

Grant Snitker

Cultural Resource Sciences and Fire Lab
New Mexico Consortium
Los Alamos, NM
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Updated October 2022

CURRENT APPOINTMENT

2022- Director of Cultural Resource Sciences and Fire Lab, New Mexico Consortium, Los Alamos, NM
Research Scientist - Cultural Resources, New Mexico Consortium, Los Alamos, NM

EDUCATION

2019 Ph.D. Anthropology, Arizona State University (Graduate Certificate in Museum Studies)
Dissertation: *Anthropogenic Fire and the Development of Agricultural Landscapes: Connecting Archaeology, Paleoecology, and Fire Science to Evaluate Human Impacts on Fire Regimes*

2013 M.A. in Anthropology, Arizona State University

2010 B.A. in Anthropology, Minor in Geography, Clark Honors College, University of Oregon

PROFESSIONAL APPOINTMENTS AND AFFILIATIONS

2020-22 Postdoctoral Fellow, Center for Forest Disturbance Science, U.S. Forest Service, Southern Research Station

2019-20 Postdoctoral Research Associate, Department of Crop and Soil Sciences, University of Georgia

2018-20 Archaeological Consultant, Okanogan Wenatchee National Forest / Washington Conservation Science Institute

2013-19 Graduate Research Assistant, School of Human Evolution and Social Change, Arizona State University

2011-13 Exhibits Manager, Deer Valley Petroglyph Preserve, Arizona State University

RESEARCH INTERESTS

Environmental Archaeology	Computational Modeling in Archaeology
Social-ecological Systems Science	Geographic Information Science (GIScience)
Anthropogenic Fire and Fuels	Data Analysis and Visualization in R
Archaeological Approaches to Ecological Restoration	Charcoal Analysis
Technology and Big Data in CRM	Paleoecology / Global Paleofire
Fire Effects on Cultural Resources	Tribal Consultation and Collaboration

PUBLICATIONS

Peer-Reviewed Articles

- 2022 **Snitker, Grant**, Christopher I. Roos, Alan P. Sullivan, S. Yoshi Maezumi, Douglas W. Bird, Michael R. Coughlan, Kelly M. Derr, Anna Klimaszewski-Patterson, Rachel A. Loehman. A collaborative agenda for archaeology and fire science. *Nature: Ecology & Evolution* (2022). DOI: <https://doi.org/10.1038/s41559-022-01759-2>
- 2022 Servera-Vives, Gabriel, Maurici Mus Amezcuita, **Grant Snitker**, Assunta Florenzano, Paola Torri, Joan Estrany, and Anna Maria Mercuri. Modern pollen analogues for the understanding of pollen-vegetation relationships in a Mediterranean mosaic landscape (Balearic Islands, Western Mediterranean). *The Holocene* 32(7):716–734. DOI: <https://doi.org/10.1177/09596836221088229>
- 2022 **Snitker, Grant**, Jason Moser, Bobby Southerlin, and Christina Stewart. Detecting historic tar kilns and tar production sites using high-resolution, aerial LiDAR derived digital elevation models: introducing the Tar Kiln Feature Detection workflow (TKFD using open-access R and FIJI software. *Journal of Archaeological Science: Reports* 41, 103340. DOI: <https://doi.org/10.1016/j.jasrep.2022.103340>
- 2021 Krueger, Erik S., Tyson E. Ochsner, Matthew R. Levi, Jeffrey B. Basara, **Grant J. Snitker**, Briana M. Wyatt. Grassland productivity estimates informed by soil moisture measurements: Statistical and mechanistic approaches. *Agronomy Journal* (2021):1–20. DOI: <https://doi.org/10.1002/agj2.20709>
- 2020 **Snitker, Grant**. The Charcoal Quantification Tool (CharTool): A Suite of Open-source Tools for Quantifying Charcoal Fragments and Sediment Properties in Archaeological and Paleoecological Analysis. *Ethnobiology Letters* 11(1):103–115. DOI: <https://doi.org/10.14237/eb1.11.1.2020.1653>
- 2020 Helmer, Matthew, Jennifer Lipton, **Grant Snitker**, Steve Hackenberger, Mallory Triplett, and Lee Cervený. Mapping Heritage Ecosystem Services in Ecological Restoration Areas: A Case Study from the East Cascades, Washington. *Journal of Outdoor Recreation and Tourism* 31 (2020) 100314. DOI: <https://doi.org/10.1016/j.jort.2020.100314>
- 2020 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. *American Antiquity* 85(3): 427-451. DOI: <https://doi.org/10.1017/aaq.2020.35>
- 2019 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. *Eos: Earth & Space Science News* 100, DOI: <https://doi.org/10.1029/2019EO137858>
- 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](https://doi.org/10.1016/j.jas.2018.04.009)
- 2018 **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.
- 2008 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

