

Intro to AJC

FALL 2016

VICTOR CALDERON

What is AJC?

- ❖ “*Astronomy Journal Club*”.
- ❖ Good practice for giving scientific talks.
- ❖ Slightly more specialized than a colloquium talk.
- ❖ First-year students are exempt the 1st semester.

Make sure you're on the AJC and Physics-Astronomy lists:

PHYS_AJC@LIST.VANDERBILT.EDU

PHYS_ASTRO@LIST.VANDERBILT.EDU

- ❖ If not, talk to Don Pickert (SC 6301) or donald.pickert@vanderbilt.edu

When and where?

- ❖ Every Wednesday at 12pm.
- ❖ Here, at SC 6333

How to find it?

Vanderbilt Astronomy Group

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[ABOUT US](#)

[RESEARCH](#)

[PEOPLE](#)

[EVENTS](#)

[PHD PROGRAM](#)

[CLASSES](#)

[FACILITIES](#)

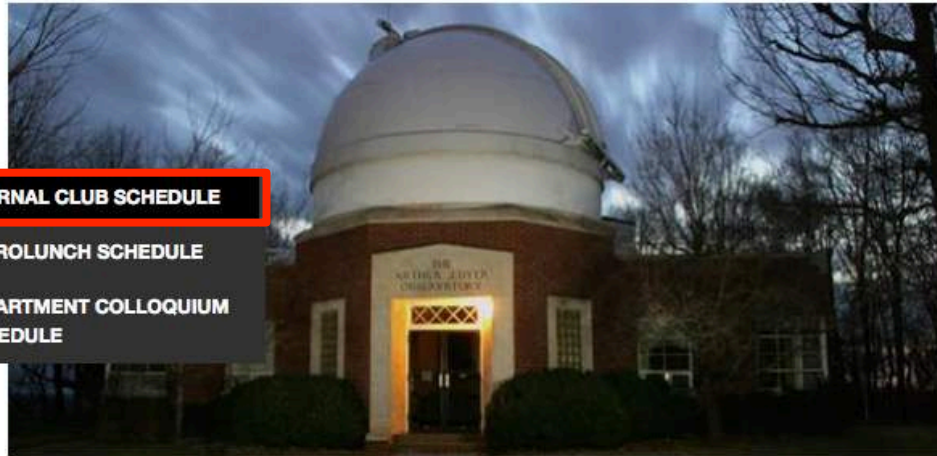
[RESOURCES](#)

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[DEPARTMENT COLLOQUIUM
SCHEDULE](#)



The Astronomy Group is a part of the Department of Physics & Astronomy at Vanderbilt University. Both theoretical and observational research is carried out at Vanderbilt, with the work carried out at various national, international and space-platform facilities. In addition, Vanderbilt helps operate the [KELT](#) survey for transiting extrasolar planets, and members of the group are active participants in the [Kepler](#) and [SDSS 3](#) collaborations, as well as preparing for future large-scale projects like [TESS](#) and [LSST](#). The on-campus [ACCRES cluster](#), with over 4000 CPUs, provides the resources for computational astrophysics.

CONTACT US

The Astronomy Group
is a part of the
Physics & Astronomy
Department

Phone
(615) 322-2828

Fax
(615) 343-7263

Email
[physics-astronomy
@vanderbilt.edu](mailto:physics-astronomy@vanderbilt.edu)

On Campus
6301 Stevenson Center
([view map](#))

Mailing Address
Physics & Astronomy
Department
Vanderbilt University

Fall 2016 - Schedule

JOURNAL CLUB – FALL 2016

Posted on [August 17, 2016](#) by [victorf](#)

DATE	TITLE	SPEAKER
August 31, 2016	AJC Orientation and Informal AJC	Victor Calderon and Keivan Stassun
September 6, 2016 (Tuesday)		Antonio Porras
September 7, 2016		Victor Calderon
September 14, 2016		Savannah Jacklin
September 21, 2016		Laura Vega
September 28, 2016	No AJC – Matt's Defense	—
October 5, 2016		Michael Lund
October 12, 2016		Karl Jaehnig
October 19, 2016		Adam Szewciw
October 26, 2016		Glenna Dunn
November 1, 2016 (Tuesday)		Natasha McMann
November 2, 2016		Christina Davis
November 9, 2016		George Vejar
November 16, 2016		Rose Perea
November 23, 2016	Thanksgiving Break	—
November 30, 2016		John Hood
December 7, 2016		Nicholas Chason
December 14, 2016		Samaiyah Farid

