ArAS News

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ARMENIAN ASTRONOMICAL SOCIETY (A r A S)

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The ArAS Newsletter in the INTERNET: *http://www.aras.am/ArasNews/arasnews.html*

ASTRONOMY NEWS

Since 2002, ArAS Newsletters give information related to world and Armenian astronomy. In addition, there are several international bulletins and newsletters that should be checked for important astronomical news. We would recommend the following:

IAU Information Bulletin at http://www.iau.org/science/publications/iau/information_bulletin/
IAU e-Newsletter at http://www.iau.org/science/publications/iau/newsletters/
EAS Newsletter at http://eas.unige.ch/
EAS News (electronic newsletter) at http://eas.unige.ch/
EAAS Newsletter (Astrocourier) at http://www.sai.msu.su/EAAS/rus/astrocourier/index.html
IVOA Newsletter at http://www.ivoa.net/newsletter/

The **IAU Information Bulletins (IB)** are printed publications giving important information on astronomy, especially news related to the IAU. They appear twice a year and are being distributed to astronomical institutions and all IAU members. Altogether, 105 issues have been published. Since 1995, electronic versions are also available.

The **IAU e-Newsletters** are electronically mailed at irregular intervals (but typically 3-4 times a year) to all members. They aim to keep individual members informed on matters of common interest and concern. Since 2006, 20 issues have been distributed.

The 38th issue of the **EAS Newsletter** was distributed in January. These newsletters give information on world and European astronomy and are being sent to astronomical institutions and all EAS members twice a year by ordinary mail. Electronic versions are also available.

The **EAS News** (electronic newsletter) is being distribuuted to EAS members by e-mail when there are urgent news and announcements. However, it is also available at the EAAS website.

The May issue of **Astrocourier (EAAS Newsletter)** was distributed recently. Astrocourier mostly gives information on astronomy in the territory of former Soviet Union and is being sent to EAAS members by e-mail. Astrocourier is in Russian, though some announcements are being given in English. It is also available at the EAAS website.

The May issue of the **IVOA Newsletter** is now available. This biannual newsletter for astronomers is intended to highlight new capabilities of VO tools and technologies for doing astronomy research. It also lists recent papers, and upcoming events. Comments and feedback are encouraged; you may contact the editors at ivoa-news-editors@ivoa.net.

We (ArASNews) too from time to time refer to the most important and interesting materials given in these newsletters.

JENAM-2010 in LISBON

The European Week of Astronomy and Space Science JENAM-2010 will be held on Sep 6-10 in Lisbon, Portugal. It is being jointly organized by the European Astronomical Society (EAS) and Sociedade Portuguesa de Astronomia (SPA). The Second Announcement is now issued with a call for contributions.

JENAM 2010 will host seven **Symposia**:

S1: From Varying Couplings to Fundamental Physics

S2: Environment and the Formation of Galaxies: 30 years later
S3: Dwarf Galaxies: Keys to Galaxy Formation and Evolution
S4: From Macro to Micro Stellar Transits
S5: Star Clusters in the Era of Large Surveys
S6: Science Cases for Optical and IR Interferometry
S7: The Square Kilometer Array: Paving the way for the new 21st century radio astronomy paradigm

Eleven **Special Sessions**:

SPS1: Astronomy Challenges for Engineers & Computer Scientists
SPS2: Radio-Astronomy in Iberia
SPS3: ESO - ALMA Early Science: opportunities and tutorials
SPS4: ESA - Elements of the science programme
SPS5: Astronomy Planning in Europe - Towards an Even Stronger European Astronomy
SPS6: New Trends in Global Astronomy Education
SPS7: Education and Outreach after IYA2009 in Europe
SPS8: Amateur and professional astronomers in Europe: how pro-am cooperation is changing astronomy
SPS9: The 30 years of IRAM
SPS10: CERN
SPS11: Teacher Training Session

There will also be a number of Plenary invited and highlight talks, exhibitions and more.

Abstract submission and grant request forms can now be accessed at the JENAM 2010 website at http://www.jenam2010.org/. The site has also been updated with relevant information such the programme calendar, registration fees and important dates.

