

Isaac I. T. Ullah

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EDUCATION

Ph.D., Archaeology. Arizona State University, 2013

Doctoral Committee: C. Michael Barton (Chair), Geoff A. Clark, J. Ramon Arrowsmith, Edward B. Banning

Dissertation: The Consequences of Human Landuse Strategies During the PPNB-LN Transition in Northern Jordan: A Simulation Modeling Approach.

M.A., Anthropology. University of Toronto, 2003.

Advisor: Edward B. Banning

Thesis: Pastoralists and GIS in Beidha, Southern Jordan: An exploration in methods and applications for predictive modeling.

B.S., Anthropology. University of California, Davis, 2001.

Advisors: Henry McHenry, Robert G. Elston

ACADEMIC EMPLOYMENT AND FELLOWSHIP HISTORY

Teaching and Research Employment

2014-current. **Postdoctoral Research Scholar**, Arizona State University, Tempe, AZ. This is a multi-year post-doctoral research position with the interdisciplinary Mediterranean Landscape Dynamics Project. I am developing hybrid agent-based models of early Holocene land-use, and am conducting research and writing affiliated with the project.

2013-2014. **Visiting Scholar in the Center for Comparative Archaeology**, University of Pittsburgh, Pittsburgh, PA. This was a one-year visiting scholar position for the 2013-2014 academic year. I developed and taught a graduate-level seminar (co-taught with faculty member Loukas Barton), and conducted research in the Center for Comparative Archaeology.

2012-2013. **Visiting Assistant Professor of Anthropology**, University of Notre Dame, Department of Anthropology, Notre Dame, IN. This was a one-year, term-limited faculty position for the 2012-2013 academic year. 2/3 teaching load; developed three new courses.

2010-2011. **Adjunct Faculty**, Mesa Community College, Cultural Science Department, Mesa, AZ. Taught one class/semester in two separate semesters

2005-2011. **Research Assistant**, Arizona State University, School of Human Evolution and Social Change, Tempe, AZ. Employment under the NSF-supported Mediterranean Landscape Dynamics Project (grant number BCS-0410269).

Fellowships

2011-2012. **Arizona State University Dean's Fellow**, Arizona State University, School of Human Evolution and Social Change, Tempe, AZ. *Amount*: \$30,000/year (approx), inclusive of tuition, fees, and stipend.

2008-2010. **Arizona State University Dean's Advanced Scholar**, Arizona State University, School of Human Evolution and Social Change. *Amount*: \$35,000/year (approx), inclusive of tuition, fees, and salary for employment as a graduate research assistant.

RESEARCH INTERESTS

General Interests: Socio-natural systems, Complexity theory, Modeling, Human ecology, Landscapes and Geoarchaeology, Cross-cultural research, Household archaeology

Specific Interests: Early domestication economies, Old World Neolithic, Human impacts on the environment, GIS and computer applications in archaeology

Methodological Interests: Advanced GIS, Agent-Based modeling, Computational methods, Geoarchaeology, Spatial analysis, Imagery and image analysis, Microrefuse analysis, Archaeological mapping and survey.

AFFILIATIONS AND AWARDS

Memberships/Affiliations:

Society for American Archaeology, European Archaeological Association; CHANS-Net: International Network of Research on Coupled Human and Natural Systems; Community Surface Dynamics Modeling System – Anthropocene Working Group

Awards:

2010 University Consortium for Geographic Information Science Student Paper Award

PUBLICATIONS

Articles in Peer-Reviewed Journals

- n.d. Barton, C.M., **Ullah, I.I.**, and Heimsath, A. *How to make a Barranco: Modeling socioecological dynamics of landscape change in the Mediterranean*". Invited submission to a special issue of *Land* entitled, "*Agent-Based Modelling and Landscape Change*", guest edited by J. Millington and J. Wainwright. Submitted to editors, 04/14/15.
- n.d. **Ullah, I.I.**, Kuijt, I., and Freeman, J.F. *Slow and Rapid Transitions to Agriculture as Complex, Adaptive, Evolutionary Processes*. Submitted to PNAS. Received reviews, 3/18/15, currently completing requested revisions.
- n.d. **Ullah, I.I.** *Integrating older survey data into modern research paradigms: Identifying and correcting spatial error in "legacy" datasets*. Manuscript submitted to *Advances in Archaeological Practice*. Reviewed, revised, and resubmitted, 04/01/15.
- 2015 **Ullah, I.I.**, Duffy, P.R., and Banning, E.B. *Modernizing spatial micro-refuse analysis: New methods for collecting, analyzing, and interpreting the spatial patterning of micro-refuse from house-floor contexts*. **Journal of Archaeological Method and Theory**. Status: Accepted for publication, 10/19/2014. doi: 10.1007/s10816-014-9223-x

