

Brad N. Barlow, Ph.D.

Assistant Professor of Astrophysics
Department of Physics
High Point University

Curriculum Vitae

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Research Interests

Hot subdwarf stars, asteroseismology, stellar evolution, binary star interactions and evolution, globular cluster morphology, substellar objects, astronomical instrumentation

Education

- **University of North Carolina** Chapel Hill, NC
Doctor of Philosophy – physics (astrophysics concentration) Dec 2011
Dissertation: “Time-domain Studies of Hot Subdwarfs with SOAR and SKYNET”
Adviser: Dr. J. Christopher Clemens
- **University of North Carolina** Chapel Hill, NC
Master of Science – physics (astrophysics concentration) Dec 2008
Thesis: “Two New Variable Hot DQ Stars”
Adviser: Dr. J. Christopher Clemens
- **Mississippi State University** Starkville, MS
Bachelor of Science, summa cum laude – physics May 2006
Adviser: Dr. J. Patrick Lestrade
Minors: Mathematics, German

Academic Employment

- **High Point University** High Point, NC
Assistant Professor of Astrophysics 2013–present
 - teach introductory– and advanced–level physics & astronomy undergraduate courses
 - lead the HPU Astrophysics Research Group, advising several undergraduate projects each semester
 - organize educational outreach events for the NC Triad, including HPUUniverse Day
- **The Pennsylvania State University** University Park, PA
Post Doctoral Research Associate 2011–2013
 - served as an on–call “Burst Advocate” for GRBs detected by the *Swift* mission
 - managed multiple research projects on hot subdwarfs and binary star evolution
 - advised post-baccalaureate student Sandra E. Liss
- **University of North Carolina** Chapel Hill
Research Assistant 2008–2011
 - helped commission and wrote camera control software for the Goodman spectrograph on SOAR
 - conducted research projects on hot subdwarfs and hot DQ white dwarfs using SOAR/Goodman

Teaching Assistant 2006–2008

 - taught several introductory astronomy labs and algebra–based physics labs

Scientific Publications (complete list included at end of document)

- 34 Peer–Reviewed Papers (32 published; 1 submitted; 1 in prep)
- 22 Conference Proceedings
- 45 Abstracts, Circulars, & GCN Reports

Selected Awards, Honors, and Grants

- Ruth Ridenhour Scholarly and Professional Achievement Award 2017
- HPU Class of 2017 Faculty Excellence Award for Teaching.....2016
- Silvershein/Gutenstein Family Faculty Development Grant for Service-Based Learning [\$2,000] 2014
- HPU Science Instrumentation Grant [\$100,000] 2013
- Graduate Assistance in Areas of National Need (GAANN) Fellowship 2010
- NSF Graduate Research Fellowship, Honorable Mention2008
- American Association of Physics Teachers (AAPT) Outstanding Teaching Award 2007
- Blake Lily Prize for physics outreach (acting SPS President) 2006
- Phi Kappa Phi National Honor Society 2005
- Undergraduate Student Research Award, MSU College of Arts and Sciences 2005

Professional Service & Memberships

- Invited Session Chair, 8th Meeting on Hot Subdwarf Stars and Related Objects in Kraków, Poland (2017)
- Reviewer for Netherlands Organisation for Scientific Research (2015)
- Invited Session Chair, 7th Meeting on Hot Subdwarf Stars and Related Objects in Oxford, UK (2015)
- Management Council Member, SMARTS Telescope Consortium (2014–present)
- Grant review panel member, NASA K2 Guest Observer program (2014)
- Member, American Astronomical Society
- Member, National Society of Physics Students
- Referee, *Astrophysical Journal*
- Referee, *Monthly Notices of the Royal Astronomical Society*
- Referee, *Open Astronomy*
- Referee, *Explorations*

Educational & Public Outreach

- Lead Organizer of HPU Universe Day, a large, astronomy-themed public outreach event at HPU (2014–present)
- Faculty Adviser for NASA’s Micro-g NExT program (2014-2015)
- Coordinator, Educational Research in Radio Astronomy (ERIRA) summer program (2010–2013, 2016)
- Developed interactive robotic observing activity for PSU’s public outreach program AstroFest
- Hosted planetarium shows at PSU for the public and traveling school groups
- Volunteered at the Discovery Space (science museum for kids) in State College, PA
- Research advisor for NC high–school student Arjun Raghavan (INTEL ISEF Senior Grand Award)
- Hosted guest nights at Morehead (UNC) and Howell (MSU) observatories for the general public

Teaching Experience

- **High Point University** High Point, NC
Assistant Professor *Fall 2013 – present*
 - *FYS 1000* — first–year seminar on intelligent life in the universe; 20 students
 - *PHY 1050* — an introductory astronomy class for non science-majors; 480 students to date
 - *PHY 1510* — an introductory physics I course for non physics-majors; 7 students to date
 - *PHY 1511* — lab section for PHY 1510; 27 students to date
 - *PHY 2030* — a modern physics course for physics majors and minors; 26 students to date
 - *PHY 2100* — an electronics/*LabView* course for physics majors/minors; 15 students to date
 - *PHY 3210* — electromagnetism course; 11 students
 - *PHY 3700* — an intermediate–level astrophysics course; 10 students
 - *PHY 4000* — an advanced–level research course; 10 students to date

- **The Pennsylvania State University** University Park, PA
Instructor *Fall 2012*
 - *ASTR 001* — an introductory astronomy class for non science-majors; 314 students*Guest Lecturer* *Spring 2012*
 - *ASTR 414* — graduate-level course on stellar structure & evolution; lectured on pulsating stars; 8 students
- **University of North Carolina** Chapel Hill, NC
Co-Instructor *Spring 2010*
 - *ASTR 101* — an introductory astronomy course; gave 1/3 of lectures for Dr. Clemens; 100 students*Teaching Assistant* *Jun 2007 - May 2010*
 - *PHYS 116L* — lab for calculus-based introductory physics; 60 students total
 - *PHYS 101L* — lab for introductory astronomy course; 80 students total

