

IAU Symposium 304

Multiwavelength AGN Surveys and Studies

7-11 October 2013, Byurakan, Armenia

Main webpage: <http://iaus304.aras.am/>

Webpage at IAU: <http://www.iau.org/science/meetings/future/symposia/1069/>

FIRST ANNOUNCEMENT

AGN surveys are the source for the most interesting objects in the extragalactic Universe: QSOs, Seyfert galaxies, blazars, radio galaxies, LINERs, etc. They are important for understanding the variety of extragalactic sources and their interrelationship, as well as understanding the evolution of the Universe. Recent ground-based and space missions give vast amount of new multiwavelength (MW) data, which are being put together to discover many new AGN. Virtual Observatories (VOs) help in accomplishment of complex research programs using all these data. A combined study of these data also gives the overall picture of the AGN and answers some of the most important questions:

- (1) understanding the possible evolutionary and/or physical connection between the different classes of AGN, i.e. their consistency with the unification model,
- (2) the relation of AGN to their host galaxies,
- (3) understanding the true fraction of heavily obscured AGN in order to determine the true AGN luminosity function and its variation with redshift.

The Symposium will provide a good opportunity to elaborate a strategy, based on the acquired experience, to plan future surveys best fitted to fulfill the needs, and to coordinate follow-up observations with the new large ground-based and space telescopes.

IAU Symposium 304 is dedicated to B.E. Markarian's 100th anniversary. Benyamin Markarian (1913-1985) was the first to conduct and accomplish a large-area (17,000 sq. deg.) spectroscopic survey to search for active galaxies. Markarian survey is until now the largest objective-prism spectroscopic survey, it was the first systematic search for active galaxies using a new method of UV-excess, it resulted in the discovery of 1515 UVX galaxies (Markarian galaxies), including many AGN and Starbursts, first classification of Seyferts into Sy1 and Sy2, and definition of Starburst galaxies.

The Byurakan Astrophysical Observatory (BAO) has a long tradition in organizing international meetings, including four IAU Symposia: #29 in 1966 (*Non-Stable Phenomena in Galaxies*), #121 in 1986 (*Observational Evidence of Activity in Galaxies*), #137 in 1989 (*Flare Stars in Star Clusters, Associations and Solar Vicinity*), and #194 in 1998 (*Activity in Galaxies and Related Phenomena*), the IAU Colloquium #184 in 2001 (*AGN Surveys*), as well as the all-European JENAM meeting in 2007. Moreover, BAO recently started organizing the Byurakan International Summer Schools, and four successful schools were held in 2006, 2008, 2010 (combined with the 32th IAU ISYA), and 2012. BAO plays an important role as one of the regional astronomical centre in the Middle East; beside the meetings and schools, many young astronomers visit BAO to accomplish their research and work on PhD theses.

Scientific Topics

- Historical surveys: spectral and colorimetric surveys for AGN, surveys for UV-excess galaxies
- AGN from IR/submm surveys: 2MASS, IRAS, ISO, AKARI, SCUBA, SST, WISE, Herschel
- AGN from radio/mm surveys: NVSS, FIRST, ALMA, Planck, and others
- AGN from X-ray/gamma-ray surveys: ROSAT, ASCA, BeppoSAX, Chandra, XMM, INTEGRAL, Fermi, HESS, MAGIC, VERITAS
- Multiwavelength AGN surveys, AGN statistics and cross-correlation of multiwavelength surveys
- Unification and other models of AGN, accretion modes, understanding of the structure of nearby AGN from IFUs on VLT and other telescopes
- AGN feedback in galaxies and clusters, AGN host galaxies and the AGN environments
- Binary AGN and Merging Super-Massive Black Holes
- Physics between AGN and microquasars
- Study of unique AGN and AGN variability
- Future large projects
- The Phenomena of Activity

Organizers and sponsors

International Astronomical Union (IAU)

Coordinating IAU Division: Division J: *Galaxies and Cosmology*

Proposing IAU Commission: Commission 28: *Galaxies*

Supporting IAU Commissions: Commission 40: *Radio astronomy*; Commission 47: *Cosmology*

Ministry of Education and Science of Armenia

State Committee for Science (SCS) of Armenia

Armenian National Academy of Sciences (NAS RA)

