

Scott B. Jones – Curriculum Vita

Professor of Environmental Soil Physics
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EDUCATION

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

PROFESSIONAL EXPERIENCE

iPACE Director	2019-2021
INTERNATIONAL PARTNERSHIP IN AGRICULTURE, CLIMATE AND ENVIRONMENT	TAIWAN-USU
Associate Department Head	2015-2019
DEPT. PLANTS, SOILS AND CLIMATE	UTAH STATE UNIVERSITY, LOGAN, UTAH
Professor	2013-Present
DEPT. PLANTS, SOILS AND CLIMATE	UTAH STATE UNIVERSITY, LOGAN, UTAH
Adjunct Professor	2014-present
DEPT. CIVIL AND ENVIRONMENTAL ENGINEERING	UTAH STATE UNIVERSITY, LOGAN, UTAH
Associate Professor	2008-2013
DEPT. PLANTS, SOILS AND CLIMATE	UTAH STATE UNIVERSITY, LOGAN, UTAH
Assistant Professor	2004-2008
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY, LOGAN, UTAH
Adjunct Assistant Professor	2004-2014
DEPT. BIOLOGICAL AND IRRIGATION ENGINEERING	UTAH STATE UNIVERSITY, LOGAN, UTAH
Ecology Center Associate	2004-Present
ECOLOGY CENTER	UTAH STATE UNIVERSITY, LOGAN, UTAH
Research Assistant Professor	2001-2004
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY, LOGAN, UTAH
Postdoctoral Associate	1999-2001
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	USU AND SPACE DYNAMICS LAB, LOGAN, UTAH
Postdoctoral Associate	1997-1999
DEPT. SOIL, WATER AND ENVIRONMENTAL SCIENCES	THE VOLCANI CENTER, ISRAEL
Research Assistant	1994-1997
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY, LOGAN, UTAH
Research Assistant	1992-1994
SVET PLANT GROWTH UNIT UPGRADE	SPACE DYNAMICS LABORATORY, LOGAN, UTAH
Research Assistant	1991-1992
USDA-ARS/UTAH STATE UNIVERSITY	KIMBERLY, ID/LOGAN, UTAH

PUBLICATIONS

Intellectual Property

1. **Jones, S.B.** C.B. Yang, M Sakai and F. Silfa. 2011. Systems and Methods for Determining Soil Thermal Properties and Water Flux Using a Multi-Needle Heat Pulse Probe. *US Provisional Patent Application No: 61/510,770*, filed July 22, 2011.

Book Chapters (Refereed)

1. Montzka, C., M. Cosh, B. Bayat, A. Al Bitar, A. Berg, R. Bindlish, H. R. Bogen, J. D. Bolten, F. Cabot, T. Caldwell, S. Chan, A. Colliander, W. Crow, N. Das, G. De Lannoy, W. Dorigo, S. R. Evett, A. Gruber, S. Hahn, T. Jagdhuber, **S.B. Jones**, Y. Kerr, S. Kim, C. Koyama, M. Kurum, E. Lopez-Baeza, F. Mattia, K. McColl, S. Mecklenburg, B. Mohanty, P. O'Neill, D. Or, T. Pellarin, G. P. Petropoulos, M. Piles, R. H. Reichle, N. Rodriguez-Fernandez, C. Rüdiger, T. Scanlon, R. C. Schwartz, D. Spengler, P. Srivastava, S. Suman, R. van der Schalie, W. Wagner, U. Wegmüller, J.-P. Wigner, F. Camacho, and J. Nickeson (2020): Soil Moisture Product Validation Good Practices Protocol Version 1.0. In: C. Montzka, M. Cosh, J. Nickeson, and F. Camacho (Eds.): Good Practices for Satellite Derived Land Product Validation (p. 123), *Land Product Validation Subgroup* (WGCV/CEOS), DOI:10.5067/doc/ceoswgcw/lpv/sm.001.
2. **Sadeghi, Morteza**, Ebrahim Babaeian, Ardeshir M. Ebtehaj, **Scott B. Jones**, and Markus Tuller. 2018. Remote Sensing of Environmental Variables and Fluxes. In: Myer Kutz ed., *Handbook of Environmental Engineering*. pp. 249-302. Wiley, New York.
3. **Sadeghi, Morteza**, Ebrahim Babaeian, Emmanuel Arthur, **Scott B. Jones** and Tuller, Markus. 2018. Soil Physical Properties and Processes. In: Myer Kutz ed., *Handbook of Environmental Engineering*. pp. 137-208. Wiley, New York.
4. **Jones, Scott B.** 2013. *Soil Gasses and Transport* in: Naftali Lazarovitch and Art Warrick Eds., Exercises in Soil Physics. Catena, pp. 263-292.
5. Or, Dani, Jon M. Wraith, David A. Robinson and **Scott B. Jones**. 2011. Soil Water Content and Water Potential Relationships. In P.M. Huang, Y. Li, and M.E. Sumner (eds.) *Handbook of Soil Sciences*. Properties and Processes. 2nd Edition, CRC Press, Boca Raton, FL, ISBN: 9781439803035, pp. 4-1 – 4-28.
6. **Jones, Scott B.** and Dani Or. 2005. Thermal and Geometrical Effects on Bulk Permittivity of Porous Mixtures Containing Bound Water. In: K. Kupfer ed., *Electromagnetic Aquametry*. Springer, Springer-Verlag, Berlin, Heidelberg. pp. 71-92.

Scientific Journal Articles (Refereed)

(Supervised **Postdoc/Visiting Scholar**, **Graduate student**, **Undergraduate student**)

Published/in Press/Accepted

1. Wang, Q., Fan, J., Zhao, X. and **Jones, S.B.**, 2022. Effects of Biomass and Soil Water Content Distribution on Cosmic-ray Neutron Probes Measurement. Authorea Preprints; DOI: 10.22541/au.164261738.81389524/v1.
2. González-Teruel, J.D., **S.B. Jones**, David A. Robinson, Jaime Giménez-Gallego, Raúl Zornoza and Roque Torres-Sánchez. 2022. Measurement of the Broadband Complex Permittivity of Soils in the Frequency Domain with a low-cost Vector Network Analyzer and an Open-Ended Coaxial Probe. Accepted in *Computers and Electronics in Agriculture*.

3. **Jones, S.B.**, Sheng, W. and Or, D., 2022. Dielectric Measurement of Agricultural Grain Moisture—Theory and Applications. *Sensors*, 22(6), p.2083.
4. **Naruke, C.**, **W. Sheng**, **R. Zhou** and **S.B. Jones**. 2021 Standardizing Heat Pulse Probe Measurements for Thermal Property Determination in Liquid, Solid, and Porous Materials. *Agricultural and Forest Meteorology*. 308, p.108610. doi.org/10.1016/j.agrformet.2021.108610.
5. Ghorbani, A., Sadeghi, M. and **Jones, S.B.**, 2021. Towards new soil water flow equations using physics-constrained machine learning. *Vadose Zone Journal*, p.e20136. DOI:10.1002/vzj2.20136.
6. He, H., Aogu, K., Li, M., Xu, J., Sheng, W., **Jones, S.B.**, González-Teruel, J.D., Robinson, D.A., Horton, R., Bristow, K. and Dyck, M., 2021. A review of time domain reflectometry (TDR) applications in porous media. *Advances in Agronomy*, 168. DOI: 10.1016/bs.agron.2021.02.003.
7. Sun, Helen., Kelly Kopp, Grant Cardon and **S.B. Jones**. 2021. Numerical Simulation of Water and Nitrogen Transport in Three Turfgrass Systems. *Int. Turfgrass Soc. Res. J.* 2021:1-20. DOI: doi.org/10.1002/its2.52.
8. Norouzi, S., Sadeghi, M., Liaghat, A., Tuller, M., **Jones, S.B.** and Ebrahimian, H., 2021. Information depth of NIR/SWIR soil reflectance spectroscopy. *Remote Sensing of Environment*, 256, p.112315. doi.org/10.1016/j.rse.2021.112315.
9. Babaeian, E., **M. Sadeghi**, M.R. Gohardoust, E. Arthur, M. Effati, **S.B. Jones**, and M. Tuller. 2021. The Feasibility of Shortwave Infrared Imaging and Inverse Numerical Modeling for Rapid Estimation of Soil Hydraulic Properties. *Vadose Zone Journal*. 20:(2), p.e20089, doi.org/10.1002/vzj2.20089.
10. González-Teruel, J.D., **S.B. Jones**, Fulgencio Soto-Valles, Roque Torres-Sánchez, Inmaculada Lebron, Shmulik P. Friedman and David A. Robinson. 2020. Dielectric Spectroscopy and Application of Mixing Models Describing Dielectric Dispersion in Clay Minerals and Clayey Soils. *Sensors*, 20(22), p.6678; doi:10.3390/s20226678.
11. **Foroughi, H.**, A.A. Naseri, S.B. Nasab, S. Hamzeh, M. Sadeghi, M. Tuller and **S.B. Jones**. 2020. A New Mathematical Formulation for Remote Sensing of Soil Moisture based on the Red-NIR Space. *International Journal of Remote Sensing*, 41(20), pp.8034-8047. doi.org/10.1080/01431161.2020.1770365.
12. **Parajuli, K.**, **S.B. Jones**, D.G. Tarboton, L.E. Hipps, L. Zhao, A. Torres-Rua, **M. Sadeghi** and G.N. Flerchinger 2020. Stone Content Influence on Land Surface Model Simulation of Soil Moisture and Evapotranspiration at Reynolds Creek Watershed. *Journal of Hydrometeorology*, 21:8, 1889-1904. doi: 10.1175/jhm-d-19-0075.1.
13. **Sadeghi, M.**, Ebtehaj, A., Crow, W.T., Gao, L., Purdy, A.J., Fisher, J.B., **Jones, S.B.**, Babaeian, E. and Tuller, M., 2020. Global estimates of land surface water fluxes from SMOS and SMAP satellite soil moisture data. *Journal of Hydrometeorology*, 21(2), pp.241-253.
14. Halbritter AH, De Boeck HJ, Eycott AE, et al. 2020. The handbook for standardized field and laboratory measurements in terrestrial climate change experiments and observational studies (ClimEx). *Methods in Ecology and Evolution*, 11(1), pp.22-37. doi.org/10.1111/2041-210X.13331.
15. Babaeian, E., P. Sidike, M.S. Newcomb, M. Maimaitijiang, S.A. White, J. Demieville, R.W. Ward, **M. Sadeghi**, D.S. LeBauer, **S.B. Jones**, V. Sagan, M. Tuller. 2019. A New Optical Remote Sensing Technique for High-Resolution Mapping of Soil Moisture. *Frontiers in Big Data*, 2, p.37. doi: 10.3389/fdata.2019.00037.
16. Szyplowska, A., Lewandowski, A., **Jones, S.B.**, Sabouroux, P., Szerement, J., Kafarski, M., Wilczek, A., Skierucha, W., 2019. Impact of Soil Salinity, Texture and Measurement Frequency on the Relations Between Soil Moisture and 20 MHz–3 GHz Dielectric Permittivity Spectrum for

- Soils of Medium Texture, *J. Hydrology* 579:124155, doi.org/10.1016/j.jhydrol.2019.124155.
17. Cheng, Q., Y. Sun and **S.B. Jones**. 2019. In-situ estimation of unsaturated hydraulic conductivity in freezing soil using high resolution field measurements and inverse numerical modeling. *Ag & Forest Met*, 279, p. 107746.
 18. Robinson, D.A, J. Hopmans, V. Filipovic, M. van der Ploeg, I. Lebron, **S.B. Jones**, S. Reinsch, N. Jarvis, M. Tuller. 2019. Global environmental changes impact soil hydraulic functions through biophysical feedbacks. *Glob Change Biol.* 25:1895–1904. doi.org/10.1111/gcb.14626
 19. Babaeian, E., **Sadeghi, M.**, **Jones, S.B.**, Montzka, C., Vereecken, H., & Tuller, M. 2019. Ground, proximal, and satellite remote sensing of soil moisture. *Reviews of Geophysics*, 57, 530–616. doi.org/10.1029/2018RG000618.
 20. **Sadeghi, M.**, M. Tuller, A.W. Warrick, E. Babaeian, **K. Parajuli**, M.R. Gohardoust, **S.B. Jones**. 2019. An Analytical Model for Estimation of Land Surface Net Water Flux from Near-Surface Soil Moisture Observations. *J. Hydrology*, 570, pp.26-37. doi.org/10.1175/JHM-D-19-0150.1.
 21. **Parajuli, K.**, **S.B. Jones**, D.G. Tarboton, G.N. Flerchinger, L.E. Hipps, L.N. Allen, M.S. Seyfried. 2019. Estimating actual evapotranspiration from stony-soils in montane ecosystems. *Agricultural and Forest Meteorology*. 265:183-194. doi.org/10.1016/j.agrformet.2018.11.019
 22. Yang, X, J. Fan and **S.B. Jones**. 2018. Effect of Soil Texture on Estimates of Soil-Column Carbon Dioxide Flux Comparing Chamber and Gradient Methods. *Vadose Zone Journal*. 17(1).
 23. Wang, S., J. Fan and **S.B. Jones**. 2018. Correction of Anisotropy Effects on Penta-needle Heat-pulse Probe Sap Flux Density and Thermal Property Measurements. *Agricultural and Forest Meteorology*, 263, pp.399-408. doi.org/10.1016/j.agrformet.2018.09.009
 24. **Gholoubi, A.**, H. Emami, **S.B. Jones** and M. Tuller. 2018. A Novel Shortwave Infrared Proximal Sensing Approach to Quantify the Water Stability of Soil Aggregates. *Soil Sci. Soc. Am. J.* doi:10.2136/sssaj2018.05.0170
 25. Babaeian, E., **M. Sadeghi**, T.E. Franz, **S.B. Jones** and Markus Tuller. 2018. Mapping Soil Moisture with the OPTical TRAPEzoid Model (OPTRAM) based on Long-Term MODIS Observations. *Remote Sensing of Environment*. 211:425-440.
 26. Kustas, W.P., M.C. Anderson, J.G. Alfieri, K. Knipper, A. Torres-Rua, C.K. Parry, H. Hieto, N. Agam, A. White, F. Gao, L. McKee, J.H. Prueger, L.E. Hipps, S. Los, M. Alsina, L. Sanchez, B. Sams, N. Dokoozlian, M. McKee, **S.B. Jones**, Y. Yang, T.G. Wilson, F. Lei, A. McElrone, J.L. Heitman, A.M. Howard, K. Post, F. Melton, and C. Hain 2018. The Grape Remote Sensing Atmospheric Profile and Evapotranspiration eXperiment (GRAPEX). *Bulletin of the American Meteorological Society*. doi.org/10.1175/BAMS-D-16-0244.1.
 27. **Sadeghi, M.**, E. Babaeian, M. Tuller and **S.B. Jones**. 2018. Effects of Particle Size on Soil Reflectance Explained by an Analytical Radiative Transfer Model. *Remote Sensing Environment*. 210:375-386. doi.org/10.1016/j.rse.2018.03.028.
 28. **Hu, Enzhu**, **P. Sutitarnnontr**, M Tuller and **S.B. Jones**. 2018. Modeling Temperature and Moisture Dependent Emissions of Carbon Dioxide and Methane from Drying Dairy Cow Manure. *Front. Agr. Sci. Eng.*, 5(2): 280-286. doi.org/10.15302/J-FASE-2018215.
 29. Hu, Enzhu, Zaijian Yuan, Hongxing Zhang, Weiwei Zhang, Xiaoke Wang, **Scott B. Jones**, Nana Wang. 2018. Impact of elevated tropospheric ozone on soil C, N and microbial dynamics of winter wheat, *Agriculture, Ecosystems & Environment*, 253:166-176, ISSN 0167-8809, doi.org/10.1016/j.agee.2017.11.010.
 30. **Sadeghi, M.**, **W. Sheng**, E. Babaeian, M. Tuller and **S.B. Jones**. 2017. High Resolution Shortwave Infrared Imaging of Water Infiltration into Dry Soil. *Vadose Zone Journal* 16(13). doi:10.2136/vzj2017.09.0167.