Observing Experience

- **NASA's *Swift* Satellite** (Ultraviolet and Optical Telescope, X-Ray Telescope)
 - awarded ~5 orbits of observing time (ToO) with UVOT/XRT.
- **10-m Hobby-Eberly Telescope** (High Resolution Spectrograph)
 - awarded ~40 hours of observing time for optical spectroscopy with HRS (through Penn State TAC).
- **4.1-m SOAR Telescope** (Goodman Spectrograph, SOAR Optical Imager)
 - 100+ nights of observing experience (21 awarded through NAO, remainder through UNC)
 - observed on-site for engineering runs on 30 nights (remotely from UNC otherwise)
- **SKYNET/PROMPT-CTIO**
 - obtained, reduced, and analyzed over 2000 hours of time-series photometry
- **SMARTS Consortium Telescopes** (CTIO 1.5-m/CHIRON, CTIO 0.9-m)
 - obtained, reduced, and analyzed ~600 hours of spectroscopy/photometry on the 1.5-m and 0.9-m telescopes

Selected Professional Talks

19. **Colloquium – East Carolina University Dept. of Physics** [*Invited*] Greenville, NC
“David and Goliath: Can Planets Quarrel with their Host Stars and Survive?” *Oct 27th, 2017*
18. **8th Meeting on Hot Subdwarfs and Related Objects** Kraków, Poland
“Hot Subdwarfs in the Evryscope Survey” *Jul 15, 2017*
17. **Southern Star Astronomical Convention** [*Invited*] Little Switzerland, NC
“The Influence of Planets and Brown Dwarfs on Stellar Evolution” *Apr 28-29, 2017*
“The MUCHFUSS Project: Searching for Massive Companions to Hot Subdwarfs”
16. **Colloquium – Central Michigan University** [*Invited*] Mt Pleasant, MI
“The Coolest Little Hot Stars You’ve Never Heard Of” *Mar 2nd, 2017*
15. **Colloquium – Davidson College Dept. of Physics** [*Invited*] Davidson, NC
“EREBOS: Understanding the Influence of Substellar Objects on Stellar Evolution” *Sep 29th, 2016*
14. **Colloquium – Florida Inst. of Tech. Dept. of Physics & Space Sc.** [*Invited*] Melbourne, FL
“Hot Subdwarfs: the Coolest Little Hot Stars in the Galaxy” *Apr 22, 2016*
13. **Colloquium – Georgia State U. Dept. of Physics** [*Invited*] Atlanta, GA
“The Coolest Little Hot Stars You’ve Never Heard Of” *Apr 5, 2016*
12. **North Carolina Astronomers’ Meeting** Jamestown, NC
“The EREBOS Project: Studying the Influence of Planets on Stellar Evolution” *Oct 3, 2015*
11. **7th Meeting on Hot Subdwarf Stars and Related Objects** Oxford, UK
“The Disappearing Pulsations of the sdBV Star CS 1246” *Jul 20, 2015*

10. **Colloquium – Univ. of Richmond, Dept. of Physics [Invited]** Richmond, VA
“The MUCHFUSS Project: Searching for massive companions to hot subdwarfs”
Jan 26, 2015
9. **North Carolina Astronomers’ Meeting** Jamestown, NC
“Discovery of An Extreme Binary Hot Subdwarf System”
Oct 4, 2014
8. **Colloquium – Wake Forest Univ., Dept. of Physics [Invited]** Winston–Salem, NC
“The Coolest Little Hot Stars You’ve Never Heard Of”
Feb 12, 2014
7. **Swift Missions Operation Center Research Talk [Invited]** State College, PA
“The Peculiar Variations of Carbon-atmosphere White Dwarfs”
Apr 13, 2012
6. **1st International Symposium of Science with SOAR [Invited]** Maresias, Brazil
“Time-resolved studies of hot subdwarf stars”
“The Goodman high-throughput spectrograph”
May 15-19, 2011
5. **North Carolina Astronomers’ Meeting** Jamestown, NC
“Detecting planets with pulsations”
Oct 2, 2010
4. **Seminar – Dr. Remeis Observatories [Invited]** Bamberg, Germany
“The O-C diagram of CS 1246”
Aug 24, 2010
3. **17th European White Dwarf Workshop** Tübingen, Germany
“PROMPT: an effective tool for studies of pulsating stars”
Aug 16 – 20, 2010
2. **Colloquium – Mississippi State University, Dept. of Physics [Invited]** Starkville, MS
“Probing stellar evolution with asteroseismology”
Oct 21, 2009
1. **4th Meeting on Hot Subdwarf Stars and Related Objects** Shanghai, China
“The large-amplitude radial pulsations of the sdBV star CS 1246”
Jul 19 – 24, 2009

Selected Public Talks

13. **Carbon3D Friday Speaker Series Talk [Invited]** Redwood City, CA
“The Influence of Planets and Brown Dwarfs on Late Stellar Evolution”
Nov 4th, 2016
12. **Virginia Association of Astronomical Societies Meeting 2016 [Invited]** Roanoke, VA
“The Influence of Planets and Brown Dwarfs on Late Stellar Evolution”
Oct 29th, 2016
11. **Davidson College Star Party Public Lecture [Invited]** Davidson, NC
“US 708: The Most Extreme Hypervelocity Star in the Milky Way”
Sep 29th, 2016
10. **Greensboro Astronomy Club [Invited]** Greensboro, NC
“The Fastest Hypervelocity Star in the Milky Way”
Jun 19, 2015
9. **Kernersville Astronomy Club Research Talk [Invited]** Kernersville, NC
“Finding Exoplanets Using Pulsating Stars”
Sep 9, 2014
8. **Forsyth Astronomical Society Research Talk [Invited]** Winston–Salem, NC
“Finding Exoplanets Using Pulsating Stars”
Jul 24, 2014
7. **Forsyth Astronomical Society Research Talk [Invited]** Winston–Salem, NC
“The MUCHFUSS Project”
Mar 25, 2014
6. **High Point Family Weekend Talk [Invited]** High Point, NC
“A Zombie Star Lurking in Our Cosmic Backyard”
Feb 1, 2014
5. **High Point University Honors Program Talk [Invited]** High Point, NC
“A Zombie Star Lurking in Our Cosmic Backyard”
Feb 12, 2013
4. **Center for Exoplanets and Habitable Worlds Journal Club** State College, PA
“The mass ratio of the sdB+dM binary 2M 1938+4603 from Kepler”
Apr 6, 2012
3. **TriStar Astronomy Festival, Guilford Tech. Comm. College [Invited]** Jamestown, NC
“Starquakes! Probing Stellar Evolution using Asteroseismology”
Mar 3, 2012
2. **219th American Astronomical Society Meeting** Austin, TX
“A Radial Velocity Study of sdBs with Cool Main Sequence Companions”
Jan 8-12, 2012
1. **Stellar Society Lecture, Guilford Tech. Comm. College [Invited]** Jamestown, NC
“Searching for planets around pulsating stars”
Apr 8, 2011