- 2021 **Snitker, Grant**. Identifying the influence of Neolithic agro-pastoral land-use on Holocene fire regimes through simulated sedimentary charcoal records: Case studies from Eastern Spain. In *Simulating the Transition to Agriculture and Its Ecological and Cultural Consequences*, edited by Sean M. Bergin and Salvador Pardo-Gordó, pp. 165–193. Springer, New York.
- 2021 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, pp. 195–224. Springer, New York.
- 2017 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, Scripts, and Online Tools

- 2021 **Snitker, Grant**. The Charcoal Fragment Quantification Tool (CharTool): ImageJ macros for archeological and paleoecological charcoal quantification, version 3.2. Retrievable from: DOI: <http://doi.org/10.5281/zenodo.1434479>
- 2020 **Snitker, Grant**. TRS (Township/Range/Section) Conversion Tool for National Forest Lands in Central and Eastern Washington, version 1.0. Retrievable from: https://grantsnitker.shinyapps.io/TRS_Conversion_Tool/
- 2019 **Snitker, Grant**. Long-Term Vulnerability and Transformation Project (LTVTP) Risk Landscapes Model Scripts. Suite of R Scripts for processing and visualizing geospatial risk landscape datasets, version 2.0 Retrievable from: Github, DOI: <https://doi.org/10.5281/zenodo.3377717>
- 2018 **Snitker, Grant**. Charcoal Record Simulation Model (CharRec): Netlogo model for simulating sedimentary charcoal record formation, version 1.5.0. *CoMSES Computational Model Library*. Retrievable from: <https://www.comses.net/codebases/4795/releases/1.5.0/>
- 2017 **Snitker, Grant**. Geospatial charcoal source area model for archaeological applications (CharSource). R Script for calculating sedimentary charcoal record source areas, version 2.0. Retrievable from: Github, DOI: <http://doi.org/10.5281/zenodo.1434430>

Technical Reports

- 2021 **Snitker, Grant** and Sean Bergin. Initial Results of the Central Cascades Alpine Land-use and Fire History Project: Summary of the 2021 field season of archaeological research related to pre-contact land-use and fire on Kachess Ridge, WA. Submitted to the Okanogan-Wenatchee National Forest, Cle Elum and Naches Ranger Districts (South Zone), Cle Elum, Washington.
- 2019 **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.
- 2018 **Snitker, Grant** and Francis P. McManamon. Final Report Vandenberg Air Force Base Digital Archive Project (2015 – 2018). Submitted to the Digital Archaeological Record (tDAR) and Vandenberg Air Force Base Cultural Resources Office, CA.
- 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.
- 2015 **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

- 2021 Caseldine, Christopher and **Grant Snitker**. A [Digital] Tonto Basin Journey. *Archaeology Southwest Preservation Archaeology Blog*. March 15, 2021. Accessible via: <https://www.archaeologysouthwest.org/2021/03/15/a-digital-tonto-basin-journey/>
- 2020 Zierden, Martha A., Carla S. Hadden, Sarah E. Platt, Barnet Pavao-Zuckerman, Laurie J. Reitsema, Elizabeth J. Reitz, Hayden R. Smith, and **Grant Snitker**. Exploring the Cattle Economy of Colonial South Carolina. *The SAA Archaeological Record* 20 (3): 40-43.
- 2018 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.
- 2008 **Snitker, Grant**. Investigation and Identification of “Fourteen Willow Sticks” from the Chewaucan Cave Cache. *Current Archaeological Happenings in Oregon*. 33(3):6-7.

