

# Scott B. Jones – Curriculum Vita

Associate Professor of Soil Physics  
Dept. Plants, Soils, and Climate  
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## EDUCATION

<b>Ph.D. - Soil Science (Soil Physics)</b>	<b>1992-1997</b>
UTAH STATE UNIVERSITY	LOGAN, UTAH
<b>M.S. - Agricultural &amp; Irrigation Engineering</b>	<b>1990-1992</b>
UTAH STATE UNIVERSITY	LOGAN, UTAH
<b>B.S. - Civil Engineering</b>	<b>1985-1989</b>
BRIGHAM YOUNG UNIVERSITY	PROVO, UTAH

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## EXPERIENCE

<b>Associate Professor</b>	<b>2008-present</b>
DEPT. PLANTS, SOILS AND CLIMATE	UTAH STATE UNIVERSITY, LOGAN, UTAH
<b>Assistant Professor</b>	<b>2004-2008</b>
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY, LOGAN, UTAH
<b>Adjunct Research/Assistant Professor</b>	<b>2004-present</b>
DEPT. BIOLOGICAL AND IRRIGATION ENGINEERING	UTAH STATE UNIVERSITY, LOGAN, UTAH
<b>Ecology Center Associate</b>	<b>2004-Present</b>
	UTAH STATE UNIVERSITY, LOGAN, UTAH
<b>Research Assistant Professor</b>	<b>2001-2004</b>
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY, LOGAN, UTAH
<b>Postdoctoral Associate</b>	<b>1999-2001</b>
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY, LOGAN, UTAH
SPACE DYNAMICS LABORATORY	LOGAN, UTAH
<b>Postdoctoral Associate</b>	<b>1997-1999</b>
DEPT. SOIL, WATER AND ENVIRONMENTAL SCIENCES	THE VOLCANI CENTER, ISRAEL
<b>Research Assistant</b>	<b>1994-1997</b>
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY, LOGAN, UTAH
<b>Research Assistant</b>	<b>1992-1994</b>
SVET PLANT GROWTH UNIT UPGRADE	SPACE DYNAMICS LABORATORY, LOGAN, UTAH
<b>Research Assistant</b>	<b>1991-1992</b>
USDA-ARS/UTAH STATE UNIVERSITY	KIMBERLY, ID/LOGAN, UTAH
<b>Irrigation System Designer</b>	<b>1984-1990</b>
CERTIFIED COMMERCIAL DESIGNER	HARWARD IRRIGATION SYSTEMS, SPANISH FORK, UTAH

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## PUBLICATIONS

*Scientific Journal Articles (Refereed)*  
(Graduate, Undergraduate student)

1. Yang, C., **S.B. Jones** and G.J. Kluitenberg. 2009. Penta-needle heat pulse probe for soil thermal conductivity, diffusivity and water flux determination. Being revised after review in *Water Resour. Res.*
2. Yang, C. and **S.B. Jones**. 2009. INV-WATFLX, a code for simultaneous estimation of soil properties and planer vector water flux from penta-needle heat-pulse probes. Under review in *Computers & Geosciences*.
3. **Abdu, H.**, D.A. Robinson, J.L. Boettinger and **S.B. Jones**. 2009 Electromagnetic Induction Mapping at Varied Soil Moisture Reveals Field-Scale Soil Textural Patterns. Under review in *Soil Sci. Soc. Am. J.*
4. Fan J., M. Shao, Q.J. Wang, **S.B. Jones**, K. Reichardt, X. Cheng. 2009. Soil water depletion and renewal in the wind–water erosion crisscross region of the loess plateau of china. Accepted in *Agriculture Ecosystems and Environment*.
5. Robinson, D.A., **S.B. Jones**, J.M.Jr. Blonquist, **R. Heinse**, I. Lebron, and T.E. Doyle. 2009. The Dielectric Response of the Tropical Hawaiian Mars Soil Simulant JSC Mars-1. Accepted in *Soil Sci. Soc. Am. J.*
6. Or, D., M. Tuller and **S.B. Jones**. 2009. Liquid Behavior in Partially-Saturated Porous Media under Variable Gravity. In Press in *Soil Sci. Soc. Am. J.*
7. **Abdu, H.**, D. A. Robinson, M. Seyfried, and **S. B. Jones** (2008), Geophysical imaging of watershed subsurface patterns and prediction of soil texture and water holding capacity, *Water Resour. Res.*, 44, W00D18, doi:10.1029/2008WR007043. 🚫
8. Robinson, D.A., **H. Abdu**, **S.B. Jones**, M. Seyfried, I. Lebron, and R. Knight. 2008. Eco-Geophysical Imaging of Watershed-Scale Soil Patterns Links with Plant Community Spatial Patterns. *Vadose Zone J.* 7:1132–1138, doi:10.2136/vzj2008.0101. 🚫
9. Yang, C., C. Zhu, J. Samper and **S.B. Jones**. 2008. Numerical modeling of the development of a preferentially leached layer on feldspar surfaces. *Environ. Geol.* DOI 10.1007/s00254-008-1445-3. 🚫
10. Robinson D.A., C.S. Campbell, J. Hopmans, B.K. Hornbuckle, **S.B. Jones**, R. Knight, F. Ogden, J. Selker, O. Wendroth. 2008. A Review of, and Vision for, Soil Moisture Measurement for Ecological and Hydrological Watershed Scale Observatories. *Vadose Zone Journal*, 7:358-389. doi:10.2136/vzj2007.0143. 🚫
11. Doyle, T.E., D.A. Robinson, **S.B. Jones**, K.H. Warnick and B.L. Carruth. 2007. Modeling the permittivity of two-phase media containing monodisperse spheres: Effects of microstructure and multiple scattering. *Physical Review B* 76 (5), 054203. 🚫
12. **Heinse, R.**, **S.B. Jones**, S. Steinberg, M. Tuller, and D. Or. 2007. Effects of Variable Gravity on Liquid Behavior in Particulate Porous Media: Measurements and Modeling. *Vadose Zone J.* 6:713-724, doi:10.2136/vzj2006.0105. 🚫
13. **Abdu, H.** D.A. Robinson and **S. B. Jones**. 2007. Comparing Bulk Soil Electrical Conductivity Determination Using the DUALEM 1-S and EM-38DD EMI Instruments. *Soil Sci. Soc. Am. J.* 71:189-196. 🚫
14. **Blonquist, J.M. Jr.**, **S.B. Jones** and D.A. Robinson. 2006. Water Conservation from Precise Irrigation Scheduling Using a Subsurface Electromagnetic Soil Moisture Sensor. *Ag. Water*

