Erik Brugamyer, Ph.D.

Teacher and Tutor | Physics and Math
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Education

The University of Texas at Austin, Department of Astronomy
Doctor of Philosophy – Astronomy — December 2014
Master of Arts – Astronomy — December 2010
GPA 4.0/4.0

The University of Texas at Austin, McCombs School of Business
Master in Professional Accounting — December 2002
GPA 3.9/4.0

The University of Texas at Austin
Bachelor of Science in Physics — December 2000
Bachelor of Arts (major: Astronomy – minor: German) — December 2000
Graduated with University Honors: GPA 3.75/4.0
Phi Beta Kappa

Technical University of Berlin — 1999-2000
Awarded the Federation of German-American Clubs Scholarship for the study of physics, astronomy and German

Experience

St. Michael's Catholic Preparatory School — Austin, TX
8/22 – present *Physics Instructor*
- Teach physics and astronomy classes to a diverse student body (9-12th grade)
- Supervise other physics teachers
- Develop teaching curricula, materials, and assessments

The Austin Waldorf School — Austin, TX
7/16 – 7/22 *High School Math and Science Chair*
- Led a dedicated group of math and science teachers
- Taught physics and mathematics classes to a diverse student body (9-12th grade)
- Developed teaching curricula, materials, and assessments

The Princeton Review — Austin, TX
5/07 – 1/25 *Physics Instructor and Tutor, and MCAT Physics Master Trainer*
- Taught and tutored test preparation and review courses for the physics portion of the Medical College Admissions Test (MCAT)
- Developed teaching materials, curricula, and syllabi
- Trained and evaluated prospective instructors to determine their hiring eligibility

The Whitley Group, LLC — Austin, TX
1/15 – 8/16 *Financial Controller*
- Responsible for all manner of financial accounting at this local printing company
- Supervised Accounts Payable and Accounts Receivable clerks
- Developed software tools for cost accounting

	Department of Astronomy, UT – Austin	Supervisor:
9/14 – 12/14	*Teaching Assistant*	Dr. J. C. Wheeler

- Evaluated students' performance on periodic written assignments for The Future of Humanity astronomy course
- Served as guest lecturer during the primary instructor's periodic absences

	Austin Community College, Department of Physical Sciences	Supervisor:
5/12 – 8/13	*Adjunct Assistant Professor of Physics and Astronomy*	Dr. Jim Heath

- Taught Engineering Physics II course (calculus-based study of electricity, magnetism, light and optics) – Summer 2013 and Summer 2012
- Taught Engineering Physics II Laboratory – Summer 2013 and Summer 2012
- Taught Stellar Astronomy course (general introductory) – Fall 2012

	Department of Astronomy, UT – Austin	Supervisor:
1/11 – 12/12	*Teaching Assistant*	Dr. D. Wills

- Operated the 9-inch Painter Hall Telescope during public viewing nights
- Served as public outreach educator, by detailing the observed astronomical objects and fielding questions from the public about their nature

	Department of Astronomy, UT – Austin	Supervisor:
1/10 – 5/14	*Graduate Research Assistant*	Dr. S. Dodson-Robinson

- Acted as Principal Investigator (PI) of The University of Texas' analysis of the compositions of stars that host planets

	Department of Astronomy, UT – Austin	Supervisor:
9/09 – 12/09	*Teaching Assistant*	Dr. V. Bromm

- Served as a TA for the Signature Course "History and Philosophy of Astronomy", by special request of the course instructor
- Presented supplementary instructional materials during weekly discussion sections
- Evaluated students' performance on periodic written assignments and exams

	Department of Astronomy, UT – Austin	Supervisors:
6/05 – 8/09	*Editorial Assistant – The Astrophysical Journal Letters*	Elizabeth Korves
		Dr. C. Sneden

- Assisted in the evaluation of manuscripts for publication suitability
- Coordinated communication between manuscript authors and referees

	PricewaterhouseCoopers LLP	
9/04 – 1/05	*Senior Audit Associate – TICE Group*	Austin, TX
1/03 – 9/04	*Audit Associate – Private Company Services*	Chicago, IL

- Performed financial statement audits of diverse public and private companies with annual revenues ranging from $30 million to $2 billion
- Assisted in the management of all phases of certain engagements including planning, supervision, review and preparation of financial statements
- Taught a two-week audit methodology course for newly-hired professionals

	Department of Astronomy, UT – Austin	Supervisors:
8/01 –12/02	*Teaching Assistant*	Dr. D. Wills
		Dr. G.F. Benedict
		Dr. H. Dinerstein

- Presented supplementary instructional materials during weekly discussions
- Evaluated students' performance on weekly analytical homework assignments, periodic written assignments and exams

