



EUROPEAN ASTRONOMICAL SOCIETY **NEWSLETTER**

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EDITORIAL

In the current newsletter it was decided that we take the opportunity and present the EAS to its members! As is also mentioned in the articles by the President and the Secretary of the EAS, which are included in this issue, there has been an ongoing effort to increase the communication between the national societies in Europe. The Society wishes to act as a catalyst, which will bring together all European astronomers, bridging the gaps often created by differences in culture and the organizational structure of research in the various countries.

To work towards this goal we include a document prepared by the vice-president of the EAS, Thierry Courvoisier, with major contributions by all members of the EAS Council, presenting the role and vision of the Society in the European astronomical landscape. In addition, we have solicited contributions from

the affiliated, national astronomical societies requesting that they provide a brief and concise description of the history of astronomical research in each country along with the current organizational structure. Four affiliated societies are included in this newsletter. We hope to be able to present all 24 of them in the upcoming issues.

Vassilis Charmandaris
University of Crete, Greece

MESSAGE FROM THE PRESIDENT

The last six months were very eventful for the EAS. Prof. Göran Scharmer from Stockholm has been selected as the first winner of the Tycho Brahe Prize. The Prize which is sponsored by the Klaus Tschira Stiftung (KTS) with an annual amount of 6000.- Euro is awarded "in recognition of the development or exploitation of European instruments, or major discoveries based largely on such instruments". We received a total of ten nominations; the selection was done by the Prize Award Committee whose members were L. Woltjer (as Chair), I. Appenzeller, C. Cesarsky, G. Miley, B. Shustov, and H. Zinnecker. The prize will be presented to G. Scharmer at the opening ceremony of the next JENAM in Vienna. A formal call for nominations for the Tycho Brahe Prize in the year 2009 will be sent out in the near future and the deadline will be October 31st, 2008.

In January the EAS Council met with representatives of the Affiliated Societies in Leiden, The Netherlands. We were very satisfied with this meeting, nearly all Affiliated Societies were present, and many issues and challenges related to the advancement of European astronomy were thoroughly discussed. Each society had the opportunity to present itself and its problems. EAS Council hopes that this meeting was the beginning of an enhanced discussion with the Affiliated Societies. A more detailed report on the meeting is presented in this Newsletter by Elias Brinks, the Secretary of EAS.

I would like to once again draw your attention to the next JENAM, which will take place in Vienna from September 8 – 12 2008. It is organised jointly by the Astronomische Gesellschaft, the Österreichische Gesellschaft für Astronomie und Astrophysik, and the European Astronomical Society. I think we have a very attractive programme with a total of 9 JENAM Symposia, which cover a wide range of topics from instru-

mentation, computational astrophysics, education over planetary and star formation, to asteroseismology, stellar clusters, matter cycles of galaxies in clusters, and galaxy evolution. In addition there are a number of plenary review talks by distinguished scientists. I would like to urge all those colleagues who have not yet registered for this conference to do this as soon as possible. It promises to be an exciting conference taking place in one of the most beautiful and historic cities in Europe and I am very much looking forward to meeting you all there!

Joachim Krautter
President of EAS

ASTRONOMY IN EUROPE: AN EVOLVING COLLABORATION

It is important to have a well functioning collaboration between the EAS and the national (Affiliated) Societies in order to gain maximum benefit for European Astronomy as a whole. This also means that the respective positions and tasks of the main players have to be well defined. With this in mind, the EAS invited all Affiliated Societies to a Workshop held in Leiden, at the Lorentz Center, from 21-23 January 2008, entitled: "Astronomy in Europe: An Evolving Collaboration". The aims of the meeting were manifold: i) to exchange information of what role the Affiliated Societies currently play at a national and European level; ii) to discuss the role of the EAS, now and in the future; iii) to promote collaboration between National Societies, on a regional as well as European basis; iv) to design a model of cooperation between the EAS and Affiliated Societies which optimizes the interaction and information flow between astronomers in the member states on the one hand, and pan-European institutes on the other; v) to work towards a Memorandum of Understanding which defines how the EAS and Affiliated Societies, by working together, can increase their effectiveness and visibility.

The 3-day meeting was held under the auspices of the European Astronomical Society and organized by its Secretary. The local organization was in the able hands of the staff of the Lorentz Center which coordinates and hosts workshops in the sciences while Harm Habing agreed to act as local contact person.

In total 37 participants, predominantly presidents or secretaries representing 23 Affiliated Societies plus the entire EAS Council participated in what turned out to be an extremely useful event. The meeting opened with a talk by Peter Barthel, the chair of the Program Board for Astronomy of the Lorentz Center who presented the mission statement of the Lorentz Center and encouraged the community to consider making use of its excellent facilities (see <http://www.lorentzcenter.nl/> for full details).

The main topic of the first day was a presentation and discussion of the EAS position paper, a full copy of which is published in this Newsletter. The second day was devoted to presentations by each of the Affiliated Societies. If one thing

stood out of those presentations it was the enormous diversity in scope and purpose of the various societies. Some are strictly set up for professional astronomers while others count large numbers of amateur astronomers among their members. Some societies are active players on the astro-political scene, whereas others fulfill a more social need. Clearly, there is strength in this diversity and it will be up to the EAS to harness this and put to good use. On an individual basis, representatives of the societies present were able to exchange experiences and set up bilateral agreements for further collaboration.

The final day was used to highlight the services currently offered by the EAS and to explore ways to improve the communication between the EAS and its Affiliated Societies, and between the societies. Part of the discussion was devoted to the proposed changes to the EAS Constitution and Bye-Laws, and several useful suggestions were made which led to the wording which will be voted upon at the JENAM in Vienna and by ballot.

The workshop has been a resounding success and EAS Council is now working hard on the implementation of several of the suggestions, which were endorsed by the Affiliated Societies. Astronomy in Europe is blessed with a diverse community. It is up to the EAS, in partnership with the National Societies, to encourage and promote collaboration among all participants, to the benefit of its membership and of the European community as a whole.

Elias Brinks
Secretary of EAS

THE EUROPEAN ASTRO-POLITICAL LANDSCAPE AND THE ROLE OF THE EUROPEAN ASTRONOMICAL SOCIETY

1. Introduction

The European Astronomical Society (EAS) was founded in 1990 as an association to contribute and promote the advancement of astronomy in Europe. In particular it is meant to deal with astronomical matters at a European level. It is a society of individual members, professional astronomers, who elect a council to represent them. The society has a privileged relationship with the national societies of astronomers in European countries, which fulfill similar roles as the EAS, but predominantly at a national level.

The European Astronomical Society is the only organization in which all European astronomers can be members, independent of their field of research or country of work or origin. The society offers therefore a forum for discussion on all aspects of astronomical development in Europe and it is also the organization which can represent the interests of the astronomers in discussions of Europe-wide developments. The EAS council has been reflecting on the role the society should have on the European scene and is determined to act to strengthen the links among its members, with the national societies and between the astronomical community and the

European authorities. There is wide-spread recognition that Europe needs more coordinated planning for large science facilities than has been the case over the past decades. This effort is to include national planning efforts, those of ESO and ESA related to astronomical research, as well as a number of planning efforts underway at EU level, often under the auspices of the European Union. We review in section 2 the fields covered and in section 3 some of the on-going planning efforts in these fields. We spell out our aims in section 4 and present in section 5 how the European Astronomical Society can help to provide an overall view of these planning exercises and how it can make the voice of the astronomers heard in a European context. In this last section we also review the actions that the society has been and will be taking in the near future to enhance the coherence of the astronomical community on an EU-wide basis.

2. The Field

Astrophysics deals with a wide variety of themes from the physics of the Earth-Sun connection to the physics of cosmic objects, be they planets and their moons, stars, galaxies or more extreme objects like neutron stars and black holes, to the description of the largest structures and cosmology. All these objects are observed using tools that range from in situ measurements in the solar system to observations of electro-magnetic waves from the radio regime to TeV energies and to the detection of particles like cosmic rays and soon neutrinos. It is hoped that gravitational waves will also become part of the astronomical tool kit in the coming years. Furthermore concepts like astro-chemistry and astro-biology have become current and cover new ways of approaching astronomical objects and knowledge. Modern astronomy (or equivalently astrophysics) is thus a very multi-disciplinary domain of investigations, an aspect that the EAS intends to fully integrate in its activities.

