

Darren M. Ruddell

Spatial Sciences Institute
University of Southern California
3616 Trousdale Parkway
AHF Building, Suite B55
Los Angeles, CA 90089-0374

Cell: (480) 861-0201
Office: (213) 740-0521
Fax: (213) 740-9687
druddell@usc.edu
<http://dornsife.usc.edu/darrenruddell>

CURRENT APPOINTMENTS

University of Southern California, Los Angeles, CA
Associate Professor (2017-Present), Spatial Sciences Institute
Director of Undergraduate Studies (2012-Present) Spatial Sciences Institute

RESEARCH INTERESTS

Urban Sustainability, GeoDesign, Human-Environment Interactions, Problems-based Learning, Geospatial Technologies, Climate and Society

EDUCATION

Doctor of Philosophy (2009) Geography, Arizona State University
Master of Science (2005) Global Technology & Development, Arizona State University
Bachelor of Arts (1999) Political Science, San Diego State University

PROFESSIONAL EXPERIENCE

University of Southern California, Los Angeles, CA
Lecturer (2011-2013) Spatial Sciences Institute
Assistant Professor (2013-2017), Spatial Sciences Institute

Arizona State University, Tempe, AZ
Faculty Associate (2010-2011) School of Sustainability
Post-Doctoral Scholar (2009-2011) Global Institute of Sustainability
Faculty Associate (2008-2009) School of Geographical Sciences
Teaching Assistant (2007-2008) School of Geographical Sciences
Research Assistant (2005-2007) Global Institute of Sustainability

TEACHING EXPERIENCE

Courses Taught

University of Southern California, Los Angeles, CA

MDA 350: Community Health Scan

SSCI 101: Workshop in Spatial Analysis

SSCI 214: Human Populations and Natural Hazards

SSCI 301: Maps and Spatial Reasoning

SSCI 350: International GeoDesign

SSCI 483: Spatial Sciences Practicum

SSCI 490: Directed Research

SSCI 581: Concepts for Spatial Thinking

SSCI 585: Geospatial Technology Project Management

SSCI 587: Spatial Data Acquisition

SSCI 588: Remote Sensing for GIS

SSCI 589: Cartography and Visualization

SSCI 594a: Master's Thesis

Arizona State University, Tempe, AZ

SOS 111: Sustainable Cities

PUP 494/598: Geographic Information Science and Planning

GPH 373: Introduction to Geographic Information Science

Program Development

University of Southern California, Los Angeles, CA

Serve as Director of Undergraduate Studies for the GeoDesign major and Spatial Studies minor where I supervise curriculum development, launch new undergraduate courses, promote educational and research opportunities, organize extracurricular activities, and pursue collaborative and interdisciplinary initiatives with industry professionals and other academic units.

Short Courses and Workshops

University of Southern California, Los Angeles, CA

Developed curriculum and taught Global Positioning Systems (GPS) Essentials Short Course for the Spatial Sciences Institute. This intensive one-day workshop provides an introduction to the fundamentals of primary data collection utilizing GPS technology.

Peace Corps Volunteer, English Teacher

United States Peace Corps, Dimako, Cameroon, June 2000 – June 2002

Taught English as a Second Language (ESL) and HIV/AIDS Education in Francophone Cameroon to over 250 secondary students at the government high school of Dimako. Developed curriculum for 7th, 8th, and 10th grade level equivalent while introducing new teaching methodologies and integrating health education and environmental awareness.

PUBLICATIONS

Refereed Articles Published

VoPham T., M. M. Brooks, J. M. Yuan, E. O. Talbott, **D. Ruddell**, J. E. Hart, C. C. H. Chang, J. L. Weissfeld (2015). Pesticide exposure and hepatocellular carcinoma risk: a case-control study using a geographic information system (GIS) to link SEER-Medicare and California pesticide data. *Environmental Research*. 143:68-82.

VoPham, T., J. P. Wilson, **D. Ruddell**, T. Rashed, M. Brooks, J. Yuan, E. Talbott, C. Chang, J. Weissfeld. (2015). Linking pesticides and human health: a geographic information system (GIS) and Landsat remote sensing method to estimate agricultural pesticide exposure. *Applied Geography*. 62:171-181.

Harlan, S. L., G. Chowell, S. Yang, D. B. Petitti, E. J. Morales Butler, B. L. Ruddell, **D. Ruddell**. (2014). Heat-related deaths in hot cities: estimates of human tolerance to high temperature thresholds. *International Journal of Environmental Research and Public Health*. 11(3): 3304-3326.

Ruddell, D., & P. G. Dixon (2013). The energy-water nexus: Are there tradeoffs between residential energy and water consumption in arid cities? *International Journal of Biometeorology*. 58(7):1421-1431.

Ruddell, D., D. Hoffman, O. Ahmad, & A. Brazel. (2013). Historical Threshold Temperatures for Phoenix (Urban) and Gila Bend (Desert), Central Arizona, USA, *Climate Research*. 55(215): 201-215.

