

Scott B. Jones – Curriculum Vita

Professor of Environmental Soil Physics
Dept. Plants, Soils, and Climate
Adjunct – Biological/Civil Engineering
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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

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
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
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
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
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

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. He, H., W. Zou, **S.B. Jones**, D.A. Robinson, R. Horton, M. Dyck, V. Filipović, K. Noborio, K. Bristow, Y. Gong, W. Sheng, Q. Wu, H. Feng and Y. Liu. 2023. Critical review of the models used to determine soil water content using TDR-measured apparent permittivity. *Advances in Agronomy*. Vol. 182. pp 169-219. Academic Press. <https://doi.org/10.1016/bs.agron.2023.06.004>
2. Tuller, M, E. Babaeian and **S.B. Jones**. 2023. Proximal Sensing of Soil Moisture in: M. Goss and

- M. Oliver Eds. *Encyclopedia of Soils in the Environment* (2nd ed.). Academic Press. ISBN: 9780128229743
3. 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. Wigneron, 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/ceoswgcv/lpv/sm.001.
 4. 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.
 5. 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.
 6. **Jones, Scott B.** 2013. *Soil Gasses and Transport* in: Naftali Lazarovitch and Art Warrick Eds., Exercises in Soil Physics. Catena, pp. 263-292.
 7. 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.
 8. **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. Babaeian, E., **A. Ghorbani**, M. Sadeghi, R. Muñoz-Carpena, S.B. Jones, S. Grunwald. 2025. Soil Moisture Projections with Conventional and Physics-Informed Deep Learning. *accepted in J. Hydrology*.
2. **Dixon, Chihiro**, Gioia D. Massa, **Scott B. Jones**. 2025. Optimizing an On-Demand Passive Fertigation System for Microgravity. *Gravitational and Space Research*. 12 pp.1–13. DOI: 10.2478/gsr-2025-0006
3. **Ghorbani, A.**, E. Babaeian, M. Sadeghi, W. Durner, **S.B. Jones** and M. Th. van Genuchten. 2025. An improved van Genuchten Soil Water Characteristic Model to Account for Surface Adsorptive Forces. *J. Hydrology*. p. 133692. <https://doi.org/10.1016/j.jhydrol.2025.133692>
4. Zhang, R., Sheng, W., Ni, W., Meng, F., **González-Teruel, J.D.**, **Jones, S.B.** 2025. A 20–400 Mhz Microstrip-Line Measurement System for Soil Permittivity and Electrical Conductivity Determination. *Measurement*. 253 p. 117676. <https://doi.org/10.1016/j.measurement.2025.117676>.
5. Sheng, W., Wenfeng Ni, **J.D. Gonzalez-Teruel**, J. Xu, **S.B. Jones** and D.A. Robinson. 2025.

- Considerations on Measurement Frequency of Electromagnetic Sensors for Soil Water Content Determination. *Geoderma*. 457, p.117292. <https://doi.org/10.1016/j.geoderma.2025.117292>.
6. Dakshinamurthy, H.N., **Jones, S.B.**, Schwartz, R., and Young, S. 2025. Waveform analysis for short time domain reflectometry (TDR) probes to obtain calibrated moisture measurements from partial vertical sensor insertions. *Computers and Electronics in Agriculture*. 235, p.110233. <https://doi.org/10.1016/j.compag.2025.110233>
 7. **González-Teruel, J.D.**, Sheng, W., Robinson, D.A. and Jones, S.B., 2024. Conductive silver fabric as a shorting calibration standard for dielectric coaxial probes. *Measurement*, 244, p.116482. <https://doi.org/10.1016/j.measurement.2024.116482>
 8. Dakshinamurthy, H.N., **Jones, S.B.**, Corkins, S., Pandey, P., and Young, S. 2024. Design and evaluation of an aerial vehicle payload for automated, near-surface soil moisture measurements. *Computers and Electronics in Agriculture*. 227: 109518. <https://doi.org/10.1016/j.compag.2024.109518>
 9. Sheng, W., Y. Wu, C. Chang, **J.D. Gonzalez-Teruel, S.B. Jones** and F. Meng. 2024. Sampling volume evaluation of seven electromagnetic soil moisture sensors. *Ag. Forest Met.* 358, 110240. <https://doi.org/10.1016/j.agrformet.2024.110240>.
 10. **Ghorbani, A.**, Sadeghi, M., Tuller, M., Durner, W., and **Jones, S.B.** 2024. A generalized van Genuchten model for unsaturated soil hydraulic conductivity. *Vadose Zone Journal*, e20369. <https://doi.org/10.1002/vzj2.20369>.
 11. Sheng, W., Zhang, R., Chang, C.Y., **González-Teruel, J.D.**, **Jones, S.B.**, Zhang, M. and Meng, F., 2024. Effects of electrical conductivity on uncoated-and coated-rods of eight electromagnetic soil water content sensors. *Ag. Forest Met.*, 355, p.110103. <https://doi.org/10.1016/j.agrformet.2024.110103>.
 12. Bandai, T., Sadeghi, M., Babaeian, E., **Jones, S.B.**, Tuller, M. and Ghezzehei, T.A., 2024. Estimating soil hydraulic properties from oven-dry to full saturation using shortwave infrared imaging and inverse modeling. *J. Hydrology*, 635, p.131132. <https://doi.org/10.1016/j.jhydrol.2024.131132>.
 13. Thompson, M.L., Grunwald, S., **Jones, S.B.**, Lal, R., Skinner, P. and Zhang, W., 2024. Society-to-society collaboration between the United States and China: A path forward. *Perspectives of Earth and Space Scientists*, 5(1), p.e2024CN000238. <https://doi.org/10.1029/2024CN000238>
 14. Feng, S., Chen, J., **Jones, S.B.**, Flerchinger, G., Dyck, M., Filipovic, V., Hu, Y., Si, B., Lv, J., Wu, Q. and He, H., 2024. Miscellaneous methods for determination of unfrozen water content in frozen soils. *J Hydrology*. 631 p.130802. <https://doi.org/10.1016/j.jhydrol.2024.130802>.
 15. **Lv, L., K. Parajuli**, L.E. Hippias and **S.B. Jones**. 2024. Evapotranspiration Estimates in Four Common Vegetation Types in a Mountain Region of the Intermountain West. *Ag. Forest Met.*, 345, p.109861. <https://doi.org/10.1016/j.agrformet.2023.109861>.
 16. Norouzi, S., Sadeghi, M., Tuller, M., Ebrahimian, H., Liaghat, A., **Jones, S.B.**, de Jonge, L.W. 2023. A Novel Laboratory Method for the Retrieval of the Soil Water Retention Curve from Shortwave Infrared Reflectance, *J. Hydrology*, 626, p.130284, doi: <https://doi.org/10.1016/j.jhydrol.2023.130284>.
 17. Fu, Y., **S.B. Jones**, R. Horton, and J. Heitman. 2023. Excluding quartz content from the estimation of saturated soil thermal conductivity: combined use of differential effective medium theory and geometric mean method. *Ag. Forest Met.* 342, p.109743. doi.org/10.1016/j.agrformet.2023.109743.
 18. **Dixon, C.**, A. Blakeslee, M. Mills, W. Sheng and **S.B. Jones**. 2023. Automated Hanging Water Column for Characterizing Water Retention and Hysteresis of Coarse-Textured Porous Media.