The conference Poster should arrive at the institutes in a couple of weeks. If not, one can email to loc@sim.ul.pt and the organizers will send one. A PDF version for download is available at the JENAM 2010 website.

ISYA-2010: SECOND ANNOUNCEMENT


The ISYA-2010 Second Announcement with the list of participants and the preliminary program was issued on May 16. It is distributed to the lecturers, students, IAU ISYA program committee members, and ISYA-2010 LOC members. ISYA-2010 is the combined **32nd International School for Young Astronomers** and **3rd Byurakan International Summer School (3BISS)**. The school will take place on 12 Sep – 2 Oct, 2010, in Byurakan (Armenia).

Now 43 students have been selected from 19 countries, including 11 from Armenia. Other countries are Georgia, Iran, Turkey, Russia, Ukraine, Lithuania, India, Egypt, Greece, Serbia, Albania, Romania, Poland, Hungary, Czech Republic, Germany, France, and Spain. This will be the largest representation by countries for the whole history of ISYAs.

There are 16 lecturers invited from the USA (2), Germany (3), France (5), Belgium (1), Spain (1), Russia (1), and Armenia (3). They include the President of the IAU Robert Williams, the Chair (Jean-Pierre de Greve) and Vice-Chair (Kam-Ching Leung) of the IAU Program Group ISYAs,

Chair of the EAS NEON summer schools program Michel Dennefeld, renowned scientists who already have taught at our previous schools (2006 and 2008) Daniel Kunth and Dieter Engels, and other famous astronomers.

The preliminary program includes 36 lectures and 15 practical exercises (tutorials), observations with the Byurakan 2.6m telescope and remote observations with Hawaii 2m Faulkes telescope, students presentations and competition, a tour in the Byurakan Observatory, excursions, etc.

Organizers and Sponsors

International Astronomical Union (IAU)
Byurakan Astrophysical Observatory (BAO)
Armenian Astronomical Society (ArAS)
Armenian National Academy of Sciences (NAS RA)
Armenian State Committee for Science (SCS)
German Academic Exchange Service (Deutscher Akademischer Austausch Dienst, DAAD)

Co-Chairs of ISYA-2010

Jean-Pierre DE GREVE (Belgium, jpdgreve@vub.ac.be), Chair of the IAU ISYA program
Areg MICKAELIAN (Armenia, aregmick@aras.am), Chair of ISYA-2010

ISYA Program Group

Kam-Ching LEUNG (USA, kleung@unlserve.unl.edu), Vice-Chair of the IAU ISYA program
Michele GERBALDI (France, gerbaldi@iap.fr)
Edward GUINAN (USA, edward.guinan@villanova.edu)

Local Organizing Committee (LOC)

A. Mickaelian (BAO, Chair), L. Sargsyan (BAO, Secretary), V. Adibekyan (BAO/YSU), M. Gevorgyan (BAO), K. Gigoyan (BAO), M. Gyulzadian (BAO), A. Hakobyan (BAO), G. Harutyunyan (YSU), A. Hovhannisyan (YSU), D. Sargsyan (BAO), P. Sinamyan (BAO).

Deadlines

April 15, 2010	**Deadline for Applications and Letters of Recommendation**
May 10, 2010	Applicants are informed about the outcome of decisions
May 16, 2010	2nd Announcement with tentative program and list of participants
July 30, 2010	3rd Announcement with detailed program
12 Sep – 2 Oct, 2010	**ISYA-2010 in Byurakan, Armenia**

Contact

Postal Address: Byurakan Astrophysical Observatory, Byurakan 0213, Aragatzotn Province, Armenia
Phone: +374-10 580656 *(Areg Mickaelian)*, +374-10 264132 *(Lusine Sargsyan)*
Fax: +374-10 580656
E-mail: aregmick@aras.am *(Areg Mickaelian)*, sarl11@yahoo.com *(Lusine Sargsyan)*
Web page: http://www.aras.am/SS2010/ss_index.htm

PUBLICATIONS of ARMENIAN ASTRONOMERS in 2000-2009

There may of course exist several different criteria to describe a scientist's activity, most relevant perhaps being the citations to refereed publications. However, there are no complete data for citations neither in ADS nor in any other Internet site. Therefore, the number of publications is still being used as the most important characteristic. But again there are several subjective factors (biases) that introduce confusion; e.g. the work of theorists and observers is different, some people work on variable stars and publish the results of any observation and some people publish papers after a large statistical and analytical work. In addition, many astronomers at present work in large projects and participate in each paper published in frame of it, thus having many publications together with dozens of other co-authors. And some astronomers (still) work alone or in small groups.

