

**RESEARCH ACTIVITIES**

Grants and Contracts --

As PI/Co-PI:

<u>Year</u>	<u>Dollars</u>	<u>Agency, Title, Investigator(s)</u>
92-95	\$375,000	NASA. <i>Mesoscale Study of Surface Heat Fluxes and Boundary Layer Processes in a Desert Region.</i> Bingham, G., L. Hipps, C. Neale, E. Malek, J. Boettinger, D. Or
93-94	\$21,000	Los Angeles Water and Power Dept. and Inyo County Water Dept. <i>Characterization of Soil Spatial Variability for Upgrading Soil Water Monitoring in Owens Valley.</i> D. Or.
93-94	\$75,000	PacificCorp. <i>Using Saline Waste Water from Electrical Power Plants for Irrigation.</i> L. Dudley, J. MacAdam, D. Or.
93-96	\$264,000	BARD. <i>Drip Irrigation Management by TDR Monitoring of Soil Water and Solute Distributions.</i> S. Dasberg, J. Hopmans, D. Or.
93-94	\$15,000	USU New Faculty Research Grants. <i>In situ Characterization of Temporal Changes in Soil Structural and Hydraulic Properties.</i> D. Or.
94-95	\$75,000	PacificCorp. <i>Using Saline Waste Water from Electrical Power Plants for Irrigation.</i> L. Dudley, J. MacAdam, D. Or.
94-95	\$14,000	USU New Faculty Research Grants. <i>In situ Characterization of Temporal Changes in Soil Structural and Hydraulic Properties - Phase II.</i> D. Or.
95-96	\$75,000	PacificCorp. <i>Using Saline Waste Water from Electrical Power Plants for Irrigation.</i> L. Dudley and D. Or.
95-98	\$290,615	BARD. <i>In situ Evaluation of Unsaturated Hydraulic Properties Using Subsurface Point Sources.</i> A. Warrick, U. Shani, D. Or.
96-97	\$80,000	PacificCorp. <i>Using Saline Waste Water from Electrical Power Plants for Irrigation.</i> L. Dudley and D. Or.
97-99	\$299,400	BARD. <i>Characterization of Post-Tillage Soil Fragmentation and Rejoining Affecting Soil Pore Space Evolution and Transport Properties.</i> V. Snyder, D. Or, and A. Hadas.
97-99	\$100,000	NRI-USDA <i>Post-Tillage Soil Pore Space Dynamics.</i> D. Or and V. Snyder.
97-98	\$39,000	NRI-USDA Equipment Grant + USU matching - <i>Impedance Analyzer for Characterization of Dielectric Properties of Soils and Grains.</i> D. Or and L. Dudley.
98-2000	\$285,000	BARD. <i>Geometrical Considerations and Interfacial Processes Affecting Electromagnetic Measurement of Soil Water Content Using TDR and Remote Sensing Methods.</i> S. Friedman, J. Wraith, and D. Or.

**Dani Or - Vita**

98-2001	\$300,000	NSF-EAR. <i>Thin Liquid Films in Unsaturated Porous Media - Effects on Flow and Transport</i> . D. Or, L.M. Dudley, and S. Bialkowski.
<b>98-2003</b>	<b>\$2,000,000*</b>	NSF-GPG. <i>Pulsing of plant-available moisture and nitrogen in Great Basin communities</i> . M.M. Caldwell, L.H. Hipps, J.M. Stark, C.M. Neale, and D. Or.
<b>99-2003</b>	<b>\$307,420</b>	NRI-USDA. <i>Electromagnetic Characterization of Soil Electrochemical and Geometrical Factors Affecting Transport Processes</i> . Dudley, L., D. Or, and S. Bialkowski.
99-2000	\$25,000	Campbell Scientific Inc. and HarvestMaster. <i>Dielectric Mixing Models for Grain Water Content Measurement</i> . Or, D. and S.B. Jones.
2000-03	\$229,500	NRI-USDA. <i>Hydraulic Conductivity of Unsaturated Porous Media – Film and Corner Flows in Angular Pore Space</i> . D. Or, and M. Tuller.
<b>2000-04</b>	<b>\$100,000</b>	NASA - <i>Advanced Life Support. Optimization of Root Zone Substrates for Reduced Gravity Experiments</i> . Bingham, G., D. Or, S.B. Jones, and B. Morrow. (2000-2004 \$878,098)
2000-01	\$55,000	Poioneer Hi-Bred International Inc. <i>TDR Measurement of Corn-Ear Water Content</i> . Or, D. and S.B. Jones. (Cont.)
2000-01	\$25,000	Campbell Scientific Inc. and HarvestMaster. <i>Dielectric Mixing Models for Grain Water Content Measurement</i> . Or, D. and S.B. Jones. (Cont.)
<b>2001-03</b>	<b>\$275,000</b>	NRI-USDA (Soils and Soil Biology). <i>Thermodielectric Measurement of Soil Specific Surface Area and Bound Water</i> . Wraith J.M. and D. Or.
<b>2002-05</b>	<b>\$1,554,554</b>	NASA - Flow and distribution of fluid phases through porous plant growth media in microgravity. Steinberg S. (NASA JSC); Alexander I. (NASA Glenn); Or D. and Jones S. (USU); Lakshmi R. and Kluetenberg G. (KSU); Tuller M. (UI)
2001-03	\$50,000	Poioneer Hi-Bred International Inc. <i>TDR Measurement of Corn-Ear Water Content</i> . Or, D. and S.B. Jones. (Cont.)
<b>2002-05</b>	<b>\$335,000</b>	BARD - <i>Physical Processes Affecting Microbial Habitats And Activity In Unsaturated Agricultural Soils</i> Or, D, S.P.Friedman, J. Norton
<b>2004-05</b>	<b>\$193,000</b>	NRI-USDA (Soils and Soil Biology) <i>Compaction of Tilled Soils - Microscale Structural Dynamics Affecting Pore Space and Hydraulic Properties</i> . Or, D.
<b>2004-07</b>	<b>\$436,000</b>	NSF-EAR (Hydrologic Sciences) <i>Diffusional Constraints Affecting Microbial Distribution and Activity in Unsaturated Porous Media</i> . Or, D, and B. Smets.
<b>2004-07</b>	<b>\$353,000</b>	NRI-USDA (Soils and Soil Biology) <i>Shrink-Swell Behavior and Hydraulic Properties of Clay Soils</i> . Tuller M. and Or, D.

Total amount awarded in Grants and Contracts as PI/Co-PI -- **\$8,246,500**

(\* bold font for active projects)

Utah Agricultural Experiment Station (UAES) Projects --

<u>Year</u>	<u>Dollars</u>	<u>Title</u>
1993-03	~\$15,000/yr	<i>Water and Solute Flow Management as Related to Changes in Soil Physical Properties.</i>
		<b>~\$150,000</b>