last years, the Astronomical Observatory undertook a large effort to develop the international collaboration in the region as organizer or co-organizer of Hungarian-Yugoslav Astronomical Conference, four Romanian-Yugoslav meetings on collaboration in astronomy, Belgrade, five Belarus-Yugoslav (Serbian) Conferences on Physics and Dynamics of Laboratory and Astrophysical Plasma, and four Bulgarian – Serbian Astronomical Conferences.

Beside the Astronomical Observatory, there is also the Chair of Astronomy in Belgrade at the Faculty of Mathematics. As the Faculty of Sciences separated from the Philosophical Faculty in 1947, the Chair of Celestial Mechanics and Astronomy was formed, having shortly thereafter changed its name into Chair of Mechanics and Astronomy. In 1961 two study groups were formed – one for Astronomy, the other for Astrophysics. Beside Belgrade, Astronomy is taught at Universities in Novi Sad, Nivs and Kragujevac.

In addition to professional Astronomy, the amateur Astronomy Is well developed in Serbia. The largest and the oldest organization of amateur-astronomers is the Astronomical Society "Rudjer Bovskovi'c" in Belgrade, which in the course of 70 years of its existence was spreading astronomical knowledge in our country. Amateur societies with astronomical activities exist also in Novi Sad, Valjevo, Kragujevac, Nivs, Zrenjanin, Leskovac, Prokuplje, Knjavzevac and Vrvsac.

Belgrade astronomical observatory and above mentioned astronomical organizations in Serbia enable to perform research in this beautiful and challenging science, and to enter in the large family of European astronomers.

Milan S. Dimitrijevi'c
Astronomical Observatory, Yugoslavia

Report from JENAM 2004

The 13th JENAM, jointly organized by the Spanish and European Astronomical Societies (SEA and EAS, respectively), was held from September 13 to 17 in Granada, hosted by the Instituto de Astrofísica de Andalucía, the second largest astronomical institute in Spain. As usual for the scientific meetings organized by the SEA, the present edition of the JENAM, entitled "The many Scales of the Universe", was open to astronomers of all fields. This appeared to be a very good idea according to the impressive attendance at the meeting: 452 participants of 30 different countries. The LOC certainly did a great job. The chosen conference venue, Granada's Convention Centre, was perfect: spacious, well equipped and comfortable in all respects. The total budget of 216'000 euros, 53'000 euros of which were assigned to grants and invitations (103 free lodgements and 153 registration fees fully or partially afforded by the organization), is compelling of the magnitude of the event. The sponsors were also numerous, many of them – Springer, Index (Aciturri Group), G.M.V., Catón Sistemas Alternativos, ESA, ESO, IAC, IAA – having their own advertising stands.

From the scientific viewpoint, the 13th JENAM was also a big success. In the plenary sessions, the invited speakers – B. Elmegreen, F. Najarro, J.L. Ortiz, J. Peacock, P. Cox, B. Poggianti, E. Priest, T. Montmerle, E. Martínez-González, A. Quirrenbach and the winner of the SEA price to the best Spanish PhD thesis in Astronomy for the period 2001-2003,

J.A. Rubiño – delight the audience with superb general reviews on different hot topics or with very interesting talks on a variety of recent exiting discoveries. 150 more presentations, including invited talks and shorter oral contributions were also given in 5 parallel sessions with the following appealing general titles: "Roads to cosmology", "The life of galaxies", "Your favourites stars and their environments", "The Sun and planetary systems" and "Real and virtual instruments". The excellence of all the work presented in these parallel sessions is extensible to that addressed in the 324 posters, covering the whole spectrum of astronomical research, which were also shown in a very convenient centric location next to the conference rooms. All these contributions will be collected in a publication edited by Kluwer Academic Publishers currently in progress. The invited talks will appear in the main paper-book while the remaining oral and poster contributions will do it in an accompanying CD, all of them in full format.

There was also another parallel session entitled "Teaching and communicating astronomy", with simultaneous translation from and to Spanish, which was devoted to this subject that is being given increasingly importance within the scientific community, particularly in Astronomy (see, e.g., The Washington Charter for Communicating Astronomy with the Public). This was manifest from the round table discussion on this topic, open to the general audience and with the participation of renowned Spanish professionals of scientific vulgarisation, which took place just after the conference closing session. The contributions presented in this parallel session will also appear in a book edited by EDP Science.

