

# CURRICULUM VITAE

**C. MICHAEL BARTON**

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## CONTACT

School of Complex Adaptive Systems, Arizona State University, Tempe, AZ 85287-2701

School of Human Evolution and Social Change, Arizona State University, Tempe, AZ 85287-2402

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## ACADEMIC BACKGROUND

### DEGREES RECEIVED AND INSTITUTIONS ATTENDED:

**PhD in Anthropology**, 1987, University of Arizona, Tucson, AZ. Major in archaeology, minor in geosciences. Dissertation: *An Analysis of Lithic Variability from the Middle Paleolithic of the Iberian Peninsula*. Doctoral committee: A.J. Jelinek (chair), G.A. Clark, and C.V. Haynes.

**MA in Anthropology**, 1980, University of Arizona, Tucson, AZ. Emphases in archaeology and geosciences.

**BA in Anthropology**, *Summa Cum Laude* with Honors, 1976, University of Kansas, Lawrence, KS. Emphasis in archaeology. BA Honors Thesis: *An analysis of the lithic assemblage from the Taylor Site, 14-BU-71*.

### AREAS OF SPECIALIZATION:

Long-term dynamics of socioecological systems, complex systems science, hunter-gatherers and small-scale agricultural societies, geoarchaeology of Quaternary landscapes, geospatial technologies, computational modeling, evolutionary theory, lithic technology; Old World prehistory (western Eurasia), North American prehistory (Southwest and general).

### LANGUAGES:

Spanish, fluent

French and Catalán, reading knowledge

### PROFESSIONAL ORGANIZATIONS/ACADEMIC HONORS:

**Memberships:** American Association for the Advancement of Science, Society for American Archaeology, European Archaeological Association, American Geophysical Union, Sigma Xi, Phi Beta Kappa, Phi Eta Sigma

**Honors, fellowships, and appointments:** Fellow, American Association for the Advancement of Science; Senior Research Fellow, Institute for Advanced Sustainability Studies, Potsdam, Germany; Visiting Scientist, National Center for Atmospheric Research; Visiting Research Professor, University of Valencia, Spain; Fulbright Senior Research Fellow, University of Valencia, Spain; Summerfield Scholar, University of Kansas; National Merit Scholar

## CURRENT POSITION

### ARIZONA STATE UNIVERSITY

**Associate Director and Professor, School of Complex Adaptive Systems**

**Professor, School of Human Evolution & Social Change**

**Director, Center for Social Dynamics & Complexity**

**Affiliate Faculty:** School of Earth and Space Exploration, Global Institute of Sustainability, School for the Future of Innovation in Society, ASU/Santa Fe Institute Center for Biosocial Complexity, Center for Biodiversity Outcomes, Center for Evolution and Medicine.

## INTERNATIONAL

**Visiting Research Professor:** Departament de Prehistòria, Arqueologia i Història Antiga, Universitat de València

**Director, Network for Computational Modeling in Social and Ecological Sciences** (<https://comses.net>)

**Executive Director, Open Modeling Foundation** (<https://openmodelingfoundation.github.io>)

## TEACHING

### UNIVERSITY TEACHING

**School of Complex Adaptive Systems, Arizona State University** (Professor and Associate Director, 2020-present). Courses taught: Fundamentals of Complex Adaptive System Science, Applications of Complex Adaptive Systems.

**School of Human Evolution & Social Change/Department of Anthropology, Arizona State University** (Professor, Associate Professor, and Associate Museum Professional, 1988-present). Courses taught: Quantitative and Formal Methods in Archaeology, Proposal Writing, Origins of Agriculture, Scholarly Inquiry, Issues in Domestication, Remote Sensing and Quaternary Landscapes, Archaeological Method and Theory II (small scale societies), Geoarchaeology, Spatial Technologies in Anthropology, Lithic Analysis, Lithic Theory, Museum Collections Management, Anthropological Science Seminar, Human Impacts on the Environment, Human Origins and the Development of Culture.

**Departament de Prehistoria i Arqueologia, Universitat de Valencia, Spain** (Visiting Research Professor, 2003-present; Fulbright Senior Research Fellow, 1996). Courses taught: Agent based modeling for archaeology, Remote sensing for archaeology, Spatial technologies in archaeology, Data management and analysis in archaeology, Practicum in GIS.