Guidelines

- ❖ Aim for 40-50 minutes + Questions
- ❖ Keep your audience in mind.
- ❖ Be really familiar with the topic.
- ❖ Introduce the topic and explain why it is important
 - ❖ Use figures and plots, if possible.
- ❖ Explain what the “big picture” is.
- ❖ Close with a short summary and ready to answer questions

Guidelines

❖ DO's:

- ❖ Topic beyond a specific sub-field of astronomy
- ❖ Know all the major points of the paper
- ❖ Provide background to the topic
- ❖ Nice graphics.
- ❖ Practice your talk.
- ❖ Be ready for questions.

❖ DON'Ts:

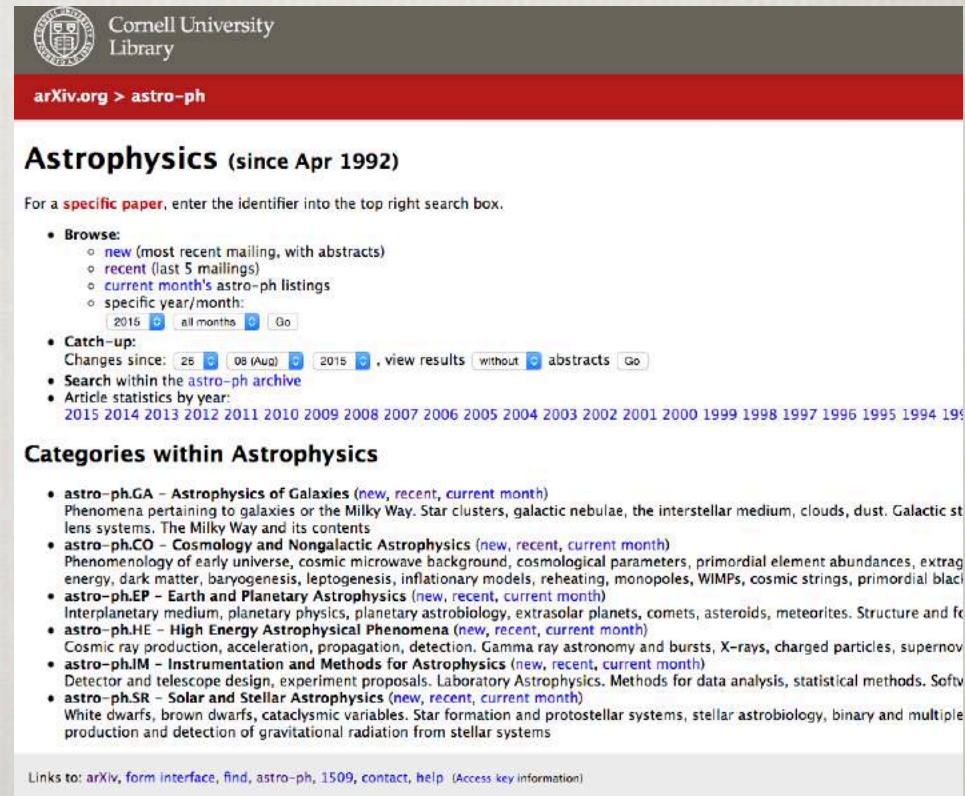
- ❖ Review Papers
- ❖ Too many equations in one slide
- ❖ Too much jargon
- ❖ Exceed your allotted time.

