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Education:

2001 Ph.D., Astronomy, University of Texas at Austin
1996 B.S., Astronomy & Physics, University of Arizona

Employment:

2006-present *Scientist I, National Center for Atmospheric Research*
High Altitude Observatory & Scientific Computing Division

2004-2006 *NSF Astronomy & Astrophysics Fellow*
High Altitude Observatory

2002-2004 *CfA Postdoctoral Fellow*
Harvard-Smithsonian Center for Astrophysics

2001-2002 *TAC Postdoctoral Fellow*
Theoretical Astrophysics Center, Aarhus University, Denmark

1996-2001 *Research & Teaching Assistant*
Astronomy Department, University of Texas at Austin

6-8/2000 *Visiting Scientist*
High Altitude Observatory, Boulder, Colorado

1993-1996 *Research Assistant*
Lunar & Planetary Laboratory, University of Arizona

6-8/1995 *Summer Research Intern*
Department of Space Sciences, Cornell University

6-8/1994 *Summer Research Intern*
Center for Astrophysics, Harvard University

1992-1993 *Research Assistant*
Department of Astronomy, University of Arizona

1991-1992 *NASA Space Grant Intern*
Department of Physics, University of Arizona

Observing: *Time-series:* CCD and PMT photometry, spectroscopy
Sites: Magellan, MMT, McDonald, CTIO, Steward, NOT

Computing: *Programming:* Fortran, C, MPI, PVM, perl
Environments: Linux, Unix, IRAF, IDL

Service: *Chair, Employment Committee:* American Astronomical Society
Steering Committee: Kepler Asteroseismic Science Consortium
Referee: A&A, ApJ (Main Journal and Letters), MNRAS
Developer: Windows to the Universe (educational website)
Mentor: SOARS program (undergraduate summer research)

Invited Talks:

- 2008 *Asteroseismology with the Kepler Mission*
SOHO XXI / GONG 2008 meeting (Boulder, CO)
- 2008 *A TeraGrid Science Gateway for Kepler Asteroseismic Data*
Kepler Asteroseismic Science Consortium meeting (Aarhus, Denmark)
- 2007 *An Asteroseismic Data-interpretation Pipeline for Kepler*
Kepler Asteroseismic Science Consortium meeting (Orsay, France)
- 2007 *Computational Seismology using Genetic Algorithms*
European Geosciences Union General Assembly (Vienna, Austria)
- 2006 *The Future of White Dwarf Asteroseismology*
Workshop on the Future of Asteroseismology (Vienna, Austria)
- 2005 *Computational Asteroseismology*
AAS/SPD Summer School on Helioseismology (Boulder, CO)
- 2005 *The Future of Stellar Seismology*
University of Hawaii Institute for Astronomy (Honolulu, HI)
- 2004 *Lessons for Asteroseismology from White Dwarf Stars*
ARIES International Workshop on Asteroseismology (Nainital, India)
- 2003 *Computational Asteroseismology*
Yale University Astronomy Dept. Colloquium (New Haven, CT)
- 2002 *Seismic Inference using Genetic Algorithms*
Asteroseismology Across the H-R Diagram (Porto, Portugal)

Refereed Publications:

- Nitta, A., et al. 2008, *New Pulsating DB White Dwarf Stars from the Sloan Digital Sky Survey*, ApJ, in press
- Arentoft, T., et al. (The SONG collaboration; 13th/48 authors) 2008, *A multi-site campaign to measure solar-like oscillations in Procyon. I. Observations, Data Reduction and Slow Variations*, ApJ, 687, 1180
- Sullivan, D. J., et al. (The WET collaboration; 2nd/24 authors) 2008, *Whole Earth Telescope observations of the hot helium atmosphere pulsating white dwarf EC20058–5234*, MNRAS, 387, 137
- Metcalfe, T. S. 2008, *The Production Rate and Employment of Ph.D. Astronomers*, PASP, 120, 229
- Costa, J. E. S., et al. (The WET collaboration; 45th/78 authors) 2008, *The pulsation modes of the pre-white dwarf PG 1159-035*, A&A, 477, 627
- Cunha, M. S., & Metcalfe, T. S. 2007, *Asteroseismic Signatures of Small Convective Cores*, ApJ, 666, 413