In 1990, an article appeared by Helmut Abt on statistics of publications of the American astronomers. Though there was a large difference in the numbers, anyway he concluded that these differences mostly were due to large numbers of co-authors, publications in proceedings of meetings (very often repeating the same publications in journals), etc. So the average for everybody was more or less the same: 2-2.5 papers annually and more accurate statistics must be done to reveal correct results. This should also count other parameters: the number of co-authors, quality of the journals, perhaps the number of pages, etc. But in case of an active work, of course a good number of publications appear and this is still the only objective indicator.

As ArAS is first of all a society for the Armenian astronomers, it would be interesting to follow their activity during the last 10 years, 2000-2009. For this, over 150 names were searched in ADS and authors having at least 10 papers in 10 years were left in the list (altogether, 58 people). To be as complete as possible, several name spellings were used to find all papers of a given author. Anyway, it is known that some journals are still missing in ADS, and some minor inaccuracies may appear in our data. The results are presented in the following table.

#	Authors	Country / Inst.	Astrophys. J.	Astron. J.	A&A	MNRAS	Afz / Ap	Other journals	All ref. journals	Proceedings	Other papers	All publications	Weighted sum
1	**Aharonian, Felix**	Germany / Ireland	42		95	14		64	**215**	79	2	**296**	**331.0**
2	**Lazarian, Alex L.**	USA	64		2	10		29	**105**	94	9	**208**	**194.5**
3	**Mirzoyan, Razmick**	Germany	41		26			22	**89**	13		**102**	**129.0**
4	**Chilingarian, Ashot A.**	Armenia / YerPhI	32		2			35	**69**	36	1	**106**	**104.5**
5	**Sedrakian, David M.**	Armenia / YSU	1		1		37	24	**63**	12	1	**76**	**70.5**
6	**Chavushyan, Vahram H.**	Mexico	10	4	14	3	1	28	**60**	33	6	**99**	**95.0**
7	**Israelian, Garik L.**	Spain	9		36	1		12	**58**	48	6	**112**	**108.0**
8	**Pogosyan, Dmitri**	Canada	23		1	6		21	**51**	19	1	**71**	**76.0**
9	**Mkrtichian, David E.**	South Korea	1	3	11	6		26	**47**	34		**81**	**74.5**
10	**Mickaelian, Areg M.**	Armenia / BAO	1	2	6		21	13	**43**	24	15	**82**	**67.0**
11	**Tovmasian, Gagik H.**	Mexico	5	2	18	3		14	**42**	23	8	**73**	**71.5**
12	**Petrosian, Vahe**	USA	31	1				6	**38**	52	4	**94**	**82.0**
13	**Khangulyan, Dmitri V.**	Germany	6		16	4		11	**37**	6		**43**	**53.0**
14	**Sedrakian, Armen D.**	Germany			1			36	**37**	1	2	**40**	**39.0**
15	**Pogosian, Levon**	USA / Canada						34	**34**	4	1	**39**	**36.5**
16	**Tamazian, Vakhtang S.**	Spain	1	11	5		9	7	**33**	11	12	**56**	**53.0**
17	**Alecian, Evelyne**	France / Canada	1		12	9		10	**32**	18	1	**51**	**52.5**