One aspect that was extensively appreciated by all participants concerning this JENAM was the remarkably large number of young astronomers that attend the meeting. This is actually not new in the meetings organized by the SEA where young astronomers are exempted from paying the registration fee. But the also notable number of young astronomers from abroad seems to indicate that the Job Market taking place jointly with the JENAM begins to have appreciable effects. This trend and the fact that the meeting was open to astronomers of all fields are the most remarkable novelties of this JENAM that we would like to be regarded as the small legacy of the SEA to the future organization of such events. In my opinion, both aspects should be preserved, indeed, if the EAS is to play an increasingly important role among the European astronomical community as we all wish. See you next year in Liège!

Eduard Salvador
Co-chairman of the SOC

Your Favourite Stars and their Environments

This session was divided into four different subsessions, to address different scientific topics. The four subsessions were: A) Massive stars and Starburst; B) Low and Intermediate mass stars; C) Star Formation; and D) Missing Links. A total of 87 posters were presented, which is too a large number to make even a short reference here. Therefore, we will concentrate on the talks.

Invited speakers at **subsession A** were A. Pedlar and F. Vilardell. A. Pedlar offered a review of Starburst galaxy M82, in particular its Star Formation Rate from different radio and IR indicators (2 solar masses per year for stars more massive than 5 solar masses). He showed that this SFR is consistent with a SNR rate of 0.1 supernovae per year. The central kpc of M82 contains at least 30 compact supernova remnants with ages less than 1000 years. With interferometric observations, Pedlar and collaborators have determined expansion velocities for some of the remnants. In general, the remnants are found to be expanding over a wide range of velocities unrelated to their size. Particular attention was dedicated to the expansion measurements of 43.31+592 (resulting in an age of about 38 years) and the recently discovered SN2004am, detected in optical and IR, but not yet in radio (at the time of the meeting). F. Vilardell presented the status of the project he and his collaborators are carrying on to determine the distance to M31 using both Cepheids and eclipsing binaries. They have accurate photometry for more than 32000 objects, out of which light curves were obtained for 2480 stars. From there, 317 eclipsing binaries and 250 Cepheids were detected. Eclipsing binaries will need accurate radial velocity data (from GMOS) while Cepheids have already provided preliminary results: a bimodal distribution with maxima at 0.7 and 1.1 days periods, and a preliminary distance modulus of 24.1 magnitudes. Other speakers at the subsession were S. Sim\'on Diaz, who presented results on the analysis of the Orion stars that have resulted in lower O values than previously quoted in the literature, reducing the need for O in dust grains; I. Negueruela, who presented many detections by INTEGRAL that could be Massive X-Ray Binaries and many new systems that cannot be fitted into classical diagrams, including a possible new class of transients with Supergiants donors and very short outbursts; and J.M. Perez-Torres, who presented data about the radio Sn2001gd in NGC 5033, that in spite of the small amount of available data seems to be a distant sister of Sn1993J.

Subsession B had M. Guerrero as the only invited speaker. He spoke about the hot content of Planetary Nebulae, i.e., the hot gas shocked by the fast wind emerging from the Central Star. Dr. Guerrero showed that Chandra and XMM-Newton have already observed 25 Pns, but only 9 have been detected, mostly in thermal X-rays, although three have been detected in hard X-rays. Although the detection rate is lower than expected, morphologies seem to be in agreement with classical models, except for a lower than expected X-ray luminosity. The same seems to be true for nebulae around WR stars. Also the O VI emission from the interface layer (observed with FUSE) seems to be lower than expected. Finally, Guerrero showed the pretty image of the Cat's Eye Nebula obtained by him and his colaborators with Chandra and expressed his confidence that it would be selected as the nicest picture taken by this satellite. Contributed talks in this subsession included talks by G. Niccolini, who presented a dust model for the PN M1-92 based on a Monte Carlo radiative transfer algorithm that predicts a size distribution for the dust grains (but unfortunately, predicted SED and PN image do not agree); E. Villaver, who presented a comparison of LMC and SMC Central Stars, resulting in different mass distributions. CSPN have slightly lower masses in the SMC than in the LMC, opposite to what one would expect from