- 2012 Barton, C.M., **Ullah, I.I.**, Bergin, S.M., Mitasova, H., and Sarjoughian, H. *Looking for the future in the past: Long-term change in socioecological systems*. **Ecological Modeling, Special Issue: Modeling Across Millennia**. 241(0):42-53.
- 2011 **Ullah, I.I.** *A GIS method for assessing the zone of human-environmental impact around archaeological sites: a test case from the Late Neolithic of Wadi Ziqlâb, Jordan*. **Journal of Archaeological Science**. 38(3):623-632.
- 2010 Barton, C.M., **Ullah, I.I.**, and Bergin, S. *Land use, water and Mediterranean landscapes: Modelling long-term dynamics of complex socio-ecological systems*. **Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences**. 368(1931):5275 -5297.
- 2010 Barton, C.M., **Ullah, I.I.**, and Mitasova, H. *Computational modeling and Neolithic socioecological dynamics: A case study from Southwest Asia*. **American Antiquity**. 75(2):364-386.

Book Chapters

- n.d. Sarjoughian, H., Mayer, G., **Ullah, I.I.**, Barton, C.M. *Managing hybrid model composition complexity: Human-environment simulation models*. Submitted as an invited chapter in an edited volume on Modeling and Simulation in honor of Tuncer Ören, to be published by Springer. Status: Peer-reviewed, revised and resubmitted, 01/25/2015.
- 2013 Mitasova, H.; Barton, C.M.; **Ullah, I.I.**; Hofierka, J., Harmon, R.S., *GIS-based soil erosion modeling*. In: **Treatise in Geomorphology, Vol. 3: Remote Sensing and GIScience in Geomorphology**. Academic Press, San Diego. pp. 228-258
- 2012 **Ullah, I.I.** *Particles from the past: microarchaeological spatial analysis of ancient house floors*. In: Parker, B.J., Foster, C.P. (Eds.), **New Perspectives in Household Archaeology**. Eisenbrauns, Winowna Lake, pp. 123–138.
- 2012 **Ullah, I.I.**, and Bergin, S.M. *Modeling the consequences of village site location: Least cost path modeling in a coupled GIS and agent-based model of village agropastoralism in eastern Spain*, in: White, D.A., Surface-Evans, S.L. (Eds.), **Least Cost Analysis of Social Landscapes: Archaeological Case Studies**. University of Utah Press, Salt Lake City, pp. 155–173.
- 2009 **Ullah, I.I.** *Within-room spatial analysis of activity areas at Late Neolithic Tabaqat Al-Buma, Wadi Ziqlab, Al Koura, Jordan*. In: **Studies in the History and Archaeology of Jordan, X**. The Department of Antiquities of Jordan, Amman, pp. 87-95.

Reports and Non-reviewed Publications

- 2015 Banning, E.B., Gibbs, K., **Ullah I.I.**, Hitchings, P., Abu Jayyab, K., Edwards, S., and Rhodes, S. *Archaeological Excavations in Wadi Quseiba and Wadi al-Bîr, northern Jordan*. **Antiquity Project Gallery**. 344. <http://antiquity.ac.uk/projgall/508>
- 2014 Banning, E.B., Abu Jayyab, K., Elendari, R., Gibbs, K., Hitchings, P., Hosseinmardi, G., Jablonkay, D., Al Jarrah, H., Letham, B., Razzaz, S., Rhodes, S., **Ullah, I.I.**, Velgakis, J., and Weston, R. *Archaeological excavations in Wadi Quseiba and Wadi al-Bîr, northern Jordan, 2014*. Report on file with the Department of Antiquities of Jordan, Amman.

