

DAN BRUTON

Education

Ph.D., Physics, Texas A&M University, College Station, 1996
M.S., Physics, Stephen F. Austin State University, Nacogdoches, 1990
B.S., Physics, Stephen F. Austin State University, Nacogdoches, 1988

Experience

Associate Dean, Stephen F. Austin State University, 9/12 to present
Interim-Associate Dean, Stephen F. Austin State University, 9/10 to 9/12
Full Professor, Stephen F. Austin State University, 9/08 to present
Associate Professor, Stephen F. Austin State University, 9/01 to 9/08
Senior Software Developer, Anderson Software, 6/04 to present
Assistant Professor, Stephen F. Austin State University, 9/96 to 9/01
Researcher, Texas A&M University, 5/90 to 9/96
Physics and Astronomy Instructor, Texas A&M University, 5/90 to 9/96
Observatory Supervisor, Texas A&M University, 5/92 to 9/96

Courses Taught

EGR 111 - Foundations in Engineering I
EGR 112 - Foundations in Engineering II
EGR 215 - Introduction to Electrical Engineering
EGR 315 - Engineering Design
EGR 343 - Digital Systems

AST105 - Modern Astronomy
AST305 - Observational Astronomy
AST335 - Astrophysics

PHY101 - Conceptual Physics
PHY110 - Introduction to Electronics
PHY108 - Introduction to Physics/Engineering
PHY241 - Technical Physics I
PHY262 - Electrical Circuits and Devices
PHY250 - Engineering Statics
PHY343 - Digital Electronics
PHY470 - Student Seminars
PHY475 - Special Topics in Physics and Astronomy
PHY476 - Special Topics in Electronics
PHY570 - Student Seminars
PHY575 - Special Topics in Physics and Astronomy
PHY576 - Asteroid Hunting
PHY589 - Thesis Research
PHY590 - Thesis Writing

Memberships

American Association of Physics Teachers
American Astronomical Society

Regional Leadership

President of the Texas Section of the American Association of Physics Teachers and other officer positions (2002-2006) <http://www.tsaapt.org>

Honors

- Teaching Excellence Award - Stephen F. Austin State University Department, College, and University Level, 2003
- American Physical Society Presentation Award
- McDonald's Award for Excellence in Teaching
- PS Presentation Award
- Robert A. Welch Fellowship
- SPS Outstanding Physics Student Award
- Robert W. Gruebel Scholarship

Student Outreach Activities

- Pre-engineering advisor for 70+ student each year
- Created and teach two engineering courses at SFA
- Organize and attend the Physics Student/Faculty Social annually
- Organize the Physics Olympics for area high school students annually
- Attended Showcase Saturdays since 1996
- Create and email weekly department newsletters to physics and engineering majors
- Serving on the Student Outreach Committee and Graduate Committee in our department
- Developed physics and astronomy lab exercises for visually impaired students
- Developed new classroom demonstrations to use in physics and astronomy courses
- Worked with the chair of the department to create and maintain a student study room now known as the Physics Resource Center (PRC)
- Used surplus computers and equipment to upgrade our Electronics Laboratory
- Involved undergraduate and graduate students in astronomy research at the SFA observatory on Friday nights
- Met with students at the observatory for astronomy research with the 10", 18" and 41" telescopes and CCD cameras
- Built a telescope dome and telescope control system for a student research telescope
- Wrote grants to fund the purchase of a new teaching telescope and dome for advanced astronomy students
- Worked with students to discover 11 new asteroids and make observations of 39 other minor planets
- Gave many tours of the SFA Observatory to SFA 101 students, boy scouts, girl scouts, grade schools, etc.
- Developed educational web pages on Jupiter, Saturn, Mars, Comet Shoemaker-Levy 9, Color Science, etc.
- Wrote free astronomy related educational computer programs and made them available on the internet