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Publication List

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Peer-Reviewed Articles

**denotes student advisee co-author*

34. *HW Vir Binaries Solved by the EREBOS Project: OGLE-BLG-ECL-000139 & OGLE-BLG-ECL-000163 — Two Eclipsing Hot Subdwarf B + M Dwarf Systems*
Barlow, B.N., Schaffenroth, V., Hegedus*, R., Vuckovic, M., Boudreaux*, T., Vasquez Soto*, A., Clancy, P., Kilkenny, D., Kupfer, T., 2017, *Astronomy & Astrophysics*, in preparation.
33. *Binaries discovered by the MUCHFUSS project: New classes of close binaries among B-type stars in the Galactic halo*
Geier, S., Kupfer, T., Schaffenroth, V., Heber, U., **Barlow, B.N.**, and Østensen, R. H. 2017, *Astronomy & Astrophysics*, submitted.
32. *A Multiwavelength Study of Nearby Millisecond Pulsar PSR J1400-1431: Improved Astrometry and an Optical Detection of Its Cool White Dwarf Companion*
Swiggum, J., McLaughlin, M., Lorimer, D., Kaplan, D., Lynch, R., Gentile, P., Rosen, R., Heatherly, S.A., **Barlow, B.N.**, Hegedus, R.J.*, Vasquez Soto, A.*, Clancy, P.*, Kondatiev, V.I., Ray, P., Bogdanov, S., Istrate, A., 2016, *Astrophysical Journal*, **847**, 25.
31. *A Search for Rapidly-Pulsating Hot Subdwarf Stars in the GALEX Survey*
Boudreaux, T.M.*, **Barlow, B.N.**, Fleming, S.W., Vasquez Soto, A.*, Million, C., Reichart, D. E., Haislip, J., Linder, T., Moore, J.P., 2017, *Astrophysical Journal*, **845**, 171.
30. *The Solar Neighborhood. XL. Parallax Results from the CTIOPI and NOFS Programs: 50 New Members of the 25 Parsec White Dwarf Sample*
Subasavage, J., Jao, W., Henry, T.J., Harris, H.C., Dahn, C.C., Bergeron, P., Dufour, P., Dunlap, B.H., **Barlow, B.N.**, Ianna, P.A., Lepine, S., Margheim, S.J., 2017, *Astrophysical Journal*, **154**, 32.
29. *The fading of Cassiopeia A, and improved models for the absolute spectrum of primary radio calibration sources*
Trotter, A.S., Reichart, D.E., Egger, R.E., Stblov, J., Pagggen, M.L., Martin, J.M., Dutton, D.A., Reichart, J.E., Kumar, N.D., Maples, M.P. **Barlow, B.N.**, Berger, T.A., Foster, A.C., Frank, N.R., Ghigo, F.D., Haislip, J.B., Heatherly, S.A., Kouprianov, V.V., LaCluyz, A.P., Moffet D.A., Moore, J.P., Stanley, J.L., White, S., 2017, *Monthly Notices of the Royal Astronomical Society*, **469**, 1299.
28. *Two-site Photometry and Spectroscopy of the Rapidly-Pulsating sdB Star EC 22221-3152*
Barlow, B.N., Kilkenny, D., Geier, S., Dunlap, B.H., Reichart, D.E., LaCluyze, A.P., Ivarsen, K.M., Haislip, J.B., Nysewander, M.C., 2017, *Publications of the Astronomical Society of the Pacific*, **129**, 975.
27. *Physical properties of seven binary and higher-order multiple OB systems*
Mayer, P., Harmanec, P., Chini, R., Nemravova, J.A., Nasser, A., Drechsel, H., **Barlow, B.N.**, Catalan-Hurtado*, R., Fremat, Y., Kotkova, L., 2017, *Astronomy & Astrophysics*, **600**, A33.
26. *Radial velocity variable, hot post-AGB stars from the MUCHFUSS project — Classification, atmospheric parameters, formation scenarios*
Reindl, N., Geier, S., Kupfer, T., Bloemen, S., Schaffenroth, V., Heber, U., **Barlow, B.N.**, Østensen, R.H., 2016, *Astronomy & Astrophysics*, **587**, A101.
25. *PSR J1930-1852: A Pulsar in the Widest Known Orbit Around Another Neutron Star*
Swiggum, K., Rosen, R., McLaughlin, M.A., Lorimer, D.R., Heatherly, S., Lynch, R., Scoles, S., Hockett*, T., Filik*, E., Marlowe*, J.A., **Barlow, B.N.**, Weaver, M., Hilzendege, M., Ernst, S., Crowley, R., Stone, E., Miller, B., Nunez, R., Trevino, G., Doehler, M., Cramer, A., Yencsik, D., Thorley, J., Andrews, R., Laws, A., Wenger, K., Teter, L., Snyder, T., Dittmann, A., Gray, S., Carter, M., McGough, C., Dydiw, S., Pruett, C., Fink, J., 2015, *Astrophysical Journal*, **805**, 156.
24. *An eclipsing post common-envelope system consisting of a pulsating hot subdwarf B star and a brown dwarf companion*
Schaffenroth, V., **Barlow, B.N.**, Drechsel, H., and Dunlap, B.H. 2015, *Astronomy & Astrophysics*, **576**, 123.