There are a number of subjects that border astronomy and should be considered when contemplating the astronomical landscape, without necessarily being always associated with it. One example is the search for dark matter particles in ground-based laboratories or the particle physics experiments that reproduce conditions thought to exist in the cores of neutron stars or at early times in the Universe.

Another domain that is closely related to astronomy but whose border with astrophysics is more fuzzy is the “geology” of solar system bodies and the study of their atmospheres. This is an object of study per se and features in relation with the study of exoplanets.

3. The Actors

With such a wide field of study it is not surprising that the number and variety of the actors are truly astronomical. We deal with national organizations, and often several per country from Portugal to Russia and from Finland to Greece. We also deal with inter-governmental organizations like ESO and the

space science programme of ESA. The scene is also now inhabited by a number of organizations and structures stemming from one part or another of the European Union. The roles of these organizations are often overlapping. They are sometimes in competition and some fund others in various schemes. Some are parts of national governments, while others represent users or contributors at various levels. The geographical area of influence of these organizations ranges from a national area to Western Europe or the NIS states. Only one organization has a pan-European scale, and that is the European Astronomical Society (EAS).

3.1 National Organizations

In general the national actors on the astro-political scene are the ministry (or regional authorities) that funds positions and basic infrastructure in the universities and research centers. These entities then often define themselves the priorities they give to different activities such as teaching and research. There is then often a grant giving organization that funds individual research projects proposed by researchers. Together these structures shape the root infrastructure available nationally to astronomical research.

Additional national actors are those services that fund and represent national interests in the ESA and ESO intergovernmental organizations, or contribute to national bi- or multi-lateral space science and exploration efforts in large countries. These services seldom all come from the same governmental entity.

Some large international projects, like the search for astronomical neutrinos (ANTARES) or that for gravitational waves (VIRGO) are run and funded through different channels stemming from further governmental actions.

The national scenes also include professional societies - in our field of interest these are mainly astronomical societies - but also sections of national physical, or even chemical societies. These play a variety of roles in shaping the national priorities across the borders of the administrations attached to different ministries or departments. They produce or contribute to “national roadmaps” that express the interests and priorities of their respective research communities. They often define their subject matter boundaries in ways that differ across geographical borders.

3.2 Inter-Government Organisations

ESA (standing here in short for its scientific programme and the scientific aspects of its exploration programme) and ESO are two organizations that were shaped after the model of CERN, a model in which a number of governments decided to unite their efforts to develop and operate facilities that are clearly beyond their individual reach. Although there is a large overlap, the ESA and ESO members are not identical, nor are any of them the same as the members of the European Union. In addition, different ministries and services fund and represent many of the countries in both organisations.

ESA and ESO have their, different, planning cycles. ESO has recently decided to invest large efforts in the development of a 40-m class telescope, while ESA is in a vast exercise of thinking about ideas for future space science missions. It has produced the “Cosmic Vision” document, written under the coordination of ESA’s advisory structure with inputs from the whole community including “ideas” generated as a response to a general call. Of the 150 such ideas, there is hope that one or two missions may be realized before 2020, albeit at the possible cost of eliminating one mission of the existing programme and/or a significant part of the operations of existing missions. Both organizations have a strong link with their user communities through a number of committees on which astrophysicists fill several roles, ad personam or as representatives of governments or national bodies. The final programmatic decisions are, however, taken by delegates of the national administrations rather than by the scientists.

3.3 EU Bodies

Building on the Lisbon European Council in 2000 the European Union (EU) has created a number of structures active in the astrophysical domain, within the concept of the European Research Area (ERA). The ERA concept combines a European ‘internal market’ for research, where researchers, technology, and knowledge should freely circulate with European-level coordination of national and regional research activities and programmes and with initiatives implemented and funded at a European level. Several networks (ERA-Nets) based on this concept have activities in the astrophysical domain. There are essentially three levels of ERA-Nets:

1. those run by working astronomers like OPTICON, RadioNet, EuroPlaNet, and ILIAS,
2. ERA-Nets run by national funding agencies (ASTRONET),
3. and those run by governments (ESFRI).

In addition the EU has founded the European Research Council (ERC), an independent Council of distinguished scientists set up to fund investigator-driven frontier research in all scientific disciplines. The ERC is the EU body responsible for bottom-up research funding. All these structures have some degree of a planning role and all are trying to gain influence on the European scene either in general terms or to gain support for their specific projects and research activities. Through this set of structures, the EU is gaining a significant impact with a minimal funding effort.

3.3.1 OPTICON

The objectives of OPTICON (<http://www.astro-opticon.org>) state that “OPTICON brings together all the international and national organizations which fund, operate and develop Europe’s major optical and infrared infrastructures, together with several world class facilities for solar astronomy located in the Canarian Observatories.” Work towards this generic aim is organized through a number of Networks and Joint Research Activities (each of these concepts correspond to EU funding

structures). OPTICON provides on the one hand access to a number of facilities for users outside their “natural” areas and on the other sponsors a number of programs to develop designs and technologies that will be of prime importance for future large telescopes. OPTICON also aims at improving the coordination between astronomical facilities.

3.3.2 RadioNet

RadioNet (<http://www.radionet-eu.org>) “is an Integrated Infrastructure Initiative (I3) that pulled together all Europe’s leading astronomy facilities to produce a focused, coherent and integrated project that will significantly enhance the quality and quantity of science performed by European astronomers.” In some sense RadioNet provides to radio astronomy a number of services similar to what OPTICON provides to optical and infrared astronomy. Specifically it makes access to radio telescopes easier and funds a number of technologies that will be essential for future large projects. It also has a number of coordinating activities.

3.3.3 EuroPlaNet

The objectives of EuroPlaNet (<http://europlanet.cesr.fr>) are:

1. increase the productivity of planetary projects with European investment, with emphasis on major planetary exploration missions;
2. initiate a long-term integration of the European planetary science community;
3. improve European scientific competitiveness, develop and spread expertise in this research area,
4. improve public understanding of planetary environments.

The objectives are to be met through improving synergies between subfields, developing an integrated information system to provide access to all relevant data sets.

3.3.4 ASTRONET

ASTRONET (<http://www.astronet-eu.org>) is a “group of European funding agencies [coming together] in order to establish a comprehensive long-term planning for the development of European astronomy.”

To achieve this goal ASTRONET has set for itself the following concrete objectives:

1. producing a Science Vision for European astronomy, benefiting from national reviews when they exist, inspiring others when they don’t,
2. proposing, as a result, an Infrastructure Roadmap of European astronomy, identifying key technologies that are on the critical path to success,
3. proposing targeted coordinated actions between ASTRONET participants, in particular evaluation procedures and specific research programs,
4. laying the foundations for a permanent mechanism of cooperation between European research agencies in the field of astronomy and astrophysics.

These objectives will be met by producing an “Infrastructure roadmap” itself based on a document called “Science Vision”.

Although ASTRONET is a group of funding agencies, it has set up a way of working that involves the astronomical community by setting up working groups and by inviting the community as a whole to discuss the draft “Science Vision” document elaborated by the working groups. Further working groups are now working on the “Infrastructure roadmap” that will again be put up for discussion in front of the community.

3.3.5 ESFRI

The members of this forum are delegates from national ministries of EU member states, the commission and associated countries (those that are not EU members but are taking part in the framework programme). In contrast to OPTICON, RadioNet and EuroPlaNet that have been proposed by members of and are run by the scientific community, ESFRI is a forum of government officials. ESFRI has sought advice from external experts. ESFRI has been set up with the following scope:

1. to support a coherent and strategy led approach to policy making on research infrastructures in Europe;
2. to facilitate multilateral initiatives leading to a better use and development of research infrastructures.”