Graduate Student Thesis

- “The Photometry and Astrometry of Minor Planets”,
Carlton Stewart - Graduated December 1999
- “A Survey of the Radio Sky at the SFA Observatory”,
Michael Johnson - Graduated August 2003
- “Observations and Orbit Determination of Minor Planets at the SFA Observatory”,
Chris Peterson - Graduated December 2003
- “Hydrogen 21-Centimeter Emission Interferometry”,
Andy Wagers - Graduate August 2005
- “Computer Techniques of Acquiring and Producing 3D Videos”,
Luke Whittlesey - Graduated August 2007
- “Photometry of a Rotating Asteroid”,
Keng Kovitanggoon –December 2007
- “Photometry of Transiting Exoplanets”,
Billy Quarles –May 2008
- “Microwind Alternative Energy”,
Eric Myers – May 2009
- “A New Astronomical Data Reduction Technique”,
Justin Parish – May 2012
- “Light Curve Analysis of Minor Planet Pyrrha”,
Lucas Anderson – August 2013
- “Automatic Detection of Asteroids by the 16" and 41" Telescopes at the SFA
Observatory”, Carson Fuls – May 2015
- “Observations and Light Curve Analysis of Transiting Extra-Solar Planets”,
Clark Holcomb – December 2016

Refereed Publications

- Fuls, D. C., Bruton, W. D. “Observations and Astrometry of Minor Planet
1998GL10”, Minor Planet Circular, April 2015.
- Holcomb, C. M., M. K. Henry, G. C. Clark, D. C. Fuls, Bruton, W. D.
“Observations and Astrometry of Minor Planet 26624”, Minor Planet
Circular, February 2014.
- D. C. Fuls, Bruton, W. D. “Observations and Astrometry of Minor Planet Tercidina
(345)”, Minor Planet Circular, February 2014.
- D. C. Fuls, Bruton, W. D. “Observations and Astrometry of Minor Planet
Glarnisch (02914)”, Minor Planet Circular, January 2014.
- “Observations of Minor Planets 3498, 4462 and 29614”
Minor Planet Electronic Circulars (pending)
- “Occultations of TYC5234-01020-1 by Minor Planet 43 Ariadne”, (pending)
International Occultation Timing Association
- “Observations of Minor Planet K08W32S”
November 25, 2008, Minor Planet Electronic Circular 2008-W67.
- “Observations of Minor Planet K08UR6W”
December 6, 2008, Minor Planet Electronic Circular 2008-X48.
- “Observations of Minor Planet K08UK0U”
December 6, 2008, Minor Planet Electronic Circular 2008-X48.
- “Observations of Minor Planet K01W71C”
December 6, 2008, Minor Planet Electronic Circular 2008-X48.
- “Google Sky” (Constellation lines contribution), August 2007
<http://earth.google.com/sky/index.html>

- <http://observe.phy.sfasu.edu/SFAStarCharts/SFAStarChartFAQ.html>
"Connecting the Dots - Other Ways to See the Constellations", D. Bruton,
Submitted to Sky & Telescope Magazine
<http://observe.phy.sfasu.edu/SFAStarCharts/Article/article.PDF>
- "Requiem for Pluto", Hugh Henderson (image contribution), The Physics
Teacher, April 2007
- "The Shape of a Rotating Star", D. Bruton, April 25, 2004
<http://observe.phy.sfasu.edu/downloads/StarLight/Word/StarSpin.pdf>
- "Roche Lobes and the Morphologies of Close Binary Stars", D. Bruton, May 8, 2004
<http://observe.phy.sfasu.edu/downloads/StarLight/Word/RocheLobes.pdf>
- "SFA Star Charts", D. Bruton, November 2002,
<http://www.midnightkite.com/starcharts.html>
- "Minor Planet 66671 = 1999 TJ17 Officially Named Sfasu"
MPC Bulletin July 2004.
- "Minor Planet 34611 = 2000 UF11 Officially Named Nacogdoches"
MPC Bulletin August 2002.
- "Minor Planet 36037 = 1999 TJ17 Officially Named Linenschmidt"
MPC Bulletin August 2002.
- "Discovery of Asteroid 2001 OA74", R. Brady, D. Bruton, MPEC 2001-P30,
August 2001.
- "Discovery of Asteroid 2000 UF11", S. P Scurlock, D. Bruton, MPEC 2000-V10,
MPO 6422, October 2000.
- "Discovery of Asteroid 2000 UF11", R. Williams, D. Bruton, MPEC 2000-V23,
MPEC 2000-V25, MPEC 2000-W17, October 2000.
- "Discovery of Asteroid 2000 SN89", G. Rogers, D. Bruton, MPC September
2000.
- "Discovery of Asteroid 1999 TJ17", M. Johnson, D. Bruton, MPEC 1999-U26,
MPEC 1999-V05, 1999-V30, MPC November 1999.
- "Discovery of Asteroid 1999 TK17", D. Bruton, MPEC 1999-U26, MPEC 1999-
V41, MPC November 1999.
- "Discovery of Asteroid 1999 RM41", D. Burditt, D. Bruton, MPC September 1999.
- "Discovery of Asteroid 1999 TG4", B. D. McCormack, D. Carona, D. Bruton,
MPEC 1999-W29, 1999-T49, MPC 36572, MPC September 1999.
- "Discovery of Asteroid 1999 PQ3", D. Bruton, C. Stewart, MPEC 1999-Q03,
1999-Q04, 1999-S01, MPC 36093, MPC August 1999.
- "Unique Temperature Profiles for the Atmosphere below an Observer from
Sunset Images", W. D. Bruton, G. W. Kattawar, Applied Optics, 36,
6957-6961, (1997).
- "Optical Determination of Atmospheric Temperature Profiles", W. D. Bruton,
Texas A&M University Dissertation, August 1996.
- "Observations of Jupiter in 1994", R. Schmude, W. D. Bruton,
J. Roy. Astron. Soc. Can., Vol. 90, No. 3, 1996.
- "Watching Beta Lyrae Evolve", D. Bruton, R. Linenschmidt, R. Schmude,
I.A.P.P.P.C., No. 63, 1996.
- "Photometry of 68 Herculis", P. McJunkins, D. Bruton,
I.A.P.P.P.C, Submitted in May of 1997.
- "Jupiter's 'Bruises' Remain Prominent (Figure 4 photographs)", D. Bruton,
Journal of the British Astronomical Association, Vol. 105, p.109,
June 1995.
- "The Great Dark Spots of Jupiter (photograph)", D. Bruton,
Sky & Telescope, p.33, November 1994.