23. *The catalogue of radial velocity variable hot subluminous stars from the MUCHFUSS project*
Geier, S., Kupfer, T., Heber, U., Schaffenroth, V., **Barlow, B.N.**, Østensen, R.H., O’Toole, S.J., Ziegerer, E., Heuser, C., Maxted, P.F.L., Gansicke, B.T., Marsh, T.R., Napiwotzki, R., Brunner, P., Schindewolf, M., and Niederhofer, F., 2015, *Astronomy & Astrophysics*, **577**, A26.
22. *Evrscope Science: Exploring the Potential of All-Sky Gigapixel-Scale Telescopes*
N.M. Law, O. Fors, J. Ratzloff, P. Wulfken, D. Kavanaugh, **B.N. Barlow**, K. Cannon, S.B. Cenko, B.H. Dunlap, A. Kraus, T.J. Maccarone, 2015, *Publications of the Astronomical Society of the Pacific*, **127**, 234.
21. *Hot subdwarf binaries from the MUCHFUSS project Analysis of 12 new systems and a study of the short period binary population*
T. Kupfer, S. Geier, U. Heber, **B. N. Barlow**, P. F. L. Maxted, C. Heuser, V. Schaffenroth, R. H. Østensen, and B. T. Gänsicke, 2015, *Astronomy & Astrophysics*, **576**, A44.
20. *Orbital solutions of eight close sdB binaries and constraints on the nature of the unseen companions*
Geier, S., Østensen, R.H., Heber, U., Kupfer, T., Maxted, P.F.L, **Barlow, B.N.**, Vuckovic, M., Tillich, A., Müller, S., Edelmann, H., Classen, L., McLeod, A.F. 2014, *Astronomy & Astrophysics*, **562**, 95.
19. *Strong UV and X-ray variability of the Narrow Line Seyfert 1 Galaxy WPVS 007– on the nature of the X–ray low state*
Grupe, D., Komossa, S., Scharwächter, Dietrich, M., Leighly, K.M., Lucy, A., **Barlow, B.N.** 2013, *Astronomical Journal*, **146**, 78.
18. *Two New Long-Period Hot Subdwarf Binaries with Dwarf Companions*
Barlow, B.N., Liss*, S.E., Wade, R.A., Green, E.M. 2013, *Astrophysical Journal*, **771**, 23.
17. *A progenitor binary and an ejected mass donor remnant of faint type Ia SN*
S. Geier, T. R. Marsh, B. Wang, B.H. Dunlap, **B.N. Barlow**, V. Schaffenroth, X. Chen, A. Irrgang, P. F. L. Maxted, E. Ziegerer, T. Kupfer, B. Miszalski, U. Heber, Z. Han, A. Shporer, J. H. Telting, B. T. Gänsicke, R. H. Østensen, S. J. O’Toole, and R. Napiwotzki 2013, *Astronomy & Astrophysics*, **554**, 54.
16. *EC 10246-2707: An Eclipsing subdwarf B + M Dwarf Binary*
Barlow, B.N., Kilkenny, D., Drechsel, H., Dunlap, B.H., O’Donoghue, D., Geier, S., O’Steen, R.G., Clemens, J.C., LaCluyze, A., Reichart, D.E., Haislip, J., Nysewander, M., Ivarsen, K.M., 2013, *Monthly Notices of the Royal Astronomical Society*, **430**, 22.
15. *A Radial Velocity Survey of Composite Spectra Hot Subdwarf Binaries*
Barlow, B.N., Wade, R.A., Liss*, S.E., Østensen, R.H., Van Winckel, H. 2012, *Astrophysical Journal*, **758**, 68.
14. *MUCHFUSS - Massive Unseen Companions to Hot Faint Underluminous Stars ...*
Geier, S., Schaffenroth, V., Hirsch, H. Tillich, A., Heber, U., Maxted, P. F. L., Østensen, R. H. **Barlow, B. N.**, O’Toole, S. J., Kupfer, T., Marsh, T., Gnsicke, B., Napiwotzki, R., Cordes, O., Mller, S., Classen, L., Ziegerer, E., Drechsel, H. 2012, *Astronomische Nachrichten*, **333**, 431.
13. *The Rømer Delay and Mass Ratio of the sdB+dM Binary 2M 1938+4603 ...*
Barlow, B.N., Wade, R.A., Liss, S.E. 2012, *Astrophysical Journal*, **753**, 101.
12. *The Multiyear and multisite campaigns on the [...] sdBV star EC 01541-1409*
Reed, M.D., Kilkenny, D., O’Toole, S., Østensen, R.H., Honer, C., Gilker, J.T., Quint, A.C., Doennig, A.M., Hicks, L.H., Thompson, M.A., McCart III, P.A., Zietsman, E., Chen, W.-P., Chen, C.-W., Lin, C.-C., Beck, P., Degroote, P., **Barlow, B.N.**, Reichart, D.E., Nysewander, M.C., LaCluyze, A.P., Ivarsen, K.M., Haislip, J.B., Baran, A., Winiarski, M., Drozd, M. 2012, *Monthly Notices of the Royal Astronomical Society*, **421**, 181-189.
11. *Radial velocity confirmation of a binary detected from pulse timings*
Barlow, B.N., Dunlap, B.H., Clemens, J.C. 2011, *Astrophysical Journal Letters*, **737**, L2.
10. *Fortnightly Fluctuations in the O-C Diagram of CS 1246*
Barlow, B.N., Dunlap, B.H., Clemens, J.C., Reichart, D.E., Ivarsen, K., LaCluyze, A., Haislip, J., Nysewander, M. 2011, *Monthly Notices of the Royal Astronomical Society*, **414**, 3434.
9. *The MUCHFUSS project -Searching for hot subdwarf binaries with massive ...*
Geier, S., Hirsch, H., Tillich, A., Maxted, P.F.L., Bentley, S.J., Østensen, R.H., Heber, U., Gänsicke, B.T., Marsh, T.R., Napiwotzki, R., **Barlow, B.N.**, O’Toole, S.J. 2011, *Astronomy & Astrophysics*, **530**, A28.

