

**2015**  
**Faculty Achievements and Activities**  
**College of Science**

**Awards and Honors**

**Alston, Diane G**

Extension Specialist Career Award, Utah State University Extension, (March 5, 2015).

**Ault, Alexis**

Blavatnik Award for Young Scientists, USU Physical Sciences and Engineering category nominee, (October 9, 2015).

**Baker, Michelle A**

University Faculty Service Award, College of Science, (February 6, 2015).

**Chang, Cheng Wei Tom**

College of Science, Undergraduate Research Mentor of the Year, (2015).

**Christiansen, Michael A**

2015 USU Uintah Basin Outstanding Faculty Member of the Year Award, USU Uintah Basin, (April 25, 2015).

**Davidson, Bradley S**

Teacher of the Year, USU College of Science, (May 2015).

**Dennison, John Robert**

College of Science Researcher of the Year, USU College of Science, (January 2015).

**Dickenson, Nicholas E**

USU College of Science Valedictorian Escort, (May 2015).

**Fu, Guifang**

Researcher of the Year, Department of Mathematics and Statistics, (April 3, 2015).

**Geer, Nathan C**

CNRS Directeur de Recherches, University of Paris Sorbonne, (2015).

Japan Society for the Promotion of Science (JSPS) Research Fellowship, Waseda University, Tokyo Japan, (2015).

Invited Member, Max-Planck Institute for Mathematics, Bonn, Germany, (August 1, 2015).

**Gordillo, Luis Fernando**

Teacher of the Year, Department of Mathematics and Statistics, Utah State University, (May 2015).

**Habashi, Jessica**

2015-16 AIS Excellence in Teaching and Learning Grant for RC/Eastern Faculty, (June 2, 2015).

USU-Brigham City 2015 Faculty Member of the Year, (April 20, 2015).

**Hengge, Alvan C**

D. Wynne Thorne Career Research Award, Utah State University, (February 2015).

**Nischwitz, Claudia**

Utah State University Extension Outstanding New Extension Specialist Award, USU Extension, (March 2015).

**Rittenour, Tammy M**

Invited Review Paper, Utah Geological Survey Special Publication, (2015).

**Seefeldt, Lance C**

Co-Chair, N Cycle Workshop, National Science Foundation, (October 1, 2015).

Council Member, Council on Chemical Sciences, Geosciences, and Biosciences, Department of Energy, (October 1, 2015).

**Sun, Yujie**

Emerging Investigators, Inorganic Chemistry Frontier, (December 2015).

Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities (ORAU), (May 8, 2015).

**Symanzik, Juergen**

Fellow of the American Statistical Association, American Statistical Association (ASA), (2015).

**Publications/Intellectual Contributions**

*Performances in Publications*

**Ramirez, Ricardo A**

Insecticide Application Strategies to Manage Pesticide Resistance, (January (1st Quarter/Winter) 2016), Pesticide Safety Education Program: Improvement and Modernization Initiative, 1 to 98.

**Wolf, Paul G**

Video Series: 1) Natural History of Ferns; 2) Identifying Ferns, (November 2015).

*Abstract*

**Alston, Diane G**

Influence of Weed Species on Thrips and Iris Yellow Spot Virus in Onion, (September 2015), Proceedings of the Western Society of Weed Science, 68.

**Ault, Alexis**

Hematite (U-Th)/He and apatite fission-track dating constrain paleofluid circulation in faults: an example from Gower Peninsula fissure fills, Wales, (2015), AGU Fall Meeting, San Francisco, CA, December 2015.

**Lachmar, Thomas E**

Sources, Pathways and Fate of Metals in Ground and Surface Waters at the Abandoned Ramshorn Mine near Challis, Idaho, (May 2015), Geological Society of America.

**Liddell, William David**

High-Resolution Carbon and Oxygen Stable Isotope Sampling of the Lower Ordovician Pogonip Group: Implications for Chemo-Stratigraphic Correlation, (2015), Geological Society of America Abstracts with Programs.

**Nischwitz, Claudia**

Influence of Weed Species on Thrips and Iris Yellow Spot Virus in Onion, (September 2015), Proceedings of the Western Society of Weed Science, 68.

***Book, Chapter in Scholarly Book***

**Baker, Michelle A**

Stream-lake Interactions: Influence on Stream Ecosystem Functioning, (July (3rd Quarter/Summer) 2016), Elsevier.

**Boldyrev, Alexander I**

Classical and Multicenter Bonding in Boron: Two Faces of Boron, (December 2015), Springer International Publishing, 1-16.

**Burger, Benjamin J**

Carbon Isotope Stratigraphy of the Late Middle Eocene Duchesne River Formation in the Uinta Basin of Northeastern Utah, (December 1, 2015), Utah Geological Association, 44

**Christiansen, Michael A**

Flip Teaching College Chemistry in Broadcast Classrooms, (December 2015), Routledge/Taylor & Francis.

**Dickenson, Nicholas E**

Dissecting Shigella flexneri Type III Secretion System Tip Complex Maturation, (2015), Caister Academic Press.

**Gilbertson, Timothy A**

Animal Models of Obesity and Type 2 Diabetes, (July (3rd Quarter/Summer) 2015), Wiley, 519-528.

**Powell, James A**

Individual-based Modelling: Mountain Pine Beetle Seasonal Biology in Response to Climate, (2015), Springer.

**Rittenour, Tammy M**

Chronostratigraphy of Holocene Valley-fill Alluvium and Arroyo Cut-fill Events in the Upper Escalante River, Southern Utah, (2015), Utah Geological Association Publication, 43, 57-76.

Holocene Alluvial Stratigraphy of Kitchen Corral Wash, Southern Utah, (2015), Utah Geological Association Publication, 43, 77-96.

Invited Paper: Guide to Luminescence Dating Techniques and their Application to Paleoseismic Research, (2015), Proceedings of the Basin and Range Province Seismic Hazards Summit III. Utah Geological Survey Special Publication.

**Scheiner, Stephen I**

Introduction to the Volume, (2015), Springer, 1-11.

The CH--O H-bond as a Determining Factor in Molecular Structure, (2015), Springer, 69-105.

**Shervais, John W**

The Cuesta Ridge Ophiolite, San Luis Obispo, CA: Implications for the origin of the Coast Range Ophiolite, (December 2015), Geological Society of America Special Paper 513, SP 513.

**Stark, John M**

Ecosystem Impacts of Exotic Annual Invaders in the Genus Bromus, (October (4th Quarter/Autumn) 2015), Springer.

Soil Moisture and Biogeochemical Factors Influence the Distribution of Annual Bromus Species, (October (4th Quarter/Autumn) 2015), Springer.

**Sweeten, Thayne Lyle**

Connected Classrooms: Interdisciplinary Approaches to Distance Teaching., (December 2, 2015), Routledge Research in Education Series. Routledge/Taylor & Francis.

**Sun, Yujie**

Hybrid Molecular-Nanomaterial Assemblies for Water Splitting Catalysis, (2015), Royal Society of Chemistry, 108-141.

***Book, Scholarly-New***

**Scheiner, Stephen I**

Noncovalent Forces, (2015), Springer.

***Book, Textbook-Revised***

**Savitzky, Alan H**

Herpetology, Fourth Edition, (June 2015), Sinauer Associates, Inc.

**Torre, Charles Gregory**

Foundations of Wave Phenomena (Version 8.2), (December 29, 2015).

***Conference Proceeding***

**Campbell, Theodore Jones**

Perspectives on Pedagogical Change within a STEM Classroom, (June 2015), American Society of Engineering Education.

**Dennison, John Robert**

Electrical Properties Study under Electron Beam of Annealed and Coated Boron Nitride, (October (4th Quarter/Autumn) 2015), Electrical Properties Study under Electron Beam of Annealed and Coated Boron Nitride.

**Podgorski, Gregory J**

Motifs Within Genetic Regulatory Networks Increase Organization During Pattern Formation, (September 2015), Information Processing in Cells and Tissues, 9303.

Bridging the Multiscale gap: Identifying Parameters from Multicellular Data, (August 2015), IEEE Conference on Computational Intelligence in Bioinformatics and Computational Biology.

**Rittenour, Tammy M**

A Fresh Look at Late Pleistocene Mountain Glaciation in Central Idaho., (2015), GSA Annual Meeting.

Best Practices for Collection of Luminescence Samples and Estimating Water Content for Dose-rate Determination: Why Sample Selection, Collection Technique and Water Content Matters., (2015), GSA Annual Meeting.

Depositional Circumstances of Three Paleoindian Sites Along Lima Reservoir, Montana, (2015), GSA Annual Meeting.

Distribution, Thickness and Age of Loess Deposits in the West Central Minnesota: Implications for the Age and Origin of the Big Stone Moraine, (2015), GSA Annual Meeting.

Fluvial Record of Active Deformation along the Canyon River Fault in the Winoocchee River Valley, WV, (2015), AGU Annual meeting.

Fluvial Responses To Base Level, Climate, And Active Tectonics: South Anna River, Central Appalachian Piedmont, Louisa County, Virginia, (2015), GSA Annual Meeting.

How Old Are The Sp And Strawberry Volcanic Vents And Flows In The San Francisco Volcanic Field, Arizona? New Evidence From Soils, Osl Dated Loess And He-3 Exposure Dating, (2015), GSA Annual Meeting.

Mid-Late Holocene Arroyo Stratigraphy in Southern Utah; Balance between Climate Forcing and Geomorphic Thresholds, (2015), AGU Annual meeting.

Processes of Paleoarroyo Aggradation in Kanab Creek, Southern Utah, (2015), AGU Annual meeting.

Refining Paleoenvironmental Conditions During The Pleistocene–Holocene Transition In Eastern Beringia Using Post-IR IRSL, (2015), GSA Annual Meeting.

Relative Sea Level and Coastal Environments in Arctic Alaska during Marine Isotope Stage 5, (2015), AGU Annual meeting.

Single-grain OSL Chronology of Ice Retreat and Stages of Glacial Lake Benson, West-central Minnesota, USA, (2015), GSA Annual Meeting.

Surface Response of Blind Thrust Shown from High Resolution Topographic Data and Updated Geochronology at Wheeler Ridge, CA, (2015), AGU Annual meeting.

The EarthScope AGeS Program and a New Idea for a 4D Earth Initiative, (2015).

The Mw 6.9 14 April 2010 Yushu Earthquake And A Record Of Holocene-Late Pleistocene Paleoseismicity At The Red Cliff Along The Zuoerla Segment Of The Yushu Fault, Qinghai Province, China., (2015), GSA Annual Meeting.

#### **Scherliess, Ludger**

The USU-GAIM Data Assimilation Models for Ionospheric Specifications and Forecasts, (May 2015), Proceedings of the 2015 Ionospheric Effects Symposium.

#### **Schunk, Robert Walter**

The USU-GAIM Data Assimilation Models for Ionospheric Specifications and Forecasts, (May 2015), Proceedings of the 2015 Ionospheric Effects Symposium.

#### **Shervais, John W**

Snake River Plain Play Fairway Analysis - Phase 1 Report, (September 2015), Geothermal Resources Council Transactions, 39.

Geothermal Play Fairway Analysis Of The Snake River Plain, Idaho., (January (1st Quarter/Winter) 2015), Proceedings Fortieth Workshop on Geothermal Reservoir Engineering, Stanford University, 40, SGP-TR-204.