The European Strategy Forum on Research Infrastructures (ESFRI; <http://cordis.europa.eu/esfri>) has identified “35 large scale infrastructure projects, at various stages of development, in seven key research areas including Environmental Sciences; Energy; Materials Sciences; Astrophysics, Astronomy, Particle and Nuclear Physics; Biomedical and Life Sciences; Social Sciences and the Humanities; Computation and Data Treatment. The list covers among others projects such as the European Polar Research Icebreaker, high power lasers, biobanks, large optical telescopes, the square kilometre array, high power computing services and the upgrade of the European Social Survey.”

In astronomy ESFRI recommends the ELT (large ground based telescope), SKA (square kilometer low frequency radio telescope) and KM3NET (a cubic kilometre neutrino detector).

3.3.6 ApPEC and ASPERA

ApPEC (Astroparticle Physics European Coordination) has initiated work towards the definition of the priorities and possible implementations of astroparticle experiments in Europe. The first stage of this work, the ASPERA (an FP6 ERA network, <http://www.aspera-eu.org>) roadmap stage I, has been issued in 2007. The roadmap describes a number of experiments that can be expected to provide considerable progress based on the results obtained lately in TeV astronomy and other domains and on the existing technologies, or at least on those that can be expected to mature in the coming years. The experiments aim to include dark matter searches, neutrino astronomy and physics, proton decay, TeV

gamma ray astronomy, charged particles (cosmic rays) and gravitational waves. This field is in rapid transition from a set of early “experiments” to becoming a rapidly growing observational tool able to study populations of cosmic objects and thus to become one of the tools of multi wavelength astrophysics in the study of numerous types of cosmic objects. This is particularly true of TeV astronomy where the next generations of instruments are expected to be real “observatories”, serving large communities.

Further steps of the ASPERA process will lead to an implementation plan for a number of facilities.

3.4 Other International Organizations

The OECD has also established a forum in which national delegates discuss large facilities for research. This body has already met a few times and generated some reports. It provides a forum in which large scientific projects, among which a number of astronomical projects, can be discussed in a worldwide framework.

The European Science Foundation (ESF) also takes on a number of reviews for various organizations and authorities and contributes thus to the shaping of the astronomical efforts in Europe.

4. The aim

The European landscape is dominated by national structures, even when they very successfully collaborate in some inter-governmental organizations like ESA and ESO. Indeed, even in these organizations policy is set by national delegates rather than by a truly European body. Sometimes, but certainly not always, the national delegates to European inter-governmental organizations act to foster or preserve national interests and points of view. It also happens, though, that committees and councils choose to develop a truly European policy. This is easiest when there are no competing national interests, be they scientific or industrial. This truly European construction has allowed Europe to take a leading position in optical, mm, and radio astronomy and to develop a remarkable position in space science, in the latter case with a rather modest (in international comparison) budget.

The EU adds a new administrative layer between the national states and the projects or organizations that it funds. This layer acts to collect the outcomes of the national debates and then turns them into a truly European policy, in which national interests should not dominate any more. This should then imply that an important fraction of the funding comes from the EU, which is up to now far from being the case. It must also be noted that up to now at least, the EU is seen in large parts of the scientific community as a top heavy bureaucracy, ill equipped to understand the scientific community and to respond to its, sometimes complex and contradictory statements.

This notwithstanding, the EU has in the past years taken an important if somewhat confusing role in the discussions of

large scientific projects. This has led to the initiatives described in section 3. One problem at present is that the number of organizations that are on the coordination scene has become large and that they represent many different types of constituencies. Furthermore, none of these organizations or networks represents the entire European astronomical community. The EAS, which is the society of all professional European astronomers, is therefore thinking about its role in this complex landscape, hence the present paper.

A further difficulty is that all planning efforts are meant for different funding bodies and/or structures. Whereas it is most often possible to see who is expected to take advice from the roadmaps and other documents, the advice provided is relevant for a number of actors, not necessarily only those who mandated the exercise in the first place. Funding authorities are therefore confronted with a number of papers, some of which are meant for them, some others simply relevant and not necessarily coordinated among themselves. The bodies at the origin of the harmonisation plans and roadmaps are also diverse in terms of the interests they represent. For the time being none is representing the astronomical community at large, even if some planning efforts have called on the community. ASTRONET is a good example here.

We should aim for a coherent expression of the priorities of the European astronomical community for years ahead. We should also aim at ways to make these views understood by all the funding bodies in Europe.

5 The role of the EAS

Only the EAS represents the astronomers and astrophysicists on a pan-European scale. The Council of the society recognizes the responsibility that this representation implies and made it a core issue in guiding its thinking for the coming years. We describe here our current activities and those proposed for the near future.

5.1 EU contacts

5.1.1 Relationship with the commission

EAS Council is working towards establishing a regular discussion with the EU commission at the appropriate level. This will be taken care of for the council by the President. A report will be given at each of the general assemblies and published in the EAS Newsletter.

5.1.2 Astronomical planning in Europe

We have seen in section 3 that many organizations in Europe are making plans, producing roadmaps and funding recommendations. Some explicitly use inputs from the community, others less so. Many use EU funds to place contracts to national agencies or other bodies to make part of the work, none is community driven, except for several national roadmaps. Although all the planning efforts now underway

have limitations, they are all valuable as they are based on sometimes considerable efforts and thoughts. These values must be recognized and put to good use.

The EAS council proposes to review the planning material generated up to 2007, be it of national or international origin and to write a synthetic view of their findings. In order to perform this task, the EAS council is setting up a committee of senior astronomers, members of the society. The committee is chaired by Prof.M.C.E. Huber and composed of members ad personam. The members are selected so that a very broad knowledge is available to them. The EAS council will approve the document prior to releasing it publicly.

The council will then communicate this synthesis to the EAS members through the Newsletter and at meetings. It is expected that this information will allow all EAS members to have an informed opinion on the state of the astronomy planning in Europe. The EAS will thus serve in this first step as a link between the various committees and bodies that are now doing the planning efforts and the astronomical community at large. The evolution of the synthesis document in the coming years will be addressed by council in due time.

The chairperson will involve the community first by seeking opinions in an electronic way, then through external contacts where the committee deems necessary. Liaison with the Council will be through one of the vice-presidents.

5.2 Communication between the members

The EAS should not only provide a link between the community and the European planning authorities, it should also foster communication between its members. Even when working in different fields of astrophysics, we share the use of many common facilities. Satellites and observatories are used across all fields and it is collectively that we have the task of developing, operating and maintaining our 'tools'. In order to do this we need to know and understand those colleagues active in areas that can be far removed from our own and to have a good grasp of their ambitions and problems. The EAS provides the framework within which this communication can take place.

5.2.1 EAS meetings

JENAM meetings are common meetings between one affiliated society and the EAS. This form has many advantages both on the organizational aspects and the opportunity to strengthen the links between a national community and the European society. These meetings are now organized around a number of EAS (or JENAM) symposia on specific subjects, a few of which taking place in parallel, and a number of plenary sessions. This provides a balanced approach between the necessary specialized meetings and the opportunity to meet colleagues working in different fields in a truly multi-disciplinary approach to modern astrophysics.

Council will in future years ensure that this balance remains such that EAS meetings are attractive to the whole community. The Treasurer will provide the necessary long term link between the yearly organizers and Council.

5.2.2 Newsletter

The society has edited almost since the beginning of its existence a Newsletter, providing a physical link between the society and the members. The Newsletter provides information on the Society and its activities, information of use to the community and original material on aspects of its constituency. This latter element is of great importance as it promotes mutual understanding of communities that history has often kept separated for long periods of time. This publication will continue on a bi-annual basis, with issues coming out in December and June under the editorship of Vassilis Charmandaris of the University of Crete. Members are invited to provide comments and articles to the editor and to contribute thus to the liveliness of the journal.

5.2.3 Electronic communication

The EAS has been running a web page providing information to the members on society issues, meetings, but also membership, job opportunities and the like. The web page is maintained at the ISDC, it can be found at: <http://eas.unige.ch>, the e-mail address under which the society's secretary can be reached is eas@obs.unige.ch. This service will be continued and, wherever possible enhanced in the coming years. The Secretary is the person in charge of these communications.

5.2.4 The Tycho Brahe prize

The EAS gives yearly the Tycho Brahe prize in recognition for the development or exploitation of European instruments, or major discoveries based largely on such instruments. The prize will be awarded at the JENAM meetings. The winner will give a lecture that will then be published in *Astronomy and Astrophysics Reviews*.