- 2013 Banning, E.B., Hitchings, P., Abu Jayyab, Elendari, R., K. Gibbs, K., Jablonkay, D., Al Jarrah, H., Letham, B., Razzaz, S., **Ullah, I.I.**, and Weston, R. *Archaeological survey in Wadi Qusayba and the Mandah Plateau, Irbid Region, Jordan, 2013*. Report on file with the Department of Antiquities of Jordan, Amman.
- 2012 **Ullah, I.I.** *Chapter IIb - Neixon 2011, Artifact density studies*, in: Fábregas Valcarce, R., Bonilla Rodríguez, A. (Eds.), **Boiro: 5000 Anos De Cambio Climático E Explotación Do Medio No Marco De Arousa Norte Sondaxes Arqueolóxicas. E Labores De Restauro No Complexo Dos Castros Do Neixón (The Concello De Boiro and Centro Arqueolóxico Do Barbanza), Memoria Técnica**. The Concello de Boiro and Centro Arqueolóxico do Barbanza.
- 2008 **Ullah, I.I.**, Schuldenrien, J., and Smith, M. *Preliminary report of the 2008 season of the Wadi Hasa Ancient Pastoralism Project*. Report on file with the Department of Antiquities of Jordan, Amman.

Reviews

- 2014 **Ullah, I.I.** Review of: *Mediterranean Archaeological Landscapes: Current Issues*. **Geoarchaeology**. 29(2), March/April, 2014.
- 2007 **Ullah, I.I.** Review of: *Human Ecology in the Wadi Al-Hasa: Land Use and Abandonment through the Holocene*. **American Anthropologist**. 109(1):216.
- 2002 Gibbs, K., Kadowaki, S., and **Ullah, I.I.** *Domesticating Space: Notes on the Toronto Conference*. **Neo-Lithics**. 02:21-22.

Works in Progress

Neolithic Human Landuse in Northern Jordan: A Simulation Modeling Approach. This is an edited version of my dissertation that was solicited for publication by Arizona State University Anthropological Research Papers. The manuscript is currently being edited for an early 2016 publication date.

Landscapes of visibility and flow: Kurgans and settlements in Talgar, Kazakhstan. With C. Chang. Manuscript in preparation, intended for Antiquity.

When hunting meets herding: Subsistence attractors and transitional societies
Manuscript in preparation. Intended for Journal of Archaeological Science.

TEACHING INTERESTS

Human Impacts on the Environment	Past and Present Sustainability
Evolution of Domestication Economies	Quantitative Methods
Simulation Approaches	GIS and Spatial Techniques
Complex Adaptive Systems	Landscapes and Geoarchaeology
Archaeological Practice	General Anthropology/Archaeology

TEACHING EXPERIENCE

Courses Taught

Complex Adaptive Systems & Computational Modeling

Description: This graduate seminar provides a broad introduction to complexity theory and computational modeling as new tools in comparative archaeology. Students meet throughout the academic year to discuss a guided set of readings or to attend

practicums/workshops, and produce a “Mind-Map” and narrative write-up of a potential computational model related to their own research. *Taught at:* University of Pittsburgh. *Line number:* ANTH 2536. *Credits:* 1-3. *Duration:* 2013-2014 academic year. Co-taught with Prof. L. Barton. *Course reviews:* Excellent.

Sustainability: Past and present

Description: This course examines the contributions of archaeology to the study of sustainability and sustainable life-ways. The course covers the theoretical and methodological challenges faced by archaeologists interested in sustainability issues, and examines case-studies from around the world and from multiple time-periods. The course stresses the long-term view of sustainability unique to archaeology, and seeks to connect archaeological insights into sustainability to current debates about sustainable policies and life-choices in the modern world. *Taught at:* University of Notre Dame. *Line number:* ANTH 30180 *Credits:* 3. *Duration:* Spring semester, 2013. *Course reviews:* Excellent.