mass-loss considerations. Authors propose Star Formation History differences as the possible reason. E.J. Bakker presented recent interferometric results for the post-AGB interacting binaries HR4049 and the Red Rectangle using MIDI at VLTI. He showed the excellent preformance of VLTI/MIDI, proposed a three component model for HR4049 and suggested the detection of a silicate feature in the central region of the Red Rectangle. D.J. Goncalves presented the PN K4-47, focussing in a very detailed and careful analysis of their Low Ionization Structures. She showed that present data of this and other PNs do not clarify whether these LIS are always shock-excited. M.R. Zapatero Osorio presented an analysis of the binary GJ569B, with observations with the Keck Interferometer, that has resulted in the first dynamical confirmation of the brown-dwarf nature of an object, in this case GJ569Bb. Comparison of evolutionary and atmospheric models, however, does not show a good agreement between them. I. Dominguez presented Draco 461, a Carbon star showing a strong Li line. The analysis indicated that extra mixing is needed during the AGB phase, and that the age of D461 (less than 3 Gyr) is evidence of recent star formation in the Draco galaxy.

Subsession C had two invited speakers. A. Nordlund reviewed the current status of the star formation theory with particular emphasis in the role of the turbulence and the magnetic fields. A. Lenorzer presented IR observations aimed at clarifying the process of massive star formation (accretion or coalescence). She dedicated some attention to the highly obscured object NGC2024, an early B star with a surrounding disk that favours the scenario of mass accretion for the formation process. In this subsession I. de Gregorio-Monsalvo presented a CCS survey towards low mass star forming regions with the 70m Robledo antenna. The survey indicates that emission in class 0 objects is associated with strong outflows, whereas in class I objects it is associated with strong interaction with the medium. M.D. Smith presented bispectrum speckle interferometry of IRAS 23151+5912 in the K band. They identify the massive protostar and suggest the presence of a precessing jet to explain the observations. M. Rozyczka spoke about the evolution of dust from small grains to planetesimal swarms through eight orders of magnitude. Although much work seems still to be done, they suggest that radial drift solids associated with collisional coagulation are the main mechanisms governing the evolution of solids in protoplanetary disks. Finally, D. Barrado y Navascues described a very detailed study of the Lambda Orionis Cluster using optical and IR photometry and low resolution spectroscopy that has allowed him and his group to determine the IMF between 50 and 0.02 solar masses, obtaining a Salpeter index for the massive stellar regime, and an index of the order of 0.73 for the substellar regime.

The invited speaker in **subsession D** was J. Casares, who presented the status of the mass determinations of compact objects in binaries and the new technique of Bowen fluorescence by the secondary for their study. No compelling evidence of neutron star masses in excess of 1.6 exists, which favours a soft equation of state for the condensed matter. However, a new object, V395 Car, might change the scenario if confirmed that it is a neutron star (which is however unclear). Contributed talks at the subsession were presented by several researchers. M.D. Caballero spoke about observations of high energy objects (mainly X-ray binaries) using the Optical Monitor Camera of INTEGRAL. The authors propose a study of the correlation of X-ray and optical emission. J. Maiz-Apellaniz spoke about Sn2004dj, a supernova in NGC2403, which makes it the closest SN in the last eleven years. The cluster to which the SN belongs (Sandage 96) is 13.6 Myr old, and the SN progenitor was a star of 15 solar masses (but it is still unclear whether it was a red or a blue supergiant). V. Bosch-Ramon presented the microquasars and their properties through LS 5039 and LSI 61+303 and suggested, following their study of an unidentified EGRET source modelled as a microquasar, that many other unidentified EGRET sources could actually be microquasars. C. Tinney presented the excellent result obtained from Methan filters in the detection and characterization of T dwarfs, the objects that may constitute a link between the lowest mass stars and exoplanets. Finally, S. Iglesias-Groth closed the session with her talk about fullerenes and buckyonions (multishell fullerenes). These large molecules might explain a long standing problem: the origin, shape, width and peak energy of the most prominent feature of interstellar absorption in our Galaxy, the UV-bump at 2175 \AA.

