

Service and the Scholarship of Service to the University, Society and the Profession

Service to the University

University and College Committees

<u>Dates</u>	<u>Committee Name</u>
2000–2001	Schreyer Honors College Faculty Selection Committee for first-year admissions
2003	Astronomy Department Head search committee
2003	Fulbright undergraduate evaluation committee
2003–2004	NASA Space Grant Fellowship and Sylvia Steinn Scholarship award committee
2004–2006	Promotion and Tenure Committee for the Eberly College of Science
2004–2006	Strategic Vision Committee for the Eberly College of Science
2010	Tester of the myResearch Portal system for grants management
2010–2011	CyberScience Task Force
2011	Astronomy & Astrophysics Department Head search committee

Department Committees

<u>Dates</u>	<u>Committee Name</u>
1997–1998	Computer facilities
1997–1999	Undergraduate program
1998–2003	Journal club (chair)
1998–2005	Graduate admissions
1999–2003	Graduate program
1999–2003	Hobby-Eberly Telescope
1999–2003	Friedman Lectures/outreach
2001–2003	Faculty recruitment
2003–2004	Faculty recruitment (chair)
2003–2004	Marker Lectures
2003–2005	Strategic planning
2003–2004	‘Teaching assistant of the year’ award
2004–2005	Faculty recruitment
2004–2005	Internal Eberly Chair appointment
2004–2006	Promotion and tenure
2005–2006	Graduate program and admissions
2005–2007	Distinguished lecturer committee
2006–2009	Colloquium committee (chair)
2006–2009	Faculty recruitment
2006–2009	Graduate admissions
2007–2008	Candidacy exam
2008–2009	Climate and diversity
2008–2009	Promotion and tenure
2009–2010	Candidacy exam
2009–2012	Graduate program
2009–2011	Promotion and tenure (chair)
2010–2011	Graduate admissions
2011–2012	Awards (chair)
2011–2012	Promotion and tenure

Other Department Activities

- Regularly give research talks for the Department lunchtime seminar series.

Outreach Service as a Representative of the University

- Lead instructor for the 2000–2012 Penn State Inservice Workshops in Astronomy (PSIWA) titled ‘Galaxies & Cosmology’ (2000–2005), ‘The Origin and Fate of Our Cosmos: Understanding Big Bang Cosmology’ (2006–2007), and ‘Black Holes: Gravity’s Fatal Attraction’ (2008–2012).
- Helped to develop proposals for Education & Public Outreach that fund the Penn State Inservice Workshops in Astronomy (PSIWA). These were written in 1998–2010

as part of the *Chandra*, *HST*, Long Term Space Astrophysics, and Astrophysics Data Analysis programs, and they have provided more than \$220,000 to the PSIWA. They fund scholarships for high-school teachers, special talks and hands-on workshops, and purchases of astronomy related educational materials.

- Developed a successful National Science Foundation CAREER proposal that provided funding to promote and aid the study of astronomy in the Pennsylvania Junior Academy of Science (PJAS; 2000–2005). I helped students find appropriate astronomy projects and served as a judge at the PJAS annual state meetings. Monetary prizes of \$500–1000 and other prizes were given for the best PJAS astronomy projects. I helped Prof. Kevin Luhman with the preparation of his successful CAREER proposal which now funds the PJAS astronomy outreach program.
- Harlow Shapley Visiting Lecturer for the American Astronomical Society (2005–present). Have visited York University (2009 January) and Carroll College (2009 March). During visits I have given public lectures, given research colloquia, and interacted with students regarding research and careers.
- Co-authored (with Anna H. Spitz) a general audience article titled ‘Active galactic nuclei: Revealing black hole growth in galaxies and the structure of the Universe’ for the electronic newsletter of the Large Synoptic Survey Telescope (Volume 3, Number 4; 2011 January).
- Presented a lecture titled ‘Finding supermassive black holes and exploring their environments with *Chandra*’ to the State College Rotary Club (2007 July).
- Interviewed for ‘Pennsylvania Inside Out,’ a public affairs program on WPSX-TV (2005 May). Explained new results on the growth of supermassive black holes in the distant universe.
- Presented a lecture titled ‘X-raying active galaxies with the *Chandra* X-ray Observatory: Two recent advances’ to the Eberly College of Science Alumni Society board of directors (2002 October).
- Astrofest lecturing on ‘X-raying the Distant Universe with *Chandra*’ in Davey Lab (2000 July).
- Spoke to the high-school student attendees of the Summer Opportunities and Research for Space (SOARS) program about ‘X-ray Satellite Studies of Supermassive Black Holes’ (2000 June).
- Participated in Space Day 2000 (2000 April) and Space Day 2001 (2001 April) at Penn State. With graduate students Sarah Gallagher and Ann Hornschemeier, I presented posters and activities on ‘X-rays from Supermassive Black Holes’ and ‘X-raying the Hubble Deep Field.’
- Friedman outreach lecture on ‘X-raying the Environments of Supermassive Black Holes’ (2000 March).
- Spoke to the Penn State Astronomy Club on ‘Recent Results from *Chandra*’ (2000 March).
- Represented the Astronomy & Astrophysics Department for Scholars Day (1999 October) and in the Spend a Summer Day Program (1998 July). Described the Department’s educational and research opportunities to interested high-school students. Annually represented the Astronomy & Astrophysics Department in the First-Year Testing,