*Management* 84:153-165. 🚫

15. **Blonquist, J.M. Jr., S.B. Jones**, I. Lebron and D.A. Robinson. 2006. Micro-structural and phase configuration effects determining water content: Dielectric relationships of aggregated porous media. *Water Resour. Res.* 42(5), W05424, doi:10.1029/2005WR004418. 🚫
16. Henry, A., J. Norton, **S.B. Jones**, J. Chard and B. Bugbee. 2006. Design and maintenance of an axenic plant culture system to facilitate optimal growth in long-term studies. *J. Environ. Qual.* 35:590-598.
17. **Turcu, V.E., S.B. Jones** and D. Or. 2005. Continuous soil CO<sub>2</sub> and O<sub>2</sub> measurements and estimation of gradient-based gaseous flux. *Vadose Zone J.* 4:1161-1169. 🚫
18. **Blonquist, J.M. Jr., S.B. Jones** and D.A. Robinson. 2005. A time domain transmission sensor with TDR performance characteristics. *J. Hydrology* 314:235-245. 🚫
19. **Jones, S.B., J.M. Jr. Blonquist**, D.A. Robinson, V.P. Rasmussen, and D. Or. 2005. Standardizing characterization of electromagnetic water content sensors: Part I. methodology. *Vadose Zone J.* 4:1048-1058. 🚫
20. **Blonquist, J.M. Jr., S.B. Jones**, and D.A. Robinson. 2005. Standardizing characterization of electromagnetic water content sensors: Part II. Evaluation of seven sensing systems. *Vadose Zone J.* 4:1059-1069. 🚫
21. **Jones, S.B.**, R.W. Mace, and D. Or. 2005. A TDR coaxial cell for manipulation and continuous monitoring of water content and electrical conductivity in variably saturated porous media. *Vadose Zone J.* 4:977-982. 🚫
22. Robinson, D.A., **S.B. Jones**, **J.M. Jr. Blonquist** and S.P. Friedman. 2005. A physically derived water content/permittivity calibration model for coarse-textured, layered soils. *Soil Sci. Soc. Am. J.* 69:1372-1378. 🚫
23. Steinberg, S., G. Kluitenberg, **S.B. Jones**, N. Daidzic, L. Reddi, M. Xiao, M. Tuller, R. Newman, D. Or and I. Alexander. 2005. Physical and hydraulic properties of baked ceramic aggregates used for plant growth medium. *J. Amer. Soc. Hort. Sci.* 130(5):767-774. 🚫
24. Robinson, D.A., M.G. Schaap, D. Or, and **S.B. Jones**. 2005. On the Effective Measurement Frequency of TDR in Dispersive and Non-Conductive Dielectric Materials. *Water Resour. Res.* 41, W02007, doi:10.1029/2004 WR003816.. 🚫
25. Norikane, J.H., **S.B. Jones**, S.L. Steinberg, H.G. Levine and D. Or. 2005. Porous media matrix potential and water content measurements during parabolic flight. *Habitation.* 10:117-126. 🚫
26. Wraith, J.M., D.A. Robinson, **S.B. Jones** and D. Long. 2005. Spatially characterizing apparent electrical conductivity and water content of surface soils with time domain reflectometry. *Comp. Electron. Agric.* 46(1-3):239-262. 🚫
27. **Jones, S.B.** and D. Or. 2004. Frequency domain analysis for extending time domain reflectometry water content measurement in highly saline soils. *Soil Sci. Soc. Am. J.* 68:1568-1577. 🚫
28. **Jones, S.B.**, D. Or. and G.E. Bingham. 2003. Gas diffusion measurement and modeling in coarse-textured porous media. *Vadose Zone J.* 2:602-610. 🚫
29. Robinson, D.A., **S.B. Jones**, J.M. Wraith, D. Or, and S.P. Friedman. 2003. A review of advances in dielectric and electrical conductivity measurement in soils using time domain reflectometry. *Vadose Zone J.* 2:444-475. 🚫
30. **Jones, S.B.** and D. Or. 2003. Modeled effects on permittivity measurements of water content in high surface area porous media. *Physica B* 338:284-290. 🚫
31. Robinson, D.A., M. Schaap, **S.B. Jones**, S.P. Friedman, and C.M.K. Gardner. 2003. Considerations for improving the accuracy of permittivity measurement using TDR: Air/water

- calibration, effects of cable length. *Soil Sci. Soc. Am. J.* 67:62-70. 🚫
32. **Jones, S.B.** and D. Or. 2002. Surface area, geometrical and configurational effects on permittivity of porous media. *J. Non-Crystalline Solids*, 305(1-3):247-254. 🚫
  33. **Jones, S.B.**, J.M. Wraith and D. Or. 2002. Time Domain Reflectometry (TDR) Measurement Principles and Applications. *Hydrol. Process.* 16:141-153, DOI: 10.1002/hyp.513. 🚫
  34. Friedman, S.P., and **S.B. Jones**. 2001. Measurements and pore network modeling of the anisotropic factor of an unsaturated porous medium. *Water Resour. Res.* 37(12): 2929-2942. 🚫
  35. **Jones, S.B.**, and S.P. Friedman. 2000. Particle shape effect on the dielectric permittivity of three-phase isotropic and anisotropic porous media. *Water Resour. Res.* 36(10):2821-2834. 🚫
  36. Bingham, G.E., **S.B. Jones**, D. Or, I.G. Podolskiy, M.A. Levinskikh, V.N. Sytchov, T. Ivanova, P. Kostov, S. Sapunova, I. Dandolov, D.B. Bubenheim, and G. Jahns. 2000. Microgravity effects on water supply and substrate properties in porous matrix root support systems. *Acta Astronautica.* 47(11):839-848. 🚫
  37. **Jones, S.B.**, and D. Or. 1999. Microgravity effects on water flow and distribution in unsaturated porous media: analyses of flight experiments. *Water Resour. Res.* 35(4):929-942. 🚫
  38. **Jones, S.B.**, and D. Or. 1999. A capillary-driven root module for plant growth in microgravity. *Adv. Space Res.* 22(10):1407-1412. 🚫
  39. **Jones, S.B.**, and D. Or. 1999. Process-based selection of particulated growth media for optimal liquid and gaseous fluxes to plant roots in microgravity. *Adv. Space Res.* 22(10):1413-1418. 🚫
  40. Stothoff, S.A., D. Or, D.P. Groeneveld, and **S.B. Jones**. 1999. The effect of vegetation on infiltration in shallow soils underlain by fissured bedrock. *J. Hydrology*, 218:169-190. 🚫
  - Jones, S.B.**, and D. Or. 1998. Design of porous media for optimal gas and liquid fluxes to plant roots. *Soil Sci. Soc. Am. J.* 62:563-573. 🚫
  41. **Jones, S.B.**, C.L. Hansen and C.W. Robbins. 1993. Chemical oxygen demand fate from cottage cheese (acid) whey applied to sodic soil. *Arid Soil Res. and Rehab.* 7:71-78. 🚫
  42. **Jones, S.B.**, C.W. Robbins and C.L. Hansen. 1993. Sodic soil reclamation using cottage cheese (acid) whey. *Arid Soil Res. and Rehab.* 7:51-61. 🚫