Works in Progress

- in prep. **Snitker, Grant**, Joseph O'Brien, E. Louise Loudermilk. A critical examination of historical reference conditions in ecological restoration: Developing a social ecology of fire and fuels. Manuscript intended for *Forest Ecology and Management*.
- in prep. **Snitker, Grant**, Sean Bergin, and Pete Cadena. R-based solutions for synthesizing cultural resource management (CRM) survey datasets to assess archaeological site vulnerability to wildfire: A case study from the Okanagan-Wenatchee National Forest, WA. Manuscript intended for the *Journal of Computer Applications in Archaeology*.

GRANTS, FELLOWSHIPS, AND AWARDS

External Research Grants/Awards

- 2021-23 *Using Airborne LiDAR to Build Infrastructure for Multiple Applications at Three Experimental Forests*. PI: E. Louise Loudermilk, Co-PIs: Joseph O'Brien, **Grant Snitker**, and Christopher W. Ross. Funding through the USDA Forest Service Southern Research Station and Tall Timbers Research Station & Land Conservancy, FL. \$65,000
- 2021-23 *Reconstructing Fire History and Land Use at the Tonto National Monument, AZ*. PI: Christopher Caseldine. Co-PI: **Grant Snitker**. Funding through the National Park Service, Tonto National Monument Cooperative Agreement. \$18,144
- 2021-26 *Documenting forager adaptations to dramatic climate change at the Pleistocene-Holocene transition in Liguria (Italy)*. PI: Claudine Gravel-Miguel. Co-PIs: Fabio Negrino, Julien Riel-Salvatore, Emanuela Cristiani. Senior Collaborator: **Grant Snitker**. Funding through the Social Sciences and Humanities Research Council of Canada. \$375,539 (\$49,274 for Snitker paleo-fire sub-award)
- 2020-23 *Quantifying Prescribed Fire's Capacity to Mitigate Wildfire-Induced Damage and Loss of Highly Valued Resources*. Grant # 21-2-02-18. PI: Christopher W. Ross. Co-PIs: Joseph O'Brien, E. Louise Loudermilk, Steven Flanagan, and **Grant Snitker**. Funding through the Joint Fire Science Program (JFSP). \$336,574
- 2020-23 *Movilidad y conectividad de las comunidades prehistóricas en el Mediterráneo Occidental durante la prehistoria reciente: El caso de las Islas Baleares (English: Mobility and connectivity of prehistoric communities in the Western Mediterranean during recent prehistory: A case study from the Balearic Islands)*. Grant # PID2019-108692GB-I00. PI: Manuel Calvo Trias, International Research Collaborator: **Grant Snitker**. Funding through Ministerio de Ciencia, Innovación y Universidades. €97,824 (\$115,603)
- 2020-21 *Paleo-fire, soil, and pollen study on the Francis-Marion National Forest, South Carolina*. Francis-Marion National Forest Cooperative Agreement. PI: Carla Hadden. Co-PI: **Grant Snitker**. Funding through USFS Fire and Heritage teams to study fire and vegetation history of Hell Hole Swamp, SC. \$5,000
- 2019-21 *Expanding the Functionality and User-Accessibility of the Newhall Simulation Model through an Updated R Implementation*. Grant # NR193A750025C007. PI: Matthew Levi. Co-PI: **Grant Snitker**. Funding through the USDA Natural Resources Conservation Service Research Grant Program. \$117,339
- 2018-20 *LEIA Paleoenvironmental Pilot Project*. University of Washington Quaternary Research Center Research Grant. PI: Marcos Llobera. Senior Personnel: **Grant Snitker**, Gabriel

Snitker, G.

