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*

EWASS-2014 in GENEVA, SWITZERLAND

The European Week of Astronomy and Space Science (EWASS) 2014 will be held during June 30 – July 4 at the International Conference Centre (ICC) in Geneva, Switzerland.

EWASS (formerly JENAM – Joint European and National Astronomical Meeting) is the annual meeting of the European Astronomical Society (EAS). With more than 20 years of tradition, it has imposed itself as the largest conference for European astronomy. In addition to plenary sessions and the award of prestigious prizes, the conference hosts many symposia held in parallel, as well as special sessions and meetings.

The EAS together with one of its affiliated societies, organises the annual EWASS conference to enhance its links with national communities, to broaden connections between individual members and to promote European networks.

EWASS 2014 is held for the first time in Switzerland and is expected to welcome between 600 and 800 astrophysicists from all over Europe and even beyond.

EAS General Assembly will be held on Wednesday, July 2. There will be a rich scientific and organizational program, consisting of EAS symposia, special sessions, special meetings, plenary talks, European prize award ceremonies and talks, etc. Two **EAS Council meetings** and **ASTRONET Executive Committee meeting** will be also held during EWASS.

EAS Symposia

1. Star formation in galaxies: from small to large scales
2. The outer regions of extrasolar planetary systems
3. Gaia Research for European Astronomy Training: GREAT network science symposium
4. Origin of Cosmic Dust
5. Digging deep into the extragalactic infrared sky: current status and the European road to the JWST
6. From local galaxies to the reionisation epoch: the Universe as seen in Lyman α
7. Fast outflows in massive stars: from single objects to wind-fed and colliding-wind binaries
8. Testable solutions to the dark matter problem: theory & observations
9. Exploring the low-frequency radio sky in the SKA era
10. mm/submm astronomy in the ALMA era

Special Sessions

1. What powers anomalous X-ray pulsars and soft gamma-ray repeaters?
2. Helios and Helium: what is wrong with them?
3. Tidal disruption events around Sgr A* and beyond
4. Cluster lensing and distant sources

Special Meetings

1. ASTRONET meeting
2. Myths and facts about women in astronomy
3. Inter-, multi-and transdisciplinarity in astronomical education

Plenary Talks

Brendan Crill (JPL, Pasadena, USA): *Planck results*
Linda Tacconi (MPE, Garching, Germany): *Star Formation in young, high-redshift galaxies*
William Chaplin (University of Birmingham, UK): *Asteroseismology*
Stefano Profumo (University of California, Santa Cruz, USA): *Dark Matter*
Leonardo Testi (ESO, Garching, Germany): *First science with ALMA*
Willy Benz (University of Bern, Switzerland): *Extrasolar planets*
Sandra Kortner (MPI for Physics, Munich, Germany): *New Physics with the LHC*
Mark McCaughrean (ESA): *ESA Report*
Rob Ivison (ESO): *ESO Report*

Special Plenary Session

Andreas Keil (ERC Executive Agency): *European Research Council (ERC) funding opportunities 2014-2020*

Prize Award Talks and Ceremonies

- Antoine Labeyrie (Collège de France, Paris)
  Tycho Brahe Prize
- Rashid Sunyaev (MPA, Garching, Germany & IKI, Moscow, Russia)
  Lodewijk Woltjer Lecture
- Claudia Del P. Lagos (ESO Fellow, Garching, Germany),
  MERAC Prize in Theoretical Astrophysics
- Amaury Triaud (Swiss NSF Fellow, MIT, Cambridge, USA)
  MERAC Prize in Observational Astrophysics
- Boon Kok Tan (University of Oxford, UK & Wawasan Open Univ., Malaysia)
  MERAC Prize in New Technologies
- **Prix A. F. Schläfli (SCNAT)**