Finding a topic

- ❖ Talk about your research
- ❖ Talk about someone else's research

Finding a topic

- ❖ Talk about your research
- ❖ Talk about someone else's research
- ❖ arXiv & astro-ph



The screenshot shows the Cornell University Library's arXiv.org interface for the astro-ph category. The header includes the Cornell University Library logo and the text "arXiv.org > astro-ph". The main heading is "Astrophysics (since Apr 1992)". Below this, a search instruction states: "For a **specific paper**, enter the identifier into the top right search box." The "Browse:" section offers options to view "new" (most recent mailing, with abstracts), "recent" (last 5 mailings), "current month's astro-ph listings", or "specific year/month:" (with a dropdown for 2016 and a "Go" button). The "Catch-up:" section shows "Changes since: 26 08 (Aug) 2015" and a "view results" button, with checkboxes for "without abstracts". The "Search within the astro-ph archive" section includes "Article statistics by year:" with a list of years from 2015 to 1993. The "Categories within Astrophysics" section lists several sub-categories with links to "new", "recent", and "current month" listings: astro-ph.GA (Galaxies), astro-ph.CO (Cosmology and Nongalactic Astrophysics), astro-ph.EP (Earth and Planetary Astrophysics), astro-ph.HE (High Energy Astrophysical Phenomena), astro-ph.IM (Instrumentation and Methods for Astrophysics), and astro-ph.SR (Solar and Stellar Astrophysics). Each category includes a brief description of its scope. At the bottom, a "Links to:" section provides links to arXiv, form interface, find, astro-ph, 1509, contact, help, and Access key information.

Cornell University Library

arXiv.org > astro-ph

Astrophysics (since Apr 1992)

For a **specific paper**, enter the identifier into the top right search box.

- **Browse:**
 - [new](#) (most recent mailing, with abstracts)
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2016
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- **Search within the astro-ph archive**
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[2015](#) [2014](#) [2013](#) [2012](#) [2011](#) [2010](#) [2009](#) [2008](#) [2007](#) [2006](#) [2005](#) [2004](#) [2003](#) [2002](#) [2001](#) [2000](#) [1999](#) [1998](#) [1997](#) [1996](#) [1995](#) [1994](#) [1993](#)

Categories within Astrophysics

- **astro-ph.GA – Astrophysics of Galaxies** ([new](#), [recent](#), [current month](#))
Phenomena pertaining to galaxies or the Milky Way. Star clusters, galactic nebulae, the interstellar medium, clouds, dust. Galactic systems. The Milky Way and its contents
- **astro-ph.CO – Cosmology and Nongalactic Astrophysics** ([new](#), [recent](#), [current month](#))
Phenomenology of early universe, cosmic microwave background, cosmological parameters, primordial element abundances, extragalactic energy, dark matter, baryogenesis, leptogenesis, inflationary models, reheating, monopoles, WIMPs, cosmic strings, primordial black holes
- **astro-ph.EP – Earth and Planetary Astrophysics** ([new](#), [recent](#), [current month](#))
Interplanetary medium, planetary physics, planetary astrobology, extrasolar planets, comets, asteroids, meteorites. Structure and formation of planets and moons
- **astro-ph.HE – High Energy Astrophysical Phenomena** ([new](#), [recent](#), [current month](#))
Cosmic ray production, acceleration, propagation, detection. Gamma ray astronomy and bursts, X-rays, charged particles, supernovae, pulsars, black holes
- **astro-ph.IM – Instrumentation and Methods for Astrophysics** ([new](#), [recent](#), [current month](#))
Detector and telescope design, experiment proposals. Laboratory Astrophysics. Methods for data analysis, statistical methods. Software
- **astro-ph.SR – Solar and Stellar Astrophysics** ([new](#), [recent](#), [current month](#))
White dwarfs, brown dwarfs, cataclysmic variables. Star formation and protostellar systems, stellar astrobology, binary and multiple star systems, production and detection of gravitational radiation from stellar systems

Links to: [arXiv](#), [form interface](#), [find](#), [astro-ph](#), [1509](#), [contact](#), [help](#) (Access key information)

<http://arxiv.org/archive/astro-ph>

Finding a topic

- ❖ Talk about your research
- ❖ Talk about someone else's research
 - ❖ arXiv & astro-ph
 - ❖ VoxCharta

