Grant Snitker

Department of Crop and Soil Sciences
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EDUCATION

2019	Ph.D. Anthropology, Arizona State University (Graduate Certificate in Museum Studies) Dissertation: Anthropogenic Fire and the Development of Neolithic Agricultural Landscapes: Connecting Archaeology, Paleoecology, and Fire Science to Evaluate Human Impacts on Fire Regimes Committee: C. Michael Barton, Christopher Morehart, and Janet Franklin
2013	M.A. in Anthropology, Arizona State University
2010	B.A. in Anthropology, Clark Honors College, University of Oregon

PROFESSIONAL APPOINTMENTS

2019- Present	Postdoctoral Research Associate, Department of Crop and Soil Sciences, University of Georgia
2018-19	Archaeologist, Okanogan Wenatchee National Forest / Washington Conservation Science Institute
2012-17	Digital Curator, Digital Antiquity, Arizona State University
2014-16	Graduate Research Assistant, School of Human Evolution and Social Change, Arizona State University

RESEARCH INTERESTS

Anthropogenic fire regimes, fire-prone ecosystems, coupled social-ecological systems, western North America, western Mediterranean, GIS and Bayesian modeling, computational modeling in archaeology, charcoal analysis, and paleoecology

PUBLICATIONS

Works in Progress

in rev.	Levi, Matthew, Erik Krueger, Grant Snitker, Tyson Ochsner, Miguel Villarreal, Emile Elias, and
	Dannele Peck. Enhancing Fire Danger Ratings from the Ground up using Soil Moisture. In
	revision at Eos: Earth & Space Science News.

In rev. Strawhacker, Colleen, **Grant Snitker**, Matthew Peeples, Ann Kinzig, Keith Kintigh, Kyle Bocinsky, Brad Butterfield, Jacob Freeman, Sarah Oas, Margaret Nelson, Jonathan Sandor, and Katherine Spielmann. A Landscape Perspective on Climate-Driven Risks to Food

- Security: Exploring the Relationship between Climate and Social Transformations in the Prehispanic U.S. Southwest. Manuscript submitted to *American Antiquity*.
- subm. **Snitker, Grant**. Charcoal Quantification Tools (CharTool): A suite of charcoal analysis tools for archaeological and paleoecological analysis in ImageJ. Manuscript submitted to *Ethnobiology Letters*.
- subm. Helmer, Matthew, Jennifer Lipton, **Grant Snitker,** Steve Hackenberger, Mallory Triplett, and Lee Cerveny. Mapping Heritage Ecosystem Services in Ecological Restoration Areas: A Case Study from the East Cascades, Washington. Manuscript submitted to *Journal of Outdoor Recreation and Tourism*.
- Snitker, Grant. Identifying the influence of Neolithic agro-pastoral land-use on Holocene fire regimes through simulated sedimentary charcoal records. In Simulating the Transition to Agriculture and Its Ecological and Cultural Consequences, edited by Sean M. Bergin and Salvador Pardo-Gordó. Springer, New York.
- Barton, C. Michael, Isaac IT Ullah, Nicolas Gauthier, Nari Miller, **Grant Snitker**, Irene Esteban, Joan Bernabeu Aubán, and Arjun Heimsath. 'Digital Proxies' for Validating Models of Past Socio-Ecological Systems in the Mediterranean Landscape Dynamics Project. In *Simulating the Transition to Agriculture and Its Ecological and Cultural Consequences*, edited by Sean M. Bergin and Salvador Pardo-Gordó. Springer, New York.
- in prep. **Snitker, Grant**. Anthropogenic fire and the origins of agricultural landscapes: Human niche construction during the Neolithic Period in eastern Spain. Intended for *American Antiquity*.
- in prep. **Snitker, Grant**. Quantifying and classifying charcoal morphologies using image analysis and machine-learning methods. Intended for *The Holocene*.

