

Brad E. Tucker

Mt. Stromlo Observatory
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Education

- **The Australia National University** Canberra, ACT, Australia
The Research School of Astronomy and Astrophysics
Ph.D.(In Progress) *August 2007 - Present*
 - Thesis: Host Galaxies of Supernova and Effects on Supernova and Supernova Cosmology
 - * Supervisor: Prof. Brian P. Schmidt, RSAA, ANU
 - * Advisor: Prof. Ken C. Freeman, RSAA, ANU
 - * Advisor: Prof. Peter M. Garnavich, Physics, Notre Dame
 - * Advisor: Dr. Lisa M. Kewley, IfA, Hawaii
 - * Advisor: Prof. Robert P. Kirshner, CfA, Harvard
- **University of Notre Dame** Notre Dame, IN, United States
Department of Physics, Department of Philosophy
B.Sc. Physics, B.A. Philosophy and Theology *August 2003- May 2007*

Awards, Grants, Honours & Scholarships

- **International Student Fee Waiver** Australian National University
Research School of Astronomy and Astrophysics *August 2007 - Present*
- **ANU Stipend Scholarship** Australian National University
Research School of Astronomy and Astrophysics *August 2007 - Present*
- **RSAA Top-Up Scholarship** Australian National University
Research School of Astronomy and Astrophysics *August 2007 - Present*
- **ANU Vice Chancellor's Special Award** Australian National University
Awarded to the RSAA Astronomy Outreach Group *October 2007*
- **Runner up for Chambliss Student Medal** Honolulu, HI, USA
Awarded for best student poster at AAS meeting *May 2007*
- **Physics Department Award** University of Notre Dame
For outstanding work and contribution to the Department of Physics *May 2007*
- **University of Notre Dame Regents Tuition Scholarship** University of Notre Dame
August 2006 - May 2007
- **Special Directors Award** University of Notre Dame
Nanovic Institute for European Studies *April 2006*
- **REU Scholarship** Cerro Tololo Inter-American Observatory
January 2006 - April 2006
- **University of Notre Dame Regents Tuition Scholarship** University of Notre Dame
August 2005 - December 2005

- **REU Scholarship** University of Notre Dame
May 2005 - August 2005
- **Old College Full Tuition Scholarship** University of Notre Dame
August 2004 - May 2005
- **Old College Full Tuition Scholarship** University of Notre Dame
August 2003 - May 2004

Professional Societies

- $\Sigma\Xi$ (National Scientific Research Society)
- $\Sigma\Pi\Sigma$ (National Physics Honor Society)
- AAS (American Astronomical Society)
- ASA (Astronomical Society of Australia)

Teaching and Scientific Experience

- **Commissioning of WiFeS Instrument** Australian National University
Mt. Stromlo and Siding Springs Observatories
December 2008 - Present
 - Testing of pipeline data reduction.
 - Making and testing of calibrations.
- **Commissioning of SkyMapper Telescope** Australia National University
Mt. Stromlo and Siding Springs Observatories
February 2008 - Present
 - Testing of pipeline data reduction.
 - Testing of galaxy photometry.
 - Commissioning data.
- **Public Outreach** Australian National University
Mt. Stromlo Observatory
August 2007 - Present
 - Running of free educational Astronomy evenings for school children.
 - Management of the program and help with development of educational materials.
- **Observatory Assistant** University of Notre Dame
Department of Physics
August 2005 - May 2007
 - Assisted students in completing assignments in the observatory.
 - Graded homework assignments and tests.
 - Maintaining of telescopes and repairs.
- **Research Assistant** University of Notre Dame
Prof. Peter Garnavich
November 2004 - May 2007
 - Work on host galaxies of type Ia supernova in various photometric properties.
 - Correlating elliptical galaxies and supernova host galaxies.

– Writing a photometric redshift program for classification of supernova during searches.