### ***Technical Papers (Refereed)***

43. **Heinse, R.**, **K.S. Lewis**, **S.B. Jones**, G. Kluitenberg, R.S. Austin, P. Shouse and G.E. Bingham. 2006. Integration of heat capacity and electrical conductivity sensors for root module water and nutrient assessment. *SAE Technical Paper* no. 2006-01-2211.
44. **Heinse, R.**, **S.D. Humphries**, R.W. Mace, **S.B. Jones**, S.L. Steinberg, M. Tuller, R. Newman, D. Or. 2005. Measurement of Porous Media Water Retention during Parabolic Flight Induced Microgravity. *SAE Technical Paper* no. 2005-01-2950. 🚫
45. **Jones, S.B.**, **R. Heinse**, G.B. Bingham and D. Or. 2005. Modeling and Design of Optimal Growth Media from Plant-Based Gas and Liquid Fluxes. *SAE Technical Paper* no. 2005-01-2949. 🚫
46. Steinberg, S.L., **S.B. Jones**, M. Xiao, L. Reddi and G. Kluitenberg, D. Or, J.I.D. Alexander, N. Daidzic, M. Tuller. 2005. Challenges to understanding fluid behavior in plant growth media under microgravity. *SAE Technical Paper* no. 2005-01-2973.
47. Norikane, J.H., **S.B. Jones**, S.L. Steinberg, H.G. Levine and D. Or. 2003. Effects of variable gravity on porous media matric potential and water content measurements. *ASAE Technical Paper* 034067. ASAE annual International meeting, Riviera Hotel, Las Vegas, NV. July 27-30, 2003.

48. **Jones, S.B.**, G.E., Bingham, T.S. Topham, D. Or, I.G. Podolskiy, and O.M. Strugov. 2003. An Automated Oxygen Diffusion Measurement System for Porous Media in Microgravity. *SAE Technical Paper* no. 2003-01-2612. 🇺🇸
49. **Jones, S.B.**, Bingham, G.E., D. Or and R.C. Morrow. 2002. ORZS: Optimization of Root Zone Substrates for Microgravity. *SAE Technical Paper* no. 2002-01-2380.
50. Steinberg, S., N. Daidzek, **S.B. Jones**, G. Kluitenberg, D. Or, L. Reddi, I. Alexander and M. Tuller. 2002. Flow and distribution of fluid phases through porous plant growth media in microgravity. *SAE Technical Paper* no. 2002-01-2386. 🇺🇸
51. Bingham, G.E., **S.B. Jones**, I. Podolskiy, and B.S. Yendler. 1996. Porous substrate water relations observed during the greenhouse-II flight experiment (Mir Space Station, 1995). *SAE Technical Paper* no. 961547.
52. Yendler, B.S., G.B. Bingham, **S.B. Jones** and I. Podolskiy. 1995. Moisture sensor for use in microgravity. *SAE Technical Paper* no. 951471.

#### ***Book Chapters (Refereed)***

1. **Jones, S. B.** and D. Or. 2005. Thermal and Geometrical Effects on Bulk Permittivity of Porous Mixtures Containing Bound Water. In: *Electromagnetic Aquametry*. ed. K. Kupfer, Springer, Springer-Verlag, Berlin, Heidelberg. pp. 71-92. 🇺🇸

#### ***Conference Proceedings (Refereed)***

53. Robinson, D.A., **S.B. Jones** and S.P. Friedman. 2006. Modeling Structural and Thermal Effects on TDR Measurements in Granular Porous Media. Proceedings of the 3rd International Symposium and Workshop on Time Domain Reflectometry for Innovative Soils Applications. September 17-20, 2006, Purdue University.
54. **Jones, S.B.**, D.A. Robinson and S.P. Friedman. 2006. A subsurface open-ended TDR probe for on-the-go mapping of water content. Proceedings of the 3rd International Symposium and Workshop on Time Domain Reflectometry for Innovative Soils Applications. September 17-20, 2006, Purdue University.
55. Friedman, S.P., D.A. Robinson and **S.B. Jones**. 2006. Review of geometrical and interfacial factors determining the effective permittivity-volumetric water content relationships of soil and rocks. Proceedings of the 3rd International Symposium and Workshop on Time Domain Reflectometry for Innovative Soils Applications. September 17-20, 2006, Purdue University.

#### ***Conference Proceedings (non-refereed)***

1. **Jones, S.B.**, **R.M. Estevez** and D.A. Robinson. 2008. Frequency-Dependent Permittivity for Soil Water Content Determination. Second Workshop for Applications of Electromagnetic Techniques in Environmental Monitoring. Proceedings of Workshop II, Applications of Electromagnetic Techniques for Environmental Monitoring. August 26-27, 2008. Department of Civil Engineering – University of Taubate (UNITAU), Brasil. 🇺🇸
2. Robinson, D.A., **S.B. Jones**, T. Doyle, J.M. Blonquist, H. Abdu, V. Urdanoz and R. Aragues. Determining Spatial Patterns, Processes and Properties of Soils using Electromagnetic Measurements. 2007. Proceedings of the International Conference on Microwaves and Optoelectronics – 2007. Aurangabad, India, Dec. 17-20.