Anthropology: Humans 360

Description: This course provides an introduction and broad overview of four-field anthropology for non-majors at the sophomore level. I developed the curriculum for this lecture and discussion-based course, which has become a regularly offered course at the University of Notre Dame. This course also supplements the traditional introductory anthropology class for declared anthropology majors. *Taught at:* University of Notre Dame. *Line number:* ANTH 20101. *Credits:* 3. *Duration:* Fall semester, 2012; Spring semester, 2013. *Course reviews:* Excellent to Very Good.

Fundamentals of Archaeology

Description: This is a core curriculum class for anthropology majors and minors at the sophomore level. This course covers the fundamental, concepts, methods, theories, and history of archaeology, and provides a broad overview of the rise of social complexity in various parts of the world. The class includes several laboratory and field exercises. *Taught at:* University of Notre Dame. *Line number:* ANTH 20202. *Credits:* 3. *Duration:* Spring semester, 2013. *Course reviews:* Excellent.

Life on the move: Pastoral lifeways in archaeological and ethnographic contexts

Description: This upper-level course provides a summary of the ethnographic data on extant or recent pastoral groups, and investigates the archaeological record of ancient pastoralism. The course also covers theoretical and methodological issues pertaining to the archaeological investigation of mobility, subsistence, and economy. I developed this course to be taught as a reading-intensive seminar, appropriate for advanced upper-division undergraduate and graduate students. *Taught at:* University of Notre Dame. *Line number:* ANTH 40511. *Credits:* 3. *Duration:* Fall semester, 2012. *Course reviews:* Excellent.

Castro de Néixon International Field School

Description: I was one of two ASU instructors-of-record for this field school. I helped to develop the core curriculum for the academic portion of the field school. The curriculum we developed included sections on archaeological field techniques, stratigraphy, geoarchaeology, archaeological sampling strategies, spatial analysis, microrefuse analysis, and the Iron Age in northern Spain. *Taught at:* Arizona State University. *Line*

number: ASB 338. Credits: 4. Duration: Summer, 2011. Course reviews: Excellent to Very Good.

Buried Cities and Lost Tribes, Old World

Description: This course offers a brief introduction to archaeological theory and method, and follows the course from the advent of plant and animal domestication to the development of complex civilization in Southwest Asia, South Asia, China, Southeast Asia, Europe, and Sub-Saharan Africa. *Taught at:* Mesa Community College. *Line number:* ASB 222. *Credits:* 3. *Duration:* Fall semester, 2010; Fall semester, 2011. *Course reviews:* Excellent.

Workshops Conducted

Paleolandscape Reconstruction and Ancient Human Landuse: A GIS Workshop. (2 sessions, 8 hours each). University of Toronto Archaeology Center, Invited Graduate Tutorial Series. Toronto, ON. Fall, 2009.

GRASS GIS for Anthropologists. SHESC Graduate Workshop Series. Fall term, 2006. (2 sessions, 2 hours each). Arizona State University, SHESC Graduate Student Workshop Series. Tempe, AZ. Fall, 2006.

Guest Lectures

Micro-refuse analysis in house-floor contexts. *In the course:* Anthropology 2513 – Household Archaeology (graduate-level). *Institution:* University of Pittsburgh. I gave this lecture in Spring 2014.

Egypt: From the Neolithic to the Old Kingdom; The Neolithic Period in China and Southeast Asia; The Indus Valley. *In the course:* ASB 362 - The Neolithic Revolution and Its Consequences. *Institution:* Arizona State University. I gave this series of three lectures in Spring 2011.

Neolithic animal domestication and early pastoralism. *In the course:* ASB 362 - The Neolithic Revolution and Its Consequences. *Institution:* Arizona State University. I gave this lecture in Spring 2010.

GIS applications for measuring and simulating human impacts on the environment. *In the course:* ASB 326 - Human Impacts on the Environment. *Institution:* Arizona State University. I gave this lecture in Fall, 2008; Spring, 2009; and Fall, 2009.