- Metcalfe, T. S., Dziembowski, W. A., Judge, P. G., & Snow, M. 2007, *Asteroseismic signatures of stellar magnetic activity cycles*, MNRAS, 379, L16
- MacGregor, K. B., Jackson, S., Skumanich, A., & Metcalfe, T. S. 2007, *On the Structure and Properties of Differentially Rotating, Main-Sequence Stars in the 1-2 M_{\odot} Range*, ApJ, 663, 560
- Nitta, A., et al. 2007, *Doubling the number of DBVs and a closer look at their Instability Strip*, Communications in Asteroseismology, 150, 249
- Metcalfe, T. S. 2007, *The Future of Computational Asteroseismology*, Communications in Asteroseismology, 150, 227
- Creevey, O. L., et al. 2007, *The Complementary Roles of Interferometry and Asteroseismology in Determining the Mass of Solar-Type Stars*, ApJ, 659, 616
- Metcalfe, T. S. 2006, *The Citation Impact of Digital Preprint Archives for Solar Physics Papers*, Sol. Phys., 239, 549
- Dolez, N., et al. (The WET collaboration; 14th/41 authors) 2006, *Whole Earth Telescope observations of the ZZ Ceti star HL Tau 76*, A&A, 446, 237
- Kilic, M., et al. (The WDLF collaboration; 7th/9 authors), 2006, *Cool White Dwarfs in the Sloan Digital Sky Survey*, AJ, 131, 582
- Harris, H. C., et al. (The WDLF collaboration; 11th/19 authors), 2006, *The White Dwarf Luminosity Function from Sloan Digital Sky Survey Imaging Data*, AJ, 131, 571
- Wood, M. A., et al. (The WET collaboration; 9th/22 authors) 2005, *DQ Herculis in Profile: Whole Earth Telescope Observations and Smoothed Particle Hydrodynamics Simulations of an Edge-on Cataclysmic Variable System*, ApJ, 634, 570
- Metcalfe, T. S. 2005, *A deeper understanding of white dwarf interiors*, MNRAS, 363, L86
- Metcalfe, T. S. 2005, *Lessons for Asteroseismology from White Dwarf Stars*, J. Astrophys. Astr., 26, 273
- Metcalfe, T. S. 2005, *The Rise and Citation Impact of astro-ph in Major Journals*, BAAS, 37, 555
- Metcalfe, T. S., Nather, R. E., Watson, T. K., Kim, S.-L., Park, B.-G., & Handler, G. 2005, *An asteroseismic test of diffusion theory in white dwarfs*, A&A, 435, 649
- Kurtz, D. W., et al. (The WET collaboration; 19th/46 authors) 2005, *Pushing the ground-based limit: 14- μ mag photometric precision with the definitive Whole Earth Telescope asteroseismic data set for the rapidly oscillating Ap star HR1217*, MNRAS, 358, 651
- Kanaan, A., et al. (The WET collaboration; 6th/61 authors) 2005, *Whole Earth Telescope observations of BPM 37093: A seismological test of crystallization theory in white dwarfs*, A&A, 432, 219

- Metcalfe, T. S., Montgomery, M. H., & Kanaan, A. 2004, *Testing White Dwarf Crystallization Theory with Asteroseismology of the Massive Pulsating DA Star BPM 37093*, ApJ, 605, L133
- Winget, D. E., Sullivan, D. J., Metcalfe, T. S., Kawaler, S. D., & Montgomery, M. H. 2004, *A Strong Test of Electroweak Theory Using Pulsating DB White Dwarf Stars as Plasmon Neutrino Detectors*, ApJ, 602, L109
- Metcalfe, T. S., Montgomery, M. H. & Kawaler, S. D. 2003, *Probing the core and envelope structure of DBV white dwarfs*, MNRAS, 344, L88
- Montgomery, M. H., Metcalfe, T. S. & Winget, D. E. 2003, *The core/envelope symmetry in pulsating stars*, MNRAS, 344, 657
- Kilkenny, D., et al. (The WET collaboration; 8th/39 authors) 2003, *A Whole Earth Telescope campaign on the pulsating subdwarf B binary system PG 1336-018 (NY Vir)*, MNRAS, 345, 834
- Mukadam, A. S., et al. (The WET collaboration; 51st/67 authors) 2003, *Constraining the Evolution of ZZ Ceti*, ApJ, 594, 961
- Handler, G. et al. (The WET collaboration; 39th/70 authors) 2003, *Amplitude and frequency variability of the pulsating DB white dwarf stars KUV 05134+2605 and PG 1654+160 observed with the Whole Earth Telescope*, MNRAS, 340, 1031
- Metcalfe, T. S. 2003, *White Dwarf Asteroseismology and the $^{12}\text{C}(\alpha,\gamma)^{16}\text{O}$ Rate*, ApJ, 587, L43
- Kepler, S. O. et al. (The WET collaboration; 6th/46 authors) 2003, *The everchanging pulsating white dwarf GD 358*, A&A, 401, 639
- Metcalfe, T. S. & Charbonneau, P. 2003, *Stellar structure modeling using a parallel genetic algorithm for objective global optimization*, J. Computational Physics, 185, 176
- Metcalfe, T. S. 2003, *WhiteDwarf.org - Establishing a Permanent Endowment for the Whole Earth Telescope*, Baltic Astronomy, 12, 295
- Metcalfe, T. S. 2003, *The Consequences of Assuming $m=0$ for Global Model-Fitting*, Baltic Astronomy, 12, 247
- Kurtz, D. W. et al. (The WET collaboration; 14th/44 authors) 2003, *High Precision with the Whole Earth Telescope: Lessons and Some Results from XCov20 for the roAp Star HR 1217*, Baltic Astronomy, 12, 105
- Schuh, S. L. et al. (The WET collaboration; 53rd/63 authors) 2003, *PG 1605+072 in WET XCov22: Support for the Multi Site Spectroscopic Telescope*, Baltic Astronomy, 12, 55
- Metcalfe, T. S. 2003, *Seismic Inference using Genetic Algorithms*, Ap&SS, 284, 141