- Soil Sci. Soc. Am. J.*, 87,1474–1484. <https://doi.org/10.1002/saj2.20596>.
19. Chen, J., Sun, Y., Oki, L. R., Sisneroz, J. A., Reid, K., Nackley, L. L., Contreras, R. N., Kim, S., Schuch, U. K., Haver, D. L., Stuke, M., Fron, A., Kopp, K., **Jones, S. B.**, and Hipps, L. 2023. Climate-ready Landscape Plants: Garden Roses Tried at Reduced Irrigation Frequency in Utah, USA. *Hort. Technology*, 33(5), 477-492. <https://doi.org/10.21273/HORTTECH05252-23>.
 20. Meng, F., Li, T., Sheng, W.*, Dixon, C., Zhou, R. and **Jones, S.B.** 2023. Heat pulse probe design optimization using numerical simulation. *Geoderma*. 436, p.116534. <https://doi.org/10.1016/j.geoderma.2023.116534>.
 21. **Dixon, C.**, W. Sheng, R. Zhou, R. Horton and **S.B. Jones**. 2023. Thermal Property Standards using Granular Media with Air-Pluviation and Heat Pulse Probe Measurements. *Ag. Forest Met.*, 330, p.109303. <https://doi.org/10.1016/j.agrformet.2022.109303>.
 22. Chen, J.J., Y. Sun, K. Kopp, L. Oki, **S.B. Jones**, and L.W. Hipps. 2023. Physiological and Canopy Temperature Responses to Drought of Four Penstemon Species. *HortScience*, 58(5), pp.539-549.
 23. Norouzi, S., M. Sadeghi, M. Tuller, A. Liaghat, **S.B. Jones** and H. Ebrahimian. 2022. A Novel Physical-empirical Model Linking Shortwave Infrared Reflectance and Soil Water Retention. *J. Hydrology*. 614, p.128653. <https://doi.org/10.1016/j.jhydrol.2022.128653>.
 24. Chen, J.J., Y. Sun, K. Kopp, L. Oki, **S.B. Jones**, and L.W. Hipps. 2022. Effects of Water Availability on Leaf Trichome Density and Plant Growth and Development of *Shepherdia ×utahensis*. *Frontiers in Plant Science*. DOI: 10.3389/fpls.2022.855858.
 25. **González-Teruel, J.D.**, **S.B. Jones**, D.A. Robinson, J. Giménez-Gallego, R. Zornoza and R. 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. *Computers and Electronics in Agriculture*. 195, p.106847. doi.org/10.1016/j.compag.2022.106847
 26. **Jones, S.B.**, Sheng, W. and Or, D., 2022. Dielectric Measurement of Agricultural Grain Moisture—Theory and Applications. *Sensors*, 22(6), p.2083.
 27. Sun, Helen., Kelly Kopp, Grant Cardon and **S.B. Jones**. 2022. Numerical Simulation of Water and Nitrogen Transport in Three Turfgrass Systems. *Int. Turfgrass Soc. Res. J.* 14(1):90-109. DOI: doi.org/10.1002/its2.52.
 28. **Naruke, C.**, W. Sheng, R. Zhou and **S.B. Jones**. 2021 Standardizing Heat Pulse Probe measurements for thermal property determination using ice and water. *Ag. Forest Met.* 308, p.108610. doi.org/10.1016/j.agrformet.2021.108610.
 29. **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.
 30. 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.
 31. 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.
 32. 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.
 33. **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.
34. 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.
 35. **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.
 36. **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.
 37. 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.
 38. 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.
 39. 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.
 40. 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.
 41. 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
 42. 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.
 43. **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.
 44. **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. *Ag. Forest Met*. 265:183-194. doi.org/10.1016/j.agrformet.2018.11.019
 45. 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).
 46. 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. *Ag. Forest Met.*, 263, pp.399-408. doi.org/10.1016/j.agrformet.2018.09.009
 47. **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
48. 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.
 49. 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.
 50. **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.
 51. **Hu, Enzhu, P. Sutitarnontr**, 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.
 52. **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.
 53. **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.
 54. 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.
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154. Robinson, D.A., **S.B. Jones** and S.P. Friedman. 2006. Modeling Structural and Thermal Effects on TDR Measurements in Granular Porous Media. Proceedings of the 3rd International Symposium and Workshop on Time Domain Reflectometry for Innovative Soils Applications. September 17-20, 2006, Purdue University.

155. **Jones, S.B.**, D.A. Robinson and S.P. Friedman. 2006. A subsurface open-ended TDR probe for on-the-go mapping of water content. Proceedings of the 3rd International Symposium and Workshop on Time Domain Reflectometry for Innovative Soils Applications. September 17-20, 2006, Purdue University.
156. Friedman, S.P., D.A. Robinson and **S.B. Jones**. 2006. Review of geometrical and interfacial factors determining the effective permittivity-volumetric water content relationships of soil and rocks. Proceedings of the 3rd International Symposium and Workshop on Time Domain Reflectometry for Innovative Soils Applications. September 17-20, 2006, Purdue University.

Technical Papers (Non-refereed)

1. Tuller, M., Babaeian, E., **Jones, S. B.**, Montzka, C., Vereecken, H., and Sadeghi, M. 2019. The paramount societal impact of soil moisture. EOS 100. Q17 doi: 10.1029/2019EO128569
2. Sutitarnnontr, P., Hu, E., Miller, R.L., Tuller, M., **Jones, S.B.** 2013. Measurement Accuracy of a Multiplexed Portable FTIR – Surface Chamber System for Estimating Gas Emissions, Proceedings of the ASABE Annual International Meeting. Kansas City, Missouri, July 21 - July 24. ASABE Paper No. 131620669. St. Joseph, MI.
3. Sutitarnnontr, P., R. Miller, S. Bialkowski, M. Tuller and **S.B. Jones**. 2012. A Multiplexing System for Monitoring Greenhouse and Regulated Gas Emissions from Manure Sources using a Portable FTIR Gas Analyzer. Proceedings of the ASABE Annual International Meeting, Dallas, Texas, July 29 - August 1. ASABE Paper No. 121337982. St. Joseph, MI.
4. **Jones, S.B.**, R.M. Estevez and D.A. Robinson. 2009. Novel Mobile Soil Water Content Sensing Techniques. ASABE Paper No. 097158. St. Joseph, Mich.: ASABE.
5. Estevez, R. and **S.B. Jones**. 2009. Frequency Domain Soil Moisture Determination Using an Open-Ended Dielectric Probe. ASABE Paper No. 097130. St. Joseph, Mich.: ASABE.
6. 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 Paper No. 097022. St. Joseph, Mich.: ASABE.
7. C. Wang, R. Estevez, C.M.P. Vaz and **S.B. Jones**. 2009. Quantifying the Impact of Soil Properties on the Performance of Electromagnetic Water Content Sensors. ASABE Paper No. 096999. St. Joseph, Mich.: ASABE.
8. Norikane, J.H., **S.B. Jones**, S.L. Steinberg, H.G. Levine and D. Or. 2003. Effects of variable gravity on porous media matric potential and water content measurements. *ASAE Technical Paper* 034067. ASAE annual International meeting, Riviera Hotel, Las Vegas, NV. July 27-30, 2003.

Conference Proceedings (Non-refereed)

9. Tabatabaenejad, A., M. Sadeghi, M. Moghaddam, M. Tuller, **S.B. Jones**. 2017. IEEE International Geoscience and Remote Sensing Symposium, "Retrieval of AirMOSS Root-Zone Soil Moisture Profile with a Richards' Equation-Based Approach," IEEE, Fort Worth, TX. July 23 - 28, 2017
10. **Jones, S.B.**, Dani Or, Robert Heinse and Markus 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.
11. **Jones, S.B.**, R.M. Estevez and D.A. Robinson. 2008. Frequency-Dependent Permittivity for Soil Water Content Determination. Second Workshop for Applications of Electromagnetic Techniques