31. Jones, A.S., Z.T. Aanderud, J.S. Horsburgh, D. Eiriksson, D. Dastrup, C. Cox, **S.B. Jones**, D. Bowling, J. Carlisle, G. Carling, M.A. Baker. 2017. Designing and Implementing a Network for Sensing Water Quality and Hydrology across Mountain to Urban Transitions. *Journal of the American Water Resources Association (JAWRA)* 53(5):1095–1120. doi.org/10.1111/1752-1688.12557.
32. **Sadeghi, M.**, E. Babaeian, M. Tuller and **S.B. Jones**. 2017. The Optical Trapezoid Model: A Novel Approach to Remote Sensing of Soil Moisture Applied to Sentinel-2 and Landsat-8 Observations. Volume 198:52-68, ISSN 0034-4257, doi.org/10.1016/j.rse.2017.05.041.
33. **Parajuli, K.**, **M. Sadeghi** and **S.B. Jones**. 2017. A Binary Mixing Model for Characterizing Stony-Soil Water Retention. *Agricultural and Forest Meteorology*, Volumes 244–245:1-8.
34. **Abdu, H.** D.A. Robinson, J. Boettinger, **S.B. Jones**. 2017. Electromagnetic induction mapping at varied soil moisture reveals field-scale soil textural patterns and gravel lenses. *Front. Agr. Sci. Eng.* 4(2): 135-145, doi: 10.15302/J-FASE-2017143.
35. **Sheng, W.**, **R. Zhou**, M. Sadeghi, E. Babaeian, D.A. Robinson, M. Tuller and **S.B. Jones**. 2017. A TDR Array Probe for Monitoring Near-surface Soil Moisture Distribution. *Vadose Zone Journal* 16(4). doi:10.2136/vzj2016.11.0112.
36. Gohardoust, M.R., **M. Sadeghi**, M.Z. Ahmadi, **S.B. Jones**, and M. Tuller. 2017. Hydraulic Conductivity of Stratified Unsaturated Soils: Effects of Random Variability and Layering. *J. Hydrology*. 546:81-89. http://dx.doi.org/10.1016/j.jhydrol.2016.12.055.
37. Sun, Y., Cheng, H., Cheng, Q., Zhou, H., Li, M., Fan, Y., Shan, G., Damerow, L., Lammers, P.S. and **Jones, S.B.**, 2017. A smart-vision algorithm for counting whiteflies and thrips on sticky traps using two-dimensional Fourier transform spectrum. *Biosystems Engineering*, 153, pp.82-88. http://dx.doi.org/10.1016/j.biosystemseng.2016.11.001.
38. **Sadeghi, M.**, Tabatabaeejad, A., Tuller, M., Moghaddam, M. and **Jones, S.B.**, 2017. Advancing NASA's AirMOSS P-band radar root zone soil moisture retrieval algorithm via incorporation of Richards' equation. *Remote Sensing*, 9(1), p.17. doi:10.3390/rs9010017.
39. Shan, G., Y. Sun, Q. Cheng, Z. Wang, H. Zhou, L. Wang, X. Xue, B. Chen, **S.B. Jones**, P. Schulze Lammers, A. Berg and L. Damerow. 2016. Monitoring Tomato Root Zone Water Content Variation and Partitioning Evapotranspiration with a Novel Horizontally-Oriented Mobile Dielectric Sensor. *Ag. Forest Meteorology*. 228: 85–94. doi.org/10.1016/j.agrformet.2016.06.019.
40. **Sadeghi, M.**, B. Ghahraman, A.W. Warrick, M. Tuller and **S.B. Jones**. 2016. A Critical Evaluation of the Miller and Miller Similar Media Theory for Application to Natural Soils. *Water Resour. Res.* 52(5):3829-3846. doi:10.1002/2015WR017929.
41. Hall, S.J., M.A. Baker, **S.B. Jones**, J.M. Stark, D.R. Bowling. 2016. Contrasting soil nitrogen dynamics across a montane meadow and urban lawn in a semi-arid watershed. *Urban Ecosystems*. doi:10.1007/s11252-016-0538-0.
42. **Sheng, W.**, **K. Rumana**, M. Sakai, F. Silfa and **S.B. Jones**. 2016. A Multi-Functional Penta-Needle Thermo-Dielectric Sensor for Porous Media Sensing. *IEEE Sensors Journal* 16(10):3670-3678. doi:10.1109/JSEN.2016.2527020.
43. Robinson, D.A., **Jones, S.B.**, Lebron, I., Reinsch, S., Domínguez, M.T., Smith, A.R., Jones, D.L., Marshall, M.R., Emmett, B.A. 2016. Experimental Evidence for Drought Induced Alternative Stable States of Soil Moisture. *Scientific Reports*. 6:20018. doi:10.1038/srep20018.
44. Fan, J., Q. Wang, **S.B. Jones** and M. Shao. 2015. Soil Water Depletion and Recharge under Different Land Cover in China's Loess Plateau. *Ecohydrology*. 9(3): 396–406. doi: 10.1002/eco.1642.
45. **Sadeghi, M.**, **S.B. Jones** and W.D. Philpot. 2015. A Linear Physically-Based Model for Remote

- Sensing of Soil Moisture using Short Wave Infrared Bands. *Remote Sensing Environment*. 164:66-76. doi:10.1016/j.rse.2015.04.007.
46. **Heinse, R., S.B. Jones, D. Or, I. Podolskiy, T.S. Topham, D. Poritz and G.E. Bingham.** 2015. Microgravity Oxygen Diffusion and Water Retention Measurements in Unsaturated Porous Media aboard the International Space Station. *Vadose Zone Journal*, 14:6, doi: 10.2136/vzj2014.10.0135.
 47. **Sadeghi, M., M. Tuller, M.R. Gohardoust, and S.B. Jones,** 2015. Reply to comments on "Column-scale unsaturated hydraulic conductivity estimates in coarse-textured homogeneous and layered soils derived under steady-state evaporation from a water table" [J. Hydrol. 519 (2014), 1238–1248]. *Journal of Hydrology*, 529(3):1277-1281.
 48. **Lv, L., T. Franz, D.A. Robinson and S.B. Jones.** 2014. Measured and Modeled Soil Moisture Compared with Cosmic-Ray Neutron Probe Estimates in a Mixed Forest. *Vadose Zone J.* 13:12. doi:10.2136/vzj2014.06.0077.
 49. **Sutitarnnontr, P., E. Hu, M. Tuller and S.B. Jones.** 2014. Physical and Thermal Characteristics of Dairy Cattle Manure Supporting Fluid, Heat, and Solute Transport Modeling. *Journal of Environmental Quality*. 43(6):2115-29, doi:10.2134/jeq2014.05.0212.
 50. **Sadeghi, M., M. Tuller, M.R. Gohardoust, and S.B. Jones.** 2014. Column-Scale Unsaturated Hydraulic Conductivity Estimates in Coarse-Textured Homogeneous and Layered Soils Derived under Steady-State Evaporation from a Water Table. *Journal of Hydrology*, doi:10.1016/j.jhydrol.2014.09.004.
 51. **Cheng, Q., Y. Sun, S.B. Jones, V.I. Vasilyev, V.V. Popov, G. Wang, L. Zheng.** 2014. In situ measured and simulated seasonal freeze-thaw cycle: a 2-year comparative study between layered and homogeneous field soil profiles. *J. Hydrology*. doi: 10.1016/j.jhydrol.2014.09.023.
 52. **Robinson, D.A., I. Fraser, E.L. Dominati, B. Davidsdottir, J.O.G. Jonsson, L. Jones, S.B. Jones, M. Tuller, I. Lebron, K.L. Bristow, D.M. Souza, S. Banwart, B.E. Clothier.** 2014. On the Value of Soil Resources in the Context of Natural Capital and Ecosystem Service Delivery. *Soil Sci. Soc. Am. J.*, 78(3):685-700, doi:10.2136/sssaj2014.01.0017.
 53. **Sun, Y., H. Zhou, Y. Qin, P. Schulze Lammers, A. Berg, H. Deng., X. Cai, S.B. Jones.** 2014. Horizontal monitoring of soil water content using a novel automated and mobile electromagnetic access-tube sensor. *J. Hydrology*. Volume 516, 4 August 2014, Pages 50–55. doi:10.1016/j.jhydrol.2014.01.067.
 54. **Deepagoda, C.T.K.K, S.B. Jones, M. Tuller, L. Wollesen de Jonge, K. Kawamoto, T. Komatsu and P. Moldrup.** 2014. Modeling Gravity Effects of Water Retention and Gas Transport Characteristics in Plant Growth Substrates. *Advances in Space Research*, 54:797-808, doi:10.1016/j.asr.2014.04.018.
 55. **Jun, F. and S.B. Jones.** 2014. Soil Surface Wetting Effects on Gradient-Based Estimates of Soil CO₂ Efflux. *Vadose Zone Journal*, doi:10.2136/vzj2013.07.0124.
 56. **Hu, E., E. Babcock, S. Bialkowski, S.B. Jones and M. Tuller.** 2014. Methods and Techniques for Measuring Gas Emissions from Agricultural and Animal Feeding Operations. *Critical Reviews in Analytical Chemistry*, 44(3):200-219, doi:10.1080/10408347.2013.843055.
 57. **Yang, C., M. Sakai, and S.B. Jones.** 2013. Inverse method for simultaneous determination of soil water flux and thermal properties with a penta-needle heat pulse probe. *Water Resour. Res.* 49, doi:10.1002/wrcr.20459.
 58. **Vaz, C.M.P., S.B. Jones, M. Meding and M. Tuller.** 2013. Evaluation of Standard Calibration Functions for Eight Electromagnetic Soil Moisture Sensors. *Vadose Zone Journal*, 12(2), doi:10.2136/vzj2012.0160.

59. Nearing, Grey S., Markus Tuller, **Scott B. Jones**, **Robert Heinse**, and Mercer S. Meding. 2012. Electromagnetic Induction for Mapping Physical and Chemical Properties of Mine Tailings Deposits. *Journal of Applied Geophysics*, 89:11-20.
60. **Sadeghi, M.**, N. Shokri and **S.B. Jones**. 2012. A Novel Analytical Solution to Steady-State Evaporation from Soil and Film Region Thickness. *Water Resour. Res.* 48 (9), W09516.
61. Wuddivira, M.N., D.A. Robinson, I. Lebron, L. Brechet, M. Atwell, S. De Caires, M. Oatham, **S.B. Jones**, **H. Abdu** and M. Tuller. 2012. Estimation of Soil Clay Content from Hygroscopic Water Content Measurements. *Soil Sci. Soc. Am. J.* doi:10.2136/sssaj2012.0034.
62. Deepagoda, C.T.K.K, P. Moldrup, M.P. Jensen, **S.B. Jones**, L. Wollesen de Jonge, P. Schjønning, K. Scow, J.W. Hopmans, D.E. Rolston, K. Kawamoto, and T. Komatsu. 2012. Diffusion Aspects of Designing Porous Growth Media for Earth and Space. *Soil Sci. Soc. Am. J.* 76 (5), 1564-1578 doi:// 10.2136/sssaj2011.0438.
63. **Sadeghi, M.** and **S.B. Jones**. 2012. Scaled Solutions to Coupled Soil-Water Flow and Solute Transport during the Redistribution Process. *Vadose Zone J.*, doi:10.2136/vzj2012.0023
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Abstracts of Presentations

Year 2022

1. **Jones, S.B.**, M. Sadeghi and D.A. Robinson. W-4188 Multi-State Research Project, "Utah State University Report," USDA, Virtual Meeting, January 3-4, 2022.
2. **Jones, Scott B.**, Chieh-Yun Chang, Juan D. González-Teruel, David A. Robinson, Shmulik P.

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Year 2021

1. **Jones, S.B.**, M. Sadeghi and D.A. Robinson. W-4188 Multi-State Research Project, "Utah State University Report," USDA, Virtual Business Meeting. January 7, 2021.
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3. **Naruke, C.**, Mills, M., Blakeslee, A., Fatzinger, B., Bugbee, B., and **Jones, S.B.** (2021) Evaluation of alternative candidate plant growth media for reduced gravity applications. Japanese Society of Soil Physics Annual Meeting, Oct. 29, 2021., Japan.
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5. Blakeslee, A., M.S. Mills, **C. Naruke**, W. Sheng and **S.B. Jones**. 2021. Automated Laser-Distance- and Pressure-Based Measurements for Characterizing Water Retention in Coarse Media. *ASA, CSSA, and SSSA International Annual Meetings*. Nov. 7-10, 2021.
6. **Naruke, C.**, Fatzinger, B., Bugbee, B., and **Jones, S.B.** (2021) Impact of Root Growth on Water Retention and Hydraulic Properties in Containerized Soilless Media. *ASA, CSSA, SSSA International Annual Meeting*, Nov. 7-10, 2021., Salt Lake City, UT.
7. Mills, M.S. **Naruke, C.**, and **Jones, S.B.** (2021) Characterizing Water Retention Novel Soilless Media for Reduced Gravity Applications. *ASA, CSSA, SSSA International Annual Meeting*, Nov. 7-10, 2021., Salt Lake City, UT.
8. **Jones, S.B.** 2021. Quality Assessment Needs for Soil Water Content Sensors. *13th International Conference on Agrophysics: Agriculture in Changing Climate*. Nov. 15-16, 2021.
9. **Jones, S.B.**, A. Blakeslee, M.S. Mills and **C. Naruke**. 2021. Assessing the Significance of Hysteresis in Novel Porous Plant Growth Media. *AGU Fall Meeting Abstracts*. Dec. 13-17, 2021.
10. **Naruke, C.**, A. Blakeslee and **S.B. Jones** 2021. Pore Space Dynamics and Oxygen Concentration in Containerized Porous Media. *AGU Fall Meeting Abstracts*. Dec. 13-17, 2021.
11. **Jones, S.B.**, **C. Naruke** and W. Sheng. 2021. Standardizing Porous Media for Electromagnetic Water Content Sensor Evaluation, Calibration and Validation. *AGU Fall Meeting Abstracts*. Dec. 13-17, 2021.

Year 2020

1. **Jones, S. B.**, W-4188 Multi-State Research Project, "Utah State University Report," USDA, Desert Research Institute, Las Vegas, NV. January 2 - 3, 2020.
2. **Jones, S.B.** 2020. Multifunctional Sensing of the Plant Root Zone: Water Status, Gas Exchange, Nutrient Level and Beyond. Invited talk at the International Plant and Animal Genome Conference XXVIII, San Diego, CA, January 11-15.
3. **Naruke, C.**, S. Aoki, T. Kamai, R. Zhou, W. Sheng and **S.B. Jones**. 2021. Standardizing Calibration and Testing Methodologies for Heat Pulse Probes in Agar-Stabilized Water and Air-Free Ice. *ASA, CSSA, and SSSA International Annual Virtual Online Meetings*. Nov. 9-13, 2020.

4. **Jones, S.B.**, S.K. Anderson, D. Anderson and **C. Naruke**, 2020. Thermo-Time Domain Reflectometry Commercialization: Progress, Problems and Future Plans. *ASA, CSSA, and SSSA International Annual Virtual Online Meetings*. Nov. 9-13, 2020.

