Curriculum Vitae for William David Arnett (2010)

Present: Regents Professor, Steward Observatory, U. of Arizona, Tuscon, AZ 85721

Education: U. of Kentucky, B.S., 1961; Yale, M.S. 1963, Ph.D. 1965, Physics

Previous: B. and E. Sunny Distinguished Service Professor, Astronomy & Astrophysics, Physics, and Enrico Fermi Institute, University of Chicago, 1976-88

Professional Societies: AAS; APS (Fellow); IAU; AAAS (Fellow).

Fellowships and Awards:

Yale Distinguished Graduate Award, Physical Sciences (with J. W. Truran), 1980
A. von Humboldt Prize (Senior Scientist), 1981
Member, National Academy of Sciences (1985-)
Member, American Academy of Arts and Sciences (1985-)
Member, Aspen Center for Physics (1997-2007)
S. Chandrasekhar Lecturer, Bose Center for Physics, Kolkata, (2007)
S. Chandrasekhar Professor, ICRAnet, Rome, Pescara, Nice (2007-)
Bethe Prize, American Physical Society, 2009

Recent Professional Activities:

NRC Committee, Potential Impact of High-End Computing on Four Fields, 2008
DOE Joint Needs Panel on "High Energy Density Laboratory Plasmas", 2009
National Ignition Campaign Review Committee, LLNL, 2009-
Board, International Center for Relativistic Astrophysics Network (ICRAnet), 2009-

Publications:

Book: *Supernovae and Nucleosynthesis*, Princeton University Press, 1996, 598 pages.
Articles: 325 prior to 2006
Articles from 2006, with co-authors:

Active Carbon and Oxygen Shell Burning Hydrodynamics, 2006, ApJ, 637, 53 (C. Meakin and D. Arnett)
Constraints on the Progenitor of Cassiopeia A, 2006, ApJ, 640, 891 (P. A. Young, et al.)
Stellar Convection and Nuclear Burning, 2007, *Convection in Astrophysics*, IAU Symposium
239, ed. P. Kupka, I. Roxburgh and K. Chan, 2007, 247(C. Meakin and D. Arnett)
Si, O, Ne, and C Shell Burning, *Convection in Astrophysics*, IAU Symposium 239, ed. P. Kupka, I. Roxburgh and K. Chan, 2007, 296 (C. Meakin and D. Arnett)
Anelastic and Compressible Simulations of Stellar Oxygen Burning, 2007, ApJ, 665, 690 (C. Meakin and D. Arnett)
Turbulent Convection in Stellar Interiors, I. Hydrodynamics Simulation, 2007, ApJ,

667, 448 (C. Meakin and D. Arnett)
An Interpretation of the Anomalously Low Mass of Mars, 2008, ApJ, 667, 448 (Jin, Liping, et al.,)
Theory and Numerics: New Results on Convection in Stars, 2008, IXth Torino Workshop on Evolution and Nucleosynthesis, AIP Conf. Proc., 1001, 287 (Arnett, D., et al.)
A ”Crib Sheet” for Supernova Events, 2008, Proceedings of Conference on Black Holes, Bose Center, Kolkata, India
A Molecular Probe of Dark Energy, 2008, Adv. in Space Research, 42, 596 (R. Thompson, et al.)
Two-Dimensional Blast-Wave-Driven Rayleigh-Taylor Instability: Experiment and Simulation, 2009, ApJ, 696, 749 (Kuranz, C., et al.)
Reddening Toward Cas A’s Supernova: Constraining the ^{56}Ni Yield, 2009, ApJ, 697, 29 (Eriksen, K., Arnett, D., McCarthy, D. W., & Young, P. A.)
Three-Dimensional Blast-Wave-Driven Rayleigh-Taylor Instability and the Effects of Long-Wavelength Modes, 2009, Phys. Plasmas, 16, 6310 (Kuranz, C., et al.)
Finding Tracers for Supernova Produced ^{26}Al, 2009, ApJ, 699, 938 (Young, P. A., et al.)
Turbulent Convection in Stellar Interiors. II. The Velocity Field, 2009, ApJ, 710, 1619 (C. Meakin, P. A. Young)
LSST Science Book, v. 2.0, 2009, (Abell, P. A., et al.)
Convection Theory and Sub-Photospheric Stratification, 2010, ApJ, 710, 1619 (Arnett, D., Meakin, C., Young, P. A.)
Turbulent Mixing in Stars: Theoretical Hurdles, 2010, in *Chemical Abundances in the Universe: Connecting the First Stars to Planets*, K. Cunha & B. Barbuy, eds., IAU Symposium 265, 106 (Arnett, D., Meakin, C.)
A Faint Type of Supernova from a White Dwarf with a He-rich Companion, 2010, Nature, 465, 322 (Perets, H. B., et al.)
Presupernova Structure of Massive Stars, Proceedings, HEDLA conference, Pasadena CA, 2010 (Meakin, C., Sukhbold, T., Arnett, D.)
Some Properties of the Kinetic Energy Flux and Dissipation in Turbulent Stellar Convective Cores, 2010, Ap&SS, 328, 221 (Meakin, C., Arnett, D.)
Time-Dependent Turbulence in Stars, 2011, *Astrophysical Dynamics: From Galaxies to Stars*, N. Brummell & S. Brun, eds., IAU Symposium 271