	Department of Astronomy, UT – Austin	Supervisor:
1/01 – 8/01	*Laboratory Research Assistant*	Dr. H. Dinerstein

- Performed flux calibrations and metallicity analyses on a set of planetary nebulae spectra, using 2D-coudé observations

	Department of Astronomy, UT – Austin	Supervisor:
1/98 – 5/99	*Undergraduate Research Assistant*	Dr. C. Sneden

- Determined copper abundances in a group of metal-poor halo stars using Cu I resonance lines in the near-UV, from KECK I HIRES spectra

	UT Learning Center, UT – Austin	Supervisor:
1/98 – 12/02	*Tutor*	Alan Constant

- Tutored students from diverse backgrounds in physics, math and astronomy
- Attained certification at the Advanced Tutor level from the College Reading & Learning Association
- Assisted in the recruitment and training of new tutors

Courses Taught

University Level

- *Engineering Physics II* – calculus-based electricity and magnetism course for science and engineering majors; included a laboratory component
- *Stellar Astronomy* – an introductory survey course of stellar astronomy; included a laboratory component
- *The History and Philosophy of Astronomy* – a liberal arts course dealing with the history of humankind's study of astronomy; developed and delivered supplemental instruction during guided discussion sections
- *MCAT Physics Review* – a review of physics topics and their applications that are examined on the Medical College Admission Test

High School Level

- *Astronomy* – a senior-level survey course covering the solar system, stellar astronomy, the interstellar medium, galaxies, and cosmology; a special emphasis was given to spectroscopy: the technique and its uses
- *Optics & Modern Physics* – a senior-level survey course covering geometric and physical optics, transitioning into a broad, brief survey of Relativity and Quantum Mechanics; included laboratory activities involving the study of images formed by mirrors and lenses
- *Electricity & Magnetism* – a junior-level survey course covering basic electrostatics, circuits, and magnetism; included laboratory activities involving circuit building and analysis
- *Kinematics & Mechanics* – a sophomore-level survey course covering Classical Mechanics; included various laboratory activities involving kinematics, forces, and simple machines
- *Thermal Physics* – a freshman-level survey course covering thermodynamics and kinetic theory; included laboratory activities involving heat, temperature and specific & latent heat capacities
- *Calculus*
- *Pre-Calculus*
- *Algebra II*
- *Algebra I*

Publications

First Author

"Silicon and Oxygen Abundances in Planet-Host Stars." **E. Brugamyer**, S.E. Dodson-Robinson, W.D. Cochran, C. Sneden. 2011, ***The Astrophysical Journal***, 738, 97B.

Contributing Author

"Radial Velocity Discovery of an Eccentric Jovian World Orbiting at 18 AU." S. Blunt, M. Endl, L.M. Weiss, W.D. Cochran, A.W. Howard, P.J. MacQueen, B.J. Fulton, G.W. Henry, M.C. Johnson, M.R. Kosiarek, K.D. Lawson, B. Macintosh, S.M. Mills, E.L. Nielsen, E.A. Petigura, G. Schneider, A. Vanderburg, J.P. Wisniewski, R.A. Wittenmyer, **E. Brugamyer**, *and 8 others*. 2019, ***The Astronomical Journal***, 158, 181B.

"The Kepler Follow-up Observation Program. II. Stellar Parameters from Medium- and High-resolution Spectroscopy." E. Furlan, D.R. Ciardi, W.D. Cochran, M.E. Everett, D.W. Latham, G.W. Marcy, L.A. Buchhave, M. Endl, H. Isaacson, E.A. Petigura, T.N. Gautier III, D. Huber, A. Bieryla, W.J. Borucki, **E. Brugamyer**, *and 10 others*. 2018, ***The Astrophysical Journal***, 861, 149F.

"A 12-year Activity Cycle for the Nearby Planet Host Star HD 219134." M. Johnson, M. Endl, W.D. Cochran, S. Meschiari, P. Robertson, P. MacQueen, **E. Brugamyer**, C. Caldwell, A. Hatzes, I. Ramirez, R.A. Wittenmyer. 2016, ***The Astrophysical Journal***, 821, 74J

"Two New Long-period Giant Planets from the McDonald Observatory Planet Search and Two Stars with Long-period Radial Velocity Signals Related to Stellar Activity Cycles." M. Endl, **E. Brugamyer**, *and 17 others*. 2016, ***The Astrophysical Journal***, 818, 34E.

"Kepler 453 b—The 10th Kepler Transiting Circumbinary Planet." W.F. Welsh, J.A. Orosz, D.R. Short, W.D. Cochran, M. Endl, **E. Brugamyer**, *and 19 others*. 2015, ***The Astrophysical Journal***, 809, 26W.