- Handler, G., Metcalfe, T. S., & Wood, M. A. 2002, *The asteroseismological potential of the pulsating DB white dwarf stars CBS 114 and PG 1456+103*, MNRAS, 335, 698
- Metcalfe, T. S., Salaris, M., & Winget, D. E. 2002, *Measuring $^{12}\text{C}(\alpha,\gamma)^{16}\text{O}$ from White Dwarf Asteroseismology*, ApJ, 573, 803
- Bottke, W. F., Morbidelli, A., Jedicke, R., Petit, J., Levison, H. F., Michel, P., & Metcalfe, T. S. 2002, *Debiased Orbital and Absolute Magnitude Distribution of the Near-Earth Objects*, Icarus, 156, 399
- Kurtz, D. W. et al. (The WET collaboration; 14th/38 authors) 2002, *Discovery of the ‘missing’ mode in HR 1217 by the Whole Earth Telescope*, MNRAS, 330, L57
- Metcalfe, T. S., Winget, D. E., & Charbonneau, P. 2001, *Preliminary Constraints on $^{12}\text{C}(\alpha,\gamma)^{16}\text{O}$ from White Dwarf Seismology*, ApJ, 557, 1021
- Montgomery, M. H., Metcalfe, T. S., & Winget, D. E. 2001, *The Effect of ^3He Diffusion on the Pulsational Spectra of DBV Models*, ApJ, 548, L53
- Metcalfe, T. S., Nather, R. E., & Winget, D. E. 2000, *Genetic-Algorithm-based Asteroseismological Analysis of the DBV White Dwarf GD 358*, ApJ, 545, 974
- Metcalfe, T. S. & Nather, R. E. 2000, *The Asteroseismology Metacomputer*, Baltic Astronomy, 9, 479
- Kepler, S. O., Mukadam, A., Winget, D. E., Nather, R. E., Metcalfe, T. S., Reed, M. D., Kawaler, S. D., & Bradley, P. A. 2000, *Evolutionary Timescale of the Pulsating White Dwarf G117-B15A: The Most Stable Optical Clock Known*, ApJ, 534, L185
- Wood, M. A. et al. (The WET collaboration; 6th/18 authors) 2000, *WET Observations and Smoothed Particle Simulations of DQ Herculis*, Baltic Astronomy, 9, 211
- Davidson, K., Gull, T. R., Humphreys, R. M., Ishibashi, K., Whitelock, P., Berdnikov, L., McGregor, P. J., Metcalfe, T. S., Polonski, E., & Hamuy, M. 1999, *An Unusual Brightening Of Eta Carinae*, AJ, 118, 1777
- Metcalfe, T. S. 1999, *Genetic-Algorithm-based Light-Curve Optimization Applied to Observations of the W Ursae Majoris Star BH Cassiopeiae*, AJ, 117, 2503
- Kepler, S. O., Nather, R. E., & Metcalfe, T. S. 1998, *Evolutionary Timescale of the DAV Star G117-B15A*, Baltic Astronomy, 7, 175
- Jedicke, R. & Metcalfe, T. S. 1998, *The Orbital and Absolute Magnitude Distributions of Main Belt Asteroids*, Icarus, 131, 245
- Metcalfe, T. S., Mathieu, R. D., Latham, D. W., & Torres, G. 1996, *The Low-Mass Double-lined Eclipsing Binary CM Draconis: A Test of the Primordial Helium Abundance and the Mass-Radius Relation near the Bottom of the Main Sequence*, ApJ, 456, 356