The screenshot shows the VoxCharta website. At the top is the logo "voxcharta" in orange and blue, with the text "ArXiv discussions for 269 institutions including KIAS, TTU Astro, Lowell Observatory, PKU, and UW Milwaukee." below it. A navigation bar contains links for "Home", "About", "Help", and "Tools". The main content area is titled "Vanderbilt's Discussion Agenda for Friday". It features a section for "LSS arXiv review" with a green icon, stating that the person responsible for selecting the week's agenda has yet to post the list of papers. Below this, there is a checkbox for "Show votes from other institutions." and a message that "Vanderbilt's agenda is currently empty! Please vote for papers you'd like to discuss before 11:45 am on Tuesday." At the bottom of this section, it says "Agenda auto-refreshes every 5 minutes, last refreshed at 10:46:43 am." The next section is titled "Yesterday's Postings". It includes a "Sort:" dropdown set to "By everyone's votes" and a "descending order." dropdown. Below the sort options is a "Filters:" row with checkboxes for various categories: ASTRO-PH, CO, EP, GA, HE, IM, SR, GR-QC, HEP-PH, HEP-TH, HEP-LAT, HEP-EX, NUCL-TH, and NUCL-EX. At the bottom, there is a "Show:" row with checkboxes for "Titles Only", "Conf. Proceedings", and "Submitted".

<http://vanderbilt.voxcharta.org>

Finding a topic

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 - ❖ VoxCharta
 - ❖ OSU The Daily Brew

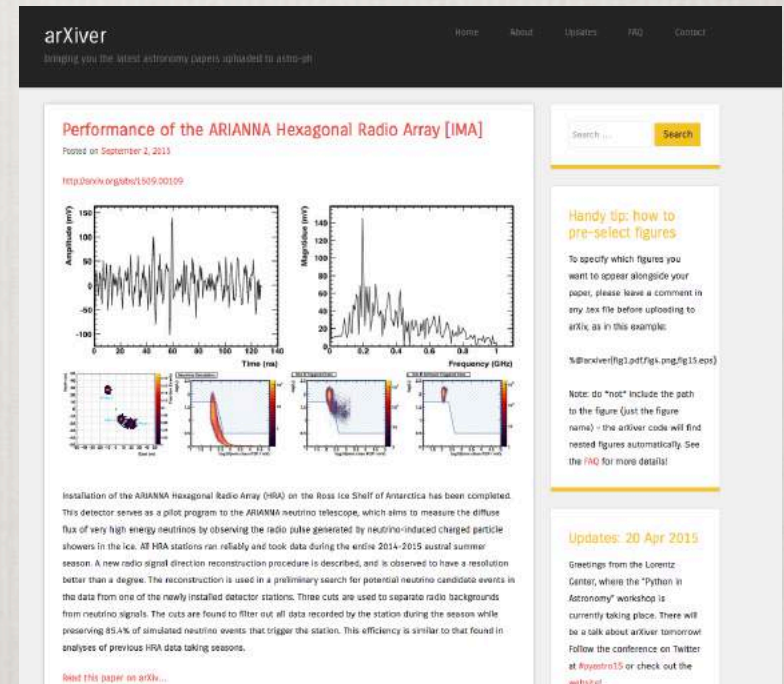
The Daily Brew
Selected astro-ph abstracts for Wednesday 2015 September 2

