

## BIOGRAPHICAL SKETCH

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NAME	<b>Jeffrey D. Smith</b>			POSITION TITLE	<b>Branch Chief, Space Biosciences Research Branch</b>		
eRA COMMONS USER NAME				NASA Ames Research Center, Moffett Field, CA			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)							
INSTITUTION AND LOCATION				DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY	
Miami University				B. S.	1991	Engineering Physics	
Miami University				B. A.	1991	Zoology	
University of Colorado				M. S.	1993	Aerospace Engineering Sciences	
University of Colorado				Ph. D.	1996	Aerospace Engineering Sciences	

### A. Positions and Honors.

#### Positions and Employment

- 1991-1993 **Teaching Assistant**, Aerospace Engineering Dept., Univ. of Colorado, Boulder, CO.  
1993-1996 **Research Assistant**, BioServe Space Technologies, Univ. of Colorado, Boulder, CO.  
1996-1997 **National Research Council Resident Research Associate**, NASA Ames Research Center, Moffett Field, CA.  
1997-2005 **Deputy Director, Biological Visualization, Imaging and Simulation (BioVIS) Technology Center**, NASA Ames Research Center, Moffett Field, CA.  
10/03-10/06 **Assistant Chief, Space Life Sciences Research Branch (SLR)**, NASA Ames Research Center, Moffett Field, CA.  
10/06-10/07 **Detail to the Office of Program Analysis and Evaluation (PA&E)**, NASA Headquarters, Washington DC.  
10/07-4/08 **Engineering Operations Manager, Office of Strategic Management and Advanced Planning (OSM&AP)**, NASA Ames Research Center, Moffett Field, CA.  
4/08-9/09 **Deputy Chief, Entrepreneurial Initiatives Division (VP)**, NASA Ames Research Center, Moffett Field, CA.  
9/09-4/10 **Detail as Science Project Manager, Space Biosciences Division (SC)**, NASA Ames Research Center, Moffett Field, CA.  
4/10-Present **Chief, Space Biosciences Research Branch (SCR), Space Biosciences Division**, NASA Ames Research Center, Moffett Field, CA.

### B. Selected publications (of about 130), highlighting space-related papers.

- Smith JD, Boyle, R (2009) Glove-Box or Desktop Virtual Reality System. *NASA Tech Briefs*, **33**:35-36.  
Smith JD, Bazar DE and Buchan WH (2009) Greenspace: Leveraging NASA Capabilities for a Cleaner Greener Earth. In: *Proceedings of the Seventh International Energy Conversion Engineering Conference*. IECEC Paper #178109, August 2-5.  
Smith JD, Conroy J, Cools J, Cuddy C, Griffey K, Loftus K, Miller K, Mitchell M, Smalley S, Stauffer R, Wertenberg R, Yew M (2007) Management Tools Integration Analysis. *NASA Publication by the Office of Program Analysis and Evaluation*, October 1.

- Gore BF and Smith JD (2006) Risk assessment and human performance modeling: the need for an integrated systems approach. *Int. J. Human Factors Modelling and Simulation*, Vol. 1, No. 1, pp. 119-139.
- Twombly IA, Smith JD, Montgomery K, Boyle R (2005) The Virtual GloveboX (VGX): a Semi-immersive Virtual Environment for Training Astronauts in Life Science Experiments. *Journal of Systemics, Cybernetics and Informatics*, Vol. 2, Num. 3.
- Smith JD, Twombly IA, Ruspini D, Boyle R (2003) Real-time Physically-based Simulation in a Virtual Glovebox for Training Astronauts to Perform Research Tasks in Space. *Proceedings of the International Conference on Computer, Communication and Control Technologies*, Vol. IV, pp. 385-91, Jul. 31 – Aug 2, Orlando FL.
- Twombly IA, Smith JD, Bruyns C, Montgomery K, Boyle R (2003) NASA Virtual GloveboX: an immersive virtual desktop environment for training astronauts in life science experiments. *Proceedings of the Seventh Multi-Conference on Systemics, Cybernetics and Informatics*, Vol. V, pp. 487-92, Jul. 27-30, Orlando, Florida.
- Mironov AA, Mironov AA Jr, Beznoussenko GV, Trucco A, Lupetti P, Smith JD, Geerts WJ, Koster AJ, Burger KN, Martone ME, Deerinck TJ, Ellisman MH, Luini A (2003) ER-to-Golgi carriers arise through direct en bloc protrusion and multistage maturation of specialized ER exit domains. *Developmental Cell*, **5**:583-594.
- Menon AS, Barnes B, Mills R, Bruyns CD, Twombly IA, Smith JD, Montgomery K, Boyle B (2003) Using Registration, Calibration, and Robotics to Build a More Accurate Virtual Reality Simulation for Astronaut Training and Telemedicine. *The 11-th International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision*, Feb. 3-7, Plzen, Czech Republic (*Journal of WSCG*, **11**; Paper #1213-6972).
- Smith JD, Gore BF, Delal KM, Boyle R (2002) Optimizing Biology Research Tasks in Space Using Human Performance Modeling and Virtual Reality Simulation Systems Here on Earth. *32<sup>nd</sup> International Conference on Environmental Systems (ICES)*, July 15-18, San Antonio TX (SAE paper 2002-02-2500).
- Smith JD (2002) The Virtual Glovebox (VGX): an Immersive Simulation System for Training Astronauts to Perform Glovebox Experiments in Space. *Enclosure*, **15**:8-13.
- Frank AO, Twombly IA, Barth TJ, Smith JD (2001) Finite Element Methods for real-time Haptic Feedback of Soft-Tissue Models in Virtual Reality Simulators. *Proceedings of the IEEE Virtual Reality 2001 Conference*, Yokohama, Japan, March 13-17, pp 257-263.
- Kern VD, Smith JD, Jochen MS, Sack FD (2001) Amyloplasts that sediment in protonemata of the moss *Ceratodon purpureus* are non-randomly distributed in microgravity. *Plant Physiology*, **125**:2085-2094.
- Ortiz W, Wignarajah K, Smith JD (2000) Inhibitory Effect of Hypergravity on Photosynthetic Carbon Dioxide Fixation in *Euglena gracilis*. *Journal of Plant Physiology*, **157**:231-234.
- Stahelin LA, Zheng HQ, Yoder TL, Smith JD and Todd P (2000) Columella cells revisited: novel structures, novel properties, and a novel gravisensing model. *Gravitational and Space Biology Bulletin: Symposium Issue*, **13**:95-100.
- Savage PD, Smith JD (2000) Utilization of Virtual Environments for Astronaut Crew Training. *30<sup>th</sup> International Conference on Environmental Systems*, Toulouse, France, July 10-13 (#2000-01-2361).
- Smith JD, Stahelin LA, Todd P (1999) Early root cap development and graviresponse in white clover (*Trifolium repens*) grown in space and on a two-axis clinostat. *The Journal of Plant Physiology*, **155**:543-550.
- Smith JD, Todd P, Stahelin LA (1997) Modulation of statolith mass and grouping in white clover (*Trifolium repens*) grown in 1-g, microgravity and on the clinostat. *The Plant Journal*, **12**:1361-1373.