

Abigail L. Stevens

Dept of Physics & Astronomy; Michigan State Univ.; 567 Wilson Rd; East Lansing, MI 48824; USA
☎ +31 2 05258351 · ✉ abigailstev@gmail.com · 🏠 www.abigailstevens.com · 📺 abigailStev
Citizenship: USA · Birthplace: Rochester, NY

Education

- University of Amsterdam** Amsterdam, Netherlands
Ph.D. in Astronomy, Advisor: P. Uttley 2013 – Apr. 2018 (anticipated)
• Thesis title: “Spectral-Timing of X-ray Variability from Compact Objects”
- University of Alberta** Edmonton, AB, Canada
M.Sc. in Physics, Advisor: S. Morsink 2011 – 2013
• Thesis title: “Understanding Parameter Degeneracies in Neutron Star X-ray Light Curves”
- Bard College** Annandale-on-Hudson, NY, USA
B.A. in Science, Advisor: P. Skiff 2007 – 2011
• Thesis title: “A Mathematical Exploration of Low-Dimensional Black Holes”

Honors & Awards

- NSF Astronomy & Astrophysics Postdoctoral Fellow, Michigan State U. 2018 – present
- Google Summer of Code mentor, Stingray Software 2018
- PhD funding, Netherlands Research School for Astronomy (NOVA) 2013 – 2017
- Accepted Lorentz Center proposal co-author, Python in Astronomy 2017 workshop 2016
- Work visit and conference travel grants (5), LKBF (Leids Kerkhoven-Bosscha Fonds) 2015, 2016, 2017
- Best Student Talk, Canadian Astronomical Society Graduate Student Committee 2013
- Work visit and conference travel grants (2), U. Alberta 2012, 2013
- Alden Trust Scholar, Bard College 2010 – 2011
- Excellence and Equal Cost Scholarship, Bard College 2007 – 2011

Publications

REFEREED

1. Stevens, A. L., Fiege, J. D., Leahy, D. A., and Morsink, S. M. 2016. *Neutron Star Mass-Radius Constraints using Evolutionary Optimization*, ApJ, 833, 2
2. Stevens, A. L. and Uttley, P. 2016. *Phase-Resolved Spectroscopy of Type B QPOs in GX 339–4*, MNRAS, 460, 2796
3. Elshamouty, K. G., Heinke, C. O., Morsink, S. M., Bogdanov, S. and Stevens, A. L. 2016. *The Impact of Surface Temperature Inhomogeneities on Quiescent Neutron Star Radius Measurements*, ApJ, 826, 162

UNREFEREED

1. Feroci, M., et al. (including Stevens, A. L.) 2016. *The LOFT mission concept: a status update*, Proc. SPIE, 9905, 99051R
2. Huppenkothen, D., Bachetti, M., Stevens, A. L., Migliari, S., and Balm, P. 2016. *Stingray: Spectral-timing software*, Astrophysics Source Code Library, ascl:1608.001
3. Stevens, A. L. 2013. *Understanding Parameter Degeneracies in Neutron Star X-ray Light Curves* (Masters thesis), U. Alberta Library Education & Research Archive, NEOS’s Catalog. (neos.6504112)
4. Stevens, A. L. 2011. *A Mathematical Exploration of Low-Dimensional Black Holes* (Undergraduate thesis), Bard Digital Commons, Senior Projects Spring 2011 (Paper 28). http://digitalcommons.bard.edu/senproj_s2011/28/

Presentations

AAS 16th Higher Energy Astrophysics Division meeting, Invited talk	Sun Valley, ID, 2017
AAS 16th Higher Energy Astrophysics Division meeting, Contributed talk	Sun Valley, ID, 2017
Prague Relativistic Astrophysics seminar (Hosts: A. Borkar, V. Karas)	Czech Academy of Sciences, 2017
Erlangen Center for Astroparticle Physics seminar (Host: J. Wilms)	U. Erlangen-Nuremberg, 2017
Joint Institute for Nuclear Astrophysics lunch seminar (Host: E. Brown)	Michigan State U., 2017
High-energy astrophysics group seminar (Host: G. Ponti)	MPE (Garching), 2017
High-throughput X-ray astronomy in the eXTP era, Contributed talk	Rome, 2017
X-ray group seminar (Host: M. Nowak)	MIT, 2017
Guest seminar (Host: M. Sobolewska)	Harvard/CfA, 2017
KITP program on accretion disks, seminar talk (Host: O. Blaes)	Santa Barbara, CA, 2017
AAS 229, Dissertation talk	Grapevine, TX, 2017
Astrophysics group seminar (Host: S. Morsink)	U. Alberta, 2016
71st Netherlands Astronomy Conference, Contributed talk	Nunspeet, Netherlands, 2016
AAS 15th High Energy Astrophysics Division meeting, Contributed talk	Naples, FL, 2016
Python in Astronomy 2016, Contributed talk	U. Washington, 2016
The X-ray Spectral Timing Revolution workshop, Contributed talk	Lorentz Center (Leiden), 2016
X-ray astrophysics group seminar (Host: Z. Arzoumanian)	NASA Goddard, 2015
Astrophysics group seminar (Host: P. Ray)	Naval Research Laboratory, 2015
Department of Astronomy seminar (Host: C. Reynolds)	U. Maryland College Park, 2015
European Week of Astronomy and Space Science 2015, Contributed talk	U. La Laguna, 2015
XMM-Newton Workshop: The Extremes of Black Hole Accretion, Contributed talk	ESAC (Madrid), 2015
Canadian Astronomical Society 2013, Contributed talk	U. British Columbia, 2013