- **Direct Exoplanet Detection with Binary Differential Imaging**
Timothy J. Rodgas, Alycia Weinberger, Eric F. Mamajek, Jared R. Males, Laird M. Close, Katie Morzinski, Philip M. Hinz, Nathan Kibbi
[\[arXiv:1508.00074\]](#) [\[PDF\]](#)
- **The view from the boundary: a new void stacking method**
Marisa Gaunio (1), Yue-Chuan Cai (2), Carlos S. Frank (1), (1) JCC Durham, (2) Edinburgh
[\[arXiv:1508.00101\]](#) [\[PDF\]](#)
- **Evolution of Density Profiles in High-z Galaxies: Comparison and Quantifying Inside-Out**
Sandro Tacchella, Nirupal Dey, C. Maizels, Daniel Comins, Galo DeRufo, Brian Lapkin, Nir Mandelker, Joel R. Primack
[\[arXiv:1508.00174\]](#) [\[PDF\]](#)
- **Cold Dark Matter from X-ray AGN in the SDSS-2 Cosmology Legacy Survey: Dependence on Luminosity, Obscuration & AGN Activity**
María Barral, Gokul K. Choudhury, R. G. McMahon, C. J. Willott, J. E. Geach, C. M. Haines, S. Alqahtani-Zadeh, D. M. Alexander, N. Bourne, K. E. K. Cripps, J. S. Dunlop, D. Panu, M. Jarvis, M. J. Michaewski, M. Page, D. J. B. Smith, A. M. Swinbank, M. Symeonidis, P. P. Van der Werf
[\[arXiv:1508.00181\]](#) [\[PDF\]](#)
- **The Controversial Star-Formation History and Helium Enrichment of the Milky Way Bulge**
David M. Nataf
[\[arXiv:1508.00215\]](#) [\[PDF\]](#)
- **On the Assembly of Dwarf Galaxies in Clusters and their Efficient Formation of Globular Clusters**
Tiziana A. Motta, Laura V. Sales, Alessandra Filagaki, Ruben Sanchez-Janssen, Mark Vogelsberger, Dylan Nelson, Vicente Rodriguez-Gomez, Paul Torrey, Luis Hernandez
[\[arXiv:1508.00201\]](#) [\[PDF\]](#)
- **Spitzer IRAC Photometry for Time Series in Crowded Fields**
S. Calchi Novati, A. Gualdi, J. C. Yee, C. Beckman, G. Bryden, S. Cony, M. Fumagalli, B. S. Glad, C. B. Henderson, R. W. Page, Y. Sharaevskii, B. Whiting, W. Zhu, A. Uchida, R. Polak, M. Pawlak, M. E. Szymanski, J. Shewron, P. Merle, S. Kuchwinski, Z. Wierzyński, P. Pietrowski, G. Pietrowski, J. Szymanski, K. Uzcay
[\[arXiv:1508.00271\]](#) [\[PDF\]](#)
- **Localised starbursts in dwarf galaxies produced by impact of low metallicity cosmic gas clouds**
J. Sanchez Almeida (1,2), B.G. Elmegreen (3), C. Muñoz-Torres (4), L. Perez-Montes (5), R. Amorin (6), M.E. Fido (1,2,7,8,9), Y. Asanuma (10), P. Papadopoulos (8,9), J.M. Valdes (5) (1) Instituto de Astrofísica de Canarias, La Laguna, Tenerife, Spain, (2) Departamento de Astronomía, Universidad de La Laguna, (3) IBM Research Division, T.J. Watson Research Center, Yorktown Heights, NY 10598, USA, (4) Instituto de Astrofísica de Andalucía, CSIC, Granada, Spain, (5) INFAP-Observatorio Astronómico de Roma, Monte Porzio-Carcano, Italy, (6) SEM-CENTRA, Lisbon, Portugal, (7) Centro de Astrofísica da Universidade de Porto, Porto, Portugal, (8) Instituto de Astrofísica e Ciências do Espaço, Universidade de Lisboa, Lisboa, Portugal, (9) Universidad Autónoma de Madrid, Madrid, Spain
[\[arXiv:1508.00381\]](#) [\[PDF\]](#)
- **The JCMFT Phase Survey: early results from the $l=30$ degree field**
L.T. Moore, B. Pridmore, M.A. Thompson, H. Pentericci, J.S. Gallagher, D.J. Ekers, J.T. Dempsey, L.K. Morgan, H.S. Thomas, J. Buckle, C.M. Bower, H. Butler, D. Carrigan, A. Chrysostomou, H.M. de Vries, M. Fido, M.G. Hoare, G. Mainzer, J.C. Mottram, C. Nugent, P. Ogle, N. Perera, D. Polychroni, R.D. Sutherland, A.J. Riepe, C. Sella, L.J. Smeaton, D. Berry, M.J. Cooke, T. Jones, M. Prasad, A. Tuckey, P. Tuckey, J. de Vries, C.J. Davis, A. Evans, P. Filling, G.A. Fuller, A.G. Gibb, S.J. Gibb, T. Hill, D. Johnson, G. Jones, S.N. Leung, S.L. Lumsden, D.G. Marín, Q. Nguyen Luong, J.L. Pineda, C. Pavesi, J.S. Ricker, G.J. Schinner, R. Shaper, M. Spence, A.R. Taylor, S. Wei, D. Wiering, G.J. White, M. Zhu
[\[arXiv:1508.00381\]](#) [\[PDF\]](#)
- **Uncovering the random candidate for NGC 253**
G.J. Garmire, M.P. Agüero, J.A. Casper, R.J. Diaz, P.L. Gomez, G. Busch, M. Schinner
[\[arXiv:1508.00391\]](#) [\[PDF\]](#)
- **Radio Jet Feedback and Star Formation in Heavily Obscured Quasars at Redshift $z < 3.1$: ALMA Observations**
Cristi J. Lonsdale, Mark Lee, Amy D. Kirmak, Andrew Blair, Mark White, Schelle Wilson, Dan Stern, Jim Christie, Maqin Kim, Roberto J. Asif, Chao-Wai Tsai, Andrew Efstathiou, Suzi Jones, Peter Eisenhardt, Carrie Bridge, Jierwan Wu, Colla J. Lonsdale, Kristin Jones, Tom Jarrett, Robyn Smith
[\[arXiv:1508.00401\]](#) [\[PDF\]](#)
- **The "shock up" galaxy NGC 5075: the complex interplay between BL activity and environment**
N. Shah, T.A. Courtonne, R. Morganti, S. Cioabucanu, R. Booth
[\[arXiv:1508.00501\]](#) [\[PDF\]](#)