Byurakan Astrophysical Observatory (BAO)

Armenian Astronomical Society (ArAS)

Scientific Organizing Committee (SOC)

Felix Aharonian (DIAS/MPK, Ireland/Germany), Co-chair

Roger Blandford (Stanford, USA)

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Malcolm Longair (Cambridge, UK)

Laura Maraschi (Milan, Italy)

Enrico Massaro (UniRoma, Italy)

Areg Mickaelian (Byurakan, Armenia), Co-chair

Felix Mirabel (CEA/CONICET, France/Argentina)

Ray Norris (CSIRO, Australia)

Paolo Padovani (ESO, Germany)

Bradley Peterson (Ohio, USA)

Elaine Sadler (Sydney, Australia)

David Sanders (IfA, Hawaii, USA), Co-chair

Helene Sol (OBSPM, France)

Tadayuki Takahashi (ISAS/JAXA, Japan)

Yervant Terzian (Cornell, USA)

Megan Urry (Yale, USA)

Lutz Wisotzki (AIP, Germany)

Local Organizing Committee (LOC)

Mickaelian A.M. (Chairperson)

Abrahamyan H., Aramyan L., Hakobyan A., Harutyunian H., Harutyunyan G.,

Magakian T., Nazaryan T., Nikogossian E., Paronyan G., Vardanyan V.

Invited speakers and talks

Historical surveys: spectral and colorimetric surveys for AGN, surveys for UV-excess galaxies

Zeljko Ivezic: *Optical selection of quasars and AGNs: SDSS and LSST*

Lisa Kewley: *Photoionization, line emission diagnostics*

Chris Martin (TBC): *GALEX*

Areg Mickaelian: *Markarian survey and Markarian galaxies*

Jane Turner (TBC): *Seyfert galaxies*

AGN from IR/submm surveys: 2MASS, IRAS, ISO, AKARI, SCUBA, SST, WISE, Herschel

Amy Barger: *Obscured AGN*

Eilat Glikman: *Dust Reddened Quasars*

Mike Skrutskie (TBC): *2MASS*

Edward (Ned) Wright: *WISE*

AGN from radio/mm surveys: NVSS, FIRST, ALMA, Planck, and others

Paul Alexander (TBC): *Extragalactic radio sources*

Bob Becker: *A Massive Sample of Radio Spectral Indices for AGN in the JVLA FIRST Survey*

Ken Kellermann: *Relativistic Beaming in Blazars*

Paolo Padovani: *AGN content of deep radio surveys and their relevance to the AGN/Starburst connection and the radio-quiet/radio-loud dichotomy*

Huub Roettgering: *LOFAR surveys*

Elaine Sadler: *Observational tests of radio-mode feedback in galaxies out to $z \sim 1$*

AGN from X-ray/gamma-ray surveys: ROSAT, ASCA, BeppoSAX, Chandra, XMM, INTEGRAL, Fermi, HESS, MAGIC, VERITAS

Erin Bonning (TBC): *The multiwavelength variability of blazars (based on extensive optical/IR monitoring of Fermi-bright blazars)*

Nancy Levenson: *Compton thick AGN*

Laura Maraschi: *High energy radiation of Blazars from X-ray to Gamma-ray*

Richard Mushotzky (TBC): *AGN in X-rays*

Helene Sol: *Gamma-rays from blazars*

Tadayuki Takahashi (TBC): *X-rays from AGN*

David Thompson (TBC): *Insight into Fermi-based work and follow-up*

Yoshihiro Ueda: *Evolution of X-ray Selected AGN*

Multiwavelength AGN surveys, AGN statistics and cross-correlation of multiwavelength surveys

Raffaele D'Abrusco (TBC): *Machine learning for QSO discovery in multi-wavelength spaces*

George Djorgovski: *AGN discovery in observable parameter spaces*

Sandy Faber (TBC): *GOODS-CANDELS*

Paolo Giommi (TBC): *Correlations between MWL and HE*

Nick Scoville: *COSMOS survey*

Daniel Stern: *Multi-wavelength AGN stuff from ground and space, from FIR to high-energy*

