

# Curriculum Vitae

## Stephanie L. Granger

Senior Scientist

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### Profile

Experienced and successful technologist recognized for developing mutually beneficial relationships with excellent interpersonal and customer skills at all organization levels. Strong leader able to visualize the big picture with a scientific and technical perspective required to make sound strategic and tactical decisions. Frequently selected to work on challenging projects and rapidly develop solid, working relationships with stakeholders and researchers across domains and agencies.

### Research Interests

**Focus on utilization of remote sensing science, observations and technologies for development of innovative solutions for environmental sustainability**, with an emphasis on collaborative geospatial decision environments. Specific interests include: helping practitioners with water resource management and understanding climate impacts on water availability for planning, utilization of Earth science information products and applications for societal benefit, development of GIS applications for multi-sensor, multi-parameter analysis, and techniques for knowledge discovery and management of geophysical parameters.

### Education

- 2008 M.S., Information Systems and Technology  
Claremont Graduate University, Claremont, California  
Emphasis: Knowledge Discovery and Management
- 2003 B.S., Information Systems, *Summa Cum Laude*  
University of Redlands, Redlands, California

### Projects

JPL Global Change and Energy Program/Water Initiative

Water Supply and Management in California, Scalable to Regional and National Applications: *An integrated framework for water resource management and irrigation optimization* (ARRA Applied Science (Pathways) Project)

Enhancing California's Water Resource Management and Decision Support System to Address Impacts of Climate Change (ROSES A.18, Co-Investigator, PI: S. Sorooshian, UCI)

Atmospheric Infrared Sounder (AIRS) Project

JPL Team GIS

### **Professional Experience**

- 1992 - Present Senior Member of the Technical Staff at Jet Propulsion Laboratory, California Institute of Technology in the Earth and Planetary Sciences Division, Weather and Climate Group.  
Program Area Manager, Global Change and Energy Program Office.
- 1987 - 1992 Technical Specialist for Ball Aerospace in the Earth and Planetary Science Division at the Jet Propulsion Laboratory, California Institute of Technology
- 1982 - 1992 Technical Specialist for Science and Technology Corporation at the Jet Propulsion Laboratory, California Institute of Technology

### **Professional Affiliations**

Member, Institute Electrical and Electronics Engineers (IEEE)

Member, American Meteorological Society (AMS)

Member, American Geophysical Union (AGU)

### **Awards**

- August 2009 JPL Individual Bonus Award for extraordinary accomplishments in developing new business opportunities for JPL in global change research.
- June 2009 JPL Global Change and Energy Program Development Team Bonus Award for advancement of JPL's reputation in climate research, applications and space observations to support agreements.
- September 2008 JPL Team GIS Bonus Award for an excellent job of creating new opportunities in decision support areas and finalization of a major partnership with ESRI (Environmental Systems Research Institute).
- September 2007 JPL Atmospheric and Infrared Sounder (AIRS) Team Bonus Award for delivery of version 5 AIRS science data product to the GSFC DAAC and the science user community.
- May 2007 JPL Team GIS Bonus Award for development of GIS/Google Earth demonstration system illustrating the "Flat Earth" concept.
- 2006 NASA Space Act Award, AIRS Science Processing Software through Level 3.
- 2005 NASA Certificate of Recognition for creative development of technically

significant software.

2003

NASA Group Achievement Award, Aqua Mission Team.

### **Publications**

Ye, H., E. J. Fetzer, D. H. Bromwich, E. F. Fishbein, E. T. Olsen, S. Granger, Vozoff, V., KaS.-Y. Lee, L. Chen and Bjorn H. Lambrigtsen (2007), Atmospheric total precipitable water from AIRS and ECMWF during Antarctic summer, *Geophys. Res. Lett.*, *34*, L19701, doi:10.1029/2006GL028547

Chahine, M. T., T. S. Pagano, H. H. Aumann, R. Atlas, C. Barnett, J. Blaisdell, L. Chen, M. Divakarla, E. J. Fetzer, M. Goldberg, C. Gautier, **S. Granger**, S. Hannon, F. W. Irion, R. K. Kakar, E. Kalnay, B. H. Lambrigtsen, SY Lee, J. LeMarshall, W. WW. McMillan, L. McMillan, E. T. Olsen, H. Revercomb, P. Rosenkranz, W. L. Smith, D. Staelin, L. L. Strow, J. Susskind, D. Tobin, W. Wolf, L. Zhou. (2006) "AIRS: Improving Weather Forecasting and Providing New Data on Greenhouse Gases", *Bull. Amer. Meteor. Soc.*, DOI:10.1175/BAMS-87-7-911

Fishbein, E. Farmer, C.B., **Granger, S. L.**, Gregorich, D.T., Gunson, M.R., Hannon, S.E., Hofstadter, M.D., Lee, S.Y., Leroy, S.S., Strow, L.L., (2003) "Formulation and validation of simulated data for the Atmospheric Infrared Sounder (AIRS)," *IEEE Transactions on Geoscience and Remote Sensing*, **41**, 2, 2003.