GRANTS AND FUNDING PROPOSALS

Research Grants (non-PI):

Arkeolojide Yeni Perspektifler: İlk Tunç Çağı I Döneminde Arslantepe'nin (Malatya) Sosyo-Ekolojik Ajan Bazlı Modellemesi (New Perspectives in Archaeology: The Socio-ecological Agent-based Modeling of the Early Bronze Age I of Arslantepe (Malatya)). PI: B. Arıkan, Foreign Researchers: **I.I. Ullah**, and S. Bergin. Research grant from **TUBITAK, The Scientific and Technological Research Council of Turkey**, Research and Development Funding Program. Funds were requested for a new two-year computational modeling project in the upper Euphrates Basin, investigating the influence of climate change on the Bronze Age socio-ecological system of the region. Submitted 11/20/2013. Requested amount: \$30,000. Amount received: \$30,000.

The Emergence of Coupled Natural and Human Landscapes in the Western Mediterranean. PI: C.M. Barton. CI's: S. Sarjoughian, A. Heimsath, M. Acevedo, J. Riel-

Salvatore. Senior Personnel: E. Vivoni, J. Bernabeu, **I.I. Ullah**. Dynamics of Coupled Natural and Human Systems grant from the **National Science Foundation**. Funds were requested for a five year project investigating early coupled human-natural systems in Spain and Italy, and will build upon the simulation techniques developed by the MedLanD project. I will take a lead role in landscape evolution modeling and analysis of archaeological/geoarchaeological proxy data. Submitted 11/20/2012. Requested amount: \$1,500,000. Amount received: \$1,300,000

Archaeological Survey and the Neolithic of the Levant. PI's: E.B. Banning and S.T. Stewart. Collaborator: **I.I. Ullah**. Insight grant from the **Social Sciences and Humanities Research Council of Canada**. Funds were requested for two seasons of survey and small excavations at project areas in northern Jordan and in Cyprus. I am the project geoarchaeologist and GIS/computer-modeling specialist, and will be Assistant Director for the 2013 survey in Wadi Ziqlab. Submitted 10/11/2012. Requested amount: \$282,000. Amount received: \$282,000

Competitive Travel Grants:

2012 *ASU Graduate College Travel Grant and the School of Human Evolution and Social Change Conference Travel Grant*. These two grants provided funds for travel to the 77th Annual Meeting of the Society for American Archaeology, Memphis, TN, 2012.

2011 *ASU Graduate and Professional Student Association (GPSA) Travel Grant*. I was awarded funds for travel to the 76th Annual Meeting of the Society for American Archaeology, Sacramento, CA, 2011.

2010 *University Consortium for Geographic Information Science Student Paper Competition*. I was awarded funds for travel to the UCGIS Summer Assembly, Hilton Head, SC, 2010

RESEARCH

Major Research Projects

Mediterranean Landscape Dynamics Project

Position: Senior Research Personnel. Host Institution: Arizona State University. *Principle Investigator:* C.M. Barton. *Field work locations:* Jordan, Spain, Italy. *Duties:* I maintain a leadership role in the development of GIS-based models of landscape-evolution and agent-based models of early agropastoral land-use. I lead laboratory work, including supervision of undergraduate workers when necessary, and conduct original research related to the project. I engage in field work in the Jordan and Italy field sites. I have presented numerous papers at conferences, and have published several articles related to this work. *Period of affiliation:* 2005-Current.

Wadi Ziqlab and Wadi Quseiba Projects

Position: Senior Research Personnel and Co-director of Field Work. Host Institution: University of Toronto. *Principle Investigator:* E.B. Banning. *Field work location:* Wadi Ziqlab and Wadi Quseiba, Jordan. *Duties:* I am a senior researcher and a co-field director with this project. I act as the project GIS-specialist, geoarchaeologist, and computational analyst, conducting geoarchaeological survey and excavations in the project area. I also direct microrefuse collection and analysis from project sites. I have presented and published several papers related to this project. *Period of affiliation:* 2004-Current.

Socio-ecological Agent-based Modeling of the Early Bronze Age I of Arslantepe

Position: Foreign Researcher/Senior Project Personnel. Host Institution: Istanbul Technical University. Principle Investigator: Bülent Arıkan. Field work Location: Malatya region, Turkey. Duties: In this project, we are developing and conducting simulation experiments of the effect of climate change in a hybrid agent-based model agro-pastoralism parameterized to the Early Bronze Age I data of Arslantepe in Malatya, Turkey. In addition to these simulation studies, I am the project Geoarchaeologist. Period of affiliation: 2013-Current.

