Brad Newton Barlow, Ph.D.

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Research Interests

Evolved stars (hot subdwarfs & white dwarfs), astronomical instrumentation, asteroseismology, stellar evolution, binary star interactions and evolution, globular cluster morphology, substellar objects

Education

- **University of North Carolina** — Chapel Hill, NC
  Doctor of Philosophy – physics (concentration in astrophysics) — *Dec 2011*
  - *Dissertation*: "Time-domain Studies of Hot Subdwarfs with SOAR and SKYNET"
  - *Advisor*: Dr. J. Christopher Clemens

- **University of North Carolina** — Chapel Hill, NC
  Master of Science – physics (concentration in astrophysics) — *Dec 2008*
  - *Thesis*: "Two New Variable Hot DQ Stars"
  - *Advisor*: Dr. J. Christopher Clemens

- **Mississippi State University** — Starkville, MS
  Bachelor of Science, **summa cum laude** – physics — *May 2006*
  - *Mentor*: Dr. Patrick Lestrade
  - *Minors*: Mathematics, German

Academic Employment

- **High Point University** — High Point, NC
  Assistant Professor of Astrophysics — *Aug 2013 - present*
  - teach introductory– and advanced–level physics & astronomy undergraduate courses
  - lead astrophysics research group, advise several undergraduate research projects
  - served as a "Burst Advocate" for GRBs detected by the *Swift* mission

- **The Pennsylvania State University** — University Park, PA
  Post Doctoral Research Associate — *Sep 2011 - Jul 2013*
  - instructor for ASTR 001 (introductory astronomy for non-science majors; 314 students)
  - managed multiple research projects on hot subdwarfs and binary star evolution
  - advised post-baccalaureate student Sandra E. Liss
  - served as a "Burst Advocate" for GRBs detected by the *Swift* mission

- **University of North Carolina** — Chapel Hill, NC
  Research Assistant — *Jun 2007 - Aug 2011*
  - developed camera control software in *LabView* for the Goodman Spectrograph on the SOAR telescope
  - helped with commissioning of the Goodman Spectrograph
  - managed multiple research projects and observing runs on hot subdwarfs and white dwarfs

  Teaching Assistant — *Aug 2006 – May 2010*
  - co–instructor for a 100-student introductory astronomy course
  - taught 11 astronomy and physics labs
  - held guest nights for the public at Morehead Observatory

- **Mississippi State University** Starkville, MS
  Teaching Assistant *Jun 2004 - Jul 2006*
  - taught 5 algebra-based introductory physics and physical science labs

  Observatory Technician *Aug 2002 – May 2006*
  - organized and led guest nights for the public at Howell Observatory

Teaching Experience

- **High Point University** High Point, NC
  Assistant Professor *Fall 2013 – present*
  - *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; 7 students to date
  - *PHY 2100*, an electronics/*LabView* course for physics majors/minors; 7 students to date
  - *PHY 4000*, an advanced–level research course; 9 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*
  - prepared short lecture series on pulsating stars for *ASTR 414* (Stellar Structure & Evolution)

- **University of North Carolina** Chapel Hill, NC
  Co-Instructor *Spring 2010*
  - prepared and taught one-third of the lectures for *ASTR 101*, an introductory-level astronomy course with $\sim$ 100 undergraduate students

  Teaching Assistant *Jun 2007 - May 2010*
  - taught three semesters of calculus-based introductory physics and astronomy labs

- **Elon University** Elon, NC
  Guest Lecturer *Spring 2009*
  - lectured to non-majors on topic of stellar evolution for Dr. Murray Silverstone

- **Mississippi State University** Starkville, MS
  Teaching Assistant *Jun 2004 - Jul 2006*
  - taught multiple algebra-based introductory physics and physical science labs

  Guest Lecturer *Spring 2006*
  - lectured to intro-level astronomy students for Dr. Patrick Lestrade

Relevant Computing Skills

Programming Languages: LabView, IDL, Python, HTML, C++

Computer and OS: Mac OS, Linux/Unix, Windows

Software: LaTeX, IRAF, Period04, WQED 2.0, PHOEBE, iWork, Microsoft Office, Binary Maker

Observing Experience

- **NASA's *Swift* Satellite** (Ultraviolet and Optical Telescope, X-Ray Telescope)
  - awarded 3.5 hours 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.
- **4.2–m SOAR Telescope** (Goodman Spectrograph, SOAR Optical Imager)
  - 100+ nights of observing experience (21 awarded through NOAO, remainder through UNC)
  - observed on-site for engineering runs on 30 nights (remotely from UNC otherwise)
- **PROMPT 0.4–m Array**
  - array of five robotic (controlled by SKYNET) 0.41-m telescopes on Cerro Tololo in Chile
  - obtained, reduced, and analyzed over 1000 hours of time-series photometry
- **SMARTS Consortium Telescopes** (CTIO 1.5-m/CHIRON, CTIO 0.9-m)
  - obtained, reduced, and analyzed 120 hours of spectroscopy from the 1.5–m telescope
- **Morehead Telescope**
  - used 24-inch reflecting telescope for educational & public outreach

Selected Awards & Honors

- Silvershein/Gutenstein Family Faculty Development Grant *2014*
- Graduate Assistance in Areas of National Need (GAANN) Fellowship *2010*
- NSF Graduate Research Fellowship, Honorable Mention *2008*
- AAPT Outstanding Teaching Award *2007*
- Blake Lily Prize for physics outreach *2006*
- Marsh W. White Award for physics outreach *2006*
- MSU Society of Scholars Inductee *2005*
- Phi Kappa Phi National Honor Society *2005*
- Undergraduate Student Research Award, MSU College of Arts and Sciences *2005*