#### **Sojka, Jan Josef**

The USU-GAIM Data Assimilation Models for Ionospheric Specifications and Forecasts, (May 2015), Proceedings of the 2015 Ionospheric Effects Symposium.

#### **Symanzik, Juergen**

Recent Advancements in Geovisualization, with a Case Study on Chinese Religions, (2015), Forthcoming.

#### **Wickwar, Vincent B**

Early Observations with the Extremely Sensitive Rayleigh Lidar at Utah State University, (2015), Proceedings of the 27th International Laser Radar Conference.

Early Rayleigh-Scatter Lidar Temperature Measurements from the Lower Thermosphere, (2015), Utah NASA Space Grant Consortium Fellowship Symposium Proceedings.

Mesospheric Neutral Densities Derived from Rayleigh Lidar Observations at Utah State University, (2015), Proceedings of the 27th International Laser Radar Conference.

Temperature Deviations in the Midlatitude Mesosphere During Sudden Stratospheric Warmings as Measured with Rayleigh-Scatter Lidar, (2015), Proceedings of the 27th International Laser Radar Conference.

The Online System for Lidar Data Handling and Real Time Monitoring of Lidar Operations at ALO-USU, (2015), Proceedings of the 27th International Laser Radar Conference.

**Zhu, Lie**

The USU-GAIM Data Assimilation Models for Ionospheric Specifications and Forecasts, (May 2015), Proceedings of the 2015 Ionospheric Effects Symposium.

***Fact Sheet-Extension***

**Alston, Diane G**

Raspberry Crown Borer (*Pennisetia marginata*), (December 15, 2015), Utah State University Extension and Utah Plant Pest Diagnostic Laboratory, ENT-179-15.

Rose Stem Girdler (*Agrilus cuprescens*), (October (4th Quarter/Autumn) 20, 2015), Utah State University Extension and Utah Plant Pest Diagnostic Laboratory, ENT-178-15, 1-4.

California Prionus (*Prionus californicus* Motschulsky), (August 17, 2015), Orchard Pest Management Online, Washington State University.

A Comparison of 16 Summer-bearing Raspberry Cultivars for Northern Utah, (February 2015), Utah State University Extension, 6 pp.

Walnut Husk Fly [*Rhagoletis completa* (Cresson)], (January (1st Quarter/Winter) 2015), Utah State University Extension, ENT-173-14, 7 pp.

**Nischwitz, Claudia**

Zebra Chip Disease of Potato, (2015), USU Extension.

Candidatus Liberibacter of Pepper, (June 2015).

**Ramirez, Ricardo A**

Spider Mites in Corn, (December 17, 2015).

Invasive Insect Look-alikes: Mistaken Insect Identity, (July (3rd Quarter/Summer) 2015).

Common Crane Fly, (June 2015).

***Journal Article, Academic Journal***

**Alston, Diane G**

Adaptability of Floricane-fruiting Raspberry Cultivars to a High-elevation Arid Climate, (April (2nd Quarter/Spring) 2015), *Journal of American Pomological Society*, 69, 74-83.

**Anderson, Anne J**

Salts Affect the Interaction of ZnO or CuO Nanoparticles with Wheat, (September 2015), *Environmental Toxicology and Chemistry*, 34, 2116-2125.

Pesticidal Activity of Metal Oxide Nanoparticles on Plant Pathogenic Isolates of Pythium, (August 2015), *Ecotoxicology*, 24, 1305-1314.

ZnO Nanoparticles and Root Colonization by a Beneficial pseudomonad Influences Essential Metal Responses in Bean (*Phaseolus vulgaris*), (May 2015), *Nanotoxicology*, 9, 271-278.

The Phytotoxicity of ZnO Nanoparticles on Wheat varies with Soil Properties, (February 2015), *Biometals*, 28, 101-112.

Nano-CuO an Interaction with Nano-ZnO or Soil Bacterium Provide Evidence for the Interference of Nanoparticles in Metal Nutrition of Plants., (January (1st Quarter/Winter) 2015), *Ecotoxicology*, 24, 119-129.

**Anderson, Ian M**

Backlund Transformations for Darboux Integrable Systems: Examples and Applications, (December 23, 2015), *Journal of Geometry and Physics*, 102, 1-31.

Non-rigid Parabolic Geometries of Monge Type, (2015), *Advances in Mathematics*, 277, 24--55.

**Ault, Alexis**

Foreland-directed Propagation of High-grade Tectonism in the Deep Roots of a Paleoproterozoic Collisional Orogen, SW Montana, USA, (2015), *Lithosphere*, 7, 625-645.

Inverted Apatite (U-Th)/He and Fission-track Dates from the Rae craton, Baffin Island, Canada and Implications for Apatite Radiation Damage-diffusivity Models, (2015), AGU Fall Meeting, San Francisco, CA, December 2015.

Linking Hematite (U-Th)/He Dating with the Microtextural Record of Seismicity in the Wasatch Fault Damage Zone, Utah, USA, (2015), *Geology*, 43, 771-774.

Synchronicity of Cratonic Burial Phases and Gaps in the Kimberlite Record: Episodic Magmatism or Preservational Bias?, (2015), *Earth and Planetary Science Letters*, 410, 97-104.

**Baker, Michelle A**

Filtering with a Drill Pump: An Efficient and Cost Effective Method to Collect Suspended Sediment and Filtrate, (November 2015), *Journal of the American Water Resources Association*.

Riparian Plant Isotopes Reflect Anthropogenic Nitrogen Perturbations: Robust Patterns Across Land Use Gradients, (October (4th Quarter/Autumn) 2015), *Ecosphere*.

Translational Training for Tomorrow's Environmental Scientists, (September 15, 2015), *Journal of Environmental Studies and Sciences*.

Metabolism, Gas Exchange, and Carbon Spiraling in Rivers, (September 30, 2015), *Ecosystems*.



The Varying Role of Water Column Nutrient Removal along River continua in Contrasting Landscapes, (June 2015), *Biogeochemistry*, 125, 115-131.

iSAW: Integrating Structure, Actors, and Water to Study Socio-Hydro-Ecological Systems, (March 26, 2015), *Earth's Future/AGU*.

#### **Bernhardt, Scott A**

Burrowing Owls, *Pulex irritans*, and Plague, (September 2015), *Vector-borne and zoonotic diseases*.

Distribution and Habitat of *Ixodes pacificus* and *Dermacentor andersoni* and prevalence of *Borrelia burgdorferi* in Utah, (August 2015), *Journal of Medical Entomology*.

Assessing insecticide susceptibility of laboratory *Lutzomyia longipalpis* and *Phlebotomus papatasi* sand flies, (July (3rd Quarter/Summer) 2015), *Journal of Medical Entomology*.

Representativeness of single point measurement for long term residential indoor air temperature and relative humidity in arid climates, (July (3rd Quarter/Summer) 2015), *Journal of Occupational and Environmental Hygiene*.

#### **Berreau, Lisa M**

A New Structurally-Tunable 3-Hydroxyflavone Motif for Visible Light-induced CO-releasing Molecules, (October (4th Quarter/Autumn) 2015), *ChemistryOpen*, 4, 590-594.

#### **Bialkowski, Stephen E**

Experimental Analysis of Applying Photorefractive BaTiO<sub>3</sub> Beam-Fanning on Photothermal Mirror Technique, (July (3rd Quarter/Summer) 1, 2015), *Applied Spectroscopy*, 69, 794-801.

Photoacoustic Signal and Noise Analysis for Si Thin Plates: Signal Correction in Frequency Domain, (March 23, 2015), *Review of Scientific Instruments*, 86, 035110-9.

#### **Boldyrev, Alexander I**

Li<sub>4</sub>E<sub>8</sub> (E = P, As, Sb, Bi) Clusters: The Quest for Realgar-Type [E<sub>8</sub>]<sup>4-</sup> Zintl Anions, (December 2015), *European Journal of Inorganic Chemistry*, 2015, 5801–5807.

Anion Photoelectron Spectroscopy and CASSCF/CASPT2/RASSI Study of Lan- (n=1, 3-7), (October (4th Quarter/Autumn) 27, 2015), *Journal of Physical Chemistry A*, 119, 11293-11303.

Cobalt-centred boron molecular drums with the highest coordination number in the CoB<sub>16</sub>-cluster, (October (4th Quarter/Autumn) 12, 2015), *Nature Communication*, 6, 8654.

Revealing Unusual Chemical Bonding in Planar Hyper-Coordinate Ni<sub>2</sub>Ge and Quasi-Planar Ni<sub>2</sub>Si Two-Dimensional Crystals, (September 8, 2015), *Physical Chemistry Chemical Physics*, 17, 26043-26048.

Aluminum Chain in Li<sub>2</sub>Al<sub>3</sub>H<sub>8</sub>- as Suggested by Photoelectron Spectroscopy and ab initio Calculations, (September 3, 2015), *Physical Chemistry Chemical Physics*, 17, 26079-26083.

Ba and Sr Binary Phosphides: Synthesis, Crystal Structures, and Bonding Analysis, (August 13, 2015), *Inorganic Chemistry*, 54, 8608-8616.

Post-anti-van't Hoff-Le Bel Motif in Atomically Thin Germanium-Copper Alloy Film, (June 9, 2015), *Physical Chemistry Chemical Physics*, 17, 17545-17551.

Recent developments and Future Prospects of All-Metal Aromatic Compounds, (June 10, 2015), *Chemical Society Review*, 44, 6519-6534.

Pseudo Jahn-Teller Origin of Buckling Distortions in Two-Dimensional Triazine-Based Graphitic Carbon Nitride (g-C<sub>3</sub>N<sub>4</sub>) Sheets, (May 1, 2015), *The Journal of Physical Chemistry C*, 119, 12008-12015.

Homocatenation of Aluminum: Alkane-like Structures of Li<sub>2</sub>Al<sub>2</sub>H<sub>6</sub> and Li<sub>3</sub>Al<sub>3</sub>H<sub>8</sub>, (March 27, 2015), *Chemistry - European Journal*, 21, 5307-5310.

Two-dimensional Cu<sub>2</sub>Si Monolayer with Planar Hexacoordinate Copper and Silicon Bonding, (February 2, 2015), *Journal of The American Chemical Society*, 137, 2757-2762.

### **Brodie, Edmund D**

Effects of temperature on embryonic and early larval growth and development in the rough-skinned newt (*Taricha granulosa*), (2015), *Journal of Thermal Biology*, 51, 89-95.

Is there more than one way to skin a newt? Convergent toxin resistance in snakes is not due to a common genetic mechanism, (2015), *Heredity*.

Occurrence of amphibians in saline habitats: a review and evolutionary perspective., (2015), *Herpetological Monographs*, 29, 1-27.

Otter predation on *Taricha granulosa* and variation in tetrodotoxin levels with elevation., (2015), *Northwestern Naturalist*, 96.

Predictably convergent evolution of sodium channels in the arms race between predators and prey. *Brain, Behavior, and Evolution*, (2015), *Brain, Behavior and Evolution*, 86.

The role of corticosterone and toxicity in the antipredator behavior of the Rough-skinned Newt (*Taricha granulosa*), (2015), *General and Comparative Endocrinology*, 213, 59-64.

Venomous frogs use heads as weapons, (2015), *Current Biology*, 25, 2166-2170.

Is there more than one way to skin a newt? Convergent toxin resistance in snakes is not due to a common genetic mechanism., (September 16, 2015), *Heredity*.