Counseling, and Advising Program (FTCAP) from 1998–2003. In addition, I have led multiple Department tours for interested high-school students and their families.

- Parents’ Day observing on the roof of Davey Lab (1997 September and 1998 September). Parents’ Day lecturing on ‘Exploring Supermassive Black Holes with X-rays’ (1999 September). Parents’ Day volunteer for the astronomy questions booth and spectroscopy demonstration (2000 September and 2001 September).
- Presented talks on my research to the Board of Visitors for the Department (1998 April and 2002 October). Presented a talk on my research to a potential donor to the College (2000 October).
- Provided scholarly information on the history of science and technology for publication in the journal *Chemistry and Industry* (Number 24, 974–975; 1999 December) and two introductory astronomy textbooks.
- Serve as an admissions representative for Phillips Exeter Academy, a private boarding school in Exeter, New Hampshire.

Service to the Profession

- Scientific organizing committee member for conferences and workshops including
 1. The ‘Structure and Kinematics of Quasar Broad Line Regions’ conference in Lincoln, Nebraska (1998 March). I was one of the editors for the conference proceedings.
 2. The ‘X-ray Astronomy 1999: Stellar Endpoints, AGN, and the Diffuse X-ray Background’ conference in Bologna, Italy (1999 September).
 3. The ‘Observational and Theoretical Progress in the Study of Narrow-Line Seyfert 1 Galaxies’ workshop in Bad Honnef, Germany (1999 December). I was one of the editors for the workshop proceedings.
 4. The ‘X-ray Spectroscopy of Active Galactic Nuclei with *Chandra* and *XMM-Newton*’ workshop in Garching, Germany (2001 December).
 5. The ‘AGN Physics with the Sloan Digital Sky Survey’ conference in Princeton, New Jersey (2003 July).
 6. The ‘2004 Ringberg Castle Workshop on AGN Physics’ workshop in Tegernsee, Germany (2004 November).
 7. The ‘Superunification of Active Galactic Nuclei: Black Hole Masses, Spins, and Accretion Rates’ workshop in Elba, Italy (2005 May).
 8. The ‘Extragalactic Surveys: A Chandra Science Workshop’ workshop in Cambridge, Massachusetts (2006 November).
 9. The ‘X-ray Universe 2008’ conference in Granada, Spain (2008 May).
 10. The ‘Putting Gravity to Work—From Black Holes to Galaxy Clusters: ACF60’ conference in Cambridge, United Kingdom (2008 July).
 11. The ‘X-ray Astronomy 2009: Present Status, Multi-Wavelength Approach, and Future Perspectives’ conference in Bologna, Italy (2009 September).