5.2.5 Other publications

Many issues relevant for astronomers in Europe are dealt with within a national framework. Most of the national communities have therefore established astronomical societies in various forms. The EAS will help in the discussions across national boundaries wherever meaningful and will provide a forum in which contacts can be established and pursued. It also has a register of national societies and their presidents on its web site. The president is in charge of this aspect of the EAS activities.

Meetings of the EAS with its affiliated societies are expected to be the ideal vehicle for these contacts. The first of these meetings took place in January 2008 in Leiden.

5.4 Contacts with sister societies

Astronomy does not operate in a vacuum. Many other scientific fields are organized on the European scene, like the European Physical Society or Euroscience and many others. The EAS, through its President, will seek contacts with these societies in order to discuss areas that straddle different societies like astro-particle physics, in order to find common ground or discuss problems which are shared among communities and ways to address these common issues in a coordinated fashion.

Thierry J.-L. Courvoisier
and the EAS Council

TYCHO BRAHE PRIZE AWARDED TO PROF. GÖRAN SCHARMER



The European Astronomical Society announces that the first winner of its newly created Tycho Brahe Prize is the Swedish astrophysicist Prof. Dr. Göran Scharmer. The Tycho Brahe Prize will be awarded annually in recognition of the development or exploitation of European instruments, or major discoveries based largely on such instruments. The Tycho Brahe Prize carries a monetary reward of 6000 Euros and is sponsored by the Klaus-Tschira foundation, which is based in Heidelberg, Germany. The Tycho Brahe Prize will be awarded to Prof. Scharmer at the opening ceremony at the next European meeting JENAM2008 taking place in Vienna, Austria, from September 8-12, 2008.

Prof. Göran Scharmer is one of the leading solar physicists with a remarkable track record in advancing ground-based solar observations. The unprecedented sharpness of solar images taken with telescopes that Scharmer developed, are currently leading to new insights into the physics of the photosphere and chromosphere of our Sun. The planning and construction of these telescopes which are located on Roque de los Muchachos, a mountain peak on the Island of La Palma, differs from many other recent advances in astronomical instrumentation in that one person - Goran Scharmer - is clearly identifiable as the originator of the concepts and driver of their realization.

The Swedish 1-m Solar Telescope (SST) is currently the world's best solar telescope, capable of reaching the highest angular resolution. It was the first solar telescope to reach an angular resolution of 0.1 arcsec (this is about one twenty thousandth of the solar diameter!). Among other things, the SST has discovered new features in sunspots, clarified the nature of solar faculae (which are emission areas brighter than the rest of the solar surface), and made high-temporal resolution observations which have led to great leaps in our understanding of chromospheric phenomena (the chromosphere is the lowest part of the solar atmosphere). Prof. Scharmer has also established most successful scientific collaborations with the strongest solar groups in Europe and the USA.

2008 GROTE REBER MEDAL



The 2008 Grote Reber Medal for lifetime innovative contributions to radio astronomy has been awarded to Dr. Sander Weinreb of NASA's Jet Propulsion Laboratory and the California Institute of Technology. Dr. Weinreb (see photo credit of Sander Weinreb) is being honoured for his pioneering developments of novel techniques and instrumentation over

nearly half a century which have helped to define modern radio astronomy.

"Sandy Weinreb's contributions to radio astronomy technology are to be found throughout the radio observatories of the world and have set the foundation for so many amazing astronomical discoveries", said Dr Ken Kellermann of the National Radio Astronomy Observatory in the USA.

Weinreb received his PhD degree in electrical engineering from the Massachusetts Institute of Technology (MIT) in 1963. While he was still a graduate student at MIT, he developed the world's first digital autocorrelation spectrometer which he then used to place a new upper limit to the Galactic deuterium-to-hydrogen ratio. With Barrett, Meeks, and Henry, he detected the hydroxyl molecule (OH); this was the first radio observation of an interstellar molecule. His autocorrelation spectrometer technique is now in use at virtually every major radio observatory throughout the world and has been crucial in the subsequent explosive growth of interstellar molecular spectroscopy.

In 1965 Weinreb went to the U.S. National Radio Astronomy Observatory (NRAO) in Green Bank, West Virginia where he became Head of the Electronics Division and later Assistant Director of NRAO. During his 23 years at NRAO, he pioneered the use of low-noise, cryogenically cooled solid state amplifiers which greatly enhanced the sensitivity of radio telescopes. He was the architect for the electronic systems design for the NRAO Very Large Array (VLA) in New Mexico and led the group which developed the novel receivers and the data transmission, acquisition, and monitor and control systems for the VLA.

Subsequently, Weinreb worked firstly at Lockheed Martin Laboratories and then at the University of Massachusetts where he developed various millimetre wave devices. He has also been a Visiting Professor at the University of Virginia. Most recently he has been a Faculty Associate at Caltech and a Principal Scientist at JPL where he has continued his work on low noise amplifier devices. He played a leading role in the electronics design for a new Deep Space Network (DSN) space tracking array, and he has been active in developing wideband feeds and front ends as well as investigating cost effective designs for modest size antennas, all of which will be important for the next generation of radio telescopes such the Square Kilometre Array (SKA). In addition he has been working with the Goldstone Apple Valley Radio Telescope

(GAVRT) program to develop a 34-metre radio telescope at Goldstone for use with schools around the globe.

"For nearly five decades Sandy's innovative contributions to radio astronomy have paved the way for an amazing array of new and exciting discoveries about the nature and evolution of the Universe", said Dr David Jauncey of the Australia Telescope National Facility in Australia.

The 2008 Reber Medal will be presented to Dr Weinreb at the International Radio Science Union (URSI) radio astronomy commission meeting to be held on 13 August 2008 in Chicago. The Reber Medal was established by the Trustees of the Grote Reber Foundation to honour the achievements of Grote Reber, the world's first radio astronomer, and is administered by the Queen Victoria Museum in Launceston, Tasmania in cooperation with NRAO, the University of Tasmania, and the CSIRO Australia Telescope National Facility.

Nominations for the 2008 Medal may be sent to Martin George, Queen Victoria Museum, Wellington St, Launceston, Tasmania 7250, Australia or by e-mail to martin@qvmag.tas.gov.au. Nominations are to be received no later than November 15, 2008.

About Grote Reber

Grote Reber was born on 22 December 1911. Before he was 30 years of age, he became the world's first radio astronomer. He opened up a whole new window on the Universe through which astronomers can study objects and processes quite different to those that produce ordinary light. These include quasars and pulsars, and the detection of atoms and molecules in the space between the stars.

Before the 1930s, astronomers could study the universe only in visible light — the radiation that our eyes, and ordinary photographic film, can detect. That changed in two major steps. In the early 1930s, Karl Jansky investigated radio interference in transatlantic telephone links and, in the process, discovered radio emissions from our Milky Way Galaxy. It was Grote Reber, however, who decided that this was an important new way of studying the Universe and decided to take some action. He said, "I consulted with myself and decided to build a dish!"

To this end, Reber, in 1937, constructed the world's first purpose-built radio telescope. He built it adjacent to his home in Wheaton, Illinois, just west of Chicago, and it was of the now familiar 'dish' design. Reber's telescope was the forerunner of the classic design of the world's famous radio telescopes (including the famous 'dish' at Parkes, in Australia). The same principle is used widely today in many other applications, including satellite dishes in private homes.

Reber used his telescope, which had a diameter of 9.75 metres (32 feet), to map the sky at a frequency of 160 MHz, or a wavelength of 1.9 metres. This was the first detailed radio map of the sky which showed the Milky Way and revealed for the first time the presence of the Galactic Centre and the radio source known as Sagittarius A.

NEWS FROM OPTICON

"His work was a huge step forward for astronomy", said Martin George, Past President of the International Planetarium Society and Administrator of the Grote Reber Medal. "For the first time, the Universe was being studied at wavelengths other than those visible to our eyes", he added.