Year 2019 (9/13)

1. **Jones, S.B.** 2019. Optimizing and Monitoring the Containerized Plant Root Zone: Microgravity, Moon and Mars. The Volcani Center, Institute of Soil, Water and Environmental Science. Dec. 18, Rishon LeZion, Israel.
2. Stock, M., L.N. Allen, **S.B. Jones** and S. Pyakurel. 2019. Balancing Conservation with Demand through Physics and Extension. *AGU Fall Meeting*, San Francisco, CA, December 15-20.
3. González-Teruel, Juan D., David A. Robinson*, **Scott B. Jones**, Wojciech Skierucha, Agnieszka Szyplowska, Fulgencio Soto and Roque Torres. 2019. Impact of Effective Electromagnetic Frequency on Soil Moisture Sensor Calibration. *ASA, CSSA, and SSSA International Annual Meetings*, San Antonio, TX. Nov. 10-13.
4. **Sadeghi, Morteza**, Ardeshir Ebtehaj, Wade T. Crow, **Scott B. Jones**, and Markus Tuller. 2019. Estimation of Surface Water Flux from SMAP/SMOS Soil Moisture Retrievals. *AGU Fall Meeting*, San Francisco, CA, December 15-20.
5. **Jones, Scott B.**, Robert Heinse, Dani Or, Bruce Bugbee and Gail E. Bingham. 2019. Lunar and Martian Regolith Design Considerations for Optimizing Plant Growth Medium Water and Oxygen Supply. *ASA, CSSA, and SSSA International Annual Meetings*, San Antonio, TX. Nov. 10-13, 2019.
6. **Jones, S.B.**, **W. Sheng**, J. Xu, and D.A. Robinson. 2019. Electromagnetic Sensors for Water Content: The Need for International Testing Standards. *Workshop on Dielectric Instrumentation and Measurements for Water Content and Property Determination*. Yangling, Shaanxi, China, Sept. 6, 2019
7. **Jones, Scott B.** 2019. Advances in Sensors and Instrumentation for Soil Physical Property and Process Determination. National Central University, Taoyuan, Taiwan, July 3, 2019.
8. **Jones, Scott B.**, Wenyi Sheng, Jinghui Xu and David A. Robinson. 2019. Electromagnetic Water Content Sensors: A Quest for Testing and Performance Standards. *National Soil Moisture Workshop*, Kansas State University, Manhattan, Kansas. May 22-24, 2019.
9. **Jones, Scott B.** 2019. Advances in sensors and instrumentation for soil physical property and process determination. *5th Brazilian Soil Physics Meeting at the Federal University of Lavras (UFLA)*, Lavras, MG State, Brazil. May, 26 – 29.
10. **Jones, S.B.**, **W. Sheng**, **J. Xu** and D.A. Robinson. 2019. Electromagnetic Water Content Sensors: A Quest for Testing and Performance Standards. Presented at the *2019 European Geosciences Union General Assembly*, Vienna, Austria, April 7-12.
11. Xu, Jinghui, **Scott B. Jones**, and **Wenyi Sheng**. 2019. Factors Influencing MiniVNA-Based Dielectric Measurements using Bilinear Analysis. Presented at the *2019 European Geosciences Union General Assembly*, Vienna, Austria, April 7-12.
12. Robinson, David A., **Scott B. Jones**, James Mark Blonquist and Shmulik P. Friedman. 2019. Structural effects on the dielectric response of porous media. Presented at the *2019 European Geosciences Union General Assembly*, Vienna, Austria, April 7-12.
13. **Jones, S. B.**, "Utah State University Report", *W-3188 Multi-State Research Project*, USDA, Desert Research Institute, Las Vegas, NV. January 10-11, 2019.

Year 2018 (13/17)

1. **Chihiro Naruke**, Wenyi, Sheng and **Scott B. Jones**. Combining Near Surface Estimates of Surface Heat and Evaporative Fluxes Using Heat Pulse and Dielectric Measurements. *2018 SSSA Annual Meeting*, San Diego, CA, Jan. 6-9.
2. **Jones, Scott B.** Chihiro Naruke, Wenyi Sheng, Rong Zhou, Morteza Sadeghi, Kshitij Parajuli, Ebrahim Babaeian and Markus Tuller. Determination and validation of surface soil moisture using novel gravimetric-, dielectric- and SWIR reflectance-based approaches. *2018 SSSA Annual Meeting*, San Diego, CA, Jan. 6-9.
3. **Parajuli, Kshitij**, Lin Zhao, **Scott B. Jones**, David G. Tarboton, Lawrence E. Hipps, Alfonso Torres-Rua, Morteza Sadeghi, Gerald N. Flerchinger. Evapotranspiration Estimates in Stony Soils using Noah-MP Land Surface Model. *2018 SSSA Annual Meeting*, San Diego, CA, Jan. 6-9.
4. Babaeian, Ebrahim, Maria S. Newcomb, Morteza Sadeghi, Richard Ward, **Scott B. Jones**, and Markus Tuller. High Resolution UAVUAS-based Imaging to Assess the Near-Surface Soil Water Status Moisture for Precision Agriculture Applications. *2018 SSSA Annual Meeting*, San Diego, CA, Jan. 6-9.
5. Babaeian, Ebrahim, Morteza Sadeghi, **Scott B. Jones**, and Markus Tuller. Relationship between Evapotranspiration rate, soil and plant Temperature and SWIR Reflectance for Root Water Uptake Estimation. *2018 SSSA Annual Meeting*, San Diego, CA, Jan. 6-9.
6. **Sadeghi, Morteza**, Ebrahim Babaeian, Markus Tuller and **Scott B. Jones**. Soil Texture Effects on Spectral Reflectance. *2018 SSSA Annual Meeting*, San Diego, CA, Jan. 6-9.
7. **Jones, Scott B.** Advances in sensors and instrumentation for soil physical property and process determination. Invited presentation at the 5th Brazilian Soil Physics Meeting at the Federal University of Lavras (UFPA), Lavras, MG State, Brazil. May, 26 - 29, 2019
8. **Jones, S.B.**, **W. Sheng**, **R. Zhou**, **M. Sadeghi**, E. Babaeian, D.A. Robinson and M. Tuller. 2018. High Resolution Monitoring of Near-Surface Soil Hydrodynamics using a Novel TDR Array. Presented at the *2018 European Geosciences Union General Assembly*, Vienna, Austria, April 8-13.
9. **Jones, S.B.**, **W. Sheng**, J. Xu, and D.A. Robinson. 2018. Electromagnetic Sensors for Water Content: The Need for International Testing Standards. *Proceedings of the 12th International Conference on Electromagnetic Wave Interaction with Water and Moist Substances (ISEMA)*. Lublin, Poland. June 4-7, 2018.
10. **Sadeghi, M.**, **W. Sheng**, E. Babaeian, M. Tuller and **S.B. Jones**. 2018. Soil-Water Content and - Water Flux Profiles Determined by SWIR Imaging and TDR Array. Presented at the *2018 European Geosciences Union General Assembly*, Vienna, Austria, April 8-13.
11. **Jones, Scott B.** 2018. A soil moisture monitoring and forecast network for water resources management. Utah Water Users Association Workshop. Dixie Center, St. George, UT. March 20-21.
12. **Jones, Scott B.** 2018. Faculty Introduction and Discussions for Collaboration. National Chung Hsing University. Taichung, Taiwan. March 5-8.
13. **Jones, Scott B.** 2018. Soil Moisture Sensors 101. 2018. Utah Green Industry Conference and Trade Show. South Towne Expo Center, Sandy, UT. January 29.
14. **Jones, S. B.**, USDA W-3188 Multi-State Research Project, "Utah State University Report", Atomic Testing Museum/DRI, Las Vegas, NV. January 3-4, 2018.

Year 2017(16/23)

1. **Sadeghi, Morteza**, Ebrahim Babaeian, Markus Tuller, and **Scott B. Jones**. 2017. Optical Remote

- Sensing of Evapotranspiration. American Geophysical Union Annual Meeting, New Orleans, LA, Dec. 11-15.
2. Ebrahim Babaeian, **Morteza Sadeghi**, Trenton E. Franz, **Scott B. Jones**, and Markus Tuller. 2017. Validation of SMAP L4 Surface & Root Zone Soil Moisture Estimates with Cosmic-Ray Neutron Probe Observations. American Geophysical Union Annual Meeting, New Orleans, LA, Dec. 11-15.
 3. Elaheh Ghafari, **Morteza Sadeghi**, Ebrahim Babaeian, Kamran Davary, Ali Farid, **Scott B. Jones** and Markus Tuller. New Physical Algorithms for Downscaling SMAP Soil Moisture. Presented at the American Geophysical Union Annual Meeting, New Orleans, LA, Dec. 10-15.
 4. Dr. Zachary T. Aanderud*, Amber Spackman Jones, Jeffery S. Horsburgh, David Eiriksson, Dylan Dastrup, Christopher Cox, **Scott Jones**, David Bowling, Jobie Carlisle, Greg Carling, and Michelle A. Baker. Transcending system boundaries through integrative ecohydrologic research. Presentation at the 11th Annual Salt Lake County Watershed Symposium, November 15-16, 2017.
 5. **Jones, S.B.** 2017. "A Soil Moisture Monitoring and Forecast Network for Improved Water Resource Management and Risk Prediction," National Weather Service, Salt Lake City, UT. November 8, 2017.
 6. **Kshitij Parajuli**, **Scott B. Jones**, David G. Tarboton, Lin Zhao and Gerald Flerchinger 2017. Simulating Stony Soil Impact on Evapotranspiration. *2017 ASA-CSSA-SSSA Annual Meeting*. Tampa, FL, Oct. 23-26.
 7. **Azadeh Gholoubi**, **Morteza Sadeghi**, Ebrahim Babaeian, Hojat Emami, Markus Tuller and **Scott B. Jones**. 2017. A Novel Proximal Remote Sensing Approach to Quantifying Soil Aggregate Stability. *2017 ASA-CSSA-SSSA Annual Meeting*. Tampa, FL, Oct. 23-26.
 8. **Chihiro Naruke**, **Scott B. Jones**, Sebastian Los, Lawrence Hipps, Lynn McKee, Joseph G. Alfieri, Nurit Agam, John Pruger and William Kustas. Comparison of Grape Vineyard Linear-Soil Heat Flux and -Soil Heat Pulse Probe Arrays. *2017 ASA-CSSA-SSSA Annual Meeting*. Tampa, FL, Oct. 23-26.
 9. Ebrahim Babaeian, **Morteza Sadeghi**, Mohammad R. Gohardoust, Emmanuel Arthur, **Scott B. Jones**, and Markus Tuller. 2017. Application of Shortwave Infrared Imaging for Estimation of Soil Hydraulic Properties. *2017 ASA-CSSA-SSSA Annual Meeting*. Tampa, FL, Oct. 23-26.
 10. Ebrahim Babaeian, Morteza Sadeghi, **Scott B. Jones**, and Markus Tuller. 2017. Evaluation of a Novel Optical Trapezoid Model for Estimation of Large-Scale Root Zone Soil Moisture Based on MODIS Satellite Observations and Reference Cosmic-Ray Measurements. *2017 ASA-CSSA-SSSA Annual Meeting*. Tampa, FL, Oct. 23-26.
 11. **Morteza Sadeghi**, **Wenyi Sheng**, Ebrahim Babaeian, Markus Tuller and **Scott B. Jones**. 2017. Application of Shortwave Infrared Imaging for Estimation of Soil Water Content and Flux Profiles. *2017 ASA-CSSA-SSSA Annual Meeting*. Tampa, FL, Oct. 23-26.
 12. **Morteza Sadeghi**, Ebrahim Babaeian, Markus Tuller, and **Scott B. Jones**. Effects of Particle Size on Soil Reflectance. *2017 ASA-CSSA-SSSA Annual Meeting*. Tampa, FL, Oct. 23-26.
 13. **Wenyi Sheng**, **Rong Zhou**, **Morteza Sadeghi**, Ebrahim Babaeian, Markus Tuller, Scott K. Anderson and **Scott B. Jones**. Printed Circuit Board Time Domain Reflectometry Sensors for Near-Surface Soil Moisture Measurement. *2017 ASA-CSSA-SSSA Annual Meeting*. Tampa, FL, Oct. 23-26.
 14. **Jones, Scott B.**, **Kshitij Parajuli**, **Rong Zhou**, **Morteza Sadeghi**, Tyson E. Ochsner and Jirka Šimůnek. 2017. A Soil Moisture Monitoring and Forecast Network for Improved Water Resource Management and Risk Prediction. *2017 ASA-CSSA-SSSA Annual Meeting*. Tampa, FL, Oct. 23-

- 26.
15. **Jones, S.B.**, International Workshop: Soil Physics and the Nexus of Food, Energy, and Water, "A Soil Moisture Monitoring and Forecast Network for Improved Water Resource Management," Northeastern University, Shenyang, Liaoning Province, China. August 3 - 5, 2017.
 16. Alireza Tabatabaenejad, **Morteza Sadeghi**, Mahta Moghaddam, Markus Tuller, and **Scott B. Jones**. 2017. Retrieval of AirMOSS Root-Zone Soil Moisture Profile with a Richards' Equation-Based Approach. *2017 IEEE International Geoscience and Remote Sensing Symposium*, July 23–28, Fort Worth, Texas, USA
 17. **Jones, S. B.**, iUTAH Annual Symposium and Summer All-hands Meeting, "A Utah Soil Moisture Monitoring and Forecast Network for Improved Water Resource Management and Risk Prediction," iUTAH, Logan, UT. (July 13, 2017 - July 14, 2017)
 18. **Jones, S. B.**, Institute of Soil and Water Conservation Seminar, "A Utah Soil Moisture Monitoring and Forecast Network for Improved Water Resource Management and Risk Prediction," Chinese Academy of Sciences and Ministry of Water Resources, Yangling, China. (June 19, 2017)
 19. **Sadeghi, M.**, Babaeian, E., Tuller, M., **Jones, S. B.**, 2017 Workshop at MOISST: Integrating Diverse Sources of Soil Moisture Information, "A New Optical Trapezoid Model for Remote Sensing of Soil Moisture," Oklahoma State University, Stillwater, OK. May 23 - 25, 2017.
 20. Robinson, DA, **SB Jones**, I Lebron, S Reinsch, MT Dominguez, AR Smith, DL Jones, MR Marshall, BA Emmett. 2016. Experimental evidence for drought induced alternative stable states of soil moisture. EGU2017-1828. Presented at the *2017 European Geosciences Union General Assembly*, Vienna, Austria, April 24-28.
 21. **Naruke, Chihiro** and **Scott B. Jones**, USU Spring Runoff Conference, "Exploring Soil Heat Flux Time Lag using Numerical Simulation," USU - RGS, Logan, UT. (March 28, 2017 - March 29, 2017)
 22. **Jones, S. B.**, Environmental Sciences Department Seminar, "Plant Growth Media selection for Reduced Gravity Ecosystems: Orbit, Moon and Mars," UC Riverside, Riverside, CA. March 10, 2017.
 23. **Jones, S. B.**, USDA W-3188 Multi-State Research Project, "Utah State University Report", Atomic Testing Museum/DRI, Las Vegas, NV. January 3-4, 2017.