18	**Kocharov, Leon G.**	Russia / Finland	14		8			10	**32**	13		**45**	**49.5**
19	**Abazajian, Kevork**	USA	8	3				21	**32**	5	4	**41**	**42.0**
20	**Movsessian, Tigran H.**	Armenia / BAO		1	9		14	8	**32**	5	1	**38**	**40.0**
21	**Tovmasian, Hrant M.**	Mexico	3	4	8	2		13	**30**	4		**34**	**40.5**
22	**Sarkissian, John M.**	Australia	12			3	1	12	**28**	13	1	**42**	**42.5**
23	**Petrosian, Artashes R.**	Armenia / BAO	5	4	9	1	6	3	**28**	2	4	**34**	**40.5**
24	**Momjian, Emmanuel**	USA	11	11	1	3		1	**27**	55	3	**85**	**69.0**
25	**Gorjian, Varoujan**	USA	21	6					**27**	45	5	**77**	**65.5**
26	**Magakian, Tigran Yu.**	Armenia / BAO		2	11		11	3	**27**	7	1	**35**	**37.5**
27	**Gigoyan, Kamo S.**	Armenia / BAO			8		17	2	**27**	2	2	**31**	**33.0**
28	**Gurzadyan, Vahagn G.**	Armenia / YerPhI			7			18	**25**	19	2	**46**	**39.0**
29	**Hajian, Arsen R.**	USA / Canada	6	12	1			6	**25**	17	1	**43**	**43.5**
30	**Navasardyan, Hripsime**	Italy	2	1	7	12		2	**24**	3	41	**68**	**57.0**
31	**Kuzanyan, Kirill M.**	Russia	1		1	4		17	**23**	9		**32**	**30.5**
32	**Hambaryan, Valeri V.**	Germany			13		3	5	**21**	10	1	**32**	**33.0**
33	**Melikian, Norair D.**	Armenia / BAO		3	3		14	1	**21**	3		**24**	**25.5**
34	**Arzoumanian, Zaven**	USA	13			2		5	**20**	30	5	**55**	**45.0**
35	**Alecian, George**	France	1		7	4		6	**18**	17		**35**	**32.5**
36	**Nikogossian, Elena H.**	Armenia / BAO		1	2		13	2	**18**	4		**22**	**21.5**
37	**Nikoghossian, Arthur G.**	Armenia / BAO			3		15		**18**	1		**19**	**20.0**
38	**Harutyunyan, Avet H.**	Italy	3		4	7		3	**17**	2	61	**80**	**55.5**
39	**Sargsyan, Lusine A.**	Armenia / BAO	2		1	2	8	4	**17**	5	1	**23**	**22.5**
40	**Chilingarian, Igor V.**	Russia / France	1		4	4	1	6	**16**	29	14	**59**	**42.0**
41	**Kocharian, Armen N.**	USA			6			10	**16**	11		**27**	**24.5**
42	**Khanzadian, Tigran V.**	Ireland / Germany		1	8	3	1	3	**16**	3		**19**	**23.5**
43	**Karapetian, Artur A.**	Armenia / BAO		2			13	1	**16**	3		**19**	**18.5**
44	**Kazarian, Misha A.**	Armenia / YSU					15	0	**15**		1	**16**	**15.5**
45	**Balayan, Smbat K.**	Armenia / BAO			2		9	3	**14**	4		**18**	**17.0**
46	**Stepanian, Natalya N.**	Ukraine						14	**14**	2		**16**	**15.0**
47	**Erastova, Lida K.**	Armenia / BAO		1	2		5	4	**12**	4	1	**17**	**16.0**
48	**Abrahamyan, Hamlet V.**	Armenia / USA			1		11		**12**		1	**13**	**13.0**
49	**Gyulbudaghian, Armen L.**	Armenia / BAO			1		9	2	**12**			**12**	**12.5**
50	**Krikorian, Ralph**	France					9	3	**12**			**12**	**12.0**
51	**Zamkotsian, Frederik**	France						11	**11**	38		**49**	**30.0**
52	**Arshakian, Tigran G.**	Germany			4	2		5	**11**	13		**24**	**20.5**
53	**Yeghikian, Ararat G.**	Armenia / BAO			2	1	2	6	**11**	4		**15**	**14.5**
54	**Terzian, Yervant**	USA	2	3		1	1	3	**10**	9	1	**20**	**18.0**
55	**Harutyunian, Haik A.**	Armenia / BAO					10		**10**	6		**16**	**13.0**
56	**Hakopian, Susanna A.**	Armenia / BAO			1		6	3	**10**	3		**13**	**12.0**
57	**Kocharov, Grant E.**	Russia / Finland						10	**10**	3		**13**	**11.5**
58	**Kandalyan, Rafik A.**	Jordan			2		7	1	**10**			**10**	**11.0**

Astronomers are listed according to the total numbers of refereed publications, however another criterion could be the weighted sum (given at the end), which has been calculated as a sum of papers in top level journals (AJ, ApJ, A&A, MNRAS) multiplied by 1.5, papers in all other journals multiplied by 1, and publications in proceedings of meetings and others multiplied by 0.5.