3. **Jones, S.B.** and K. Shenai. 2007. Subsurface Measurement Needs for Ecological, Hydrological and Agricultural Applications. *Proceedings of the 50<sup>th</sup> IEEE International Midwest Symposium on Circuits and Systems (MWSCAS)*. August 5-7, Montreal, CA, Invited.
4. **Blonquist Jr., J.M., S.B. Jones,** and D.A. Robinson. 2005. Water Conservation from Precise Irrigation Scheduling Using a Subsurface Electromagnetic Soil Moisture Sensor. Technical Session Proceedings of the 26th Annual Irrigation Association International Irrigation Show. November 6-8, 2005, Phoenix, AZ.
5. **Jones, S.B.,** D. Or, G.E. Bingham and T.S. Topham. 2004. Automated Systems for Oxygen Diffusion Measurements in Porous Media at 1g and 0g. Proceedings of the 9th Biennial ASCE Aerospace Division International Conference on Engineering, Construction and Operations in Challenging Environments "Earth & Space 2004". March 7-10, 2004, League City/Houston, TX.
6. Steinberg, S. L., J.I.D.Alexander, D. Or, N. Daidzic, **S.B. Jones,** L. Reddi, M. Tuller, G. Kluitenberg and M. Xiao. 2004. Flow and distribution of fluid phases through porous plant growth media in microgravity. Proceedings of the 9th Biennial ASCE Aerospace Division International Conference on Engineering, Construction and Operations in Challenging Environments "Earth & Space 2004". March 7-10, 2004, League City/Houston, TX.
7. Or, D, M. Tuller And **S.B. Jones.** 2004. Liquid-gas interfacial configurations in angular pores under microgravity. Proceedings of the 9th Biennial ASCE Aerospace Division International Conference on Engineering, Construction and Operations in Challenging Environments "Earth & Space 2004". March 7-10, 2004, League City/Houston, TX.
8. Or, D and **S.B. Jones.** 2002. Time domain reflectometry measurement of bulk permittivity of porous mixtures containing bound water. Proceedings of the Fifth International Conference on Electrical Transport and Optical Properties of Inhomogeneous Media ETOPIM6 held in the Cliff Lodge at Snowbird Ski Resort, Utah, 15-19 July 2002
9. **Jones, S.B.** and D. Or. 2002. Time domain reflectometry (TDR) applications in earth sciences. Proceedings of the IEEE Antennas and Propagation Society International Symposium, Volume 1, June 16-21, 2002 San Antonio, Texas.
10. Wraith, J.M., D. Or. and **S.B. Jones.** 2001. Dielectric properties of bound water: Application to porous media surface area and grain moisture determination. TDR 2001: Proceedings of the Second International Symposium and Workshop on Time Domain Reflectometry for Innovative Geotechnical Applications. Northwestern University, September 5-7, 2001, Evanston, Illinois.
11. **Jones, S.B.** and D. Or. 2001. Automated Frequency Domain Analysis for Extending TDR Measurement Range in Saline Soils. TDR 2001: Proceedings of the Second International Symposium and Workshop on Time Domain Reflectometry for Innovative Geotechnical Applications. Northwestern University, September 5-7, 2001, Evanston, Illinois.
12. Or, D and **S.B. Jones.** 2001. Thermal and geometrical effects on bulk permittivity of porous mixtures containing bound water. Proceedings of the first workshop on application of TDR techniques in Agriculture. July 17-18, 2001. Campinas State University, Sao Paulo, Brasil.
13. Or, D and **S.B. Jones.** 2001. Extending TDR measurement range in saline soils using frequency-domain methods. Proceedings of the first workshop on application of TDR techniques in Agriculture. July 17-18, 2001. Campinas State University, Sao Paulo, Brasil.
14. **Jones, S.B.** and D. Or. 2001. Thermal and geometrical effects on bulk permittivity of porous mixtures containing bound water. Proceedings of the fourth International Conference on Electromagnetic Wave Interactions with Water and Moist Substances". Weimar Germany, May 13-16, 2001.
15. **Jones, S.B.,** and S.P. Friedman. 1999. Water content and particle shape effects on the dielectric

- permittivity of anisotropic porous media. Third Workshop on Electromagnetic Wave Interaction with Water and Moist Substances. Holiday Inn, Athens, Georgia, April 12-13.
16. **Jones, S.B.**, and D. Or. 1997. Microgravity effects on water flow and distribution in unsaturated porous media. Rocky Mountain NASA Space Grant Consortium Fellowship Students Symposium. Univ. of Utah, Salt Lake City, UT. June 12.
  17. **Jones, S.B.** 1996. Capillary-driven root module design for microgravity. Rocky Mountain NASA Space Grant Consortium Fellowship Students Symposium. Univ. of Utah, Salt Lake City, UT. June 12.
  18. **Jones, S.B.** 1995. Growth media for optimal liquid and gaseous fluxes to plant roots in microgravity. Rocky Mountain Space Grant Consortium Fellowship Students Symposium. Hansen Planetarium, Salt Lake City, UT. June 14.

#### ***Invited National/International Presentations (4)***

- Jones, S.B.** 2008. Soil Electromagnetic, Electrical, Thermal Property Assessment from Point- to Watershed-Scales. Institute of Soil and Water Conservation, Chinese Academy of Sciences, Yangling, China, Oct. 30.
- Jones, S.B.** 2008. Understanding Soil Properties Impacting Electromagnetic Determination of Soil Water Content. Korea University, Seoul, South Korea, Oct. 28.
- Jones, S.B.** and C.B. Yang. 2008. Two-Dimensional Water Flux Using a Penta-needle Heat-Pulse Probe (PHPP) Sensor: Numerical Evaluation and Laboratory Experiment. Agricultural Science Institute, Rural Development Administration, Suwon, South Korea, Oct. 27.
- Jones, S.B.**, D.A. Robinson, H. Abdu, R. Heinse and R. Ryel. Monitoring and Assessment of Vegetation Root-Zone Status in the T.W. Daniel Experimental Forest. Restoring the West Conference, Utah State University, Logan, UT, Sept. 16 – 18, 2008
- Jones, S.B.**, D.A. Robinson, H. Abdu and R. Heinse. Coupled geophysical techniques uncover soil property influence on ecohydrology. 93rd Ecological Society of America Annual Meeting, Midwest Airlines Center, Milwaukee, Wisconsin. Aug. 3 – 8, 2008
- Jones, S.B.** Frequency-Dependent Permittivity for Soil Water Content Determination. Workshop on Electromagnetic Techniques, Taubaté, Brazil Aug 28-29, 2008
- Jones, S.B.** Parabolic Flight and Space-Based (ISS) Experiments Reveal Porous Media-Fluid Behavior in Reduced Gravity. Soil, Water and Environmental Science Seminar Series, University of Arizona, Tuscon, AZ. January 28, 2008
- Jones, S.B.** Automated Measurements for Characterizing O<sub>2</sub> And CO<sub>2</sub> Diffusion and Flux in Controlled and Natural Environments. Soil and Environmental Biogeochemistry Group, Stanford University. 7 Dec 2006
- Jones, S.B.** and Krishna Shenai. Subsurface Measurement Needs for Ecological, Hydrological and Agricultural Applications. *The 50<sup>th</sup> IEEE International Midwest Symposium on Circuits and Systems (MWSCAS)*. Montreal, Canada August 5-7, 2007
- Robinson, D.A. and **S.B. Jones**. 2007. Mapping Soil Properties for Ecohydrological Studies in Small Semi-Arid Watersheds using Electromagnetic Induction. Presented by Jones at the AGU Joint Assembly, Acapulco, Mexico, May 22-25, 2007