Peer-Reviewed Articles

- 2018 **Snitker, Grant**. Identifying Natural and Anthropogenic Prehistoric Fire Regimes through Simulated Charcoal Proxy Records. *Journal of Archaeological Science* 95: 1–15. DOI: 10.1016/j.jas.2018.04.009
- Snitker, Grant, Agustín Díez Castillo, C. Michael Barton, Joan Bernabeu Aubán, Oreto García Puchol, and Salvador Pardo-Gordó. Patch-based survey methods for studying prehistoric human land-use in agriculturally modified landscapes: A case study from the Canal de Navarrés, eastern Spain. *Quaternary International* 483: 5–22. DOI: 10.1016/j.quaint.2018.01.034
- 2016 Díez Castillo, Agustín, Oreto García Puchol, Joan Bernabeu Aubán, C. Michael Barton, Salvador Pardo-Gordó, Grant Snitker, Wendy Cegielski, and Sean Bergin. Resiliencia y cambio durante el Holoceno en la Canal de Navarrés: recientes trabajos de prospección. Archivo de Prehistoria Levantina. 31:169-185.
- Erlandson, Jon M., Todd J. Braje, and **Grant Snitker**. Two chipped stone crescents from CA-SMI-680, Cardwell Bluffs, San Miguel Island, California. *Current Research in the Pleistocene* 25:81-83.

Peer-Reviewed Book Chapters

2016 Strawhacker, Colleen, Grant Snitker, Katherine Spielmann, Maryann Wasiolek,

Jonathan Sandor, Ann Kinzig, and Keith Kintigh. Risk Landscapes and Domesticated Landscapes: Food Security in the Salinas Province. In *Landscapes, Mobilities, and Social Transformations: Arriving at the Fifteenth Century in the Pueblo Rio Grande*, edited by Katherine Spielmann, pp. 124–150. University of Arizona Press.

Publicly Available Software and Scripts

- 2019 **Snitker, Grant**. Charcoal Fragment Quantification Tools (CharTool): Version 2.0. Retrievable from: DOI: http://doi.org/10.5281/zenodo.1434479
- 2019 Snitker, Grant. Long-Term Vulnerability and Transformation Project (LTVTP) Risk Landscapes Model Scripts. Suite of R Scripts version 2.0 Retrievable from: Github, DOI: https://doi.org/10.5281/zenodo.3377717
- 2018 Snitker, Grant. Charcoal Record Simulation Model (CharRec): Version 1.5.0. <u>CoMSES</u>

 <u>Computational Model Library</u>. Retrievable from:
 https://www.comses.net/codebases/4795/releases/1.5.0/
- 2017 **Snitker, Grant**. GIS charcoal source area model for archaeological applications (CharSource). R Script version 2.0. Retrievable from: Github, DOI: http://doi.org/10.5281/zenodo.1434430

Technical Reports

- Snitker, Grant and Heather Davis. Cultural Resources Inventory Report for the Taneum Watershed Restoration Project, Cle Elum Ranger District, Okanogan-Wenatchee National Forest: Report Number R2018061703004. Submitted to the Okanogan-Wenatchee National Forest Supervisor's Office, Wenatchee, Washington.
- 2015 **Snitker, Grant**. Anthropogenic Fire and Paleo-Charcoal Study at Chavez Pass, AZ: 2015 Report. Submitted to the Coconino National Forest Supervisor's Office, Flagstaff, AZ.
- Snitker, Grant. A Spatial Analysis of Archaeological Sites, Vegetation, and Artifacts within the Agua Fria National Monument: Legacies on the Landscape 2013 Field Season. In Final Report of the Spring 2013 Field Season, Legacies on the Landscape: Agua Fria National Monument and Tonto National Forest, edited by Katherine Spielmann, pp. 45-52. Submitted to the Bureau of Land Management, Phoenix, Arizona.
- 2014 Rivers-Cofield, Sara, Jodi Reeves Flores, Francis P. McManamon, Adam Brin, **Grant Snitker**, Chelsea Walter, Michael A. Smolek, and Amanda Vtipil. Evaluating a Cooperative Approach to the Management of Digital Archaeological Records. Submitted to Department of Defense Legacy Resource Management Program, Project 13-711.