**Department of Anthropology; University of Arizona** (Instructor). Courses taught: Principles of Archaeology, 1985.

### GRADUATE STUDENT SUPERVISION

Completed: 43 MA and 32 PhD (directed 11 MA and 15 PhD)

In progress: 4 MA (directing 1) and 10 PhD (directing 2)

## GRADUATE AND POSTGRADUATE MENTORING

### PHD STUDENTS DIRECTED

- Wendy Cegielski, 2020. Current position: President, DiggingDenver, LLC.
- Grant Snitker, 2019. Current position: Director, Cultural Resource Sciences, Center for Applied Fire and Ecosystem Science, New Mexico Consortium, Albuquerque, NM.
- Laura Swantek, 2017. Residential Faculty in Anthropology, Phoenix College; Trustee, Cyprus Archaeological Research Institute.
- Claudine Gravel-Miguel, 2017. Current position: Research Scientist, Cultural Resource Sciences, Center for Applied Fire and Ecosystem Science, New Mexico Consortium, Albuquerque, NM.
- Sean Bergin, 2016. Current position: Assistant Research Professor, Arizona State University
- Elisabeth Culley, 2016. Current position: Visiting Researcher, Arizona State University
- Gabriel Popescu, 2015. Current position: Lecturer, Department of Ancient History, Archaeology and Art History, University of Bucharest, Romania

- Salvador Pardo Gordó, 2015. Current position: Ramón y Cajal Researcher, Departamento de Geografía e Historia, Universidad de la Laguna, Spain
- Isaac Ullah, 2013. Current position: Associate Professor, San Diego State University
- Steven Schmich, 2013. Current position: Visiting Researcher, Arizona State University
- Bülent Arikan, 2010. Current position: Associate Professor, Istanbul Technical University, Turkey
- Andrea Moreno Martin, 2010. Current position: Gestora Cultural y de Patrimonio, Ajuntament de Quart de Poblet, Spain
- Julien Riel-Salvatore, 2007. Current position: Professor, University of Montreal
- J. Brett Hill, 2002. Current position: Professor, Hendrix College

#### POSTDOCTORAL SCHOLARS MENTORED

- Sean Bergin, 2017-2018. Current position: Assistant Research Professor, Arizona State University
- Joshua Watts, 2013-2017. Current position: Desert Archaeology, Tucson, AZ.
- Isaac Ullah, 2014-2016. Current position: Associate Professor, San Diego State University
- Shade Shutters, 2012-2014. Current position: Assistant Research Professor, Arizona State University
- Carlos Rodríguez Rellán, 2012-2013. Current position: Investigador Emergia, Universidad de Granada, Spain
- Bülent Arikan, 2010-2011. Current position: Associate Professor, Istanbul Technical University, Turkey
- Pablo Cahiza, 2010-2011. Current position: INCIHUSA-CONICET, Mendoza-Argentina

## RESEARCH

#### GRANTS AND CONTRACTS

- 2023 POSE: Phase II: Growing GRASS OSE for Worldwide Access to Multidisciplinary Geospatial Analytics. National Science Foundation (8/2023), Grant FAIN-2303651. \$1,499,988. Co-PI; lead PI/PD, Helena Mitsova, NCSU.
- 2022 Community Standards for FAIR Scientific Computation: Establishing the Open Modeling Foundation. Alfred P Sloan Foundation (11/2022), Grant G-2022-19471. \$414,592. Lead PI/PD.
- 2022 Collaborative Research: GCR: Generating Actionable Research to Investigate Combined Climate Intervention Strategies for Stakeholder Use. National Science Foundation (9/2022), Grant OIA-2218785, \$1M. PI/PD for ASU (\$250,000); lead PI/PD, Peter Lawrence, NCAR.
- 2021 Establishing the Open Modeling Foundation. Alfred P Sloan Foundation (11/2021), Grant G-2021-17088, \$44,081. Lead PI/PD, co-PI: Marco Janssen.
- 2021 Frameworks: Collaborative Research: Integrative Cyberinfrastructure for Next-Generation Modeling Science. National Science Foundation (9/2021), Grant #OAC-2103905, \$4,240,147. Lead PI/PD, co-PI's: Sean Bergin, Kenneth Buetow, Marco A Janssen, Allen Lee. Collaborating organizations: Community Surface Dynamics Modeling System, U. Colorado Boulder; Consortium of Universities for the Advancement of Hydrologic Science, Inc.
- 2019 Open Modeling Framework: Next Generation Global Technology for a Sustainable Earth (9/2019). Alfred P. Sloan Foundation, Grant FP00018278, \$124,973. Lead PI/PD, co-PI's Sander van der Leeuw, Gregory Tucker, Cheryl Porter.

