Appendix A : Student Fellowships

2003

UNDERGRADUATE FELLOWSHIP RECIPIENTS:

Stephanie Freeman - Permanent Reactive BioBarriers for the Containment of Heavy Metals at Mine Impacted Sites, Chemical & Environmental Engineering

Erin Gleeson - Development of a Decision Support Model to Assess Water Use by Different Riparian Communities, Hydrology & Water Resources

Arin Haverland - Exploring the Revegetation of Old Main through Water Harvesting Options on the UA Campus, Soil, Water, & Environmental Science

Michael Liga - A Design Model for Subsurface Drip Irrigation in Arizona, Agricultural and Biosystems Engineering

David Roncayolo - Analysis of Colorado River Paleoclimatic Records for Evidence of Large Droughts, Civil Engineering & Engineering Mechanics

GRADUATE FELLOWSHIP RECIPIENTS:

Nicholas Nelson - The Effect of Biosolids Application on Water Quality in Arizona, Agricultural & Biosystems Engineering

Yvonne Resendez Young - Enhancing the Understanding and Importance of Granting Instream Flow Water Rights in Arizona, Natural Resources

2004

UNDERGRADUATE FELLOWSHIP RECIPIENTS:

Liese Beenken - Water Recycle and Reuse, Chemical & Environmental Engineering


GRADUATE FELLOWSHIP RECIPIENTS:

Joe Abraham - Community Water Supply Vulnerability in Northern Gila County, Geography & Regional Development

Matthew Baillie - Quantifying San Pedro River Inflows to Improve Riparian Sustainability Efforts: A Geochemical Tracer Approach, Hydrology & Water Resources

Gina Chorover - Living on the Edge: Mitigating the Impact of Development near Riparian Areas through Community Design and Land Stewardship, Landscape Architecture

Carla De Las Casas - Destruction of Gas-Phase VOCs by a Coupled Adsorption/Fenton’s Reaction Process, Chemical & Environmental Engineering
Appendix A: Student Fellowships


2006 UNDERGRADUATE FELLOWSHIP RECIPIENTS:

Deena Clark - Alternative Methods of Drinking Water Disinfection, Veterinary Science & Microbiology

Jerry Shen - Implementation of a New Water Quality Model into EPANET in Hopes of Reducing Arizona Public Drinking Water System’s Vulnerability to Contamination, Agricultural & Biosystems Engineering

Sean Small - Analysis of Legal Barriers to Trade on the Transfers of Water in the West, Economics

Devin Whipple - Electrocoagulation: A Technology for Water Recycle and Wastewater Treatment in Semiconductor Manufacturing, Chemical & Environmental Engineering

GRADUATE FELLOWSHIP RECIPIENTS:

Conjunctively Managing Land and Water Resources in the Upper Santa Cruz River Valley, Geography & Regional Development

Victor Grijalva - Selective Removal of Heavy Metals from Acid Mine Drainage Using Anaerobic Bioreactors, Chemical & Environmental Engineering

Peter Littlehat - Development of a Bioassay to Measure Thyroid Hormone Activity in Environmental Samples, Chemical & Environmental Engineering

Amy McCoy - Causes, Consequences, and Management Implications of Riparian Tree Die-off in the Upper Santa Cruz River: A Case Study for Shifting Riparian Conditions, Office of Arid Lands Studies

Aleix Serrat-Capdevila - Climate Change: Coupling Hydrologic Modeling with Policy Making, Hydrology & Water Resources

Ivann Hsu - Anoxic Oxidation of Arsenite linked to Denitrification, Chemical & Environmental Engineering

Amy Lynn - Development of a Water Management Model for the Metropolitan Water District (NW Tucson), Civil Engineering & Engineering Mechanics

Nikita Patel - Use of Household Bleach Products for Emergency Disinfection, Soil, Water & Environmental Science

GRADUATE FELLOWSHIP RECIPIENTS:

David Delgado - Infrastructure Leakage Index (ILI) as a Regulatory and Provider Tool, Civil Engineering & Engineering Mechanics