EWASS-2014 webpage is available at http://eas.unige.ch/EWASS2014/

Past JENAM / EWASS in 1992-2013

EWASS 2013, Turku (Finland)
EWASS 2012, Rome (Italy)
EWASS 2011, St. Petersburg (Russia)
EWASS 2010, Lisbon (Portugal),
EWASS 2009, Herts (UK)
JENAM 2008, Vienna (Austria), *New Challenges to European Astronomy*
JENAM 2007, Yerevan (Armenia), *Our Non-Stable Universe*
JENAM 2006, Prague (Czech Republic), Part of IAU General Assembly
JENAM 2005, Liège (Belgium), *Distant Worlds*
JENAM 2004, Granada (Spain), *The Many Scales in the Universe*
JENAM 2003, Budapest (Hungary), *New Deal in European Astronomy: Trends and Perspectives*
JENAM 2002, Porto (Portugal), *The Unsolved Universe: Challenges for the Future*
JENAM 2001, Munich (Ger.), *Five Days of Creation: Astron. with Large Telescopes from Ground and Space*
JENAM 2000, Moscow (Russia)
JENAM 1999, Toulouse (France)
JENAM 1998, Prague (Czech Republic), *Prospects of Astronomy and Astrophysics for the New Millenium*
JENAM 1997, Thessaloniki (Greece), *The New Trends in Astronomy and Astrophysics*
JENAM 1996, Sevilla (Spain)
JENAM 1995, Catania (Italy)
JENAM 1994, Edinburgh (United Kingdom)
JENAM 1993, Torun (Poland)
JENAM 1992, Liège (Belgium)

JENAM-2007 was organized during August 20-25, 2007 at the Yerevan State University (YSU), Armenia. It was the largest ever scientific meeting held in Armenia.

IAU MEETINGS in 2014

As all last years, 2014 also is rich for IAU meetings: 9 IAU symposia, as well as the Asia-Pacific Regional IAU Meeting (APRIM) and the Middle-East and Africa Regional IAU Meeting (MEARIM) will be held during the year.

IAU symposia are the highest ranked scientific meetings in astronomy. To remind, the last IAU Symposium organized so far was IAU S304 *Multiwavelength AGN Surveys and Studies* held on 7-11 Oct 2013 in Yerevan, Armenia. Here is the list of IAU symposia to be held in 2014:

IAU S305: ***Polarimetry: The Sun to Stars and Stellar Environments***, Nov 30 - Dec 05 (new dates), Punta Leona, Costa Rica
Topics include Physical Processes for Generation and Modification of Polarization in Solar and Stellar Envelopes, Numerical Modeling of Polarization, Instrumentation for Astrophysical

Polarimetry and Spectro-Polarimetry, Data Analysis techniques for Polarization Observations, Frontier Science Involving Solar and Stellar Polarimetry, Future Directions in Astrophysical Polarimetry. Meeting webpage: https://www2.hao.ucar.edu/events/IAUS305

IAU S306: ***Statistical challenges in 21st Century Cosmology (SCCC 21)***, May 25-29, Lisbon, Portugal
Topics include Cosmic microwave background, Weak lensing, Large-scale structure, High redshift supernovae, Mapping high-z 21-cm radiation, Lyman-alpha forest, Astronomical discovery from overwhelmingly large datasets, Statistical methods used in astronomical data analysis (including new developments coming from fertile cross-interactions in astrostatistics). These methods include Bayesian methods, model selection, Multivariate classification,clustering, Sparsity: wavelets, compressive sampling, 2D/3D data representations, Machine learning for large multivariate datasets: Kernel regression, Support Vector Machine, neural networks, supervised learning.
Meeting webpage: http://sccc21.sim.ul.pt/

IAU S307: ***New Windows on Massive Stars, Asteroseismology, Interferometry and Spectropolarimetry***, June 23-27, Geneva, Switzerland
Topics include Massive stars, Asteroseismology, Interferometry, Spectropolarimetry, Rotation, Magnetic fields, Stellar winds, Circumstellar environments, Surface abundances, Be stars, supergiants, luminous blue variables, Wolf-Rayet stars.
Meeting webpage: http://obswww.unige.ch/Conferences/IAU307/