A. Herrero and A. Alberdi

Teaching and Communicating Astronomy

We live in a time when astronomical discoveries, often related to major technological advances, have become very interesting topics for the general public, who follow them through the media.

As a consequence, the communication of the results obtained by scientists has become a priority for many important scientific institutions and large research projects. News agencies and press offices have been organized so that press releases about the most spectacular discoveries are periodically distributed to the media and the public, making use of impressive images, easy to follow explanations and attractive multimedia presentations. The public communication of astronomy has become a fundamental tool to strengthen the relationship between the astronomical community and the rest of society.

Teaching astronomy through the different educational stages is a fundamental step towards increasing our ability to communicate science efficiently. Only by being able to communicate and teach astronomy properly we will be successful at attracting new generations of young people interested in the discovery of the mysteries of the Universe. They will become the researchers of the future and constitute the human resource that will deal with the big questions which astronomy poses to us nowadays.

There were the main reasons to organize a second special session "Teaching and communicating astronomy", during JENAM 2004 "The Many Scales in the Universe", in Granada.

The first one was during JENAM 2003, in Budapest and its proceedings were published in Teaching of Astronomy in Asian-Pacific Region, Bulletin No. 19, Mitaka Tokyo, Japan. Both of them followed the IAU Resolution approved during the IAU GA in Sydney concerning the improvement of the Astronomy in the world.

The main topics discussed in Granada were:

1. Astronomy in the school curriculum, astronomy education of teachers, and astronomy education research.
   The use of new technologies and the role of the history of astronomy for the education.
2. Public astronomy education: The role of planetaria and mass media.
3. Astronomy communication resources (Internet, preparation of press releases, the making of a newsworthy scientific story).
4. Media training for scientists, communicators vs. scientists, good and bad examples of popular science communication. Correctness of media coverage of science. Practical production and evaluation of communication products.
5. Professional and amateur astronomers: how can we help each other.

During this session we also discussed topics related to teaching astronomy at the University, in the frame of the European convergence plan and the Bologna Declaration, with special emphasis on the role of post-graduate courses and the formation of future researchers. A lot of very interesting oral and poster presentations were included, but we have to mention only the invited ones: "What to teach? What is learned? Astronomy as an amalgam of old and new", by Jay Pasachoff (president of the IAU Commission 46 "Astronomy Education and Development"), "La utilización del espacio urbano como espacio educativo, para trabajar en Astronomía con profesores en formación y con alumnos" by Nicoletta Lanciano. "Hands-on science communication", by Lars Lindberg Christensen, "The transit of Venus: an opportunity to promote astronomy", by Rosa M. Ros, "Professional astronomers communicating astronomy to the public: a historical perspective" by Virginia Trimble, "Astronomía, ciencia o cultura, realidad y mito", by Juan Antonio Belmonte. The lectures were presented in English or in Spanish, both of them being translated.

Magda Stavinschi

The Life of Galaxies

During the last JENAM 2004 in Granada, the paralell session "The life of galaxies" was devoted to the topics of the structure, formation, and evolution of galaxies.

The study of the life of galaxies is linked to the history of the Universe and connects the physics of the lower scale phaenomena, in the environment of regions of star formation, to the large scale structures of galaxies.

A lot of exciting new results, including the production of large telescopes and new space observatories. This session was aimed at providing a forum for observers and theoreticians to exchange ideas and results on the many scales of galaxy formation and evolution. The outcome has been most encouraging: over 100 posters were presented to the session and 21 contributed talks. In addition 7 invited review talks, two of them to the plenary session were included.

The topics of the different slots of the sessions were the following (http://www.iaa.csic.es/jenam2004/lifesp2.htm):

AGNs and Galaxies: space observatories and surveys;
The evolution of the Milky Way: clues from the local Group;
The evolution of the Milky Way and similar galaxies
Star Formation: The Life and History of Galaxies
The social life of galaxies in groups and clusters Galaxy modelling and numerical Simulations.

It has been a great scientific experience given the high quality of the papers presented and, very importantly also, given the high degree of interchange of ideas, projects and new collaborations that have been started. A gratifying consequence of the very active and exciting European research in galaxy evolution, and of its most promising future.

Congratulations!