12. The ‘Five Years of Swift’ conference in State College, Pennsylvania (2009 November).
 13. The ‘First Galaxies, Quasars, and Gamma-Ray Bursts’ conference in State College, Pennsylvania (2010 June).
 14. The ‘Very Wide Field Surveys in the Light of Astro 2010’ workshop in Baltimore, Maryland (2011 June).
- Work in support of X-ray missions that are planned or under development including
 1. Science Support Group member for the *Advanced Telescope for High-Energy Astrophysics (Athena)* (2011–present).
 2. Science Team member for the *New Hard X-ray Mission (NHXM)* (2010–2011).
 3. Science Study Team member for the *General Relativistic Astrophysics via Timing and Spectroscopy (GRAVITAS)* mission (2010–2011).
 4. Science Topical Team member for the *Nuclear Spectroscopic Telescope Array* (2008–present).
 5. Science Definition Team member for the *International X-ray Observatory* representing ‘Black-Hole Surveys’ science (2008–2011).
 6. Chair of the Science Panel on ‘The high-redshift universe, reionization, and synergies with JWST first-light science’ for the *Constellation-X* X-ray satellite (2007–2008).
 7. Co-investigator and science panel member for the *X-ray Evolving Universe Spectroscopy (XEUS)* satellite (2006–2008).
 8. Co-investigator for the *Wide-Field X-ray Telescope (WFXT)* satellite (2007–present).
 9. Co-investigator for the *Joint Astrophysics Nascent Universe Satellite* (2007–2011).
 10. Collaborator for the ART instrument on the *Spectrum Röntgen-Gamma (SRG)* satellite (2007–2008).
 11. Co-investigator and science panel member for the *Generation-X* X-ray satellite (2003–2011).
 - Work in support of the Large Synoptic Survey Telescope including
 1. Chair of the Interest Group on Deep Drilling Fields (2010–present).
 2. Chair of the Science Collaboration on active galaxies (2006–present).
 - Proposal reviewing activities including
 1. Red-team reviewer for the *Chandra* proposal to the 2012 Senior Review of NASA’s Astrophysics Division Operating Missions (2011 November).
 2. Panel member for the *ASCA* AO6 (1997 October 15–17), *Chandra* Cycle 1 (1998 April 6–7), *Chandra* Cycle 2 (2000 August 2–3), and *Chandra* Cycle 10 (2008 June 17–18) observing proposal reviews.
 3. Panel member for the National Science Foundation (NSF) Faculty Early Career Development (CAREER) program (2005 October).

4. Reviewer by mail of grant proposals for the United States National Science Foundation (NSF), the United States NASA Postdoctoral Program (NPP), the United States Civilian Research and Development Foundation (CRDF), the United States-Israel Binational Science Foundation (BSF), the United Kingdom Particle Physics and Astronomy Research Council (PPARC), the United Kingdom Leverhulme Trust, the Greek Aristeia Program, the European Young Investigators Awards (EURYI) competition, and the Chilean Research Council (FONDECYT).
- Committee service to national organizations including
 1. Chair of the Warner/Pierce Prize Committee of the American Astronomical Society (2011).
 2. Member of the Warner/Pierce Prize Committee of the American Astronomical Society (2009–2010).
 3. Member of the Nominating Committee for the High-Energy Astrophysics Division (HEAD) of the American Astronomical Society (2009).
 4. Member of the Committee on Astronomy and Public Policy of the American Astronomical Society (2006–2011).
 5. Member of the Annie Jump Cannon Award Committee of the American Astronomical Society (2006–2009).
 6. Member of the Executive Committee for the Division of Astrophysics of the American Physical Society (2006–2008).
 7. Member of the Users' Group for NASA's High-Energy Astrophysics Science Archive Research Center (HEASARC) at Goddard Space Flight Center (2000–2002). This group has as its prime directive to evaluate and monitor the performance of the HEASARC, one of the largest astronomy archive centers in the United States. It reports to the Chief of NASA's Astrophysics Science Operations Branch and to the HEASARC director.
 - Reviewer and panelist service to national organizations including
 1. Reviewer of the Beyond Einstein Program Assessment Committee report, at the request of the National Research Council (2007 July).
 2. Panelist on long-term data management aspects of space astronomy for the Space Studies Board of the National Research Council (2005 November).
 - Editorial board member for the journals *Research Letters in Physics* (2007–2009), *Physics Research International* (2009–present), and *The Open Astronomy Journal* (2008–present).
 - Referee of scientific papers for *Advances in Space Research*, *The Astronomical Journal*, *Astronomy and Astrophysics*, *The Astrophysical Journal*, *Monthly Notices of the Royal Astronomical Society*, *Nature*, *Publications of the Astronomical Society of Japan*, and *Science*.
 - Writer of recommendation and evaluation letters for undergraduate students, graduate students, postdoctoral research associates, research scientists, and professors.