IAU S308: ***The Zeldovich Universe: Genesis and Growth of the Cosmic Web***, June 23-28, Tallinn, Estonia
Topics include Large Galaxy Surveys: the observational status of the Cosmic Web, The Zeldovich Legacy: Theory and Dynamics of the Cosmic Web, Large Scale Simulations of Cosmic Structure, Primordial Signature of the Cosmic Web (non-Gaussianities, BAOs, neutrinos', ...), The emergence of the first structure: from the Dark Ages to Reionization, high-z Large Scale Structure, The Dark Matter Cosmic Web vs. The Gaseous Cosmic Web, Dynamical Analysis of the Cosmic Web: from cosmic flows to phase space structure, Structural Analysis of the Cosmic Web: Topology, Geometry & Multiscale Structure, Cosmic Voids, Reconstructions of the Local Universe, Galaxy Formation and Evolution in the Cosmic Web, Future Surveys and the Zel'dovich Legacy: following structure evolution in large and deep surveys. Meeting webpage: http://www.iau-zeldovich.org/

IAU S309: ***Galaxies in 3D across the Universe***, July 7-11, Vienna, Austria

Topics include Optical/NIR 3D-spectroscopy of local and distant galaxies, Radio interferometry of local and distant galaxies, 3D simulations of galaxy evolution, Spatially resolved stellar structure, kinematics, and populations, Spatially resolved gas and dust content, state, and distribution, Spatially resolved star formation, Growth of galaxy components (disk, bulge, bar, halo), Interplay between gas, molecules, and star formation, Chemical enrichment, Influence of environment.
Meeting webpage: http://galaxy3d.univie.ac.at/

IAU S310: ***Complex planetary systems***, July 7-11, Namur, Belgium
Topics include Long-term evolution of solar and extrasolar planetary systems, Habitability of planetary systems, Orbital and rotational dynamics of planets, Complex dynamics of small bodies (main belt asteroids, NEO, comets), Gravitational and non-gravitational forces for artificial satellites and space debris, Rings and satellites systems, Symplectic integrators, chaos indicators, Dynamical complex systems. Meeting webpage: http://www.cps-iau.be

IAU S311: ***Galaxies Masses as Constraints of Formation Models***, July 21-25, Oxford, UK
Topics include Local Universe: Galaxies mass modelling: gas poor, gas rich, large radii, Mass estimates from stellar population, Variation of the stellar IMF, Unifying galaxy scaling relations; High redshift galaxies: Evolution of mass/luminosity functions, scaling relations, morphology/population, Connection between environment, large scale structure and evolution, Modelling galaxy evolution: mass, population, kinematics; Enabling new and future instrumentation: Multi-objects spectrographs (e.g. MOSFIRE, KMOS, JWST), Multi-objects integral-field surveys (SAMI, MaNGA), Future large facilities (ALMA, E-ELT, TMT, SKA).
Meeting webpage: http://www.physics.ox.ac.uk/iau311/

IAU S312: ***Star Clusters and Black Holes in Galaxies across Cosmic Time***, Aug 25-29, Beijing, China
Topics include Black Holes in AGN, Galaxy Mergers and AGN Feedback, Dynamics of Stars and Gas around Black Holes, Accretion Disks, Galactic and Extrag. Globular Clusters, Nuclear Star Clusters, Dwarf Galaxies, Gravitational Wave Emission from Star Clusters and Galactic Nuclei, Gravitational Wave Instruments, Electromagnetic Counterparts of Gravitational Wave Emission.
Meeting webpage: http://silkroad.bao.ac.cn/iaus312/

IAU S313: ***Extragalactic Jets from every angle***, Sep 15-20, Puerto Ayora, Galapagos Islands, Ecuador

Topics include The unified picture of extragalactic jets: from blazars to radio galaxies, The multifrequency behavior of highly beamed jets in blazars, Timing Jets: unveiling the nature of the extragalactic jet variability, The interaction between jets and their surrounding environment, The fate of young radio galaxies, How observations of jets constrain the growth of supermassive black holes in the early Universe, Launching jets: inferring jet power and their energetic, Determination of particle acceleration and emission sites of extragalactic jets, The origin of X-ray emission from jets at all scales, The nature of jet composition, structure, collimation and the role of the magnetic fields.