- “Frequently Asked Questions about the Collision of Comet Shoemaker-Levy 9 with Jupiter”, D. Bruton, J. Harper, Spectrum: The Journal of the Texas Astronomical Society of Dallas, Vol. 46, Issue 2, p.5-9, February 1994.
- “Wideband Photometry of Titan and Iapetus”, R. Schmude, D. Bruton, I.A.P.P.C., No. 56, p.20-22, Summer 1994.
- “Saturn in Late 1993”, R. Schmude, D. Bruton, Texas Journal of Science, Vol. 47 (1), p.13-20, February 1995.
- “Observations of Mars in 1992-93”, R. Schmude, D. Bruton, The Journal of the Royal Astronomical Society of Canada, Vol. 88, No. 1, 1994.
- “Eclipsing Binary Stars: A Simple Model for Computing Light Curves”, D. Bruton, The Internet Science Journal, <http://www.physics.sfasu.edu/astro/ebstar/ebstar.html>.
- “Anisotropic Magnetism and Resistivity of an Al₇₀Ni₁₅Co₁₅ Decagonal Quasicrystal”, D. Bruton, Journal of Applied Physics, Vol. 76 (10), p.6110-6112, 15 November 1994.
- “Beta Lyrae Revisited (data contribution)”, D. Bruton, Sky & Telescope, p.72-74, June 1994.
- “Wide Band Photometry of Titan in 1992”, D. Bruton, Journal of International Amateur and Professional Photoelectric Photometry, No. 51, p.37-40, Spring 1992.
- “The 1992 Apparition of Uranus (data contribution)”, D. Bruton, Journal of the Association of Lunar and Planetary Observers, 1992.
- “X-ray study of the crystallization process in amorphous (Zr_{0.64}Ni_{0.36})_{1-x}Al_x alloys”, D. Bruton, Materials Science and Engineering, Vol. 133, p.482-485, 1991.
- “The structural analysis of metallic glasses using X-ray diffraction data”, D. Bruton, Master’s Thesis completed at Stephen F. Austin State University, August 1990.
- “The effect of simple metal (Al, Ga) addition on the crystallization and density of amorphous Zr-Ni alloys”, D. Bruton, J. Phys.: Condensed Matter, Vol. 2, p.2625-2636, 1990.

Other Skills

Major Scientific Instruments

41”, 18”, 10” Computer Controlled Telescopes at SFASU
 Cryostats for measuring low temperature properties of materials at TAMU
 14” Telescope at TAMU
 Scanning Electron Microscope at TAMU
 X-ray Diffraction Apparatus at SFASU

Programming

Computers : Windows, Macintosh, VAX, UNIX Workstations
 Languages : VisualBasic, Basic, FORTRAN, LabVIEW, HTML, JavaScript
 Perl, PHP, ASP, ASP.Net
 Software : Author of 5 public domain education programs available worldwide