Petitti, D. B., S. L. Harlan, G. Chowell-Puente, **D. Ruddell**. (2013). Occupation and Environmental Heat-Associated Deaths in Maricopa County, Arizona: A Case-Control Study. *Plos One*.

Ruddell, D., S. L. Harlan, S. Grossman-Clarke, & G. Chowell (2012) Scales of Perception: Public Awareness of Regional and Neighborhood Climates. *Climatic Change* 111:581-607.

Harlan, S. L., & **D. Ruddell** (2011). Climate Change and Health in Cities: Impacts of Heat and Air Pollution and Potential Co-Benefits from Mitigation and Adaptation. *Current Opinion in Environmental Sustainability* 3:126-134.

Ruddell, D., & E. A. Wentz (2009). Multi-tasking: scale in geography. *Geography Compass* 3: 681-697.

Ruddell, D., & E. A. Wentz. (2007). "Scale, Population, and Spatial Analysis: A Methodological Investigation", In H. Samet, C. Shahabi, and M. Schneider (Eds.),

Association of Computing Machinery (ACM) Advances in Geographic Information Systems. New York, ACM, pp. 280-283.

Book Chapters Published

Ruddell, D., A. Brazel, W. T. L. Chow, & A. Middel. (2015). The Urban Heat Island (UHI) Effect and Sustainability Science: Causes, Impacts, and Solutions. In K. D. Pijawka (Ed). *Sustainability for the 21st Century: Pathways, Programs, and Policies*. Kendall Hunt, pp. 219-234.

Brown, H., A. Comrie, D. Drechsler, C. M. Barker, R. Basu, T. Brown, A. S. Gershunov, A. M. Kilpatrick, W. K. Reisen, & **D. Ruddell**. (2013). Human Health. In G. Garfin, A. Jardine, R. Merideth, M. Black, and S LeRoy (Eds). *Assessment of Climate Change in the Southwest United States*. Island Press, pp. 312-339.

Ruddell, D., W. T. L. Chow, & A. Brazel. (2012). The Urban Heat Island (UHI) Effect and Sustainability Science: Causes, Impacts, and Solutions. In K. D. Pijawka and M. A. Gromulat (Eds). *Understanding sustainable cities: Concepts, cases, and solutions*. Kendall Hunt, pp. 167-183.

Ruddell, D., S. L. Harlan, S. Grossman-Clarke, & A. Buyantuyev (2010). Risk and Exposure to Extreme Heat in Microclimates of Phoenix, AZ. In P. Showalter and Y. Lu (Eds.), *Geospatial techniques in urban hazard and disaster analysis*. Springer, pp. 179-202.

Published Reports

Harlan, S. L., M. Budruk, A. Gustafson, K. Larson, **D. Ruddell**, V. K. Smith, S. Yabiku, & A. Wutich (2007). *Phoenix Area Social Survey 2006 Highlights: Community and Environment in a Desert Metropolis*. Central Arizona – Phoenix Long-Term Ecological Research Project, Contribution No. 4. December 2007. Global Institute of Sustainability, Arizona State University.

Refereed Articles Under Review

VoPham, T., K. Bertrand, J. Hart, F. Laden, M. Brooks, J. Yuan, E. Talbott, **D. Ruddell**, C. Chang, & J. Weissfeld. Pesticide Exposure and Liver Cancer: A Review, *Cancer Causes and Control*.

Manuscripts In Preparation

Martos, J. & **D. Ruddell**. Visualizing Historic Space through the Integration of Geographic Information Science in Secondary School Curriculums: A Comparison of Static versus Dynamic Methods, *Journal of Geography in Higher Education*.

Ruddell, D., N. van Manen, D. Lee, & E. Dias. Teaching GeoDesign in a Problems-Based Learning Environment, *The Geography Teacher*.

Ruddell, D., A. Brazel, & B. Svoma. Historical Emergence of the Urban Heat Island in Central Arizona: The Central South Phoenix Narrative, *Global Environmental Change*.

Other Publications

Ruddell, D. (2014) The New Job Every City Needs. *Time*.

Earl, S. R., A. J. Brazel, W. T. L. Chow, & **D. Ruddell**. (2010) Twenty years of Climate Change in the Phoenix Metropolitan Area and McDowell Sonoran Preserve. *McDowell Sonoran Conservancy, Mountain Lines* 17:10-11.

RESEARCH GRANTS

SunSmart and GeoDesign: A Pathway for Human and Community Health – Phase 2. PI: Jennifer Swift, Co-PIs: Myles Cockburn and **Darren Ruddell**. University of Southern California, Undergraduate Research Associates Program. 2017-2018. (\$7,400).

SunSmart and GeoDesign: A Pathway for Human and Community Health. PI: Jennifer Swift, Co-PIs: Myles Cockburn and **Darren Ruddell**. University of Southern California, Undergraduate Research Associates Program. 2016-2017. (\$6,400).

Creating a Smarter Campus with Spatial Science and Technology. PI: John Wilson, Co-PIs: Travis Longcore, **Darren Ruddell**, Rachel Kornak. University of Southern California, Undergraduate Research Associates Program. 2014-2015. (\$3,000).