### **Chang, Cheng Wei Tom**

In vitro antifungal synergy between amphiphilic aminoglycoside K20 and azoles against *Candida* species and *Cryptococcus neoformans*, (August 10, 2015), *Med Mycol*.

### **Christiansen, Michael A**

Positive Student Responses to Embedding a Student-Chosen Research Project into a Sophomore Organic Chemistry Lab, (December 22, 2015), *The Chemical Educator*.

### **Corcoran, Christopher D**

A forest-based feature screening approach for large-scale genome data with complex structures., (December 23, 2015), *BMC genetics*, 16, 148.

Exploiting Linkage Disequilibrium for Ultra High Dimensional Genome-Wide Data with an Integrated Statistical Approach., (December 12, 2015), Genetics.

Dementia caregivers' coping strategies and their relationship to health and well-being: The Cache County Study, (May 2015), Aging & Mental Health, 19, 390-399.

Rarity of the Alzheimer Disease-Protective APP A673T Variant in the United States, (February 1, 2015), JAMA Neurology, 72, 209-216.

Population-based analysis of cholesteryl ester transfer protein identifies association between I405V and cognitive decline: the Cache County Study, (January (1st Quarter/Winter) 2015), Neurobiology of Aging, 36, e1-3.

Dementia severity and the longitudinal costs of informal care in the Cache County population, (January (1st Quarter/Winter) 2015), Alzheimer's & Dementia, 11, 946-954.

### **Cortez, Michael Henry**

Is competition needed for ecological character displacement? Does displacement decrease competition?, (December 2015), Evolution, 69.

Multiple regimes of robust patterns between network structure and biodiversity, (December 2015), Scientific Reports, 5.

The many potential indirect interactions between predators that share competing prey., (2015), Ecological Monographs, 85, 625-641.

Coevolution-driven predator-prey cycles: Predicting the characteristics of eco-coevolutionary cycles using fast-slow dynamical systems theory, (2015), Theoretical Ecology, 8, 369-382.

### **Coster, Daniel C**

Investigation of middle school science teachers and students use of technology inside and outside of classrooms: considering whether digital natives are more technology savvy than teachers, (July (3rd Quarter/Summer) 2015), Educational Technology Research and Development, 6.

Construction of Weak Universal Optimal Block Designs with Various Correlation Structures and Block Sizes, (March 2015), Journal of Statistical Planning and Inference, 160.

Technologies and reformed based science instruction: the examination of a professional development model, (February 2015), Journal of Science Education and Technology.

### **Cutler, David Richard**

Non-equilibrium in plant distribution models—only an issue for introduced or dispersal limited species?, (2015), Ecography, 38, 231–240.

### **Dehler, Carol Merritt**

Selenium isotope evidence for progressive oxidation of the Neoproterozoic biosphere., (December 18, 2015), Nature communications, 6, 10157.

### **Dennison, John Robert**

Variations in Cathodoluminescent Intensity of Spacecraft Materials Exposed to Energetic Electron Bombardment, (November 2015), IEEE Transactions on Plasma Physics, 43, 3948-3954.

Electron Beam Induced Luminescence of SiO<sub>2</sub> Optical Coatings, (October (4th Quarter/Autumn) 2015), Conference on Electrical Insulation and Dielectric Phenomena (CEIDP) 2012 Annual Report, IEEE-CEIDP, 479-482.

Mixed Weibull Distribution Model of DC Dielectric Breakdowns with Dual Defect Modes, (October (4th Quarter/Autumn) 2015), IEEE Conference on Electrical Insulation and Dielectric Phenomena, 4.

Pre-breakdown Arcing as a Proxy for DC Dielectric Breakdown Testing of Polymeric Insulators, (October (4th Quarter/Autumn) 2015), IEEE Conference on Electrical Insulation and Dielectric Phenomena, 4.

Defects Density of States Model of Cathodoluminescent Intensity and Spectra of Disordered SiO<sub>2</sub>, (October (4th Quarter/Autumn) 2015), IEEE Transactions on Plasma Physics, 43, 2925-2932.

Electrostatic Discharge and Endurance Time Measurements of Spacecraft Materials: A Defect-Driven Dynamic Model, (October (4th Quarter/Autumn) 2015), IEEE Transactions on Plasma Physics, 43, 2941-2953.

The Dynamic Interplay Between Spacecraft Charging, Space Environment Interactions and Evolving Materials, (September 2015), IEEE Transactions on Plasma Physics, 43, 2933-2940.

#### **Dickenson, Nicholas E**

Impact of detergent on the biophysical properties and immune response of the IpaDB Fusion protein, a candidate subunit vaccine against *Shigella* spp., (2015), *Infection and Immunity*, 83, 292-299.

#### **Evans, Edward W**

Long-term Outcomes of Population Suppression of Leafy Spurge by Insects in the Mountain Foothills of Northern Utah, (2015), *American Midland Naturalist*, 174, 1-13.

Parasitoid dispersal and colonization lag in disturbed habitats: biological control of cereal leaf beetle metapopulations, (2015), *Journal of Applied Entomology*, 139, 529-538.

Rapid but limited aggregation of ladybird beetles (Coleoptera: Coccinellidae) in response to sugar availability in the field, (2015), *Acta Societas Zoologicae Bohemicae*, 79, 65-71.

#### **Evans, James P**

Composition, Alteration, and Texture of Fault-Related Rocks from Safod Core and Surface Outcrop Analogs: Evidence for Deformation Processes and Fluid-Rock Interactions, (2015), *Pure and Applied Geophysics*, 172, 1053-1078.

Linking hematite (U-Th)/He dating with the microtextural record of seismicity in the Wasatch fault damage zone, Utah, USA, (2015), *Geology*, 43, 771-774.

Pseudotachylyte and Fluid Alteration at Seismogenic Depths (Glacier Lakes and Granite Pass Faults, Central Sierra Nevada, USA), (2015), *Pure and Applied Geophysics*, 172, 1203-1227.

#### **Farrelly, David**

Genetic Algorithm Diffusion Monte Carlo with Importance Sampling, (November 2015), *Chemical Physics Letters*, 619, 71.

The infrared spectrum of the the Ne-C<sub>2</sub>D<sub>2</sub> complex, (July (3rd Quarter/Summer) 2015), Journal of Chemical Physics, 143, 204307.

The infrared spectrum of the the He-C<sub>2</sub>D<sub>2</sub> complex, (January (1st Quarter/Winter) 2015), Journal of Chemical Physics, 142, 084312.

### **Fels, Mark Eric**

Backlund Transformations for Darboux Integrable Systems: Examples and Applications, (December 23, 2015), Journal of Geometry and Physics, 102, 1-31.

### **French, Susannah**

Effects of temperature on embryonic and early larval growth and development in the rough-skinned newt (*Taricha granulosa*), (2015), Journal of Thermal Biology, 51, 89-95.

Food restriction and chronic stress alter energy use and affect immunity in an infrequent feeder, (2015), Functional Ecology, 29, 1453-1462.

Otter predation on *Taricha granulosa* and variation in tetrodotoxin levels with elevation., (2015), Northwestern Naturalist, 96.

Physiological effects of polybrominated diphenyl ether (PBDE-47) on pregnant gartersnakes and resulting offspring, (2015), General and Comparative Endocrinology, 219, 143-151.

The role of corticosterone and toxicity in the antipredator behavior of the Rough-skinned Newt (*Taricha granulosa*), (2015), General and Comparative Endocrinology, 213, 59-64.

### **Fu, Guifang**

A forest-based feature screening approach for large-scale genome data with complex structures., (December 23, 2015), BMC genetics, 16, 148.

Exploiting Linkage Disequilibrium for Ultra High Dimensional Genome-Wide Data with an Integrated Statistical Approach., (December 12, 2015), Genetics.

### **Geer, Nathan C**

Full Dyson Excitation Spectrum in Generalized Levin-Wen Models, (2015), arXiv preprint arXiv:1502.03433.

Non semi-simple TQFTs from unrolled quantum  $sl(2)$ , (2015).

Re-normalized link invariants from the unrolled quantum group., (2015).

Relations between Witten–Reshetikhin–Turaev and nonsemisimple  $sl(2)$  3–manifold invariants, (2015), Algebraic & Geometric Topology, 15, 1363–1386.

Some remarks on the unrolled quantum group of  $sl(2)$ , (2015), Journal of Pure and Applied Algebra, 219, 3238–3262.

### **Gilbertson, Timothy A**

High-fat diet alters the sensitivity to fatty acids in obesity-resistant but not obesity-prone rats, (March 2015), Journal of Molecular and Genetic Medicine.

**Gompert, Zachariah**

Selection on a Genetic Polymorphism Counteracts Ecological Speciation in a Stick Insect, (2015), *Current Biology*, 25, 1975 - 1981.

The evolution of novel host use is unlikely to be constrained by trade-offs or a lack of genetic variation, (2015), *Molecular ecology*, 24, 2777–2793.

**Grilley, Michelle Marie**

In vitro antifungal synergy between amphiphilic aminoglycoside K20 and azoles against *Candida* species and *Cryptococcus neoformans*, (August 10, 2015), *Med Mycol*.

**Hagan, Maura E**

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### **Schunk, Robert Walter**

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How uncertainty in the neutral wind limits the accuracy of ionospheric modeling and forecasting, (November 18, 2015), *Journal of Geophysical Research: Space Physics*, 120.

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Mechanisms underlying the prereversal enhancement of the vertical plasma drift in the low-latitude ionosphere, (June 1, 2015), *Journal of Geophysical Research: Space Physics*, 120, 4950-4970.

### **Sojka, Jan Josef**

How uncertainty in the neutral wind limits the accuracy of ionospheric modeling and forecasting, (November 18, 2015), *Journal of Geophysical Research: Space Physics*, 120.

### **Stark, John M**

The invasive annual cheatgrass increases nitrogen availability, (October (4th Quarter/Autumn) 2015), *Oecologia* /Springer Verlag, 177, 799-809.

**Takemoto, Jon Y**

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Using Fluorogenic Probes for the Investigation of Selective Biomass Degradation by Fungi, (February 2015), *Green Chem*, 17, 1918-1925.

**Taylor, Michael John**

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A coordinated study of 1h mesoscale gravity waves propagating from Logan to Boulder with CRRL Na Doppler lidars and temperature mapper, (May 2015), *Journal of Geophysical Research in Atmosphere*, 10006-10021.

Evidence of dispersion and refraction of a spectrally broad gravity wave packet in the mesopause region observed by the Na lidar and Mesospheric Temperature Mapper above Logan, Utah, (December 2015), *Journal of Geophysical Research (JGR)*.

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**Williams, Becky Lynn**

Genomics of an environmentally-transmitted symbiosis: newly sequenced *Vibrio fischeri* genomes from different host squids and geographic locations., (2016), *Vie et Milieu*.

**Yuan, Tao**

A coordinated study of 1h mesoscale gravity waves propagating from Logan to Boulder with CRRL Na Doppler lidars and temperature mapper, (May 2015), *Journal of Geophysical Research in Atmosphere*, 10006-10021.

Evidence of dispersion and refraction of a spectrally broad gravity wave packet in the mesopause region observed by the Na lidar and Mesospheric Temperature Mapper above Logan, Utah, (December 2015), *Journal of Geophysical Research (JGR)*.