Ezequiel Treister: *Multiwavelength AGN Population and the X-ray Background*

Unification and other models of AGN, accretion modes, understanding of the structure of nearby AGN from IFUs on VLT and other telescopes

Ric Davies: *Imminent understanding of the structure of nearby AGN from IFUs*

Bradley Peterson: *Measuring the masses of black holes in AGNs*

Vahe Petrosian (TBC): *Stochastic acceleration of electrons in compact objects*

AGN feedback in galaxies and clusters, AGN host galaxies and the AGN environments

Dave Alexander: *AGN in the distant galaxy population*

Philip Best (TBC): *Observational aspects of AGN feedback in galaxies*

Andy Fabian (TBC): *AGN feedback in galaxies and clusters*

Francoise Combes: *AGN-galaxy formation and/or AGN feedback*

Darren Croton: *Simulations and modelling of feedback processes in galaxies*

Megan Urry: *Cosmic growth of SMBH, from $z \sim 0$ to $z \sim 6$, and/or AGN feedback on galaxies, from $z \sim 0$ to $z \sim 2$*

Binary AGN and Merging Super-Massive Black Holes

Yervant Terzian: *Galaxies with Binary Nuclei*

Joe Hennawi (TBC): *Binary QSOs*

Joe Mazzarella (TBC): *Binary AGN and Merging Super-Massive Black Holes*

Physics between AGN and microquasars

Felix Mirabel: *The accretion-ejection connection in black holes of all mass scales*

Study of unique AGN and AGN variability

Vicky Sarajedini: *AGN variability*

Future large projects

Matthew Lister (TBC): *The link between VHE/HE properties and VLBI evolution from MOJAVE programme*

Ray Norris: *The Evolutionary Map of the Universe (EMU) Survey*

Andrea Merloni (TBC): *eROSITA*

The Phenomena of Activity

Roger Blandford: *The current state of our understanding of AGN and MBH formation*

George Helou: *Black Hole Growth and Star Formation: Modeling the Connection*

Abstract submission

The Abstract submission form is given at <http://iaus304.aras.am/abstractform.html>. The deadline is **February 28, 2013**. If you have several contributions, please send each abstract separately.

Registration

The registration form is given at <http://iaus304.aras.am/regform.html>. The deadline for early online registration is **April 30, 2013**. Accommodation and social events requests should also be sent through the registration form.

The registration fee includes:

- meeting at the airport, airport transfers to/from hotels
- participants' kits (bag, abstract book, program and other info materials)
- transportation to/from conference venue to/from hotels
- Welcome Reception on October 6
- coffee/tea breaks and refreshments on October 7-11
- Excursion to BAO and Social Dinner on October 9 (40 Eur)
- A copy of the IAU S304 Proceedings Book (59 Eur)
- organizational expenses (rent of the meeting hall, LOC and additional expenses)

Registration fees:

Early online registration (before April 30, 2013)	300 Eur
Regular online registration (May 1 – Sep 20, 2013)	330 Eur
On-site registration (Oct 6-11, 2013)	360 Eur

Accompanying persons:

Early online registration (before April 30, 2013)	120 Eur
Regular online registration (May 1 – Sep 20, 2013)	150 Eur
On-site registration (Oct 6-11, 2013)	180 Eur

If you have problems with web access or with online registration, please send the completed form as an e-mail attachment to aregmick@aras.am or iaus304@aras.am

IAU and LOC support grants

The IAU provides grants to cover in part the expenses associated with attendance at the IAU Symposium 304. In particular, the IAU wishes to support qualified scientists to whom only limited means of support are available, e.g., colleagues from economically less privileged countries and young scientists.

We encourage those planning to attend the symposium to apply for an IAU Grant using this [form](http://www.iau.org/static/meetings/GrantSymposiumRIM.pdf) (<http://www.iau.org/static/meetings/GrantSymposiumRIM.pdf>) at your earliest convenience and send it by e-mail to the organizers (iaus304@aras.am) with the subject line "IAU S304: Application for Grant". Although the form notes that the amount requested should be in CHF (Swiss francs), requests can be made in Euros, but be sure to indicate this is the currency of your request on the form. The deadline for grant application is **28 Feb 2013**. We will acknowledge receipt of all applications.