Erika Gallo - Urbanization Impacts on the Spatial Variability of Rainfall Distribution: Implications for Recharge and Biogeochemical Cycles, Hydrology & Water Resources

Jennifer Pullen - Unintended Consequences of Regulatory Takings Reform on the SDCP and Arizona Water Management, Arid Lands Resource Sciences

2007 UNDERGRADUATE FELLOWSHIP RECIPIENTS:

Melissa Bui - The Use of Biosensors in Detecting Pathogens in Arizona’s Water Distribution System, Agricultural & Biosystems Engineering

Ivann Hsu - Anoxic Oxidation of Arsenite linked to Denitrification, Chemical & Environmental Engineering

Amy Lynn - Development of a Water Management Model for the Metropolitan Water District (NW Tucson), Civil Engineering & Engineering Mechanics

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Jennifer Pullen - Unintended Consequences of Regulatory Takings Reform on the SDCP and Arizona Water Management, Arid Lands Resource Sciences

Dustin Garrick - Simulating Sustainability: Conjunctively Managing Land and Water Resources in the Upper Santa Cruz River Valley, Geography & Regional Development
Appendix A: Student Fellowships

Juan Villegas - Ecosystem Water Exchange and Partitioning of Evapotranspiration Along Vegetation Gradients: Implications of Projected Dust-Bowl Climate in Arizona, Natural Resources

2008

UNDERGRADUATE FELLOWSHIP RECIPIENTS

Lucy Cheng - Implementation and Testing of Water Quality Monitors, Agricultural & Biosystems Engineering


Ritika Mohan - Electrocoagulation for Arsenic Removal, Chemical & Environmental Engineering

Sarah Daw - Adaptive Governance and the Politics of Reclaimed Water, Political Science

GRADUATE FELLOWSHIP RECIPIENTS


Juan Villegas - Ecosystem Water Exchange and Partitioning of Evapotranspiration Along Vegetation Gradients: Implications of Projected Dust-Bowl Climate in Arizona, Natural Resources

Jenna Bloxom - Aridity and Algae: Biodiesel Production in Arizona, Center for Latin American Studies

Brent Jacobsen - Sustainable RooftopScapes: Methods for Linking Green Roofs and Urban Riparian Corridors for the Benefit of Human and Wildlife Habitats, Landscape Architecture


2009

UNDERGRADUATE FELLOWSHIP RECIPIENTS

Zachary Dean - Rapid Detection of Cryptosporidium in Water Using Optical-Detection Biosensors, Agricultural & Biosystems Engineering

GRADUATE FELLOWSHIP RECIPIENTS

Fernando Alday - Iron Biomineralization: Implications of the Fate of Arsenic in Landfills, Chemical & Environmental Engineering

Darlin Comeau - 3-D Modeling of Subsurface Hydrological Flow, Mathematics

Pedro Romero-Gomez - Development of and Integrated Water Quality Prediction Tool for Water Distribution Systems, Agricultural & Biosystems Engineering

Richard Rushforth - Phytostabilization of Acid Mine Tailings in Semi-Arid Environments: The Use of Instrumented Soil Columns to Analyze the Effects of Water Quality, Soil Water & Environmental Science

Adam Springer - Strategies for Developing Water-Conscious Communities: An Analysis of Water Conservation in Tucson, Arizona, Natural Resources and the Environment
Appendix B: Competitive Grants Program Projects

2003 - 2004


The Evaluation of Paleo Data to Determine Past, Present, and Future Hydrologic Variability in Arizona. Victor Baker, Hydrology & Water Resources, Jeffrey Dean, David Meko and Ronald Towner, the Laboratory of Tree-Ring Research, and Juan Valdes, Civil Engineering & Engineering Mechanics.

Tailored Drought Research and Educational Outreach for Arizona. Gregg Garfin and Barbara Morehouse, Institute for the Study of Planet Earth, and Andrew Comrie, Geography & Regional Development.


WATER: Water in Arizona, Teacher Resources. Lisa Elfring, Biochemistry & Molecular Biophysics, and Elizabeth Hancock and Jean Morrill, Hydrology & Water Resources.