***Magazine/Trade Publication***

**Ramirez, Ricardo A**

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***Manuscript***

**Gompert, Zachariah**

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**Wilson, Joseph Scott**

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***Monograph***

**Shervais, John W**

Izu-Bonin-Mariana Fore Arc, (October (4th Quarter/Autumn) 2015), *International Ocean Discovery Program*, 352, 266 pages.

***Newsletter***

**Alston, Diane G**

Growing cover crops for pest management, (October (4th Quarter/Autumn) 2, 2015), *Utah Pests News*, Utah State University Extension, 9, 4-6.

"The other" raspberry cane-borers, (July (3rd Quarter/Summer) 2015), *Utah Pests News*, Utah State University Extension, 9, 8.

What does a warm, dry winter mean for insect populations?, (April (2nd Quarter/Spring) 2015), *Utah Pests News*, Utah State University Extension, 9, 9-10.

Collaborative organic orchard research with the National Park Service, (January (1st Quarter/Winter) 2015), *Utah Pests News*, Utah State University Extension, 9, 6-7.

**Ramirez, Ricardo A**

Neonicotinoids: from innovation to bad word, (October (4th Quarter/Autumn) 2015), *Utah Pests Newsletter*.

Aphids aplenty in alfalfa, (July (3rd Quarter/Summer) 2015), *Utah Pests Newsletter*.

Spring billbug monitoring in turf, (April (2nd Quarter/Spring) 2015), *USU Turf Advisory*.

New and increasing pests in turf and alfalfa, (January (1st Quarter/Winter) 2015), *Utah Pests Newsletter*.

***Newspaper***

**Alston, Diane G**

Ask a specialist: controlling grasshoppers in the yard and garden, (July (3rd Quarter/Summer) 9, 2015), *USU Extension*.

**Sweeten, Thayne Lyle**

Benefits of vaccinations supported by research, (February 11, 2015), Guest Editorial in *The Box Elder News Journal*.

Vaccines – Positives vs. Possibilities., (February 11, 2015), Guest Commentary in the Tremonton Leader/Garland Times.

Weighing immunizations fears as both a father and scientist., (February 3, 2015), The Herald Journal.

*Other*

**Chang, Cheng Wei Tom**

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**Malmendier, Andreas**

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**Stevens, John R**

Accounting for Missing Data in Clinical Research, (February 2, 2016), Journal of the American Medical Association, 315, 517-518.

**Takemoto, Jon Y**

Therapeutic mesobiliverdin IXalpha compositions and associated methods, Patent assigned, US9119842 B2, (September 1, 2015), United States Patent Office.

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**Lucas, Lauren K**

Genetic diversity of wild and captive Barton Springs salamanders (*Eurycea sosorum*) populations., (December 2015), US Fish and Wildlife Service Report.

**Wolf, Paul G**

Examination of the geographic range of the Niles' Buckwheat, (March 25, 2015), Phytotaxa, 203, 279–286.

*Software*

**Anderson, Ian M**

DifferentialGeometry - second USU release, (August 15, 2015).

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DifferentialGeometry - first USU release, (February 27, 2015).

**Torre, Charles Gregory**

DifferentialGeometry - second USU release, (August 15, 2015).

DGApplications, Version 2, (July (3rd Quarter/Summer) 22, 2015).

DifferentialGeometry - first USU release, (February 27, 2015).

### ***Technical Report-Other***

#### **Scherliess, Ludger**

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#### **Shervais, John W**

Izu-Bonin-Mariana fore arc: Testing subduction initiation and ophiolite models by drilling the outer Izu-Bonin-Mariana fore arc., (April (2nd Quarter/Spring) 2015), International Ocean Discovery Program Preliminary Report, 352, 352.

## **Contracts, Grants and Sponsored Research**

### **Alston, Diane G**

Coordinating IPM Successes in Utah's Specialty Crops, Communities, and Schools, Funded, \$315,000.00, (September 1, 2014 - August 30, 2017).

Biochar Amendment to Enhance Tomato and Melon Productivity and Protect Against Phytophthora Root Rot Disease, Funded, \$49,994.00, (March 2014 - March 2017).

Survey for vegetable viruses and zebra chip disease, Funded, \$29,671.00, (May 1, 2014 - April 30, 2016).

Onion systems management strategies for crop nutrition, weeds, thrips, and iris yellow spot virus, Funded, \$169,299.00, (May 2013 - April 2016).

Developing reduced input conventional orchard floor management options for soil quality, pests, and efficient water use., Funded, \$9,500.00, (March 1, 2014 - March 1, 2016).

Wildland fruit as winter refugia for spotted wing drosophila in the Intermountain West, Funded, \$30,000.00, (March 1, 2015 - February 28, 2016).

Overwintering and survival potential of spotted wing drosophila in northern Utah, Funded, \$9,988.00, (2014 - 2015).

Tree fruit leafroller pests in Utah, Funded, \$15,747.00, (January 2014 - December 2015).

Using Mobile Devices to Enhance Fruit Pest Information Delivery, Funded, \$22,747.00, (January 1, 2013 - November 30, 2015).

### **Anderson, Anne J**

Plant-microbial interactions: effects of sublethal doses of nanoparticles, Funded, \$500,000.00, (December 2011 - December 2015).

### **Anderson, Ian M**

SI2-SSE: Interdisciplinary Software Infrastructure for Differential Geometry, Lie Theory and their Applications, Funded, \$360,845.00, (June 1, 2012 - May 31, 2016).

**Antony, Edwin**

MRI: Acquisition of a Beckman ProteomeLab-XLI Analytical Ultracentrifuge to Enhance Research and Training, Funded, \$271,706.00, (September 1, 2015 - August 31, 2018).

**Ault, Alexis**

Development of Hematite (U-Th)/He Chronology to Directly Date Fault Slip and Ancient Seismicity, Funded, \$187,524.00, (September 1, 2014 - August 31, 2017).

How and when do faults get hot? Surface chemistry and geochronological investigations of seismic slip, Funded, \$20,000.00, (May 1, 2014 - April 30, 2015).

**Baker, Michelle A**

iUTAH-innovative Urban Transitions and Aridregion Hydro-sustainability, Funded, \$20,000,000.00, (August 1, 2012 - July 31, 2017).

Utah EPSCoR RII Track-1: Interactions Among Water, Energy, and the, Funded, \$20,000,000.00, (August 1, 2012 - July 30, 2017).

SF6 Analyses, Funded, \$64,591.00, (October 2014 - October 2016).

Translational Ecology - A Pedagogical Framework to Integrate Natural and Social Science, Funded, (September 2013 - August 2015).

**Bernhardt, Scott A**

Evaluation of methoprene, an insect growth regulator, to potential development of resistance in *Culex tarsalis* and *Culex pipiens* mosquitoes, Funded, \$43,227.00, (January 2014 - April 2015).

Adaptive responses of Uinta Ground Squirrels to climate change: learning from a hibernating indicator species, Funded, \$19,995.00, (March 2014 - March 2015).

**Berreau, Lisa M**

MRI: Acquisition of a 500 MHz NMR to Enhance Research and Training, Funded, \$385,000.00, (August 1, 2014 - July 31, 2017).

Carbon Monoxide on Demand for Industry and Medicine, Funded, \$66,157.00, (December 1, 2015 - June 30, 2016).

RC Grant: CO Release at the Mitochondria, Funded, \$20,000.00, (July 1, 2015 - June 30, 2016).

New Strategies for Photoinduced Carbon Monoxide Releasing Molecules, Funded, \$415,000.00, (April 1, 2013 - March 31, 2016).

**Campbell, Theodore Jones**

Online Learning Forums for Improved Engineering Student Outcomes in Calculus, Funded, \$199,979.00, (February 1, 2013 - January 31, 2016).

**Chang, Cheng Wei Tom**

MRI: Acquisition of a 500 MHz NMR to Enhance Research and Training, Funded, \$385,000.00, (August 1, 2014 - July 31, 2017).

USTAR mini-grant: Green Treatment of Iron Chlorosis and Natural Nutrition for Plants, Funded, \$73,765.00, (December 1, 2015 - June 30, 2016).

Green treatment of iron chlorosis and natural nutrition for plants, Funded, \$84,678.00, (September 2015 - June 2016).

**Christiansen, Michael A**

MRI: Acquisition of a 500 MHz NMR to Enhance Research and Training, Funded, \$385,000.00, (August 1, 2014 - July 31, 2017).

**Corcoran, Christopher D**

miRNA and colorectal cancer: Associations with tumor phenotype and survival, Funded, \$1,250,000.00, (July 2012 - June 2017).

Pleiotropic and interaction effects on Alzheimer's disease risk and progression, Funded, \$1,250,000.00, (July 2012 - June 2017).

Prenatal and Neonatal Biologic Markers for Autism, Funded, \$576,008.00, (July 2010 - June 2015).

**Coster, Daniel C**

Cyber-enabled Learning: Digital Natives in Integrated Scientific Inquiry Classrooms, Funded, \$2,500,000.00, (September 1, 2010 - August 31, 2015).

Cyber-enabled Learning: Digital Natives in Integrated Scientific Inquiry Classrooms, Funded, \$2,489,331.00, (September 2010 - August 2015).

**Dehler, Carol Merritt**

Mid-Neoproterozoic record of eukaryotes and environmental change: Exploring the Visingsö Group of southern Sweden, Funded, \$17,908.00, (January 1, 2015 - December 31, 2016).

Structural setting, source rocks, and petroleum potential of mid-Neoproterozoic extensional basins, Utah and Arizona, Funded, \$52,942.00, (May 2014 - May 2016).

**Dennison, John Robert**

Education Partnership Agreement Between the Department of The Air Force (AFRL/RVBXR Space Vehicles Directorate, Battle Space Environments Division, Space Particles Section) and Utah State University, Funded, \$0.00, (November 2014 - November 2019).

Enhanced Predictions of Time to Critical Dielectric Breakdown of Materials under Prolonged Exposure to Space Plasma Environments, Funded, \$261,400.00, (August 2014 - July 2018).

Volume Charge Distribution Measurement in Thin Dielectrics: Phase IIB, Funded, \$420,000.00, (November 2015 - October 2017).

Materials Database of Materials Properties for Spacecraft Charging: Phase IIB, Funded, \$420,000.00, (November 2015 - October 2017).

Acquisition of a Field-Emission Scanning Electron Microscope to Catalyze Campus-wide Research in Bio/Nano and Advanced Energy Material, Funded, \$529,387.00, (August 1, 2013 - July 31, 2016).



Electron Yield Measurements of High-Yield Low Conductivity Dielectric Materials, Funded, \$15,000.00, (July 2015 - June 2016).

Evaluation of Space Radiation Environment Degradation of Solar Array Panels, Funded, \$2,000.00, (July 2015 - June 2016).

Charge Storage and Transfer in Thin Film Ceramic Materials: Phase I, Funded, \$72,000.00, (September 2015 - February 2016).

Hall Thruster Secondary Electron Emission Tests, Funded, \$34,992.00, (October 2014 - January 2016).

Dependence of Electrostatic Field Strength on Voltage Ramp Rates for Spacecraft Materials, Funded, \$2,000.00, (September 2015 - December 2015).

Cathodoluminescence Events Coincident with Muon Detection, Funded, \$2,000.00, (January 2015 - December 2015).