- in Environmental Monitoring. Proceedings of Workshop II, Applications of Electromagnetic Techniques for Environmental Monitoring. August 26-27, 2008. Department of Civil Engineering – University of Taubate (UNITAU), Brasil.
12. Robinson, D.A., **S.B. Jones**, T. Doyle, J.M. Blonquist, H. Abdu, V. Urdanoz and R. Aragues. Determining Spatial Patterns, Processes and Properties of Soils using Electromagnetic Measurements. 2007. Proceedings of the International Conference on Microwaves and Optoelectronics – 2007. Aurangabad, India, Dec. 17-20.
 13. **Jones, S.B.** and K. Shenai. 2007. Subsurface Measurement Needs for Ecological, Hydrological and Agricultural Applications. *Proceedings of the 50th IEEE International Midwest Symposium on Circuits and Systems (MWSCAS)*. August 5-7, Montreal, CA, Invited.
 14. Blonquist Jr., J.M., **S.B. Jones**, and D.A. Robinson. 2005. Water Conservation from Precise Irrigation Scheduling Using a Subsurface Electromagnetic Soil Moisture Sensor. Technical Session Proceedings of the 26th Annual Irrigation Association International Irrigation Show. November 6-8, 2005, Phoenix, AZ.
 15. **Jones, S.B.**, D. Or, G.E. Bingham and T.S. Topham. 2004. Automated Systems for Oxygen Diffusion Measurements in Porous Media at 1g and 0g. Proceedings of the 9th Biennial ASCE Aerospace Division International Conference on Engineering, Construction and Operations in Challenging Environments “Earth & Space 2004”. March 7-10, 2004, League City/Houston, TX.
 16. Steinberg, S. L., J.I.D. Alexander, D. Or, N. Daidzic, **S.B. Jones**, L. Reddi, M. Tuller, G. Kluitenberg and M. Xiao. 2004. Flow and distribution of fluid phases through porous plant growth media in microgravity. Proceedings of the 9th Biennial ASCE Aerospace Division International Conference on Engineering, Construction and Operations in Challenging Environments “Earth & Space 2004”. March 7-10, 2004, League City/Houston, TX.
 17. Or, D, M. Tuller and **S.B. Jones**. 2004. Liquid-gas interfacial configurations in angular pores under microgravity. Proceedings of the 9th Biennial ASCE Aerospace Division International Conference on Engineering, Construction and Operations in Challenging Environments “Earth & Space 2004”. March 7-10, 2004, League City/Houston, TX.
 18. Or, D and **S.B. Jones**. 2002. Time domain reflectometry measurement of bulk permittivity of porous mixtures containing bound water. Proceedings of the Fifth International Conference on Electrical Transport and Optical Properties of Inhomogeneous Media ETOPI6 held in the Cliff Lodge at Snowbird Ski Resort, Utah, 15-19 July 2002
 19. **Jones, S.B.** and D. Or. 2002. Time domain reflectometry (TDR) applications in earth sciences. Proceedings of the IEEE Antennas and Propagation Society International Symposium, Volume 1, June 16-21, 2002 San Antonio, Texas.
 20. Wraith, J.M., D. Or. and **S.B. Jones**. 2001. Dielectric properties of bound water: Application to porous media surface area and grain moisture determination. TDR 2001: Proceedings of the Second International Symposium and Workshop on Time Domain Reflectometry for Innovative Geotechnical Applications. Northwestern University, September 5-7, 2001, Evanston, Illinois.
 21. **Jones, S.B.** and D. Or. 2001. Automated Frequency Domain Analysis for Extending TDR Measurement Range in Saline Soils. TDR 2001: Proceedings of the Second International Symposium and Workshop on Time Domain Reflectometry for Innovative Geotechnical Applications. Northwestern University, September 5-7, 2001, Evanston, Illinois.
 22. Or, D and **S.B. Jones**. 2001. Thermal and geometrical effects on bulk permittivity of porous mixtures containing bound water. Proceedings of the first workshop on application of TDR techniques in Agriculture. July 17-18, 2001. Campinas State University, Sao Paulo, Brasil.
 23. Or, D and **S.B. Jones**. 2001. Extending TDR measurement range in saline soils using frequency-

- domain methods. Proceedings of the first workshop on application of TDR techniques in Agriculture. July 17-18, 2001. Campinas State University, Sao Paulo, Brasil.
24. **Jones, S.B.** and D. Or. 2001. Thermal and geometrical effects on bulk permittivity of porous mixtures containing bound water. Proceedings of the fourth International Conference on Electromagnetic Wave Interactions with Water and Moist Substances". Weimar Germany, May 13-16, 2001.
 25. **Jones, S.B.**, and S.P. Friedman. 1999. Water content and particle shape effects on the dielectric permittivity of anisotropic porous media. Third Workshop on Electromagnetic Wave Interaction with Water and Moist Substances. Holiday Inn, Athens, Georgia, April 12-13.
 26. **Jones, S.B.**, and D. Or. 1997. Microgravity effects on water flow and distribution in unsaturated porous media. Rocky Mountain NASA Space Grant Consortium Fellowship Students Symposium. Univ. of Utah, Salt Lake City, UT. June 12.
 27. **Jones, S.B.** 1996. Capillary-driven root module design for microgravity. Rocky Mountain NASA Space Grant Consortium Fellowship Students Symposium. Univ. of Utah, Salt Lake City, UT. June 12.
 28. **Jones, S.B.** 1995. Growth media for optimal liquid and gaseous fluxes to plant roots in microgravity. Rocky Mountain Space Grant Consortium Fellowship Students Symposium. Hansen Planetarium, Salt Lake City, UT. June 14. Fourth International Symposium On Soil Water Measurement Using Capacitance, Impedance and Time Domain Transmission (TDT). Montreal, Canada, July 16-18.

FUNDED RESEARCH CONTRACTS AND GRANTS

Competitive Federal/International/Private Grants

Submitted:

- USDA-NIFA – \$650,000 (Wei Zhang-PI w/S.B. Jones et al.)** **Apr 2026-Mar 2029**
 ADVANCING FIELD-LEVEL WATER MANAGEMENT: CONNECTING ROOT ZONE SOIL MOISTURE TO REMOTELY SENSED SURFACE SIGNATURES
- NASA Space Biology – \$793,493 (Jones-PI w/B. Bugbee, N. Langenfeld)** **Jan 2026-Dec 2028**
 OPTIMIZING ROOT ZONE MOISTURE, OXYGENATION AND NUTRITION IN REGENERATIVE FOOD PRODUCTION SYSTEMS FOR REDUCED GRAVITY
- NASA Space Biology – \$600,000 (J.J. Chen-PI w/S.B. Jones et al.)** **Dec 2025-Nov 2028**
 OVERCOMING LUNAR-REGOLITH-RELEVANT STRESSORS THROUGH INTEGRATION OF AUTOMATED MANAGEMENT, MULTI-GENERATIONAL EFFECTS, AND STRESS-TOLERANCE STRATEGIES

Funded:

- NASA – \$1,878,190 (S.B. Jones-PI w/B. Bugbee, C. Bingham)** **Sep 2025-Mar 2027**
 THE UTAH REUSABLE ROOT MODULE FOR FOOD PRODUCTION IN MICROGRAVITY: PHASE C
- NASA Wyoming EPSCoR - \$100,000. (Sci-PI: J. Chen, Co-I: S.B. Jones)** **Sep2024-Aug 2025**
 BIOPHYSICS-BASED RHIZOSPHERE-WATER AND -CARBON MANAGEMENT FOR INHOSPITABLE SOILS USING ENGINEERED LUNAR OR MARTIAN REGOLITH SIMULANT
- USGS A104G, \$499,681 (PI: W. Zhang, Co-I: N. Barth, S.B. Jones)** **Jan 2024-Dec 2025**
 QUANTIFICATION AND PROJECTION OF THE CONUS WATER BUDGET USING A HIERARCHICAL MODELING SYSTEM
- NASA – \$2,000,000 (Jones-PI w/B. Bugbee, C. Bingham)** **Apr 2023-Mar 2025**

DESIGN, MONITORING AND MANAGEMENT APPROACHES FOR THE ROOT-ZONE IN MICROGRAVITY:
 PHASE B
NASA– \$225,000 (PI-USU) Jul 2020-June 2022
 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
 IUTAH - 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 Sutitarnnontr, 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-Co-I) 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 – \$76,135, PI-Jones w/ Gonzalez-Teruel, Sheng, Ghorbani May 2025-Dec 2026
NOVEL SOIL SURFACE MOISTURE SENSORS AND MACHINE LEARNING CONNECT REMOTE SENSING TO DEEPER SOIL MOISTURE

USU Extension Water Initiative – \$150,000 (Jones-PI w/Ghorbani) Jun 2023-May 2025
DECISION-MAKING TOOLS FOR CROP- AND RANGELAND-PRODUCTION USING IMPROVED SOIL MOISTURE ALGORITHMS

USU-RC– \$20,000 (PI) Sep 2022-Aug 2023
DEVELOPMENT OF NOVEL PHYSICS-CONSTRAINED MACHINE LEARNING ALGORITHMS TO MODEL COMPLEX SOIL WATER FLOW PROCESSES

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, 2022, 2024

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, 2025

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 (32)

1. **Jones, S.B.** 2022. Soil Water (Moisture) Content: Measurement Principles, State of the Art and Future Opportunities. *Institute of Agrophysics Seminar*, Lublin, Poland. May 17, 2022. <https://www.ipan.lublin.pl/seminar-of-prof-scott-b-jones-form-utah-state-university-logan-usa/>
2. **Jones, S.B.** 2022. Soil Property Sensing: Measurement Principles, State of the Art and Future Opportunities. *Institute of Agrophysics Seminar*, UC Merced, Merced, CA. June 13, 2022.
3. **Jones, S.B.** 2022. Soil Water (Moisture) Content: Measurement Principles, State of the Art and Future Opportunities. *Virtual Earth-Surface Ecosystems Sciences Lecture* at China Agricultural University, Beijing, China. October 13.
4. **Jones, S.B.** 2022. Quality Assessment Needs for Soil Water Content Sensors. *Virtual Presentation at the Silk Road International Symposium on Plateau Ecological Environment Protection and High-quality Development of the Yellow River Basin*. Xian, China. November 7.
5. **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.
6. **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.
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.** 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.
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.
10. **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.
11. **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)
12. **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.

