Brad Newton Barlow, Ph.D.

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Research Interests

Evolved stars (hot subdwarfs & white dwarfs), 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

Professional Experience

- **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

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 3210*, electromagnetism course; 11 students
  - *PHY 4000*, an advanced–level research course; 9 students to date
  - *FYS 1000*, first–year seminar on intelligent life in the universe; 20 students

- **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

- **University of North Carolina** — Chapel Hill, NC
  Co-Instructor — *Spring 2010*
  - *ASTR 101*, an introductory-level astronomy course; taught 1/3 of courses; 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

- **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
Computer and OS: Mac OSX, Windows, Linux/Unix
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

- 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 *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 (2014-2015)
- 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

Professional Service & Memberships

- Session Chair, Eighth Meeting on Hot Subdwarf Stars and Related Objects in Krakow, Poland (2017)
- Board of Reviewers for *Explorations*, a NC undergraduate research journal (2016)
- Reviewer for Netherlands Organisation for Scientific Research (2015)
- Adviser for NASA Micro–g NExT program (2014-2015)
- Session Chair, Seventh Meeting on Hot Subdwarf Stars and Related Objects in Oxford, UK (2015)
- NASA grant review panel member (2014)
- Referee for the *Astrophysical Journal*
- Referee for the *Monthly Notices of the Royal Astronomical Society*
- Referee for the *Open Astronomy*
- Member, American Astronomical Society
- Member, National Society of Physics Students

Professional Talks

19. **Colloquium – East Carolina University** [***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" — *May 15-19, 2011*
"The Goodman high-throughput spectrograph"

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*

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*

Peer-Reviewed Articles

**denotes student advisee co-author*

35. 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.

34. New Photometry 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*, submitted.

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., Paggen, 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, Kouprianov1, 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., Nasseri, A., Drechsel, H., **Barlow, B.N.**, Catalan–Hurtado*, R., Fremat, Y., Kotkova, L., 2017, *Astronomy & Astrophysics*, **600**, A33.

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*, **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., 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 advisee co-author*

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, *ASP Conference Series*, submitted (arXiv:1612.03135)

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

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