Volume Charge Distribution Measurement in Thin Dielectrics: Phase II, Funded, \$750,000.00, (June 15, 2013 - November 10, 2015).

Development and Applications for the Space Survivability Test Chamber, Funded, \$2,000.00, (May 2015 - August 2015).

Cathodoluminescence Events Coincident with Muon Detection, Funded, \$700.00, (September 2014 - June 2015).

#### **Dickenson, Nicholas E**

MRI: Acquisition of a Beckman ProteomeLab-XLI Analytical Ultracentrifuge to Enhance Research and Training, Funded, \$271,706.00, (September 1, 2015 - August 31, 2018).

Lipid raft effects on Shigella type III secretion system-based interactions, Funded, \$268,400.00, (August 1, 2013 - July 31, 2016).

ACS SEED: Support for High School Summer Research Opportunities, Funded, \$5,000.00, (June 1, 2015 - July 31, 2015).

#### **Edwards, Boyd Farrell**

Tunable On-Demand Microfluidic Separations Using Traveling-Wave Electrophoresis, Funded, \$238,137.00, (January 2013 - December 2015).

#### **Ensign, Scott A**

MRI: Acquisition of modern x-ray diffraction equipment to enhance research and training, Funded, \$313,156.00, (July 15, 2012 - June 30, 2015).

#### **Etchberger, Lianna Hatfield**

VFO Youth Internship Wildlife Management Project, Funded, \$158,000.00, (September 1, 2014 - December 31, 2017).

Pariette Wetlands Internship; Prairie Dog Monitoring; and Prairie Dog Population Genetics Projects, Funded, \$82,000.00, (July 1, 2014 - June 30, 2017).

Pariette Wetlands Internship; Prairie Dog Monitoring; and Prairie Dog Population Genetics Projects, Funded, \$50,000.00, (July 1, 2013 - June 30, 2017).

RCDE Excellence in Teaching and Learning Grant “Alignment of biology curriculum with national standards and planning programmatic assessment”, Funded, \$9,000.00, (August 2014 - August 2015).

**Evans, Edward W**

Biological Control of Noxious Weeds in Utah, Funded, \$70,000.00, (August 2011 - July 2016).

Assessing success of weed biocontrol in Utah, Funded, \$14,828.00, (May 1, 2015 - April 30, 2016).

Cereal Leaf Beetle Biocontrol, Funded, \$6,671.00, (May 1, 2015 - April 30, 2016).

Investigating and monitoring native bees at Pinnacles National Monument, Funded, \$65,315.00, (November 2010 - September 2015).

**Evans, James P**

Development of Hematite (U-Th)/He Chronology to Directly Date Fault Slip and Ancient Seismicity, Funded, \$187,524.00, (September 1, 2014 - August 31, 2017).

CO2 Seal Bypass, Funded, \$20,000.00, (July 1, 2015 - June 30, 2017).

The Hydrologic Connection Between Basal Reservoir Injection, Micro/Mesoscale Crystalline Basement Fault Zones, and Induced Seismicity, Funded, \$78,467.00, (June 1, 2015 - May 31, 2016).

Hot and fast, cold and slow: Surface element thermometry of seismic slip, Funded, \$8,000.00, (June 1, 2015 - March 30, 2016).

The Analysis of Scaling of Fault-Related Processes: Fluid-Rock Interactions and Slip Processes from the MM to 10's KM Scale of Slip, Funded, \$59,725.00, (December 1, 2014 - November 30, 2015).

How and when do faults get hot? Surface chemistry and geochronological investigations of seismic slip, Funded, \$20,000.00, (May 1, 2014 - April 30, 2015).

**Farrelly, David**

Quantum Monte Carlo studies of rovibrational dynamics and quantum solvation in ultracold bosonic clusters, Funded, \$368,066.00, (May 1, 2013 - April 30, 2016).

**Fejer, Bela Gyula**

Radar Studies of Short-term Variability in the Electrodynamics of the Low Latitude Ionosphere, Funded \$552,002.00 (September 15, 2011 - February 29, 2016).

**French, Susannah**

CAREER: Physiological Trade-offs in Ecoimmunology: Costs for Individuals and Populations, Funded, \$849,170.00, (February 15, 2014 - February 14, 2019).

Psychoneuroendocrine Mechanisms of Adolescents' Health-Related Decision-Making, Funded, \$80,000.00, (August 2014 - July 2018).

Adaptive responses of Uinta Ground Squirrels to climate change: learning from a hibernating indicator species, Funded, \$19,995.00, (March 2014 - March 2015).

**Fu, Guifang**

Statistical Models for Mapping Genetic and Environment Effects Regulating Shape Variation, Funded, \$279,543.00, (August 1, 2014 - July 30, 2017).

An Integrated Statistical Approach to Detect PCOS Susceptibility Loci, Funded, \$10,000.00, (July 1, 2015 - June 30, 2016).

**Geer, Nathan C**

CAREER: The geometry and physics of non-semi-simple quantum topology., Funded, \$450,193.00, (October 2015 - October 2020).

Collaboration Grants for Mathematicians Project Title: NON-SEMI-SIMPLE QUANTUM TOPOLOGY, Funded, \$35,000.00, (September 2013 - September 2018).

Quantum topology, via re-normalized invariants, Funded, \$148,404.00, (June 15, 2013 - June 15, 2016).

**Gilbertson, Timothy A**

Fatty Acid Receptors in Gustation, Funded, \$1,468,570.00, (June 1, 2014 - May 31, 2019).

The effect of osmotic environment on sweet taste, Funded, \$44,631.40, (October 1, 2014 - December 31, 2016).

The role of chemosensory pathways in food intake, Funded, \$487,750.00, (January 1, 2014 - December 31, 2016).

Non-ENaC mediated salt taste, Funded, \$106,489.00, (2012 - 2016).

A combined TERS and functional cellular imaging approach to explore receptor function, Funded, \$300,000.00, (July 1, 2013 - June 30, 2016).

**Gompert, Zachariah**

The genomic basis of adaptation and its role in the evolutionary process, Funded, \$19,994.00, (January 15, 2015 - January 15, 2016).

Investigating the evolution of color mimicry in velvet ants through population genomics., Funded, \$10,000.00, (May 2014 - May 2015).

**Gordillo, Luis Fernando**

USU RGS MERCCI: Modeling Ecosystem Response to Climate Change, Funded, (2014 - 2015).

**Hanifin, Charles Taylor**

VFO Youth Internship Wildlife Management Project, Funded, \$158,000.00, (September 1, 2014 - December 31, 2017).

New Faculty Success in Scholarship Grant, Funded, \$10,000.00, (July 1, 2014 - August 30, 2015).

**Held, Eric D**

Plasma Center for computational Predictability Funded, \$634,000.00, (March 1, 2005 - February 29, 2016).

CEMM-Wisconsin, Funded, \$30,000.00, (February 15, 2014 - February 14, 2016).

Center for Extended Magnetohydrodynamics II, Funded, \$658,001.00, (February 15, 2008 - February 14, 2016).

Advanced Closures for Numerical Simulations of Neoclassical Tearing Modes. Funded, \$910,057.00, (December 15, 2003 - December 14, 2015).

**Hengge, Alvan C**

Mechanism of Catalytic Regulation and Active Site Loop Motions in Related Protein Tyrosine Phosphatases, Funded, (January 1, 2015 - December 31, 2018).

MRI: Acquisition of a 500 MHz NMR to Enhance Research and Training, Funded, \$385,000.00, (August 1, 2014 - July 31, 2017).

MRI: Acquisition of modern x-ray diffraction equipment to enhance research and training, Funded, \$313,156.00, (July 15, 2012 - June 30, 2015).

**Hevel, Joan M**

MRI: Acquisition of a Beckman ProteomeLab-XLI Analytical Ultracentrifuge to Enhance Research and Training, Funded, \$271,706.00, (September 1, 2015 - August 31, 2018).

MRI: Acquisition of modern x-ray diffraction equipment to enhance research and training, Funded, \$313,156.00, (July 15, 2012 - June 30, 2015).

**Huntly, Nancy J**

Artist + Scientist = An Amalgamative Approach to Ecological Public Art, Funded, \$91,200.00, (January 1, 2015 - October 2016).

EPSCoR Track 1 - iUTAH: Innovative urban transitions and arid-region hydrosustainability, Funded, \$20,000,000.00, (August 1, 2012 - July 31, 2016).

**Janecke, Susanne U**

Hot and fast, cold and slow: Surface element thermometry of seismic slip, Funded, \$8,000.00, (June 1, 2015 - March 30, 2016).

How and when do faults get hot? Surface chemistry and geochronological investigations of seismic slip, Funded, \$20,000.00, (May 1, 2014 - April 30, 2015).

**Johnson, Sean J**

Structural and Functional Studies of Mtr4 and Mtr4-mediated complexes, Funded, \$1,356,837.00, (September 30, 2015 - July 31, 2020).

Mechanism of Catalytic Regulation and Active Site Loop Motions in Related Protein Tyrosine Phosphatases, Funded, (January 1, 2015 - December 31, 2018).

MRI:Acquisition of a Beckman ProteomeLab-XLI Analytical Ultracentrifuge to Enhance Research and Training, Funded, \$271,706.00, (September 1, 2015 - August 31, 2018).

CAREER:Structural Studies of Ski2-like RNA Helicases, Funded, \$1,063,224.00, (April 1, 2010 - March 31, 2016).

MRI: Acquisition of modern x-ray diffraction equipment to enhance research and training, Funded, \$313,156.00, (July 15, 2012 - June 30, 2015).

REU supplement for CAREER:Structural Studies of Ski2-like RNA Helicases, Funded, \$6,000.00, (April 1, 2014 - March 31, 2015).

CAREER: Structural Studies of Ski2-like RNA Helicases, Funded, \$1,063,224.00, (April 1, 2010 - March 31, 2015).

### **Kapheim, Karen Marie**

The genomic basis of adaptation and its role in the evolutionary process, Funded, \$19,994.00, (January 15, 2015 - January 15, 2016).

### **Kohler, Brynja R**

MfA Utah Commitments to Current Fellows and Mentors, Funded, \$113,252.00, (June 2015 - May 2016).

### **Kropp, Bradley R**

Lichen survey for Great Basin National Park, Funded, \$2,500.00, (June 1, 2015 - May 30, 2017).

Phylogenetic relationships and species concepts for selected mycorrhizal root symbionts., Funded, (July 1, 2011 - July 1, 2016).

Baseline inventory of mycological resources on BLM lands in Wyoming and establishment of plots to monitor long term response to climate change, Funded, (June 1, 2012 - June 1, 2015).

### **Lewis, Randy**

Adhesive Spider Silks for Naval Applications, Funded, \$488,000.00, (July 1, 2015 - June 30, 2018).

Electrospinning Spider Silk Proteins for Neuron Growth, Funded, \$375,000.00, (April 1, 2015 - March 31, 2018).

SBIR Phase II w/Technology Holdings, Funded, \$999,965.00, (November 1, 2015 - October 31, 2017).

Spider Silk Proteins, Funded, \$150,000.00, (November 2014 - September 2017).

Novel Biomimetic Nanostructured Materials Based on Synthetic Spider, Funded, \$382,000.00, (July 2014 - June 2017).

Spider Web Glue Proteins, Funded, \$388,706.00, (June 2014 - May 2017).

Spider silk MaSp1 and MaSp2 proteins a carbon fiber precursors, Funded, \$1,988,042.00, (October 2014 - September 2016).