After leaving Wheaton in the early 1950s, Reber conducted radio astronomy experiments at the summit of Mount Haleakala, where he was the first astronomer to build a high-altitude observatory in Hawaii. Then, in 1954, he moved to Tasmania, Australia, where he began observing at much longer wavelengths using a quite different type of 'telescope': an array of dipoles, which took the form of antennas strung between the tops of poles.

North of his home in Bothwell, in southern central Tasmania, Reber constructed such an array which was supported 20 metres above the ground and operated at a frequency of 2 MHz, a wavelength of 144 metres. This very low frequency radio telescope covered an area of one square kilometre. It was, and still is, the world's largest single radio telescope in terms of collecting area. In the 1960s, he mapped the southern sky with this telescope.

Reber involved himself in many other scientific pursuits. Among his activities, he built an energy-efficient house in Bothwell; he was fascinated by plants, and in particular the direction in which beans entwined themselves around poles; and he was particularly keen on studying energy-efficient transport, being very proud of his electric car called Pixie. Reber was well known for his independent thoughts and activities.

"He had no patience for negotiation or compromise, and was forcefully direct in choosing his words. One always knew what he was thinking about and what he wanted. Grote Reber believed in himself!" said Dr Ken Kellermann.

Reber's views on various topics, especially his opposition to the widely accepted Big Bang Theory of the origin of the Universe. "Grote and I would often chat about his ideas", recalls Martin George. "He was often heard to say that The Big Bang is Bunk!".

Although Reber's research and ideas often fell outside the mainstream activities of other astronomers, his contributions, especially in the early days of radio astronomy, were both pioneering and critically important. He was awarded a number of prizes, and an honorary Doctor of Science Degree from Ohio State University in the USA.

Grote Reber died in Tasmania on 20 December 2002, two days before his 91st birthday.

For more information please contact

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It is hard to realize that the FP6 OPTICON programme is in its final year, so much has happened since January 2004 and yet so much is still happening. Last year saw the climax of several of our activities as they achieved their final FP6 deliverables, while other projects continued and will come to a conclusion later this year. The NUVA UV astronomy network held a large meeting at El Escorial, near Madrid, in May and a few months later the High Time Resolution Astrophysics network organized a successful and well attended two day meeting in Edinburgh. Publications are expected from both of these soon. The European Interferometry Initiative (EII) continued its activities to bring together Europe's interferometry community with meetings in Heidelberg and more recently in Porto. The EII activities have included developing a next generation interferometer design study for FP7 and planning this communities input to the ASTRONET road-mapping process. Continuing to work quietly in the background, the Future Astronomical Software Environment group conducted an internet based review of its requirements before moving on to the prototyping stage.

The trans-national access programme for FP6 is almost complete with several of the telescopes having already exceeded their allocations of OPTICON time and most of the remainder having allocation meetings in the next few weeks. Efforts to develop the NORTHSTAR proposal submission system have continued with ASTRON in the Netherlands modifying this RADIONET tool for use at several French telescopes and at UKIRT. A version for the Isaac Newton Group telescopes in La Palma is now underway. In parallel with this, OPTICON co-sponsored a NORTHSTAR workshop in Bologna for interested observatory staff to get their hands 'under the bonnet' of the code and see how it works.

On the technology side the work to develop fast detectors for AO has progressed well, with the delivery of detectors to the team and the completion of a test camera in which the detectors can be installed and evaluated. The parallel activity to develop fast detectors for astrophysics has also gone well, with on sky testing of pn-ccds at the Skinakas observatory in August 2007 and 'lucky imaging' at the 200 inch Palomar telescope in June. The interferometry JRA has continued to develop software for data reconstruction and contributed to two of the three future VLTI instruments selected by ESO for further development. The groups looking at smart focal planes for future instruments have identified a full set of technologies and this information is already playing a part in ELT studies.

OPTICON was represented at the JENAM meeting in Yerevan by John Davies, who gave a talk and displayed posters and handouts. John also visited national astronomy meetings in Budapest, Vienna and the Moletai observatory in Lithuania. Co-ordinator Gerry Gilmore joined RADIONET, ASTRONET and I3NET meetings.

Mid term review

As part of the routine EU process the OPTICON contract was evaluated in 2007, with Professor Mary Kontizas as the chief reviewer. The process was carried out very diligently, considerable written material was supplied to the review in advance and all aspects of the contract were presented by the various team leaders in person during a two day meeting in Corfu. The outcome of the review was very positive and constructive suggestions were made which we were able to incorporate into our future planning.

FP7. Building for the Future

The autumn and spring proved a very busy time for OPTICON as we responded to the EU FP7 call for proposals. After a considerable amount of work by all the team leaders a proposal requesting 15 million Euro, the absolute maximum allowed, was submitted comfortably before the deadline. The new proposal takes forward many of the activities which have already been successful in FP6 and expands on them to further progress the integration and technical development of European astronomy. Six workpages in research and development covering adaptive optics, innovative detectors and instrument technologies and interferometry are proposed. These are supported by a range of networking activities, with particular emphasis on developing new communities from around Europe. The proposal also calls for a large trans-national access programme in which the call for proposals and time allocation process will be handled centrally by OPTICON to ensure common standards and a level playing field for all proposals. We await the outcome of the EU referees.

As always more information can be obtained from www.astro-opticon.org or by contacting the project scientist, John Davies (jkd@roe.ac.uk) or the chairman Gerry Gilmore (gil@ast.cam.ac.uk)

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

EURO-VO NEWS

The European Virtual Observatory (EURO-VO)  continues its efforts towards a seamless access to rapidly growing astronomical data resources. It provides support to the astronomical community via the EURO-VO web pages, specialized workshops and scientific and technical support to projects making use of VO tools and services.

A Virtual Observatory (VO) Info-Workshop was held in Sofia, Bulgaria, on January 24-25, 2008, gathering EURO-VO experts and members of the Bulgarian, Serbian, Romanian and Hungarian astronomical communities. The workshop included informative talks as well as hands-on sessions. For more information see the workshop web pages: <http://www.bgvo.org/VODAY2008/>

The EURO-VO proposal "Astronomical Infrastructure for Data Access (AIDA)" submitted to the first Framework Programme 7 (FP7) Infrastructure call INFRA-2007-1.2.1 "Scientific Digital Repositories" has been selected for funding at the 2.7 Meuro level. The projected starting date was Feb. 1, 2008 and ensures the continuation of European-wide VO activities at least until 2010.

Within the framework of AIDA (Astronomical Infrastructure for Data Access), the European Virtual Observatory (EURO-VO) project is seeking proposals from teams carrying out archival research or projects that could benefit from the Virtual Observatory concept. The Virtual Observatory tools and applications allow seamless access to most of the world's large data archives such as ESO, ESA or HST. They also allow users to access a huge variety of reduced multiwavelength data and catalogues and to perform high-level analysis of images, spectra and large tabular datasets. Successful applicants will receive support from EURO-VO astronomers in using the VO facilities and software to complete their projects. For more details on the call and the submission procedure, see http://www.euro-vo.org/pub/fc/AIDA_call_2008.html

AIDA will also announce the first "community feedback" workshop that will take place in the second half of 2008, at ESAC, Villafranca, Spain, and will be addressing the issue of multiwavelength data and the VO. More details will be announced later in the year.

The Data Centre Alliance (DCA) is organizing a second workshop with title "How to publish data in the VO" to be held at ESO, Garching, in the week of June 23rd. For details about the content of the workshop see <http://www.euro-vo.org/dcaworkshop2008/>. The first workshop on the same topic gathered more than 70 participants from major European data centers (<http://esavo.esac.esa.int/EuroVOWorkshopJune2007/>).

For more information on the EURO-VO news and activities, the available VO tools and applications and the VO-related workshops and meetings, visit the EURO-VO web pages: <http://www.euro-vo.or>

**Evanthia Hatziminaoglou on behalf
of the EURO-VO Facility Centre,**

THE ARMENIAN ASTRONOMICAL SOCIETY

There are evidences for astronomical activities in Armenia coming from a few thousands years ago: rock art, ancient observatories (Karahunge, the "Armenian Stonehenge", and Metzamor), and the ancient Armenian calendar, thus

making Armenia one of the oldest countries with developed astronomical knowledge. The modern astronomy in Armenia begins with the foundation of the Byurakan Astrophysical Observatory (BAO) in 1946 by Victor Ambartsumian (1908-1996). As a result, more than 60 years Armenia has one of the largest modern observatories in the region with its 2.6m and 1m Schmidt telescopes, and now with one of the largest digitized spectroscopic databases in the world (DFBS) and the Armenian Virtual Observatory (ArVO) project.