### **Conference Proceedings**

**Granger, S.**, N. Molotch, T. Farr, D. Waliser, G. Robert Brakenridge, T. Stough (2010) Remote sensing for understanding climate impacts on water resources in CA. Earth Systems Research Institute (ESRI) User Conference, July 12 – 15, 2010, San Diego, CA

**Granger, S.**, N. Molotch, J. Kim, P. Lean, D. Waliser, S. Kaki (2010) Using Remote Sensing to Improve Predictions for Water Resource Management. California Water and Environmental Modeling Forum, February 2010, Monterey, California.

**Granger, S.**, F. Melton, A. Limaye, T. Stough, S. Kaki, E. Sheffner (2010) Water Supply and Management in California. In proceedings of the ESIP Federal Meeting, January 5 – 7, 2010, Washington, D. C..

**Granger, S.**, E. J. Fetzer, M. Garay, M. de la Torre Juarez, R. Raskin, N. Strout (2009) GIS-enabled Multi-sensor Visualization and Analysis of Extreme Precipitation and Drought. In *Proceedings of the American Meteorological Society 89<sup>th</sup> Annual meeting, January 2009, Phoenix, AZ*

**Granger, S.**, E.J. Fetzer, B. H. Kahn, R. Raskin, S. Kopp, T. Turner (2008), Incorporation of AIRS, AMSR-E and TRMM observations into a GIS: A case study involving transport of water vapor over the Pacific Ocean. In *Proceedings of the American Meteorological Society 88<sup>th</sup> Annual meeting, 20 - 24 January 2008, New Orleans, LA*

**Granger, S.**, Fetzer, E., Fielding, E., Manning, E., Moore, A., Owen, S., Webb, F., (2007), Comparisons of regional water vapor measurements derived from AIRS

- soundings and GPS receivers in Japan and Southern California, *EOS Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract G43A-0920
- Granger, S. L.**, Fetzer E.J., Olsen E.T., Lee SY., Moroney C., Thompson C., Rheingans B., (2007): The Journey of Hurricane Isabel as Tracked by NASA Earth Observing Systems (EOS) Instruments. In *Proceedings of the American Meteorological Society 87<sup>th</sup> Annual Meeting, January 2007, San Antonio, TX*
- Olsen, E. T., **Granger, S.L.**, Fetzer, E.J. (2005): Short-term, seasonal and interannual variability of the vertical distribution of water vapor observed by AIRS, In *Proceedings of the American Meteorological Society 85<sup>th</sup> Annual Meeting, 9-13 January 2005, San Diego, CA*
- Ye, H., Fetzer, E.J., Olsen, E.T., Eldering, A., **Granger, S.**, Chen, L., Lambrigtsen B., Fishbein E., Lee, S.Y., Kahn, B., Braverman, A. (2005): Structure of the lower troposphere over the Pacific Ocean: information gained from AIRS observations, In *Proceedings of the American Meteorological Society 85<sup>th</sup> Annual Meeting, 9-13 January 2005, San Diego, CA*
- Granger, S.**, Leroy, S.S., Manning, E.M., Fetzer, E.J., Oliphant, R.B., Braverman, A., Lee, S.Y., Lambrigtsen, B.(2004): Development of level 3 (gridded) products for the Atmospheric Infrared Sounder (AIRS), In *Proceedings of IGARSS 2004, 20-24 September 2004, Anchorage Alaska*
- Leroy, S., Fetzer, E.J., **Granger, S.L.** (2003): A Budget of Equatorial Kelvin Waves as Observed in AIRS Data, IN *Proceedings of the AGU 2003 Fall Meeting, December 2003, San Francisco CA*
- Fetzer E., **S. Granger**, R.D. Haskins (1995). "Comparison of HIRS2 Small-scale Water Vapor Variability with In Situ Observations and Model Simulations, In *Proceedings of the AGU Spring Meeting, May 1995, Baltimore, MD*
- Haskins, R. Pursch A., **Granger S.** (1993). "Satellite Data Analysis and Validation", In *Proceedings of Science and Engineering Applications of the Macintosh (SEAM) Conference, 1993, Boston MA*
- Kahn, R., Haskins, R.D., **S. Granger-Gallegos**, A. Pursch (1992). "Validation of Large Geophysical Datasets: New Tools of the Trade", In *AIP Conference Proceedings 283, Earth and Space Science Information Systems`, 1992,, Pasadena CA*
- Kahn R. Haskins R., Knighton J., Pursch A., **Granger-Gallegos S.** (1991) "Validation of a Large Geophysical Data Set: Experiences with Satellite-Derived Cloud Parameters", In *Proc. Interface 91*

### **Publications in the Gray Literature**

- Pursch A., Haskins, R.D., **Granger-Gallegos S.** (1992) "New Tools for Working with Spatially Non-Uniform Data From Satellites", *The Earth Observer*, Sept – Oct 1992
- Granger-Gallegos, S.**, A. Pursch, R. Kahn, R.D. Haskins (1992) "Automatic Data Distribution for a Large Geophysical Dataset", *The Earth Observer*, July-Aug 1992