A limited number of LOC (ArAS) travel grants will be available mainly reserved for young participants and scientists from countries with limited resources. An application should be made through the registration form. Those who are going to apply for a grant are encouraged to register as soon as possible.

Social Events

The social program includes:

- Welcome Reception – Sunday evening, October 6, at 20:00-22:00, free of charge, included in the registration fee
- Excursion to the Byurakan Astrophysical Observatory (www.bao.am) and Social Dinner – Wednesday, October 9, at 17:00-22:00, free of charge, included in the registration fee
- Symposium Banquet – Friday, October 11, at 19:00-22:00, 40 Euros
- Excursions to Armenian sightseeing – Sunday, October 6 and Saturday, October 12, all excursions include lunch

A description of the Armenian sightseeing and offered excursions is given at

<http://iaus304.aras.am/socevents.html>

Proceedings

The Symposium proceedings will be published by the IAU publisher, Cambridge University Press (CUP). The proceedings will be published both electronically and in print, and both a hardcopy and online access to the proceedings are included in the proceedings cost. This cost is included in the registration fee of the symposium. Only material presented in person at the meeting will be included in the proceedings.

The proceedings must be published within six months of the symposium. Given the three months lead time required by the publishers, and the time required for editing, we request that all manuscripts be submitted by **30 November 2013**. We will not accept any delay.

The style files and sample papers necessary for authors can be found [here](#). Instructions are detailed in the “[readme_proceedings.pdf](#)” file.

All authors are required to complete and return an IAU Copyright Form, either [electronically](#) or in [hardcopy](#). We will have the IAU Copyright Forms available during the meeting. The editors are **Areg Mickaelian (Chief Editor)**, **Felix Aharonian** and **David Sanders**.

Please email your LaTeX file, figures (if any), and individually compiled PDF contribution to iaus304@aras.am as attachments with the subject line “Proceedings FamilyName.FirstInitial”. You should name your files `familyname.tex`, `familyname.pdf`, `familyname_fig1.ps`, etc to facilitate the task of the editors.

We note that colour figures will appear in colour at no charge in the electronic version of the proceedings only. For colour figures in the printed proceedings, the publisher will charge the authors £500 per page. Authors who are not prepared to cover this sum should ensure that their figures reproduce properly in black-and-white.

The page limits for the proceedings are indicated below. The editors may add one page to each oral contribution for questions and answers during the editing process. In this case authors will be consulted in due time after receipt of the manuscripts and preliminary editorial work.

Page limits

Invited reviews: 10

Contributed talks: 5

Posters: 2

Important Dates and Deadlines

Announcements

1 Dec 2012	First Announcement with a call for Early Online Registration, Abstract Submission, Travel Grant Application, and Hotel Reservation
10 July 2013	Second Announcement with detailed Program
25 Sep 2013	Final Announcement with detailed Program and list of Participants

Abstract Submission and presentations

1 Dec 2012	Online Abstract Submission Open
28 Feb 2013	Online Abstract Submission Close
31 Mar 2013	Abstract Notification to Submitters (Confirmation of Acceptance)
30 June 2013	Final Submission of Abstracts of accepted papers for the Abstracts book
20 Sep 2013	Deadline for Submission of presentations files for online publication

Grant Applications

1 Dec 2012	Online IAU Grant Application Open
28 Feb 2013	Online IAU Grant Application Close
31 Mar 2013	Travel Grant Notification to Applicants

Registration

1 Dec 2012	Early Online Registration (with reduced fee) open
30 Apr 2013	Early Online Registration (with reduced fee) close
1 May 2013	Regular Online Registration open
20 Sep 2013	Regular Online Registration close
6-11 Oct 2013	On-site Registration

Accommodation

1 Dec 2012	Hotel Reservation (with reduced rate) open
30 Apr 2013	Hotel Reservation (with reduced rate) close
20 Sep 2013	Final Hotel Reservation by the organizers

IAU S304 Proceedings:

30 Nov 2013	Deadline for submission of papers for publication in the Proceedings
15 Jan 2014	Submission of the Proceedings Book by Editors for publication
May 2014	Publication of the Proceedings of the IAU S304

Contacts

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