"Kepler 424 b: A 'Lonely' Hot Jupiter That Found A Companion." M. Endl, D. Caldwell, T. Barclay, D. Huber, H. Isaacson, L. Buchhave, **E. Brugamyer**, *and 10 others*. 2014, ***The Astrophysical Journal***, 795, 151E.

"Masses, Radii, and Orbits of Small Kepler Planets: The Transition from Gaseous to Rocky Planets." G. Marcy, H. Isaacson, A. Howard, *and 80 others*, J. Coughlin, **E. Brugamyer**, *and 18 others*. 2014, ***The Astrophysical Journal Supplement***, 210, 20M.

"Searching for solar-like oscillations in the δ Scuti star ρ Puppis." V. Antoci, G. Handler, F. Grundahl, F. Carrier, **E. Brugamyer**, P. Robertson, H. Kjeldsen, Y. Kok, M. Ireland, J. M. Matthews. 2013, ***Monthly Notices of the Royal Astronomical Society***, 435, 1563A.

"Kepler-62: A Five-Planet System with Planets of 1.4 and 1.6 Earth Radii in the Habitable Zone." W. J. Borucki, E. Agol, F. Fressin, L. Kaltenegger, J. Rowe, H. Isaacson, D. Fischer, N. Batalha, J. J. Lissauer, G. W. Marcy, D. Fabrycky, J.-M. Désert, S. T. Bryson, T. Barclay, F. Bastien, A. Boss, **E. Brugamyer**, *and 48 others*. 2013, ***Science***, 340, 587B.

"Revisiting ρ^1 Cancri e: A New Mass Determination of the Transiting Super-Earth." M. Endl, P. Robertson, W.D. Cochran, P.J. MacQueen, **E. Brugamyer**, C. Caldwell, R.A. Wittenmyer, S.I. Barnes, K. Gullikson. 2012, ***The Astrophysical Journal***, 759, 19E.

"The Neptune-sized Circumbinary Planet Kepler-38b." J.A. Orosz, W.F. Welsh, J.A. Carter, **E. Brugamyer**, *and 27 others*. 2012, ***The Astrophysical Journal***, 758, 87O.

"A Second Giant Planet in 3:2 Mean-Motion Resonance in the HD 204313 System." P. Robertson, J. Horner, R.A. Wittenmyer, M. Endl, W.D. Cochran, P. MacQueen, **E. Brugamyer**, A.E. Simon, S.I. Barnes, C. Caldwell. 2012, ***The Astrophysical Journal***, 754, 50R.

"An abundance of small exoplanets around stars with a wide range of metallicities." L. Buchhave, D.W. Latham, A. Johansen, M. Bizzaro, G. Torres, J.F. Rowe, N.M. Batalha, W.J. Borucki, **E. Brugamyer**, *and 20 others*. 2012, ***Nature***, 486, 375.

"The McDonald Observatory Planet Search: New Long-period Giant Planets and Two Interacting Jupiters in the HD 155358 System." P. Robertson, M. Endl, W.D. Cochran, P. MacQueen, R.A. Wittenmyer, J. Horner, **E. Brugamyer**, A.E. Simon, S.I. Barnes, C. Caldwell. 2012, ***The Astrophysical Journal***, 749, 39

"Transiting circumbinary planets Kepler-34 b and Kepler-35 b." W.F. Welsh, J.A. Orosz, J.A. Carter, D. Fabrycky, E.B. Ford, J. Lissauer, A. Prša, S. Quinn, D. Ragozzine, D.R. Short, G. Torres, J.N. Winn, L.R. Doyle, T. Barclay, N. Batalha, S. Bloemen, **E. Brugamyer**, *and 29 others*. 2012, ***Nature***, 481, 475.

"Kepler-15b: A Hot Jupiter Enriched in Heavy Elements and the First Kepler Mission Planet Confirmed with the Hobby-Eberly Telescope." M. Endl, P. MacQueen, W.D. Cochran, **E. Brugamyer**, *and 29 others*. 2011, ***The Astrophysical Journal Supplement***, 197, 13E.

"Kepler-18b, c, and d: A System of Three Planets Confirmed by Transit Timing Variations, Light Curve Validation, Warm-Spitzer Photometry, and Radial Velocity Measurements." W.D. Cochran, D. Fabrycky, G. Torres, F. Fressin, J. Désert, D. Ragozzine, D. Sasselov, J. Fortney, J. Rowe, **E. Brugamyer**, *and 44 others*. 2011, ***The Astrophysical Journal Supplement***, 197, 7C.