#### ***Abstracts of Presentations***

### *Year 2009*

- Heinse, R., S.B. Jones, M. Tuller, G.E. Bingham, I. Podolskiy and D. Or (2009). Providing Optimal Root Zone Fluxes: Challenges of Capillary-Driven Hysteretic Water Distributions in Microgravity. 39th International Conference on Environmental Systems (ICES), Hyatt Regency, Savannah, Georgia, USA, July 12 - 16.
- Jones, S.B., R. Heinse, B. Bugbee, D. Or and G.E. Bingham. Porous plant growth media design considerations for Lunar and Martian habitats. 2009. Porous plant growth media design considerations for Lunar and Martian habitats. 39th International Conference on Environmental Systems (ICES), Hyatt Regency, Savannah, Georgia, USA, July 12 - 16.
- Jones, S.B., R.M. Estevez and D.A. Robinson. 2008. Mobile Soil Water Content Derived from Time Domain Reflectometry and an Open-Ended Dielectric Probe. ASABE Annual Meeting, Reno Nevada, June 21-24.
- Estevez, R. and S.B. Jones. 2009. Frequency Domain Soil Moisture Determination Using an Open-Ended Dielectric Probe. ASABE Annual Meeting, Reno Nevada, June 21-24.
- Fan, J., M. Shao, Q. Wang, S. Li and S.B. Jones. 2009. Landscape Changes and Vegetation Restoration in the Wind-Water Crisscross Region of the Loess Plateau, China. ASABE Annual Meeting, Reno Nevada, June 21-24.
- C. Wang, R. Estevez, C.M.P. Vaz and S.B. Jones. 2009. Quantifying the Impact of Soil Properties on the Performance of Electromagnetic Water Content Sensors. ASABE Annual Meeting, Reno Nevada, June 21-24

### *Year 2008*

- Berger, P.A., R. Heinse, H. Abdu, M. Tuller, S.B. Jones, M.G. Schaap and J.F. Artiola. 2008. Geophysical Characterization of Inactive Mine Tailings – A First Step for Economical Design of Vegetative Covers. AGU Fall Meeting Abstracts, San Francisco, CA, December 15-19.
- Abdu, H., D. A. Robinson, M. Seyfried, and S. B. Jones. 2008. Using Electromagnetic Induction Images of a Watershed Subsurface to Predict Soil Textural Properties. 3rd Global Workshop on Digital Soil Mapping, Eccles Conference Center, Utah State University, Sept. 30 -Oct. 3.
- Monje, O., R.M. Wheeler, S.B. Jones and C.A. Mitchell. 2008. Design of Root Modules for a Lunar Salad Machine. Joint Annual Meeting of the Lunar Exploration Analysis Group (LAEG), Cape Canaveral, FL, Oct. 28-31.
- Jones, S.B., R.M. Estevez and D.A. Robinson. 2008. Water content determination using a portable vector network analyzer and open-ended dielectric probe. GSA-SSSA-ASA-CSSA-GCAGS-HGS 2008 Joint Annual Meeting, George R. Brown Convention Center, Houston, TX, Oct. 5-9, See Agronomy Abstracts, ASA, Madison, WI.
- Heinse, R., J. Carlisle and S.B. Jones. 2008. Subsurface snowmelt patterns identified using time-lapse electrical resistivity imaging. GSA-SSSA-ASA-CSSA-GCAGS-HGS 2008 Joint Annual Meeting, George R. Brown Convention Center, Houston, TX, Oct. 5-9, See Agronomy Abstracts, ASA, Madison, WI.
- Yang, C.B. and S.B. Jones. 2008. Snowmelt Infiltration Determination using Heat Pulse Probe and Snow Lysimeter Techniques compared with an Energy Balance Model. GSA-SSSA-ASA-CSSA-GCAGS-HGS 2008 Joint Annual Meeting, George R. Brown Convention Center, Houston, TX, Oct. 5-9, See Agronomy Abstracts, ASA, Madison, WI.
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#### **Year 2001**

- Jones, S.B.**, G.E. Bingham, D. Or, R.C. Morrow and I.G. Podolsky. 2001. Optimization of the root zone substrates (ORZS): microgravity modeling and validation. ASGSB seventeenth annual meeting. November 7-10, Alexandria, VA, *Gravitational and Space Biology Bulliten* 15(1):66.
- Chard, J., A. Henry, B. Doucette, J. Norton, **S.B. Jones**, C. Palmer, R. Hess, and B. Bugbee. 2001. Sterile Culture Techniques for Characterization of Root Exudates. *Agronomy Abstracts*, ASA, Madison, WI.
- Wraith, J.M., D. Or. and **S.B. Jones**. 2001. Dielectric properties of bound water: Application to porous media surface area and grain moisture determination. TDR 2001: Innovative Applications of TDR Technology. Northwestern University, September 5-7, Evanston, Illinois.
- Jones, S.B.** and D. Or. 2001. Automated Frequency Domain Analysis for Extending TDR Measurement Range in Saline Soils. TDR 2001: Innovative Applications of TDR Technology. Northwestern University, September 5-7, Evanston, Illinois.
- Jones, S.B.** and D. Or. 2001. Thermal and geometrical effects on bulk permittivity of porous mixtures containing bound water. 1st International Conference on Dielectric Spectroscopy. 12-15 March, Jerusalem, Israel.

#### **Year 2000**

- Jones, S.B.** and D. Or. 2000. Frequency Domain Analysis for Extending the TDR Measurement Range in Saline Soils. ASA-CSSA-SSSA Annual Meeting. Minneapolis, MN, Nov. 5-9, *Agronomy Abstracts*, ASA, Madison, WI.
- Jones, S.B.**, B.W. Bingham and D. Or. 2000. Measurement of Soil CO<sub>2</sub> Gradient for In-situ Estimation of Carbon Fluxes. ASA-CSSA-SSSA Annual Meeting. Minneapolis, MN, Nov. 5-9, *Agronomy Abstracts*, ASA, Madison, WI.

### *Year 1999*

- Jones, S.B.** and D. Or. 1999. Frequency-domain analysis of TDR waveforms in lossy porous media. Eos Trans. AGU. 80(17), Fall Meet. Suppl. F291.
- Jones, S.B.** and S.P. Friedman. 1999. Particle Shape Effect on the Dielectric Permittivity of Isotropic and Anisotropic Porous Media. Agronomy Abstracts, ASA, Madison, WI.
- Jones, S.B.**, D. Or, and S.P. Friedman. 1999. Permittivity of Moist Particulate Mixtures -- Geometrical, Interfacial, and Thermal Effects. Agronomy Abstracts, ASA, Madison, WI.
- A.R. Mitchell, D. Or, M. Caldwell and **S.B. Jones**. 1999. Gradient method for in-situ measurement of CO<sub>2</sub> Flux. Agronomy Abstracts, ASA, Madison, WI.