Academic Service

Steering committee, <i>STROBE-X</i> (proposed NASA mission in concept study)	2017 – present
Co-organizer, Hack day at EWASS 2018 (European AAS)	2017 – present
Scientific working group, <i>STROBE-X</i>	2016 – present
Referee, Monthly Notices of the Royal Astronomical Society	2017
Co-organizer, Session on research software and hack day at EWASS 2017	2016 – 2017
Scientific organizing committee, Python in Astronomy 2017 workshop	2016 – 2017
Planning committee, Hack Together Day at AAS 229	2016 – 2017

Skills

COMPUTING

- GitHub projects and contributions: <https://github.com/abigailStev>
- Intermediate level: Python, Jupyter/iPython notebooks, bash scripts, git version control
- Beginner level: C, C++, Fortran 90, and HTML

X-RAY DATA ANALYSIS

- Co-developer and coordinator of Stingray, an X-ray spectral-timing library in Python
- In-depth knowledge of RXTE PCA event-mode data
- XSPEC spectral fitting, including simultaneous fitting of 30+ spectra
- Developing and using bespoke spectral models like SIMPLER and DISKFBB (click for source code)

COMMUNICATION

- Languages: English (native fluency), Dutch (A1.5 elementary proficiency)

- Significant involvement in high school Drama-Video Club and, post-graduation, the Drama-Video Club alumni group; seven plays, a few short videos, and one feature-length film
- Performed in one musical, two operas, an opera workshop, a staged cantata, and two 24 hour theater festivals at Bard College
- As social media manager for Nerd Nite Amsterdam, I nearly doubled the number of Facebook followers in 2015-2016
- Twitter co-manager for the 71st Netherlands Astronomy Conference in 2016; our conference hashtag was 'trending' in the Netherlands for the first day of the conference

Leadership Roles

Anton Pannekoek Institute PhD and PD Council, Founding member and chairperson	Amsterdam, 2015 – 2016
Nerd Nite Amsterdam, Boss, communications and public relations	Amsterdam, 2014 – 2016
Journal club, Organizer	Amsterdam, 2014 – 2015
“Timing Club” X-ray group meeting, Founder and organizer	Amsterdam, 2014 – 2015
Canadian Astronomical Society Graduate Student Committee, U. Alberta representative	Edmonton, AB, 2013
Assiniboia Community Housing Co-operative, House representative and house treasurer	Edmonton, AB, 2012 – 2013
U. Alberta Graduate Physics Student Association, Astrophysics representative	Edmonton, AB, 2012 – 2013
Bard College Office of Residence Life, Peer Counselor/Residential Advisor	Annandale-on-Hudson, NY, 2009 – 2011

Research Experience

Bard College, NSF REU in Mathematics and Computation	Annandale-on-Hudson, NY, 2010
Began development of a numerical model of the on-campus greenhouse (G. Eshel, G. Landweber)	
University of Rochester Laboratory for Laser Energetics, Research intern	Rochester, NY, 2009
Developed software for burn truncation data analysis in deuterium-tritium inertial confinement fusion (J. Delettrez)	

Teaching Experience

Anton Pannekoek Institute, U. Amsterdam, Teaching Assistant	Amsterdam, 2013 – 2015
Open Problems in Modern Astrophysics, Observatory practicum	
Department of Physics, U. Alberta, Teaching Assistant	Edmonton, AB, 2011 – 2013
Observatory, Intro physics lab, High school physics experiments	
Johns Hopkins Center for Talented Youth, Teaching Assistant	Palo Alto, CA, 2011
Science and Engineering	
Bard College Learning Commons, Tutor	Annandale-on-Hudson, NY, 2009 – 2011
Light and Color, Acoustics, Calculus 1, Intro to Mathematical Modelling, math study room	

Science Outreach

I am committed to science outreach for a variety of audiences and have pursued opportunities to connect with communities in upstate New York, Edmonton, and Amsterdam. **Highlights include:** speaker at Science-Art Slam, Astrotweeps host, guest writer on AstroBetter, volunteer at observatory stargazing nights, speaker at Nerd Nite Edmonton, invited speaker at LogiCON Edmonton, and activity leader at science events for grades K-8. (*Mouseover for some links in the digital PDF*).