- **Assistant Manager of Instructional Resources** University of Notre Dame
Department of Physics May 2004 - May 2007
 - Repair of equipment and on-call for problems in lab.
 - Reviewing lab techniques and procedures with the teaching assistants.
 - Development of new experiments.
 - Demonstration of experiments for classes.
- **Laboratory Assistant** University of Notre Dame
Institute for Structure and Nuclear Astrophysics July 2006 - December 2006
 - Start up of Advanced Nuclear lab in Jordan Hall of Science.
 - Testing and running of nuclear experiments.
- **Research Assistant** Cerro Tololo Inter-American Observatory
Drs. Knut Olsen and Bob Blum January - April 2006
 - Analyzed chemical abundances and modeled stellar atmospheres to see if the Milky Way and LMC globular clusters shared a common origin.
- **Tutor** University of Notre Dame
Center for Academic Services for Student-Athletes June - December 2005
 - Tutor students in Physics and Astronomy.
- **Laboratory Technician** University of Notre Dame
Department of Physics January - May 2004
 - Set up and helped run undergraduate introductory physics labs, experiments, and demonstrations.

Leadership Positions and Committees

- **Colloquium Committee** Australian National University
Research School of Astronomy and Astrophysics October 2007 - Present
- **Local Organizing Committee** Mt. Stromlo Observatory
Murchison Widefield Array Meeting 19 - 23 January 2009
- **Local Organizing Committee** Australian National University
Science with the Giant Magellan Telescope (GMT) Meeting 26 - 28 March 2008
- **President** University of Notre Dame
Society of Physics Students May 2006 - May 2007
- **Vice President** University of Notre Dame
Society of Physics Students May 2005 - May 2006
- **Chaplain** University of Notre Dame
Student Senate January 2004 - December 2005
- **Assistant Resident Director** University of Notre Dame
Zahm Hall May 2005 - August 2005

Observing Experience

- **20 Hours** Gemini South Observatory 8.1m
Band 1, GMOS 1st CoI
- **14 Hours** Gemini North Observatory 8.1m
Band 2, GMOS 1st CoI
- **6 Nights** Anglo Australian Telescope 3.9m
AAOmega PI
- **3 Nights** Keck I Observatory 10m
LRIS 1st CoI
- **1 Night** WIYN 3m

- **3 Nights** Vatican Advanced Technology Telescope 1.8m

- **1 Night** Cerro Tololo Inter-American Observatory 4m
MOSIAC-II
- **2 Nights** Cerro Tololo Inter-American Observatory 0.9m

- **3 Nights** Vatican Advanced Technology Telescope 1.8m

Invited Talks

- **Mt. Stromlo Observatory** 17 July 2008
Host Galaxies Properties of Supernova and Effects on Cosmology
- **Geneva Observatory** 27 May 2008
Host Galaxies Properties of Supernova and Effects on Cosmology
- **University of Notre Dame** 12 February 2008
SkyMapper: A New Breed of Telescope
- **University of Notre Dame** 16 August 2006
Host Galaxies of the ESSENCE Survey
- **Cerro Tololo Inter-American Observatory** 24 March 2006
Do the Milky Way and LMC Globular Clusters Share a Common Origin?
- **University of Notre Dame** 6 August 2005
Photometric Redshift of SDSS and Application to the ESSENCE Survey

Conferences

- **Murchison Widefield Array Meeting** Canberra, ACT, Australia
Talk 19 - 23 January 2009
- **Astronomical Society of Australia Annual Meeting 2008** Perth, WA, Australia
Talk 6 - 10 July 2008
- **Supernova Rates** Florence, Italy
Talk 18 - 23 May 2008
- **Dark Matter 08** Marina Del Rey, CA, USA
Talk February 2008

- **210th American Astronomical Society Meeting**
Poster
- **College of Science Joint Annual Meeting 2007**
Talk
- **209th American Astronomical Society Meeting**
Poster

Honolulu, HI, USA
27 - 31 May 2007
Notre Dame, IN, USA
4 May 2007
Seattle, WA, USA
6 - 10 January 2007

Skills

- Programming Languages
 - **Expert:** C, IDL, Perl
 - **Intermediate:** Fortran 77, Python, SQL
 - **Beginner:** Java
- Scientific Software
 - **Expert:** IRAF, L^AT_EX, SExtractor, Supermongo
 - **Intermediate:** Hotpants, IGOR Pro, Mathematica, MOOG, SNID
- Spoken Languages
 - **Fluent:** English (Native Tongue)
 - **Intermediate:** German, Latin, Spanish
- Other
 - Large scale catering.
 - Gourmet mexican food.
 - Great party entertainment.