Kazakh-American Talgar Archaeology Project

Position: Consultant. Host Institution: Sweet Briar College. Principle Investigator: Claudia Chang. Field work Location: Talgar, Kazakhstan. Duties: I am the project's GIS and computer modeling consultant. I have engaged in geoarchaeological field work with the project, and am engaged in various writing and modeling projects related to this project. Period of affiliation: 2011-Current.

Wadi Hasa Ancient Pastoralism Project

Position: Project Director. Host Institution: ASU, SHESC. Field work location: Wadi al-Hasa, Jordan. Duties: I planned field work, applied for and received the proper permits, directed archaeological and geoarchaeological survey in the project region, managed the field budget, and currently conducted post-field work analysis. I have presented preliminary results related to this project, and initial publication of results are pending review. Funding for this project derived from the MedLanD project's fieldwork budget. Period of affiliation: 2008-2009.

Castro de Néixon International Field School

Position: Archaeologist, Instructor. Host Institutions: Arizona State University and the University of Santiago de Compostela. Field work location: Castro de Neixon, Galicia, Spain. Duties: I helped to plan the field school curriculum and excavation strategies, taught coursework, oversaw the students, and administrated the field school. I facilitated voluntary post-fieldwork laboratory analysis by field-school alumni, where I also taught them basic laboratory and statistical skills, and directed their analyses. The results of this lab work were included in the final excavation report. Period of affiliation: 2011.

Doctoral Research

My dissertation research focused on the environmental consequences of a social and economic transition that occurred in the Neolithic period approximately 8500 years ago. At this time, farmers and herders abandoned the early towns and dispersed across the landscape into small hamlets. Based in Complex Adaptive Systems theory, I combined agent-based models of Neolithic land-use with dynamic GIS-based environmental models to simulate a variety of potential Neolithic socio-ecological systems. I examined model-output in the light of the available archaeological and geoarchaeological proxy data in order to better understand the causes and consequences of the transition. The research found that the events that lead to the transition were likely non-linear and unpredictable, but acted to reduce system resilience over time, making it vulnerable to a variety of internal and external pressures. This work has been solicited for publication as a monograph in the Arizona State University Anthropological Research Papers series. Expected publication date is early 2016.

CONFERENCE PRESENTATIONS

Symposia Organized

- 2012 ***“Socio-natural systems in pastoral and agro-pastoral societies: Archaeological investigations of pastoral landscapes”*** at the 77th annual meeting of the Society of American Archaeology in Memphis, TN. Co-organizer: Claudia C. Chang.

Invited Papers

- 2014 **Ullah I.I.** *Computer-based simulation of surface-processes, and digital reconstruction of paleoenvironment during the Early Bronze Age-I at Arslantepe–Malatya, Eastern Turkey.* Paper presented in the symposium ***“Environmental Change: Data, Processes, and Integrated Modeling”*** at the 20th Annual Meeting of the European Archaeological Association, Istanbul, Turkey. September 10-14, 2014.
- 2014 **Ullah I.I.** *From a world of compasses, paper, and pencils to the digital era: how to integrate “pre-GPS” survey data into a modern research paradigm. (With a case study from the Wadi al-Hasa, South-Central Jordan.).* Paper presented in the symposium ***“Paleolithic Paradigms: Papers in Honor of Geoffrey Clark”*** at the 79th Annual Meeting of the Society for American Archaeology, Austin, TX. April 23-27, 2014
- 2014 Banning, E.B., and **Ullah I.I.** *In Small Things Miscounted: Problems, Solutions and Opportunities of Scale in Microrefuse Analysis.* Paper presented in the symposium ***“Multi-scalar Approaches to Archaeological Interpretation”*** at the 79th Annual Meeting of the Society for American Archaeology, Austin, TX. April 23-27, 2014
- 2014 **Ullah I.I.**, and Barton, C.M. *Mediterranean Landscape Dynamics Project II.* "DDIG Lightning Talk", presented at the ***Digital Data Interest Group business meeting*** at the 79th Annual Meeting of the Society for American Archaeology, Austin, TX. April 25, 2014.
- 2013 **Ullah, I.I.** and Barton, C.M., *Simulating “collapse”: A computational modeling approach to understanding adaptive reorganization in low-level socio-natural systems.* To be presented in the symposium ***“New Directions in Modeling Dynamics in Coupled Social-Natural Systems”*** at the 78th annual meeting of the Society of American Archaeology, Honolulu, HI (April, 2013).
- 2012 **Ullah, I.I.**, *Simulating the long-term effects of agropastoral landuse decisions: a computational modeling approach to the Prepottery/Pottery Neolithic transition in northern Jordan.* Paper presented in the symposium ***“Socio-natural systems in pastoral and agro-pastoral societies: Archaeological investigations of pastoral landscapes”*** at the 77th annual meeting of the Society of American Archaeology, Memphis, TN.
- 2012 Bergin, S., **Ullah, I.I.**, Barton, C.M., and Gravel-Miguel, C., *Human-Environment Interactions in a Changing Environment: A Computational Model of Agropastoral Practices and Landscapes in Neolithic Spain.* Paper presented in the symposium ***“Socio-natural systems in pastoral and agro-pastoral societies: Archaeological investigations of pastoral landscapes”*** at the 77th annual meeting of the Society of American Archaeology, Memphis, TN.