SYNERGISTIC RESEARCH ACTIVITIES

The Decision Center for a Desert City

Arizona State University, Tempe, AZ August 2005-2013.

Research efforts at DCDC develop fundamental knowledge about decision making under uncertainty vital for long-term planning in the arid metropolis of Phoenix, AZ. Lead investigator is David White, Associate Professor in the School of Community Resources and Development at Arizona State University. Research funding provided by National Science Foundation (NSF) under grant number SES-0951366.

Urban Vulnerability to Climate Change: A System Dynamics Analysis

Arizona State University, Tempe, AZ July 2008-2014.

The UVCC research project is an interdisciplinary collaboration examining the interplay between changing urban climates and the socio-ecological systems that amplify or mitigate heat-related hazards among different socio-economic and racial/ethnic groups. Lead investigator is Sharon Harlan, Professor in the School of Human Evolution and

Social Change (SHESC) at Arizona State University. Research funding provided by National Science Foundation (NSF) under grant number GEO-0816168.

Local Vulnerability and Adaptive Capacity to Climate Change

Arizona State University, Tempe, AZ August 2008-2011.

In collaboration with the National Center for Atmospheric Research (NCAR), the present study investigates human vulnerability to climate change at the sub-regional scale of analysis. Collaborators include ASU's Sharon Harlan, Professor in SHESC as well as NCAR scientists Olga Wilhelmi and Mary Hayden. Research funding provided by NCAR.

Phoenix Area Social Survey (PASS)

Arizona State University, Tempe, AZ August 2005-2013.

The Phoenix Area Social Survey (PASS) is a longitudinal study (2003: N=245; 2006: N=808; 2011 N=900) that examines the attitudes, behaviors, and perceptions of local residents across 40 neighborhoods on four environmental themes (e.g., climate change, water supply, air quality, and land use). PASS was conducted under the supervision of Sharon Harlan, Professor in SHESC. Research funding provided by the NSF under grant number DEB-0423704.

FIELD WORK

GeoDesign in the Netherlands

Amsterdam, Netherlands, June 2014-2017

Organize and direct a two-week living-learning experience in collaboration with Dutch colleagues at the Vrije University, Amsterdam that introduces students to the critical and spatial thinking skills of GeoDesign while engaged in both classroom and field settings in the Netherlands. GeoDesign is a forward-thinking, interdisciplinary framework that pairs planning, design, and environmental systems with geospatial technologies to explore ways to build a better world.

Archaeological Mapping in Peru

Moqi, Peru, July 2012

Spent three weeks in the Andes Mountains of Moqi, Peru with a research team of twenty members where we excavated and utilized geospatial technologies to map an ancient Incan civilization. This effort was conducted in collaboration with the Institute for Field Research (IFR) and was led by archaeologist and Director, Ran Boytner.

Field Mapping and Excavation on Santa Catalina Island

Santa Catalina Island, CA, March 2012

Developed curriculum and taught 12 undergraduate students and five faculty members Global Positioning System (GPS) data collection techniques utilizing advanced Trimble hardware and software systems at the USC Wrigley Institute for Environmental Studies. The project investigated and catalogued Native American sites of the Tongva tribe. This research project was led by USC Dornsife researcher Lynn Dodd.

Human-Environment Relations in Botswana

Kasane, Botswana, June – July 2004

Spent seven weeks in Chobe National Park, Botswana investigating human and ecological tradeoffs associated with tourism development forty years after the park's inception. Research was conducted under the supervision of Gary Grossman, Professor in Social and Behavioral Sciences at Arizona State University.

PRESENTATIONS

Paper Presentations

Building a GeoDesign Academic Program: The University of Southern California's Bachelor of Science Degree in GeoDesign. Presented at the Association of American Geographers Conference, San Francisco, CA, April 2016.

Geodesign Education: Reflections on a Collaborative Geodesign Summer Course. Presented at the Association of American Geographers Conference, Chicago, IL, April 2015.

Geodesign Education: Reflections on a Collaborative Geodesign Summer Course. Presented at the Geodesign Summit Europe, Delft, the Netherlands, September 2014.

Heat Advisory: An Investigation of Health Outcomes and Heat Warning Systems in Phoenix, AZ. Presented at the Association of American Geographers Conference, Tampa, FL, April 2014.

Geographic Information Science & Technology: Experiences in Online Education. Presented at the Esri User Conference, San Diego, CA, July 2013.

The Energy-Water Nexus: Are there Tradeoffs between Residential Energy and Water Consumption in Arid Cities? Presented at the Association of American Geographers Conference, Los Angeles, CA, April 2013.

Scales of Perceptions: Public Awareness of Regional and Neighborhood Climates. Presented at the Association of American Geographers Conference, New York, NY, February 2012.

An Analysis of Historical Threshold Temperatures for Central Arizona: Phoenix (Urban) and Gila Bend (Desert). Presented at the Association of American Geographers Conference, Seattle, WA, April 2011.