Other Professional Contributions

- Hegmon, M., Peeples, M.A. on behalf of the LTVTP-NABO collaboration (**Grant Snitker** listed as a contributing member of LTVTP-NABO collaboration). The human experience of social transformation: Insights from comparative archaeology. *PLOS ONE* 13:1–29. DOI: https://doi.org/10.1371/journal.pone.0208060
- 2014 **Snitker, Grant.** "Notes from the Field" report on NSF-funded fieldwork in Valencia, Spain. Published in the SAA Geoarchaeology Interest Group Fall Newsletter.

GRANTS, FELLOWSHIPS, AND AWARDS

Major External Research Grants

2019-21 \$117,339	Expanding the Functionality and User-Accessibility of the Newhall Simulation Model through an Updated R Implementation. <u>PIs</u> : Matthew Levi and Grant Snitker . Funding through the USDA Natural Resources Conservation Service Research Grant Program.
2018-20 \$10,820	LEIA Paleoenvironmental Pilot Project. University of Washington Quaternary Research Center Research Grant. <u>PI:</u> Marcos Llobera. <u>Senior Personnel:</u> Grant Snitker , Gabriel Servera-Vives, Llorenç Picornell Gelabert, Nari Miller Jordi Hernandez-Gasch, and Anton Puig. Funding through University of Washington Quaternary Research Center Research Grant Program.
2014-18 \$28,861	Anthropogenic Fire and the Origins of Agricultural Landscapes: Human Niche Construction during the Neolithic Period in Eastern Spain. PIs: Grant Snitker and C. Michael Barton. Funding through the National Science Foundation Doctoral Dissertation Research Improvement Award.

Fellowships

2018-19	School of Human Evolution and Social Change Dissertation Completion Fellowship, Arizona
\$18,000	State University
2018-20 \$34,000	National Science Foundation Graduate Research Fellowship (GRFP) – tuition (\$12,000) and stipend (\$36,000 / year) for 3 years
/year	

Minor and Internal Research Grants

2016 \$1,795	Graduate Education Research Support Program Grant, Graduate and Professional Student Association, Arizona State University
2016 \$3,000	ASU Graduate Research Award, School of Human Evolution and Social Change, Arizona State University
2016 \$500	Arizona Archaeological and Historical Society Research Grant
2016 \$500	Jumpstart Research Grant, Graduate and Professional Student Association, Arizona State University
2014 \$1,780	ASU Graduate Research Award, School of Human Evolution and Social Change, Arizona State University

Travel Grants

2018	TREE (Travel, Research and Educational Experience) Travel Grant, Association for Fire
\$270	Ecology (declined, could not attend)

Individual Travel Grant, Graduate and Professional Student Association, Arizona State University
Group Travel Grant, Graduate and Professional Student Association, Arizona State University
TREE (Travel, Research and Educational Experience) Travel Grant, Association for Fire Ecology
Graduate Student Travel Grant, Jumpstart Research Grant, School of Human Evolution and Social Change, Arizona State University

Honors, Awards, and Scholarships

2018	Ruppé Prize in Archaeology (Outstanding graduate student paper), School of Human Evolution and Social Change, Arizona State University
2016	Graduate Student Poster Contest Winner, Institute for Social Science Research, Arizona State University
2015-17	Graduate Excellence Award, College of Liberal Arts and Sciences, Arizona State University
2010	Jones Award, Oregon Archaeological Society

ARCHAEOLOGICAL AND INTERDISCIPLINARY RESEARCH PROJECTS

(* = collaborations with students)