- 2011 **Ullah, I.I.**, Barton, C.M., Bergin, S., and A. Miller. *Simpler is better: lessons from modeling coupled human and natural systems in the Mediterranean Landscape Dynamics Project*. Poster presented in the symposium “**Process and Change in Prehistoric Socio-Natural Systems**” at the **76th annual meeting of the Society of American Archaeology**, Sacramento, CA.
- 2011 Bergin, S., **Ullah, I.I.**, Arian, B., Barton, C.M., Sarjoughian, H., and G. Mayer. *Simulating Neolithic Landscape Dynamics: A Coupled ABM-GIS Model of Agro-Pastoral Systems in Eastern Spain*. Poster presented in the symposium “**Process and Change in Prehistoric Socio-Natural Systems**” at the **76th annual meeting of the Society of American Archaeology**, Sacramento, CA.
- 2009 **Ullah I.I.** *Particles from the Past: A Diachronic Study of the Spatial Patterning of Microrefuse from Room Floors at Late Neolithic Tabaqat al-Bûma, Northern Jordan*. Paper presented at the **Household Archaeology in the Middle East and Beyond: Theory, Method and Practice** Conference. Feb 19-21, Salt Lake City.
- 2009 **Ullah, I.I.**, Mayer, G.R., Barton, C.M., Sarjougian, H.S. *Ancient Mediterranean landscape dynamics: Hybrid agent and geospatial models as a new approach to socioecological simulation*. Paper presented in the symposium “**Parallel Worlds: Interdisciplinary Agent-Based Models of Socioecological Processes and Complexity**” at the **73rd Annual Meeting of the Society for American Archaeology**, Vancouver, BC.

Juried Papers

- 2010 **Ullah, I.I.** *A GIS method for assessing the zone of human-environmental impact around archaeological sites: a test case from the Late Neolithic of Wadi Ziqlâb, Jordan*. Paper presented at the 2010 Summer Assembly of the **University Consortium for Geographic Information Science**. Hilton Head Island, SC.

Contributed Papers

- 2015 Gibbs, K., Banning, E.B., **Ullah I.I.**, Hitchings, P., and Abu Jayyab, K. *Late Neolithic Excavations in Wadi Qusayba, Northern Jordan*. Poster to be presented at the **ASOR Annual Meeting**, San Diego, CA.
- 2010 Barton, C. M., **Ullah, I.I.**, Mayer, G., Sarjoughian, H., Bergin, S., Miller, A., and H. Mitsova. *Coupled Models for Coupled Systems: Land-Use and Landscape Dynamics in the Mediterranean*. Paper presented at the **Annual Meetings of the Association of American Geographers**. Washington, D.C.
- 2010 Bergin, S., **Ullah, I.I.**, Barton, C.M., Mayer, G., and H. Sarjoughian. *Coupled ABM-GIS Modeling of Agro-Pastoral Systems in Eastern Spain*. Poster presented at the **75th annual meeting of the Society of American Archaeology** in St. Louis, MO.
- 2010 **Ullah, I.I.** *Assessing the accuracy of microrefuse sampling techniques*. Poster presented at the **75th annual meeting of the Society of American Archaeology** in St. Louis, MO.
- 2009 Bergin, S., **Ullah, I.I.**, and G. Mayer. *A Coupled ABM-GIS model of small-scale farming*. Poster presented at the **North American Association for Computational Social and Organizational Sciences Meeting** in Tempe, AZ.