Environmental Tradeoffs in a Desert City: An Investigation of Water Use, Energy Consumption, and Local Air Temperature in Phoenix, AZ. Presented at the Urbanization and Global Environmental Change Conference, Tempe, AZ, October 2010.

Heat-Related Mortality: A Case Study on Phoenix, AZ. Presented at the Association of American Geographers Conference, Washington, DC, April 2010.

Human Health and Heat Stress: An Analysis of Neighborhoods in Metropolitan Phoenix, AZ. Presented at the 90th American Meteorological Society Conference, Atlanta, GA, January 2010.

Heat-Related Mortality: A Case Study on Phoenix, AZ. Presented at the Society for Risk Analysis Conference, Baltimore, MD, December 2009.

Heat-Stress and Hospital Admissions: A Case Study on Phoenix, AZ. Presented at the Association of Pacific Coast Geographers Conference, San Diego, CA, October 2009.

Risk and Exposure to Extreme Heat in Microclimates of Phoenix, AZ. Presented at the Summer Colloquium on Climate and Health hosted by the National Center for Atmospheric Research (NCAR), Boulder, CO, July 2009.

A Mixed Method Multi-scale Analysis: A Case Study on Extreme Heat in Phoenix, AZ. Presented at the University Consortium for Geographic Information Science Conference, Santa Fe, NM, June 2009.

Climate Change and Urban Vulnerability: Recommendations from Phoenix, AZ. Presented at the Association of American Geographers Conference, Las Vegas, NV, April 2009.

Scales of Perceptions: Public Awareness of Regional and Neighborhood Climate Change. Presented at the 89th American Meteorological Society Conference, Phoenix, AZ, January 2009.

Scales of Perceptions: Analyzing Local and Regional Perceptions of Risk Associated with Climate Change. Presented at the Association of Pacific Coast Geographers Conference, Fairbanks, AK, October 2008.

Risk and Exposure to Extreme Heat in Microclimates of Phoenix, AZ. Presented at the Association of American Geographers Conference, Boston, MA, April 2008.

Scale, Population, and Spatial Analysis: A Methodological Investigation. Presented at the ACM GIS Conference, Seattle, WA November 2007.

Panel Presentations

Sustainable Urban Form and GeoDesign: Pathways for Healthy and Sustainable Cities III. Presented at the American Association of Geographers Conference, San Francisco, CA, April 2016.

Beyond the Armchair 2: Tips and Strategies for Teaching an International Field Course. Presented at the American Association of Geographers Conference, San Francisco, CA, April 2016.

USC Libraries Strategic Planning 2015. Presented at the Doheney's Friends of the USC Libraries Lecture Hall, Los Angeles, CA, May 2015.

Geography and Social Media: Engaging Lower Division Geography Students in the Virtual Field. Presented at the Association of American Geographers Conference, Tampa, FL, April 2014.

Doing Geography: Teaching and Webmaps in the Lower Division Classroom. Presented at the Association of American Geographers Conference, Tampa, FL, April 2014.

B.S. in GeoDesign Information Session. Presented at GIS Day 2013, University of Southern California, Los Angeles, CA, November 2013.

Geography, Social Media, and Distance Learning. Presented at the Association of American Geographers Conference, Los Angeles, CA, April 2013.

Webinars and Video Presentations

Geospatial Technologies and Urban Resilience: Building a Better World. A webinar presentation for UNIGIS International u_Lecture series, November 2014.

SSCI-587: GPS/GIS Field Techniques. A webinar meeting for the Spatial Sciences Institute Geographic Information Science & Technology (GIST) graduate program, February 2014.

GIST Tracks. A webinar meeting for the Spatial Sciences Institute Geographic Information Science & Technology (GIST) graduate program, June 2013.

Required Course Review. A webinar meeting for the Spatial Sciences Institute Geographic Information Science & Technology (GIST) graduate program, September 2011.

Meet the Faculty. A webinar meeting for the Spatial Sciences Institute Geographic Information Science & Technology (GIST) graduate program, August 2011.

Poster Presentations

Soe, N., D. Kim, M. Caldera, M. Cockburn, L. Escobedo, K. Miller, **D. Ruddell**, & J. Swift. *Alternative "SunSmart" Landscapes for Elementary School Playgrounds: A Geodesign Approach.* Presented at the Los Angeles Geospatial Summit, Los Angeles, CA February 2017.

Smith, J., & **D. Ruddell**. *Modeling Microclimates on USC's Campus*. Presented at the Metropolitan Water District of Southern California's 8th Annual Spring Green Expo, Los Angeles, CA April 2015.

Kelly, B., C. Reyes, F. Hsieh, H. Lin, M. Del Muro, N. Bosetti, R. Abugel, S. Ellis, T. Sornthaiteva, Y. Shan, Y. Ximenez, Z. Ouyang, & **D. Ruddell**. *Aerial Mapping of USC's Argue Plaza Using a Balloon-based Platform*. Presented at GIS Day 2013, University of Southern California, Los Angeles, CA November 2013.