8. *Binaries discovered by the MUCHFUSS project: SDSS J08205+0008 – An eclipsing subdwarf B binary with brown dwarf companion*
Geier, S., Schaffenroth, V., Drechsel, H., Heber, U., Kupfer, T., Tillich, A., Østensen, R.H., Smolders, K., Degroote, P., Maxted, P.F.L., **Barlow, B.N.**, Gänsicke, B.T., Marsh, T.R., Napiwotzki, R. 2011, *Astrophysical Journal Letters*, **731**, L22.
7. *Massive unseen companions to hot faint underluminous stars from SDSS: Analysis of seven close subdwarf B binaries*
Geier, S., Maxted, P.F.L., Napiwotzki, R., Østensen, R.H., Heber, U., Kupfer, T., Müller, S., Tillich, A., **Barlow, B.N.**, Oreiro, R., Ottosen, T.A., Copperwheat, C., Gänsicke, B.T., Marsh, T. 2011, *Astronomy & Astrophysics*, **526**, A39.
6. *Photometry and spectroscopy of the new sdBV CS 1246*
Barlow, B.N., Dunlap, B.H., Clemens, J.C., Lynas-Gray, A.E., Ivarsen, K., LaCluyze, A., Reichart, D., Haislip, J., Nysewander, M. 2010, *Monthly Notices of the Royal Astronomical Society*, **403**, 324-334.
5. *A New Small-amplitude Variable Hot DQ White Dwarf*
Dunlap, B.H., **Barlow, B.N.**, Clemens, J.C. 2010, *Astrophysical Journal Letters*, **720**, L159.
4. *Pulsational Mapping of Calcium Across the Surface of a White Dwarf*
Thompson, S. E., Montgomery, M. H., von Hippel, T., Nitta, A., Dalessio, J., Provencal, J., Strickland, W., Holtzman, J. A., Mukadam, A., Sullivan, D., Nagel, T., Koziel-Wierzbowska, D., Zola, S., Kundera, T., Winiarski, M., Drozd, M., Kuligowska, E., Ogloza, W., Bogнар, Zs., Handler, G., Kanaan, A., Ribeira, T., Rosen, R., Reichart, D., Haislip, J., **Barlow, B.N.**, Dunlap, B.H., Ivarsen, K., LaCluyze, A., Mullally, F. 2010, *Astrophysical Journal*, **714**, 296-308.
3. *Detection of Photometric Variations in the sdBV Star JL 166*
Barlow, B.N., Dunlap, B.H., Clemens, J.C., Lynas-Gray, A.E. 2009, *Astronomical Journal*, **138**, 686-690.
2. *A Radio Pulsar/X-ray Binary Missing Link*
Anne M. Archibald, Ingrid H. Stairs, Scott M. Ransom, Victoria M. Kaspi, Vladislav I. Kondratiev, Duncan R. Lorimer, Maura A. McLaughlin, Jason Boyles, Jason W. T. Hessels, Ryan Lynch, Joeri van Leeuwen, Mallory S. E. Roberts, Frederick Jenet, David J. Champion, Rachel Rosen, **Brad N. Barlow**, Bart H. Dunlap, Ronald A. Remillard. 2009, *Science*, **324**, 1411-1414.
1. *Two New Variable Hot DQ Stars*
Barlow, B.N., B.H. Dunlap, R. Rosen, J.C. Clemens. 2008, *Astrophysical Journal Letters*, **688**, L95.

Conference Proceedings

*denotes student advisee co-author

22. *New Pulse Timing Measurements of the sdBV Star CS 1246*
Hutchens*, Z., **Barlow, B.N.**, Vasquez Soto*, A., Reichart, D.E., Haislip, J.B., Kouprianov, V.V., Linder, T.R. and Moore, J.P. 2017, *Open Astronomy*, accepted.
21. *News from the EREBOS project*
Schaffenroth, V., **Barlow, B.**, Geier, S., Vuckovic, M., Kilkenney, D., and Schaffenroth, J. 2017, *Open Astronomy*, accepted.
20. *Close binary progenitors and ejected companions of thermonuclear supernovae*
Geier, S., Kupfer, T., Heber, U., Nemeth, P., Ziegerer, E., Irrgang, A., Schindewolf, M., Marsh, T. R., Gänsicke, B. T., **Barlow, B. N.**, Bloemen, S., 2017, 19th European White Dwarf Workshop, *ASP Conference Series*, **509**, 79
19. *Discovery of radial velocity variable post-AGB stars from the MUCHFUSS project*
Reindl, N., Geier, S., Kupfer, T., Schaffenroth, V., Heber, U., **Barlow, B.N.**, Østensen, R. H., 2015, *EAS Publications Series*, **71-72**, 135
18. *The population of white dwarf binaries with hot subdwarf companions*
Geier, S., Kupfer, T., Heber, U., **Barlow, B. N.**, Maxted, P. F. L., Heuser, C., Schaffenroth, V., Ziegerer, E., Østensen, R. H., Gänsicke, B. T., 2015, 19th European White Dwarf Workshop, *ASP Conference Series*, **493**, 475.
17. *A Radial Velocity Survey of Hot Subdwarfs with Main Sequence Companions using the Hobby-Eberly Telescope*
Wade, R., **Barlow, B.N.**, Liss*, S., Stark, M., 2014, 6th Meeting on Hot Subdwarf Stars and Related Objects, *ASP Conference Series*, **481**, 311