Electrospinning spider silk proteins, Funded, \$299,999.00, (June 2013 - July 2016).

Spider Silk Protein Threads, Funded, \$150,000.00, (December 2013 - December 2015).

Adhesive Spider Silks for Naval Applications, Funded, \$242,515.00, (August 2013 - August 2015).

Partnerships to Develop Spider Silk Products, Funded, \$599,777.00, (August 2013 - August 2015).

Spider Silk Proteins, Funded, \$176,000.00, (May 2014 - May 2015).

**Liu, Tianbiao**

Low Cost and Benign Aqueous Redox Flow Batteries (ARFBs) for Electrochemical Energy Storage (EES), Funded, \$99,850.00, (December 1, 2015 - June 30, 2016).

**Lowry, Anthony**

Collaborative Research: The Effects of Water and Lithology on North American Lithosphere, Funded, \$58,020.00, (August 1, 2014 - July 31, 2016).

CAREER: Earth Rheology and Deformation Processes, Funded, \$500,047.00, (May 15, 2010 - April 30, 2016).

Collaborative Research: Deciphering the Structure and Evolution of North America's Cratonic Core, Funded, \$46,500.00, (January 1, 2013 - December 31, 2015).

**Messina, Frank J**

The genomic basis of adaptation and its role in the evolutionary process, Funded, \$19,994.00, (January 15, 2015 - January 15, 2016).

**Mott, Keith A**

Integrated Stomatal Responses to Environmental Input, Funded, \$524,502.00, (September 1, 2011 - August 31, 2016).

**Nischwitz, Claudia**

Screening walnut genotypes for disease resistance, cold hardiness, and for horticultural and forestry traits, Funded, \$20,000.00, (July 2015 - June 2017).

Distribution of Monilinia species causal agent of brown rot in Utah, and determination of resistance levels to fungicides, Funded, \$22,513.00, (April 1, 2015 - April 30, 2017).

Development of management strategies for Watermelon mosaic virus in cucurbits, Funded, \$19,663.00, (May 1, 2015 - March 30, 2017).

Effect of potassium in the soil on Iris yellow spot virus incidence in onion, Funded, \$7,319.00, (March 1, 2015 - September 30, 2016).

Evaluation of new products for management of fire blight in apple and pear orchards in Utah, Funded, \$6,005.00, (April 1, 2014 - September 29, 2016).

Survey for vegetable viruses and zebra chip disease, Funded, \$29,671.00, (May 1, 2014 - April 30, 2016).

Onion systems management strategies for crop nutrition, weeds, thrips, and iris yellow spot virus, Funded, \$169,299.00, (May 2013 - April 2016).

Survey of stone fruit orchards in UT for brown rot, Funded, \$9,728.00, (2014 - 2015).

Thousand cankers resistance screening, Funded, \$1,483.00, (June 1, 2014 - November 30, 2015).

Managing IYSV in onion fields by targeting weedy virus reservoirs and reproductive hosts for onion thrips, Funded, \$61,574.00, (August 1, 2010 - July 30, 2015).

Diagnostic support, Funded, \$13,750.00, (July 1, 2014 - June 30, 2015).

Orchard survey for insects, Plum pox virus and Monilinia polystroma, Funded, \$17,500.00, (July 1, 2014 - June 30, 2015).

Solanaceous survey, Funded, \$10,750.00, (July 1, 2014 - June 30, 2015).

Detection, identification and diagnostics of viruses affecting Utah vegetable crops, Funded, \$19,832.00, (June 1, 2013 - May 31, 2015).

Improved nutrition management of dry bulb onions in Utah through crop rotation and precision fertilization, Funded, \$13,392.00, (April 1, 2013 - March 31, 2015).

Effect of Micronutrients on Iris Yellow Spot Virus of Onion, Funded, \$69,960.00, (March 1, 2013 - February 28, 2015).

#### **Peak, David**

Integrated Stomatal Responses to Environmental Input, Funded, \$524,502.00, (September 1, 2011 - August 31, 2016).

#### **Pederson, Joel L**

Development of spatially-referenced, mobile-device software applications for geoscience education using the Colorado Plateau as a virtual classroom, Funded, \$240,737.00, (September 2013 - September 2016).

#### **Powell, James A**

Predicting mountain pine beetle phenology and forest susceptibility in the southwester United States, Funded, \$24,024.00, (August 2015 - August 2016).

Landscape-Scale Enhanced Mountain Pine Beetle & Climate Change Threat Assessment, Funded, \$91,613.00, (July 28, 2009 - December 30, 2015).

#### **Ramirez, Ricardo A**

Genomics of resistance in cereals to mite herbivores associated with plant drought stress, Funded, \$1,069,975.00, (August 15, 2015 - July 2019).

Alfalfa and Forage Research Program, Funded, \$206,000.00, (September 1, 2015 - August 31, 2018).

The interaction of pesticides with pollinator health and behavior in fruit production systems in the US, Funded, \$136,373.00, (2014 - 2017).

Understanding the role of alternative host plants used by two invasive insects, spotted wing drosophila and brown marmorated sting bug in Utah, Funded, \$19,958.00, (2014 - 2017).

Cooperative Agricultural Pests Survey (CAPS) Core Project, Funded, \$69,284.00, (July 1, 2015 - 2016).

Support for a local chapter of SACNAS, Funded, \$15,000.00, (2013 - 2016).

Wildland fruit as winter refugia for spotted wing drosophila in the Intermountain West, Funded, \$30,000.00, (March 1, 2015 - February 28, 2016).

Western States Proposal to Develop Online Training Modules for Pesticide Applicator Recertification, Funded, \$48,000.00, (April 28, 2014 - February 15, 2016).

Alfalfa Corn Commodity survey, Funded, \$16,701.00, (April 2015 - December 2015).

Small Grains Survey, Funded, \$11,420.00, (April 2015 - December 2015).

Cooperative Agricultural Pests Survey (CAPS) Core Project, Funded, \$69,284.00, (July 1, 2014 - 2015).

Invasive species outreach, Funded, \$7,159.00, (2014 - 2015).

Overwintering and survival potential of spotted wing drosophila in northern Utah, Funded, \$9,988.00, (2014 - 2015).

Solanaceous crop survey, Funded, \$10,750.00, (2014 - 2015).

Western States Proposal to Develop Online Training Modules for Pesticide Applicators Recertification, Funded, \$48,000.00, (2014 - 2015).

Insect Management Intern, Funded, \$5,000.00, (May 2014 - June 2015).

Interactions between drought and neonicotinoid insecticides on spider mite outbreaks in corn, Funded, \$20,000.00, (July 1, 2013 - June 30, 2015).

Using mustard green manure to improve stem nematode and clover root curculio management in alfalfa, Funded, \$10,000.00, (June 2014 - May 2015).

Using mustard green manure to improve stem nematode and clover root curculio management in alfalfa, Funded, \$10,000.00, (June 1, 2014 - May 30, 2015).

### **Rittenour, Tammy M**

Climate and environmental history of SE Queensland dunefields, Funded, \$364,900.00, (2015 - 2017).

Doctoral Dissertation Research: Using Cosmogenic Nuclides to Understand the Interrelationship between Erosion Rates, Environmental Factors, and Landscape Response, Funded, \$16,000.00, (2015 - 2016).

Geochronology infrastructure for Southern California Earthquake Center, Funded, \$8,000.00, (2015 - 2016).

Collaborative Research: EarthScope Geochronology: A Student Research and Training Program and EarthScope Institute, Funded, \$363,000.00, (2014 - 2016).

CAREER: Understanding Processes related to Arroyo systems, southern Utah, Funded, \$497,932.00, (2011 - 2016).



WaterSMART: Building decadal prediction of extreme climate for managing water supply in Intermountain West, Funded, \$294,990.00, (September 1, 2013 - August 31, 2015).

**Rowley, Eric R**

Utah Mathematics Endorsement Project (UMEP), Funded, \$70,000.00, (July 1, 2015 - June 30, 2016).

Support and Mentoring in an Alternative Route to Licensure, Funded, (July 1, 2014 - June 30, 2015).

Utah Mathematics Endorsement Project, Funded, \$70,000.00, (July 1, 2014 - June 30, 2015).

**Runge, Piotr**

Technology Innovation Grant, Funded, \$5,000.00, (March 16, 2015 - September 17, 2015).

**Scherliess, Ludger**

Physical Processes Governing Energy and Momentum Flows on Multiple Scales in Near-Earth Space Using a First-principles-based Data Assimilation System (DAS) for the Global Ionosphere, Funded, \$1,300,000.00, (May 1, 2013 - April 30, 2018).

OPAL: Optical Profiling of the Atmospheric Limb, Funded, \$900,000.00, (October 2013 - October 2016).

GAIM Tasks for Utah State University - SEMSIII/USU 7500055856, Funded, \$459,001.00, (September 1, 2015 - October 28, 2016).

Winds in the Earth's Upper Atmosphere, Funded, \$19,431.60, (July 1, 2015 - June 30, 2016).

USU Support for ARMAS Phase II, Funded, \$103,000.00, (April 30, 2012 - September 30, 2015).

Systems Engineering, Management and Sustainment Program II, Funded, \$284,500.00, (March 10, 2014 - April 6, 2015).

**Schunk, Robert Walter**

Physical Processes Governing Energy and Momentum Flows on Multiple Scales in Near-Earth Space Using a First-principles-based Data Assimilation System (DAS) for the Global Ionosphere, Funded, \$1,300,000.00, (May 1, 2013 - April 30, 2018).

GAIM Tasks for Utah State University - SEMSIII/USU 7500055856, Funded, \$459,001.00, (September 1, 2015 - October 28, 2016).

Systems Engineering, Management and Sustainment Program II, Funded, \$284,500.00, (March 10, 2014 - April 6, 2015).

**Seefeldt, Lance C**

MRI: Acquisition of a Beckman ProteomeLab-XLI Analytical Ultracentrifuge to Enhance Research and Training, Funded, \$271,706.00, (September 1, 2015 - August 31, 2018).

Biological Electron Transfer and Catalysis (BETSy), Funded, \$10,000,000.00, (September 1, 2014 - August 31, 2018).

Role of P clusters and FeMo-cofactor in nitrogenase catalysis, Funded, \$450,000.00, (September 1, 2013 - August 31, 2016).

Upgrading Glanbia Delac to High Value Products, Funded, \$199,000.00, (September 1, 2013 - August 30, 2016).

Nitrogenase Reduction of CO<sub>2</sub> to hydrocarbons, Funded, \$760,000.00, (August 15, 2013 - August 14, 2016).

**Shen, Tsung-Cheng**

MRI: Acquisition of a Field-Emission Scanning Electron Microscope to Catalyze Campus-Wide Research in Bio/Nano and Advanced Energy Materials, Funded, \$756,267.00, (September 1, 2013 - August 31, 2016).

USU RGS Assistantships, Funded, \$54,000.00, (August 26, 2014 - August 25, 2016).

Acquisition of a Field-Emission Scanning Electron Microscope to Catalyze Campus-wide Research in Bio/Nano and Advanced Energy Material, Funded, \$529,387.00, (August 1, 2013 - July 31, 2016).

NIST Summer Undergraduate Research Fellowship, Funded, \$9,100.00, (May 18, 2015 - August 21, 2015).