Year 2016 (9/17)

1. Mohamed, Ruba A.M., **Scott B. Jones** and Christopher M.U. Neale. 2016. Numerical Modeling of Coupled Heat Transport and Liquid Water and Water Vapor Flow in Geothermally Heated Ground at Norris Geyser Basin. Presented at the American Geophysical Union Annual Meeting, San Francisco, CA, Dec. 11-16
2. Babaeian, Ebrahim, **Morteza Sadeghi**, **Scott B. Jones** and Markus Tuller. 2016. A Novel Optical Model for Remote Sensing of Near-Surface Soil Moisture. Presented at the American Geophysical Union Annual Meeting, San Francisco, CA, Dec. 11-16.
3. **Sadeghi, Morteza**, Alireza Tabatabaenejad, Markus Tuller, Ebrahim Babaeian and **Scott B. Jones**. 2016. A New Richards Equation-Based AirMOSS Soil Moisture Retrieval Algorithm. Presented at the American Geophysical Union Annual Meeting, San Francisco, CA, Dec. 11-16.
4. Tuller, Markus, Ebrahim Babaeian, **Morteza Sadeghi**, **Wenyi Sheng** and **Scott B. Jones**. 2016. A Comprehensive Laboratory Study to Improve Ground Truth Calibration of Remotely Sensed Near-Surface Soil Moisture. Presented at the American Geophysical Union Annual Meeting, San Francisco, CA, Dec. 11-16.
5. Bugbee, Bruce, **Scott B. Jones** and Jeanette Norton. 2016. The Martian: It's Not Just Science

- Fiction. Invited Presentation at the Soil Science Society of America Annual Meeting, Phoenix, AZ, Nov. 6-9.
6. Heinse, Robert and **Scott B. Jones**. 2016. Managing Soil for Plant Growth in Microgravity: Lessons Learned from Vomit Comet and Space Station Experiments. Invited Presentation at the Soil Science Society of America Annual Meeting, Phoenix, AZ, Nov. 6-9.
 7. **Jones, Scott B.** 2016. Soil Sensing and Modeling Approaches for Improved Understanding of Urban Soil Restoration. Invited Presentation at the Soil Science Society of America Annual Meeting, Phoenix, AZ, Nov. 6-9.
 8. **Parajuli K., Sadeghi. M., Jones S. B.** (2016). Measuring and modeling the influence of stone content on soil water retention, Presented at the Soil Science Society of America Annual Meeting, Phoenix, AZ, 6-9 November 2016.
 9. Babaeian, Ebrahim, **Morteza Sadeghi, Scott B. Jones** and Markus Tuller. 2016. High-Resolution Mapping of Surface Soil Moisture with Hyperspectral Line-Scan Imaging. Presented at the Soil Science Society of America Annual Meeting, Phoenix, AZ, Nov. 6-9.
 10. Babaeian, Ebrahim, **Morteza Sadeghi, Wenyi Sheng, Rong Zhou, Scott B. Jones,** and Markus Tuller. 2016. Relating Surface Reflectance and Near-Surface Soil Moisture to Improve Ground Truth Calibration of Optical Remote Sensing. Presented at the Soil Science Society of America Annual Meeting, Phoenix, AZ, Nov. 6-9.
 11. **Sadeghi, Morteza,** Alireza Tabatabaenejad, Markus Tuller, Ebrahim Babaeian, and **Scott B. Jones**. 2016. A New Solution to Richards' Equation for Application to P-band Radar Remote Sensing of Root Zone Soil Moisture. Presented at the Soil Science Society of America Annual Meeting, Phoenix, AZ, Nov. 6-9.
 12. Robinson, DA, **SB Jones,** I Lebron, S Reinsch, MT Dominguez, AR Smith, DL Jones, MR Marshall, BA Emmett. 2016. Experimental evidence for drought induced alternative stable states of soil moisture. Presented at the Soil Science Society of America Annual Meeting, Phoenix, AZ, Nov. 6-9.
 13. **Sadeghi, Morteza,** Ebrahim Babaeian, Markus Tuller, and **Scott B. Jones**. 2016. A Novel Optical Approach to Satellite-Based Remote Sensing of Soil Moisture. Presented at the Soil Science Society of America Annual Meeting, Phoenix, AZ, Nov. 6-9.
 14. **Sheng, Wenyi, Rong Zhou, Scott B. Jones,** Scott Anderson and Markus Tuller. 2016. Design of a Printed Circuit Board TDR/TDT Near-Surface Soil Moisture Sensor. Presented at the Soil Science Society of America Annual Meeting, Phoenix, AZ, Nov. 6-9.
 15. **Sheng, Wenyi, Rong Zhou,** Mark Blonquist, Bruce Bugbee and **Scott B. Jones**. 2016. A Novel Multifunctional Energy and Mass Transport Sensor for Environmental Monitoring. Presented at the 2016 USTAR Confluence: Where Innovation Meets Economic Development. University of Utah, Salt Lake City, UT Oct. 4-5.
 16. **Jones, Scott B.** Robert Heinse, Dani Or, Markus Tuller, Gail E. Bingham. 2016. Considerations for Growing Plants in the Reduced Gravity of Space: Gas Percolation and Root Intrusion Effects in Porous Media. 2016 Kirkham Conferences. Jacob Blaustein Institutes for Desert Research, Sede Boqer Campus, Israel. 10-14 April.
 17. **Jones, S. B.,** USDA W-3188 Multi-State Research Project, "Utah State University Report", Atomic Testing Museum/DRI, Las Vegas, NV. January 3-4, 2016.

Year 2015 (9/10)

1. **Sadeghi, Morteza, Scott B. Jones** and Markus Tuller. 2015. Toward a Calibration-Free Model for Optical Remote Sensing of Soil Moisture. AGU Fall Meeting Abstracts, San Francisco, CA,

December 14-18.

2. [Parajuli, Kshitij](#), [Morteza Sadeghi](#) and **Scott B. Jones**. 2015. Rock content influence on soil hydraulic properties. AGU Fall Meeting Abstracts, San Francisco, CA, December 14-18.
3. [Sheng, Wenyi](#), Kashifa Rumana, Masaru Sakai, Franyell Silfa and **Scott B. Jones**. 2015. A Multi-Functional Penta-Needle Thermo-Dielectric Sensor for Porous Media Sensing. Presented at the Soil Science Society of America Annual Meeting, Minneapolis, MN, Nov. 15-18.
4. **Jones, Scott B.**, [Ling Lv](#) and Lawrence Hipps. 2015. Estimating Water Use in a Semi-arid Montane Ecosystem using a Soil Moisture Network and Numerical Modeling. Presented at the Soil Science Society of America Annual Meeting, Minneapolis, MN, Nov. 15-18.
5. [Parajuli, Kshitij](#), **Scott B. Jones** and Larry Hipps. 2015. Numerical Modeling of Evapotranspiration from Montane Vegetation with Verification from Surface Energy Balance Measurements. Presented at the Soil Science Society of America Annual Meeting, Minneapolis, MN, Nov. 15-18, 2015.
6. **Jones, Scott B.**, [Pakorn Sutitarnnontr](#), Markus Tuller and Rhonda Miller. 2015. Automated Closed Chamber-based Measurements of CO₂, CH₄ and NH₃ Emissions from Fresh, Dried and Sludged Dairy Cattle Manure. 2015. Presented at the Soil Science Society of America Annual Meeting, Minneapolis, MN, Nov. 15-18, 2015.
7. [Sadeghi, Morteza](#), Bijan Ghahraman, Markus Tuller, Arthur W. Warrick and **Scott B. Jones**. 2014. Simultaneous Scaling of Soil Water Retention and Hydraulic Conductivity Curves: Revisiting Millers' Similar-Media Theory. Presented at the Soil Science Society of America Annual Meeting, Minneapolis, MN, Nov. 15-18, 2015.
8. [Sadeghi, Morteza](#), and **Scott B. Jones**. A Physically-Based Model for Optical Remote Sensing of Soil Moisture. Presented at the Soil Science Society of America Annual Meeting, Minneapolis, MN, Nov. 15-18, 2015.
9. Miller, Rhonda, [Pakorn Sutitarnnontr](#), Markus Tuller, Jim Walworth and **Scott B. Jones**. Impact of Manure Incorporation on Greenhouse Gas Emissions in Semi-Arid Regions. Waste to Worth Conference. Seattle, Washington. April 2015.
10. **Jones, S. B.**, USDA W-3188 Multi-State Research Project, "Utah State University Report", Atomic Testing Museum/DRI, Las Vegas, NV. January 3-4, 2015.

Year 2014 (10/13)

1. [Rumana, Kashifa](#), Markus Tuller and **Scott B. Jones**. Determination of Subsurface Evaporation and Soil Water Content: Implementing a Heat Pulse Probe Array for High-Resolution Measurements. Presented at the Soil Science Society of America Annual Meeting, Long Beach, CA, Nov. 2-5, 2014.
2. [Sutitarnnontr, Pakorn](#), Rhonda Miller, Markus Tuller and **Scott B. Jones**. Simulation of Greenhouse Gas Emissions after Land Application of Cattle Manure. Presented at the Soil Science Society of America Annual Meeting, Long Beach, CA, Nov. 2-5, 2014.
3. **Jones, Scott B.**, The Growing Need for Measurements and Monitoring of Critical Properties and Processes at the Soil Surface. Presented at the Soil Science Society of America Annual Meeting, Long Beach, CA, Nov. 2-5, 2014.
4. [Sadeghi, Morteza](#), Markus Tuller and **Scott B. Jones**. 2014. Effective Unsaturated Hydraulic Conductivity and Characteristic Length of Layered Soils Considering Steady-State Evaporation. Presented at the Soil Science Society of America Annual Meeting, Long Beach, CA, Nov. 2-5, 2014.
5. [Sadeghi, Morteza](#), **Scott B. Jones**, Stephen Bialkowski and Bill Philpot. Estimation of Soil

- Water Content using Short Wave Infrared Remote Sensing. Long Beach, CA, Nov. 2-5, 2014.
6. **Sadeghi, Morteza**, and **Scott B. Jones**. A Closed-Form Solution to Richards' Equation for Soil Evaporation and Concurrent Drainage. Presented at the Soil Science Society of America Annual Meeting, Long Beach, CA, Nov. 2-5, 2014.
 7. Sakai, Masaru, Naho Kondo, **Scott B. Jones**. 2014. Estimation of Water Flux in Andisol with a Penta-Needle Heat Pulse Probe. Japan Geoscience Union Meeting, April 30, 2014.
 8. **Sutitarnnontr P.**, E. Hu, M. Tuller, R. Miller, and **S.B. Jones**. 2014. Field Validation of the Multiplexed Portable FTIR - Surface Chamber System for Estimating Gas Emissions from Animal Feeding Operations. 2014 ASABE and CSBE | SCGAB Annual International Meeting, Montreal, Quebec Canada, July 13 – 16.
 9. Sakai, M. and **S.B. Jones**. 2014. Application of Penta-Needle Heat Pulse Probe for Variably Saturated Water Flux Estimation. Meeting of the World Congress of Soil Scientists, Jeju, South Korea, June 8-13.
 10. **Rumana, Kashifa**, Markus Tuller and **Scott B. Jones**. 2014. A Heat Pulse Probe Array for Subsurface Soil Evaporation Estimates. Meeting of the World Congress of Soil Scientists, Jeju, South Korea, June 8-13.
 11. **Jones, Scott B.**, **Kashifa Rumana**, Masaru Sakai, Pawel Szafruga and Markus Tuller. 2014. A Multifunctional Heat Pulse Probe for Soil Physical Property and Process Assessment. Meeting of the World Congress of Soil Scientists, Jeju, South Korea, June 8-13.
 12. Vaz, CMP, M. Tuller and **S.B. Jones**. 2014. Calibration of EM sensors using acetic acid-water mixtures. Fourth International Symposium on Soil Water Measurement using Capacitance, Impedance and Time Domain Transmission (TDT). Montreal, Canada, July 16-18.
 13. **Sutitarnnontr, Pakorn**, Rhonda Miller, Markus Tuller and **Scott B. Jones**. 2014. Cumulative Evaporation from Surface-Applied Manure Using a Closed Dynamic Chamber Technique. Presented at the Annual Spring Runoff Conference, Utah State University, Eccles Conference Center, Logan, UT, April 2-3.
 14. **Jones, S. B.**, USDA W-3188 Multi-State Research Project, "Utah State University Report", Atomic Testing Museum/DRI, Las Vegas, NV. January 3-4, 2014.

Year 2013 (14/15)

1. **Jones, Scott B.**, Dani Or, Robert Heinse and Markus Tuller. Root Zone Concept Designs for Reduced Gravity Environments. Workshop on Earth-Based Integrated Experimental System of Bioregenerative Life Support System with Humans Involved, Beihang University, Beijing, China, Dec. 2 – 4, 2013.
2. **Hu, Enzhu**, **Pakorn Sutitarnnontr**, Markus Tuller, and **Scott B. Jones**. Emissions of Carbon Dioxide, Methane and Ammonia from Dairy Feces and Manure. Presented at the Soil Science Society of America Annual Meeting, Tampa, FL, Nov. 3-6, 2013.
3. **Sutitarnnontr, Pakorn**, **Enzhu Hu**, Markus Tuller, and **Scott B. Jones**. Determination of Physical and Hydraulic Properties of Cattle Manure Using Soil Analysis Techniques. Presented at the Soil Science Society of America Annual Meeting, Tampa, FL, Nov. 3-6, 2013.
4. **Szafruga, Pawel**, Shmulik P. Friedman and **Scott B. Jones**. Streaming potential and heat pulse methods for high resolution, in-situ, porous medium water flux estimates. Presented at the Soil Science Society of America Annual Meeting, Tampa, FL, Nov. 3-6, 2013.
5. **Rumana, Kashifa**, Markus Tuller and **Scott B. Jones**. Resolving Heat Pulse Measurement Anomalies. Presented at the Soil Science Society of America Annual Meeting, Tampa, FL, Nov. 3-6, 2013.

6. Bacalhau, F.B.; [Sutitarnnontr, P.](#); **Jones, S.B.**; Souza, C.F. 2013. Characterization of the Sensing Volume of The GS3 Sensor. XLII Congresso Brasileiro de Engenharia Agrícola - CONBEA 2013 Fábrica de Negócios - Fortaleza - CE – Brasil, 4 - 8 August.
7. [Sutitarnnontr, Pakorn](#), [Enzhu Hu](#), Rhonda Miller, Markus Tuller, and **Scott B. Jones**. 2013. Accuracy and Precision of Measurement of Gas Emissions from Manure Sources Using a Multiplexing System and Portable FTIR Gas Analyzer. Presented at the 2013 ASABE Annual International Meeting, Kansas City, MO, July 21 – 24.
8. [Ducas, Lauren P.](#), A. Joshua Leffler, Helga Van Miegroet, and **Scott B. Jones**. 2013. Effects of Plant Functional Type and Interannual Precipitation Variability on Long-Term Soil Moisture Resource Pool Trends. Presented at the Annual Spring Runoff Conference, Utah State University, Eccles Conference Center, Logan, UT, April 9-10.
9. [Rumana, Kashifa](#), Markus Tuller, and **Scott B. Jones**. 2013. In-situ Soil Water Content Estimates using a Heat Pulse Probe. Presented at the Annual Spring Runoff Conference, Utah State University, Eccles Conference Center, Logan, UT, April 9-10.
10. [Szafruga, Pawel](#), [Kashifa Rumana](#), Shmulik P. Freidman, and **Scott B. Jones**. 2013. Measuring mm/d water flux densities with an improved penta-needle heat-pulse probe (PHPP). Presented at the Annual Spring Runoff Conference, Utah State University, Eccles Conference Center, Logan, UT, April 9-10.
11. [Hu, Enzhu](#), [Pakorn Sutitarnnontr](#), Markus Tuller, and **Scott B. Jones**. 2013. Emissions of Carbon Dioxide, Methane and Ammonia from Fresh Dairy and Beef Manure Sources. Presented at the Annual Spring Runoff Conference, Utah State University, Eccles Conference Center, Logan, UT, April 9-10.
12. [Sutitarnnontr, Pakorn](#), [Enzhu Hu](#), Markus Tuller, Rhonda Miller and **Scott B. Jones**. 2013. Effectiveness of Manure Incorporation in Reducing Gas Emissions. Presented at the Annual Spring Runoff Conference, Utah State University, Eccles Conference Center, Logan, UT, April 9-10.
13. [Lv, Ling](#), **Scott B. Jones**, Trenton E. Franz. 2013. A Cosmic-Ray Soil Moisture Sensor for Intermediate-Scale (700 m) Estimates at the T.W. Daniel Experimental Forest. Presented at the Annual Spring Runoff Conference, Utah State University, Eccles Conference Center, Logan, UT, April 9-10.
14. [Sutitarnnontr, Pakorn](#), [Enzhu Hu](#), Rhonda Miller, Markus Tuller and **Scott B. Jones**. 2013. Drying and Rewetting Effects on Gas Emissions from Dairy Manure in Semi-arid. Presented at the “Waste to Worth: Spreading Science and Solutions” Conference, Denver, CO, April 1 – 5.
15. Miller, Rhonda, [Pakorn Sutitarnnontr](#), [Enzhu Hu](#), James Walworth and **Scott B. Jones**. 2013. Best management practices for reducing gas emissions from manure application in semi-arid regions. Presented at the “Waste to Worth: Spreading Science and Solutions” Conference, Denver, CO, April 1 – 5.
16. **Jones, S. B.**, USDA W-3188 Multi-State Research Project, "Utah State University Report", Atomic Testing Museum/DRI, Las Vegas, NV. January 3-4, 2013.