13. **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.
14. **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.
15. **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.
16. **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.
17. **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.
18. **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.
19. **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.
20. **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.
21. **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.
22. **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.
23. **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.
24. **Jones, S.B.** 2008. Understanding Soil Properties Impacting Electromagnetic Determination of Soil Water Content. Korea University, Seoul, South Korea, Oct 28.
25. **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.
26. **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
27. **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
28. **Jones, S.B.** Frequency-Dependent Permittivity for Soil Water Content Determination. Workshop on Electromagnetic Techniques, Taubaté, Brazil Aug 28-29, 2008
 29. **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
 30. **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
 31. **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
 32. 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 (2 MS; 1 Ph.D.; 1 Postdoc; 1 Scholar)

M.S. Students (2)

Alexandra Cartwright

May 2025 – Present

MODELING PEAT MOSS PLANT GROWTH MEDIUM PHYSICAL, CHEMICAL AND HYDROLOGICAL CHARACTERISTICS

Ph.D. Students (1)

Postdoctoral Fellows (1)

Juando Gonzalez-Teruel

May 2023 –

INSTRUMENTATION AND SENSING OF POROUS MEDIA ELECTRICAL PROPERTIES

Claudia Garrido Ruiz

Aug 2024 –

NASA PLANT GROWTH SYSTEM DATA ANALYSIS

Visiting Scholars (1)

Asghar Ghorbani

Jul 2022 –

IMPROVED SOIL HYDRAULIC FUNCTIONS AND MACHINE LEARNING APPROACHES

Completed - Graduate Student/Postdoc/Scholar (7 MS; 7 Ph.D.; 10 Postdoc; 8 Scholars)

Past M.S. Degrees (7)

Sarah E. Schreck

Aug 2023 – May 2025

NASA ENVIRONMENTAL PLANT GROWTH SYSTEM FOR REDUCED GRAVITY

Chieh-Yun Chang

Aug 2021 – Dec 2024

HEAT PULSE PROBE OPTIMIZATION AND ELECTROMAGNETIC SENSOR STANDARDS DEVELOPMENT

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 (7)

Chihiro Naruke Dixon Aug 2016 – Aug 2024

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

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 (10)

Chihiro Naruke Dixon Aug 2024 – Jan 2025

PLANT GROWTH MEDIA HYDRODYNAMICS UNDER REDUCED GRAVITY CONDITIONS

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 – April 2025
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 Tejeda , 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
Raghuvveer 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. Dylan Opperman, Electrical and Computer Engineering	May 2025 - Present
2. Seth Beddes, Electrical and Computer Engineering	Jan 2024 – Apr 2025
3. Samuel Randall, Business	August 2023 – Dec 2023
4. Adam Blakeslee, Electrical and Computer Engineering	Sep 2020 – May 2022
5. Melanie Searle Mills, Biological Engineering	Sep 2020 – Dec 2021
6. Joseph Turcotte, Computer Science	Dec 2018 – May 2019
7. Derek Workman, Electrical and Computer Engineering	Jan 2016 – Dec 2019
8. Benjamin Lundberg, Business Information Systems	Feb 2016 – May 2017
9. Benjamin Zeller, Electrical and Computer Engineering	Dec 2015 – Dec 2016
10. Benjamin Rider, Environmental Soil and Water Science	Jan 2015 – Jun 2017
11. Dane Brophy, Geology	Jan 2015 – Aug 2017
12. Utkarsh Shukla, Business Information Systems	Feb 2016 – Aug 2016
13. Joshua Perkins, Electrical and Computer Engineering	Dec 2015 – May 2016
14. Brant Cook, Environmental Soil and Water Science	Sep 2014 – May 2016
15. Vishal Patel, Business Information Systems	Jan 2013 – Dec 2014
16. Swadesh Patra, Electrical and Computer Engineering	Feb 2013 – May 2013
17. JC Almonte, Electrical Engineering	Aug 2012 – May 2014
18. Clinton Bell, Electrical Engineering	Apr 2012 – May 2013
19. Jason Macy, Computer Engineering	Feb 2012 – May 2012
20. Sammy Bhushan, Electrical and Computer Engineering	Aug 2011 – Feb 2016
21. Ricardo Tejada, Electrical Engineering	Apr 2011 – Jun 2014
22. Franyell Silfa, Electrical Engineering	Jul 2007 – Jul 2012
23. Marcos Chalas, Electrical Engineering	Jul 2007 – Dec 2011
24. Brittin Bennett, Electrical Engineering	Jun 2010 – Apr 2011
25. Kade Cox, Electrical Engineering	Jul 2009 – Feb 2011
26. Justin Walker, Mechanical Engineering	Aug 2009 – May 2010
27. Ricardo Estevez, Electrical Engineering	Nov 2006 – Aug 2010
28. Mark Nielsen, Statistics	Oct 2007 – Dec 2008
29. James Suisse, Electrical Engineering	Jun 2006 – May 2008
30. Isaac Ashby, Natural Resources Graduate	Jun 2007 – Dec 2007
31. Aaron Gines, Biology	Apr 2007 – Aug 2007
32. Justin Robinson, Plants, Soils and Climate	May 2006 – May 2007
33. Michael Larson, Electrical Engineering	Jan 2006 – May 2006
34. Shane Hansen, Mathematics	Oct 2005 – May 2006
35. Kelly Lewis, Electrical Engineering (+M.S.)	Jan 2005 – Dec 2006
36. Jeremiah Heiner, Computer Science	Aug 2004 – Dec 2004
37. Louis Koberstein, Electrical Engineering	Aug 2002 – May 2003
38. Jason Bingham, Computer Engineer	Aug 2002 – May 2004
39. Jeff VanShaar, Computer Science	Apr 2001 – May 2004
40. Seth Humphries, Electrical Engineering/Mathematics (+M.S.)	Dec 2000 – Aug 2004
41. Brent Bingham, Biological and Irrigation Engineering	Jun 1999 – Dec 2002

PROFESSIONAL AFFILIATIONS

1996 –
1996 –

American Geophysical Union
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

Host of National Soil Moisture Workshop	Jul 2024
4-DAY INSTRUMENTATION COMPANY TOURS, PRESENTATIONS, FOREST EXCURSION	LOGAN, UT
DFG Review Panel	Jun 2018
GERMAN RESEARCH FOUNDATION	GERMANY
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.	
BARD Technical Advisory Committee Member	2017-2019
BINATIONAL AGRICULTURAL RESEARCH AND DEVELOPMENT FUND	ISRAEL
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.	
BARD Fund Proposal Review Panel	2012-2014
SOIL AND WATER PROPOSAL REVIEW PANEL	BALTIMORE, MD
Soils Methods Subcommittee of the SSSAJ Book and Multimedia Committee	2012-
CHARGED WITH EXPANDING THE SOIL SCI. SOC. AM. J. “METHODS” OFFERINGS	
National Science Foundation Review Panel	Apr 2012
HYDROLOGICAL SCIENCES REVIEW PANEL	WASHINGTON, DC
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.

USDA-NRI Proposal Review Panel May 2008
SOIL PROPOSAL REVIEW PANEL WASHINGTON, DC

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
 6 BARD
 2 DFG

USU Committee Assignments

Space Committee Chair	2017-
DEPT. PLANTS, SOILS AND CLIMATE	UTAH STATE UNIVERSITY
Associate Dept. Head	2016-2019
DEPT. PLANTS, SOILS AND CLIMATE	UTAH STATE UNIVERSITY
Graduate Studies Committee Chair	2011-2015
DEPT. PLANTS, SOILS AND CLIMATE	UTAH STATE UNIVERSITY
Safety Committee	2009-2012
DEPT. PLANTS, SOILS AND CLIMATE	UTAH STATE UNIVERSITY
Soils Curriculum Committee	2002-
Extension Irrigation Engineer Search Committee	2011-1012
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