### *Year 1996*

- Jones, S.B.** and D. Or. 1996. Selection of particulated media for optimal liquid and gaseous fluxes to plant roots. Eos Trans. AGU. 77(46), Fall Meet. Suppl.
- Jones, S.B.** and D. Or. 1996. A capillary-driven root module for plant growth in microgravity. 31<sup>st</sup> Scientific Assembly of COSPAR. University of Birmingham, England, July, 14-21, 2006.

### *Year 1995*

- Jones, S.B.** and D. Or. 1995. Growth media for optimal liquid and gaseous fluxes to plant roots in microgravity. 87th Annual Meeting, ASA, CSSA, SSSA. St. Louis, MO. Oct. 29 - Nov. 3.

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## **FUNDED RESEARCH CONTRACTS AND GRANTS**

### *Competitive Federal/Private Grants*

- CMIRP - \$148,778 (Co-I w/Ron Ryel-PI, Dale Bartos –Co-I and Jushua Leffler-Co-I) Jul 2008-Jun 2011**  
EVALUATING THE MAGNITUDE AND EXTENT, AND ASSESSING CAUSES, OF ASPEN (POPULUS REMULOIDES) MORTALITY (DIE-OFF) IN SOUTHERN UTAH. *CEDAR MOUNTAIN INITIATIVE RESEARCH PROGRAM*
- NASA-NAG 9-1284 \$50,540 (\$175,000; Co-I w/G.E. Bingham-PI) Jul 2006-Mar 2008**  
OPTIMIZATION OF ROOT ZONE SUBSTRATES FOR REDUCED GRAVITY EXPERIMENTS PHASE VI.
- Rio Grande River Study -\$30,000 (Collaborator w/ Larry Hipps-PI) Jul 2006-Jun 2008**  
MODELING SAND BAR EVAPORATION ON THE RIO GRANDE RIVER
- NASA-NAG 9-1284 \$60,380, (\$100,000; Co-I w/G.E. Bingham-PI) Apr 2005-Mar 2006**  
OPTIMIZATION OF ROOT ZONE SUBSTRATES FOR REDUCED GRAVITY EXPERIMENTS PHASE II.
- NASA-NAG 9-1284 \$56,748 (\$441,554; Co-I w/G.E. Bingham-PI) Apr 2004-Mar 2005**  
OPTIMIZATION OF ROOT ZONE SUBSTRATES FOR REDUCED GRAVITY EXPERIMENTS PHASE II.
- INRA (051131) - \$60,876 (PI) Ph.D. Graduate Research Fellowship Apr 2004-Jul 2006**  
VEHICLE-BASED FIELD-SCALE MAPPING OF SOIL WATER CONTENT AND ELECTRICAL CONDUCTIVITY.
- NASA-NAG 9-1284 \$81,051 (\$642,762; Co-I w/G.E. Bingham-PI) Apr 2003-Mar 2004**  
OPTIMIZATION OF ROOT ZONE SUBSTRATES FOR REDUCED GRAVITY EXPERIMENTS PHASE II.
- UCONN (NASA NRA-01-OBPR) \$60,820 (Co-I, D. Or-PI, M. Tuller-Co-I) Apr 2003-Mar 2004**  
FLOW AND DISTRIBUTION OF FLUID PHASES THROUGH POROUS PLANT GROWTH MEDIA IN MICROGRAVITY.
- NASA-NAG 9-1284 \$67,827 (\$465,340; Co-I w/G.E. Bingham-PI) Apr 2002-Mar 2003**  
OPTIMIZATION OF ROOT ZONE SUBSTRATES FOR REDUCED GRAVITY EXPERIMENTS PHASE II.
- USDA - NRICGP – \$264,000 (PI w/ D. Or-Co-I and D. Robinson-Co-I) Sept 2002-Aug 2005**  
IMPROVED ELECTROMAGNETIC DETERMINATION OF WATER CONTENT AND ELECTRICAL CONDUCTIVITY IN SALINE AND CLAYEY SOILS.

**NASA 01-OBPR-01 \$68,000 (\$1,554,554-3Co-I w/ Steinberg-PI Co-I's) Apr 2001-Mar 2005**  
FLOW AND DISTRIBUTION OF FLUID PHASES THROUGH POROUS PLANT GROWTH MEDIA IN MICROGRAVITY.  
**NASA 99-HEDS-02 \$95,000 (Co-I w/ G.Bingham-PI, D.Or-CoI) 1 December 1999**  
OPTIMIZATION OF ROOT ZONE SUBSTRATES FOR REDUCED GRAVITY EXPERIMENTS PHASE I.  
**BARD Postdoctoral Fellowship Proposal FU-267-97 \$38,000 (Postdoc) Sep 1997-Mar 1999**  
DIELECTRIC MIXING MODEL FOR SOIL WATER MEASUREMENT: CONSTITUENT GEOMETRY AND  
INTERFACIAL EFFECTS.

### *Non-competitive Federal/Private Grants*

**USDA-CSREES Special Project (Congressional earmark)-\$145,000 (\$625,043 Co-I w/ P. Johnson-PI, and 6 Co-I's) Jul 2008-Jun 2010**  
DROUGHT MANAGEMENT INITIATIVE-VADOZE ZONE HYDROLOGY  
**USDA-CSREES Special Project (Hatch Fund)-\$55,000 (\$250,000 Co-I w/ P. Johnson-PI, and 6 Co-I's) Sep 2007-Oct 2008**  
DROUGHT MANAGEMENT INITIATIVE-VADOZE ZONE HYDROLOGY  
**USDA-CSREES Special Project (Congressional earmark)-\$202,000 (\$739,000 Co-I w/ P. Johnson-PI, and 6 Co-I's) Jul 2006-Jun 2008**  
DROUGHT MANAGEMENT INITIATIVE-VADOZE ZONE HYDROLOGY  
**ACCLIMA \$47,726 (PI) Aug 2003-Sep 2004**  
ELECTROMAGNETIC MEASUREMENT ENHANCEMENT OF THE ACCLIMA SENSOR.

### *Competitive USU Grants*

**USU – Water Initiative - \$20,005 (Co-I w/ R. Ryel-PI, and Kasahara, Leffler Co-I) Jul 2008**  
ECOHYDROLOGY OF QUAKING ASPEN (*POPULUS TREMULOIDES*) COMMUNITIES.  
**USU – Water Initiative - \$20,000 (Co-I w/ K. Shenai-PI, and M. McKee Co-I) 30 Oct 2006**  
DEVELOPMENT OF COST-EFFECTIVE SOIL PROPERTIES SENSOR FOR UBIQUITOUS WIRELESS NETWORKS.  
**USU – CURI Grant - \$15,000 (PI w/ Janis Boettinger-Co-I) Jul 2006-Jun 2007**  
A NOVEL APPROACH TO MODELING SOIL CARBON DIOXIDE LOSS FROM A FOREST-RANGE ECOSYSTEM  
**SDL – Enabling Technology Grant - \$30,000 (PI) Mar 2005-Apr 2006**  
IMPROVING WATER AND NUTRIENT STATUS OF PLANT GROWTH SUBSTRATES IN SPACE FLIGHT.  
**USU - New Faculty Startup Grant - \$15,000 (PI) Jul 2005-Jun 2006**  
DEVELOPMENT OF FIELD-SCALE WATER CONTENT MEASUREMENT USING ADVANCED ELECTROMAGNETIC TECHNIQUES.