A number of innovative ideas have appeared in Byurakan and many discoveries have been made. Discovery of stellar associations, hypothesis about activity of galactic nuclei by Ambartsumian, discovery and study of many Seyfert galaxies and QSOs, flare stars, Supernovae, Herbig-Haro objects and cometary nebulae, valuable works in the field of radiative transfer theory, are the main scientific achievements of the Byurakan astronomers. Surveys and search for new objects are the traditional field for the Armenian astronomers: Markarian, Arakelian and Kazarian galaxies, Shabazian groups are known worldwide.

The idea to establish an Armenian Astronomical Society was born in 1960s when it was known already that a number of Armenian astronomers were working out of Armenia and a need to keep contacts between them and for collaboration was obvious. Victor Ambartsumian, Ludwik Mirzoyan, Yervant Terzian, and Vahe Petrosian were the most active to promote this idea. However, the society was really created much later. The decision to found the Armenian Astronomical Society (ArAS) was made on June 22, 1999 in Byurakan at the meeting of 16 astronomers. An initiative group was elected to prepare suggestions on the ArAS activities, work out its bye-laws, membership form, etc. The official registration of the Society by the Armenian authorities came 2 years later. The Ministry of Justice of Armenia approved the Bye-laws and registered ArAS as a Non-Governmental Organization (NGO) on August 29, 2001. On September 13, 2001 at the European Astronomical Society (EAS) Council Meeting in Munich (at JENAM-2001), ArAS was officially recognized by the EAS, and became one of its Affiliated Societies. ArAS has also been recognized by IAU, EAAS (ArAS is its representative in Armenia), Armenian Physical Society, All-Armenian Scientific Society, Society of Armenian Scientists and Engineers (USA) and other international organizations.

The main goals of the Society, according to its Bye-Laws are: promotion of astronomy, promotion of collaboration between all astronomical institutions in Armenia, contacts and collaboration between the Armenian and other astronomers all over the world, development of the astronomical education and knowledge in Armenia. Since 2002, ArAS has three co-Presidents: Haik Harutyunian (BAO), Areg Mickaelian (BAO), and Yervant Terzian (USA). Other ArAS members involved in the administration have been: Tigran Magakian, Elena Nikoghossian, Tigran Movsessian, Smbat Balayan, Lusine Sargsyan, and Lilit Hovhannisyian.

At present there are 66 ArAS members, including 58 full ones and 8 junior ones. They represent 10 countries (Armenia, USA, Germany, Mexico, etc.) and 24 institutions. 44 are from Armenia, including 31 from BAO.

Though BAO is the main astronomical centre in Armenia, however, there are also 4 other institutions where astronomy is active: Yerevan State University (YSU), Garni Space Astronomy Institute, Yerevan Physics Institute (YerPhI), and Institute of Radioastrophysical Measurements.

At present some 60 astronomers work in the Armenian institutions. 28 Armenian astronomers are IAU members and 24 are EAS members; some are members of other international societies and organizations. In total, 204 astronomers of Armenian origin live in the world.

The main activities of ArAS at present are: the organization of Annual Meetings; distribution of the ArAS Newsletter to all ArAS members and all Armenian astronomers; award of the ArAS annual prize to young scientists; maintenance of the ArAS webpage, etc.

Since 2002, ArAS organizes its Annual Meetings every year in late summer or early autumn, in Byurakan or Yerevan, and invites all Armenian and other astronomers to take part in them and present their recent results and/or reviews on their works. The official languages of the Meetings are the English and the Armenian. Sometimes the ArAS meetings are being combined with other events in Byurakan, like BAO's 60th anniversary meeting in 2006 and the Joint European and National Astronomy meeting in 2007 (JENAM-2007). JENAM was the largest scientific event ever organized in Armenia (more information about JENAM-2007 is available in EAS Newsletter #34, Dec 2007).

ArAS Council meetings are organized a few times a year on demand of questions appeared. Main questions discussed are the acceptance of new members, current activities, organization of Annual Meetings, collection of fees, etc.

Since 2002, ArAS publishes and distributes to all members its Electronic Newsletter 4 times annually in March, June, September, and December. The main topics covered are: news, announcements, presentation of the ArAS new members, BAO and Armenian astronomy info, international and national meetings and participation of Armenian astronomers, information on forthcoming events, astronomical education in Armenia, Armenian archaeoastronomy, anniversaries, scientific, scientific-popular and info materials. It may publish also abstracts of scientific papers or some short papers entirely.

A number of astronomical schools were organized in Armenia, and ArAS was one of the active organizers (Byurakan Summer School in 2005 (for YSU students), 2006 (international one). The next international school is expected in September 2008 and will be devoted to the

100th anniversary of Prof. Ambartsumian. An International School for Young Astronomers (ISYA) is planned for 2010. ArAS has established its Annual Prize for Young Astronomers in 2004. It is being awarded annually to an Armenian astronomer or ArAS member of other nationality younger than 35 for all activities during the given year (research, papers, talks, organizational affairs, etc.). The prize is annually donated by Prof. Yervant Terzian. Lusine Sargsyan, Artak Harutyunyan, Elena Hovhannessian, Lilit Hovhannisyian, Parandzem Sinamyan, and Igor Chilingarian have been awarded ArAS prize in 2004-2007.

As astronomy is very popular in Armenia, the school astronomical education is being carried out since many decades. Since early years of the establishment, the Armenian high-level pupils participate in International Astronomical Olympiads, and the Armenian team is one of the most successful among all (there were more than ten winners during the last years). ArAS officially represents the Armenian teams at the International Astronomical Olympiads.

ArAS webpage maintains information on the Armenian astronomy, astronomical institutes in Armenia, articles on famous Armenian astronomers, ArAS activities and members list, full list of all astronomers of Armenian origin in the world, the Digitized First Byurakan Survey (DFBS) and the Armenian Virtual Observatory (ArVO), current astronomical meetings, useful links, etc.

More information on ArAS and its activities is available at its webpage at <http://www.aras.am>

Areg Michaelian
Byurakan Astrophysical Observatory

THE EURO-ASIAN ASTRONOMICAL SOCIETY

The Euro-Asian Astronomical Society (EAAS) continues the tradition of the Russian Astronomical Society, which existed in 1890–1932. Beginning with late 1980s, many new professional societies of USSR scientists emerged due to "perestroika" enthusiasm. The EAAS is one of very few that are still active, showing the real necessity of such a society.

The EAAS was established in April, 1990 as the Soviet Astronomical Society. Currently, it is officially registered in Russian Federation as a non-profit international organization. It is active in Russia, virtually all CIS countries, Latvia, and Estonia, has members in many countries outside this region (in the USA, Israel, and other countries). The EAAS has official representative bodies in Latvia and Serbia, informal structures in other countries, and structural bodies in Russia (regional: Moscow, Urals, etc.; affiliated societies: Association of Planetaria, Moscow Society of Amateur Astronomers, etc.).

The membership in the EAAS is individual, open to professional astronomers. The current membership is about 800 members from 31 countries (more than a half from Russia).

Membership fees are the main source of financial income. From time to time, we get sponsor money. It is possible for the EAAS to win a special grant from the Russian Foundation for Basic Research for organizing a scientific meeting. INTAS grants were won for JENAM-2000 and one of other EAAS congresses.

In 1992, in the time of the crisis of Russian science, the EAAS initiated a program called "Survival of Astronomy in Russia in 1992". The program got funding from the Ministry of Science, the distribution of grants was operated by the EAAS. 36 institutions were supported, all of them survived at that time. Later on (1994–2002), this program was continued as the Federal Scientific and Technological Program "Astronomy", with EAAS participation. Partially due to these efforts, we can boast a rather stable job market in astronomy, a growing number of positions for post-graduate students in some places, new jobs at universities of several countries of the CIS. In early 1990s, the EAAS won governmental grants to arrange production of astronomical plates in Russia and their distribution among observatories in Russia and the CIS and for several other projects.