Year 2012(13/20)

1. **Jones, Scott B.**, Dani Or, Robert Heinse and Markus Tuller. 2012. Beyond Earth: Designing Root Zone Environments for Reduced Gravity Conditions. Invited presentation at the 28th Annual Meeting of the American Society for Gravitational and Space Research, Nov. 28 – Dec. 2, 2012, New Orleans, Louisiana, USA.
2. Verma, Aditya K., **Scott B. Jones** and Markus Tuller. Application of High-Resolution Thermal

- Imaging and Novel Heat Pulse Technology to Quantify Soil Evaporation. Presented at the Soil Science Society of America Annual Meeting, Cincinnati, Ohio, October 21-24, 2012.
3. Mark N. Wuddivira, David A. Robinson, Inma Lebron, Laetitia Brechet, Melissa Atwell, Sunshine De Caires, Mike Oatham, **Scott B. Jones**, Hiruy Abdu, Aditya Verma and Markus Tuller. 2012. Hygroscopic Water Content as a Surrogate for Clay Percentage in Proximal Soil Sensing. Presented at the Soil Science Society of America Annual Meeting, Cincinnati, Ohio, October 21-24, 2012.
 4. **Jones, Scott B.**, Masaru Sakai and Jonathan Carlisle. 2012. Assessing Snowpack Melt Rates using Penta-needle Heat Pulse Probes and Snowmelt Lysimeters. Presented at the Soil Science Society of America Annual Meeting, Cincinnati, Ohio, October 21-24, 2012.
 5. Chamindu Deepagoda T.K.K., Per Moldrup, **Scott B. Jones**, Lis de Jonge, Per Schjønning, Jan Hopmans, Dennis Rolston, Kate Scow, Ken Kawamoto and Toshiko Komatsu. Diffusivity-Based Characterization of Plant Growth Media for Earth and Space. Presented at the Soil Science Society of America Annual Meeting, Cincinnati, Ohio, October 21-24, 2012.
 6. **Ling Lv, Scott B. Jones**, Lawrence E. Hippias. 2012. Assessing Water Use in Semi-arid Montane Aspen, Conifer, Sage and Grass/Forb Ecosystems using Measurements and Numerical Simulation. Soil Science Society of America Annual Meeting, Cincinnati, Ohio, October 21-24, 2012
 7. **Szafruga, Pawel**, Shmulik P. Friedman and **Scott B. Jones**. 2012. Soil Water Flux Estimates from Streaming Potential and Penta-needle Heat Pulse Probe Measurements. Soil Science Society of America Annual Meeting, Cincinnati, Ohio, October 21-24, 2012.
 8. **Sutitarnnontr, Pakorn**, Markus Tuller, Rhonda Miller, and **Scott B. Jones**. 2012. Monitoring Temporal Variations in Greenhouse Gas Emissions from Cow Manure in Relation to Moisture Content and Environmental Variables. 2012 ASA, CSSA, and SSSA Annual Meeting, Cincinnati, OH, Oct 21-24, 2012.
 9. **Sadeghi, Morteza**, Masaru Sakai, Markus Tuller, and **Scott B. Jones**. 2012. A New Algorithm for Determining Soil Evaporation using Heat Pulse Probe Measurements. Presented at the Soil Science Society of America Annual Meeting, Cincinnati, Ohio, October 21-24, 2012.
 10. **Rumana, Kashifa**, Wutthida Rattanapichai, **Scott B. Jones**, Bill Mace and Markus Tuller. 2012. An Automated Microlysimeter for Long-term Monitoring of Soil Evaporation. Soil Science Society of America Annual Meeting, Cincinnati, Ohio, October 21-24, 2012
 11. **Rumana, Kashifa, Morteza Sadeghi**, Markus Tuller and **Scott B. Jones**. 2012. Determination of Subsurface Soil Evaporation Using a Heat Pulse Probe Array. Soil Science Society of America Annual Meeting, Cincinnati, Ohio, October 21-24, 2012
 12. Verma, Aditya K., **Scott B. Jones** and Markus Tuller. 2012. Application of High-Resolution Thermal Imaging and Novel Heat Pulse Technology to Quantify Soil Evaporation. Soil Science Society of America Annual Meeting, Cincinnati, Ohio, October 21-24, 2012
 13. **Sadeghi, Morteza** and **Scott B. Jones**. 2012. Modeling Steady-State Evaporation from a Shallow Water Table. Annual Spring Runoff Conference, Utah State University, Eccles Conference Center, Logan, UT, April 3-4, 2012.
 14. **Sutitarnnontr, Pakorn**, Rhonda Miller, Markus Tuller and **Scott B. Jones**. 2012. Temporal Variations in Greenhouse Gas Emissions from Dairy Cow Manure. Annual Spring Runoff Conference, Utah State University, Eccles Conference Center, Logan, UT, April 3-4, 2012.
 15. **Rumana, Kashifa, Scott B. Jones** and Markus Tuller. 2012. Determination of Subsurface Soil Evaporation using a Heat Pulse Probe Array. Annual Spring Runoff Conference, Utah State University, Eccles Conference Center, Logan, UT, April 3-4, 2012.
 16. **Lu, Ling**, Lawrence Hippias and **S.B. Jones**. 2012. Water Use of Aspen, Conifer, Sage and

- Grass/Forb Communities in a Semi-arid Montane Ecosystem. Annual Spring Runoff Conference, Utah State University, Eccles Conference Center, Logan, UT, April 3-4, 2012.
17. Franz, Trenton, Marek Zreda, **Scott B. Jones** and Jonathan Carlisle. 2012. Measurement of Hydrogen Pools at Intermediate Spatial Scales Using Cosmic-Ray Neutron Probes at the T.W. Daniel Experimental Forest Instrumented Research Site. Annual Spring Runoff Conference, Utah State University, Eccles Conference Center, Logan, UT, April 3-4, 2012.
 18. Verma, Aditya K., **Scott B. Jones** and Markus Tuller. 2012. Application of High-Resolution Thermal Imaging and Novel Heat Pulse Technology to Quantify Soil Evaporation. Earth Week, The University of Arizona, Tucson.
 19. [Sutitarnnontr, P.](#), M. Tuller, R. Miller, S. Bialkowski, and **S.B. Jones**. 2012. A Multiplexing System for Monitoring Greenhouse and Regulated Gas Emissions from Manure Sources using a Portable FTIR Analyzer. 2012 ASABE Annual International Meeting, Dallas, TX, July 29 – August 1, 2012.
 20. Vaz, Carlos M.P., **Scott B. Jones**, Mercer Meding and Markus Tuller. 2012. Comparison of Commonly-Applied Electromagnetic Sensors for Soil Water Content and Electrical Conductivity Measurements in Mineral, Organic and Saline Soils. Presented at the Second International Soil Moisture Sensing Technology Conference, Honolulu, Hawaii, January 3-7. 11

Year 2011(10/18)

1. **Jones, S.B.**, M. Sakai and M. Tuller. 2011. Partitioning Evaporation and Infiltration Processes with an Array of Multifunction Heat Pulse Probes. AGU Fall Meeting Abstracts, San Francisco, CA, December 5-9.
2. Robinson, D.A., **S.B. Jones**, I. Lebron. 2011. Linking Above and Belowground Soil and Vegetation Spatial Patterns using Eco-Geophysical Approaches. AGU Fall Meeting Abstracts, San Francisco, CA, December 5-9.
3. [Sadeghi, M.](#), B. Ghahraman, A.N. Ziaei, K. Davary, K. Reichardt, and **S.B. Jones**. 2011. Scaled Solutions of Richards' Equation for Infiltration and Drainage Considering Dissimilar Soils. AGU Fall Meeting Abstracts, San Francisco, CA, December 5-9.
4. [Sutitarnnontr Pakorn](#), **Scott B. Jones**, and Markus Tuller. 2011. Metal oxide gas sensors for monitoring regulated and greenhouse gas fluxes from manure sources. ASA, CSSA, and SSSA International Annual Meetings, San Antonio, TX, October 16 – 19, 2011.
5. [Ling Lu](#), Jobie Carlisle, Lawrence Higgs and **Scott B. Jones**. 2011. Modeling Evapotranspiration in a Semi-arid Mountain Ecosystem Integrating HYDRUS-1D and Weather Data. ASA, CSSA, and SSSA International Annual Meetings, San Antonio, TX, October 16 – 19, 2011.
6. [Sakai, Masaru](#), Changbing Yang, Gerard Kluitenberg and **Scott B. Jones**. 2011. Improved Determination of Soil Water Flux and Thermal Properties with a Penta-Needle Heat Pulse Probe. ASA, CSSA, and SSSA International Annual Meeting, San Antonio, TX, Oct. 16-19.
7. [Wutthida Rattanapichai](#), **Scott B. Jones**, Bill Mace and Markus Tuller. 2011. An Automated Microlysimeter for Long-term Monitoring of Soil Evaporation. ASA, CSSA, and SSSA International Annual Meetings, San Antonio, TX, October 16 – 19, 2011.
8. Babcock, Esther, Markus Tuller and **Scott B. Jones**. 2011. Quantification and Monitoring of Gas Emission from Agricultural Sources: Measurement Technology and Limitations. ASA, CSSA, and SSSA International Annual Meetings, San Antonio, TX, October 16 – 19, 2011.
9. Babcock, Esther, Markus Tuller, **Scott B. Jones** and James Walworth. 2011. Greenhouse Gas Emissions from Agriculture and Animal Operations: Influencing Factors, Measurement

- Limitations, and Potential Mitigation Strategies. ASA, CSSA, and SSSA International Annual Meetings, San Antonio, TX, October 16 – 19, 2011.
10. Vaz, Carlos M.P., **Scott B. Jones** and Markus Tuller. 2011. Evaluation of commercially available electromagnetic sensors for measuring soil water content and electrical conductivity in mineral, organic and saline soils. ASA, CSSA, and SSSA International Annual Meetings, San Antonio, TX, October 16 – 19, 2011.
 11. Vaz, Carlos M.P., **Scott B. Jones**, Astrid Jacobsen, Markus Tuller. 2011. Evaluation of electromagnetic sensors using acetic acid/water mixtures – the dielectric constant and electrical conductivity responses. ASA, CSSA, and SSSA International Annual Meetings, San Antonio, TX, October 16 – 19, 2011.
 12. **Jones, Scott B.**, Masaru Sakai, [Morteza Sadeghi](#) and Markus Tuller. 2011. A Penta-Needle Heat Pulse Probe Array for Soil Subsurface Evaporation and Heat Flux Estimates. ASA, CSSA, and SSSA International Annual Meetings, San Antonio, TX, October 16 – 19, 2011.
 13. Robinson, D.A., **S.B. Jones**, I. Lebron, B. Rawlins, M. Lark, B. Emmett, and A. Keith. 2011. Geophysics Role in the Spatial Prediction of Soil Natural Capital and Ecosystem Services. Invited talk presented at the ASA-CSSA-SSSA International Annual Meeting held in San Antonio, TX, Oct. 16-19, 2011.
 14. [Sakai, M.](#), and **S.B. Jones**. 2011. Simultaneous Determination of Soil Water Flux and Thermal Properties with a Penta-Needle Heat Pulse Probe. The Japanese Society of Irrigation, Drainage and Rural Engineering annual Meeting. Sept. 6-9, 2011.
 15. [Sutitarnnontr, P.](#), M. Tuller and **S.B. Jones**. 2011. An Automated Multi-gas Sensor System for Long-term Monitoring of Regulated and Greenhouse Gas Fluxes from Animal Feeding Operations (AFOs). Annual Spring Runoff Conference, Utah State University, Eccles Conference Center, Logan, UT, March 29-30.
 16. [Lu., Ling](#), Jobie Carlisle and **S.B. Jones**. 2011. Modeling Conifer Forest Evapotranspiration in a Semi-arid Mountain Ecosystem. Annual Spring Runoff Conference, Utah State University, Eccles Conference Center, Logan, UT, March 29-30.
 17. Tuller, M., G.S. Nearing, **S.B. Jones** and R. Heinse. 2011. Geophysical Characterization of Inactive Mine Tailings - A First Step for Revegetation. European Geophysical Union General Assembly, Vienna, Austria, Mar. 31 - Apr. 4. Vol. 13, EGU2011-PREVIEW.
 18. Robinson, D.A., I. Lebron, **S.B. Jones**, R. Ryel. 2011. Soil moisture sequestration in drylands: ecosystem engineering in pinyon juniper woodland via soil water repellency. JULES meeting: Soils. CEH Wallingford, January 12-13.

Year 2010 (6/10)

1. Sun, H., K. Kopp and **S.B. Jones**. 2010. Simulation of Water and Nutrient Transport in Three Turf Species. ASA, CSSA, and SSSA International Annual Meeting, Long Beach, CA, Oct. 31-Nov. 4.
2. [Sakai, M.](#), **S.B. Jones** and M. Tuller. 2010. Estimation of Evaporation Rates from a Subsurface Drying Front using a Penta-Needle Heat Pulse Probe. ASA, CSSA, and SSSA International Annual Meeting, Long Beach, CA, Oct. 31-Nov. 4.
3. **Jones, S.B.**, [M. Sakai](#) and G. Kluitenberg. 2010. Exploring Limits of Near-Surface Water Flux Determination from Penta-needle Heat Pulse-Based Measurements. ASA, CSSA, and SSSA International Annual Meeting, Long Beach, CA, Oct. 31-Nov. 4.
4. [Heinse, R.](#) and **S.B. Jones**. 2010. Identifying Thresholds for Water Storage and Transmission In Montane Watersheds From the Soil up. ASA, CSSA, and SSSA International Annual Meeting, Long Beach, CA, Oct. 31-Nov. 4.

5. Ducas, L., J. Leffler, R. Ryel, **S.B. Jones**. 2010. Associations of near-surface soil moisture and annual plant community dynamics. 16th Wildland Shrub Symposium. Utah State University, Eccles Conference Center, May 19.
6. Carlisle, J., P. Szafruga, V. Mahat, B. Mace, K. Schreuders, **S.B. Jones**, D.G. Tarboton, L. Hipps and J.L. Boettinger. 2010. Instrumentation Enhancement and Data Processing at the T.W. Daniel Experimental Forest: A Drought Management Initiative Project. Combined Western Snow Conference and Spring Runoff Conference, April 19-22, Logan, UT.
7. **Jones, S.B.**, **M. Sakai** and M. Tuller. 2010. Snowmelt Infiltration and Soil-Water Evaporation Estimates using Heat-Pulse Measurements and Energy Balance Modeling. Combined Western Snow Conference and Spring Runoff Conference, April 19-22, Logan, UT
8. **Sakai, M.**, and **S.B. Jones**. 2010. Numerical Evaluation of Snowmelt Infiltration Using Soil Water Content Monitoring. Combined Western Snow Conference and Spring Runoff Conference, April 19-22, Logan, UT.
9. Robinson, D.A., **S.B., Jones**, S.P. Friedman and T.E. Doyle. Water content determination in soils and porous media using dielectric measurements. Universita Roma Tre, Rome, Italy June 17.
10. Sun, H., K. Kopp, M. Dietz, **S.B. Jones** and J. Fan. 2010. A Comprehensive Research Method to Investigate the Environmental Issues of Urban Landscapes: Water Use and Nitrogen Leaching of Urban Landscapes on Community Water Quantity and Quality. American Society for Horticultural Science Annual Meeting. Palm Desert, CA, 2-5 August 2010.