A Nomarski microscope for NDL, Funded, \$16,500.00, (May 21, 2015 - June 30, 2015).

RGS Equipment Grant: Establishing Reactive Ion Etching System at NDL, Funded, \$60,000.00, (June 2014 - June 2015).

**Shervais, John W**

MRI: Acquisition of a Field-Emission Scanning Electron Microscope to Catalyze Campus-Wide Research in Bio/Nano and Advanced Energy Materials, Funded, \$756,267.00, (September 1, 2013 - August 31, 2016).

Acquisition of a Field-Emission Scanning Electron Microscope to Catalyze Campus-wide Research in Bio/Nano and Advanced Energy Material, Funded, \$529,387.00, (August 1, 2013 - July 31, 2016).

Play Fairway Analysis of the Snake River Plain, Idaho, Funded, \$500,000.00, (October 1, 2014 - September 30, 2015).

Salary Support for John Shervais - IODP Expedition 352, Funded, \$59,488.00, (August 2014 - June 2015).

Ocean Leadership Post Expedition Award - IODP Expedition 352, Funded, \$15,000.00, (December 2014 - May 2015).

**Stark, John M**

Regulation of microbial growth efficiency in rangeland soils, Funded, \$85,000.00, (July 1, 2013 - June 30, 2018).

Functional And Molecular Diversity In Nitrogen Cycle Enzymes Under Contrasting Agricultural Management Systems, Funded, \$498,000.00, (January 15, 2011 - June 30, 2016).

Analysis of organic matter from wetland soils, algae, and vegetation, Funded, \$35,000.00, (September 2013 - July 2015).

**Stevens, John R**

miRNA and colorectal cancer: Associations with tumor phenotype and survival, Funded, \$1,250,000.00, (July 2012 - June 2017).

miRNA and Colorectal Cancer: Associations with Tumor Phenotype and Survival, Funded, \$6,649,396.00, (September 8, 2012 - June 30, 2017).

Impact of typical Western diet on cancer prevention by green tea using a multi-generation model of colorectal cancer, Funded, \$500,000.00, (January 2014 - December 2016).

Reproductive Performance in Domestic Ruminants, Funded, \$92,500.00, (July 1, 2011 - September 30, 2016).

Genome programming and embryo survivability in porcine somatic cell nuclear transfer embryos, Funded, \$499,290.00, (September 1, 2013 - August 31, 2016).

Genome reprogramming and embryo survivability in porcine somatic cell nuclear transfer embryos, Funded, \$499,290.00, (September 2013 - August 2016).

#### **Sullivan, Kimberly A**

15-JV-11261992-059, Funded, \$23,890.00, (June 2015 - December 2017).

#### **Sun, Yujie**

MRI: Acquisition of a 500 MHz NMR to Enhance Research and Training, Funded, \$385,000.00, (August 1, 2014 - July 31, 2017).

Bifunctional electrocatalysts for overall water splitting and biomass conversion, Funded, \$15,000.00, (September 1, 2015 - August 31, 2016).

Low Cost and Benign Aqueous Redox Flow Batteries (ARFBs) for Electrochemical Energy Storage (EES), Funded, \$99,850.00, (December 1, 2015 - June 30, 2016).

Earth-abundant metal sulfides and phosphides as Janus water splitting catalysts, Funded, \$10,000.00, (June 1, 2015 - May 31, 2016).

2nd Utah Inorganic/Organometallic Symposium, Funded, \$500.00, (January 1, 2015 - December 31, 2015).

2nd Utah Inorganic/Organometallic Symposium, Funded, \$4,000.00, (January 1, 2015 - December 31, 2015).

Acquisition of a LCMS-2020 from the mass spectrometry program of Shimadzu's equipment grants for research, Funded, \$62,000.00, (January 2014 - December 2015).

Catalytic Conversion of Carbon Dioxide to Monoxide and Methanol, Funded, \$128,330.00, (March 1, 2014 - February 28, 2015).

Hydrogen Evolution from Neutral Water Catalyzed by Earth-Abundant Metal Chalcogenides, Funded, \$15,000.00, (March 1, 2014 - February 28, 2015).

#### **Takemoto, Jon Y**

Evaluation of new products for management of fire blight in apple and pear orchards in Utah, Funded, \$6,005.00, (April 1, 2014 - September 29, 2016).

Green treatment of iron chlorosis and natural nutrition for plants, Funded, \$84,678.00, (September 2015 - June 2016).

Novel Therapeutics, Funded, \$171,000.00, (July 1, 2015 - June 30, 2016).

STTR Phase I: New Synergistic Biofungicides: Novel Aminoglycoside and Azole/Strobilin Combinations, Funded, \$217,246.00, (July 1, 2015 - June 30, 2016).

Anti-inflammatory mechanism of mesobiliverdin, Funded, \$1,050,000.00, (July 1, 2013 - June 30, 2016).

Chemoenzymatic synthesis of pradimicin analogues for novel anti-infective agents, Funded, \$421,787.00, (January 1, 2011 - May 30, 2015).

### **Taylor, Michael John**

Continental-Scale Studies of Mesospheric Dynamics Using the ANtarctic Gravity Wave Instrument Network (ANGWIN), Funded, \$750,000.00, (2015 - 2020).

Collaborative Research: Deep Propagating Gravity Wave (DEEPWAVE) Mission, Funded, \$425,001.00, (February 1, 2014 - January 31, 2018).

Collaborative Research: Quantification of Gravity Wave Momentum Fluxes and Instability Events in the MLT Region at High and Mid-Latitudes, Funded, \$196,103.00, (September 1, 2015 - 2017).

Collaborative proposal: Quantification of gravity wave momentum fluxes and instability events in the MLT region at high- and mid- latitudes, Funded, \$196,104.00, (2015 - 2017).

Consortium of Resonance and Rayleigh Lidars, Funded, \$1,335,019.00, (April 30, 2012 - April 30, 2017).

Collaborative proposal: Dynamics in the mesosphere and lower thermosphere over the Andes Lidar Observatory, Funded, \$200,000.00, (April 1, 2012 - March 31, 2017).

OPAL: Optical Profiling of the Atmospheric Limb, Funded, \$900,000.00, (October 2013 - October 2016).

Participation in AIM Mission - Phase C/D/E, Funded, (November 1, 2004 - September 30, 2015).

1 year cost supplement: Development of an Antarctic gravity wave imaging network (ANGWIN), Funded, \$66,832.00, (June 15, 2014 - May 31, 2015).

Investigating Wave Driven Mesospheric Dynamics Over South Pole Using an Advanced Mesospheric Temperature Mapper, Funded, \$239,557.00, (June 1, 2012 - May 31, 2015).

1 year cost supplement to: Collaborative Research: CEDAR: Gravity wave momentum fluxes ALOMAR, Funded, \$20,588.00, (February 1, 2014 - January 31, 2015).

Collaborative Research: CEDAR: Gravity wave momentum fluxes ALOMAR, Funded, (February 1, 2011 - January 31, 2015).

### **Torre, Charles Gregory**

SI2-SSE: Interdisciplinary Software Infrastructure for Differential Geometry, Lie Theory and their Applications, Funded, \$360,845.00, (June 1, 2012 - May 31, 2016).

**Wang, Zhi Qiang**

Topics in nonlinear analysis and applications to nonlinear elliptic PDEs, Funded, \$35,000.00, (September 2015 - August 2020).

**Welker, Dennis L**

Development of Chalkbrood Resistance in Bees, Funded, \$316,591.00, (August 1, 2011 - July 31, 2016).

Enhancing the value of biofuels derived from algae and perennial grass feedstocks through integration of a lactic acid fermentation., Funded, \$999,875.00, (January 2011 - January 2016).

**Wheeler, James Thomas**

Blood Fellowship, Funded, \$4,000.00, (June 1, 2015 - August 30, 2015).

**Williams, Becky Lynn**

Bureau of Land Management VFO Youth Internship Wildlife Management Project, Funded, \$202,000.00, (July 2015 - 2017).

RCDE Excellence in Teaching and Learning Grant "Alignment of biology curriculum with national standards and planning programmatic assessment", Funded, \$9,000.00, (August 2014 - August 2015).

Research Starter Grant from the American Society of Pharmacognosy "The pathway to addiction-free pain relief", Funded, \$4,900.00, (May 2014 - May 2015).

**Wilson, Joseph Scott**

Red Butte Gardens Native bee Survey, Funded, \$12,600.00, (April 2015 - May 2016).

Investigating the evolution of color mimicry in velvet ants through population genomics., Funded, \$10,000.00, (May 2014 - May 2015).

**Wolf, Paul G**

Cost Effective Determination of Wetland Versus Upland Ecotypes Using Next Generation Genome Sequencing Technologies, Funded, \$78,671.00, (November 30, 2015 - November 30, 2018).

Estimation of *Eriogonum corymbosum* var. *nilesii*. Range, Funded, \$80,000.00, (August 2012 - July 2017).

Range Estimation Of *Eriogonum Corymbosum* Var. *Nilesii*, Funded, \$80,000.00, (August 2, 2012 - July 1, 2017).

Origins of Galapagos *Pteridium*, Funded, \$12,000.00, (April 2013 - 2016).

Cyber-enabled Learning: Digital Natives in Integrated Scientific Inquiry Classrooms, Funded, \$2,500,000.00, (September 1, 2010 - August 31, 2015).

Cyber-enabled Learning: Digital Natives in Integrated Scientific Inquiry Classrooms, Funded, \$2,489,331.00, (September 2010 - August 2015).

**von Dohlen, Carol D**

DISSERTATION RESEARCH: Determining the impact of symbiont metabolic role in symbiont genome decay in Adelgidae (Hemiptera), Funded, \$18,604.00, (June 1, 2016 - May 31, 2018).

Phylogeny, Historical Biogeography, and Systematics of Host-alternating Aphids (Insecta: Hemiptera: Aphididae), Funded, \$28,000.00, (2012 - 2017).

Digitization of the U.S. National Pollinating Insects Collection, Funded, \$21,000.00, (September 2013 - August 2015).

Digitization of the U.S. National Pollinating Insects Collection, Funded, \$21,000.00, (September 2011 - August 2015).

Genome evolution and functional roles of obligate bacterial symbiont of Adelgidae (Hemiptera: Sternorrhyncha), Funded, \$20,000.00, (July 2014 - June 2015).

Genomics and supporting studies of bacterial endosymbiont roles in the virulence of adelgid pests of conifers, Funded, \$20,000.00, (July 2013 - June 2015).

**Yuan, Tao**

Consortium of Resonance and Rayleigh Lidars, Funded, \$1,335,019.00, (April 30, 2012 - April 30, 2017).

**Presentations and Posters**

**Alston, Diane G**

Entomology Today, January 22, 2015.

IPM for fruit and ornamental insects, December 15, 2015.

Effects of soil nitrogen rates and neighboring crops on onion thrips (Thysanoptera: Thripidae) populations, December 2, 2015.

Border Wars: Onion Enemies Lurking next door, November 18, 2015.

Thrips-IYSV Management via Crop Rotation, November 18, 2015.

Current status of spotted wing drosophila in Utah, November 15, 2015.

Developing alternative manageable bee species for crop pollination, November 15, 2015.

Utah's Insect Pests of Concern: Fruit, Tree Borers, and Nuisance, October 1, 2015.

Onion thrips research update: onion systems approach, August 11, 2015.