### *Submitted Proposals*

**NASA- Lunar Sci. Inst. Prop. \$1M (Collab. w/ John Shervais-PI) Oct 2008-Sept. 2012.**  
EXPLORING THE MOON - STUDIES OF LUNAR ANALOGUE SYSTEMS IN THE FIELD AND LABORATORY.  
**BARD - \$340,000 (PI w/Shmulik Friedman-Co-I and Bruce Bugbee-Co-I) Jul 2008-Jun 2011**  
OXYGENATED SUBSURFACE DRIP IRRIGATION: A MECHANISTIC APPROACH FOR IMPROVING WATER USE EFFICIENCY AND CROP YIELD.

## TEACHING

**SOIL 5650/6650 – Environmental Soil Physics (3 Cr.)** 2006 - present

**SOIL 5650/6650 – Applied Soil Physics (3 Cr.)** 2002, 2003, 2004, 2005

Taught Fall semester each year, includes 5 laboratory sessions

DEPT. PLANTS, SOILS AND BIOMETEOROLOGY

UTAH STATE UNIVERSITY, LOGAN, UTAH

**SOIL 6140 – Unsaturated Flow and Transport (3 Cr.)** 2007 - present

**PSB 7900 – Special Problems (2 Cr.)** 2005

Taught Spring semester, odd years

DEPT. PLANTS, SOILS AND BIOMETEOROLOGY

UTAH STATE UNIVERSITY, LOGAN, UTAH

### *Invited Guest Lectures*

#### **National/International (5)**

Restoring the West Conference, Utah State University Sept. 16 – 18, 2008

Workshop on Electromagnetic Techniques, Taubaté, Brazil Aug 28-29, 2008

Ecological Society of America Meeting, Milwaukee, WI Aug 3-8, 2008

Soil and Environmental Biogeochemistry Group, Stanford University 9 Dec 2006

*The 50<sup>th</sup> IEEE International MWSCAS*, Montreal, Canada August 5-7, 2007

Robinson, D.A. and **S.B. Jones**. AGU Joint Assembly, Acapulco, Mexico May 22-25, 2007

#### **Within USU (12)**

Orientation to Plants, Soils and Biometeorology, USU 2004, 2005, 2006, 2007

Biological and Irrigation Engineering Seminar, USU 2004, 2005, 2006

Plants, Soils and Biometeorology Department Seminar, USU 2004, Spring 2006, Fall 2006

Geology Department Seminar, USU 2006

Fractional Order Calculus Day, Dept. Electrical Engineering, USU April 2005

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## ACADEMIC AND RESEARCH MENTORING

### *Current Graduate Students (1 MS; 2 Ph.D.; 1 Postdoc)*

#### **M.S. Degrees**

#### **Ph.D. Degrees**

##### **Robert Heinse**

January 2004 – January 2009

CHARACTERIZATION, MODELING AND DESIGN OF OPTIMAL PLANT GROWTH MEDIA FOR REDUCED GRAVITY

##### **Hiruy Abdu**

August 2004 - Present

FIELD-SCALE MAPPING OF SOIL PROPERTIES USING ELECTROMAGNETIC MEASUREMENT TECHNIQUES

#### **Postdoctoral Fellows**

##### **Changbing Yang**

June 2007 – August 2008

MODELING THE IMPACT OF MOUNTAIN VEGETATION ON THE TRANSPORT AND FATE OF SNOWMELT WATER

***Completed Graduate Students (2 MS; 1 Ph.D.; 2 Postdoc)***

**M.S. Degrees**

**Kelly S. Lewis** (Co-Advising MS project in Electrical Engineering) Jan. 2007 – Dec. 2007  
DESIGN OF AN AUTOMATIC WIRELESS MULTI-LOGGER NETWORK (ENGINEER WITH ACCLIMA INC.)

**James Mark Blonquist Jr.** June 2003 – Dec. 2005  
CHARACTERIZATION AND EVALUATION OF ELECTROMAGNETIC SENSORS AND CONSTITUENT INFLUENCE ON PERMITTIVITY MEASUREMENTS IN AGGREGATED POROUS MEDIA (PRODUCT DEVELOPMENT MANAGER WITH APOGEE INSTRUMENTS INC., LOGAN, UT)

**Romulus Okwany** July 2004 – Dec. 2006  
LEACHING EFFICIENCY OPTIMIZATION AS A FUNCTION OF WATER APPLICATION RATE IN AGGREGATED POROUS MEDIA

**Ph.D. Degrees**

**Vasile E. L. Turcu** (Dani Or – advisor from 2000-April 2005) April 2005 – April 2007  
CONTINUOUS MONITORING AND MODELING OF SOIL AND ATMOSPHERIC CO<sub>2</sub> DYNAMICS IN SEMI-ARID ECOSYSTEMS (ROMANIAN METEOROLOGICAL SERVICE, NOW STARTING HIS OWN ENVIRONMENTAL MONITORING BUSINESS, ROMANIA)

**Postdoctoral Fellows**

**David A. Robinson** (Promoted to Res. Asst. Prof. Oct. 2004) August 2003 – October 2004  
MODELING IMPROVED ELECTROMAGNETIC DETERMINATION OF WATER CONTENT AND ELECTRICAL CONDUCTIVITY IN SALINE AND CLAYEY SOILS (CURRENTLY AT STANFORD UNIVERSITY, MOVING TO UNIVERSITY OF WEST INDIES, TRINIDAD)

**Zijun Zhang** January 2006 – May 2006  
DEVELOPMENT OF FIELD-SCALE WATER CONTENT MEASUREMENT USING ADVANCED ELECTROMAGNETIC TECHNIQUES (FAIRFAX, VA)

***Graduate Student Committee Service (2 M.S. and 3 Ph.D.)***

**M.S. Degrees**

**Curtis B. Adams**, Plants, Soils and Climate August 2008 -  
**Amy Burke**, Watershed Science March 2007 –  
**Derrek Pinnock**, Plants, Soils and Climate April 2002 –

**Ph.D. Degrees**

**Hongyan Sun**, Horticulture Nov. 2008 -  
**Vinod Mahat**, Civil Engineering June 2007 -  
**May Myklebust**, Watershed Science May 2007 – Dec. 2007  
**Robert N. Love**, Plants, Soils and Biometeorology April 2003 – Deceased