"KOI-54: The *Kepler* Discovery of Tidally-Excited Pulsations and Brightenings in a Highly Eccentric Binary." W.F. Welsh, J.A. Orosz, C. Aerts, T. Brown, **E. Brugamyer**, *and 25 others*. 2011, ***The Astrophysical Journal Supplement***, 197, 4W.

"The architecture of the hierarchical triple star KOI 928 from eclipse timing variations seen in Kepler photometry." J. Steffen, S. Quinn, W.J. Borucki, **E. Brugamyer**, *and 24 others*. 2011, ***Monthly Notices of the Royal Astronomical Society***, 417L, 31S.

Conference Proceedings

"Copper and Zinc Abundances in Metal-Poor Stars." F. Primas, **E. Brugamyer**, C. Sneden, J.R. King, T.C. Beers, A.M. Boesgaard, C.P. Deliyannis. 2000, *The First Stars: Proceedings of the MPA/ESO Workshop Held at Garching, Germany, 4-6 August 1999.* Edited by A. Weiss, T.G. Abel and V. Hill. Springer-Verlag, p. 51.

"Copper and Zinc Abundances in Metal-Poor Stars." F. Primas, **E. Brugamyer**, C. Sneden, J.R. King, T.C. Beers, A.M. Boesgaard, C.P. Deliyannis. 2000, *The Galactic Halo: From Globular Clusters to Field Stars, Proceedings of the 35th Liege International Astrophysics Colloquium, July 1999*, Edited by A. Noels, P. Magain, D. Caro, E. Jehin, G. Parmentier, and A. A. Thoul. pg. 119.

Poster Presentations

"Silicon and Oxygen Abundances in Planet-Host Stars." **E. Brugamyer**, S.E. Dodson-Robinson, W.D. Cochran, C. Sneden. 2010, *American Astronomical Society, DPS Meeting #42,* #27.26.

"A New Approach to Copper Abundances in Metal-Poor Stars." **E. Brugamyer**, C. Sneden, J.R. King, A.M. Boesgaard, C.P. Deliyannis. 1998, *Bulletin of the American Astronomical Society,* Vol. 30, page 1320.

Acknowledgements

"Observations of [S IV] 10.5μm and [Ne] 12.8 μm in Two Halo Planetary Nebulae: Implications for Chemical Self-Enrichment." H. L. Dinerstein, M. J. Richter, J. H. Lacy, K. Sellgren. 2003, *The Astronomical Journal*, 125, 256.

Honors and Awards

June 2010	Board of Visitors Graduate Student Second-Year Research Defense Award	Department of Astronomy – UT Austin
Fall 2002	Sommerfeld Scholar	UT – Austin Department of Accounting
Fall 2002	Dean's Award for Academic Excellence	UT – Austin Department of Accounting
Spring 2001	Phi Beta Kappa	Alpha of Texas Chapter at UT – Austin
1996 – 1997	Outstanding Physics Major	Amarillo College
Fall 1996	Phi Theta Kappa National Junior College Honors Society	Beta Eta Chapter at Amarillo College

Fellowships and Scholarships

Summer 2014	Fred T. Goetting, Jr. Memorial Endowed Presidential Fellow	UT – Austin
2011 – 2012	William S. Livingston Graduate Fellow	UT – Austin
2001 – 2002	Recruiting Scholarship	UT – Austin Department of Accounting
1999 – 2000	Karl G. Henize Memorial Scholarship	UT – Austin Department of Astronomy
1999 – 2000	Federation of German-American Clubs Scholarship	Technical University of Berlin
1999 – 2000	Institute of International Education Study Abroad Grant-in-Aid	Technical University of Berlin
1999 – 2000	International Education Fee Scholarship	UT – Austin
Summer 1999	German Academic Exchange Service (DAAD) Language Course Scholarship	University of Leipzig
1998 – 1999	Board of Visitors Undergraduate Scholarship	Department of Astronomy at UT – Austin
Fall 1992	Sybil B. Harrington Memorial Scholarship	Amarillo College
Fall 1992	Eldon Durrett Memorial Scholarship	Amarillo College, from Tascosa High School
Fall 1992	National Honor Society Scholarship	Amarillo College, from Tascosa High School

Other Activities

American Astronomical Society, Member
Graduate Student Representative – 2010/2011 academic year
(Served as official liaison between graduate students and faculty in the Department of Astronomy at UT – Austin)
Visiting Researcher at Max Planck Institute for Astrophysics in Garching, Germany – Spring 2000
Astronomy Students' Association (UT – Austin), Fall 1997 – Fall 2002; President 1998/1999 academic year