Meeting webpage: http://iau313ecuador.epn.edu.ec/

Asia-Pacific Regional IAU Meetings (APRIMs) are being organized to bring together the diverse range of astronomical activity taking place in the Asian-Pacific region. The latest scientific achievements and technical developments from the region are being introduced. The principal disciplines in astronomy being carried out by researchers in this region are being covered. It also includes discussions to promote regional collaboration with special regard to involvement in global astronomy projects. The **12th Asia-Pacific Regional IAU Meeting (APRIM 2014)** will be held on Aug 19-22 in Daejeon, South Korea. Topics include Solar System and Sun-Earth Interactions, Interstellar Matter, Star Formation and the Milky Way, Stars, Exoplanets and Stellar Systems, Galaxies, AGN and Cosmology, Compact Objects and High Energy Astrophysics, Large Observing Facilities and Instruments, Historical Astronomy, Astronomy Education and Public Outreach.

Middle-East and Africa Regional IAU Meetings (MEARIMs) are being organized to assess the development of astronomy and astrophysics in the region, increase regional and international networking and collaboration, and provide opportunities to take stock of the international development of astronomy and astrophysics. The **3rd Middle-East and Africa Regional IAU Meeting (MEARIM 2014)** will be held on Sep 1-6 in Beirut, Lebanon. Topics include Galaxies and Cosmolgy, Stars and Environments, Sun, Heliosphere, and Space Weather, Solar System and Exoplanets, Astronomical Projects with small telescopes, Archives and Virtual Observatories, Telescopes and Instrumentation, Astronomy for Development. APRIMs and MEARIMs, as well as LARIMs (Latin-American Regional IAU Meetings) are being coordinated by the IAU Division XII: *Union-Wide Activities*.

BAO INTERNATIONAL SCIENCE ADVISORY COMMITTEE

Due to the recognition of Byurakan Astrophysical Observatory as a National Value, the National Academy of Sciences of the Republic of Armenia (NAS RA) has created an International Science Advisory Committee for Byurakan Astrophysical Observatory (BAO), shortly BAO ISAC. It is aimed at enhancing the international reputation of BAO and making it a modern high level international scientific institution. Its main responsibilities are to advise the President of NAS RA on the management structure of BAO, long-range plans of BAO both in scientific programs and instrumentation development and procurement, as well as ISAC will promote cooperation of BAO with other universities and scientific centers and the quality of the scientific program of BAO, including those initiated and conducted by individual members of BAO scientific staff.

BAO ISAC consists of 8 distinguished scientists:

BAO ISAC Chairman

Prof. **Yervant Terzian** (Cornell University, Ithaca, NY, USA, Chair). Well known scientist in the field of radioastronomy. He is a Foreign Member of NAS RA, as well as Chair of Science Board of the Armenian National Science and Educational Fund (ANSEF), Director of NASA's New York Space Grant Consortium, Member of Viktor Ambartsumian International Prize Steering Committee and ArAS Co-President.

BAO ISAC Members

Prof. **Felix Aharonian** (Dublin Institute for Advanced Studies (DIAS), Ireland / Max-Planck-Institut fur Kernphysik (MPK), Heidelberg, Germany). Well known scientist in the field of Astroparticle Physics, Cosmology, Theoretical Astrophysics, High-Energy Astrophysics, including Gamma-ray Astronomy, Foreign Member of NAS RA, Scientific Leader of the largest Gamma-ray astronomy project HESS, Head of Max-Planck-Institut fur Kernphysik High-Energy Astrophysics group.

Prof. **Yuri Balega** (Special Astrophysical Observatory (SAO), Russia). Well known scientist in the field of high spatial resolution methods in astronomy, particularly speckle interferometry and other astronomical instrumentation. Director of the Russian Special Astrophysical Observatory. Corresponding member of Russian Academy of Sciences.:

Dr. **Jacques Boulesteix** (Marseille-Provence Astronomical Observatory (OAMP) and Marseille Astrophysical Laboratory (LAM), France). Renowned expert in the field of astronomical instrumentation. Head of Marseille group for upgrade of BAO 2.6m telescope in 1995-2000. Particularly this group accomplished the pointing and guiding system for the telescope, exploitation of the focal systems and observations with Fabry-Perot interferometer.