16. *Resolved, but Unresolved: A Trio of Triple- and Quadruple-Star Hot Subdwarf Systems*
Barlow, B.N., Wade, R., Liss*, S., Stark, M., 2014, 6th Meeting on Hot Subdwarf Stars and Related Objects, *ASP Conference Series*, **481**, 301
15. *MUCHFUSS: Status and Highlights*
 Geier, S., Kupfer, T., **Barlow, B.**, Schaffenroth, V., Frst, F., Heuser, C., Ziegerer, E., Heber, U., Marsh, T., Maxted, P., stensen, R., O'Toole, S., Gnsicke, B., Napiwotzki, R., 2014, 6th Meeting on Hot Subdwarf Stars and Related Objects, *ASP Conference Series*, **481**, 243
14. *Detecting the Orbital Motion of RE J0317-853 and LB 9802*
 Lawrie, K. A., Burleigh, M. R., **Barlow, B. N.**, O'Donoghue, D., Barstow, M. A., Marsh, T. R., Kilkeny, D., Worters, H. 2012, 18th European White Dwarf Workshop, *ASP Conference Proceedings*, **469**, 385.
13. *Hot DQ Pulsator or Magnetic White Dwarf Binary?*
 Dunlap, B.H., **Barlow, B. N.**, Clemens, J.C. 2012, 18th European White Dwarf Workshop, *ASP Conference Proceedings*, **469**, 9.
12. *A Phase-Centric Analytical Approach to the O-C Diagram*
 Dalessio, J., Provencal, J. L., Shipman, H.L., **Barlow, B. N.** 2012, 18th European White Dwarf Workshop, *ASP Conference Proceedings*, **469**, 45.
11. *Discovery of the Closest Hot Subdwarf Binary with a White Dwarf Companion*
 Geier, S., Marsh, T.R., Dunlap, B.H., **Barlow, B.N.**, Schaffenroth, V., Ziegerer, E., Heber, U., Kupfer, T., Maxted, P.F.L., Miszalski, B., Shporer, A., Telting, J., Østensen, R.H., O'Toole, S.J., Gänsicke, B.T., Napiwotzki, R. 2012, 18th European White Dwarf Workshop, *ASP Conference Proceedings*, 469, 373.
10. *The MUCHFUSS Project: Searching for the Most Massive Companions to Hot Subdwarf Stars in Close Binaries and Finding the Least Massive Ones*
 Geier, S., Schaffenroth, V., Hirsch, H., Tillich, A., Heber, U., Classen, L., Kupfer, T., Maxted, P. F. L., Østensen, R. H., **Barlow, B.N.**, O'Toole, S. J., Marsh, T. R., Gänsicke, B. T., Cordes, O., Napiwotzki, R. 2011, Fifth Meeting on Hot Subdwarf Stars and Related Objects, *ASP Conference Series*, Edited by David Kilkeny, C. Simon Jeffery, and Chris Koen. San Francisco, CA, **452**, 129.
9. *Multicolor Photometry and Time-resolved Spectroscopy of Two sdBV Stars*
 Reed, M. D., O'Toole, S. J., Telting, J. H., Østensen, R. H., Heber, U., **Barlow, B.N.**, Reichart, D. E., Nysewander, M. C., LaCluyze, A. P., Ivarsen, K. M., Haislip, J. B., Bean, J. 2011, Fifth Meeting on Hot Subdwarf Stars and Related Objects, *ASP Conference Series*, Edited by David Kilkeny, C. Simon Jeffery, and Chris Koen. San Francisco, CA, **452**, 193.
8. *Substellar Companions and the Formation of Hot Subdwarf Stars*
 Geier, S., Heber, U., Tillich, A., Hirsch, H., Kupfer, T., Schaffenroth, V., Classen, L., Maxted, P. F. L., Østensen, R. H., **Barlow, B. N.**, Marsh, T. R., Gänsicke, B. T., Napiwotzki, R., O'Toole, S. J., Günther, E. W. 2011, Planetary Systems Beyond the Main Sequence, *AIP Conference Proceedings*, **1331**, 163.
7. *Analysis of Two Eclipsing Hot Subdwarf Binaries with a Low Mass Stellar and a Brown Dwarf Companion*
 Schaffenroth, V., Geier, S., Heber, U., Drechsel, H., Østensen, R.H., Maxted, P.F.L., Kupfer, T., **Barlow, B.N.**, and the MUCHFUSS Collaboration. 2011, Planetary Systems Beyond the Main Sequence, *AIP Conference Proceedings*, **1331**, 174.
6. *MUCHFUSS - Searching for massive compact companions to hot subdwarf stars*
 S. Geier, U. Heber, A. Tillich, H. Hirsch, S. Müller, T. Kupfer, V. Schaffenroth, L. Classen, P.F.L. Maxted, R.H. Østensen, **B. N. Barlow**, T.R. Marsh, B.T. Gänsicke, R. Napiwotzki, and S.J. O'Toole. 2010, International Conference on Binaries, *AIP Conference Proceedings*, **1314**, 67.
5. *Analysis of Two Eclipsing Hot Subdwarf Binaries with a Low Mass Stellar and a Brown Dwarf Companion*
 Schaffenroth, V., Geier, S., Heber, U., Drechsel, H., Østensen, R.H., Maxted, P.F.L., Kupfer, T., **Barlow, B.N.**, and the MUCHFUSS Collaboration. 2010, Planetary Systems Beyond the Main Sequence, *AIP Conference Proceedings*, **1314**, 91.
4. *The O-C Diagram of CS 1246*
Barlow, B.N., Dunlap, B.H., Clemens, J.C. 2010, 17th European White Dwarf Workshop, *AIP Conference Proceedings*, **1273**, 548.

3. *Characteristics of the Hot DQ Variables*
Dunlap, B.H., **Barlow, B.N.**, Clemens, J.C. 2010, 17th European White Dwarf Workshop, *AIP Conference Proceedings*, **1273**, 70.
2. *Massive Unseen Companions to Hot Faint Underluminous Stars from SDSS (MUCHFUSS) – Status report*
S. Geier, U. Heber, A. Tillich, H. Hirsch, S. Müller, T. Kupfer, V. Schaffenroth, L. Classen, P.F.L. Maxted, R.H. Østensen, **B.N. Barlow**, T. R. Marsh, B. T. Gänsicke, R. Napiwotzki, and S. J. O’Toole. 2010, 17th European White Dwarf Workshop, *AIP Conference Proceedings*, **1273**, 263.
1. *Analysis of two eclipsing hot subdwarf binaries with a low mass stellar and a brown dwarf companion*
Schaffenroth, V., Geier, S., Heber, U., Drechsel, H., Østensen, R.H., Maxted, P.F.L., Kupfer, T., **Barlow, B.N.**, and the MUCHFUSS Collaboration. 2010, 17th European White Dwarf Workshop, *AIP Conference Proceedings*, **1273**, 243.