The main decisions of the EAAS life are taken at the EAAS Congresses, usually held once in three years. Between Congresses, the EAAS Board meets at least twice per year. Congresses elect the Board and three Co-Chairpersons and are always accompanied with scientific conferences. Currently, the Co-Chairpersons of the EAAS are Mikhail Ryabov (Odessa, Ukraine), Lidiya Rykhlova and Nikolai Samus (Moscow, Russia). We have an International Bureau headed by N. Bochkarev.

The EAAS keeps necessary links to official structures. The Scientific Council on Astronomy of the Russian Academy of Sciences is involved in continuous contacts and cooperation with the EAAS. In 1992, the Russian Ministry of Science invited the EAAS to take part in the work on Megaprojects in Astronomy, the EAAS was the sole representative of the former Soviet Union at the "Forum on Megaprojects" arranged by the Organization for Economic Co-operation and Development. As a result, it was possible to get some state financial support for unique scientific equipment in Russia, Ukraine, and other countries.

Links with astronomical institutes and observatories are excellent and versatile. The Sternberg Astronomical Institute (Moscow University) provides the Society with an office rent-free. In the turmoil of the 1990s, the EAAS helped several institutes in Russia, Ukraine, Azerbaijan, Tajikistan, etc. to defend their real estate and even existence.

EAAS activities are in many different fields. First, we should mention conferences. Every year, we are organizers

or co-organizers of 5–15 national or international conferences. The EAAS initiated or co-sponsored interdisciplinary activities in several fields (archeoastronomy, Antarctic astronomy, etc.).

The EAAS is also attentive to problems of astronomical education. Currently, in Russian high schools astronomy is taught only in some regions and in some schools. The “Bologna Process” in our universities causes specific problems because of changes in the traditional system of astronomical education. The EAAS actively contacts governmental bodies, lobbying decisions in interests of the astronomical community in the field of education. We arranged special free seminars at the Sternberg Institute for school teachers and planetaria lecturers in 2006 and 2007. The EAAS belongs to organizers of Russian and International Astronomical Olympiads for Schoolchildren. Young astronomer schools at major observatories in Russia, Ukraine, and other countries are regularly organized with the participation of the EAAS. There exist special non-profit astronomical schools for children in Moscow and Kazan.

Another important activity field of the EAAS are publications. The professional journal of the EAAS “Astronomical and Astrophysical Transactions”, established in the earliest period of the Society, currently has to change its publisher. In the past, the AAPTr published proceedings of two JENAMs. Our electronic newsletter “Astrocourier” is sent to astronomers by e-mail..

For many years, the EAAS is helping CIS and Baltic astronomical institutions to acquire subscriptions to main Russian-language astronomical journals for very reduced prices.

The EAAS founded a club for astronomers, called Club “AstrO”. For 15 years, the club arranges first-class cultural events for astronomers: concerts, musical seminars, etc. The concerts during JENAM-2000 were organized by the Club “AstrO”. Since 1995, the EAAS awards EAAS medals and, sometimes, small prizes for significant personal contributions to astronomy.

We have stable links to sister societies. Presidents of several astronomical societies of former Soviet republics either currently are or were members of the EAAS Board (today the Board has representatives of 8 countries). The very active Ukrainian Astronomical Association invited EAAS representatives to meetings of its Bureau, arranged a number of meetings in co-sponsorship with the EAAS.

The EAAS also has links (affiliated membership, continuing co-operation) to the United Physical Society of Russia, American Astronomical Society, American Association for the Advancement of Science, EuroScience, UNESCO, etc.

Several former Soviet republics had no own astronomical societies and were not represented in the IAU with their

National Members. The EAAS promotes creation of national societies or regional societies. In several cases, we helped astronomers from countries without national IAU membership to become individual members of the IAU.

The Russian National Committee of Astronomers (the National Member of the IAU for Russia) and the Scientific Council on Astronomy of the Russian Academy of Sciences invited the EAAS to the Russia’s organizing committee of the International Year of Astronomy announced by the United Nations for 2009.

For the IAU, the EAAS conducts monitoring of the current state of astronomy in Russia and CIS. Two surveys were prepared and published. Contacts with several IAU Commissions are supported.

Our EAS contacts have mainly the following form of direct contacts with EAS officers through our co-chairpersons and International Bureau, participation in the EAS Council Meetings; JENAM participation and JENAM organization (in the case of JENAM-2000 in Moscow, the largest one by the number of participants); assistance in transferring membership fees to astronomers not able to do it because of poorly developed bank systems and/or unfavorable laws in some CIS countries; providing the EAS with requested information; informing our community about future and past EAS events in “Astrocourier”, “Astronomical and Astrophysical Transactions”, at the following web site of the Society <http://www.sai.msu.ru/EAAS/>

N. Samus, Russian Academy of Science
N. Bochkarev, Moscow State University

THE SOCIETY OF ASTRONOMERS OF SERBIA

The Society of Astronomers of Serbia (SAS) was founded in 1981. In the period 1949 - 1980 there was a Society of Mathematicians, Physicists and Astronomers of Yugoslavia. In 1980 this Society was transformed into a union of societies of mathematicians, physicists and astronomers. Taking into account that Belgrade, as the capital, was the only city to have a big and professional astronomical observatory in Yugoslavia most of Yugoslav astronomers of that time were located in it. Because of this in the eighties Serbia was the only Yugoslav republic to have a separate astronomical society.

In the nineties the activity of SAS ceased. It was renewed in 1999. At present it has almost 70 registered members. The vast majority of them (50) are from two institutions: Astronomical Observatory in Belgrade and Faculty of Mathematics to which the Belgrade Astronomy Department belongs. The process of disintegration of the former Yugoslavia is well known, it was finished in 2006 only when Montenegro separated from Serbia. Serbia, now as a

separate country, has a population of 7.5 million (this is according to the last census which could not include Kosovo and Metohija where the population is estimated to 2 million so that Serbia as a whole would have about 9.5 million inhabitants). The strong concentration of SAS members towards Belgrade is not surprising. Such concentrations are typical for the Serbia of nowadays, to be said that Belgrade with a population of almost 2 million people has no counterparts in Serbia.

SAS is a non-profitable organisation. It has a Main Board of eight members. The board is presided by the SAS President who is elected at an SAS Assembly together with Board members and other organs. The assemblies take place every three years during National Conferences (the next will take place this autumn). SAS is no official organiser of a National Conference, traditionally this is done either by the Belgrade Observatory or by the Astronomy Department of Belgrade University. A similar situation is with the Serbian Astronomical Journal; it is published twice a year with these two institutions as co-publishers. SAS has no prizes or grants; there are prizes awarded every year by the Observatory. In Serbia astronomy since 1990 does not exist as a special subject in schools of under-university level except some special schools (the best example Mathematical High School in Belgrade). SAS makes efforts to change this situation and to promote astronomy in schools. The public outreach is also important among SAS activities, especially with regard to the International Year of Astronomy 2009. SAS has founded a National Olympiad Committee engaged in organisation of participating of Serbian students in International Astronomy Olympiads. This activity has been very successful, for instance at the last International Astronomy Olympiad (last autumn, Crimea) the team of Serbia with seven diplomas (each participant one diploma) was the most successful among the European nations. In the field of job market SAS has had no activities.

As a sister society in Serbia one certainly can mention the National Physical Society. The two societies are closely interconnected. SAS has no affiliated societies in Serbia. On the other hand beyond Kosovo and Metohija we have more than ten registered and active amateur societies having astronomy in the framework of their activity. The SAS policy is to maintain as close as possible relations with them.