- 2009 **Ullah I.I.** *Ancient Pastoralism and Landscape Change in South Central Jordan*. Poster presented at the **74th Annual Meeting of the Society for American Archaeology**, Atlanta, GA.
- 2007 **Ullah, I.I.**, *Microarchaeology and the Use of Space at the Late Neolithic Farmstead of Tabaqat al-Bûma*. Paper presented at the **10th International Conference on the History and Archaeology of Jordan**, The George Washington University, Washington, DC.
- 2007 **Ullah I.I.**, and Barton, C.M., *Alternative Futures of the Past: Modeling Neolithic Landuse and Its Consequences in the Ancient Mediterranean*. Paper presented at the **72nd Annual Meeting of the Society for American Archaeology**, Austin, TX.
- 2006 DiMaggio, E.N., Arrowsmith, J.R., Barton, C.M., Sarjoughian, H.S., Fall, P., Falconer, S.E., and **Ullah, I.I.**, *Geomorphic Mapping and Paleoterrain Generation for use in Modeling Holocene (8,000 – 1,500 yr) Agropastoral Landuse and Landscape Interactions in Southeast Spain*. Poster presented at the **2006 American Geophysical Union annual meeting**, San Francisco, CA.
- 2006 Barton, C.M. and **Ullah, I.I.**, *Modeling Impacts of Landuse Practices on Mediterranean Landscapes*. Simulation presented at the **2006 Archaeological Sciences of the Americas Symposium**. University of Arizona, Tucson, AZ.
- 2006 **Ullah, I.I.**, *GIS and Pastoralists in Beidha, Southern Jordan: Predictive Modeling of Campsite Location*. Paper presented at the **2006 Annual Conference of WECSOR/ASOR Pacific Southwest Region**, Claremont Graduate University, Claremont, CA.

Conference Papers in Preparation

Ullah, I.I., and Barton, C.M., Complexity in space and time: spatio-temporal variability and scale in simulations of social-ecological systems. Paper to be presented in the symposium, "*Simulating Social Complexity to Understand the Archaeological Past*" at the **80th Annual Meeting of the Society for American Archaeology**, San Francisco. CA. April 15-19, 2015

SERVICE

Departmental Service

Mentor for incoming graduate students. *School of Human Evolution and Social Change Association of Anthropology Graduate Students*, Arizona State University, Tempe, Arizona. (2008-2012). Member of executive council. *Anthropology Graduate Student Union*, University of Toronto, Toronto, ON. (2002-2003 Academic Year)

Professional

Reviewer: *Journal of Archaeological Research*; *Advances in Archaeological Practice*; *Journal of Archaeological Sciences*; *Computation*; *Southeast Archaeological Review*

OTHER PROFESSIONAL EXPERIENCE

Public Lectures

Simulating the consequences of early farming strategies: a computational modeling approach to understanding long-term socio-ecological dynamics in low-level

agropastoral systems. University of Pittsburgh, Department of Anthropology colloquium series. Fall term, 2013.

The Neolithic period in Jordan: Daily life in early farming villages. Mesa Community College Cultural Science brown bag series. Spring term, 2011.

Cultural Resource Management Experience:

Between the years of 2001-2002 and 2003-2005, I worked as archaeological field and lab technician for *Far Western Anthropological Research Group, Inc.* and *Pacific Legacy, Inc.* In their employ, I was involved in numerous lab projects, excavations, and surveys throughout California, Nevada, and Utah. Project names and further details of this employment are available upon request.