David A. Minton

Assistant Professor
Purdue University
Department of Earth, Atmospheric, and Planetary Sciences

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Employment

- **Purdue University**, West Lafayette, IN. Aug. 2011 – Present
  Title: Assistant Professor
- **Southwest Research Institute**, Boulder, CO. Oct. 2009 – Aug. 2011.
  Title: Research Scientist

Education

- **The University of Arizona**, Tucson, AZ. Aug. 2005 – Dec. 2009.
  Ph.D. in Planetary Sciences (Dec. 2009)
  Dissertation Title: Dynamical History of the Asteroid Belt and Implications for Terrestrial Planet Bombardment
  Advisor: Renu Malhotra
- **University of Maryland**, College Park, MD. Jul. 2003 – May 2005
  Research Project: Magnetohydrodynamic control of incipient boundary layer separation in supersonic flow
  Advisors: Mark Lewis and David Van Wie
- **North Carolina State University**, Raleigh, NC. Jan. 2001 – May 2003
  B.S. in Aerospace Engineering - Summa Cum Laude (May 2003)
- **Central Piedmont Community College**, Charlotte, NC. Aug. 1999 – Dec. 2000
  A.S. in College Transfer (Dec. 2000)

Research interests

- The formation of the asteroid belt and the terrestrial planets
- The duration and intensity of the Late Heavy Bombardment
- Dynamics of exosolar planetary systems
- Physics of small bodies (dynamics and shapes)
- The faint early Sun paradox
- Origin and history of life on Earth
- Space exploration engineering

Refereed Publications

Minton, D.A., J.E Richardson, and C.I. Fassett (2015) Re-examining the main asteroid belt as the primary source of lunar highlands craters. *Icarus*, 247 (0):172-190

Johnson, B.C., **D.A. Minton**, H.J. Melosh, M. Zuber (2014) Impact jetting as the origin of chondrules. *Nature*, In press.

Minton, D.A. and H. Levison (2014) Planetesimal-driven migration of terrestrial planet embryos. *Icarus*, 232 (0):118-132

Fassett, C. and **D.A Minton** (2013) Impact Bombardment of the Terrestrial Planets and the Early History of the Solar System. *Nature Geoscience*, 6 (7):520-524

Yue Z., B.C. Johnson, **D.A. Minton**, H.J. Melosh, K. Di, W. Hu, and Y. Liu (2013) Projectile remnants in central peaks of lunar impact craters. *Nature Geoscience*, 5 (6):435-437

Bottke, W.F., D. Vokrouhlický, **D. Minton**, D. Nesvorný, A. Morbidelli, R. Brasser, B. Simonson, and H. Levison. (2012) An Archean Heavy Bombardment From a Destabilized Extension of the Asteroid Belt. *Nature*, 485 (7396):78-81.

Minton, D.A. and R. Malhotra (2011) Secular resonance sweeping of the main asteroid belt during planet migration. *ApJ*, 732:53.

Minton, D.A. and R. Malhotra (2010) Dynamical erosion of the asteroid belt. *Icarus*, 207:744–757

Minton, D.A. and R. Malhotra (2009) A record of planet migration in the main asteroid belt. *Nature*, 457:1109–1111.

Malhotra, R. and **D.A. Minton** (2008) Prospects for the Habitability of OGLE-2006-BLG-109L. *ApJ*, 683:L67–L70.

Minton, D.A. (2008) The topographic limits of gravitationally bound, rotating sand piles. *Icarus*, 195:698–704.

Minton, D.A. and R. Malhotra. (2007) Assessing the massive young Sun hypothesis to solve the warm young Earth puzzle. *ApJ*, 660:1700–1706.

Invited Talks

Reading the dynamical history of the asteroid belt using lunar craters. Small Bodies Dynamics conference, Ubatuba, SP, Brazil. August 25-26, 2014

Comets and the LHB workshop. Gdynia, Poland. June 23-26, 2014.

The Kuiper belt size distribution as revealed through icy satellite craters. Yale Center for Astronomy and Astrophysics seminar, New Haven, CT, April 2, 2013.

Has the Earth always been at 1 AU? (and has the Sun always been 1 solar mass?) *The Faint Young Sun: Paradox, Problem or Distration?* Workshop held at the Space Telescope Science Institute, Baltimore, MD, APRIL 9-10, 2012.