Year 2009 (11/16)

1. **Jones, S.B.**, **C. Wang**, D.A. Robinson and M. Tuller. Exploring Soil Properties through Electromagnetic Sensor-based Complex Dielectric Permittivity. 2009. AGU Fall Meeting Abstracts, San Francisco, CA, December 14-18.
2. **Heinse, R.**, **Jones, S.B.**, **H. Abdu** and D.A. Robinson. Time-lapse Characterization of Soil Moisture Dynamics – A First Step towards Ecological Integrity. 2009. AGU Fall Meeting Abstracts, San Francisco, CA, December 14-18.
3. **Sakai, M.**, **Jones, S.B.** and M. Tuller. Numerical Evaluation of Heat Pulse Technology for Estimation of Evaporation Rates from a Subsurface Drying Front. 2009. AGU Fall Meeting Abstracts, San Francisco, CA, December 14-18.
4. Berger, P.A., **R. Heinse**, M. Tuller, **S.B. Jones**. Geophysical Characterization of Inactive Mine Tailings – A First Step for Revegetation. 2009. ASA-CSSA-SSSA Annual Meeting, Pittsburgh, PA - Nov. 1-5, See Agronomy Abstracts, ASA, Madison, WI.
5. **Jones, S.B.**, **H. Abdu**, **R. Heinse**, D.A. Robinson and R.J. Ryel. 2009. Identifying Soil Resource Pools within Forest Communities using Eco-Geophysics. ASA-CSSA-SSSA Annual Meeting, Pittsburgh, PA - Nov. 1-5, See Agronomy Abstracts, ASA, Madison, WI.
6. Carlisle, J, **S.B. Jones**, D.G. Tarboton, L. Hipps and J.L. Boettinger. 2009. Instrumentation Enhancement at the T.W. Daniel Experimental Forest: A Drought Management Initiative Project. Spring Runoff Conference, Eccles Conference Center, Utah State University, Logan, UT, April 2-3.
7. Fan J. and **S.B. Jones**. 2009. Limitations for Applying the Gradient-Based Soil CO₂ Efflux Method. Spring Runoff Conference, Eccles Conference Center, Utah State University, Logan, UT, April 2-3.
8. Doyle, T.E., A.T. Tew, D.A. Robinson, and **S.B. Jones**. 2009. Modeling the Dielectric Response of Aggregated Soils. Spring Runoff Conference, Eccles Conference Center, Utah State University, Logan, UT, April 2-3.

9. Wang, C. and S.B. Jones. 2009. Evaluating Soil Water Content Sensors by Simulating High Clay Content Soils with Varied Relaxation- and Electrically Conductive-Dielectric Liquids. Spring Runoff Conference, Eccles Conference Center, Utah State University, Logan, UT, April 2-3.
10. Jones, S.B., I. Podolskiy, R. Heinse, S.T. Topham, V.N. Sytchev, D. Or and G.E. Bingham. 2009. Porous Media Fluid Transport in Microgravity: The ORZS Flight Experiments. Presented at the 17th International Academy of Astronautics 'Humans in Space' Symposium, Moscow, Russia, June 7-11.
11. 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.
12. 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. 39th International Conference on Environmental Systems (ICES), Hyatt Regency, Savannah, Georgia, USA, July 12 - 16.
13. 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.
14. Estevez, R.M. and S.B. Jones. 2009. Frequency Domain Soil Moisture Determination Using an Open-Ended Dielectric Probe. ASABE Annual Meeting, Reno Nevada, June 21-24.
15. 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.
16. C. Wang, R.M. 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 (18/23)

1. 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.
2. 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.
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.
4. 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.
5. 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.
6. 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.
7. Berger, P.A., [R. Heinse](#), M. Tuller, **S.B. Jones**, M.G. Schaap and J.F. Ariola. 2008. Physical and Hydrological Characterization of Mine Tailings – A First Step for Revegetation with Native Plant Communities. 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.
 8. [Heinse, R.](#), **S.B. Jones**, D. Or, T.S. Topham, I.G. Podolskiy and G.E. Bingham. 2008. Microgravity Implications of Water Distribution on Oxygen Diffusion Pathways in Unsaturated Porous Media. 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.
 9. Bugbee, B., J.M. Blonquist Jr., B. Doucette, and **S.B. Jones**. 2008. Improved Techniques for Long-term Continuous Measurement of Soil Respiration and Respiratory Quotient. 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.
 10. **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. August 26-27, 2008. Department of Civil Engineering – University of Taubate (UNITAU), Brazil.
 11. [Heinse, R.](#) and **S.B. Jones**. 2008. Towards Using Time-Lapse Electrical Resistivity Imaging for Improved Subsurface Snowmelt Characterization. Spring Runoff Conference, Eccles Conference Center, Utah State University, Mar. 31-Apr. 1.
 12. [Yang, C.](#), **S.B. Jones** and G.J. Kluitenberg, 2008. Optimized Soil Thermal Properties and Water Flux from Penta-needle Heat Pulse Probe Measurements. Spring Runoff Conference, Eccles Conference Center, Utah State University, Mar. 31-Apr. 1.
 13. **Jones, S.B.** Critical Measurements for Understanding Critical Zone Hydrology. Spring Runoff Conference, Eccles Conference Center, Utah State University, Logan, UT, Mar. 31 – Apr. 1, 2008.
 14. [Estevez, R.](#), D.A. Robinson and **S.B. Jones**. 2008. Bilinear Analysis for Soil Moisture Determination Using an Open-Ended Dielectric Probe. Spring Runoff Conference, Eccles Conference Center, Utah State University, Mar. 31-Apr. 1.
 15. Carlisle, J, J. Robinson, J. Suisse, V. Mahat, **S.B. Jones**, D.G. Tarboton, L. Hipps and J.L. Boettinger. 2008. Instrumentation and Measurement Facilities at the T.W. Daniel Experimental Forest: A Drought Management Initiative Project. Spring Runoff Conference, Eccles Conference Center, Utah State University, Mar. 31-Apr. 1.
 16. **Jones, S.B.**, D.A Robinson, H. Abdu, R. Heinse and R. Ryel. 2008. 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.
 17. [Abdu, H.](#), D. A. Robinson, J. L. Boettinger, M. Seyfried, and **S. B. Jones**. 2008. The Use of Geophysical Imaging to Identify Subsurface Soil Textural Patterns. Spring Runoff Conference, Eccles Conference Center, Utah State University, Mar. 31-Apr. 1.
 18. **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. Invited.
 19. Blonquist, J. M. Jr., **S.B. Jones** and B. Bugbee. Estimation of soil respiration: Improved techniques for measurement of soil gas. 93rd Ecological Society of America Annual Meeting, Midwest Airlines Center, Milwaukee, Wisconsin, Aug. 3 – 8, 2008.
 20. Robinson, D.A., [H. Abdu](#), **S.B. Jones**, I. Lebron, R. Knight and M.P. Oatham. Applications of

- geophysical survey to Ecohydrology in tropical and dryland ecosystems. 93rd Ecological Society of America Annual Meeting, Midwest Airlines Center, Milwaukee, Wisconsin, Aug. 3 – 8, 2008.
21. **Jones, S.B.**, M. Tuller and D. Or. Liquid imbibition in particulate porous media in microgravity. 37th COSPAR Scientific Assembly, Montreal, Canada, 13-20 July 2008.
 22. **Heinse, R.**, **S.B. Jones**, D. Or, M. Tuller, T.S. Topham, I.G. Podolskiy and G.E. Bingham. Challenges of Watering Plants in Space: Water Retention and Distribution---What Have we Learned? 37th COSPAR Scientific Assembly, Montreal, Canada, 13-20 July 2008.
 23. **Jones, S.B.**, **R. Heinse**, D. Or, T.S. Topham, I.G. Podolskiy and G.E. Bingham. Oxygen diffusion measurements in porous media on the ISS: One piece of the puzzle for optimal root zone performance. 37th COSPAR Scientific Assembly, Montreal, Canada, 13-20 July 2008.

Year 2007 (16/18)

1. **Jones, S.B.**, R. Heinse, J. Simunek, M. Tuller and D. Or. 2007. Numerical modeling of porous-media hydrodynamics in variable-gravity during parabolic flight. AGU Fall Meeting Abstracts, San Francisco, CA, December 10-14.
2. Robinson D.A., **H. Abdu**, **S.B. Jones**, M.S. Seyfried, I. Lebron and R. Knight. 2007. Exploring Soils and Ecohydrological Structure in Small Watersheds Using Electromagnetic Induction.. AGU Fall Meeting Abstracts, San Francisco, CA, December 10-14.
3. **Yang, C.B.** and **S.B. Jones**. 2007. 2-D water flux using a pentaprobe heat-pulse sensor: laboratory experiment and numerical evaluation. AGU Fall Meeting Abstracts, San Francisco, CA, December 10-14.
4. **Abdu, H.**, D.A. Robinson and **S.B. Jones**. 2007. Separating Water Content Changes and Soil Texture Using Electromagnetic Induction Soil Imaging. AGU Fall Meeting Abstracts, San Francisco, CA, December 10-14.
5. **Heinse, R.**, **S.B. Jones**, D. Or, T.S. Topham, I.G. Podolskiy and G.E. Bingham. 2007. Oxygen Diffusion Measurements in Unsaturated Porous Media on the International Space Station. AGU Fall Meeting Abstracts, San Francisco, CA, December 10-14.
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3. **Jones, S.B.** and D. Or. 2002. Dielectric and acoustic monitoring of water content and volume changes in ear corn drying bins. Agronomy Abstracts, ASA, Madison, WI.
4. Tuller, M., **S.B. Jones**, and D. Or, 2002. Liquid Configuration in Angular Pores under Microgravity. SSSA Annual Meeting Abstracts, November 10-14, Indianapolis, Indiana. IN. Agronomy Abstracts. ASA, Madison, WI
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7. Or, D. and **S.B. Jones**. 2002. Time Domain Reflectometry Measurement of Bulk Permittivity of Porous Mixtures Containing Bound Water. Sixth International Conference on the Electrical Transport and Optical Properties of Inhomogeneous Media. Snowbird's Cliff Lodge, Salt Lake City, Utah, July 15 - 19.
8. **Jones, S.B.** and D. Or. 2002. Time Domain Reflectometry (TDR) Applications in Earth Sciences. 2002 IEEE AP-S International Symposium and USNC/URSI National Radio Science Meeting. Hilton, San Antonio, Texas, 16-21 June.
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Year 2001 (3/5)

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3. 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.
4. **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.
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mixtures containing bound water. 1st International Conference on Dielectric Spectroscopy. 12-15 March, Jerusalem, Israel.

Year 2000 (2/2)

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2. **Jones, S.B.,** B.W. Bingham and D. Or. 2000. Measurement of Soil CO₂ 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 (4/4)

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2. **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.*
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4. A.R. Mitchell, D. Or, M. Caldwell and **S.B. Jones.** 1999. Gradient method for in-situ measurement of CO₂ Flux. *Agronomy Abstracts, ASA, Madison, WI.*

Year 1996 (2/2)

1. **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.*
2. **Jones, S.B.** and D. Or. 1996. A capillary-driven root module for plant growth in microgravity. 31st Scientific Assembly of COSPAR. University of Birmingham, England, July, 14-21, 2006.

Year 1995 (1/1)

1. **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.

FUNDED RESEARCH CONTRACTS AND GRANTS

Competitive Federal/International/Private Grants

Submitted:

Funded:

USU-RC– \$20,000 (PI)

Jul 2021-Jun 2022

DEVELOPMENT OF NOVEL PHYSICS-CONSTRAINED MACHINE LEARNING ALGORITHMS TO MODEL COMPLEX SOIL WATER FLOW PROCESSES

NASA– \$225,000 (PI-USU)

Jul 2020-Dec 2021

DESIGN, MONITORING AND MANAGEMENT APPROACHES FOR THE ROOT-ZONE IN MICROGRAVITY

CAAS-\$37,057 (PI-J. Meyer w/S.B. Jones, B. Bean and R Gillies)

Apr 2020-Mar 2022

SERVING UTAH'S DIVERSE LAND MANAGEMENT NEEDS WITH A HIGH-RESOLUTION SUB-SEASONAL

FORECASTING PLATFORM

- Water Conservancies-\$124,000 (PI-M. Stock, L.N. Allen, S.B. Jones) Jun 2019-May 2021**
DAY VERSUS NIGHT IRRIGATION IN AN URBAN LANDSCAPE
- NAWA-\$22,600 (\$100,000 PI-Wojciech Skierucha, IAP, Poland) Dec 2018-Nov 2020**
THE STANDARDIZATION OF ELECTROMAGNETIC MEASUREMENTS OF SOIL MOISTURE
- USDA-SBIR – \$12,000 (\$100,000, PI-Scott Anderson - Acclima) Sep 2018-May 2019**
A NOVEL THERMO-TIME DOMAIN REFLECTOMETER FOR UNPRECEDENTED SOIL PROPERTY DETERMINATION: PHASE I
- NASA X-Hab - \$20,000, Co-I w/Tim Taylor PI May 2017-May 2018**
CREATIVE 3D PLANT OPTIMIZATION (C3PO) SYSTEM
- NSF-Hydrological Sciences – \$647,000 (PI-Jones,w/Sadeghi,Tuller) Jul 2015-Jun 2018**
COLLABORATIVE RESEARCH: NOVEL IN SITU MEASUREMENT AND REMOTE SENSING TECHNIQUES FOR CHARACTERIZATION OF NEAR-SURFACE SOIL HYDROLOGY
- NSF-EPSCoR – (\$20,000,000; PI-Todd Crowl/Michelle Baker) Sep 2012-Aug 2017**
UTAH - URBAN TRANSITIONS AND ARID REGION HYDRO-SUSTAINABILITY
- High-end Foreign Expert Program (\$15,000; PI- Yurui Sun) March 2013-April 2016**
FOREIGN EXPERT BUREAU OF CHINA AWARD
- Western SARE Grad. Student - \$25,000 (Pakorn Suttitaranontr, Ph.D.) Jul 12'-Jun14'**
DETERMINATION OF REGULATED AND GREENHOUSE GAS EMISSIONS FROM MANURE SOURCES IN ANIMAL FEEDING OPERATIONS
- USDA-NIFA - \$5,000 Speaker Support Grant (PI w/ W2188 Committee) Jan 2012**
W2188 SOIL PHYSICS TECHNICAL COMMITTEE MEETING AND THE SECOND INTERNATIONAL SOIL MOISTURE SENSING TECHNOLOGY CONFERENCE
- BARD – \$165,000 (\$314,000; PI w/S Friedman and G. Communar) Dec 2011-Nov 2014**
NOVEL STREAMING POTENTIAL AND THERMAL SENSOR TECHNIQUES FOR MONITORING WATER AND NUTRIENT FLUXES IN THE VADOSE ZONE.
- USDA-NIFA - \$318,605 (\$599,880; PI w/Miller, Tuller, Walworth) Jan 2010-Jun 2014**
NOVEL GRADIENT-BASED AND SURFACE CHAMBER TECHNIQUES FOR MONITORING REGULATED AND GREENHOUSE GAS EMISSIONS FROM ANIMAL FEEDING OPERATIONS
- USDA-NIFA - \$164,412 (\$448,662; Co-I w/ M. Tuller-PI, D. Or) Jul 2009-Jun 2014**
A NOVEL APPROACH TO QUANTIFYING SOIL EVAPORATION RATES WITH HIGH RESOLUTION THERMAL IMAGING AND HEAT FLUX MEASUREMENTS.
- CMIRP - (\$148,778; Co-I w/Ron Ryel-PI, D. Bartos, J. Leffler-Co-Is) 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.
- 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) 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) Sep 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 Dec 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)-\$100,000 (\$586,409 Co-I w/ P. Johnson-PI, and 6 Co-I's) Jul 2009-Jun 2012
 DROUGHT MANAGEMENT INITIATIVE-VADOZE ZONE HYDROLOGY
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

UAES-Public Lands Ini. – \$37,057, PI-Meyer w/Jones, Bean, Gillies June 2020-May 2022
 SERVING UTAH'S DIVERSE LAND MANAGEMENT NEEDS WITH A HIGH-RESOLUTION SUB-SEASONAL FORECASTING PLATFORM
UAES – \$79,375, PI-Jones w/ Zhou, Parajuli, Sadeghi, Gillies, Allen May 2017-Apr 2019
 A UTAH SOIL MOISTURE MONITORING AND FORECAST NETWORK FOR IMPROVED WATER RESOURCE MANAGEMENT AND RISK PREDICTION
USU Research Catalyst Proposal - \$20,000 PI-Jones w/Sadeghi Jul 2017-Apr 2018
 DEVELOPING HIGH-RESOLUTION ROOT-ZONE SOIL MOISTURE PRODUCTS FROM OPTICAL SATELLITE IMAGES
USTAR-USU – \$95,742 (PI-Jones) Dec 2015-Sep 2016
 A NOVEL MULTIFUNCTIONAL ENERGY AND MASS TRANSPORT SENSOR FOR ENVIRONMENTAL MONITORING
USU Research Catalyst Proposal - \$20,000 Jul 2013-Jun 2015
 NOVEL PHYSICALLY-BASED ALGORITHMS AND INSTRUMENTATION FOR REMOTE SENSING OF NEAR-SURFACE SOIL MOISTURE
UAES - \$20,000 Jul 2012-Jun 2014
 MODELING GREENHOUSE GAS EMISSIONS FROM ANIMAL MANURE SOURCES BASED ON DIETARY AND ENVIRONMENTAL VARIABLES.
UAES Equipment Grant - \$20,000 (PI w/Rhonda Miller-/Co-I) Jul 2011
 ACQUISITION OF A FOURIER TRANSFORMED INFRARED (FTIR) GAS ANALYZER FOR DETECTION OF

REGULATED AND GREENHOUSE GAS CONCENTRATION AND FLUX.
SPARK - \$35,000 (Co-I w/Jennifer MacAdam PI + et al.) **Oct 2011-Sep 2016**
 RAPID BEEF FINISHING ON BIRDSFOOT TREFOIL PASTURES FOR SUSTAINABLE MITIGATION OF CLIMATE CHANGE.