Ruddell, D., A. Brazel, J. Deplet, P. Dixon, P. Gober, S. Grossman-Clarke, S. L. Harlan, S. Kelley, & E. Wentz. *Environmental Tradeoffs in a Desert City: An Investigation of Water Use, Energy Consumption, and Local Temperature in Phoenix, AZ*. Presented at the 13th Annual CAP LTER Poster Symposium, Tempe, AZ January 2011.

Ruddell, D., J. Deplet-Barreto, S. L. Harlan, & S. Grossman-Clarke. *Climate Change in an Urban Desert: An Examination of Vegetation and Local Temperature Variability in Phoenix, AZ*. Presented at the 12th Annual CAP LTER Poster Symposium, Tempe, AZ January 2010.

Ahmad, O., & **D. Ruddell**. *Balancing Energy and Water Consumption in an Urban Desert Environment: A Case Study of Phoenix, AZ*. Presented at the 12th Annual CAP LTER Poster Symposium, Tempe, AZ January 2010.

Hoffman, D., O. Ahmad, & **D. Ruddell**. *Historical Temperature Trends in Phoenix, AZ from 1896-2009*. Presented at the 12th Annual CAP LTER Poster Symposium, Tempe, AZ January 2010.

Ruddell, D., J. Deplet-Barreto, S. L. Harlan, & S. Grossman-Clarke. *Climate Change in an Urban Desert: An Examination of Vegetation and Local Temperature Variability in Phoenix, AZ*. Presented at the LTER Network All Scientists Meeting, Estes Park, CO September 2009.

Ruddell, D., S. L. Harlan, & S. Grossman-Clarke. *Assessing Exposure and Experience with Extreme Heat in Phoenix, AZ*. Presented at the 11th Annual CAP LTER Poster Symposium, Tempe, AZ January 2009.

Ruddell, D., S. L. Harlan, & S. Grossman-Clarke. *An Investigation of Risk and Exposure to Extreme Heat in Phoenix, AZ: A Mixed Methods Analysis*. Presented at the 3rd NCAR Community Workshop on GIS in Weather, Climate, and Impacts, Boulder, CO October 2008.

Ruddell, D., S. L. Harlan, S. Grossman-Clarke, & A. Buyantuyev. *Risk and Exposure to Extreme Heat in Microclimates of Phoenix, AZ*. Presented at the Decision Center for a Desert City Community of Graduate Scholars Poster Symposium, Tempe, AZ May 2008.

Ruddell, D., S. Lerman, G. Luikart, & S. L. Harlan. *Public Park Ecology and Neighborhood Crime: Assessing Resident Perceptions of Crime and Park Quality*. Presented at the 10th Annual CAP LTER Poster Symposium, Tempe, AZ January 2008.

Ruddell, D., S. Lerman, G. Luikart, & S. L. Harlan. *Public Park Ecology and Neighborhood Crime: Assessing Resident Perceptions of Crime and Park Quality*. Presented at the Association of American Coast Geographers Annual Meeting, Long Beach, CA October 2007.

Ruddell, D. & S. L. Harlan. *Phoenix as a Human Habitat in Summer: Exposure and Resources to Cope with Extreme Heat*. Presented at the American Association for the Advancement of Science Poster Symposium, San Francisco, CA February 2007.

Ruddell, D., A. Gustafson, J. Walker, & S. L. Harlan. *The Phoenix Area Social Survey (PASS): New Possibilities for LTER Cross-Disciplinary Research in the Social and Ecological Sciences*. Presented at the LTER Network All Scientists Meeting, Estes Park, CO September 2006.

Ruddell, D., A. Gustafson, J. Walker, & S. L. Harlan. *The 2006 Phoenix Area Social Survey*. Presented at the 8th Annual CAP LTER Poster Symposium, Tempe, AZ January 2006.

Invited Presentations

Building a Geodesign Academic Program: The University of Southern California's Bachelor of Science Degree in GeoDesign. Presented at the MS GIS Program Summer 2017 Colloquium at the University of Redlands, Redlands, CA, May 2017.

Proposal for a USC Sustainability Strategy 2030. Presented at the USC Sustainability Forum at the University of Southern California, Los Angeles, CA, April 2017.

Data + Design ≠ GeoDesign. Presented at the Harvard Graduate School of Design Geodesign Sidecar at Harvard University, Cambridge, MA, April 2017.

GeoDesign Experiential Education: Successes from the Amsterdam 'Problems Without Passports' Course. Presented at the Spatial Sciences Institute Fall 2015 Brown Bag Speaker Series at the University of Southern California, Los Angeles, CA, November 2015.

SSCI 483: Spatial Sciences Practicum. Presented at the GeoDesign Retreat Fall 2015 Pecha Kucha at the University of Southern California, Los Angeles, CA, October 2015.

Community Resilience and Climate Change: The Need for GeoDesign. Presented at the Academy of Arts and Humanities club at Crescenta Valley High School, La Crescenta, CA, January 2015.