It appears that the main subjects that result in big number of publications (in case of the Armenian astronomers) are High-Energy Astrophysics, Theoretical Astrophysics, AGN, Exoplanets, Cosmology, and Variable Stars.

There are 21 astronomers out of the listed 58 that at present work in Armenia, and taking into account the total number of working Armenian astronomers in the world (~150) and in Armenia

(~60) respectively, we may conclude that the average activity in Armenia is not much lower than in the listed developed countries, like USA, Germany, France, Spain, etc. However, out of these 21, only 4 are among the top 20. Ten astronomers from this list work in the USA, 6 in Germany, 4 in France, 4 in Russia, 3 in Mexico, and 2 in Italy and Spain (each).

Most of the actively publishing astronomers belong to the medium generation (40-60 years old). However, among the most active there are some representatives of older (60-80 years old) generation, such as Davit Sedrakian, Vahe Petrosian, Hrant Tovmassian, et al., as well as of younger (25-40 years old) generation, such as Dmitri Khangulyan, Levon Pogosian, Evelyne Alecian, et al.

One can also notice that there are only 7 female astronomers in the list, making up only 12%. However, taking into account that most of them are relatively young, we may hope that in the future more young female astronomers will appear in the Armenian astronomical community.

Concluding, we would like to invite the most active Armenian astronomers to write comprehensive articles on their research in ArASNews and thus exchange our ideas, discuss research projects, and open possibilities for collaboration.

Areg Mickaelian

RAYMOND WILSON – WINNER of the EAS TYCHO BRAHE PRIZE 2010

The European Astronomical Society (EAS) announces that this year's winner of its Tycho Brahe Prize is the British optical engineer, ESO telescope designer ***Dr.*** **Raymond Wilson**. The Tycho Brahe Prize is awarded annually in recognition of the development or exploitation of European instruments, or major discoveries based largely on such instruments. It carries a monetary reward of EUR 6000 and is sponsored by the Klaus–Tschira foundation, based in Heidelberg, Germany. The prize will be awarded to *Dr.* Wilson during the European Week of Astronomy and Space Science (JENAM-2010) that will take place in Lisbon, Portugal, on 6-10 Sep 2010.

Dr. Wilson has made contributions of the utmost importance to the technology of astronomical telescopes during the last two decades of the 20th century. His profound theoretical and practical knowledge of optics and his vision for achieving optical perfection led him to the concept of active optics, which revolutionised the world of large telescopes: all major telescopes are now built with this technology. With active optics the shape and the alignment of telescope mirrors are constantly monitored and automatically corrected, which leads to the best possible images. This concept was embodied first in the New Technology Telescope (NTT) of the European Southern Observatory (ESO) and was carried to its logical conclusion in the ESO Very Large Telescope (VLT), a telescope array with four individual 8.2-metre telescopes. Thanks to active optics, the consistently superb image quality of the VLT has made it the world's most successful ground-based observatory and re-established Europe in a leadership position in observational optical astronomy.

ANATOL CHEREPASHCHUK – WINNER of RUSSIAN STATE PRIZE 2009

In 2009, the Russian State Prize in the area of Science and Technologies was awarded to Academicians of Russian Academy of Sciences *Professors* D.A. Varshalovich, A.M. Fridman and A.M. Cherepashchuk for their outstanding discoveries in the field of physics of galaxies, intergalactic medium, and relativistic objects. *Prof.* Cherepashchuk is the Director of Sternberg Astronomical Institute (SAI). He has graduated from the Moscow State University (MSU) in 1964, has received his Ph.D. degree in 1967 at MSU, and is Dr. of Science since 1975. His main fields of interest are stellar astrophysics, close binary systems, and inverse problems in astrophysics. He is a member of IAU, EAS, EAAS, and we are especially pleased to mention that since 2009, *Prof.* Anatol Cherepashchuk is also a member of ArAS. During several years, *Prof.* Cherepashchuk has been the Vice-President of EAS.