Biochar soil amendment to conserve water and enhance vegetable productivity, August 5, 2015.

Biochar soil amendment to conserve water and enhance vegetable productivity, July 15, 2015.

Western cherry fruit fly trap comparison trial, June 30, 2015.

Biochar soil amendment to conserve water and enhance vegetable productivity, June 10, 2015.

Entomophagy: How Nutritious are Insects?, May 29, 2015.

Field and farmscape IPM for onion thrips and Iris yellow spot virus, May 16, 2015.

Integrated pest management for the garden and landscape: insect and mite pests, February 26, 2015.

Outcomes of the western small farm-IPM working group: constraints and prospects for IPM on small-scale U.S. farms, March 23, 2015.

System drivers of IPM for onion thrips and iris yellow spot virus in onion, March 23, 2015.

Prionus Beetle Mating Disruption and Lure Evaluation in Utah Sweet Cherry Orchards, March 23, 2015.

Integrated pest management for organic growing, March 14, 2015.

Influence of Weed Species on Thrips and Iris Yellow Spot Virus in Onion, March 9, 2015.

Biochar soil amendment to conserve water and enhance vegetable productivity, March 4, 2015.

In-Service Training: Insect Pests of Concern - Tree Borers and Invasive Nuisance Insects, March 3, 2015.

Organic Peach Research, February 19, 2015.

Raspberry cane borer and spider mite management update, February 18, 2015.

Fruit insect management updates: fruit flies and insecticides, February 12, 2015.

Field and farmscape management of onion thrips, February 10, 2015.

Landscape insect pests of concern: tree borers, nuisance pests, and invasives, February 3, 2015.

Prionus californicus mating disruption and lure comparison in sweet cherry, January 14, 2015.

**Anderson, Anne J**

Monitoring bacterial metabolite production and response to nanoparticles using endogenous fluorescence, August 16, 2015.

Rhizosphere dissolution of CuO nanoparticles by wheat root exudates in a sand matrix, August 16, 2015.

Rhizosphere dissolution of CuO nanoparticles by wheat root exudates in a sand matrix, August 16, 2015.

**Anderson, Ian M**

Differential Geometry with Maple, December 10, 2015.

A Brief Introduction to the Geometry of PDE and E. Cartan's papers of 1910 and 1911, February 28, 2015.

Googling Einstein, February 28, 2015.

Introduction to DG with Maple, February 28, 2015.

**Ault, Alexis**

Hematite (U-Th)/He and apatite fission-track dating constrain paleofluid circulation in faults: an example from Gower Peninsula fissure fills, Wales, December 2015.

Integrating hematite (U-Th)/He dating, microtextural analysis, and thermomechanical modeling to date seismic slip, December 2015.

Inverted apatite (U-Th)/He and fission-track dates from the Rae craton, Baffin Island, Canada and implications for apatite radiation damage-He diffusivity models, December 2015.

Structural, geochemical, and thermal evolution of the southern San Andreas and parallel subsidiary faults in the Mecca Hills, December 2015.

(U-Th)/He and  $4\text{He}/3\text{He}$  constraints on secondary Fe-oxide mineralization in southwestern New Mexico, November 2015.

Advances in low temperature thermochronology and applications to structural geology and tectonics, November 2015.

Linking hematite (U-Th)/He dating with the microtextural record of seismicity in the Wasatch fault damage zone, Utah, November 2015.

Structural, geochemical, and thermal evolution of the southern San Andreas and parallel subsidiary faults in the Mecca Hills, October 2015.

Relationships between kimberlite distributions, mantle dynamics, and the hypsometric history of the North American cratonic interior, May 2015.

(U-Th)/He chronologic constraints on secondary Fe-oxide mineralization and brittle deformation in the Rio Grande rift, New Mexico, April 2015.

Hematite (U-Th)/He dating as a tool for reconstructing million-year earthquake chronologies on the Wasatch Fault, Utah, April 2015.

**Baker, Michelle A**

From sewers to Salix and tailpipes to Typha: Riparian plants reflect anthropogenic nitrogen sources across montane to urban gradients, December 2015.

iUTAH: Science for Utah's Water Future, August 20, 2015.

Weaving the tale of Utah's water, March 16, 2015.

**Bernhardt, Scott A**

Representativeness of single point measurements for long term residential indoor air temperature and relative humidity in arid climates, June 2015.

Selection of *Culex pipiens* and *Culex tarsalis* laboratory strains for resistance to methoprene, March 2015.

Genetic relationships among populations of the primary flea vector of plague to humans in the United States, February 2015.



**Berreau, Lisa M**

Mechanistic Studies of Oxidative Aliphatic Carbon-Carbon Bond Cleavage in Cu(II) Chlorodiketonate Complexes, 2015.

Halide-promoted dioxygenolysis of a carbon-carbon bond in copper(II) diketonate complexes, December 15, 2015.

New Strategies for Photoinduced Carbon Monoxide Releasing Molecules, October 29, 2015.

The Next Generation of Photoinduced Carbon Monoxide-Releasing Molecules: CO on Demand, September 29, 2015.

Developing Pharmaceutical CO-releasing Molecules: Interaction of a Flavonol-based PhotoCORM with Serum Albumin Protein, September 19, 2015.

Flavonols as Photoinduced CO-Release Agents: Assessment of Toxicity and Light Sensitivity in Vitro, September 19, 2015.

Bipyridine-supported zinc flavonato photoCORMs: Interaction with BSA, August 16, 2015.

Mechanistic studies of oxidative aliphatic carbon-carbon bond cleavage in Cu(II) chlorodiketonate complexes, August 16, 2015.

Mechanistic studies of oxidative aliphatic carbon-carbon bond cleavage in Cu(II) chlorodiketonate complexes, March 22, 2015.

New Strategies for Photoinduced Carbon Monoxide Releasing Molecules, March 12, 2015.

New Strategies for Photoinduced Carbon Monoxide Releasing Molecules, February 27, 2015.

**Bialkowski, Stephen E**

Reflections on the Backside Photothermal Mirror Effect, September 5, 2015.

**Boldyrev, Alexander I**

Application of the AdNDP/SSAdNDP Methods for Understanding Chemical Bonding in Low-Dimensional Systems, July 2, 2015.

Multi-Center Bonding in Difficult Cases in Chemistry, July 2, 2015.

**Brewer, David Shane**

Math Engagement, April 7, 2015.

**Brodie, Edmund D**

Antipredator behavior of post-metamorphic anurans in Brazil's Atlantic Forest, September 2015.

**Brown, David E**

Boolean Rank and Intersection Number and Restricted Matchings, Oh My!, March 5, 2015.

Chordal Graphs aren't Cycle Extendable ... So What?, June 1, 2015.

**Burger, Benjamin J**

The systematic position of the saber-toothed and horned giants of the Eocene: the Uintatheres (Order Dinocerata), October 14, 2015.

**Campbell, Theodore Jones**

Perspectives of Pedagogical Change within a STEM Classroom, June 16, 2015.

**Chang, Cheng Wei Tom**

Divergent Synthesis and Mode of Action Investigation of Heterocyclic Anticancer and Antibacterial Compounds, October 9, 2015.

Synthesis and Biological Studies of Amphiphilic Kanamycins, August 19, 2015.

Amphiphilic Aminoglycosides: New Application for Old Drugs, August 17, 2015.

Divergent Synthesis of Bioactive Compounds from 1,4-Naphthoquinone and Azides, June 22, 2015.

Mode of Action Study of Cationic Anthraquinone Analog: A New Class of Highly Potent Anti-cancer Agent, February 7, 2015.

Structure-Activity Relationship for Antibacterial to Antifungal Conversion of Kanamycin B, February 7, 2015.

Synthesis of Carbohydrate Esters as Green Antibacterial/antifungal Agents, February 7, 2015.

**Christiansen, Michael A**

Creating a New Form of Flip-Teaching: Module-Based Flip-Teaching, August 19, 2015.

Inverted/flipped teaching in undergraduate general and organic chemistry classes, June 22, 2015.

The Final Assembly of JBIR-94: an Anti-Oxidative/Anti-Cancer Natural Molecule, April 10, 2015.

**Corcoran, Christopher D**

Sex differences in Neurotrophin Genes in the risk for Alzheimer's Disease, 2015.

Do medications that affect brain derived neurotrophic factor (BDNF) modify the associations between BDNF genotypes and cognitive functioning in older adults? The Cache County Study, July 18, 2015.

How do neuropsychiatric symptoms in persons with Dementia affect caregiver physical and mental health over time? The Cache County Dementia Progression Study, July 18, 2015.

Neurotrophin single nucleotide polymorphisms and cognitive functioning in older adults: The Cache County Study, July 18, 2015.

Nutritional status and Neuropsychiatric symptoms in Dementia: The Cache County Dementia Study, July 18, 2015.

Nutritional status and severe Dementia, institutionalization and mortality: The Cache County Dementia Progression Study, July 18, 2015.

Nutritional status and neuropsychological functioning in persons with dementia: The Cache County Dementia Progression Study, February 2015.

**Cortez, Michael Henry**

Eco-evolutionary predator-prey dynamics: How do (co)evolution and genetic variation alter population-level dynamics?, September 24, 2015.

The effects of standing prey genetic variation on predator-prey eco-evolutionary dynamics, August 11, 2015.

Hydra effects in stable communities: Implications for system dynamics and stability, June 2015.

The eco-evolutionary dynamics of predator-prey systems: How does (co)evolution alter community level population dynamics?, May 2015.

**Coster, Daniel C**

Reformed-based Science Instruction: The impact of professional development on teacher self-efficacy and classroom practice and student motivation and achievement., June 30, 2015.

Impact of experiencing professional learning grounded in reformed science teaching practices and educative curricula: an investigation of the outcomes of a science teacher professional development, April 2015.

The Impact of Professional Development on Teachers Enactment of New Literacy Practices on Middle School Students' Reading and Science Content Learning Outcomes, April 2015.

Professional development to enhance teachers' practices in using information and communication technologies (ICTs) as cognitive tools: lessons learned from a design-based research study, April 2015.

Reformed-based science instruction: the impact of professional development on teacher self-efficacy and classroom practice and student motivation and achievement, April 2015.

**Cutler, Adele**

Celebrity Chef Recipes Compared to the Dietary Guidelines: Lessons for Americans, October 2015.

Breiman's Random Forests, August 10, 2015.

**Dehler, Carol Merritt**

Techno-stratigraphic Framework of Neoproterozoic to Early Paleozoic Strata, Western US: Protracted Rifting and Evolution of the Western Laurentia Margin, November 2015.

Microbially Induced Sedimentary Structures and Large Sand Stromatolies in the Terrestrial and Marine/Lacustrine-transitional Bayfield Group (Proterozoic), Wisconsin, May 19, 2015.

Neoproterozoic Transcontinental Rivers and a Possible Jacobsville/Bayfield Group – Uinta Mountain Group Connection, May 19, 2015.

New Detrital Zircon Age Data from Baraboo Interval Quartzites Southern Wisconsin, May 19, 2015.

**Dennison, John Robert**

The Role of Space Materials Research in Spacecraft Charging and Satellite Survivability, November 16, 2015.

An Overview of the Dynamic Interplay between the Space Environment and Spacecraft Materials, November 12, 2015.

Mixed Weibull Distribution Model of DC Dielectric Breakdowns with Dual Defect Mode, October 2015.

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