Brian Friesen

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Position

2016-present **NERSC Application Performance Consultant**, Lawrence Berkeley National Laboratory
2015-2016 **NERSC NESAP Postdoctoral Fellow**, Lawrence Berkeley National Laboratory
2010-2015 **Graduate Research Assistant**, University of Oklahoma
2009-2010 **Graduate Teaching Assistant**, University of Oklahoma

Education

2015 **PhD, Physics**, University of Oklahoma; *Advisor: Edward Baron*
2009 **BSc, Physics**, with honors, *summa cum laude*, Oklahoma Baptist University; *Advisor: Albert Chen*

Grants, honors, & awards

2015 **Provost's PhD Dissertation Award** — Graduate College, University of Oklahoma
2015 **Nielsen Prize** — Department of Physics and Astronomy, University of Oklahoma
2014 **Rodger Doxsey Travel Prize** — American Astronomical Society
Robberson Travel Grant — Graduate College, University of Oklahoma
2009 **C. C. Lin Graduate Research Fellowship** — Department of Physics and Astronomy, University of Oklahoma

Publications

2016 **Friesen, B.**, *et al.* "Optical and ultraviolet spectroscopic analysis of SN 2011fe at late times." *Monthly Notices of the Royal Astronomical Society*, submitted.
Bhimji, W., *et al.* "Accelerating Science with the NERSC Burst Buffer Early User Program." *Cray User Group 2016.* [Awarded Best Paper CUG'16.]

Friesen, B., *et al.* "A framework for *in situ* and in-transit analysis of cosmological simulations." *Computational Astrophysics and Cosmology*, v. 3, p. 1–18. DOI: 10.1186/s40668-016-0017-2

Parrent, J. T., *et al.* "Comparative analysis of SN 2012dn optical spectra: days -14 to +114." *Monthly Notices of the Royal Astronomical Society*, v. 457, p. 3702-3723. DOI: 10.1093/mnras/stw239

2015 Baron, E., Höflich, P., **Friesen, B.**, *et al.* "Spectral models for early time SN 2011fe observations." *Monthly Notices of the Royal Astronomical Society*, v. 454, p. 2549-2556. DOI: 10.1093/mnras/stv1951

2014 **Friesen, B.**, *et al.* "Near-infrared line identification in type Ia supernovae during the transitional phase." *The Astrophysical Journal*, v. 792, p. 120. DOI: 10.1088/0004-637X/792/2/120

Parrent, J. T., **Friesen, B.**, and Parthasarathy, M. "A Review of Type Ia Supernova Spectra." *Astrophysics and Space Science*, Feb. issue. DOI: 10.1007/s10509-014-1830-1

2012 **Friesen, B.**, *et al.* "Supernova Resonance-scattering Line Profiles in the Absence of a Photosphere." *The Astrophysical Journal Supplement*, v. 203 p. 12. DOI: 10.1088/0067-0049/203/1/12

Parrent, J. T., Howell, D. A., **Friesen, B.**, *et al.* "Analysis of the Early-time Optical Spectra of SN 2011fe in M101." *The Astrophysical Journal Letters*, v. 752, p. L26. DOI: 10.1088/2041-8205/752/2/L26

Talks

2015 *Exascale Application Readiness: BoxLib NESAP Progress Report*

- IXPUG Annual Meeting 2015 – Berkeley, CA, USA

Tiling with OpenMP in block-structured, finite-volume PDE codes

- IXPUG Annual Meeting 2015 – Berkeley, CA, USA

2014 *Permitted spectral line features at late times in SN 2011fe?*

- 225th Meeting of the American Astronomical Society – Seattle, WA, USA

Spectrum synthesis at late times in type Ia supernovae with PHOENIX

- Cook's Branch Workshop – Cook's Branch Conservancy, TX, USA

Service

2016 Guest speaker at University of the Pacific in Stockton, CA to talk about HPC and NERSC

2016 Visited JFK Middle College High School in Norco, CA, with Cray staff to talk about science and computing

2014 – 2015 Founding member and vice president of "Lunar Sooners" student organization for astronomy and general science outreach at OU

2012 – 2015 Frequent host of public star parties across Oklahoma

2010 – 2011 OU Graduate Student Senator

Press

2016 *High School Students Thinking Big – Really Big* - Cray Blog

- http://www.cray.com/blog/high-school-students-thinking-big-really-big/

NERSC Helps Cray Surprise an Inquisitive High School Student - LBNL Computing Sciences News & Media

- http://cs.lbl.gov/news-media/news/2016/nersc-helps-cray-surprise-an-inquisitive-high-school-student/

2015 *'Sidecars' Pave the Way for Concurrent Analytics of Large-Scale Simulations* - LBNL Computing Sciences News & Media

- http://cs.lbl.gov/news-media/news/2015/sidecars-pave-the-way-for-concurrent-analytics-of-large-scale-simulations/

First NESAP Post-doc at NERSC takes on BoxLib - LBNL Computing Sciences News & Media

- http://cs.lbl.gov/news-media/news/2015/first-nesap-post-doc-at-nersc-takes-on-boxlib/

References

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- Edward Baron, Ph.D.
  G. L. Cross Research Professor
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  University of Oklahoma
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  Big Data Architect
  National Energy Research Scientific Computing Center
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