Educational & Public Outreach

- Served as faculty adviser for NASA's Micro-g NExT program (2015)
- Developed a new astronomy–themed outreach event at HPU called HPUniverse Day
- Educator (2010–2013, 2016), Educational Research in Radio Astronomy (ERIRA) summer program
- 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)
- Volunteer speaker at local, underprivileged K-12 science classes [2006–present]
- Hosted guest nights at Morehead (UNC) and Howell (MSU) observatories for the general public

Peer-Reviewed Publications

*denotes student co-author

28. The Disappearing Pulsations of the SdBV Star CS 1246

    Barlow, B.N., Vasquez Soto, A.*, Dunlap, B.H., Reichart, D. E., Nysewander, M. C., LaCluyze, A. P., Ivarsen, K. M., Haislip, J., Vultaggio, S.*, 2016, *Monthly Notices of the Royal Astronomical Society*, in preparation.

27. Basic physical properties of five binary and two multiple OB systems

    Mayer, P., Harmanec, P., Chini, R., Nemravova, J.A., Nasseri, A., Drechsel, H., **Barlow, B.N.**, Catalan–Hurtado*, R., Fremat, Y., Kotkova, L., 2016, *Astronomy & Astrophysics*, submitted.

26. RV 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*, accepted.

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., Hilzendeger, 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. Evryscope 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., OToole, 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., Drozdz, 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., Napiowotzki, 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., Drozdz, M., Kuligowska, E., Ogloza, W., Bognar, 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 co-author*

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., stensen, R. H., Gnsicke, 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., Kilkenny, 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 Kilkenny, 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 Kilkenny, 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. OToole. 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. OToole. 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 co-author*

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**, 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
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12. Swift Observations of GRB 120811C.
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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

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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.

Selected Presentations

- **Colloquium – Georgia State U. Dept. of Physics** [***INVITED***] — Atlanta, GA
  "The EREBOS Project: Studying the Influence of Planets on Stellar Evolution" — *Apr 5, 2016*
- **North Carolina Astronomers' Meeting** — Jamestown, NC
  "The EREBOS Project: Studying the Influence of Planets on Stellar Evolution" — *Oct 3, 2015*
- **7th Meeting on Hot Subdwarf Stars and Related Objects** — Oxford, UK
  "The Disappearing Pulsations of the sdBV Star CS 1246 — *Jul 20, 2015*
- **Greensboro Astronomy Club** [***INVITED***] — Greensboro, NC
  "The Fastest Hypervelocity Star in the Milky Way" — *Jun 19, 2015*
- **Colloquium – Univ. of Richmond, Dept. of Physics** [***INVITED***] — Richmond, VA
  "The MUCHFUSS Project: Searching for massive companions to hot subdwarfs" — *Jan 26, 2015*
- **North Carolina Astronomers' Meeting** — Jamestown, NC
  "Discovery of An Extreme Binary Hot Subdwarf System" — *Oct 4, 2014*
- **Kernersville Astronomy Club Research Talk** [***INVITED***] — Kernersville, NC
  "Finding Exoplanets Using Pulsating Stars" — *Sep 9, 2014*
- **Forsyth Astronomical Society Research Talk** [***INVITED***] — Winston–Salem, NC
  "Finding Exoplanets Using Pulsating Stars" — *Jul 24, 2014*

- **Forsyth Astronomical Society Research Talk** [***INVITED***] — Winston–Salem, NC
  "The MUCHFUSS Project" — *Mar 25, 2014*
- **Colloquium – Wake Forest Univ., Dept. of Physics** [***INVITED***] — Winston–Salem, NC
  "The Coolest Little Hot Stars You've Never Heard Of" — *Feb 12, 2014*
- **High Point Family Weekend Talk** [***INVITED***] — High Point, NC
  "A Zombie Star Lurking in Our Cosmic Backyard" — *Feb 1, 2014*
- **High Point University Honors Program Talk** [***INVITED***] — High Point, NC
  "A Zombie Star Lurking in Our Cosmic Backyard" — *Feb 12, 2013*
- **Swift Missions Operation Center Research Talk** [***INVITED***] — State College, PA
  "The Peculiar Variations of Carbon-atmosphere White Dwarfs" — *Apr 13, 2012*
- **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*
- **TriStar Astronomy Festival, Guilford Tech. Comm. College** [***INVITED***] — Jamestown, NC
  "Starquakes! Probing Stellar Evolution using Asteroseismology" — *Mar 3, 2012*
- **219th American Astronomical Society Meeting** — Austin, TX
  "A Radial Velocity Study of sdBs with Cool Main Sequence Companions" — *Jan 8-12, 2012*
- **1st International Symposium of Science with SOAR** [***INVITED***] — Maresias, Brazil
  "Time-resolved studies of hot subdwarf stars" — *May 15-19, 2011*
  "The Goodman high-throughput spectrograph"
- **Stellar Society Lecture, Guilford Tech. Comm. College** [***INVITED***] — Jamestown, NC
  "Searching for planets around pulsating stars" — *Apr 8, 2011*
- **North Carolina Astronomers' Meeting** — Jamestown, NC
  "Detecting planets with pulsations" — *Oct 2, 2010*
- **Seminar – Dr. Remeis Observatories** [***INVITED***] — Bamberg, Germany
  "The O-C diagram of CS 1246" — *Aug 24, 2010*
- **17th European White Dwarf Workshop** — Tübingen, Germany
  "PROMPT: an effective tool for studies of pulsating stars" — *Aug 16 – 20, 2010*
- **Colloquium – Mississippi State University, Dept. of Physics** — Starkville, MS
  "Probing stellar evolution with asteroseismology" — *Oct 21, 2009*
- **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*