Community Resilience and Climate Change: The Role of Solid Waste. Presented at the Municipal Waste Management Association Fall Summit, San Diego, CA, October 2014.

Vitality in the City and Region: Lessons from the Dutch. Presented at the Connecting Sustainable Cities Conference in Rotterdam, the Netherlands, June 2014.

Urban Systems. Presented at the Sidney Harman Academy for Polymathic Study, Los Angeles, CA, March 2014.

Geospatial Technologies and Social Work: A Critical Union. Presented at the School of Social Work GIS Day, Los Angeles, CA, November 2013.

Temperature Variability and Equity in Communities of Phoenix, AZ. Presented at the School of Social Work GIS Day Panel, Los Angeles, CA, November 2012.

Geospatial Contributions to Urban Sustainability Research: Highlights from Phoenix, AZ. Presented as the Keynote Speaker at the GIS Day for the County of Ventura, Ventura, CA, November 2011.

Human Impacts of Climate Change: Research Highlights on Excess Exposure to Extreme Heat. Presented at the Symposium on Climate Change: Adapting to Impacts on Health and the Environment sponsored by University of California Global Health Institute and Bank of American Foundation, Riverside, CA, September 2011.

Distributional Effects: Vulnerability, Resilience, and Risk. Presented at the External Advisory Committee meeting for the Decision Center for a Desert City sponsored by the National Science Foundation, Tempe, AZ, September 2011.

Heat Stress and Vulnerable Communities in Phoenix, Arizona: Temperature, Place, and People. Presented at the Global Institute of Sustainability Ecology Explorers Teachers Group, Tempe, AZ, April 2011.

Risk and Exposure to Extreme Heat in Microclimates of Phoenix, AZ. Presented at the Arizona Chapter of the American Society of Landscape Architects Meeting, Phoenix, AZ, November 2009.

Guest Lectures

Geospatial Contributions to Environmental Justice Research. Presented to East Yard Communities for Environmental Justice, University of Southern California, July 2016.

Historical Temperature Change and the Urban Heat Island Effect: The Case of Phoenix, Arizona. Presented to Sustainability Science in the City, University of Southern California, October 2015.

The Phoenix, Arizona Urban Heat Island: A Case for Sustainable Development. Presented at Amsterdam University College, Amsterdam, the Netherlands, June 2014.

Research Applications of Geospatial Technologies. Presented to Principles of Geographic Information Science, University of Southern California, March 2013.

Brewing Techniques of Ancient Civilizations. Presented to Human Survival, University of Southern California, October 2012.

An Introduction to Global Positioning Systems (GPS). Presented to USC Archaeology Excursion to Santa Catalina Island, University of Southern California, October 2012.

An Introduction to Geospatial Technologies. Presented to Social Mobility, University of Southern California, October 2012.

Data Collection Utilizing Global Positioning Systems (GPS). Presented to the Institute for Field Research (IFR), University of Southern California, May 2012.

An Introduction to Global Positioning Systems (GPS). Presented to USC Archaeology Excursion to Santa Catalina Island, University of Southern California, February 2012.

Historical Temperature Change and the Urban Heat Island in Phoenix, AZ: A Case for Sustainable Development. Presented to Urban Geography, Arizona State University, March 2011.

Historical Temperature Change and the Urban Heat Island in Phoenix, AZ: A Case for Sustainable Development. Presented to Sustainable Urbanism, Arizona State University, February 2011.

Introduction to Geographic Information Science (GIS). Presented to Physical Geography, Arizona State University, April 2010.

Risk and Exposure to Extreme Heat in Microclimates of Phoenix, AZ. Presented to Urban Microclimates, Arizona State University, March 2010.

Socio-Ecological Research in Phoenix, AZ: Investigations of Climate and Human Health. Presented to Urban Geography, Arizona State University, February 2010.

Risk and Exposure to Extreme Heat in Microclimates of Phoenix, AZ. Presented to Remote Sensing Reading Group, Arizona State University, October 2009.

Risk and Vulnerability: Assessing Exposure to and Perceptions of Climate Change. Presented to Fundamentals of GIScience, Arizona State University, September 2008.

Understanding Sustainable Development: An Interdisciplinary Approach. Presented to Bachelor of Interdisciplinary Studies (BIS) program, Arizona State University, September 2008.

Geographic information systems: Tools for exploring spatial phenomena. Presented to Real Estate Location Analysis and Marketing, Arizona State University, February 2008.

Geographic information systems: A type of informatics. Presented to Introduction to Informatics, Arizona State University, February 2008.

Geographic information systems: A type of informatics. Presented to Introduction to Informatics, Arizona State University, September 2007.

STUDENT ADVISEMENT

Doctoral

Wen-Ching Chaung, PhD, School of Sustainability, Arizona State University. Member, Doctoral Committee, 2014.

Dissertation Title: *Vulnerability to Heat Stress in Urban Areas: A Sustainability Perspective.*

Trang Vopham, PhD, School of Public Health, University of Pittsburgh. Member, Doctoral Committee, 2014.

