EDSC 4093 – Inquiry Based Science Teaching

BOT 1114 – Introductory Botany Laboratory

Graduate Teaching Assistant - University of Oklahoma, Norman, OK

EDUCATION

University of Oklahoma, Norman, OK Dissertation title: "Combining Historical Records and Geospatial Techniques to Analyze Land Use Modification in a Tallgrass Prairie Landscape"	
Ph.D Geography and Environmental Sustainability	2012
University of Oklahoma, Norman, OK M.N.S - emphasis in Botany and Geography	2006
Oklahoma State University, Stillwater, OK B.S Biological Science and certificate in Secondary Science Education	2003
<u>TEACHING</u>	
Lecturer - University of Tennessee, Knoxville, TN GEOG 101 - World Regional Geography GEOG 131 - Weather, Climate and Climate Change BIOL 140 - Cell Biology GEOG 345 - People and the Environment GEOG 361 - Regional Geography of the US and Canada GEOG 436 - Water Resources	2014-present
Adjunct Professor - <i>Pellissippi State Community College, Knoxville, TN</i> GEOG 1000 - Introduction to Geography BIOL 1110 - General Biology I	Spring 2014
Adjunct Professor - Oklahoma City Community College, Oklahoma City, OK GEOG 2603 - World Regional Geography and online World Regional	2011 - 2013
Adjunct Professor - <i>University of Central Oklahoma, Edmond, OK</i> BIOL 1114 - General Biology	2011 - 2013
Adjunct Professor - Oklahoma City University, Oklahoma City, OK BIOL 2214 – Introductory Botany and Botany Laboratory	2007 - 2009
Secondary Science Educator - Putnam City North High School, Oklahoma City, C Biology and Environmental Science	DK 2005 - 2006
Adjunct Professor - University of Oklahoma, Norman, OK	Spring 2005

2003 - 2005

Spring 2003

RESEARCH

2014-present

University of Tennessee - Department of Geography

- Analyze land use change in semi-arid braided river using digital vegetation layers along the Canadian River, Oklahoma, using a GIS and USGS stream gage data.
- Content analysis of historic land use using Public Land Survey field notes.
- Collaborative assessment as a way of improving student engagement in geography courses.
- Analyze classroom questionnaires to inform reflective teaching practices

Dissertation Research

2006 - 2012

University of Oklahoma;

Department of Geography and Environmental Sustainability, Norman, OK

"Combining Historical Records and Geospatial Techniques to Analyze Land Use

Modification in a Tallgrass Prairie Landscape"

- Collected grassland vegetation data using modified Whittaker plots
- Reconstructed historic vegetation using Public Land Survey plats and field notes in a GIS
- Used archival records analyze the spread of non-native forage grasses
- Analyzed habitat fragmentation using remotely sensed images in a GIS

Student Conservation Association Internship

2011

Tinker Air Force Base, Oklahoma City, OK

Conducted invasive plants species inventory of natural areas on base

- Analyzed invasive plants species inventory to prepare management plans
- Removed invasive plant species populations occurring in natural areas
- Observed the development and implementation of habitat management and restoration plans

Graduate Research Assistantship

2010

University of Oklahoma;

Oklahoma Natural Heritage Inventory, Oklahoma Natural Areas Registry, Norman, OK

- Monitored endangered Sternula antillarum (least tern) populations during breeding season
- Interviewed land owners regarding land registration into the Natural Areas Registry Program
- Assisted in the planning and implementation of Bioblitz, an annual 24-hour biological survey of selected public land
- Assisted in collecting specimens and setting up study for a Alnus maritima (seaside alder) revegetation experiment

Cloud Forest Research

2008

University of Oklahoma, Field Studies Course, Tamaulipas, Mexico

- Collected vegetation data on Laelia speciosa (mayflower orchid) in a Madrean pine-oak woodland
- Collected vegetation data along an elevation gradient from subtropical deciduous forest through an oak cloud forest to a pine-oak forest

Graduate Research Assistantship

2006 - 2009

University of Oklahoma, Oklahoma Natural Heritage Inventory, Norman, OK

- Created digital vegetation maps of the Tallgrass Prairie Region and Ozark and Arkansas Valley Region for the Oklahoma Comprehensive Conservation Strategy, using a GIS
- Created current and historic digital vegetation maps along the Canadian River within the Packsaddle Conservation Area, using a GIS
- Created a digital vegetation map of playa lakes in the Oklahoma and Texas panhandles, using a GIS

Thesis Research 2003 - 2004

University of Oklahoma, Department of Botany and Microbiology, Norman, OK

- Designed a study to measure grassland leaf litter production along climatic gradient in Oklahoma
- Contacted private and public landowners to request access permission
- Collected and analyzed standing and ground leaf litter

Graduate Research Assistantship

2003

University of Oklahoma, Department of Botany and Microbiology, Norman, OK

 Collected plant species abundance, richness, and phenology data to measure the influence of climate change on grassland vegetation

AWARDS & HONORS

Scholarship of Teaching and Learning Writing Retreat	2015
Outstanding Adjunct Faculty, Oklahoma City Community College	2012-2013
Alumni Fellowship, University of Oklahoma	2006-2010
Ralph and Margaret Olson Scholarship	2007-2008
AmeriCorps Grant	2003
Future Teacher Scholarship, Oklahoma State University	2003
Janice and J.I. Gibson Scholarship, Oklahoma State University	2003
Transfer Leadership Scholarship, University of Oklahoma	2001

SERVICE

Undergraduate Program Committee – Geography Department; UTK	2015 - Present
Sustainability Curriculum Team – University of Tennessee	2015 - Present
Sustainability Working Group – University of Tennessee	2015 - Present
University of Oklahoma Geography Awareness Week	2009 - 11, 14
Student Conservation Association Internship	2011
Oklahoma Biological Survey - Bioblitz!	2006 - 2012
AmeriCorps, Student Teaching Internship	2003
GIS Day at the Capital – Oklahoma City	2007, 2011
University of Oklahoma Graduate Student Senator	2004

PROFESSIONAL DEVELOPMENT

Experiential Teaching Workshops – TennTLC; University of Tennessee	2015
ArcGIS T3G Advanced Training workshop – University of Tennessee	2015
Faculty Book Club – TennTLC; University of Tennessee	2014 - Present
National Wetlands Inventory Mapping – University of Oklahoma	2008
GIS for Conservation workshop - Society for Conservation GIS Conference	2007

Inquiry Science Teaching Summer Institute – Putnam City School District	2005
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PRESENTATIONS

Association of American Geographers, Chicago, Illinois; Paper	2015
Association of American Geographers, New York, New York; Paper	2012
Oklahoma Invasive Plant Council, Oklahoma City, OK; Poster	2010, 2011
Southwestern Association of Naturalists, Tyler, TX; Paper	2011
Southwestern Association of American Geographers, Tahlequah, OK; Paper	2010
North American Tallgrass Prairie Conference, Cedar Falls, IA; Paper	2010

PAPERS

Xuhui Zhou, Melissa Talley, and Yiqi Luo (2009) Biomass, Litter, and Soil Respiration Along a Precipitation Gradient in Southern Great Plains, USA. *Ecosystems*. 12: 1369-1380

Final Report – Wildlife Habitat Mapping in the Tallgrass Prairie Region, Oklahoma Department of Wildlife Conservation, 2009.

Final Report – Wildlife Habitat Mapping in the Ozark and Arkansas Valley Region, Oklahoma Department of Wildlife Conservation, 2010.