Abstracts of Presentations at Professional Scientific Meetings

Year 2025

1. **Jones, S.B.**, M. Sadeghi and D.A. Robinson. “Utah State University Annual Report”, *W-5188 Multi-State Research Project Annual Meeting* sponsored by USDA, Desert Research Institute, Las Vegas, NV., January 2-4, 2025.
2. Ghorbani, A., **Jones, S.B.**, M. Sadeghi and E. Babaeian. *W-5188 Multi-State Research Project Annual Meeting* sponsored by USDA, Desert Research Institute, Las Vegas, NV., January 2-4, 2025.
3. Dixon, C., **Jones, S.B.** Impact of Peat Moss Bulk Density Effect on Water Retention and Hydraulic Conductivity, *W-5188 Multi-State Research Project Annual Meeting* sponsored by USDA, Desert Research Institute, Las Vegas, NV., January 2-4, 2025.
4. Chen, J.J., N. Avriantari, **S.B. Jones**, G.D. Massa, J.F. Keith, and S.M. McBride. 2025. Evaluating Nutritional Quality and Palatability Characteristics of Lettuce Cultivated using Cut-and-Come-again Method under Two Irrigation Management Strategies. *The Human Research Program Investigators’ Workshop (HRP IWS)*. Galveston, TX. Jan. 28-31.
5. Avriantari, Nintya, John S. Oakey, David Alan Claypool, Gioia D. Massa, **Scott B. Jones**, Shawna M. McBride, Mady Fagan, Drea Hineman, and Ji-Jhong Chen. 2025. Plant Growth and Physiological Responses to Biostimulant *Tetrademus deserticola* of Lettuce in Containerized Silica Sand in Greenhouse Conditions. *American Society for Horticultural Science Annual Conference (ASHS Conference)*. New Orleans, LA. Jul. 28 – Aug. 1, 2025
6. Avriantari, Nintya, **Scott B. Jones**, Gioia D. Massa, Jill F. Keith, Shawna M. McBride, David A. Claypool, Drea Hineman, Brianna Drew, Chieh-Yun Chang, and Ji-Jhong Chen. 2025. Irrigation and Harvest Treatment Impacts on Romaine Lettuce Quality Grown in a Coarse-Textured Medium. *American Society for Horticultural Science Annual Conference (ASHS Conference)*. New Orleans, LA. Jul. 28 – Aug. 1, 2025.
7. Chihiro Dixon, Juan D. González-Teruel, Claudia Garrido Ruiz, Bruce Bugbee, **Scott B. Jones**. 2025. Simulating Root Zone Water Distribution under Variable Gravity Conditions for Plant Cultivation in Space. *Kirkham Conference*, Fukushima, Japan. Aug. 19-22, 2025.
8. González-Teruel, J.D., Jaime Giménez-Gallego, Markus Tuller, Roque Torres-Sánchez, Wenyi Sheng and **Scott B. Jones**. 2025. Soil Texture Estimation by Combining Dielectric Spectroscopy and Machine Learning. *Kirkham Conference*, Fukushima, Japan. Aug. 19-22.
9. Dixon, Chihiro, Wenyi Sheng, Rong Zhou, Robert Horton, **Scott B. Jones**. 2025. Heat Pulse Probe Calibration for Thermal Property Estimation in Agricultural Fields. Annual Meeting of *Japanese Society of Irrigation, Drainage, and Rural Engineering*, Utsunomiya, Japan. Sep 2-5, 2025.
10. **Jones, Scott B.**, Bruce Bugbee, Juan D. González-Teruel, Claudia Garrido-Ruiz, Chihiro Dixon, Sarah Schreck, Brendan Fatzinger, Curtis Bingham, Thane Winward, Jon Hunt, Riley Hutchings and Gail E. Bingham. Title: Optimizing the Utah Reuseable Root Module for Crop Production in Reduced Gravity. *CANVAS 2025: ASA, CSSA, and SSSA International Annual Meetings*, Salt Lake City, UT. Nov. 9-12, 2025.
11. Chang, Chieh-Yun, Wenyi Sheng, and **Scott B. Jones**. Title: Development of an Electromagnetic-Based Sensor Framework for Soil Water Content Calibration Using Layer Mixing Theory in Coarse-Textured Porous Media. *CANVAS 2025: ASA, CSSA, and SSSA International Annual Meetings*, Salt Lake City, UT. Nov. 9-12, 2025.
12. Avriantari, N., Oakey, J. S., Claypool, D. A., Massa, G. D., **Jones, S. B.**, McBride, S. M., & Chen, J. J. (2025) Biostimulant Effects of Microalgae *Tetrademus Deserticola* on Growth and Physiological Responses of Three Lettuce Cultivars in Silica Sand [Abstract]. *CANVAS 2025: ASA, CSSA, and SSSA International Annual Meetings*, Salt Lake City, UT. Nov. 9-12, 2025.
13. González-Teruel, J.D., Dixon, C., Cartwright, A. G., Bugbee, B., and **Jones, S.B.** 2025. Characterizing and modeling the relationship between bulk and pore fluid electrical conductivity in unsaturated peat moss. *CANVAS 2025: ASA, CSSA, and SSSA International Annual Meetings*, Salt Lake City, UT. Nov. 9-12, 2025.

14. Pinto de Mello Neto, Paulo, **Scott B. Jones**, David Alan Claypool, Gioia Massa, Shawna McBride and Ji-Jhong Chen. Title: Aggregate-Size Effects on Water Content Management and Mizuna Mustard Growth in Calcined Clay Growth Media. *CANVAS 2025: ASA, CSSA, and SSSA International Annual Meetings*, Salt Lake City, UT. Nov. 9-12, 2025.
15. Babaeian, E., Ghorbani, A., Muñoz-Carpena, R., **Jones S.B.**, and Grunwald, S. 2025. Improving Multi-Depth Soil Moisture Forecasts at Field Scale with Physics-Informed Deep Learning. *CANVAS 2025: ASA, CSSA, and SSSA International Annual Meetings*, Salt Lake City, UT. Nov. 9-12, 2025.
16. Bugbee, Bruce, Noah Langenfeld and **Scott B. Jones**. 2025. Zero-Discharge No-till Farming in Space: The Ultimate in Agriculture. *CANVAS 2025: ASA, CSSA, and SSSA International Annual Meetings*, Salt Lake City, UT. Nov. 9-12, 2025.
17. Okorie, Benedict, Matt A. Yost, **Scott B. Jones**, Grant E. Cardon, Melanie Stock and Burdette Barker. 2025. Simulating Soil Hydrodynamic Properties Under Conventional and Soil Health Practices Using Hydrus-1D. *CANVAS 2025: ASA, CSSA, and SSSA International Annual Meetings*, Salt Lake City, UT. Nov. 9-12, 2025.
18. Garrido-Ruiz, Claudia, **Scott B. Jones**, Juan D. González-Teruel, Chihiro Dixon, Sarah Elizabeth Schreck and Bruce Bugbee. 2025. Ground-Based Performance of the Utah Reusable Root Module: Results from Three Crop Cycles with Mizuna, Tomato, and Lettuce. *CANVAS 2025: ASA, CSSA, and SSSA International Annual Meetings*, Salt Lake City, UT. Nov. 9-12, 2025.
19. Garrido-Ruiz, Claudia, **Scott B. Jones**, Juan D. González-Teruel and Bruce Bugbee. 2025. Evaluating Evaporation in Five Geotextile Cover Designs Under Two LED Light Intensities for Microgravity Plant Containment System. *CANVAS 2025: ASA, CSSA, and SSSA International Annual Meetings*, Salt Lake City, UT. Nov. 9-12, 2025.
20. Singh, Tejinder, Matt A. Yost, Burdette Barker, **Scott B. Jones** and Gaylon Campbell. 2025. Estimating Deep Percolation Using Water, Salt, and Biomass Balance Model Using Field-Installed Soil Moisture Sensors. *CANVAS 2025: ASA, CSSA, and SSSA International Annual Meetings*, Salt Lake City, UT. Nov. 9-12, 2025.
21. Okorie, Benedict, Matt A. Yost, **Scott B. Jones**, Grant E. Cardon, Melanie Stock and Burdette Barker. 2025. Estimating Deep Percolation Using Water, Salt, and Biomass Balance Model Using Field-Installed Soil Moisture Sensors. *CANVAS 2025: ASA, CSSA, and SSSA International Annual Meetings*, Salt Lake City, UT. Nov. 9-12, 2025.
22. Singh, Tejinder, Matt A. Yost, Burdette Barker, **Scott B. Jones** and Leonardo Daniel Rivera. 2025. Characterizing Hydraulic Properties of Soils Using Field-Installed Sensors to Estimate Groundwater Recharge. *CANVAS 2025: ASA, CSSA, and SSSA International Annual Meetings*, Salt Lake City, UT. Nov. 9-12, 2025.
23. Ghorbani, Asghar, Ebrahim Babaeian, Morteza Sadeghi, Wei Zhang and **Scott B. Jones**. 2025. A New Predictive Model for the Unsaturated Hydraulic Conductivity from Water Retention Data. *CANVAS 2025: ASA, CSSA, and SSSA International Annual Meetings*, Salt Lake City, UT. Nov. 9-12, 2025.

Year 2024

1. **Jones, S.B.**, M. Sadeghi and D.A. Robinson. “Utah State University Annual Report”, *W-4188 Multi-State Research Project Annual Meeting* sponsored by USDA, Desert Research Institute, Las Vegas, NV., January 3-5, 2024.
2. Norouzi, Sarem, Lis Wollesen DeJong, **Scott B. Jones**, Morteza Sadeghi, et. al. 2024. A Physics-Driven Spectroscopic Approach for Rapid Estimation of the Soil Water Retention Curve. 3053. *European Geosciences Union*. Vienna, Austria, April 2024.
3. Chen J, **Jones SB**, Dixon C. 2024. Quantify the impacts of engineered soil texture and layering on liquid and gas distribution in reduced gravity for containerized soils using numerical simulation.