SAS is listed as an affiliated society of EAS. There are 18 SAS members who are also EAS members. Unfortunately, other international activities like "Astronomy and Astrophysics", ESA, ESO, etc have not involved SAS, i. e. Serbia in general. For more information on SAS visit <http://www.das.org.yu>

S. Ninkovic
Astronomical Observatory of Belgrade

UKRAINIAN ASTRONOMICAL ASSOCIATION

Status. Since 1991 the Ukrainian Astronomical Association (UAA) coordinates the astronomical activity in Ukraine. The UAA consists of 15 Institutional Members and dozens of Individual Members. It also has 6 Affiliated Societies, namely the Poltava gravimetric observatory of Geophysical institute of the National Academy of Sciences of Ukraine (NASU), the Odessa Astronomical Society, the Ukrainian Society for Gravity, Relativistic Astrophysics and Cosmology, the Kyiv Planetarium, the Ukrainian Societies of Amateur Astronomy and one public observatory, namely Ahrushivka public observatory. A total UAA membership is about 1500 persons. The UAA serves as the National Committee of astronomers in Ukraine.

Astronomical Institutions. In total, more than twenty astronomical observatories and departments in different scientific institutions and universities participate in astronomical researches. Part of them are established within the structure of the NASU (www.nas.gov.ua). Others are governed by the Ministry of Education and Science of Ukraine (MESU). Table summarizes information on staff members and main scientific research fields of the largest UAA institutional members. Ukrainian astronomical institutions possess a wide range of telescopes such as the largest radio decametre array, two moderate-size (2-m and 2.6-m) and a dozen of small-size optical telescopes (up to 1-m), as well as several solar telescopes.

Currently astronomical research is facing a difficult time due to economic limitations of the nation and the need for up-grading the existing scientific infrastructure. Starting from 1991, the total investment (budgetary and off-budgetary) in science has been reduced by factor of 10. The another key problem is the degradation of the prestige of the scientific profession caused by the low salaries for young scientists and engineers.

Links with the Ukrainian government. Members of the UAA give the expert's opinion on projects of the National Academy of Sciences of Ukraine, the Ministry of Industrial Policy, the Ministry for Education and Science, interdisciplinary scientific & engineering technology projects.

UAA Meetings. The Association is the leader in organization of different kinds of the astronomical meetings in Ukraine. Among them are annual International Summer School and Gamov Memorial International Conference in Odessa; International conference "Solar Physics" in Crimean Astrophysical Observatory; International conference "Relativistic Astrophysics, Gravitation and Cosmology and Conference on Astronomy and Space Physics in Shevchenko Kyiv National University; Astronomer's School in Kyiv National Airspace University. The UAA participated in several Memorial meetings dedicated

Staff membership and main scientific research fields of the astronomical institutions in Ukraine

Institution	Total staff	Scientific staff	No. of Candidates & Doctors of Science	Research Fields
Main Astronomical Observatory of the NASU (Kyiv)	213	90	69	Space Geodynamics; Positional Astronomy; Solar System Small Bodies; Solar Physics; Physics of Stars; Extragalactic Astronomy
Scientific research Institute “Crimean Astrophysical Observatory” of the Ministry of Education and Science of Ukraine (MESU)	358	92	58	Solar System Small Bodies; Solar Physics and Solar Activity; Physics of Stars; Extragalactic Astronomy; Gamma-Astronomy; Radio Astronomy: Centimeter and Millimeter Wavelengths; Ground-Based and Space-Born Instrumentation
Institute of Radio Astronomy Of the NASU	306	102	88	Radio Astronomy: Decameter and Millimeter Wavelengths; Instrumentation
Astronomical Observatory of the Taras Shevchenko Kyiv National University	64	35	26	Astrometry; Solar Physics and Solar Activity; Solar System Small Bodies; Extragalactic Astronomy; Cosmology and General Relativity
Astronomical Observatory of the Ivan Franko Lviv National University	28	16	12	Satellite Geodesy; Solar Physics and Solar Activity; Extragalactic Astronomy; Cosmology
Scientific Research Institute “Astronomical Observatory” of the I.I.Mechnikov Odessa National University	75	65	26	Physics of the Solar System Small Bodies; Variable Stars; Physics of Stars
Institute of Astronomy of the V.N.Karazin Kharkiv National University	83	43	20	Solar System Small Bodies; Solar Activity; Physics of Stars; Ground-based Instrumentation
Mykolaiv Astronomical Observatory of the MESU	75	19	10	Positional astronomy; Ground-based Instrumentation

to the 110th anniversary of .Struve, the 100th anniversaries of V. Tsesevich, . Bogorodsky, S. Korolov etc.

Public outreach. Members of the UAA act in newspapers, magazines and on TV and radio. There are several astronomical museums operated at observatories and open for public. With the UAA assistance popular films on famous astronomers and observatories are produced. Several planetariums are opened to the public. The largest of them are placed in Kiev and Kharkiv.

Publications of the UAA are presented by Information Bulletin of the Ukrainian Astronomical Association; Annual Astronomical Calendar; Annual Odesa Astronomical Calendar; Annual School Astronomical Calendar; textbooks of astronomy for students; books on History of astronomy; magazines “Svitoglyad” (“World view”), and “Vselennaya, Prostranstvo, Vremya” (“Universe, Space, Time.”).

Grants and prizes. The Ukrainian Astronomical Association is sponsoring young scientists for participation in

scientific meetings. The best astronomical researches are awarded by the prize of Ukrainian Astronomical Association “For outstanding achievements in development of Ukrainian astronomy” and by the Drogobych prize of Ukrainian Astronomical Association for young scientists.

Links of the Society with Sister Societies and international organizations. The UAA has close cooperation with the Russian Euro-Asian Astronomical Society; the Odessa Astronomical Society; the Ukrainian Society for Gravity, Relativistic Astrophysics and Cosmology; the Ukrainian Societies of Amateur Astronomy and international organizations like COSPAR, “International night sky”, UNESCO. It serves as the National Committee of the International Astronomical Union. There are more than 100 IAU members in Ukraine.

UAA and astronomical education in Ukraine. the UAA timely improved the situation with astronomical education in Ukraine by arguing that knowledge of astronomy will play a unique role for generations to come in the twenty-first century.

Secondary Education. Before 1992 “Astronomy” was a basic course in secondary schools (34 academic hours in the last, 10th, grade). However, from 1992 until 2000 the course “Astronomy” was excluded from the secondary education basic curriculum. In 2000, as a result of persistent activity by the UAA and numerous round-tables with representatives of ministry departments the “Astronomy” was reinstated into the current 12-year secondary education curriculum. The present-day status of the astronomical education in secondary schools is as follows: Some elements of the astronomical discipline are included in the standard “Natural Science” curriculum of the 6th - 11th grades. “Astronomy” is a required course in general (non-specialized) schools (17 academic hours in the last 12th grade) and in lyceums of the natural sciences (34 academic hours in the 12th grade). “Astronomy” as an elective course is studied in gymnasiums of the humanities.

Higher astronomical education. There are several national universities, which have astronomy and space related faculties. Among them are Shevchenko National University of Kyiv (www.univ.kiev.ua), Karazin National University of Kharkiv (www.univer.kharkov.ua), Mechnikov National University of Odesa (www.onu.edu.ua), Ivan Franko National University of Lviv (www.franko.lviv.ua), Vernadsky Taurian National University in Simferopol (www.ccssu.crimea.ua/tnu), National University of Uzhgorod (www.univ.uzhgorod.ua), Zhukovsky National Aerospace University in Kharkiv (www.xai.edu.ua). The Ukrainian system of university education in the natural sciences is similar to that of the German system, our students-astronomers receive good training in mathematics and physics. After the 4th year they obtain a Bachelor diploma in Physics and on graduating from the university they obtain either a Diploma of Specialist or a Master’s Degree in Astronomy. Every year a total of about 75 university entrants are educated in astronomy. 60% of the entering students finish their education in 5 years. 50% of

students, who finished their education, continue to work in astronomy. 30% of holders of a Specialist’s diploma or Master’s Degree defend their thesis and get the first scientific degree (a Candidate of Science) within 3 - 7 years after they graduate.

Conclusions.

Despite all problems the future of Ukrainian astronomy can be considered promising. Traditionally, Ukraine is a country with a very high level of education and culture, and basic research remains an important part of science in Ukraine. Existing observational facilities provide unique opportunities for the study of astronomical objects in a wide range of spectral regions and new generations of astronomers can use these national facilities. Ukraine is one of a few countries developing its own space technologies, launch vehicles and programs. Most of these space projects are conducted with wider international cooperation (for example, CORONAS space mission).

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