Current

Current	
2019- present	Wildfire probability mapping based on regional soil moisture models *Postdoctoral Researcher** Modeling and mapping soil moisture across the western US to predict changing in wildfire occurrence and risk. Collaboration between the USGS and USDA SW Climate Hub.
2019- present	*Developing a spatial and temporal proxy of fire occurrence and intensity through an examination of soil magnetism in iron-rich soils *Co-Director Undergraduate participation focused project to design and implement field-based research. Focus is on developing a spatial and temporal proxy of fire using soil magnetism in iron-rich Georgia Piedmont soils.
2018- present	Cascades Corridor Land-use Project <u>Director</u> Project to compile forest-wide spatial synthesis of archaeological survey data to evaluate changing land-use intensities from the late Pleistocene to the historic period using Bayesian methods.
2017- present	*Landscape, Encounters, and Identity (LEIA) Project <u>Senior Researcher, Paleoecologist</u> Interdisciplinary project and field school (University of Washington and Universitat de les Illes Balears) examining landscape transformation and cultural change in pre- and protohistoric Mallorca, Spain.

Previous

2015-19 *Anthropogenic Fire and the Origins of Agricultural Landscapes Project

Co-Principal Investigator and Fieldwork Director

NSF-funded archaeology and paleoecology project to explore the process of nicheconstruction and anthropogenic fire during the transition to agro-pastoral subsistence in eastern Spain.

2014-19 The Emergence of Coupled Natural and Human Landscapes in the Western Mediterranean (MedLanD) Project

Researcher

NSF-funded project evaluating the emergence of coupled social-ecological systems on landscape erosion and deposition dynamics through modeled and empirical archaeological and paleoecological data from eastern Spain.

2015-18 Long-Term Vulnerabilities and Transformations Project (LTVTP)

Researcher and GIS Specialist

Modeling long-term social and ecological resilience of prehispanic (AD 900-1540) societies in the Greater U.S. Southwest using soil, climate, and archaeological data.

2017-18 Communicating Hazard Information in the Modern Environment (CHIME) Project

Graduate Researcher

Improving hazardous weather risk communication and response by integrating models of extreme weather events and social perceptions of warnings and evacuation orders.

2015-17 *Prehistoric Fire Project at Chavez Pass, AZ

Co-Principal Investigator and Fieldwork Director

Developing and testing GIS models of charcoal dispersion and deposition as related to prehistoric fire regimes on the Colorado Plateau.

TEACHING

Instructor

Fall 2019 CRSS 4960: Undergraduate Research in Crop and Soil Sciences, University of Georgia

Developed course to teach research methods in soil laboratory methods, GIS methods, and field sampling.

Spring - ASM 484: Research Apprenticeship, Arizona State University

Fall 2016 Developed course to emphasize hands-on/participatory instruction in archaeology-related

methods and theory for non-anthropology majors for two undergraduate cohorts.

Summers ANTH 408: Fieldwork in Archaeology, University of Oregon

2010-11 Led fieldwork-based instruction in excavation and survey methods for two cohorts.

Guest Lectures and Lecture Series

Spring Guest lecturer for ASB 231: Intro to Archaeological Field Methods, Mesa Community College

2018 Lecturer for session on paleoecology and environmental archaeology.

Spring Guest lecturer for ASB 326: Human impacts on the Environment, Arizona State University

2018 Lecturer for session on archaeology of the peopling of North America.

Fall 2017 Lecturer for the Osher Lifelong Learning Institute Series, Arizona State University

Developed lecture on general archaeological and paleoecological methods/theory.

Spring Guest lecturer for <u>ASB 222: Buried Cities and Lost Tribes</u>, Arizona State University 2016 Lecturer for session on archaeology of climate/environmental change.

Other Teaching and Mentoring Activities

Fall 2019 Certificate in Certificate in Diversity & Inclusion in Higher Education, Office of Institutional
- present Diversity, University of Georgia (Currently in progress)

Summer Mentor to Young Scholars Program student participant, College of Environmental and
Agricultural Sciences, University of Georgia

MUSEUM EXHIBITS

2012-16 The Agave Research Exhibit

Curator

May 2012-September 2016, Deer Valley Petroglyph Preserve, Center for Archaeology and Society, Arizona State University

2013 Looking for the Future in the Past: Archaeology's Long-Term View

Contributor

February - May 2017, Center for Archaeology and Society, Arizona State University

2012-13 Changing Landscapes: A Closer Look at Baby Canyon Pueblo

<u>Curator</u>

October 2012 – May 2013, Deer Valley Petroglyph Preserve, Center for Archaeology and Society, Arizona State University

CONFERENCE PRESENTATIONS

(* = student co-authors)

Symposia Organized

2020 Archaeological approaches to anthropogenic fire and global pyrodiversity. Forum at the 85th Annual Meeting (planned) of the Society for American Archaeology, in Austin, TX. April 22-26, 2020.