Hydrologic and Water Quality Modeling for Watershed Assessment and Planning. Phillip Guertin, Natural Resources.


Appendix B : Competitive Grants Program Projects

**Development of Riparian Evapotranspiration and Ecohydrologic Models to Predict Changes in and Consequences of Riparian Water Availability.** Thomas Maddock and James Shuttleworth, Hydrology & Water Resources, and Travis Huxman, Ecology & Evolutionary Biology.

**The Water Wagon: A Mobile Laboratory and Education Center.** Randall Norton and Sue Martin, Graham County Cooperative Extension, Lee Clark and Jonie Burge, Safford Agricultural Center.

**Mountain Block Recharge and the Hydrology of Caves: An Interactive Display.** Susan Pater and Kim McReynolds, Cochise County Cooperative Extension.

**Antibiotic-Resistant Bacteria and Endotoxins in Association with Land Application of Biosolids: Possible Impact on Quality of Groundwater Supplies and Comparison to other Routes of Work-Related and Household Exposure.** Chris Rensing, Soil, Water & Environmental Science.

**Detection of Noncytopathogenic and Treatment Resistant Human Virus Populations in Drinking Water using Integrated Cell Culture/PCR.** Kelly Reynolds, Environmental Research Lab.


**Quantifying Potential Endocrine Disruption in Effluent Dominated and Effluent Dependent Waters within Arizona: Fish as Habitat Assessment Biomarkers.** David Walker, Environmental Research Lab and Dennis McIntosh, Soil, Water & Environmental Science.

**2004 - 2005**

**Arsenic Mobilization and Transport from Water Treatment Residuals in Landfills.** Wendell Ela and Eduardo Sáez, Chemical & Environmental Engineering.


**Perchlorate Removal from Ground and Irrigation Water Using Low-Maintenance Biofilters.** Jim Field and Reyes Sierra, Chemical & Environmental Engineering.

**Patterns of Hydrologic Connectivity on a Desert Riparian Landscape.** Ed Glenn, Soil, Water & Environmental Science, John Kupfer, Geography and Regional Development and Dave Meko, Laboratory of Tree-RingResearch.


Effects of Water Quality on “Rapid Blight” Disease of Turf grass. Mary Olsen, David Kopec, Mohammad Pessarakli, Donna Bigelow and Jeffrey Gilbert, Plant Sciences.

Spanish-Language Landscape Water Conservation Program for the Green Industry. Vicki Richards, Pima County Cooperative Extension/Low 4 Program.

Detection of Viruses in Drinking Water using Raman Spectroscopy. Mark Riley, Agricultural & Biosystems Engineering and Joseph Simmons, Materials Science & Engineering.


2005 - 2006

Novel Desalination Technology for Potable Water Production. James Baygents, Chemical & Environmental Engineering.


Autotrophic Denitrification for The Treatment of Drinking Water. Reyes Sierra and Jim Field, Chemical & Environmental Engineering.

The Value of Binational Effluent and Sustainable Watershed Management in the Upper Santa Cruz Basin. Terry Sprouse, Water Resources Research Center and George Frisvold, Agricultural & Resource Economics.

Appendix B : Competitive Grants Program Projects
Appendix B : Competitive Grants Program Projects


2006 - 2007


Watershed Rainfall, Ground Water Usage, Riparian Stream Flow and Vegetation Monitoring, Middle San Pedro River Basin, Cochise County, AZ. Phil Guertin and Kristine Uhlman, Natural Resources.

Groundwater Sources, Flowpaths and Residence Times in the Middle Verde River Watershed. James Hogan and Tom Meixner, Hydrology and Water Resources.
Salinity Induced Disease of Turfgrass. Mary Olsen and Jeff Gilbert, Plant Sciences.

Predicting Groundwater Vulnerability to Nitrate in Arizona. Tauhidur Rahman, Agricultural and Resource Economics, Kristine Uhlman, Natural Resources.


Quantifying Generational Effects of Endocrine Disruption in Bonytail Chub (Gila elegans) Exposed to Secondarily-Treated Wastewater. David Walker, Soil, Water & Environmental Science.