Prof. **Daniel Kunth** (Institute d'Astrophysique de Paris (IAP), France). Well known scientist in the fields of quasars, active galaxies, cosmology, formation of galaxies; he has discovered Wolf-Rayet type galaxies and has pioneered the study of local starburst galaxies images and spectroscopy in the UV using HST and GALEX and investigated their Ly-alpha output. Director of research at IAP. Initiator and coordinator of the French-Armenian astronomical collaboration in 1994-2003.
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Prof. **Michel Mayor** (Observatoire de Geneva, Switzerland). One of the most famous scientists in the field of search and studies of extrasolar planets, the discoverer of the first extrasolar planet in 1995 (51b Peg). Winner of Shaw Prize in Astronomy (2005) and the first winner of Viktor Ambartsumian International Prize (2010), at present member of Viktor Ambartsumian International Prize Steering Committee.

Prof. **Massimo Turatto** (Osservatorio Astronomico di Padova, Italy). Well known scientist in the field of Supernovae, Stellar Physics, Interstellar matter and Local Universe. Director of Osservatorio Astronomico di Padova. Coordinator of the proposed Italian-Armenian collaboration project, principal investigator of several international projects.

Prof. **Robert Williams** (Space Telescope Science Institute (STScI), Baltimore, USA). Well known scientist in the field of Novae and Supernovae. Former President of the International Astronomical Union (2009-2012), member of USA Academy of Art and Sciences, Honorary member of the UK Royal Astronomical Society, member of Viktor Ambartsumian International Prize Steering Committee, one of the principal investigators of Hubble Space Telescope deep fields projects.

All ISAC members have been in Armenia for several times and at present maintain tight relationship with BAO and Armenian astronomy. Particularly, in the early 1980s, Massimo Turatto had a fellowship at Byurakan. Yuri Balega participated in 1978 to the conference of young astronomers organized by BAO. Daniel Kunth and Jacques Boulesteix have great contribution for sustaining the Armenian-French astronomical cooperation and especially in difficult 1990s they actively helped BAO with research activities. All ISAC members repeatedly participated to the international meetings organized by BAO. Y. Terzian, D. Kunth, M. Mayor, M. Turatto and R. Williams lectured at Byurakan International Summer Schools (BISS). Y. Terzian, F. Aharonian, D. Kunth, M. Mayor and M. Turatto are also ArAS members. Almost all these scientists collaborate with Armenian astronomers and have many joint publications.

The first visit of ISAC to Armenia will be held on June 24-27. Within the meeting the ISAC members will closely get acquainted with BAO academic staff and infrastructure, meetings are planned with NAS RA President, BAO director and BAO scientists. The leaders of scientific groups will have reports about the main scientific research and then consultations will follow. Immediately after the meeting ISAC's report will be presented to NAS RA President and BAO Director, for developing further strategy and enhancing academic performance.

10 YEARS of ARAS ANNUAL PRIZE for YOUNG ASTRONOMERS

ArAS Annual Prize for Young Astronomers was established 10 years ago in 2004. ArAS Co-President *Prof.* Yervant Terzian (Cornell University, USA) sponsored this initiative and since 2009, the Prize is named **Yervant Terzian Prize**. The prize is being awarded to young scientists under 35 working in astronomy or related field and showing significant results in research and/or other scientific activities connected anyhow with the Armenian astronomy. Nominations are being made by ArAS members or any research organization from Armenia or elsewhere and are being submitted to one of the ArAS Co-Presidents. They should include personal data for the nominee and a brief description of his/her achievements during the year, including important scientific results, all published papers, participation in meetings, given talks, and any other activities, whatever is considered to be important. At least one refereed publication is required to qualify for the Prize. The winner is being announced in the last issue of ArAS Newsletter (this year it will be #76) at the end of the year. A diploma and sum of $500 is being awarded to the winner (before it was $100, then $200, and then $250).