University of Wyoming - *Plenty Controlled Environment Agriculture Workshop*, Laramie, Wyoming. 23 - 25 April.

4. **Jones, Scott B.**, Asghar Ghorbani, Changqing Jing, Morteza Sadeghi and Wenyi Sheng. Modeling Dryland Evapotranspiration and Biomass Yield using Water Content Measurements and Machine Learning. The 4th International Soil Modeling Consortium Conference. 7-10 May 2024, Pan-Pacific Hotel, Tianjin, China.
5. Chen J, **Jones SB**, Dixon C, Massa GD, Monje O, and McBride SM. 2024. Quantifying impacts of engineered soil texture and layering on liquid- and gas-distribution for reduced gravity in containerized soils using numerical simulations. *Lunar Surface Science Workshop (LSSW) 24: Science Drivers and Capabilities for Lunar Surface Habitat Research Facilities*. <https://www.hou.usra.edu/meetings/lunarsurface2020/>
6. **Jones, S.B.**, Bugbee, B., González-Teruel, J. D., Dixon, C., Schreck, S. E., Fatzinger, B., Bingham, C., Winward, T., Hunt, J., Hutchings, R. & Garrido-Ruiz, C. (2024) Design and Management Considerations for a Zero-Discharge Root Growth Environment in Reduced Gravity. *ASA, CSSA, SSSA International Annual Meeting*, San Antonio, TX. Nov. 10-13. <https://scisoc.confex.com/scisoc/2024am/meetingapp.cgi/Paper/159511>.
7. Dixon, C., Schreck, S.E., Fatzinger, B., González-Teruel, J.D., Bugbee, B., and **Jones, S.B.** (2024) Impact of Peat Moss Bulk Density Effect on Water Retention and Hydraulic Conductivity [Abstract]. *ASA, CSSA, SSSA International Annual Meeting*, San Antonio, TX. Nov. 10-13. <https://scisoc.confex.com/scisoc/2024am/meetingapp.cgi/Paper/159215>.
8. Dixon, C., González-Teruel, J.D., and **Jones, S.B.** (2024) Monitoring Subsurface Irrigation with Electromagnetic Sensors and Numerical Simulation Under Variable Gravity Conditions for Plant Cultivation in Space [Abstract]. *ASA, CSSA, SSSA International Annual Meeting*, San Antonio, TX. Nov. 10-13. <https://scisoc.confex.com/scisoc/2024am/meetingapp.cgi/Paper/159173>.
9. González-Teruel, J.D., Dixon, C., and **Jones, S.B.** (2024) Electromagnetic Sensor-Based Characterization of Water Content in a Containerized Root Zone Designed for Plant Growth in Reduced Gravity [Abstract]. *ASA, CSSA, SSSA International Annual Meeting*, San Antonio, TX. Nov. 10-13, <https://scisoc.confex.com/scisoc/2024am/meetingapp.cgi/Paper/159283>.
10. Dakshinamurthy, H., **Jones, S. B.**, Schwartz, R., Young, S., "TDR waveform analysis to obtain post processed moisture contents from partial vertical sensor insertions", American Geophysical Union Fall Meeting, Washington, D.C. December 13, 2024. Peer-reviewed/refereed, AES: 1633.

Year 2023

11. **Jones, S.B.**, M. Sadeghi and D.A. Robinson. "Utah State University Annual Report", *W-4188 Multi-State Research Project Annual Meeting* sponsored by USDA, Desert Research Institute, Las Vegas, NV., January 3-4, 2023.
12. Sadeghi, M., A. Ghorbani and **S.B. Jones**. *W-4188 Multi-State Research Project Annual Meeting* sponsored by USDA, Desert Research Institute, Las Vegas, NV., January 3-4, 2023.
13. Ghorbani, A., **S.B. Jones** and M. Sadeghi. USDA, *W-4188 Multi-State Research Project Annual Meeting* sponsored by USDA, Desert Research Institute, Las Vegas, NV., January 3-4, 2023.
14. Dixon, C. and **S.B. Jones**. *W-4188 Multi-State Research Project Annual Meeting* sponsored by USDA, Desert Research Institute, Las Vegas, NV., January 3-4, 2023.
15. Chang, C.Y. and **S.B. Jones**. USDA, *W-4188 Multi-State Research Project Annual Meeting* sponsored by USDA, Desert Research Institute, Las Vegas, NV., January 3-4, 2023.
16. Chieh-Yun Chang and **Scott B. Jones**. 2023. Determining the Sampling Volume of Different Electromagnetic-Based Soil Moisture Sensors. *USU Spring Runoff Conference*, Logan, UT. Mar.

14-15, 2023.

17. Chihiro Naruke, Brendan Fatzinger, Bruce Bugbee and **Scott B. Jones**. 2023. Numerical Simulation for Water and Plant Root Uptake Under Various Gravity Conditions in Containerized Soilless Media. *USU Spring Runoff Conference*, Logan, UT. Mar. 14-15, 2023.
18. **Jones, Scott B.** and Chieh-Yun Chang. 2023. Comparing Soil Water Content Sensors using a New Standardized Calibration Method. *National Soil Moisture Workshop*, USDA-ARS, Beltsville, MD, August 14-17, 2023.
19. **Jones, Scott B.** Asghar Ghorbani, and Morteza Sadeghi. Advancing Sustainable Water Management using Optimized Sensor Placement and Machine Learning Algorithms. *14th International Conference on Agrophysics*. 11-13 September 2023, Mercure Hotel, Lublin, Poland.
20. **Jones, S.B.**, C.Y. Chang, J.D. González-Teruel, D.A. Robinson. and W. Sheng 2023. Evaluation of the real permittivity output from a 70 MHz admittance-based water content sensor: TEROS 15. Proceedings of the 14th *International Conference on Electromagnetic Wave Interaction with Water and Moist Substances (ISEMA)*. Brisbane, Australia. September 25-28, 2023.
21. **Jones, Scott B.**, Asghar Ghorbani and Morteza Sadeghi. 2023. Optimizing Water Content Sensor Depth Location Based on Plant Root Zone Density Profiles. *ASA, CSSA, and SSSA International Annual Meetings*, St. Louis, MO, Oct. 31 - Nov. 2, 2023.
22. Chieh-Yun Chang, Yuefeng Wu, Wenyi Sheng and **Scott B. Jones**. 2023. Standardizing Calibration of EM-Sensors for Water Content Determination using Two-Point Physically Based Mixing Models. *ASA, CSSA, and SSSA International Annual Meetings*, St. Louis, MO, Oct. 31 - Nov. 2, 2023.
23. Sarah Schreck, Chihiro Dixon, Juan Domingo González-Teruel, Brendan Fatzinger, Curtis Bingham, Gail E. Bingham, Bruce Bugbee and **Scott B. Jones**. 2023. The Future of Plant Growth in Space: Sustaining Edible Crops on Manned-Missions to Mars. *ASA, CSSA, and SSSA International Annual Meetings*, St. Louis, MO, Oct. 31 - Nov. 2, 2023.
24. Chihiro Dixon, Brendan Fatzinger, Bruce Bugbee and **Scott B. Jones**. 2023. Characterizing Hydraulic Properties of “Rooted” Plant Growth Substrates for Reduced Gravity Applications using HYPROP and KSAT Systems. *ASA, CSSA, and SSSA International Annual Meetings*, St. Louis, MO, Oct. 31 - Nov. 2, 2023.
25. Juan D. González-Teruel, Jaime Giménez-Gallego, Markus Tuller, Wenyi Sheng, Roque Torres, and **Scott B. Jones**. 2023. Mineral Soils Classification Based on Frequency Domain Dielectric Spectroscopy: A Potential Tool to Estimate Soil Physical Properties and Improve the Accuracy of Soil Moisture Determination. *ASA, CSSA, and SSSA International Annual Meetings*, St. Louis, MO, Oct. 31 - Nov. 2, 2023.
26. **Jones, Scott B.**, J.D. González-Teruel, Chihiro Dixon and Sarah Schreck. Challenges in Developing Automated and Sustainable Vegetable Production Systems for Long-Duration Missions to Mars. Invited presentation for the *Center for Controlled Environment Agriculture Seminar*, University of Wyoming, Laramie, WY. November 29, 2023.
27. Asghar Ghorbani, Morteza Sadeghi and **Scott B. Jones**. 2023. A New Soil Water Retention Model Improving the Unsaturated Hydraulic Conductivity Estimates. *AGU International Annual Meetings*, San Francisco, CA, December 10-15, 2023.
28. **Scott B. Jones**, Asghar Ghorbani, and Morteza Sadeghi. Crop Root Zone Water Management using Optimized Sensor Placement and Machine Learning Algorithms. Invited presentation at *Silk Road Conference* held in Yangling, Xianxi, China December 13, 2023.
29. **Scott B. Jones**, Asghar Ghorbani, and Morteza Sadeghi. Crop Root Zone Water Management using Optimized Sensor Placement and Machine Learning Algorithms. Invited presentation at

China Agricultural University, College of Electrical and Information Engineering, Beijing, China
December 21, 2023.