2007 - 2008


Engineered Reversible and Regenerable, Specific and High Capacity Adsorbents for Sustainable Removal of Arsenic from Contaminated Waters. Roberto Guzman and Jerker Porath, Chemical & Environmental Engineering.

Tradeoffs between Enhanced Urban Storm Recharge and Water Quality: The Influence of Urban Housing Age and Density on
Appendix B : Competitive Grants Program Projects


Salinity and/or Sodium Hazard of Irrigation Water as an Indicator of Rapid Blight Disease Potential in Turfgrasses. Mary Olsen, David Kopec, Plant Sciences, and James Walworth, Soil, Water & Environmental Science.


Endocrine Disrupters in Wastewater and Biosolids: Occurrence, Fate and Treatment. Eduardo Sáez, Wendell Ela, Chemical & Environmental Engineering, and David Quanrud, Arid Lands Studies.

Preliminary Evaluation of Metal Contamination Sources in the Colorado River from Measurement of Lead and Uranium Isotopic Ratios. Charles Sanchez, Soil, Water & Environmental Science, and John Chesley, Geosciences.

San Pedro River Volunteer Monitoring, Community Watershed Alliance, Cochise County, AZ. Kristine Uhlman, Water Resources Research Center, and D. Phillip Guertin, Natural Resources.


2008 - 2009


Simple Techniques for Backyard Water Harvesting: An Online Instruction Module. Theresa Crimmins and Katherine Waser, Office of Arid Lands Studies,

Use of Secondarily Treated Wastewater and Ground Water in Algae Photobioreactors for Biofuel Production. Joel Cuello, Agricultural & Biosystems Engineering and Kim Ogden, Chemical & Environmental Engineering.


Appendix B : Competitive Grants Program Projects


Impacts of Tropical Cyclone Remnants on Precipitation in the US Southwest Semiarid Region. Elizabeth Ritchie, Atmospheric Sciences.

Seasonal Reclaimed Water Quality: An Assessment of Nutrient, Chemical and Biological Variability. Channah Rock and James Walworth, Soil, Water & Environmental Science.

Preliminary Evaluation of Antibiotic and Illicit Drug Contaminants in the Colorado River and the Potential for Food Chain Transfer. Charles Sanchez, Yuma Agricultural Center.


Ground Water Age Dating for Water Budget Development in the Show Low Watershed, Navajo County, AZ. Kristine Uhlman, Water Resources Research Center, Chris Eastoe, Geosciences and Steve Campbell, Navajo County, Cooperative Extension.

Arizona Rivers’ High School Riparian Research Experience (RRE) Collaboration with NEMO’s Surface Flow Wet/Dry Monitoring Campaign. Martha Whitaker and James Washburne, Hydrology & Water

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## Appendix C: WSP Partners

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Appendix D: WSP Advisory Committees

External Advisory Committee

Chris Avery
Interim Director
Tucson Water

Tom Buschatzke
Water Advisor
City of Phoenix

Mark Cross
Consulting Hydrologist
Errol L. Montgomery & Associates, Inc.

Prabhu Dayal
President & CEO
C Trade

Len Drago
Senior Engineer
Intel

Vladimir Drobny
Tucson Development Manager
Texas Instruments

Carol Erwin
Area Manager, Phoenix Office
US Bureau of Reclamation

John Hoffman
Director, Arizona Water Science Center
USGS

David Modeer
Director
City of Phoenix, Water Department

Caren Smith
Deputy Director
Arizona Department of Water Resources

John Sullivan
Associate General Manager, Water
Salt River Project
Appendix D: WSP Advisory Committees

Academic Advisory Committee

Jefferey Burgess
Division Director
College of Public Health

Janice Cervelli
Dean
College of Architecture & Landscape Architecture

Robert Glennon
Professor
College of Law

Jeffrey Goldberg
Dean
College of Engineering

Beth Mitchneck
Associate Dean
College of Social & Behavioral Sciences

Eugene Sander
Dean
College of Agriculture & Life Sciences