J.M. Vilchez

Roads to Cosmoloy

In the ROADS TO COSMOLOGY session we intended to review some recent observational evidences and projects, as well as computational or theoretical developments, that will allow us to gain insights into different outstanding problems at the forefront of cosmology. This session was scientifically organized by Joe Silk (Oxford University, UK), E. Gaztañaga (IEEC, CSIC, Spain) and R. Domínguez-Tenreiro (Universidad Aut onoma de Madrid, Spain)

Plenary invited talks

In this spirit, J. Peacock (Institute of Astronomy, University of Edinburgh, UK) and E. Martínez-González (Instituto de Física de Cantabria, Spain) were invited to review two of the most interesting topics addressed in this session: "Large Scale Surveys" and "Cosmic Microwave Background measurements", respectively. In his talk on Large Scale Surveys, J. Peacock reviewed our knowledge of the local universe, based now on 3D maps of more than 500,000 galaxies.

In combination with CMB, LSSs give now a consistent picture known as the concordance cosmological model. Some implications of this model for high redshift LSSs and the theory of galaxy formation were also summarized in this talk. E. Martínez-González, in his lecture entitled The Cosmic Microwave Background: the State of the Art, reviewed NASA WMAP satellite data ad their implications on the determination of the cosmological parameters. Then, he presented the ESA Planck mission, planned to be operative in the near future. This mission will substantially improve our knowledge of the intensity and polarization power spectra, in both resolution and sensitivity. He stressed the importance of

the B-mode polarization measurement to constrain the early history of the universe, as well as the difficulties of this measurement.

Parallel session talks

Several hot topics have been considered and discussed in the parallel session, classified under different items. We began with a revision of the values of the COSMOLOGICAL PARAMETERS. In his invited talk entitled Evidence for a New Dark Matter Component in the Universe, M. Douspis (LATT-OMP, Toulouse, France) discussed the problem of the inconsistency between the results of the matter amplitude as determined from the mass-temperature relation of X-ray galaxy clusters, on the one hand, or from existing CMB measurements, on the other hand. He argued that such an inconsistency may reveal the existence of a new dark matter component in the universe, or, alternatively, it may reveal a significant gas depletion during the formation of galaxy clusters. The robustness of the concordance cosmological model, and most particularly, that of the detection of a non-vanishing cosmological constant, was addressed by A. Blanchard, from the point of view of the abundance of faint X-ray galaxy clusters, and from the point of view of the dependence of the light curves of SNeIa or metallicity by I. Domínguez et al.

We then moved to lectures about the LARGE SCALE STRUCTURE of the universe, where A. Soto reported on new opportunities the use of photometric redshifts opens in cosmology. M. Moles has presented the ALHAMBRA-survey project, aimed to take a kind of cosmic tomography with the 3.5m telescope in Calar Alto, Spain. E. Saar et al. presented a multi resolution approach to study the morphology of the cosmological fields. Interesting results on very high resolution hydrodynamical SIMULATIONS on cluster evolution were reported by R. Sevilla et al. and Y. Ascasibar et al.

Concerning THEORETICAL RESULTS, also very interesting ones have been reported: A. Manrique et al. proposed an explanation of the universal halo density profile, found in numerical simulations, in terms of an extension of the Press-Schechter formalism. The physical foundations of the well known phenomenological adhesion model have been discussed by A. Domínguez in the context of a systematic treatment of corrections to the dust cosmological model. Finally, J. Gaite discussed his new definition of voids in cosmology, presented a new algorithm to search for voids and its applications in cosmology.

We had three talks on LENSING in Cosmology. G. Soucail (Observatoire de Toulouse, France) in her invited talk on The Gravitational Lensing Effect in Cosmology, has presented some recent updates of this very useful tool, such as the mass distribution in clusters of galaxies, constraints on the large scale structures and cosmological parameters, as well as the hot topic of the discovery and the study of high redshift lensed galaxies. A new method to solve for a lens system, using strong lensing data, that does not require any assumption about the system has been proposed by J.M. Diego. N. Bentez et al. reported on their strong lensing analysis of A1689 from Deep Advanced Camera for Surveys images, showing radial and tangential arcs in unprecedented detail. Authors say that similar imaging of more distant clusters is expected to provide competitive constraints on cosmological parameters.

