

**Robin M. Canup**  
Southwest Research Institute  
1050 Walnut Street, Suite 300; Boulder, Colorado 80302

### ***Employment***

|                               |  |                |
|-------------------------------|--|----------------|
| Associate Vice President      | Southwest Research Institute   | 3/10 – present |
| Institute and Chief Scientist | Southwest Research Institute   | 03/09 – 3/10   |
| Executive Director            | Southwest Research Institute   | 03/07—3/09     |
| Director                      | Southwest Research Institute   | 04/05 – 3/07   |
| Visiting Professor            | Division of Geological and Planetary Sciences,<br>California Institute of Technology | 01/05 – 4/05   |
| Assistant Director            | Southwest Research Institute   | 09/99 – 4/05   |
| Senior Research Scientist     | Southwest Research Institute,  | 03/98 – 09/99  |
| Research Associate            | LASP, University of Colorado   | 05/95 — 2/98   |

### ***Education***

|   |                        |
|---|------------------------|
| Ph.D., M.S. Astrophysical, Planetary and Atmospheric Sciences | University of Colorado |
| B.S. Physics - Magna Cum Laude                                | Duke University        |

### ***Honors and Awards***

Hertha Sponer Presidential Lecture, Duke University (2014)  
National Academy of Sciences (2012)  
Masursky Lecture, Lunar and Planetary Sciences Conference (2011)  
Asteroid 17836 Canup  
Brilliant 10, Popular Science magazine (2004)  
Fellow of the American Geophysical Union (2004)  
James B. Macelwane Medal of the American Geophysical Union (2004)  
Harold C. Urey Prize of the Division of Planetary Sciences of the AAS (2003)  
Patricia Roberts Harris Graduate Fellowship (1992-1994)  
Phi Beta Kappa (1989)

### ***Selected Publications***

Canup, R. M., 2015. *An incredible likeness of being*. **Nature** 520, 169-170.  
Canup, R. M., 2014. *Lunar-forming impacts: Processes and alternatives*. **Phil. Trans. Roy. Society A.**, 372: 20130175, 1-14.  
Salmon, J. and R. M. Canup, 2014. *Lunar accretion from non-canonical disks*. **Phil. Trans. Roy. Society A.**, 372: 20130256, 1-14.  
Canup, R. M., 2013. *Lunar conspiracies*. **Nature** 504, 27-30.  
Canup, R. M., 2013. *Modification of the rock content of the inner Saturnian satellites by an outer Solar System LHB*. **44<sup>th</sup> LPSC**, 2298.  
Ward, W. R. and R. M. Canup, 2013. *The evection resonance and the angular momentum of the Earth-Moon system*. **44<sup>th</sup> LPSC**, 3029.  
Canup, R. M., A. C. Barr, and D. Crawford, 2013. *High-resolution simulations of Moon-forming impacts with SPH and CTH*. **Icarus** 222, 200-219.