***Research Associate, Graduate, Undergraduate Research Mentoring***

### **Research Associate II/III**

**R. William Mace** (20%) Sept. 2002 - Present  
**Jonathon Carlisle** (50%) Sept. 2007 – Present  
**Justin Robinson** (100%) (Campbell Scientific Inc., Logan, UT) Jan. 2007 – Mar. 2007

### **Graduate Students**

**Matthew Dawson**, M.S. Education, field technician Aug. 2007 – Sept. 2008  
**Guy Serbin**, Ph.D. Soil Science, 2005 (co-advised with Dani Or) Aug. 2002 – Dec. 2003  
(USDA-ARS, Beltsville, MD)  
**Raghuv eer Vinukollu**, BIE May 2006 – July 2006  
(Now at Princeton University)  
**Zijun Zhang**, Ph.D. – Physics Summer 2005, Spring Semester 2006  
**James Gregory**, M.S. - Ecology Summer 2007

### **Undergraduate Students (4 currently, 12 completed)**

Ricardo Estevez, Electrical Engineering Nov. 2006 - present  
Mark Nielsen, Statistics Oct. 2007 – Present  
Franyell Silfa, Electrical Engineering July 2007 – Nov. 2008  
Marcos Chalas, Electrical Engineering July 2007 – Nov. 2008  
James Suisse, Electrical Engineering June 2006 – May 2008  
Isaac Ashby, Natural Resources Graduate June 2007 – Dec. 2007  
Aaron Gines, Biology Apr. 2007 – Aug. 2007  
Justin Robinson, Plants, Soils and Climate May 2006 – May 2007  
Michael Larson, Electrical Engineering Jan. 2006 – May 2006  
Shane Hansen, Mathematics Oct. 2005 – May 2006  
Kelly Lewis, Electrical Engineering (+M.S.) Jan. 2005 – Dec. 2006  
Jeremiah Heiner, Computer Science Aug. 2004 – Dec. 2004  
Louis Koberstein, Electrical Engineering Aug. 2002 – May 2003  
Jason Bingham, Computer Engineer Aug. 2002 – May 2004  
Jeff VanShaar, Computer Science Apr. 2001 – May 2004  
Seth Humphries, Electrical Engineering/Mathematics (+M.S.) Dec. 2000 – Aug. 2004  
Brent Bingham, Biological and Irrigation Engineering Jun. 1999 – Dec. 2002

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## **HONORS and AWARDS**

### **2008 Undergraduate Mentor of the Year**

COLLEGE OF AGRICULTURE

**April 1, 2008**

UTAH STATE UNIVERSITY

### **2008 Kirkham Conference Invitation**

INVITED GUEST

**Feb. 25 - 26, 2008**

UNIVERSITY OF CALIFORNIA-DAVIS, DAVIS, CA

### **International Space Station (ISS) Experiment**

OPTIMIZATION OF ROOT ZONE SUBSTRATES SDL, USU AND INSTITUTE OF BIOMEDICAL PROBLEMS, RUSSIA

**May 12, 2007 – Oct. 4, 2007**

### **Invited to serve as SSSAJ AE**

P&T COMMITTEE SUGGESTED POSTPONING SERVICE

**2005**

### **NASA Parabolic Flight Week Opportunities Jan. 2003, June 2003, Feb. 2004, May 2006**

MICROGRAVITY POROUS MEDIA EXPERIMENTS, REDUCED GRAVITY OFFICE, HOUSTON, TEXAS

<b>2004 Kirkham Conference Coordinator</b>	<b>Oct. 28 - 29, 2004</b>
COORDINATED THE CONFERENCE, DEVELOPED THE PROGRAM AND ARRANGED MEALS AND TRAVEL FOR 20 PRESENTERS AND ROOMS FOR 30 GUESTS. UTAH STATE UNIVERSITY, LOGAN, UTAH	
<b>BARD Postdoctoral Fellowship</b>	<b>1997-1999</b>
BINATIONAL AGRICULTURAL RESEARCH AND DEVELOPMENT FUND THE VOLCANI CENTER, ISRAEL	
<b>RMNSGC Fellowship</b>	<b>1992-1997</b>
ROCKY MOUNTAIN NASA SPACE GRANT CONSORTIUM LOGAN, UTAH	
<b>Phi Kappa Phi</b>	<b>1997</b>
NATIONAL HONOR SOCIETY	
<b>Passed EIT (Engineer-In-Training) Exam.</b>	<b>1990</b>

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## PROFESSIONAL AFFILIATIONS

American Geophysical Union  
 American Society of Agronomy  
 Soil Science Society of America  
 Western Regional Research Project W-1188  
 Ecological Society of America  
 American Society of Agricultural Engineers  
 Western Society of Soil Science

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## SERVICE ACTIVITIES

### Manuscript Reviews (53 total)

13 Soil Science Society of America  
 14 Vadose Zone Journal  
 9 Water Resources Research  
 2 Soil Science  
 2 Hydrology Journal  
 1 Environmental Science and Technology  
 2 Soil and Tillage Research  
 1 Journal of Environmental Engineering  
 1 Geoderma  
 1 Horticultural Science  
 2 Society of Automotive Engineers (Space Flight Hardware Division)  
 1 Canadian Biosystems Engineering  
 1 Habitation Journal  
 3 USDA - ARS

### Grant Proposal Reviews (29 Total)

7 National Science Foundation  
 15 USDA-NRI Panel (2008)  
 5 USU-Agriculture Experiment Station  
 2 USU Water Initiative

## Committee Assignments

<b>USU SusCounc Transportation Committee</b>	<b>2008-</b>
USU SUSTAINABILITY COUNCIL (SUSCOUNC)	UTAH STATE UNIVERSITY
<b>Vehicle Committee Chair</b>	<b>2006-</b>
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY
<b>Spring Runoff Conference Organizing Committee</b>	<b>2006, 2008</b>
USU WATER INITIATIVE	UTAH STATE UNIVERSITY
<b>Department Advisory Committee (DAC)</b>	<b>2006-</b>
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY
<b>Seminar Committee</b>	<b>2004-</b>
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY
<b>Graduate Studies Committee</b>	<b>2002-</b>
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY
<b>Soils Curriculum Committee</b>	<b>2002-</b>
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY
<b>Water Initiative Task Force</b>	<b>2002-2003</b>
UNIVERSITY WIDE COMMITTEE TO STUDY WATER ISSUES	UTAH STATE UNIVERSITY

## Extracurricular Service

<b>Institute Men's Association (IMA) Advisor</b>	<b>2002-2006</b>
(FORMERLY SIGMA GAMMA CHI FRATERNITY)	LOGAN INSTITUTE OF RELIGION