The last item addressed in the Roads to Cosmology session was the COSMIC MICROWAVE BACKGROUND. In his invited talk on CMB and the Early Universe, P.G. Ferreira (Oxford University, UK) discussed some applications of the new measurements of CMB to constrain not only the anisotropy and homogeneity of the universe, but also issues such as the dimensionality, topology and continuity of space-time. R. Rebolo (IAC, Spain) described the Very Small Array at Teide Observatory (Tenerife, Spain) and reviewed results on the angular power spectrum of CMB obtained with this instrument, that has a resolution good enough to identify the first acoustic peaks and to explore a domain beyond WMAP capabilities. Let us add that this CMB instrument has been used by Jose Angel Rubiño during his PhD thesis work, who deserved the 2002-2004 PhD thesis award from the Spanish Astronomical Society. A very essential issue in the CMB field is gaussianity. D. Sáez presented simulated maps of the Rees-Sciama effect from N-body simulations with the aim of looking for deviations from gaussianity. C. Monteserin et al., on the other hand, presented a method to probe the gaussianity of the CMB at the Planck resolution by means of scalars statistics on the sphere.

As stressed by E. Martínez-González in his plenary talk, and by J.A. Tauber in his presentation, the ESA Planck mission is expected to dramatically improve the resolution and sensitivity of the CMB anisotropy measurements. Different talks reported progress on theoretical calculations on weak effects, such as that by C. Hernández et al. on cross correlation terms. Although the Planck experiment is designed to minimize the effects of astrophysical foregrounds on CMB maps, these cannot be entirely avoided. This fact will, nevertheless, provide crucial astrophysical information.

G. de Zotti (INAF, Padova, Italy) was invited to present a prospect of the forthcoming Planck Surveys of Extragalactic Sources. These are expected to provide the first all-sky surveys of luminous sub-mm wavelength sources (the most luminous dusty objects in the universe) or of the extreme GHz Peaked Spectrum sources (the earliest phases of the radio source evolution), among others, of crucial interest to understand the very early phases of galaxy assembly. These foregrounds contaminate the signal due to the CMB, imposing constraints on the detectability of the B-mode polarization, as reported by M. Tucci & E. Martínez in their talk. The contributions of extragalactic point sources to the CMB bispectrum has been reported by F. Argueso, who finds that at frequencies higher than 100 GHz, clustered sources can greatly enhance the normalization of the bispectrum. L. Toffolatti et al., on their hand, show that the detection of primordial CMB anisotropies is hampered by clustered extragalactic point sources at high frequencies but not at low ones. The Roads to Cosmology session included also several poster sessions, where works of high scientific level have been contributed.

Rosa Domínguez

ANNOUNCEMENTS

IAU Symposia

IAU Colloquium No. 198
date change: 14-18 March 2005
URL: http://www.mso.anu.edu.au/IAUC198

IAU Colloquium No. 199
URL: http://center.shao.ac.cn/qsoals

IAU Symposium No. 227
URL: http://www.arcetri.astro.it/iaus227

IAU Symposium No. 228
date change: 23-27 May 2005
URL: http://wwwgepi.obspm.fr/symp228/index.php

9th Asian-Pacific Regional IAU Meeting (APRIM-2005)
URL: http://www.as.itb.ac.id/APRIM2005

IAU Symposium No. 229
URL: http://www.on.br/acm2005

IAU Symposium No. 231
URL: http://asilomar.caltech.edu/

IAU Colloquium No. 200
URL: http://www-luan.unice.fr/IAUC200.htm

IAU Symposium No. 232
date change: 14-18 November 2005

dr Karel A. van der Hucht,
IAU Assistant General Secretary

Koninklijke Nederlandse Vereniging voor Weer- en Sterrenkunde

On 14 January 2005 this probe has entered the atmosphere of Titan.

On 25 March 2005 it is exactly 350 years after the discovery of the largest moon of Saturn, later called Titan, by the famous Dutch scientist Christiaan Huygens.

I am calling on your support for the following project:
"Observing Titan 350 years after its Discovery"

The aim is to observe Titan in the night of 25 March 2005 with as many telescopes, ground based and space based, professional and amateur, as possible to take pictures and/or spectral data in all possible wavelength bands.