Dissertation Title: *Using GIS to Link SEER-Medicare and California Pesticide Data: A Population-Based Case-Control Study of Pesticide Exposure and Hepatocellular Carcinoma Risk.*

Master's

Cora Chong, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee, 2017.

Thesis Title: *Comparison of Spatial Data Types for Urban Sprawl Analysis Using Shannon's Entropy.*

Richard Holzer, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee, 2017.

Thesis Title: *Evaluating the Minneapolis Neighborhood Revitalization Program's Effect on Neighborhoods.*

Kevin Klemens, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee, 2017.

Thesis Title: *Development and Evaluation of a USV Based Mapping System for Remote Sensing of Eelgrass Extent in Southern California.*

Cian Reger, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee, 2017.

Thesis Title: *Bringing GIS to a Small Community Water System.*

Lindsay Decker, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee, 2016.

Thesis Title: *Analysis of Future Land Use Conflict with Volcanic Hazard Zones: Mount Rainier, Washington.*

Megan Gosch, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee, 2016.

Thesis Title: *Geospatial Web Application Development to Access Irrigation Asset Data: Veterans Affairs Palo Alto Health Care System.*

Josh Greetan, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee, 2016.

Thesis Title: *The Wildland-Urban Interface in Lassen County, California.*

Charles (Chase) Jones, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee, 2016.

Thesis Title: *The Spatial Effect of AB 109 (Public Safety Realignment) on Crime Rates in San Diego County.*

Jason Martos, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee

Thesis Title: *Visualizing Historic Space through the Integration of Geographic Information Science in Secondary School Curriculums: A Comparison of Static versus Dynamic Methods.*

Sarah Moreland, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee, 2016.

Thesis Title: *Risk Analysis and Assessment of Concrete Buildings in Los Angeles County Using HAZUS-MH.*

Antonio Cotroneo, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee, 2015.

Thesis Title: *Identification and Analysis of Future Land-Use Conflict in Mecklenburg County, North Carolina.*

Jimmy Dao, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee, 2015.

Thesis Title: *A Comparison of Address Point and Street Geocoding Techniques in a Computer Aided Dispatch Environment.*

Bradley Griffiths, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee, 2015.

Thesis Title: *RAQGEO: A Spatial Solution to Inventory and Asset Management at Williams Scotsman, Inc.*

Andrew Thomason, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee, 2015.

Thesis Title: *Modeling Burn Probability: A MaxEnt Approach to Estimating California's Wildfire Potential.*

James Rivera, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee, 2014.

Thesis Title: *A Threat-Based Least-Cost Path Decision Support Model for National Security Resource Allocation along the US-Mexico Border.*

Bryan Schaefer, MS, Geographic Information Science & Technology, University of Southern California. Chair, Thesis Committee, 2014.

Thesis Title: *Social Media to Locate Urban Displacement: Assessing the Risk of Displacement Using Volunteered Geographic Information in the City of Los Angeles.*

Bachelor's

Zach Manta, BA, Environmental Studies, University of Southern California. Advisor, Student Opportunities for Academic Research (SOAR), 2016-2017.

Robin Franke, BS, GeoDesign, University of Southern California. Advisor, Summer Undergraduate Research Fund (SURF), Summer 2016.

Braulio Hoyos, BS, GeoDesign, University of Southern California. Advisor, Summer Undergraduate Research Fund (SURF), Summer 2016.

Sarah Mitchell, BS, GeoDesign, University of Southern California. Advisor, Summer Undergraduate Research Fund (SURF), Summer 2016.

Richard Windisch, BS, GeoDesign, University of Southern California. Advisor, Summer Undergraduate Research Fund (SURF), Summer 2016.

Jeremy Smith, BA, Policy, Planning, and Development, University of Southern California. Advisor, Provost's Undergraduate Research Fellowship (PURF), Summer 2015.

Alison Pugash, BS, Environmental Studies, University of Southern California. Advisor, Summer Undergraduate Research Fund (SURF), Summer 2015.

Jeremy Smith, BA, Policy, Planning, and Development, University of Southern California. Advisor, Student Opportunities for Academic Research (SOAR), 2014-2015.

Miranda Goss, BS, Environmental Science, Texas A&M University. Advisor, Research Experience for Undergraduates (REU) NSF program, 2014.

Justin Falcone, BS, Global Environmental Change, Johns Hopkins University. Advisor, Research Experience for Undergraduates (REU) NSF program, 2014.

Veronica Tse, BA, Psychology, University of Southern California, Mentor, Science Visualization Minor, 2014.

Tara Kelly, BS, Environmental Science, Villanova University. Advisor, Research Experience for Undergraduates (REU) NSF program, 2013.

Clifford Hoang, BS, Earth Science, University of California, San Diego. Advisor, Research Experience for Undergraduates (REU) NSF program, 2013.

Desirae Hoffman, BS, School of Geographical Sciences and Urban Planning, Arizona State University. Advisor, Research Experience for Undergraduates (REU) NSF program, 2010-2011.