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, S.B.** 2022. Soil Water (Moisture) Content: Measurement Principles, State of the Art and Future Opportunities. *Institute of Agrophysics Seminar*, Lublin, Poland. May 17, 2022. <https://www.ipan.lublin.pl/seminar-of-prof-scott-b-jones-form-utah-state-university-logan-usa/>
3. **Jones, S.B.**, Chang, C.-Y., González-Teruel, J.D., Robinson, D.A., Friedman, S.P., Szyplowska, A., and Skierucha, W.: A Framework for Standardizing Electromagnetic Water Content Sensor Assessment using Granular Porous Media, EGU General Assembly 2022, Vienna, Austria, 23–27 May 2022, EGU22-6597, <https://doi.org/10.5194/egusphere-egu22-6597>, 2022.
4. González-Teruel, J.D., **Jones, S.B.**, Robinson, D.A., Giménez-Gallego, J., Zornoza, R., and Torres-Sánchez, R.: Assessment of a low-cost Handheld Vector Network Analyzer to Measure the Broadband Complex Permittivity of Soils, EGU General Assembly 2022, Vienna, Austria, 23–27 May 2022, EGU22-2914, <https://doi.org/10.5194/egusphere-egu22-2914>, 2022.
5. **Jones, S.B.** 2022. Soil Property Sensing: Measurement Principles, State of the Art and Future Opportunities. *Institute of Agrophysics Seminar*, UC Merced, Merced, CA. June 13, 2022.
6. **Jones, S.B.** and W. Sheng. 2022. Function, Circuitry and Measurement Quality of Today's Electromagnetic Water Content Sensors. *National Soil Moisture Workshop*, Byrd Polar and Climate Research Center, Columbus, OH. August 9-10.
7. **Jones, S.B.** 2022. Soil Water (Moisture) Content: Measurement Principles, State of the Art and Future Opportunities. Virtual *Earth-Surface Ecosystems Sciences Lecture* at China Agricultural University, Beijing, China. October 13.
8. **Jones, Scott B.**, Chihiro Naruke, Adam Blakeslee, Brendan Fatzinger and Bruce Bugbee. 2022. Plant Growth Porous Medium Design and Management Considerations for Reduced Gravity. *ASA, CSSA, and SSSA International Annual Meetings*, Baltimore MD. Nov. 6-9, 2022.
9. Chieh-Yun Chang, Yuefeng Wu, Wenyi Sheng and **Scott B. Jones**. Determining the Sampling Volume of Different Electromagnetic-Based Soil Moisture Sensors. 2022. *ASA, CSSA, and SSSA International Annual Meetings*, Baltimore MD. Nov. 6-9, 2022.
10. Chihiro Naruke, Brendan Fatzinger, Bruce Bugbee, Adam Blakeslee and **Scott B. Jones**. 2022. Numerical Simulation for Water and Plant Root Uptake Under Various Gravity Conditions in Containerized Soilless Media. *ASA, CSSA, and SSSA International Annual Meetings*, Baltimore MD. Nov. 6-9, 2022.
11. **Jones, S.B.** 2022. Quality Assessment Needs for Soil Water Content Sensors. Virtual Presentation at the *Silk Road International Symposium on Plateau Ecological Environment Protection and High-quality Development of the Yellow River Basin*. Xian, China. November 7.

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.
2. **Jones, S.B.**, W. Sheng, J. Xu, and D.A. Robinson. 2021. Dielectrically Relaxing and Electrically Conducting Suspensions for Testing Water Content Sensors. Proceedings of the 13th *International Conference on Electromagnetic Wave Interaction with Water and Moist Substances (ISEMA; Virtual participation)*. Kiel, Germany. July 27-31, 2021.

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.
4. **Jones, S.B.**, [C. Naruke](#), J.J. Chen and W. Sheng. 2021. Standardizing Particulate Porous Media for Sensor Evaluation, Calibration and Validation. *ASA, CSSA, and SSSA International Annual Meetings*. Nov. 7-10, 2021.
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 (UFLA), 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. Hipps. 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 Hipps 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.
 6. **Jones, S.B.** and Krishna Shenai. 2007. Subsurface Measurement Needs for Ecological, Hydrological and Agricultural Applications. *The 50th IEEE International Midwest Symposium on Circuits and Systems (MWSCAS)*. Montreal, Canada, August 5-7.
 7. 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.
 8. Robinson, D.A., [H. Abdu](#), **S.B. Jones**, M. Seyfried and I. Lebron. 2007. Geophysical Mapping for Exploration of Soil Texture and Plant Community Structure. Agronomy Abstracts, ASA, Madison, WI.
 9. [Abdu, H.](#), **S.B. Jones** and D.A. Robinson. 2007. Soil Moisture Variation Reveals Soil Textural Features Using Electromagnetic Induction Mapping. Agronomy Abstracts, ASA, Madison, WI.
 10. **Jones, S.B.**, [K.S. Lewis](#) and D.A. Robinson. 2007. Near-Surface Infiltration Estimation under Snowmelt using Heat-Pulse-Based Water Flux Sensors. Agronomy Abstracts, ASA, Madison, WI.
 11. **Jones, S.B.**, [R. Heinse](#), D. Or and G.E. Bingham. 2007. Oxygen diffusion measurements in partially saturated porous media in microgravity, Agronomy Abstracts, ASA, Madison, WI.
 12. [Heinse, R.](#), **S.B. Jones**, D. Or, T.S. Topham, I.G. Podolsky and G.E. Bingham, 2007. Porous Media Water Retention in Prolonged Microgravity: The ORZS Experiment. Agronomy Abstracts, ASA, Madison, WI.
 13. [Heinse, R.](#), **S.B. Jones**, G.E. Bingham and B. Bugbee, 2007. Optimizing Straticulate Plant-Growth Media for Improved Root Zone Performance and Management. Agronomy Abstracts, ASA, Madison, WI.
 14. Robinson, D.A., I. Lebron, **S.B. Jones** and [H. Abdu](#). 2007. Using Geophysics to Explore Soils and Plant Community Structure. ESA/SER Joint Meeting, August 5 - 10, 2007.
 15. [Robinson, J.](#), D.G. Chandler, **S.B. Jones**, D.G. Tarboton, J.L. Boettinger and L.E. Hipps. 2007. A Developing Ecohydrological Instrument Network at the T.W. Daniel Experimental Forest. Spring Runoff Conference, Utah State University, Logan, UT, April 5-6.
 16. [Heinse, R.](#), **S.B. Jones**, G. Bingham and B. Bugbee. 2007. Improving root zone performance: physical and numerical modeling of a layered plant-growth medium. Spring Runoff Conference, Utah State Univ., Logan, UT, April 5-6.
 17. **Jones, S.B.**, [H. Abdu](#), F. Ogden and D.A. Robinson. 2007. Assessment and Monitoring of the Subsurface for Snowmelt Fate Determination in Small Semi-Arid Watersheds. Spring Runoff Conference, Utah State University, Logan, UT, April 5-6.

18. [Abdu, H.](#), **S.B. Jones** and D.A. Robinson. 2007. Spring Runoff Conference, Utah State University, Logan, UT, April 5-6.