RC - \$20,000 (Co-I w/Ron Ryel – PI) **Jul 2011-Jun 2012**
 EXPLORING PLANT SOIL WATER RESOURCE POOLS: QUANTIFYING RHIZOSPHERE DYNAMICS.

UAES - \$16,000 **Jul 2010-Jun 2012**
 EXPLORING NOVEL MEASUREMENT METHODS FOR SOIL FLUID FLUX DETERMINATION.

USU – Water Initiative - \$19,430 (Co-I w/ Timothy Doyle-PI) **Jul 2009-Jun 2010**
 NUMERICAL METHODS FOR SENSING MOISTURE AND PHYSICAL CONDITION OF SOILS.

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.

TEACHING

PSC 5670/6670 – Environmental Soil Physics (4 Cr.) **2010, 2012, 2014, 2016, 2018, 2020**
SOIL 5650/6650 – Environmental Soil Physics (3 Cr.) **2006, 2008**
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

PSC 6140 – Unsaturated Flow and Transport (3 Cr.) **2011, 2015, 2021**
SOIL 6140 – Unsaturated Flow and Transport (3 Cr.) **2007, 2009**
PSB 7900 – Special Problems (2 Cr.) **2005**

Taught Spring semester, odd years

DEPT. PLANTS, SOILS AND BIOMETEOROLOGY UTAH STATE UNIVERSITY, LOGAN, UTAH

PSC 5740 – Environmental Quality: Soil and Water (2 Cr.) **Spring 2013, 2014**

PLSC 4230 – Landscape Irrigation Design (3 Cr.) **Spring 2009**

Taught hydraulics section spring semester w/ Kelly Kopp

DEPT. PLANTS, SOILS AND CLIMATE UTAH STATE UNIVERSITY, LOGAN, UTAH

Invited National/International Presentations (24)

1. **Jones, S.B.** 2020. Multifunctional Sensing of the Plant Root Zone: Water Status, Gas Exchange, Nutrient Level and Beyond. International Plant and Animal Genome Conference XXVIII, San Diego, CA, January 11-15.

2. **Jones, S.B.** Optimizing and Monitoring the Containerized Plant Root Zone: Microgravity, Moon and Mars. The Volcani Center, Institute of Soil, Water and Environmental Science. Dec. 18, 2019. Rishon LeZion, Israel.
3. **Jones, Scott B.** 2019. Advances in Sensors and Instrumentation for Soil Physical Property and Process Determination. National Central University, Taoyuan, Taiwan, July 3, 2019.
4. **Jones, Scott B.** 2019. Advances in sensors and instrumentation for soil physical property and process determination. 5th *Brazilian Soil Physics Meeting* at the Federal University of Lavras (UFLA), Lavras, MG State, Brazil. May, 26 – 29.
5. **Jones, S.B., W. Sheng, J. Xu, and D.A. Robinson.** 2018. Electromagnetic Sensors for Water Content: The Need for International Testing Standards. Proceedings of the 12th International Conference on Electromagnetic Wave Interaction with Water and Moist Substances (ISEMA). Lublin, Poland.
6. **Jones, S. B.,** International Workshop: Soil Physics and the Nexus of Food, Energy, and Water, "A Soil Moisture Monitoring and Forecast Network for Improved Water Resource Management," Northeastern University, Shenyang, Liaoning Province, China. August 3 - 5, 2017.
7. **Jones, S. B.,** Institute of Soil and Water Conservation Seminar, "A Utah Soil Moisture Monitoring and Forecast Network for Improved Water Resource Management and Risk Prediction," Chinese Academy of Sciences and Ministry of Water Resources, Yangling, China. (June 19, 2017)
8. **Jones, S. B.,** Environmental Sciences Department Seminar, "Plant Growth Media selection for Reduced Gravity Ecosystems: Orbit, Moon and Mars," UC Riverside, Riverside, CA. March 10, 2017.
9. **Jones, Scott B.** 2016. Soil Sensing and Modeling Approaches for Improved Understanding of Urban Soil Restoration. ASA-CSSA-SSSA Annual Meeting, November 6-9, Phoenix, AZ. Agronomy Abstracts. ASA, Madison, WI.
10. **Jones, Scott B.,** Robert Heinse, Dani Or, Markus Tuller and Gail E. Bingham. 2016. Considerations for Growing Plants in the Reduced Gravity of Space: Gas Percolation and Root Intrusion Effects in Porous Media. 2016 Kirkham Conference, April 10-14, Sde Boker, Israel.
11. **Jones, Scott B.,** Shmulik, P. Friedman, Pawel Szafruga and Kashifa Rumana. 2013. Exploring Soil Water Flux Estimates using Streaming Potential and Heat Pulse Measurement Techniques. Institute of Soil and Water Conservation, Chinese Academy of Sciences, Yangling, China, Dec. 13.
12. **Jones, Scott B.,** Dani Or, Robert Heinse and Markus Tuller. Root Zone Concept Designs for Reduced Gravity Environments. Workshop on Earth-Based Integrated Experimental System of Bioregenerative Life Support System with Humans Involved, Beihang University, Beijing, China, Dec. 2 – 4, 2013.
13. **Jones, S. B.,** D. Or, R. Heinse and M. Tuller. 2012. Beyond Earth: Designing Root Zone Environments for Reduced Gravity Conditions. Invited presentation at the 28th Annual Meeting of the Am. Soc. for Gravitational and Space Res., Nov. 28 – Dec. 2, 2012, New Orleans, Louisiana, USA.
14. **Jones, S.B.** 2012. Partitioning Evaporation and Infiltration Processes with an Array of Multifunction Heat Pulse Probes Beijing Forestry University, Beijing, P. R. China, March 13.
15. **Jones, S.B.,** D. Or, R. Heinse and M. Tuller. 2010. Beyond Earth: Designing root zone environments for reduced gravity. 1st International Conference and Exploratory Workshop on Soil Architecture and Physico-Chemical Functions "CESAR". Aarhus University, Research Centre

- Foulum, Denmark, Nov. 30 – Dec. 2.
16. **Jones, S.B.** and M. Sakai. 2010. Water Evaporation and Infiltration Estimates using Penta-needle Heat Pulse Technology. Department of Environmental Physics and Irrigation; Soil, Water and Environmental Sciences Institute, Volcani Center, ARO, Bet Dagan, Israel, June 20.
 17. **Jones, S.B.** 2009. Optimizing Root Zone Substrates for Microgravity. Environmental Biology and Life Support Technology Laboratory, School of Biological Science and Medical Engineering; Beihang University, Beijing, China, Aug. 18.
 18. **Jones, S.B.** 2009. Improving crop production using irrigation management in greenhouse agriculture with numerical modeling and instrumented monitoring. Shanghai International Soil and Sustainable Agricultural Symposium, Shanghai, China, Aug. 15-16.
 19. **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.
 20. **Jones, S.B.** 2008. Understanding Soil Properties Impacting Electromagnetic Determination of Soil Water Content. Korea University, Seoul, South Korea, Oct 28.
 21. **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.
 22. **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, Sep 16 – 18, 2008
 23. **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
 24. **Jones, S.B.** Frequency-Dependent Permittivity for Soil Water Content Determination. Workshop on Electromagnetic Techniques, Taubaté, Brazil Aug 28-29, 2008
 25. **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. Jan 28, 2008
 26. **Jones, S.B.** Automated Measurements for Characterizing O₂ and CO₂ Diffusion and Flux in Controlled and Natural Environments. Soil and Environmental Biogeochemistry Group, Stanford University. 7 Dec 2006
 27. **Jones, S.B.** and Krishna Shenai. Subsurface Measurement Needs for Ecological, Hydrological and Agricultural Applications. *The 50th IEEE International Midwest Symposium on Circuits and Systems (MWSCAS)*. Montreal, Canada Aug 5-7, 2007
 28. 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

ACADEMIC AND RESEARCH MENTORING

Current - Graduate Student/Postdoc/Scholar (0 MS; 1 Ph.D.; 0 Postdoc; 0 Scholar)

M.S. Students (1)
Chieh-Yun Chang

Aug 2021 –

HEAT PULSE PROBE OPTIMIZATION AND ELECTROMAGNETIC SENSOR STANDARDS DEVELOPMENT

Ph.D. Students (0)

Chihiro Naruke

Aug 2016 –

IMPROVED SOIL HEAT FLUX DETERMINATION USING TRI-NEEDLE HEAT PULSE PROBES

Postdoctoral Fellows (0)

Visiting Scholars (0)

Completed - Graduate Student/Postdoc/Scholar (6 MS; 6 Ph.D.; 9 Postdoc; 7 Scholars)

Past M.S. Degrees (6)

Lauren Ducas (Major Professor after Ron Ryel)

Oct 2012 – Jul 2014

IDENTIFYING GROWTH AND MAINTENANCE RESOURCE POOL IMPACTS ON GRASS-SAGEBRUSH ECOSYSTEM DYNAMICS

Pawel Szafruga (Major Professor)

Aug 2012 – Jul 2014

NOVEL STREAMING POTENTIAL AND THERMAL SENSOR TECHNIQUES FOR MONITORING WATER AND NUTRIENT FLUXES IN THE VADOSE ZONE

Kashifa Rumana (Major Professor)

Aug 2011 – May 2015

A NOVEL APPROACH FOR QUANTIFYING SOIL EVAPORATION RATE USING HEAT FLUX MEASUREMENTS

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.)

Romulus Okwany (Major Professor)

Jul 2004 – Dec 2006

LEACHING EFFICIENCY OPTIMIZATION AS A FUNCTION OF WATER APPLICATION RATE IN AGGREGATED POROUS MEDIA

James Mark Blonquist Jr. (Major Professor)

Jun 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)

Past Ph.D. Degrees (6)

Pakorn Sutitarnnontr

Aug 2010 – May 2019

MEASUREMENT AND MODELING OF REGULATED AND GREENHOUSE GAS EMISSIONS FROM ANIMAL FEEDING OPERATIONS

Kshitij “Kay” Parajuli (Dept. Civ. Env. Engrng.)

Aug 2014 – May 2018

ADVANCING METHODS TO QUANTIFY ACTUAL EVAPOTRANSPIRATION IN MONTANE ECOSYSTEMS

Ling Lv (Major Professor)

Jan 2011 – Jul 2014

MODELING EVAPOTRANSPIRATION IN A SEMI-ARID MOUNTAIN ECOSYSTEM INTEGRATING HYDRUS-1D AND WEATHER DATA

Hiruy Abdu (Major Professor)

Aug 2004 – Apr 2009

CHARACTERIZING SUBSURFACE TEXTURAL PROPERTIES USING ELECTROMAGNETIC INDUCTION MAPPING AND GEOSTATISTICS

Robert Heinse (Major Professor)

Jan 2004 – Jan 2009

MEASUREMENT AND MODELING OF REDUCED-GRAVITY FLUID DISTRIBUTION AND TRANSPORT IN UNSATURATED POROUS PLANT-GROWTH MEDIA

Vasile E. L. Turcu (Advisor w/Dani Or pre-2003) Apr 2003 – Apr 2005
CONTINUOUS MONITORING AND MODELING OF SOIL AND ATMOSPHERIC CO₂ DYNAMICS IN SEMI-ARID ECOSYSTEMS (ROMANIAN METEOROLOGICAL SERVICE, NOW STARTING HIS OWN ENVIRONMENTAL MONITORING BUSINESS, ROMANIA)

Past Postdoctoral Fellows (9)

Kshitij “Kay” Parajuli (Ph.D. in Dept. Civ. Env. Engrng., Utah State U) May 2018 – Feb 2019
ADVANCING METHODS TO QUANTIFY ACTUAL EVAPOTRANSPIRATION IN MONTANE ECOSYSTEMS

Dr. Morteza Sadeghi (Ph.D. from Ferdowsi Univ. of Mashhad, Iran) Jul 2014 – Jan 2019
NOVEL PHYSICALLY-BASED ALGORITHMS AND INSTRUMENTATION FOR DETERMINATION OF NEAR-SURFACE SOIL MOISTURE

Dr. Rong Zhou (Ph.D. from Hodaka University, Japan) June 2015 – May 2018
REMOTE SENSING OF SURFACE MOISTURE CONTENT IN POROUS MEDIA

Dr. Wenyi Sheng (Ph.D. from China Ag. Univ., Beijing) Sep 2014 – May 2018
NOVEL INSTRUMENTATION FOR NEAR SURFACE CHARACTERIZATION OF AGRICULTURAL SOIL PROPERTIES AND PROCESSES

Enzhu Hu Jul 2012 – Sep 2013
MODELING GREENHOUSE GAS EMISSIONS FROM ANIMAL MANURE SOURCES BASED ON DIETARY AND ENVIRONMENTAL VARIABLES

Masaru Sakai Sep 2009 – Apr 2011
MEASUREMENT AND MODELING OF TRANSPORT AND FATE OF SNOWMELT WATER AND SUBSURFACE EVAPORATION PROCESSES.

Changbing Yang Jun 2007 – Aug 2008
MODELING THE IMPACT OF MOUNTAIN VEGETATION ON THE TRANSPORT AND FATE OF SNOWMELT WATER

David A. Robinson (Promoted to Res. Asst. Prof. Oct. 2004) Aug 2003 – Oct 2004
MODELING IMPROVED ELECTROMAGNETIC DETERMINATION OF WATER CONTENT AND ELECTRICAL CONDUCTIVITY IN SALINE AND CLAYEY SOILS (ENVIRONMENT CENTRE WALES, UK)

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

Past Visiting Scholars (7: 3 Scientist; 3 Ph.D.; 2 B.S.)