2016 Human-Environmental Interactions in the Mediterranean Basin. Symposium at the 81st Annual Meeting of the Society for American Archaeology, in Orlando, FL. April 6-10, 2016. Co-organizer: Sean Bergin

Invited Presentations

2018 **Snitker, Grant**. *Identifying the Influence of Neolithic Agro-Pastoral Land-use on Holocene Fire Regimes* through Simulated Sedimentary Charcoal Records. Paper presented at the 24th Annual Meeting of the European Association of Archaeologists, Barcelona. September 5-8, 2018.

Bergin, Sean and **Grant Snitker**. Vegetation Transformation during the European Neolithic: The Effects of Agro-Pastoral Subsistence on Plant Communities in Europe. Paper presented at the 24th Annual Meeting of the European Association of Archaeologists, Barcelona. September 5-8, 2018.

- Barton, C. Michael, Isaac I.T. Ullah, Nicolas Gauthier, Nari Miller, **Grant Snitker**, Irene Esteban, Joan Bernabeu Auban, and Arjun Heimsath. 'Digital Proxies' for Validating Models of Past Socio-Ecological Systems in the Mediterranean Landscape Dynamics Project. Paper presented at the 24th Annual Meeting of the European Association of Archaeologists, Barcelona. September 5-8, 2018.
- 2018 **Snitker, Grant**. The Nuts and Bolts of Agent-Based Modelling for Archaeological Science. Paper presented during forum discussion at the 83rd Annual Meeting of the Society for American Archaeology, Washington, D.C. April 11-15, 2018.
- 2018 **Snitker, Grant**. Anthropogenic Fire and the Origins of Agricultural Landscapes during the Neolithic Period (7,700-4,500 cal. B.P.) in Eastern Spain. Paper presented at the 83rd Annual Meeting of the Society for American Archaeology, Washington, D.C. April 11-15, 2018.
- 2017 Snitker, Grant. Fire, Humans, and Landscape Change: Simulating Charcoal Proxy Records to explore Anthropogenic Fire and Neolithic Landscapes in the Western Mediterranean. Paper presented at the COMSES Net Virtual Conference 2017, Tempe, AZ. Online October 2-20, 2017.
- Strawhacker, Colleen, **Grant Snitker**, Keith Kintigh, Ann Kinzig, and Katherine Spielmann.

 Measuring Risk to Food Security in the Prehispanic U.S. Southwest: The Salinas Region in the Broader Southwest World. Paper presented at the 82nd Annual Meeting of the Society for American Archaeology, Vancouver, BC. March 29-April 2, 2017.
- 2016 **Snitker, Grant**. Fire, Humans, and Landscape Evolution: Modeling Anthropogenic Fire and Neolithic Landscapes in the Western Mediterranean. Paper presented at the 81st Annual Meeting of the Society for American Archaeology, Orlando, FL. April 6-10, 2016.
- Snitker, Grant. Linking the Social and Ecological Dynamics of Anthropogenic Fire Regimes through Agent-Based Modeling (ABM) and Geographic Information Systems (GIS). Paper presented at the 6th Association for Fire Ecology Fire Congress, San Antonio, TX. November 16-20, 2015.
- McGovern, Thomas, Jette Arneborg, Seth Brewington, Laura Comeau, Andrew Dugmore, George Hambrecht, Keith Kintigh, Christian Madsen, Michelle Hegmon, Scott Ingram, Margaret Nelson, Richard Oram, Matthew Peeples, Brenda Shears, Ian Simpson, Konrad Smiarowski, **Grant Snitker**, Katherine Spielmann, Colleen Strawhacker, Andrea Torvinen, and Orri Vésteinsson. *Completed Long-Term Experiments? Mobilizing Archaeology in the Anthropocene*. Paper presented at the Theoretical Archaeology Group, Chicago, IL. May 9-11, 2013.

