

Brian W. Mulligan
CURRICULUM VITAE

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EDUCATION

2018 PH.D. in Astrophysics | University of Texas at Austin
2011 B.S. in Physics | University of Minnesota, Twin Cities

TEACHING EXPERIENCE

Instructor of Record

2014 University of Texas at Austin
Natural Sciences Seminar | 1 semester

Teaching Assistant

2012 – 2018 University of Texas at Austin | Median rating on evaluations: 4.3 / 5

LOWER DIVISION

Extraterrestrial Life¹ | 3 semesters (3 sections ea.) | Most recent: Fall 2015
Introduction to Astronomy | 2 semesters | Most recent: Spring 2018
Popular Astronomy¹ | 1 semester (3 sections) | Fall 2016
The Lives and Deaths of Stars | 2 semesters | Most recent: Spring 2016

UPPER DIVISION

Astrophysics | 1 semester | Spring 2012
Stellar Astronomy | 4 semesters | Most recent: Fall 2017
Stellar Astronomy Laboratory² | 4 semesters | Most recent: Fall 2017

¹ — University of Texas Signature Course; TA designs and sole-teaches discussion sections.

² — TA designs and sole-teaches this lab.

2010 – 2011 University of Minnesota, Twin Cities

LOWER DIVISION

Introductory Astronomy Laboratory | 3 semesters (5 sections total)
Introduction to Astrophysics | 3 semesters

Excerpts From Teaching Evaluations

—“My science skills are not the greatest, but he made the course easy to comprehend. Brian went above and beyond to provide resources and office hours to help better explain the topics we covered throughout the semester.”

—“I wish Brian was the teacher of the class because he was amazing. He had one hour study sessions each

night directly before a test ... He encouraged participation in these sessions, and had follow up questions when we answered more simple questions to ensure our understanding. He was also super passionate about in class questions and helping us learn from them.”

OUTREACH & POPULAR TALKS

- 2016 – Astronomy News | Astronomy On Tap ATX | North Door | Austin, TX
- 2018 Supernovae, the Universe, and You | Astronomy On Tap ATX | Austin, TX | 21 August 2018
- 2018 Supernovae, the Universe, and You | Astronomy On Tap - San Antonio | San Antonio, TX | 1 August 2018
- 2017 Solar Eclipse | The Unveristy of Texas at Austin | Austin, TX | 21 August 2017
- 2016 [Searching for the Rest of the Universe: Dark Matter](#) | Astronomy on Tap ATX | North Door | Austin, TX | 20 Sept 2016
- 2015 10000 Years of Calendars | Astronomy On Tap ATX | Scholz Garden | Austin, TX | 20 Jan 2015
- 2013 Time, Calendars, and the Stars: A little history of time and calendars | Monthly Meeting | UT Austin Astronomy Students Association | Austin, TX | 13 Nov 2013
- 2013 Weighing galaxies and finding dark matter | Star Party | Westgate Outdoor Discovery Center | Round Mountain, TX | 28 Sept 2013
- 2013 Time, Calendars, and the Stars: A little history of time and calendars | Star Party | Westgate Outdoor Discovery Center | Round Mountain, TX | 28 Sept 2013
- 2012 Transit of Venus | The Unveristy of Texas at Austin | Austin, TX | 5 June 2012
- 2012 Star Party | The Unveristy of Texas at Austin | Austin, TX | Summer 2012
- 2010 – 2011 Star Party | University of Minnesota, Twin Cities | Minneapolis, MN
- 1993 – 1995 Star Party | Mankato State University | Mankato, MN

PUBLICATIONS

[ADS Search](#)

ORCID: [0000-0003-3347-0554](#)

Refereed, First Author

- 2018 **Mulligan, B. W.**, & Wheeler, J. C. (2018) | A Compact Circumstellar Shell as the Source of High-Velocity Features in SN 2011fe | *Monthly Notices of the Royal Astronomical Society*, Vol 476, Iss. 1
- 2017 **Mulligan, B. W.**, & Wheeler, J. C. (2017) | High-Velocity Features in Type Ia Supernovae from a Compact Circumstellar Shell | *Monthly Notices of the Royal Astronomical Society*, Vol 467, Iss. 1