Dr. Jinghui Xu Aug 2017 – Sep 2018
IMPACT OF SOIL PHYSICAL AND CHEMICAL PROPERTIES ON POROUS MEDIUM DIELECTRIC PERMITTIVITY AS MEASURED BY ELECTROMAGNETIC SENSORS AND INSTRUMENTATION

Azadeh Gholoubi (Ph.D. Candidate Mashhad University, Iran) March 2017 – May 2018
SOIL QUALITY CHANGE AFTER 50 YEARS IN FOREST - TEA FARM SYSTEMS AND ASSESSMENT OF SOIL AGGREGATE STABILITY USING SPECTRAL REFLECTANCE

Fabiana Bacalhau (B.S. student from Sao Paulo, Brazil) Sep 2012 – Dec 2012
PHYSICAL CHARACTERIZATION OF DAIRY MANURE

Rafael Fernandes (B.S. student from Sao Paulo, Brazil) May 2012 – Jul 2012
PHYSICAL CHARACTERIZATION OF DAIRY MANURE

Morteza Sadeghi (Ph.D. student from Ferdowsi Univ. of Mashhad, Iran) Jul 2011 - Jul 2012
NOVEL ANALYTICAL SOLUTIONS TO RICHARDS EQUATION USING SCALING

Congying Wang (Ph.D. student from China Agricultural University) Sep 2008 – Sep 2009

DEVELOPMENT OF REFERENCE STANDARDS FOR EM SENSOR CHARACTERIZATION AND CALIBRATION FOR WATER CONTENT DETERMINATION

Jun FAN (Scientist - Chinese Academy of Sciences, Yangling) Jul 2008 – Jul 2009

SENSOR-BASED IRRIGATION MANAGEMENT AND GRADIENT-BASED DETERMINATION OF SOIL CARBON FLUX

Vincente Urdanzo (Ph.D. student – Spain) Oct 2003 – May 2004

ELECTROMAGNETIC INDUCTION MEASUREMENTS OF SOIL

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

M.S. Degrees

Ryan Berry, Watershed Sciences Apr 2015 – May 2016

Lauren Ducas, Watershed Sciences Jan 2009 – Oct 2012

Melissa Atwell, University of The West Indies, Trinidad Feb 2012 – May 2013

Curtis B. Adams, Plants, Soils and Climate Aug 2008 – Aug 2010

Amy Burke, Watershed Sciences Mar 2007 – Dec 2008

Ph.D. Degrees

Samikshya Pyakurel, Soil Science Aug 2019 - Present

Will Wheeler, Plant Science Aug 2016 – Dec 2020

Idowu Atoloye, Soil Science Aug 2015 – Dec 2020

Andrea Bolletta, Plant Science May 2015 - Present

Miguel Leonardo, Civil and Environmental Engineering Jan 2015 - Present

Christopher Parry, Plants, Soils and Climate Mar 2012 – Aug 2014

Aditya Verma, Soil, Water and Environmental Sciences, U. of Arizona Jul 2011 – Dec 2012

Esther Babcock, Soil, Water and Environmental Sciences, U. of Arizona Jan 2011 – May 2012

Chod Stephens, Plants, Soils and Climate Aug 2011 -

Xystus Amakor, Plants, Soils and Climate Dec 2009 – May 2013

Hongyan Sun, Horticulture Nov 2008 –Dec 2011

Vinod Mahat, Civil Engineering Jun 2007 – Dec 2011

May Myklebust, Watershed Science May 2007 – Dec 2007

Robert N. Love, Plants, Soils and Biometeorology Apr 2003 – Deceased

Employees - Research Associate-, Graduate-, Undergraduate-Research Mentoring

Research Associate II/III (1-currently, 4 completed)

Jonathon Carlisle (20%) Sep 2007 – Present

Christopher Cox (100%) Jan 2012 – July 2017

R. William Mace (20%) Sep 2002 – Aug 2015

Pawel Szafruga (50%) Jul 2009 – May 2010

Justin Robinson (100%) (Campbell Scientific Inc., Logan, UT) Jan 2007 – Mar 2007

Graduate Students (1-currently, 7 completed)

Jiyao Li, Computer Science, Ph.D. Dec 2018 – Present

Ricardo Tejada, Electrical Engineering Jun 2012 – Jun 2014

Harsha Balam, Electrical Engineering Apr 2012 – Jan 2015

Matthew Dawson , M.S. Education, field technician	Aug 2007 – Sep 2008
Guy Serbin , Ph.D. Soil Science, 2005 (co-advised with Dani Or)	Aug 2002 – Dec 2003
Raghuveer Vinukollu , BIE	May 2006 – Jul 2006
Zijun Zhang , Ph.D. – Physics	Summer 2005
James Gregory , M.S. - Ecology	Summer 2007

Undergraduate Students (2 currently, 36 completed)

1. Adam Blakeslee, Electrical and Computer Engineering	Sep 2020 – present
2. Melanie Searle Mills, Biological Engineering	Sep 2020 – present
3. Joseph Turcotte, Computer Science	Dec 2018 – May 2019
4. Derek Workman, Electrical and Computer Engineering	Jan 2016 – Dec 2019
5. Benjamin Lundberg, Business Information Systems	Feb 2016 – May 2017
6. Benjamin Zeller, Electrical and Computer Engineering	Dec 2015 – Dec 2016
7. Benjamin Rider, Environmental Soil and Water Science	Jan 2015 – Jun 2017
8. Dane Brophy, Geology	Jan 2015 – Aug 2017
9. Utkarsh Shukla, Business Information Systems	Feb 2016 – Aug 2016
10. Joshua Perkins, Electrical and Computer Engineering	Dec 2015 – May 2016
11. Brant Cook, Environmental Soil and Water Science	Sep 2014 – May 2016
12. Vishal Patel, Business Information Systems	Jan 2013 – Dec 2014
13. Swadesh Patra, Electrical and Computer Engineering	Feb 2013 – May 2013
14. JC Almonte, Electrical Engineering	Aug 2012 – May 2014
15. Clinton Bell, Electrical Engineering	Apr 2012 – May 2013
16. Jason Macy, Computer Engineering	Feb 2012 – May 2012
17. Sammy Bhushan, Electrical and Computer Engineering	Aug 2011 – Feb 2016
18. Ricardo Tejada, Electrical Engineering	Apr 2011 – Jun 2014
19. Franyell Silfa, Electrical Engineering	Jul 2007 – Jul 2012
20. Marcos Chalas, Electrical Engineering	Jul 2007 – Dec 2011
21. Brittin Bennett, Electrical Engineering	Jun 2010 – Apr 2011
22. Kade Cox, Electrical Engineering	Jul 2009 – Feb 2011
23. Justin Walker, Mechanical Engineering	Aug 2009 – May 2010
24. Ricardo Estevez, Electrical Engineering	Nov 2006 – Aug 2010
25. Mark Nielsen, Statistics	Oct 2007 – Dec 2008
26. James Suisse, Electrical Engineering	Jun 2006 – May 2008
27. Isaac Ashby, Natural Resources Graduate	Jun 2007 – Dec 2007
28. Aaron Gines, Biology	Apr 2007 – Aug 2007
29. Justin Robinson, Plants, Soils and Climate	May 2006 – May 2007
30. Michael Larson, Electrical Engineering	Jan 2006 – May 2006
31. Shane Hansen, Mathematics	Oct 2005 – May 2006
32. Kelly Lewis, Electrical Engineering (+M.S.)	Jan 2005 – Dec 2006
33. Jeremiah Heiner, Computer Science	Aug 2004 – Dec 2004
34. Louis Koberstein, Electrical Engineering	Aug 2002 – May 2003
35. Jason Bingham, Computer Engineer	Aug 2002 – May 2004
36. Jeff VanShaar, Computer Science	Apr 2001 – May 2004
37. Seth Humphries, Electrical Engineering/Mathematics (+M.S.)	Dec 2000 – Aug 2004
38. Brent Bingham, Biological and Irrigation Engineering	Jun 1999 – Dec 2002

HONORS and AWARDS

International Professor of the Year	Apr 2020
COLLEGE OF AGRICULTURE AND APPLIED SCIENCES	UTAH STATE UNIVERSITY
Graduate Research Mentor of the Year	Apr 2019
COLLEGE OF AGRICULTURE AND APPLIED SCIENCES	UTAH STATE UNIVERSITY
Fellow	Sep 2018
SOIL SCIENCE SOCIETY OF AMERICA	SAN DIEGO, CA
DFG Review Panel	Jun 2018
GERMAN RESEARCH FOUNDATION	GERMANY
BARD Technical Advisory Committee Member	2017-2019
BINATIONAL AGRICULTURAL RESEARCH AND DEVELOPMENT FUND	ISRAEL
Chair-Soil Physics & Hydrology Division	Oct 2016
SOIL SCIENCE SOCIETY OF AMERICA ANNUAL MEETING	PHOENIX, AZ
Faculty Researcher of the Year	Apr 2013
COLLEGE OF AGRICULTURE	UTAH STATE UNIVERSITY
National Science Foundation Review Panel	Apr 2012
HYDROLOGICAL SCIENCES REVIEW PANEL	WASHINGTON, DC
BARD Fund Proposal Review Panel	2012-2014
SOIL AND WATER PROPOSAL REVIEW PANEL	BALTIMORE, MD
Wilford R. and Marjorie C. Gardner Junior Faculty Travel Fellowship	May 1, 2009
AWARDS GRANTED IN PHYSICS AND MUSIC RELATED SUBJECTS	UTAH STATE UNIVERSITY
Undergraduate Mentor of the Year	Apr 1, 2008
COLLEGE OF AGRICULTURE	UTAH STATE UNIVERSITY
USDA-NRI Proposal Review Panel	May 2008
SOIL PROPOSAL REVIEW PANEL	WASHINGTON, DC
Kirkham Conference Invitation	Feb 25 - 26, 2008
INVITED GUEST	UNIVERSITY OF CALIFORNIA-DAVIS, DAVIS, CA
International Space Station (ISS) Experiment	May 12, 2007 – Oct 4, 2007
OPTIMIZATION OF ROOT ZONE SUBSTRATES	SDL, USU AND IMBP, RUSSIA
NASA-JSC Parabolic Flight Weeks	Jan 2003, Jun 2003, Feb 2004, May 2006
MICROGRAVITY POROUS MEDIA EXPERIMENTS, REDUCED GRAVITY OFFICE	HOUSTON, TEXAS
Kirkham Conference Coordinator	Oct 28 - 29, 2004
COORDINATED THE CONFERENCE, DEVELOPED THE PROGRAM AND ARRANGED MEALS AND TRAVEL FOR 20 PRESENTERS AND ROOMS FOR 30 GUESTS.	USU, LOGAN, UTAH
BARD Postdoctoral Fellowship	1997-1999
BINATIONAL AGRICULTURAL RESEARCH AND DEVELOPMENT FUND	THE VOLCANI CENTER, ISRAEL
RMNSGC Fellowship	1992-1997
ROCKY MOUNTAIN NASA SPACE GRANT CONSORTIUM	LOGAN, UTAH
Phi Kappa Phi	1997
NATIONAL HONOR SOCIETY	
Passed EIT (Engineer-In-Training) Exam.	1990

PROFESSIONAL AFFILIATIONS

1996 –	American Geophysical Union
1996 –	Soil Science Society of America

2000 –	American Society of Agronomy
2000 –	W-1188 Western Regional Research Project
2002 – 2015	American Society of Agricultural Engineers
2004 – 2006	Western Society of Soil Science
2008 – 2009	Ecological Society of America

SERVICE ACTIVITIES

Symposium Co-Chair at the 2018 Annual Meeting of the Soil Science Society of America. M. Tuller and S.B. Jones. “Symposium--Advances in Remote Sensing of Land Surface Properties and Processes”. Tuesday, 8 January 2019 : 9:25-11:30 AM; Point Loma A, San Diego, CA.	
2016 iUTAH Management Team	Jun 2016-Aug 2017
NSF – EPSCoR FUNDED GRANT	
SSSA Rapid Response Team	Jan 2015-Dec 2017
SOIL SCIENCE SOCIETY OF AMERICA	
Past Chair–Soil Physics and Hydrology Division of SSSA	2017
SOIL SCIENCE SOCIETY OF AMERICA	
Chair–Soil Physics and Hydrology Division of SSSA	2016
SOIL SCIENCE SOCIETY OF AMERICA	
Chair Elect–Soil Physics and Hydrology Division of SSSA	2015
SOIL SCIENCE SOCIETY OF AMERICA	
Incoming Chair Elect–Soil Physics and Hydrology Division of SSSA	2014
SOIL SCIENCE SOCIETY OF AMERICA	
SSSA Fellows Committee	2014-2016
CHARGED WITH REVIEWING AND RATING SSSA FELLOW APPLICATIONS	
Vadose Zone Journal Associate Editor	2013-
CHARGED WITH SELECTING BOOKS AND REVIEWERS RELEVANT TO VZJ READERSHIP	
Symposium Organizer and Convener 20 th World Congress of Soil Science in Jeju, Korea 2014	
“Hydro-Ecological Observatories and Advances in Soil Measurement Science and Sensors”	
Soils S495 Fellows Committee	2014-2015
CHARGED WITH REVIEWING NOMINATIONS FOR FELLOW IN THE SOIL SCI. SOC. AM.	
Soils Methods Subcommittee of the SSSAJ Book and Multimedia Committee	2012-
CHARGED WITH EXPANDING THE SOIL SCI. SOC. AM. J. “METHODS” OFFERINGS	
Vadose Zone Journal Book Review Editor	2011-2014
CHARGED WITH SELECTING BOOKS AND REVIEWERS RELEVANT TO VZJ READERSHIP	
S-1 Session Co-Chair at the 2011 Annual Meeting of the Soil Science Society of America. M. Tuller, R. Knighton, S.B. Jones. “Symposium--Emission of Regulated and Greenhouse Gases: Measurement Technology, Monitoring and Policy: I”. Tuesday, 18 October 2011: 8:00 AM; HGCC Room 206A, San Antonio, TX.	
Don and Betty Kirkham Soil Physics Award Committee (S483)	Jan. 2010 – Dec. 2011
Chair – W2188 Soil Physics Technical Committee	2010-2011
WESTERN REGIONAL MULTI-STATE RESEARCH PROJECT	USDA
Secretary - W1188 Soil Physics Technical Committee	2009-2010
WESTERN REGIONAL MULTI-STATE RESEARCH PROJECT	USDA
S-1 Session Chair at the 2010 Annual Meeting of the Soil Science Society of America. “Soil Change: Characterizing and Modeling across Scales”. Monday, 1 November 2010: 8:00 AM;	

Hyatt Regency Long Beach, Shoreline B room, Long Beach, CA.

S-1 Session Chair at the 2008 Annual Meeting of the Soil Science Society of America. “Soil Moisture: Advances in Design and Development of Water Content, Matric Potential, and Flux Measurement Methods for the Critical Zone: I”. Tuesday, 7 October 2008: 8:55 AM; George R. Brown Convention Center, 362F; Houston, TX.

S-1 Session Chair at the 2005 Annual Meeting of the Soil Science Society of America. “Advances in Methods/Theory” Monday, 7 November 2005: 2:10 PM; Salt Palace Convention Center, Salt Lake City, UT.

2004 Kirkham Conference Coordinator. Arranged travel and housing of 20 invited presenters and scheduled the facilities for the conference which honors one of the great soil physicists, Don Kirkham, Held at the Eccles Conference Center, Utah State University, Logan, UT, October 28-29.

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

USU Committee Assignments

Space Committee Chair

DEPT. PLANTS, SOILS AND CLIMATE

Associate Dept. Head

DEPT. PLANTS, SOILS AND CLIMATE

Graduate Studies Committee Chair

DEPT. PLANTS, SOILS AND CLIMATE

Safety Committee

DEPT. PLANTS, SOILS AND CLIMATE

2017-

UTAH STATE UNIVERSITY

2016-2019

UTAH STATE UNIVERSITY

2011-2015

UTAH STATE UNIVERSITY

2009-2012

UTAH STATE UNIVERSITY

Soils Curriculum Committee	2002-
Extension Irrigation Engineer Search Committee	2011-2012
ASST./ASSOC. PROFESSOR POSITION IN CIVIL & ENVIRONMENTAL ENG.	UTAH STATE UNIVERSITY
Graduate Studies Committee	2002-2011
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY
College of Agriculture Scholarships and Fellowships Committee	2009-2010
	UTAH STATE UNIVERSITY
PSC Climate Scientist Position Search Committee	2010
ASSISTANT PROFESSOR POSITION IN PLANTS, SOILS AND CLIMATE	UTAH STATE UNIVERSITY
WATS Hydrology Position Search Committee	2008-2009
ASSISTANT PROFESSOR POSITION IN WATERSHED SCIENCES	UTAH STATE UNIVERSITY
USU SusCounc Transportation Committee	2008-2011
USU SUSTAINABILITY COUNCIL (SUSCOUNC)	UTAH STATE UNIVERSITY
Vehicle Committee Chair	2006-2011
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY
Spring Runoff Conference Organizing Committee	2006, 2008
USU WATER INITIATIVE	UTAH STATE UNIVERSITY
Department Advisory Committee (DAC)	2006-2008
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY
Seminar Committee	2004-2008
DEPT. PLANTS, SOILS AND BIOMETEOROLOGY	UTAH STATE UNIVERSITY
Water Initiative Task Force	2002-2003
UNIVERSITY WIDE COMMITTEE TO STUDY WATER ISSUES	UTAH STATE UNIVERSITY
Extracurricular Service	
Institute Men's Association (IMA) Advisor	2002-2006
(FORMERLY SIGMA GAMMA CHI FRATERNITY)	LOGAN INSTITUTE OF RELIGION