On March 25, 2005, Saturn is visible until long after midnight. Titan can be found 2-3 times the ring diameter west of Saturn and should be easily observable.

All results will be collected on a suitable website
Henk Olthof, chairman KNVWS, ESA Science Directorate
e-mail: henk.olthof@esa.int

New Online Review Journal For Solar Physics and Related Fields

Living Reviews in Solar Physics, a purely electronic, open access, refereed journal devoted to providing the community with high quality up-to-date reviews of all aspects of solar physics and related fields (primarily the Sun-Earth and the solar-stellar connection) is now online. We begin with two substantial and interesting articles, which you are invited to browse, download and read for free:
Yuhong Fan: "Magnetic Fields in the Solar Convection Zone";
Brian E. Wood: "Astrospheres and Solar-like Stellar Winds".

Articles can also be accessed via NASA's ADS service. They will be kept up-to-date by periodic revisions made by the authors (hence the name "Living Reviews"). The journal can be accessed via the link http://solarphysics.livingreviews.org

There you can also order our Newsletter with which we will notify you, when new or substantially updated articles are put online. I hope that you will find this new service to the community useful and will become a regular user.

Living Reviews in Solar Physics articles provide sophisticated online functionalities. The journal is published by the Max Planck Institute for Solar System Research in cooperation with the Living Reviews BackOffice.

Journal homepage: http://solarphysics.livingreviews.org
Editor-in-Chief: Sami K. Solanki
Editorial Board: J. Christensen-Dalsgaard, E. Marsch, R. Rosner, T. Sakurai, C. Schrijver, M. Schuessler, R. Schwenn

For a list of upcoming articles please check
http://solarphysics.livingreviews.org/Articles/upcoming.html

Sami K. Solanki

Joint European and National Astronomical Meeting for 2005

JENAM – 2005

14th Plenary Meeting of the European Astronomical Society

July 4-7 (8) 2004, Liège, Belgium

First Announcement

Distant Worlds

"Distant Worlds", from the solar system to the edges of the Universe, will be organized along the following 5 themes:

- Asteroseismology
- Astrobiology and Solar System Exploration
- Quasars: Host Galaxies & Gravitational Lenses
- Massive Stars & High Energy Emission in OB Associations
- Technology Roadmap for Next Generation Interferometric Facilities

1. Scientific Organizing Committee - SOC
Harvey Butcher (EAS, Dwingeloo) (Co-chairman), Andrei Bykov (St. Petersburg), Joergen Christensen-Dalsgaard (Aarhus), Thierry Courvoisier (ISDC, Versoix), Michel Dennefeld (EAS, Paris), Gerry Gilmore (Cambridge, UK), Guenther Hasinger (Munich), Bruno Leibundgut (ESO), Pierre Léna (Paris), André Maeder (Geneva), Juan Perez-Mercader (Madrid), Sabine Schindler (EAS, Innsbruck), Gerhard Schwehm (ESA), Giancarlo Setti (Bologna), Christiaan Sterken (Brussels), Jean-Pierre Swings (Liège) (Chairman), Yaroslav Yatskiv (EAS, Kiev).

2. Local Organizing Committee - LOC
Denise Caro (secretary), Alain Detal, Jean-Claude Gérard, Emmanuelle Javaux, Pierre Magain, Yaël Nazé, Arlette Noels, Gregor Rauw, Sandrine Sohy, Jean Surdej, Jean-Pierre Swings.

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Web-site: to be made available early January 2005

3. Agenda
The meeting will be organized along the 5 themes listed above; in addition there will be roundtables/discussions relative to research in Europe, to ESO/ESA/OPTICON/RADIONET, etc., as well as the General Assembly of the European Astronomical Society.

4. Venue
The meeting will take place in the "Amphithéâtre de l'Europe", located on the campus of the University of Liège, easily accessible by car and by buses from downtown Liège. Frequent fast trains connect Brussels, and its international airport, to Liège.

5. Accommodation
Lodging of all classes, including student housing, will be available. Information and booking procedures will appear early 2005 on our web-site.

6. Social and General Public Events
The foreseen events will appear on our web-site.

7. Registration fee
Attempts will be made to limit as much as possible the registration fee: see the web-site, as of January 2005.