<http://www.astronomy.ohio-state.edu/Coffee/coffee.html>

Finding a topic

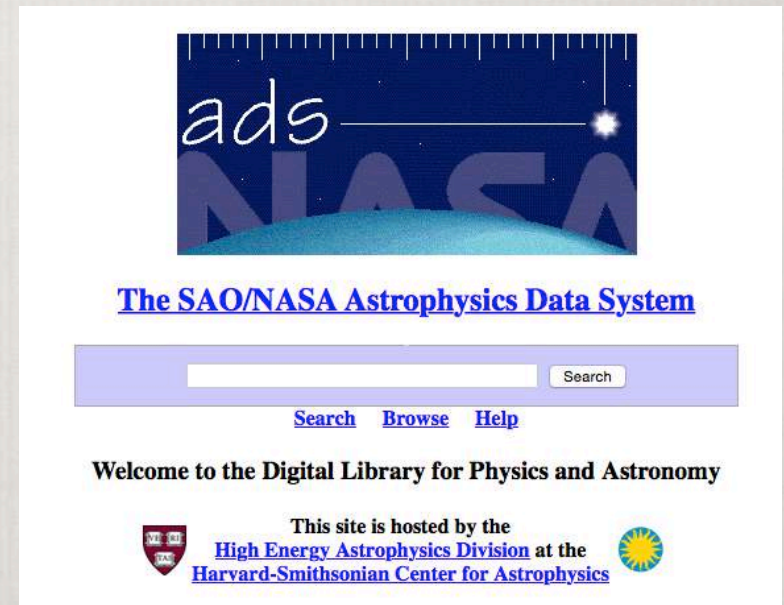
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 - ❖ OSU The Daily Brew
 - ❖ arXiver