- Canup, R. M., 2012. *Forming a Moon with an Earth-like composition via a giant impact*. **Science**, 338, 1052-1055.
- Salmon, J. and R. M. Canup, 2012. *Lunar accretion from a Roche interior disk*. **Astron. J.**, 760, 1-18.
- Canup, R. M., 2011. *Conditions in an infall-supplied protoplanetary disk*. **42<sup>nd</sup> LPSC**, 1245.
- Canup, R. M., 2011. *On a giant impact origin of Charon, Nix and Hydra*. **Astron. J.**, 141, 35-44.
- Canup, R. M., 2010. *Origin of Saturn's rings and inner moons via mass removal from a lost Titan-sized satellite*. **Nature**, **468**, 943-946.
- Ward, W. R. and R. M. Canup, 2010. *Circumplanetary disk formation*. **Astron. J.**, **140**, 1168-1193.
- Barr, A. C., R. I. Citron, and R. M. Canup, 2010. *Origin of a partially differentiated Titan*. **Icarus**, 209, 858-862.
- Barr, A. C. and R. M. Canup, 2010. *Origin of the Ganymede/Callisto dichotomy by impacts during the late heavy bombardment*. **Nature Geoscience**, 3 164-167.
- Canup, R. M. and W. R. Ward, 2009. *Origin of Europa and the Galilean satellites*. In **Europa**, Univ. Az. Press, Eds., R. Pappalardo, W. McKinnon and K. Khurana, pp. 59-84.
- Canup, R. M., 2008. *Accretion of the Earth*. **Phil. Trans. R. Soc. A.**, 366, 4061-4075.
- Barr, A. C. and R. M. Canup, 2008. *Constraints on gas giant satellite formation from the interior states of partially differentiated satellites*. **Icarus**, 198, 163-177.
- Canup, R. M., 2008. *Lunar forming collisions with pre-impact rotation*. **Icarus**, 196, 518-538.
- Canup, R. M. and W. R. Ward, 2006. *A common mass scaling for satellite systems of gaseous planets*. **Nature**, 441 834-839.
- Ward, W. R. and R. M. Canup, 2006. *The Obliquity of Jupiter*. **Astrophys. J. Let**, 640, L91-94.
- Canup, R. M. and E. Pierazzo 2006. *Retention of water during planet-scale collisions*. **37<sup>th</sup> LPSC**, 2146.
- Ward, W. R. and R. M. Canup, 2006. *Tidal interactions between a planet and a circumplanetary disk*. **37<sup>th</sup> LPSC**, 2169.
- Canup, R. M., 2005. *A Giant Impact Origin of Pluto-Charon*. **Science**, 307, 546-550.
- Canup, R. M., 2004. *Formation of the Moon*. **Ann. Revs. Astron. Astrophys.**, 42, 441-475.
- Canup, R. M., 2004. *Simulations of a late lunar forming impact*. **Icarus** 168, 433-456.
- Canup, R. M., 2004. *Origin of terrestrial planets and the Earth-Moon system*. **Physics Today** 57, 56-62.
- Canup, R. M. and W. R. Ward, 2002. *Formation of the Galilean satellites: Conditions of accretion*. **Astron. J.**, 124, 3404-3423.
- Canup, R. M. and E. Asphaug, 2001. *The lunar-forming giant impact*. **Nature**, 412, 708-712.
- Canup, R. M., W. R. Ward, and A. G. W. Cameron, 2001. *A scaling relationship for satellite-forming impacts*. **Icarus**, 150, 288-296.
- Ward, W. R. and R. M. Canup, 2000. *Origin of the Moon's orbital inclination through resonant disk interactions*. **Nature**, 403, 741-743.
- Canup, R. M. and W. R. Ward, 2000. *A Hybrid Fluid/N-Body Model for Lunar Accretion*. **Lunar Plan. Sci. XXXI**.
- Canup, R. M. and C. B. Agnor, 2000. *Accretion of the terrestrial planets and the Earth-Moon system*. In **Origin of the Earth and Moon** (R. M. Canup and K. Righter, Eds.), Univ. of Arizona Press, Tucson.

- Kokubo, E., R. M. Canup and S. Ida, 2000. *Lunar accretion from an impact-generated disk*. In **Origin of the Earth and Moon** (R. M. Canup and K. Righter, Eds.), Univ. of Arizona Press, Tucson.
- Agnor, C. B., R. M. Canup and H. F. Levison, 1999. *On the character and consequence of large impacts in the late stage of terrestrial accretion*. **Icarus** 142 219-237.
- Canup, R. M., H. F. Levison and G. R. Stewart, 1999. *Stability of a terrestrial multiple moon system*. **Astron. J.** **117** 603-620.
- Ida, S., R. M. Canup and G. R. Stewart, 1997. *Lunar accretion from an impact-generated disk*. **Nature** 389, 353-357.
- Canup, R. M. and L. W. Esposito, 1996. *Formation of the Moon from an impact-generated disk*. **Icarus** 119, 427-446.
- Canup, R. M. and L. W. Esposito, 1995. *Accretion in the Roche zone: Co-existence of rings and ringmoons*. **Icarus** 113, 331-352.
- Canup, R. M., J. E. Colwell and M. Horanyi, 1993. *Size distributions of satellite dust ejecta: Effects of radiation pressure and planetary oblateness*. **Icarus** 105, 363-369.

### ***Professional Activities***

- Post-doctoral advisor for Dr. Julien Salmon (current); Dr. Amy Barr (2006 – 2010); Ph.D. advisor for Dr. Craig Agnor (1997-2002)
- Editorial board, Annual Reviews in Earth and Planetary Sciences (current)
- AGU Planetary Fellows Committee (2010 – 2014)
- AGU Hess Medal Prize Committee (2009 – 2010)
- Planetary Science Subcommittee of the NASA Advisory Council (2006 – 2009)
- DPS Prize Committee (2007 – 2009)
- NSF Astronomy Division's Committee of Visitors (2008)
- Editorial board member, *Icarus* (2003 - 2006)
- Brouwer Award Committee, Division of Dynamical Astronomy, AAS (2003-2006)
- Jupiter Icy Moons Orbiter Science Definition Team (2003-2004)
- Committee Member (2001-2003), Division of Dynamical Astronomy
- Lead Editor, 'Origin of the Earth and Moon', University of Arizona Space Science Series, 2000