Servera-Vives, Llorenç Picornell Gelabert, Nari Miller and Jordi Hernandez-Gasch.
Funding through University of Washington Quaternary Research Center Research Grant
Program. \$10,820

2014-18 *Anthropogenic Fire and the Origins of Agricultural Landscapes: Human Niche Construction during the Neolithic Period in Eastern Spain*. Grant # 1656342. PI: **Grant Snitker**. Co-PI: C. Michael Barton. Funding through the National Science Foundation Doctoral Dissertation Research Improvement Award. \$28,861

Fellowships

2018-19 School of Human Evolution and Social Change Dissertation Completion Fellowship, Arizona State University. \$18,000

2012 National Science Foundation Graduate Research Fellowship (GRFP) – tuition and stipend over 3 years. \$36,000/year

Minor and Internal Research Grants/Awards

2016 Graduate Education Research Support Program Grant, Graduate and Professional Student Association, Arizona State University. \$1,795

2016 ASU Graduate Research Award, School of Human Evolution and Social Change, Arizona State University. \$3,000

2016 Arizona Archaeological and Historical Society Research Grant. \$500

2016 Jumpstart Research Grant, Graduate and Professional Student Association, Arizona State University. \$500

2014 ASU Graduate Research Award, School of Human Evolution and Social Change, Arizona State University. \$1,780

Travel Grants

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

2018 Individual Travel Grant, Graduate and Professional Student Association, Arizona State University. \$881

2016 Group Travel Grant, Graduate and Professional Student Association, Arizona State University. \$3,150

2015 TREE (Travel, Research and Educational Experience) Travel Grant, Association for Fire Ecology. \$575

2012 Graduate Student Travel Grant, Jumpstart Research Grant, School of Human Evolution and Social Change, Arizona State University. \$200

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 Poster Contest Winner, Institute for Social Science Research, Arizona State University

Snitker, G.

- 2015-17 Graduate Excellence Award, College of Liberal Arts and Sciences, Arizona State University
- 2010 Jones Award, Oregon Archaeological Society

ARCHAEOLOGICAL RESEARCH PROJECTS

Current

- 2021- Integrating terrestrial LiDAR, fire simulations, and archaeological material science to develop decision support tools for minimizing fire effects to cultural resources in the Western US
Role: Principal Investigator
Multi-agency project (USFS/USGS/Tribal) linking archaeologists, fire scientists, and ecological modelers to build cultural resource risk models to evaluate dangerous fuel conditions, effective interventions, and pre-/post-fire monitoring strategies using fire behavior models, fuel characterization, and archaeological material science. Project includes modeling and data collection during prescribed fire/wildfire incidents.
- 2021- Paleofire reconstruction of the Qualla Boundary (Eastern Band of Cherokee Indians Lands) to support the reintroduction of cultural burning for ecological restoration
Role: Senior Researcher
A component of a larger research project supporting the University of Georgia graduate program in integrative conservation (ICON) and in partnership with the Eastern Band of Cherokee Indians and the USDA Forest Service. The paleofire research is currently in development with the Eastern Band of Cherokee Indians Natural Resources office to provide a record of long-term cultural burning practices that may inform prescribed fire efforts on tribal land.
- 2020- Francis Marion National Forest Tar Kiln Project
Role: Principal Investigator
USFS collaboration using advanced geospatial modeling and computer vision techniques to identify archaeological tar kiln production sites for management of both cultural (archaeological features) and ecological (historical longleaf pine stands) resources.
- 2018- The Central Cascades Alpine Land-use and Fire History Project
Role: Principal Investigator
Partnership with the USDA Forest Service in Central Washington to evaluate the spatial distribution and chronology of high elevation land-use, including the artifactual and paleoecological evidence for anthropogenic burning practices in the alpine/subalpine zone to rejuvenate berry harvesting patches and maintain meadow openness. Currently developing a collaborative relationship with the Yakama National Cultural resources office for future stages of the project.

Previous

- 2019-21 Emergence and Evolution of a Colonial Economy Project
Role: Senior Researcher and Paleofire Specialist
Interdisciplinary project examining the origins and evolution of the cattle industry within the South Carolina coastal plain and how it relates to economically motivated social and environmental change.
- 2019-21 Wildfire probability mapping based on regional soil moisture models
Role: Postdoctoral Researcher and Co-PI of subproject (USDA NRCS-funded)
Spatial modeling and mapping of dynamic soil moisture conditions across the western US to predict wildfire occurrence and risk. Collaboration between the USGS South Central

Climate Adaptation Science Center, USDA SW Climate Hub, University of Oklahoma, and University of Georgia.