Year 2006 (23/26)

1. **Jones, S.B.** and D.A. Robinson. 2006. Heat-Pulse-Based Water Flux Probes for Near-Surface Infiltration Determination in Hydrology. AGU Fall Meeting Abstracts, San Francisco, CA, December 11-15
2. [Heinse, R.](#), **S.B. Jones**, B. Bugbee and G.E. Bingham. 2006. Graduated Plant-Growth Media for Optimizing Gaseous, Liquid and Nutrient Requirements: Modeling, Design and Monitoring. AGU Fall Meeting Abstracts, San Francisco, CA, December 11-15
3. [Abdu, H.](#) Robinson, D.A., M. Seyfried and **S.B. Jones**. 2006. Predicting Spatial Distribution of Soil Texture with Electromagnetic Induction Mapping in Small Watersheds. AGU Fall Meeting Abstracts, San Francisco, CA, December 11-15
4. Robinson, D.A., **S.B. Jones**, [J.M. Blonquist Jr.](#), [H. Abdu](#) and M. Seyfried. 2006. Water Content Determination in Small Watersheds: Sensors for Distributed Networks and Geophysical Approaches. AGU Fall Meeting Abstracts, San Francisco, CA, December 11-15
5. Crook, N., B. Golden-Chen, R. Knight, [H. Abdu](#), D.A. Robinson, **S. Jones** and I. Lebron. 2006. Combined Geophysical Approach to Characterizing Subsurface Flow-paths in the Reynolds Creek Watershed. AGU Fall Meeting Abstracts, San Francisco, CA, December 11-15
6. Robinson, D.A., M. Seyfried, V. Urdanoz, [H. Abdu](#), **S.B. Jones**, D. Chandler and R. Knight. 2005. Application of electromagnetic induction sensors for mapping the subsurface in small watersheds. Eos Trans. AGU. 86(52), Fall Meet. Suppl. H31F-1352.
7. **Jones, S.B.**, [R. Vinukollu](#) and J.L. Boettinger. 2006. Determining optimal sensor depth for gradient-based flux estimates using measured subsurface CO₂ concentrations. Agronomy Abstracts, ASA, Madison, WI.
8. [Abdu, H.](#), D.A. Robinson and **S.B. Jones**. 2006. Modeling the dielectric permittivity of porous media using coated TDR probes. Agronomy Abstracts, ASA, Madison, WI.
9. [Heinse, R.](#) and **S.B. Jones**. 2006. Porous-Media Water Retention and Distribution observed in Variable Gravity during Parabolic Flight. Agronomy Abstracts, ASA, Madison, WI.
10. **Jones, S.B.** and D.A. Robinson. 2006. Sensing the Environment. *nanoUtah* 2006, Utah's Statewide Nanotechnology Conference, October 5, University of Utah, Merrill Engineering Building.
11. Robinson, D.A., **S.B. Jones**, and S.P. Friedman. 2006. Modeling Structural and Thermal Effects on TDR Measurements in Granular Porous Media. TDR 2006: 3rd International Symposium and Workshop on Time Domain Reflectometry for Innovative Soils Applications. September 17-20, 2006, Purdue University, West Lafayette, IN.
12. Friedman S.P., **S.B. Jones** and D.A. Robinson. 2006. Review of geometrical and interfacial factors determining the effective permittivity-volumetric water content relationships of soil and rocks. TDR 2006: 3rd International Symposium and Workshop on Time Domain Reflectometry for Innovative Soils Applications. September 17-20, 2006, Purdue University, West Lafayette, IN.
13. **Jones, S.B.**, D.A. Robinson and S.P. Friedman. 2006. A subsurface open-ended TDR probe for on-the-go mapping of water content. TDR 2006: 3rd International Symposium and Workshop on Time Domain Reflectometry for Innovative Soils Applications. September 17-20, 2006, Purdue University, West Lafayette, IN.
14. [Heinse, R.](#), G. Kluitenberg, P. Shouse, [K. Lewis](#), G. E. Bingham and **S.B. Jones**. Integration of heat capacity and electrical conductivity sensors for root module water and nutrient assessment.

SAE Technical Paper 06ICES-189. The 36th International Conference on Environmental Systems (ICES), Norfolk, VI, July 2006.

15. [Abdu, H.](#), D.A. Robinson and **S.B. Jones**. 2006. Layered Soil Salinity and Moisture Effects on Electromagnetic Induction Measurements (Sounding) in a Soil Profile. Western Regional Cooperative Soil Survey (WRCSS) and Western Society of Soil Science (WSSS) conference, Park City, Utah, June 19-23.
16. **Jones, S.B.**, D.A. Robinson and S.P. Friedman. 2006. Development of Rapid TDR Measurement Capability for Mobile Water Content Mapping. Western Regional Cooperative Soil Survey (WRCSS) and Western Society of Soil Science (WSSS) conference, Park City, Utah, June 19-23.
17. [Heinse, R.](#), [K. S. Lewis](#) and **S.B. Jones**. 2006. A Small-Scale Multifunctional Heat-Pulse Sensor for Soil Water Content and Electrical Conductivity. West Regional Cooperative Soil Survey (WRCSS) and Western Society of Soil Science (WSSS) conference, Park City, Utah, June 19-23.
18. [Vinukollu, R.](#), **S.B. Jones**, and J.L. Boettinger. 2006. Development and validation of a measurement system for characterizing subsurface CO₂ concentration profiles in soil. Western Regional Cooperative Soil Survey (WRCSS) and Western Society of Soil Science (WSSS) conference, Park City, Utah, June 19-23.
19. Doyle, T.E., D.A. Robinson, **S.B. Jones**, and K.H. Warnick. 2006. Modeling the Dielectric Properties of Granular Media to Determine Water Content. Spring Runoff Conference, Utah State University, Logan, UT, March 27-28.
20. [Okwany, R.O.](#) and **S.B. Jones**. 2006. Water Application Rate Determination for Optimizing Salt Leaching in Structured Soils. Spring Runoff Conference, Utah State University, Logan, UT, March 27-28.
21. [Abdu, H.](#), **S.B. Jones**, [S.M. Hansen](#) and D.A. Robinson. 2006. Modeling a Coated Coaxial Time Domain Reflectometry Probe response in High Electrical Conductivity Solutions. Spring Runoff Conference, Utah State University, Logan, UT, March 27-28.
22. [Heinse, R.](#), [K.S. Lewis](#) and **S.B. Jones**. 2006. Water Content and Electrical Conductivity Assessment using Small-Scale Multifunctional Heat-Pulse Sensors. Spring Runoff Conference, Utah State University, Logan, UT, March 27-28.
23. [Abdu, H.](#), D.A. Robinson, M.S. Seyfried and **S.B. Jones**. 2006. Predicting Spatial Distribution of Soil Texture with Electromagnetic Induction Mapping and Terrain Analysis Models in Small Watersheds. Eos Trans. AGU, 87(36), Jt. Assem. Suppl., Abstract NS23A-06.
24. Robinson, D.A., **S.B. Jones**, T. Doyle and S.P. Friedman. 2006. Water content determination in porous media using dielectric petrophysical relationships and multipole simulations. Eos Trans. AGU, 87(36), Jt. Assem. Suppl., Abstract NS31B-06.
25. **Jones, S.B.**, [R. Heinse](#), D. Or, D. Poritz and G.E. Bingham. 2006. Characterization and analysis of water retention and oxygen diffusion in plant growth media on earth: Criteria for comparison in microgravity. Habitation 2006: Conference on Habitation Research and Technology Development. Rosen Plaza Hotel, Orlando, FL, February 5-8, 2006
26. [Heinse, R.](#), K. Lewis, G. Kluitenberg, G. Bingham and **S.B. Jones**. 2006. Coupled heat capacity and electrical conductivity measurements for root zone water and nutrient assessment. Habitation 2006: Conference on Habitation Research and Technology Development. Rosen Plaza Hotel, Orlando, FL, February 5-8, 2006.

Year 2005 (15/19)

1. Robinson, D.A., M. Seyfried, V. Urdanoz, [H. Abdu](#), **S.B. Jones**, D. Chandler and R. Knight. 2005. Application of electromagnetic induction sensors for mapping the subsurface in small watersheds.

- Eos Trans. AGU. 86(52), Fall Meet. Suppl. H31F-1352.
2. **Abdu, H.**, D.A. Robinson and **S.B. Jones**. 2005. Comparing Dual-Dipole Electromagnetic Induction Sensors For Measuring Soil Electrical Conductivity. INRA Environmental Subsurface Science Symposium. Big Sky Resort, Montana. September 19-21.
 3. **Blonquist Jr., J.M.**, **S.B. Jones**, and D.A. Robinson. 2005. Water Conservation from Precise Irrigation Scheduling Using a Subsurface Electromagnetic Soil Moisture Sensor. 26th Annual Irrigation Association International Irrigation Show. November 6-8, 2005, Phoenix, AZ.
 4. **Jones, S.B.**, M. Tuller and D. Or. 2005. Characterizing Liquid Imbibition in Porous Media under Microgravity. Agronomy Abstracts, ASA, Madison, WI.
 5. **Abdu, H.**, D.A. Robinson and **S.B. Jones**. 2005. A Complex Permittivity Model for a Coated Coaxial TDR Probe in Saline Solutions. Agronomy Abstracts, ASA, Madison, WI.
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