ANNIVERSARIES: VLADIMIR AIRAPETIAN – 50

Recently ***Dr.*** **Vladimir Airapetian** celebrated his 50th anniversary. He is a Research Associate at NASA/GSFC, Senior Scientist at Computer Sciences Corporation and Embry-Riddle Aeronautical University (ERAU), and Professor at the Department for Computational and Data Sciences, George Mason University. Vladimir was born on May 8, 1960 in Baku, then moved to Yerevan and studied at the Department of Physics of the Yerevan State University (YSU) in 1977-1982. After the graduation, Vladimir started working at BAO and was a researcher there until 1992. He opened an astronomy club (group) in Yerevan and was the first to teach pupils, who later could participate in astronomical Olympiads. As it is known, the Armenian pupils later had great success at International Astronomical Olympiads, and Vladimir in fact put the basis for such training in Armenia.

In 1989 Vladimir defended his Ph.D. thesis in the field of theoretical astrophysics ("2D magneto-hydrodynamic simulations of pinch-effect in stellar atmospheres") under the supervision of *Prof.* A.G. Nikoghossian. In 1992, Vladimir was a research scientist at the Space Research Institute in Denmark. In 1994-1995, a research astronomer at Los Alamos National Laboratory (LANL) & National Solar Observatory at Sacramento Peak, NM, USA. In 1995 Vladimir moved from Los Alamos, NM to NASA/GSFC, Greenbelt, MD as an astrophysicist as GHRS team member of the Hubble Space Telescope and until 2002 worked as a senior analyst/scientist at the Computer Sciences Corporation. Then in 2003-2007 he worked as a Project Ground Systems/Image Navigation and Registration Analyst at Swales Aerospace, Inc, Beltsville, MD and at NASA/GSFC. Simultaneously, in 2002-2008 he was a Research Associate Professor at the Department of Physics/IACS, the Catholic University of America, Washington, DC and at NASA/Goddard Space Flight Center, Greenbelt, MD.

Currently he is engaged in several projects: *Solar Coronal Heating*, *MHD Simulations of Solar Coronal Streamers*, *Hot and Violent Mega Aurorae from Extrasolar Giant Planets*, *Winds from Luminous Late-type Stars*, *Broadband Frequency Distribution of Alfven Waves*. During the recent 2 years he started two theoretical projects on Solar physics: *"Hydrodynamic simulations of solar coronal active regions and synthetic images in different spectral bands at high temperatures between 1-10 million K"* and *"2.5D MHD (magnetohydrodynamic) simulations of solar coronal streamers"*. Vladimir is an author of 36 papers published in peer-reviewed journals, 12 presentations at international meetings in flight dynamics technology and stellar/solar physics, and several other papers. He has a large contribution in astronomy teaching and has given over 60

courses at ERAU. He teaches also at Capella University and is starting an astronomy course at the Department of Physics and Astronomy, George Mason University, Fairfax, VA. He also has given many online courses of astronomy.

Vladimir is a full member of American Astronomical Society (AAS, Solar Physics Division, since 1994), Armenian Astronomical Society (ArAS, since 2002), American Geophysical Union, Armenian-American Association of Engineers and Scientists of America (AESA). He is married and has two children: daughter Victoria (11) and son David (3).

Areg Mickaelian

ESO TOP 10 ASTRONOMICAL DISCOVERIES

ESO Science Release

ESO released its top 10 astronomical discoveries:

1. Accelerating Universe. Two independent research teams have shown that the expansion of the Universe is accelerating – based on observations of exploding stars with astronomical telescopes at La Silla.

2. First image of an exoplanet. The VLT has obtained the first-ever image of a planet outside our Solar System. The 5-Jupiter-mass planet orbits a failed star – a brown dwarf – at a distance of 55 times the mean Earth-Sun distance.

3. Stars orbiting the Milky Way black hole. Several of ESO's flagship telescopes were used in a 16-year long study to obtain the most detailed view ever of the surroundings of the monster lurking at the heart of our galaxy – a supermassive black hole.