- 2019-21 Developing a spatial and temporal proxy of fire occurrence and intensity through an examination of soil magnetism in iron-rich soils
Role: Co-Principal Investigator and Laboratory Director
Research project facilitated through the UGA College of Agricultural and Environmental Sciences Undergraduate Research Initiative to design and implement field-based methods for improving soil magnetism as proxy for fire activity. Co-designed with undergraduate student mentees.
- 2017-21 Landscape, Encounters, and Identity (LEIA) Project
Role: Senior Researcher and Paleofire Specialist
Interdisciplinary project and field school (University of Washington and Universitat de les Illes Balears) examining landscape transformation and cultural change in pre- and proto-historic Mallorca, Spain.
- 2015-19 Anthropogenic Fire and the Origins of Agricultural Landscapes Project
Role: Principal Investigator
NSF-funded archaeology and paleoecology project to explore the process of niche-construction and anthropogenic fire during the transition to agro-pastoral subsistence in eastern Spain. Project included undergraduate student apprentices.
- 2014-19 The Emergence of Coupled Natural and Human Landscapes in the Western Mediterranean (MedLanD) Project
Role: Graduate 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)
Role: Graduate Researcher
GIS 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.
- 2015-17 Prehistoric Fire Project at Chavez Pass, AZ
Role: Principal Investigator
Developing and testing GIS models of charcoal dispersion and deposition as related to prehistoric fire regimes on the Colorado Plateau.

MUSEUM EXHIBITS

- 2012-16 The Agave Research Exhibit
Role: 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
Role: Contributor
February - May 2017, Center for Archaeology and Society, Arizona State University
- 2012-13 Changing Landscapes: A Closer Look at Baby Canyon Pueblo
Role: Curator

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

TEACHING

Instructor

- Spring 2022 *M3ES Graduate Course: Environmental change and social resilience in Mediterranean Ecosystems*, Università degli studi di Modena e Reggio Emilia (University of Modena and Reggio Emilia), co-taught graduate-level course in archaeology and paleoecology of global Mediterranean ecosystems, course will be taught virtually and in English.
- Fall 2019 - Spring 2020 *CRSS 4960: Undergraduate Research in Crop and Soil Sciences*, University of Georgia, developed undergraduate course to teach introductory GIS data processing and research methods to complement field sampling.
- Spring - Fall 2016 *ASM 484: Research Apprenticeship*, Arizona State University, developed course to emphasize hands-on/participatory instruction in archaeology-related methods and theory for non-anthropology majors for two undergraduate cohorts.
- Summers 2010-11 *ANTH 408: Fieldwork in Archaeology*, University of Oregon, led fieldwork-based instruction in excavation and survey methods for two cohorts of undergraduate students.

Guest Lectures and Lecture Series

- Spring 2021 Guest lecturer for *2021: Seminar in life Sciences*, Università degli studi di Modena e Reggio Emilia (University of Modena and Reggio Emilia), lecturer for session on charcoal analysis and fire archaeology (virtual).
- Spring 2021 Guest lecturer for *Interim 2021: Fire Ecology of the Southern Appalachians*, Wofford College, lecturer for session on fire archaeology.
- Spring 2018 Guest lecturer for *ASB 231: Intro to Archaeological Field Methods*, Mesa Community College, lecturer for session on paleoecology and environmental archaeology.
- Spring 2018 Guest lecturer for *ASB 326: Human impacts on the Environment*, Arizona State University, 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 2016 Guest lecturer for *ASB 222: Buried Cities and Lost Tribes*, Arizona State University, lecturer for session on archaeology of climate/environmental change.