Contributed Presentations and Posters

- 2020 Snitker, Grant, Sean M. Bergin, and Pete Cadena. R-based solutions for synthesizing archaeological survey data to assess changing land-use patterns in the Okanagan-Wenatchee National Forest, WA.

 Poster to be presented at the 85th Annual Meeting of the Society for American Archaeology, Austin, TX. April 22-26, 2020.
- 2020 Miller, Nari, Marcos Llobera, and **Grant Snitker**. Artifacts as geomorphic tracers of Holocene sediment (planned) transport in eastern Mallorca, Spain. Poster to be presented at the 85th Annual Meeting of the Society for American Archaeology, Austin, TX. April 22-26, 2020.
- *Deitsch, Joan, Matt Levi, **Grant Snitker**, David Leigh, and Jill Mullican. *Soils remember the human footprint on the landscape*. Poster presented at the 2019 Young Scholars Pre-Collegiate Research Conference, Athens, GA. July 10, 2019.

- Snitker, Grant and Sean Bergin. Did the Neolithic Revolution Revolutionize the European Landscape?

 An analysis of the relationship between climate, vegetation, and the arrival of agro-pastoral subsistence.

 Poster presented at the 84th Annual Meeting of the Society for American Archaeology,
 Albuquerque, NM. April 10-14, 2019.
- 2018 Bergin, Sean and **Grant Snitker**. Large-Scale Socioecological Transformation: The Effects of Subsistence Change on Holocene Vegetation across Europe. Poster presented at the 83rd Annual Meeting of the Society for American Archaeology, Washington, D.C. April 11-15, 2018.
- 2017 Díez Castillo, Agustín, Grant Snitker, Joan Bernabeu Aubán, Oreto García Puchol, Salvador Pardo-Gordó, and C. Michael Barton. Examen de las dinámicas socio-ecológicas en el valle medio del Xuquer (Valencia) desde el Paleolítico Medio hasta el Calcolítico. Paper presented at the XII Congreso Ibérico de Arqueometría, Burgos, Spain. October 25-28, 2017.
- 2017 Ullah, Isaac, Nicholas Gauthier, Nari Miller, and **Grant Snitker**. *Connecting the Human and Natural: Coupled Human-Earth Systems Models and the "Digital Proxy Record."* Poster presented at the 2017 Community Surface Dynamics Modeling System Annual Meeting, Boulder, CO. May 23-25, 2017.
- Snitker, Grant. Reconstructing Anthropogenic Fire Regimes Using Multidisciplinary Methods: Preliminary Results from the Neolithic (7,700–4,500 cal. BP) in Eastern Spain. Paper presented at the 82nd Annual Meeting of the Society for American Archaeology, Vancouver, BC. March 29-April 2, 2017.
- Diez Castillo, Agustín, Joan Bernabeu Aubán, Michael C. Barton, Oreto García Puchol, Sean Bergin, Salvador Pardo-Gordó, Wendy H. Cegielski, and **Grant Snitker**. Paperless survey? New methodological approaches to archaeological fieldwork, the case of La Canal de Navarrés (València).