Refereed, Other Author

- 2018 Mace, G. N., Mann, A. W., Skiff, B. A., Sneden, C., Kirkpatrick, J. D., Schneider, A. C., Kidder, B., Gonnell, N. M., Kim, H., **Mulligan, B. W.**, Prato, L., Jaffe, D., (2018) | Wolf 1130: A Nearby Triple System Containing a Cool, Ultramassive White Dwarf | *The Astrophysical Journal*, Vol 854, Issue 2
- 2015 Silverman, J. M., Vinkó, J., Marion, G. H., Wheeler, J. C., Barna, B., Szalai, T., **Mulligan, B. W.**, Filippenko, A. V., (2015) | High-velocity features of calcium and silicon in the spectra of Type Ia supernovae | *Monthly Notices of the Royal Astronomical Society*, Vol 451, Issue 2
- 2011 Daghigh, Ramin G., Green, Michael D., **Mulligan, Brian W.** (2011) | Asymptotic spectrum of Kerr black holes in the small angular momentum limit | *Physical Review D*, Vol. 83, Iss. 4

Submitted

- 2018 **Mulligan, B. W.**, Zhang, K., & Wheeler, J. C. (2018) | The calcium abundance of high-velocity material in Type Ia supernovae

INVITED TALKS

- 2017 Invited Talk | Trinity University (Texas) | Physics Seminar | Simulation of High-Velocity Features of Exploding White Dwarfs | 21 Mar 2017

DEPARTMENTAL TALKS

- 2017 Astronomy Department Theory Seminar | University of Texas at Austin | On determining the composition of high velocity material in Type Ia supernovae | 27 Nov 2016
- 2016 Astronomy Department Theory Seminar | University of Texas at Austin | Deriving abundances from early supernova spectra | 25 Oct 2016
- 2015 Astronomy Department Theory Seminar | University of Texas at Austin | Type Ia supernovae, circumstellar shells, and high velocity lines: 1-D simulation | 13 Apr 2015
- 2014 Astronomy Department Theory Seminar | University of Texas at Austin | Type Ia supernovae, circumstellar shells, and high velocity lines: 1-D simulation | 6 Oct 2014

FELLOWSHIPS

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|------|---|--------|
| 2018 | Graduate School Summer Fellowship University of Texas at Austin | \$7000 |
| 2017 | Graduate School Continuing Fellowship University of Texas at Austin | \$7000 |
| 2016 | Graduate School Continuing Fellowship University of Texas at Austin | \$7000 |

AWARDS AND HONORS

- 2010 Sigma Pi Sigma
- 2007 Phi Theta Kappa
- 2007 Addison-Wesley Book Award in Mathematics

SERVICE**Department**

UNIVERSITY OF TEXAS AT AUSTIN | ASTRONOMY DEPARTMENT

- 2012 – 2017 Graduate Student Recruiting | Visiting Student Host
- 2017 Department External Review - Graduate Student Committee | Member
- 2014 – 2013 Admissions Committee | Graduate Student Representative
- 2014 – 2013 Graduate Student Recruiting | Graduate Student Organizer
- 2014 – 2013 Faculty Meeting | Graduate Student Representative
- 2014 – 2013 Graduate Student Assembly | Representative
- 2013 – 2012 Computing Committee | Graduate Student Representative

Outreach

- 2016 – Astronomy on Tap ATX Executive Committee | Member | Austin, TX
- 2015 – Astronomy on Tap ATX | Volunteer | Austin, TX

OTHER EXPERIENCE

- 1999 – 2011 Senior Software Engineer & Technical Team Lead – Aircraft Systems and Flight Instrumentation Systems | [Aerosim Technologies](#) | Burnsville, MN

References available upon request.