Other Education and Mentoring Activities

- 2021-22 Undergraduate thesis advisor for student in paleoecology concentration, Università degli studi di Modena e Reggio Emilia (University of Modena and Reggio Emilia)
- 2021 Research contributor to the Charleston Museum's "Bragg Boxes", which are traveling museum educational kits for K-8 students unable to visit the museum due to transportation or funding challenges, Charleston Museum and University of Georgia
- 2019-20 Certificate in Diversity & Inclusion for teaching in higher education, Office of Institutional Diversity, University of Georgia

Snitker, G.

- 2019 Mentor to Young Scholars Program student participant, College of Agricultural and Environmental Sciences, University of Georgia
- 2016-17 Undergraduate Mentor in the Undergraduate Research Apprenticeship program, School of Human Evolution and Social Change, Arizona State University (mentor to 4 students)

CONFERENCE ACTIVITIES

Symposia and Workshops Organized

- 2021 *Archaeological approaches to anthropogenic fire and global pyrodiversity*. Forum at the 85th Annual Meeting of the Society for American Archaeology (virtual). April 22-26, 2020.
- 2019 *Soil Moisture and Wildfire Prediction Workshop*. Workshop hosted at the IAWF 6th International Fire Behavior and Fuels Conference in Albuquerque, NM. April 29, 2019.
- 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.

Invited Presentations

- 2022 Cochran, Lindsey, **Grant Snitker**, and Kerice Doten-Snitker. *Using Machine Learning and Spatial Statistics to Measure the Geometric Structure of Archaeological Spaces*. Paper presented at the Digital Archaeological Archive of Contemporary Slavery: Conversations with Collaborating Scholars. February 25, 2022.
- 2021 Moser, Jason D. and **Grant Snitker**. *Current Research in Evaluating the Distribution and Morphology of Tar Kilns and Pitch Production Sites Using Aerial LiDAR within the Francis Marion National Forest, SC*. Paper presented at the Southeastern Archaeological Conference 77th Annual Meeting. October 24-26, 2021.
- 2021 **Snitker, Grant**, Angelina G. Perrotti, Carla S. Hadden, and Matthew R. Levi. *A Multi-proxy Reconstruction of Paleo-fire, Vegetation Change, and Historic Livestock Activity in Hell Hole Swamp, South Carolina*. Paper presented at the Southeastern Archaeological Conference 77th Annual Meeting. October 24-26, 2021.
- 2020 Levi, Matt, **Grant Snitker**, Matthew Molini, Damian Hans and Joan Deitsch. *Using soil magnetic susceptibility to understand fire history and burn severity in Georgia*. Paper presented at the Universities for a Greener Georgia Conference (virtual). May 7-8, 2020.
- 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.
- 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.
- 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.

Snitker, G.

- 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.
- 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.
- 2015 **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.
- 2013 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

- 2021 Servera-Vives, Gabriel, **Grant Snitker**, Lluís Gómez-Pujol, Llorenç Picornell-Gelabert, Joan J. Fornós, Assunta Florenzano, Manuel Calvo, Anna Maria Mercuri. Transported landscapes and social resilience in the Balearic Islands since prehistory. The study-case of Santa Ponça (Mallorca, western Mediterranean). Paper presented at the 27th Annual Meeting of the European Association of Archaeologists (virtual). September 6-11, 2021.
- 2021 Servera-Vives, Gabriel, **Grant Snitker**, Lluís Gómez-Pujol, Llorenç Picornell-Gelabert, Joan J. Fornós, Assunta Florenzano, Manuel Calvo, Anna Maria Mercuri. Landscape evolution and social resilience in the Balearic Islands since prehistory. The study case of Santa Ponça (Mallorca, western Mediterranean). Paper presented at the MedPalynoS 2021 Conference (virtual). September 6-8, 2021
- 2021 **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 (virtual). April 22-26, 2020.