1. I have successfully recommended Department undergraduate students for Goldwater scholarships (3), National Science Foundation graduate fellowships (3), a National Defense Science & Engineering graduate fellowship, a Marshall scholarship, a Fulbright scholarship, and a Sylvia Stein Memorial Space Grant scholarship.
 2. I have successfully recommended Department graduate students for Department scholarships and fellowships, Pennsylvania Space Grant Consortium Fellowships (4), research postdoctoral positions (4), a *Chandra* fellowship, an Einstein fellowship, a *Spitzer* fellowship, an STFC fellowship, the Annie J. Cannon Award of the American Astronomical Society, a tenure-track faculty position, and a visiting faculty position.
 3. I have successfully recommended postdoctoral research associates for research postdoctoral positions, a Royal Society research fellowship, a *Chandra* fellowship, a NASA scientist position, a permanent researcher position, and tenure-track faculty positions (5).
- Reviewer of external professorial and research scientist dossiers for promotion and tenure reviews.
 - Nominator for American Astronomical Society and Kyoto prizes.
 - Regularly invite and act as host for speakers/visitors from other universities and other departments: E. Agol, D. Ballantyne, E. Behar, E. Blackman, R. Cen, M. Elitzur, M. Elvis, H. Ferguson, J. Gallimore, L. Gallo, M. Giavalisco, T. Heckman, S. Heinz, A. Hornschemeier, V. Kaspi, J. Krolik, A. Laor, G. Madejski, T. McKay, P. Osmer, F. Paerels, B. Peterson, J. Poutanen, A. Ptak, C. Reynolds, P. Sommers, M. Voit, and N. White.

Grants for Education and Public Outreach

1. Principal Investigator, ‘*Chandra*, *XMM-Newton* and *Astro-E* investigations of Seyfert/Quasar central engines: Exploring the environments of supermassive black holes: Education and public outreach component’, National Aeronautics and Space Administration grant NAG5-8107-EPO, 2/15/99–2/15/01, \$4,000
2. Principal Investigator, ‘*Chandra* grating spectroscopy of the bright and complex Seyfert 1 galaxy NGC 4051: Education and public outreach component’, *Chandra* X-ray Observatory Center grant GO0-1160X, 4/7/00–4/6/01, \$7,670
3. Principal Investigator, ‘CAREER: Investigating the sources of the X-ray background with *Chandra* and the Hobby-Eberly Telescope: Education and public outreach component’, National Science Foundation award AST-9983783 (CAREER award), 4/15/00–3/31/05, \$19,000
4. Principal Investigator, ‘HETG zero phase spectroscopy of Circinus X-1: Education and public outreach component’, *Chandra* X-ray Observatory Center grant GO0-1041X, 4/27/00–4/26/03, \$7,670
5. Principal Investigator, ‘Active galaxies and other improvements for the Penn State In-service Workshops in Astronomy’, Space Telescope Science Institute grant EO-08321.02-97A, 5/1/00–4/30/02, \$7,782

6. Co-Investigator, 'New and improved: The future of the Penn State Inservice Workshops in Astronomy', *Chandra* X-ray Observatory Center grant GO3-4009A, 12/1/02–11/30/03, \$43,500
7. Co-Investigator, 'Presenting the ninth annual Penn State Inservice Workshops in Astronomy', *Chandra* X-ray Observatory Center grant, 12/1/03–11/30/04, \$29,000
8. Co-Investigator, 'Ten years of the Penn State Inservice Workshops in Astronomy', *Chandra* X-ray Observatory Center grant, 12/1/04–11/30/05, \$30,000
9. Principal Investigator, 'Penn State's astronomy program for in-service educators: Best practices for professional development', *Chandra* X-ray Observatory Center grant GO7-8101X, 1/3/07–3/26/09, \$45,000
10. Principal Investigator, 'Black holes: A new Penn State professional development workshop for science teachers', *Chandra* X-ray Observatory Center grant GO9-0112X, 2/23/09–2/22/11, \$13,163
11. Principal Investigator, 'Black holes: A high demand professional development workshop for science teachers', *Chandra* X-ray Observatory Center grant GO0-11010X, 8/16/09–11/24/11, \$15,000
12. Principal Investigator, 'The Penn State Inservice Workshops in Astronomy: A long-term professional development program for science teachers', National Aeronautics and Space Administration grant NNX10AC99G (Supplemental Education Award), 9/1/10–8/31/13, \$45,000