Published Abstracts, Circulars, & Reports

*denotes student advisee co-author

45. *K2 Observations of the New Pulsating White Dwarf EPIC 245988146*
Vasquez Soto, Alan, **Barlow, Brad**, Hermes, JJ, 2018, *AAS Meeting*, 231, #453.04
44. *The Evryscopes: monitoring the entire sky for exciting events*
Law, Nicholas, Corbett, Hank, Howard, Ward S., Fors, Octavi, Ratzloff, Jeff, **Barlow, Brad**, Hermes, JJ, 2018, *AAS Meeting*, 231, #354.12
43. *Updated O-C Diagrams for Several Bright HW Vir Binaries Observed with the Evryscope*
Corcoran, Kyle A., **Barlow, Brad**, Corbett, Hank, Fors, Octavi, Howard, Ward S., Law, Nicholas, Ratzloff, Jeff, 2018, *AAS Meeting*, 231, #150.23.
42. *Pulse Timing Measurements of the Hot Subdwarf B Star CS 1246*
Hutchens, Zackary, **Barlow, Brad**, Vasquez Soto, Alan, 2018, *AAS Meeting*, 231, #146.03.
41. *A Multi-Frequency Study of Nearby MSP J1400-1431*
Swiggum, Joe K., Kaplan, David L. A., McLaughlin, Maura, Lorimer, Duncan, **Barlow, Brad**, 2017, *AAS Meeting*, 229, #242.04.
40. *GRB 160712A: Skynet R-COP observations.*
Trotter, A., Haislip, J., Reichart, D., Verveer, A., Spuck, T., Moore, J., Frank, N., Maples, M., Dutton, D., Gao, R., Joyner, R., Martin, J., Paggen, M., Crain, J. A., Ivarsen, K., Lacluyze, A., Nysewander, M., **Barlow, B.**, Lacluyze, J., Lanier, L., Moffett, D., Tobias, B., Bennett, G., Da Rocha, J., Dryzer, M., Dutton, D., Elliott, J., Ferguson, C., Hegedus, R. J.* , Lutz, E., McCormack, B., Melo, T., Otto, K., Pierce, R., Simon, S., Smith, E., Taylor, J., Tierney, M., Varvir, D., Vasquez, Soto A.* 2016, *AAS Meeting*, 227, #404.04.
39. *The EREBOS Project: Determining the Influence of Substellar Objects on Stellar Evolution*
Barlow, B.N., Schaffenroth, V., Catalan, R.* 2016, *AAS Meeting*, 227, #404.04.
38. *New Long-Period Hot Subdwarf Binaries from the Hobby-Eberly Telescope*
Boudreaux*, T., **Barlow, B.N.**, Wade, R., 2016, *AAS Meeting*, 227, #344.12.
37. *There and Back Again?: The Disappearing Pulsations of CS 1246*
Vasquez*, A., **Barlow, B.N.**, 2016, *AAS Meeting*, 227, #144.05.
36. *The EREBOS Project: Time-series Photometry of New HW Vir Binaries from OGLE*
Catalan*, R., **Barlow, B.N.**, 2016, *AAS Meeting*, 227, #345.14.
35. *PSR J1930-1852: a Pulsar in the Widest Known Orbit Around Another Neutron Star*
Swiggum, Joe K., Rosen, Rachel, McLaughlin, Maura, Lorimer, Duncan, Heatherly, Sue Ann, Lynch, Ryan S., Scoles, Sarah A., **Barlow, Brad**, and the Pulsar Search Collaboratory, 2015, *AAS Meeting*, 225, #307.06
34. *A Photometric Survey for Rapidly-Pulsating Hot Subdwarf Stars with SKYNET*
Vultaggio*, S. & **Barlow, B. N.** 2014, *AAS Meeting*, 223, #156.15
33. *Radial Velocity Monitoring of Composite-Spectra Hot Subdwarfs with the HET*
Barlow, B. N., Wade, R.A., Liss*, S.E. 2014, *AAS Meeting*, 223, #155.07

32. *The High and Low Accretion States of the Eclipsing Polar LSQ 1725-64*
Fuchs, J.T., Dunlap, B.H., **Barlow, B.N.**, O'Donoghue, D., Clemens, J.C. 2014, *AAS Meeting*, 223, #154.13
31. *GRB 131002A, Swift-BAT refined analysis*
Sakamoto, T., **Barlow, B. N.**, Barthelmy, S. D., Baumgartner, W. H., Cummings, J. R., Fenimore, E. E., Gehrels, N., Norris, J., Krimm, H. A., Lien, A. Y., Markwardt, C. B., Palmer, D. M., Sato, G., Stamatikos, M., Tueller, J., Ukwatta, T. N. 2013, *GRB Coordinates Network*, **15302**, 1
30. *GRB 131002A: Swift/UVOT detection*
Breeveld, A. A., **Barlow, B. N.** 2013, *GRB Coordinates Network*, **15294**, 1
29. *GRB 131002A: Swift detection of a burst*
Barlow, B. N., D'Elia, V., Evans, P. A., Gronwall, C., Lien, A. Y., Malesani, D., Marshall, F. E., O'Brien, P. T., Sakamoto, T., Siegel, M. H., Strohm, M. C. 2013, *GRB Coordinates Network*, **15283**, 1
28. *Swift trigger 558631 is not a real source*
Barlow, B. N., Burrows, D. N., Holland, S. T., Krimm, H. A., Marshall, F. E., Palmer, D. M., Swenson, C. A., Zhang, B.-B 2013, *GRB Coordinates Network*, **14917**, 1
27. *GRB 130306A: Swift detection of a burst*
Siegel, M. H., **Barlow, B. N.**, Barthelmy, S. D., Gehrels, N., Grupe, D., Malesani, D., Markwardt, C. B., Marshall, F. E., Mountford, C. J., Palmer, D. M., Zhang, B.-B 2013, *GRB Coordinates Network*, **14266**, 1
26. *Swift Observations of GRB 121125A*
Barlow, B. N., Grupe, D., Helder, E. A., Evans, P. A., Baumgartner, W. H., Barthelmy, S. D., Burrows, D. N., Gehrels, N. 2013, *GCNR*, **419**, 1
25. *The Orbital Period Distribution of Hot Subdwarf B Binaries*
Barlow, B. N. & Wade, R.A. 2013, *AAS Meeting*, 221, #142.17
24. *GRB 130306A: Swift detection of a burst*
Siegel, M. H., **Barlow, B. N.**, Barthelmy, S. D., Gehrels, N., Grupe, D., Malesani, D., Markwardt, C. B., Marshall, F. E., Mountford, C. J., Palmer, D. M., Zhang, B.-B. 2013, *GRB Coordinates Network*, **14266**, 1
23. *GRB 130131A: Swift detection of a burst*
Grupe, D., **Barlow, B. N.**, Barthelmy, S. D., Beardmore, A. P., Holland, S. T., Kennea, J. A., Markwardt, C. B., Marshall, F. E., Pagani, C., Sbarufatti, B., Siegel, M. H., Stamatikos, M., Starling, R. L. C., Ukwatta, T. N. 2013, *GRB Coordinates Network*, **14156**, 1
22. *Swift Observations of GRB 120918A*
Barlow, B. N., Grupe, D., Zhang, B.-B., Barthelmy, S. D., Gronwall, C., Palmer, D. M., Stamatikos, M., H Baumgartner, W., Gehrels, N. 2012, *GCNR*, **390**, 1
21. *GRB 121217A: Swift detection of a burst*
Siegel, M. H., **Barlow, B. N.**, Burrows, D. N., Chester, M. M., D'Elia, V., Grupe, D., Kuin, N. P. M., Markwardt, C. B., Palmer, D. M., Stamatikos, M. 2012, *GRB Coordinates Network*, **14089**, 1
20. *GRB 121125A: Swift/UVOT detection*
Marshall, F. E. & **Barlow, B. N.**, 2012, *GRB Coordinates Network*, **14002**, 1
19. *GRB 121125A: Swift-BAT refined analysis*
Barthelmy, S. D., **Barlow, B. N.**, Baumgartner, W. H., Cummings, J. R., Fenimore, E. E., Gehrels, N., Krimm, H. A., Markwardt, C. B., Palmer, D. M., Sakamoto, T., Sato, G., Stamatikos, M., Tueller, J., Ukwatta, T. N. 2012, *GRB Coordinates Network*, **13996**, 1
18. *GRB 121125A: Swift detection of a burst with optical counterpart*
Barlow, B. N., Barthelmy, S. D., Grupe, D., Helder, E. A., Mountford, C. J 2012, *GRB Coordinates Network*, **13993**, 1
17. *GRB 121017A: Swift detection of a burst.*
Grupe, D., **Barlow, B. N.**, Barthelmy, S.D., Baumgartner, W. H., Burrows, D., Cummings, J.R., Gehrels, N., Helder, E.A., Holland, S.T., Kennea, J.A., Krim, H.A., Markwardt, C.B., Marshall, F.E., Mountford, C.J., Page, K.L., Palmer, D.M., Siegel, M.H., Swenson, C.A. 2012, *GRB Coordinates Network*, **13875**, 1