4. The gamma-ray burst – supernova connection. ESO telescopes have provided definitive proof that long gamma-ray bursts are linked with the ultimate explosion of massive stars, solving a long-time puzzle.

5. The motion of stars in the Milky Way. After more than 1000 nights of observations at La Silla, spread over 15 years, astronomers have determined the motions of more than 14 000 Sun-like stars residing in the neighbourhood of the Sun, showing that our home galaxy has led a much more turbulent and chaotic life than previously assumed.

6. Oldest star known in the Milky Way. Using ESO's VLT, astronomers have measured the age of the oldest star known in our galaxy, the Milky Way. At 13.2 billion years old, the star was born in the earliest era of star formation in the Universe.

7. Merging neutron star – gamma-ray burst connection. A telescope at La Silla was able to observe the visible light from a short gamma-ray burst for the first time, showing that this family of objects most likely originated from the violent collision of two merging neutron stars.

8. Cosmic temperature independently measured. The VLT has detected carbon monoxide molecules in a galaxy located almost 11 billion light-years away for the first time, a feat that had

remained elusive for 25 years. This has allowed astronomers to obtain the most precise measurement of the cosmic temperature at such a remote epoch.

9. Most distant object measured. The Very Large Telescope has obtained the spectral signature of the earliest, most distant known object in the Universe, seen only about 600 million years after the Big Bang.

10. Lightest exoplanet found. The HARPS spectrograph helped astronomers discover a system containing the lightest exoplanet – only about twice the mass of our Earth – as well as a planet located within the habitable zone, where liquid water oceans could exist.

E-ELT SITE SELECTION

On 26 April 2010, the ESO Council selected Cerro Armazones as the baseline site for the planned 42-metre European Extremely Large Telescope (E-ELT). Cerro Armazones is a mountain at an altitude of 3060 meters in the central part of Chile's Atacama Desert, some 130 kilometers south of the town of Antofagasta and about 20 kilometers from Cerro Paranal, home of ESO's Very Large Telescope (VLT).

The decision on the E-ELT site was taken by the ESO Council, which is the governing body of the Organization composed of representatives of ESO's fourteen Member States, and is based on an extensive comparative meteorological investigation, which lasted several years. The majority of the data collected during the site selection campaigns will be made public in the course of the year 2010.

Various factors needed to be considered in the site selection process. Obviously the "astronomical quality" of the atmosphere, for instance, the number of clear nights, the amount of water vapour, and the "stability" of the atmosphere (also known as seeing) played a crucial role. But other parameters had to be taken into account as well, such as the costs of construction and operations, and the operational and scientific synergy with other major facilities (VLT/VLTI, VISTA, VST, ALMA and SKA etc).

In March 2010, the ESO Council was provided with a preliminary report with the main conclusions from the E-ELT Site Selection Advisory Committee. These conclusions confirmed that all the sites examined in the final shortlist (Armazones, Ventarrones, Tolonchar and Vizcachas in Chile, and La Palma in Spain) have very good conditions for astronomical observing, each one with its particular strengths. The technical report concluded that Cerro Armazones, near Paranal, stands out as the clearly preferred site, because it has the best balance of sky quality for all the factors considered and can be operated in an integrated fashion with ESO's Paranal Observatory. Cerro Armazones and Paranal share the same ideal conditions for astronomical observations. In particular, over 320 nights are clear per year.

Full ESO release, images and videos are available on: http://www.eso.org/public/news/eso1018/.

The FUTURE of EUROPE's 2-4 m TELESCOPES

The report of the European Telescopes Strategic Review Committee (ETSRC, Chair Janet Drew and Co-Chair Jacqueline Bergeron) on the future rationalization of Europe's 2-4 m telescopes was commissioned by ASTRONET (available at http://www.astronet-eu.org/). The draft report has been presented to the funding agencies who have indicated an interest in making use of the report in taking forward plans for these facilities.

Its recommendations concern both optimized instrumentation for the suite of telescopes over the next decade (including potential new builds), and the way in which they could be operated for the wider benefit of the European astronomical community.

There is now an opportunity to comment on the report, via the ETSRC web forum (http://www.strw.leidenuniv.nl/2to4mtelescopes/). The deadline for comments is May 1 2010, after which the report will be finalized.