- 2021 Levi, Matthew, **Grant Snitker**, Erik Krueger, Tyson Ochsner, Miguel Villarreal, and R. Panda. *Integrating Detailed Soil and Climate Information in a Simple Model for Soil Moisture Predictions Across Large Areas*. Am. Meteor. Soc. (virtual) January 10-15, 2021.
- 2020 **Snitker, Grant**, Matthew R Levi, Tyson E Ochsner, Erik S Krueger, Miguel L Villarreal. *Adapting the Newhall Simulation Model (NSM) to Predict Soil Moisture Conditions Associated with Elevated Wildfire Risk*. Poster presented at the ASA, CSSA and SSSA International Annual Meetings (virtual). November 9-13, 2020. <https://scisoc.confex.com/scisoc/2020am/meetingapp.cgi/Paper/127892>
- 2020 **Snitker, Grant**, Hayden Smith, Martha Zierden, Carla Hadden. *Contours, Cattle, and Colonialism: Environmental Change in Early-Colonial South Carolina*. Paper presented at the 13th Biennial Longleaf Conference (virtual). October 20-23, 2020.
- 2020 Levi, Matt and **Grant Snitker**. *An improved Newhall simulation for modeling soil moisture and temperature regimes*. Poster presented at the 2020 Southern Regional Cooperative Soil Survey Conference (virtual). May 19-21, 2020.
- 2019 **Snitker, Grant**, Matt Levi, Erik Krueger, and Tyson Ochsner. *An improved Newhall Simulation Model for predicting soil moisture*. Poster presented at the 2019 American Geophysical Union Fall Meeting, San Francisco, CA. December 9-13, 2019.
- 2019 *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.
- 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.
- 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.
- 2014 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*

Snitker, G.

Canal de Navarrés (València). Paper presented at the Workshop: Dando sentido a la prospección arqueológica, Jaén, Andalucía, Spain. November 13-14, 2014.

- 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.
- 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.
- 2013 **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.
- 2012 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 Workshop in Sustainability, New York, NY. October 15, 2012.
- 2010 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

Departmental Service

- 2019-20 Extension programming volunteer, including annual community corn boil and 4-H summer camp soil tour. Department of Crop and Soil Sciences, University of Georgia.
- 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

Professional Service

- 2022-25 Review Editor, Frontiers in Ecology and Evolution: Paleoecology Section
- 2022-25 Member of the Committee on Climate Change Strategies and Archaeological Resources, Society for American Archaeology
- 2022-25 Member of the Geoarchaeology Student Awards Committee, Society for American Archaeology

Reviewer

Journals: *Quaternary International; Palaeogeography, Palaeoclimatology, Palaeoecology; Nature Sustainability; Frontiers in Earth Science; Climatic Change*

Snitker, G.

Grants: Social Sciences and Humanities Research Council (SSHRC)

Invited Public Lectures

- 2021 *Leveraging archaeological perspectives in reconstructing historical fire and fuel conditions: a case study from coastal South Carolina, USA.* Seminar given for the International Paelofire Network (IPN) and PAGES ECR Network, October 20, 2021.
<https://ipn.paleofire.org/?p=1151>
- 2020 *Exploring the Interplay between Climate and People in the Ancient US Southwest.* Webinar given at the Crow Canyon Archaeological Center Webinar Series, September 3, 2020.
- 2020 *Anthropogenic Fire and the Development of Neolithic Agricultural Landscapes: Connecting Archaeology, Paleoecology, and Fire Science to Evaluate Human Impacts on Fire Regimes.* Presentation given at the Pennsylvania State University Department of Anthropology, February 11, 2020.
- 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.

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

- 2021 Completion of NWGC Wildland Fire Resource Advisor course (N-9042).
- 2019- Member of the Register of Professional Archaeologists (RPA).
- 2010- Archaeological Resource Advisor (ARCH) and Wildland Firefighter (FFT2 Qualified) with the US Forest Service (Appointment through the Georgia Interagency Coordination Center, GA; 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 FFT2 certification, Wildfire and Incident Management Academy, basic wildland firefighting training, Prescott, AZ.

PROFESSIONAL MEMBERSHIPS

Association for Washington Archaeology
Southeastern Archaeology Conference
Interagency Fire Archaeology Cohort
International Paleofire Network
PAGES (Past Global Changes)
Society for American Archaeology
SAA Public Archaeology Interest Group
SAA Open Science in Archaeology Interest Group