Altogether, there have been 10 awards, and 11 young astronomers have been winners (in some years the Prize was shared between two astronomers), including **Lusine Sargsyan**, **Vardan Adibekyan** and **Parandzem Sinamyan**; each of them twice has become winner. The winners have been:

2013 **Hayk Abrahamyan** (BAO, Armenia) and **Avet Harutyunyan** (TNG, ORM, Spain)
2012 **Vardan Adibekyan** (CAUP, Porto, Portugal)
2011 **Marine Avtandilyan** (Armenian State Pedagogical University, Armenia)
2010 **Parandzem Sinamyan** (BAO, Armenia)
2009 **Lusine Sargsyan** (BAO, Armenia)
2008 **Vardan Adibekyan** and **Artur Hakobyan** (both BAO, Armenia)
2007 **Igor Chilingarian** (MSU, Russia and Observatoire de Paris, France)
2006 **Lilit Hovhannisyan** and **Parandzem Sinamyan** (both BAO, Armenia)
2005 **Artak Harutyunyan** and **Elena Hovhannessian** (both BAO, Armenia)
2004 **Lusine Sargsyan** (BAO, Armenia)

Three out of 14 winners have had foreign affiliations (Igor Chilingarian in 2007, Vardan Adibekyan in 2012, and Avet Harutyunyan in 2013), and one has been from other than BAO Armenian institution (Marine Avtandilyan in 2011).

The winners were from 25 to 33, and the average age was 29.1. In average they have published 2.05 papers in the years of award and had more 1.1 accepted papers. They have published papers in very high ranked journals, such as *ApJ, A&A, MNRAS, Astronomische Nachrichten, Astrophysics, Astronomy Letters, Baltic Astronomy, Romanian AJ, Data Science Journal, Reports of the National Academy of Sciences of Armenia* and even in *Nature* (Avet Harutyunyan in 2013).

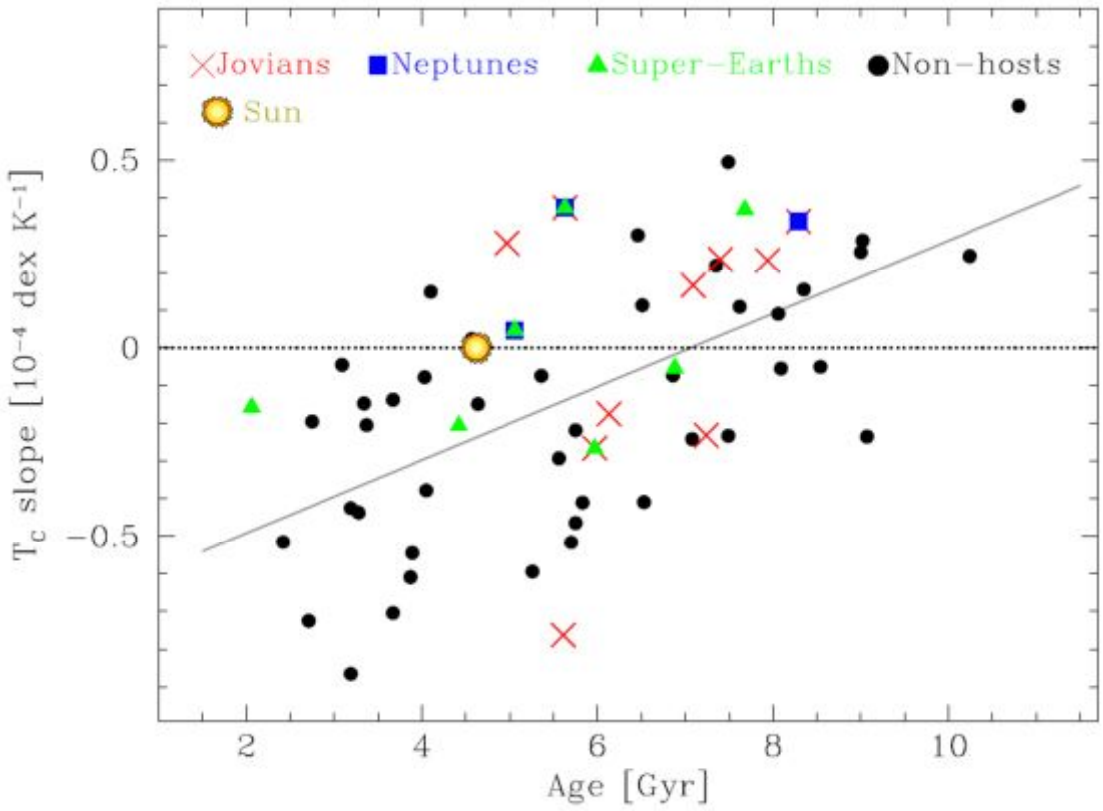
In addition, papers in Proceedings of meetings and other papers were published, as well as they had other activities, such as participation and presentations at meetings, seminars, participation in international projects and grants, research missions, participation in international schools, and organizational affairs. All this is being considered by the ArAS Council when selecting winners, however scientific publications are the most important criteria.

