

Principle Investigator Scot C. R. Rafkin

Institution: Southwest Research Institute®, Department of Space Studies, Boulder, Colorado

Education: B.S., Dept. of Atmospheric Science, UCLA, 1989;
M.S., Dept. of Atmospheric Science, Colorado State University, 1992;
Ph.D. Dept. of Atmospheric Science, Colorado State University, 1996.



Professional Background: Graduate Research and Teaching Assistant, Colorado State University, 1989-1996; Research Scientist, ASTER and METSAT Incorporated, Fort Collins, Colorado, 1992-1993; Post-Doctoral Fellow, University Corporation for Atmospheric Research (UCAR), 1996-1997; Assistant Professor, San José State University and California State University Monterey Bay, 1997-2003; NASA Ames Research Center Associate, 1998-Present; NASA-ASEE Faculty Fellow, NASA Ames Research Center, 1998-1999; Senior Scientist, Southwest Research Institute, 2003-Present.

Relevant Experience:

Dr. Rafkin has a strong background in Earth systems science, planetary atmosphere dynamics, microphysics, and numerical modeling. He participated in and provided numerical model data for the entry, descent, and landing atmospheric hazard assessment for the Mars Exploration Rovers, is currently a scientific collaborator for the Phoenix Scout Mission, and recently served on the Mars Telecommunication Orbiter Science Definition Team. He is also Project Scientist for the Radiation Assessment Detector instrument on the Mars Science Laboratory. Dr. Rafkin has authored or co-authored over 30 journal articles and conference proceedings on a variety of meteorological topics for Earth and Mars, including weather forecasting and numerical weather prediction.

Relevant Publications:

- Rafkin, S. C. R., 2008: A Positive Radiative-Dynamic Feedback Mechanism for the Maintenance and Growth of Martian Dust Storms. *J. Geophys. Res.*, **In press**.
- Barth, E., and S. C. R. Rafkin, 2008: Convective Cloud Heights as a Diagnostic for Methane Environment on Titan. *J. Geophys. Res.*, **In press**.
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- Bougher, S. W., S. Rafkin, and P. Drossart, 2006: Dynamics of the Venus Upper Atmosphere: Outstanding Problems and New Constraints Expected From Venus Express. *Plan. Space. Sci.*, In Press.
- Delory, G. T., W. M. Farrell, S. K. Atreya, N. O. Renno, A.-S. Wong, S. A. Cummer, D. D. Sentman, J. R. Marshall, S. C. R. Rafkin, and D. C. Catling, 2006: Oxidant Enhancement in Martian Dust Devils and Storms: Implications for Life and Habitability. *Astrobiology*, **6**, No. 3 : 451-462.

- Michael, T. I., A. Colaprete, and S. C. R. Rafkin, 2006: Significant Vertical Water Transport by Mountain-Induced Circulations on Mars. *Geophys. Res. Lett.* **33**, L16201, doi:10.1029/2006GL026562.
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