 Paper presented at the Workshop: Dando sentido a la prospección arqueológica, Jaén, Andalucía, Spain. November 13-14, 2014.
- Snitker, Grant. Exploring the Dynamics of Anthropogenic Fire Regimes through Agent Based Modeling (ABM) and Geographic Information Systems (GIS). Poster presented at the 79th Annual Meeting of the Society for American Archaeology, Austin, TX. April 23-27, 2014.
- *Cegielski, Wendy, **Grant Snitker**, Gayle Timmerman, C. Michael Barton, and Bette Otto-Bliesner. Reconstructing Local Paleoclimate Data with Global and Local Variables: A Re-examination of "Downscaling" with Updated Paleoclimate Models. Poster presented at the 79th Annual Meeting of the Society for American Archaeology, Austin, TX. April 23-27, 2014.
- Snitker, Grant, Andrea Torvinen, and Rhian Stotts. Testing the Application of Adaptive Governance of Common Pool Resources: An Archaeological Perspective. Poster presented at the 78th Annual Meeting of the Society for American Archaeology, Honolulu, HI. April 3-7, 2013.
- Torvinen, Andrea, **Grant Snitker**, and Rhian Stotts. *An Archaeological Perspective on Adaptive Governance of Common Pool Resources.* Poster presented at the 1st Annual Human Ecodynamics Research Center Open Workshop in Sustainability and Education, New York, NY. October 15, 2012.
- Jenkins, Dennis L., **Grant Snitker**, Craig E. Skinner, Jennifer J. Thatcher, Thomas M. Origer, and Janine M. Loyd. *Current Results of Obsidian Sourcing and Hydration Studies at the Paisley Caves, Oregon.* Paper presented at the 63rd Northwest Anthropological Conference, Ellensburg, WA. March 25-28, 2010.

SERVICE

Reviewer

Quaternary International; Palaeogeography, Palaeoclimatology, Palaeoecology

Departmental Service

- 2013-14 Treasurer, Association of All Graduate Students (AAGS), School of Human Evolution and Social Change, Arizona State University
- 2012-13 Mentor for incoming graduating students, School of Human Evolution and Social Change, Arizona State University

Public Lectures

- 2019 Creating new connections between archaeology, paleoecology, and fire science to evaluate long-term human impacts on fire regimes. University of Georgia, Joint Georgia Initiative for Climate & Society and Center for Archaeological Sciences seminar series.
- 2017 Anthropogenic Fire and the Origins of Agricultural Landscapes Human Niche Construction (HNC) during the Neolithic (7,700-4,200 cal. BP) in Eastern Spain. University of Washington, Department of Anthropology, Friday Afternoon Archaeology Lecture Series.
- 2015 Summary of 2015 Fieldwork. Arizona State University, School of Human Evolution and Social Change, Summer Research and Fieldwork Symposium (SuRFS).

Other Service

- 2017-19 Co-Organizer of Interagency Fire Archaeology Cohort monthly calls and meetings
- 2016 Intel International Science and Engineering Fair Grand Awards Judge, Behavioral and Social Sciences, Phoenix, AZ
- 2014-16 Conference Volunteer 81st Annual Meeting of the Society for American Archaeology, Orlando, FL; 6th Annual Congress for the Association for Fire Ecology, San Antonio, TX; 79th Annual Meeting of the Society for American Archaeology, Austin, TX

OTHER PROFESSIONAL EXPERIENCE

- 2012-2018 Digital Curator, the Digital Archaeological Record (tDAR), Digital Antiquity, Arizona State University
- 2010-2018 Archaeology Technician, Archaeological Resource Advisor, and Qualified Wildland Firefighter (FFT2 Qualified and FFT1 Trainee) with the US Forest Service (Okanogan-Wenatchee National Forest, WA; Coconino National Forest, AZ; Deschutes National Forest, OR)
- 2016 Klamath River Prescribed Fire Training Exchange (TREX), Collaborative wildland firefighting training between the US Forest Service, the Nature Conservancy, and the Karuk Tribe, Happy Camp, CA.
- 2014 Arizona Wildfire and Incident Management Academy, Basic Wildland Firefighting training, Prescott, AZ

2011-13 Exhibits and Collections Manager, Deer Valley Petroglyph Preserve, Center for Archaeology and Society, Arizona State University

PROFESSIONAL MEMBERSHIPS

Society for American Archaeology American Geophysical Union PAGES (Past Global Changes) Interagency Fire Archaeology Cohort International Association of Wildland Fire