<https://arxiv.wordpress.com>

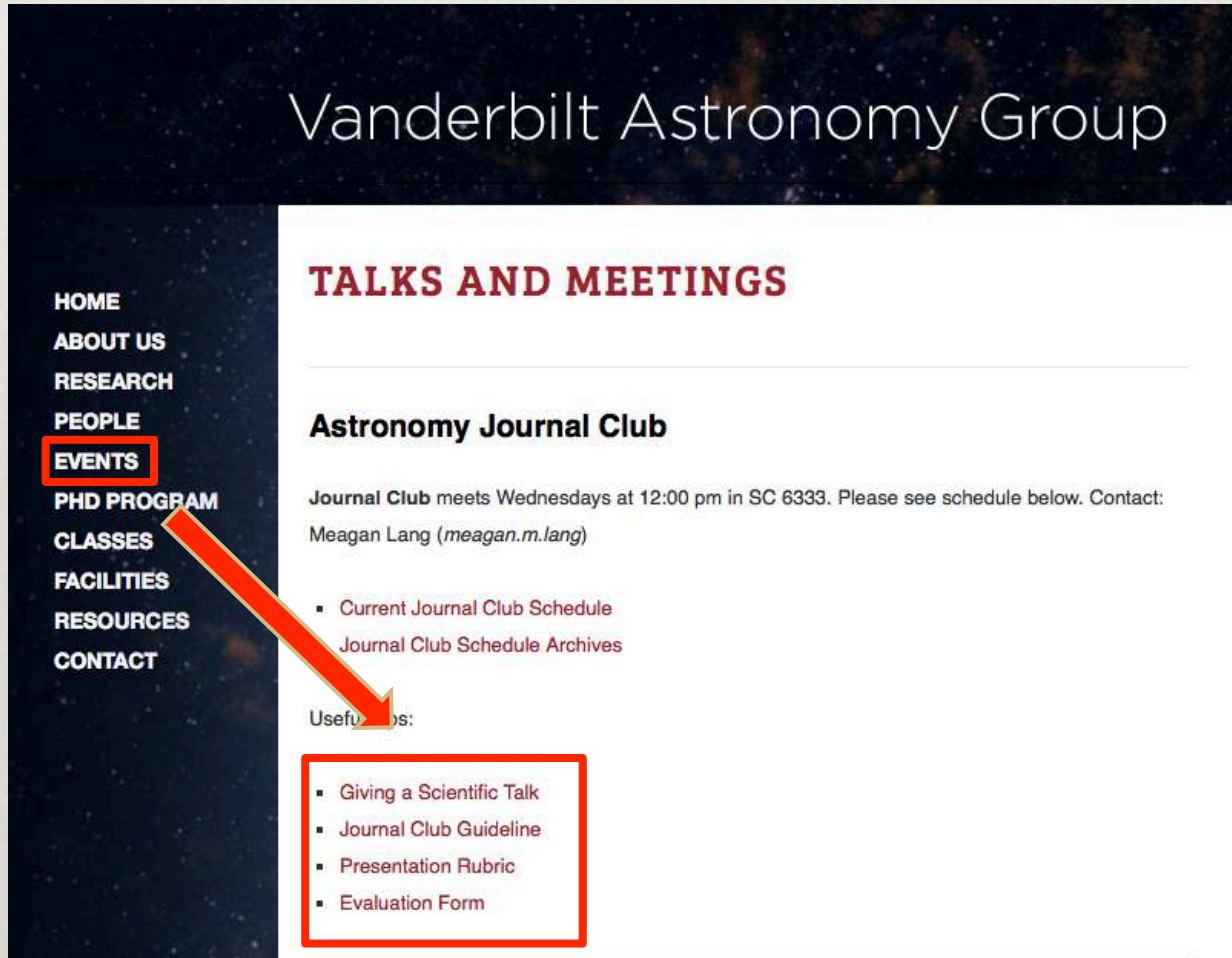
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 - ❖ arXiver
 - ❖ ADS



<http://adsabs.harvard.edu>

Other resources



The screenshot shows the website for the Vanderbilt Astronomy Group. The header features the group's name against a cosmic background. A left-hand navigation menu lists various site sections, with 'EVENTS' highlighted by a red box. A large red arrow points from this box to a 'Useful links' section on the right, which is also enclosed in a red box. This section contains a list of links related to the Astronomy Journal Club. The 'TALKS AND MEETINGS' section on the right contains information about the Journal Club, including its meeting schedule and contact person, followed by links to the current schedule and archives.

Vanderbilt Astronomy Group

- HOME
- ABOUT US
- RESEARCH
- PEOPLE
- EVENTS**
- PHD PROGRAM
- CLASSES
- FACILITIES
- RESOURCES
- CONTACT

TALKS AND MEETINGS

Astronomy Journal Club

Journal Club meets Wednesdays at 12:00 pm in SC 6333. Please see schedule below. Contact: Meagan Lang (meagan.m.lang)

- [Current Journal Club Schedule](#)
- [Journal Club Schedule Archives](#)

Useful links:

- [Giving a Scientific Talk](#)
- [Journal Club Guideline](#)
- [Presentation Rubric](#)
- [Evaluation Form](#)

Other resources

- ❖ Vanderbilt-Astronomy PBworks page:
 - ❖ <http://vanderbiltastro.pbworks.com>
 - ❖ A repository for important info and other resources.
 - ❖ Open an account on PBworks and request access to the repository
 - ❖ Or send me an email and I'll invite you to the repository.

Summary

- ❖ Good for practicing giving talks
- ❖ 40-50 minutes + Questions
- ❖ Know the key points of the paper
- ❖ Background and terminology
- ❖ Use the available resources

QUESTIONS?

QUESTIONS?