16. *GRB 120918A: Swift-BAT refined analysis.*
Barthelmy, S. D., **Barlow, B. N.**, Baumgartner, W. H., Cummings, J. R., Fenimore, E. E., Gehrels, N., Krimm, H. A., Markwardt, C. B., Palmer, D. M., Sakamoto, T., Sato, G., Stamatikos, M., Tueller, J., Ukwatta, T. N. 2012, *GRB Coordinates Network*, **13784**, 1
15. *Swift trigger 534017 was not an astrophysical vent.*
Zhang, B.-B., Baumgartner, W. H., Grupe, D., **Barlow, B. N.** 2012, *GRB Coordinates Network*, **13783**, 1
14. *Swift trigger 534017 is probably not real.*
Barlow, B. N., Baumgartner, W. H., D'Elia, V., Gehrels, N., Gronwall, C., Grupe, D., Helder, E. A., Kennea, J. A., Zhang, B.-B. 2012, *GRB Coordinates Network*, **13780**, 1
13. *GRB 120918A: Swift detection of a burst.*
Barlow, B. N., Baumgartner, W. H., Gronwall, C., Palmer, D. M., Stamatikos, M., Zhang, B.-B. 2012, *GRB Coordinates Network*, **13779**, 1
12. *Swift Observations of GRB 120811C.*
Barlow, B. N., Grupe, D., Oates, S. R., Kuin, P., H Baumgartner, P. W., Barthelmy, S. D., Kennea, J. A., Burrows, D. N., Siegel, M. H., Gehrels, A. N.. 2012, *GCN Report*, **378**, 1
11. *GRB 120811C: Swift-BAT refined analysis*
Krimm, H. A., **Barlow, B. N.**, Barthelmy, S. D., Sakamoto, T., Baumgartner, W. H., Cummings, J. R., Gehrels, N., Markwardt, C. B., Palmer, D. M., Sato, G. 2012, *GRB Coordinates Network*, **13634**, 1
10. *GRB 120811C: Swift-XRT refined analysis*
Evans, P. A., Littlejohns, O. M., D'Avanzo, P., D'Elia, V., Maselli, A., Stroh, M. C., Burrows, D. N., Kennea, J. A., Osborne, J. P., **Barlow, B. N.** 2012, *GRB Coordinates Network*, **13630**, 1
9. *GRB 120811C: Swift/UVOT detection*
Kuin, P., Oates, S. R., **Barlow, B. N.** *GRB Coordinates Network*, **13629**, 1
8. *GRB 120811C: Swift detection of a burst with an optical counterpart*
Barlow, B. N., Barthelmy, S. D., Baumgartner, W. H., Grupe, D., Marshall, F. E., Palmer, D. M., Zhang, B.-B., 2012, *GRB Coordinates Network*, **13622**, 1
7. *Trigger 530588: Swift detection of XMM J174457-2850.3*
Barlow, B. N., Barthelmy, S. D., Gronwall, C., Palmer, D. M., Zhang, B.-B. 2012, *GRB Coordinates Network*, **13619**, 1
6. *Swift trigger 530441 is a false trigger*
Barlow, B. N., Barthelmy, S. D., Cummings, J. R., Gronwall, C., Palmer, D. M., Romano, P. 2012, *GRB Coordinates Network*, **13612**, 1
5. *A Radial Velocity Study of Hot Subdwarf B Stars with Cool Main Sequence Companions*
Barlow, B. N., Wade, R.A., Liss*, S.E., 2012, *AAS Meeting Abstracts*, **219**, #408.03
4. *An Orbital Radial Velocity Study of PG 1701+359, a Hot Subdwarf B Star with a Cool Main Sequence Companion*
Liss*, S.E., **Barlow, B. N.**, Wade, R.A. 2012, *AAS Meeting Abstracts*, **219**, #153.25
3. *Deployable Integral Field Units, Multislits, and Image Slicer for the Goodman Imaging Spectrograph on the SOAR Telescope*
Cecil, Gerald N., Moffett, A. J., Cui, Y., Eckert, K. D., McBride, J., Kannappan, S., Keller, K., **Barlow, B. N.**, Dunlap, B., Bland-Hawthorn, J. 2010, *AAS Meeting Abstracts*, **215**, 441.
2. *Mapping Anomalies in the Earth's Magnetic Field with the Gamma-Ray Burst Detector, FREGATE*
Barlow, B.N., J.P. Lestrade, J-L. Atteia. 2004, *Jour. of Miss. Acad. S.*, **49**, 102.
1. *The Gamma-Ray Background for FREGATE: A New Space-Borne Detector*
Barlow, B.N., J.P. Lestrade, J-L. Atteia. 2003, *Jour. of Miss. Acad. S.*, **48**, 80.

Dissertation

1. *Time-Domain Studies of Hot Subdwarf Stars*
Barlow, B.N., 2011, Ph.D. Thesis, University of North Carolina at Chapel Hill