STARS WITH and WITHOUT PLANETS: WHERE DO THEY COME FROM?

Along and thorough investigation of chemical abundances of planet-hosting stars that lasted for more than a decade has finally yielded its fruits. An international team of astronomers from CAUP and IAC found that the chemical "peculiarities" (small refractory-to-volatile ratio) of planet-hosting stars is merely a reflection of their old age and their inner Galaxy origin. The authors reached to a conclusion that stellar age and probably Galactic birth place are key to establish the abundances of some specific elements.

Dozen of studies during the last decade aimed to explore the connection between stellar and planetary properties. Naturally, this connection is found to be bidirectional: stellar properties play an important role on planet formation and evolution (e.g. stellar metallicity-giant planet frequency), and the planet formation may have an impact on stellar properties (e.g. extra depletion of lithium in planet-hosting stars).

After the first planets discovered, astronomers have been trying to search for chemical signatures of planet formation on the planet-host stars. Several studies suggested that the chemical abundance trend with the condensation temperature, Tc, is a signature of terrestrial planet formation. In particular, that the Sun shows a "peculiar" chemical abundances because of the presence of the terrestrial planets in our solar-system. Although these conclusions have been debated in some other studies, the main reason of the observed chemical "peculiarities" was not provided.



Tc slopes versus stellar ages for solar analog stars

In order to explore the main factors responsible for this widely debated Tc trend, a team of astronomers from CAUP and IAC started a detailed analysis of about 150 sun-like stars. 142 of these stars were observed with very high-resolution spectrographs HARPS at the ESO 3.6-m telescope (La Silla, Chile) and UVES at the ESO 8-m Very Large Telescope (Cerro Paranal Observatory, Chile), and 6 stars observed with the UES spectrograph at the 4.2-m William Herschel Telescope (Observatorio del Roque de los Muchachos, La Palma).

After a detailed analysis, the authors found that the Tc trend strongly relates with the stellar age: old stars are more “depleted” in refractory elements (smaller refractory-to-volatile ratios) than their younger counterparts. Since for FGK dwarf stars in the main sequence one does not expect significant changes in their atmospheric chemical abundances with age, the authors concluded that the observed correlation is likely to reflect the chemical evolution in the Galaxy.

Moving one step further, the team found an evidence that this trend also correlates with the mean galactocentric distance of the stars (which is a good proxy of a birth radii), suggesting that stars originated in the inner Galaxy have less refractory elements relative to the volatiles.

Returning to the chemical imprints of planet formation the authors showed that planet-hosting solar analogs are older and have smaller galactocentric distances, than their non-host counterparts. Summarizing their findings, the authors concluded that the difference in Tc slopes (i.e. chemical “peculiarities”), observed between planet hosting solar analogs and solar analogs without detected planets, likely reflect the difference in their age and galactocentric radius and is not associated to the formation of planets.

Summarizing all the findings brings two interesting conclusions i) The solar analogues with planets in the solar neighborhood mostly come from the inner Galaxy (because of still unknown reason) and ii) The age and galactic birth place are factors responsible for the abundance ratio of refractory to volatile elements in the stars.

Team: The team includes astronomers from CAUP (Portugal).

Scientific paper: V. Zh. Adibekyan, J. I. González Hernández, E. Delgado Mena, S. G. Sousa, N. C. Santos, G. Israelian, P. Figueira, and S. Bertran de Lis. *On the origin of stars with and without planets. Tc trends and clues to Galactic evolution*, accepted for publication in *Astronomy & Astrophisics Letters*, 2014.