PROFESSIONAL SERVICE

International

Member, Editorial Board, International Journal of Sustainable Land Use and Urban Planning, 2013-present

Member, Academic Excellence Prize, UNIGIS thesis award, 2014-present

National

Member, National Climate Assessment (NCA4), Southwest Regional Engagement Workshop, 2017

Judge, Student Paper Competition, Climate Specialty Group, Association of American Geographers, 2014

Member, Geographic Information Science & Technology Body of Knowledge (Version 2.0) Task Force, University Consortium of Geographic Information Science, April 2013

Judge, Student Paper Competition, Climate Specialty Group, Association of American Geographers, 2013

State/County

Member, Organizing Committee, Third Annual Los Angeles Geospatial Summit, 2013

University

University of Southern California

Chair, Academic Senate Sustainability Committee, 2016-2017

Chair, USC Sustainability Forum Organizing Committee, 2017

Member, USC Sustainability Steering Committee, 2016-2017

Chair, Organizing Committee, GeoDesign Retreat, 2015-present

Chair, GeoScavenge Fall Welcome Week Event, 2014-present

Chair, GIS Day at USC, 2013-present
Chair, GeoDesign Academic Program Advisory Committee, 2012-present
Member, Water Conservation Sustainability Subcommittee, 2015-present
Member, Academic Senate, 2013-2016
Member, Academic Senate Sustainability Committee, 2015-2016
Member, Fulbright U.S. Student Grant Campus Evaluation Committee, 2015-2016
Member, Faculty Panel for Spatially Speaking: A Salon for GIS and Spatial Research, 2013-2015

Dana and David Dornsife College of Letters, Arts, and Sciences
President, Faculty Council, 2015-2016
Chair, Ad hoc committee, 2015-2016
Vice President, Faculty Council, 2014-2015
Member, Faculty Council, 2013-2014
Member, Anthropology Faculty Search Committee, 2011-2012

Spatial Sciences Institute
Co-chair, Visiting Scholar Committee, 2014-2015
Chair, Faculty Merit Evaluation Committee, 2014-2015
Member, Faculty Search Committee, 2014-2015
Member, Administrative Officer Search Committee, 2014-2015
Member, Faculty Merit Evaluation Committee, 2013-2014
Chair, Spatial Roundtable Speaker Series, 2012-2013

ACADEMIC REVIEWS

Academic Journal Reviews

Applied Geography
British Journal of Environment and Climate Change
Buildings
Climatic Change
Die ERDE
Energy Technology & Policy
GeoJournal
Global Environmental Change
International Journal of Biometeorology
International Journal of Sustainable Land Use and Urban Planning
International Journal of Sustainable Transportation
Journal of Environmental Informatics
Land
Landscape and Urban Planning
Libertas Academica
Nature Climate Change
Plos One
Reshaping Environments
Science Communication

Science of the Total Environment
Sensors
Sustainability
Transactions in GIS
Urban Forestry & Urban Greening
Water

Book Manuscripts

Bentham E-book Series
Flat World Knowledge

Proposal Reviews

Pac-12 Conference

PROFESSIONAL MEMBERSHIPS

Association of American Geographers
Association of Pacific Coast Geographers
GIS Certification Institute
National Council for Geographic Education
Phoenix Returned Peace Corps Volunteers Association
Society for Risk Analysis
Sierra Club
UNIGIS

HONORS AND AWARDS

Center for Excellence in Teaching (CET) Course Design Pilot Project recipient,
University of Southern California, 2016

Honorarium from the Sidney Harman Academy for Polymathic Study, University of
Southern California, 2014

Honorarium from the Department of Sociology, University of Southern California, 2012

Service to the School of Social Work, University of Southern California, 2012

Graduate Student Paper Competition, University Consortium for Geographic Information
Science (UCGIS) 2009: *A Mixed Method Multi-scale Analysis: A Case Study on Extreme
Heat in Phoenix, AZ*

Tony Gonzalez Excellence in GIS Scholarship, Geospatial Information Technology
Association of Arizona (GITAAz) 2008: *Risk and Exposure to Extreme Heat in
Microclimates of Phoenix, AZ*

Best Poster, CAP LTER 2008 Poster Symposium: *Public Park Ecology and Neighborhood Crime: Assessing Resident Perceptions of Crime and Park Quality*

Peace Corps Service Award, 2002

PROFESSIONAL CERTIFICATION

Certified GIS Professional, conferred November 2014 by the US GIS Certification Institute

FOREIGN LANGUAGE AND TRAVEL

Proficient in French, conversational Spanish

Peace Corps Volunteer, Cameroon, June 2000 – June 2002

Countries visited: Argentina, Austria, Belgium, Botswana, Cameroon, Canada, Chile, Costa Rica, Croatia, Czech Republic, England, France, Germany, Hungary, Italy, Mexico, Namibia, the Netherlands, Peru, Poland, South Africa, Spain, Switzerland, Thailand, Zambia, Zimbabwe