- 2016 The Role of Fire in Long Term Human Niche Construction (11/2016). National Science Foundation, Grant #BCS-1656342, \$28,861. Doctoral Dissertation Improvement Award for Grant Snitker.
- 2016 BD Spokes: Spoke: West: Accelerating and Catalyzing Reproducibility in Scientific Computation and Data Synthesis (9/1/2016). National Science Foundation, Grant #IIS-1636796, \$1,014,593. Lead PI/PD, co-PI's: Marco Janssen, Allen Lee, & Ken Buetow.
- 2016 Ocupación de las zonas altas del Noroeste Peninsular a lo largo de la Historia: la Sierra del Barbanza (A Coruña)" (4/2016). Spanish Ministerio de Economía y Competitividad, Programa Estatal de Fomento de la Investigación Científica y Técnica de Excelencia, Grant #HAR2015-67435-P, 49,000 €. Co-PI; lead PI/PD: Ramón Fábregas Valcarce, Universidad de Santiago de Compostela, Spain.
- 2015 The Emergence of Social Complexity In Small Scale Societies (6/2015). National Science Foundation, Grant #BCS-1535840, \$11,674. Doctoral Dissertation Improvement Grant for Laura Swantek.
- 2015 Mechanisms For Long Term Maintenance of Social Stability (6/4/2015). National Science Foundation, Grant #BCS-1538784, \$25,143. Doctoral Dissertation Improvement Grant for Wendy Cegielski.
- 2014 Building capacity for 21st century social sciences (12/2014). National Science Foundation. \$47,845. Lead PI/PD, co-PI's: Lilian Alessa, Lawrence Buja, Johannes Feddema, Kathleen Galvin.
- 2014 Mining relationships among variables in large datasets from complex systems (1/2014). Social Sciences and Humanities Research Council (Canada), National Science Foundation (USA), Nederlandse Organisatie voor Wetenschappelijk Onderzoek (Netherlands), and Jisc (UK). NSF Grant #SMA-1430411, \$583,748. Co-PI; lead PI/PD: Dawn Parker, Univ. of Waterloo, Canada.
- 2013 Hazards SEES Type 2: Hazard prediction and communication dynamics in the modern information environment (10/2013). National Science Foundation, Grant #DEB-1313727, \$2,992,994. Co-PI; lead PI/PD: Rebecca Morss, NCAR.
- 2013 CNH: The Emergence of Coupled Natural and Human Landscapes in the Western Mediterranean (8/2013). National Science Foundation, Grant #DEB-1313727, \$1,300,000. Lead PI/PD, co-PI's: Arjun Heimsath, Hessam Sarjoughian, Julian Riel-Salvatore, Miguel Acevedo).
- 2012 Collaborative research EaSM2: linking human and earth system models to assess regional impacts and adaption in urban systems and their hinterlands (12/2012). National Science Foundation, Grant #AGS-1243089, \$4,170,000 for total project. Lead PI for ASU; Coordinating PD for all institutions: Brian O'Neil, NCAR.
- 2010 Poblamiento durante el Pleistoceno Medio/Holoceno en las comarcas orientales de Galicia (9/2010), Ministerio de Ciencia e Innovación, Spain. \$77,000. Co-PI, lead-PI Ramón Fabrigas, Univ. Santiago de Compostela.
- 2009 The archaeology of local human response to a global environmental transformation (7/2009). National Science Foundation, Grant #BCS-941208, \$14,639. Doctoral Dissertation Improvement Grant for S. Schmich.
- 2009 A research network for computational modeling in the socioecological sciences (5/2009), National Science Foundation, Grant #GEO-909394, \$499,735. Lead PI; co-PI's Marco Janssen and Lilian Alessa.
- 2009 The Chinese rock art recording and exchange project (5/2009). The Chiang Ching-Kuo Foundation for International Scholarly Exchange, \$25,000. Lead PI; Sheng Su, co-PI.
- 2007 Ocupaciones humanas durante el Pleistoceno de la cuenca media del Miño. Ministerio de Educación y Ciencia, Spain, Grant #HUM2007-63662, 54,450 €. Co-PI; lead PI R. Fábregas.
- 2007 Visualizing results of landscape modeling in the Decision Theater for education and policy (2007-2008). ASU SERV award. \$25,000.

- 2006 Integrating socio-ecological sciences through a community modeling framework (2006). National Science Foundation \$124,331, Grant #BCS-0623162. Lead PI; co-PI's L. Alessa and M. Janssen.
- 2006 REU Supplement for: land-use and landscape socioecology in the Mediterranean Basin (2006-2007). National Science Foundation \$12,000.
- 2005 REU Supplement for: land-use and landscape socioecology in the Mediterranean Basin (2005-2006). National Science Foundation \$12,000. Lead PI; co-PI's H. Sarjoughian and G.A. Clark.
- 2005 Italy's first "southern question:" the Uluzzian and the Middle-Upper Paleolithic transition in the Mezzogiorn. National Science Foundation, Grant #BCS-0526073, \$12,000. Doctoral Dissertation Improvement Grant for J. Riel-Salvatore.
- 2004 Landuse and landscape socioecology in the Mediterranean basin: a natural laboratory for the study of the long-term interaction of human and natural systems. (8/2004) National Science Foundation, Grant #BCS-0410269, \$1,499,997. Lead PI; co-PI's: R. Arrowsmith, S. Falconer, P. Fall, and H. Sarjoughian.
- 2003 Holocene land use dynamics in the western Mediterranean: supplemental funding (6/2003). National Science Foundation, Grant #BCS-0075292, \$12,960 . Lead PI; co-PI's: J. Bernabeu, J.E. Aura, and M. MacMinn-Barton.
- 2002 Data entry for the AZSITE project. (5/2002). Arizona State Parks, State Historic Preservation Office, \$1,582. PI.
- 2002 Mogollon community organization and environmental impact during the transition to agriculture: 2002 Blue River Archaeological Project (5/2002). National Forest Service, \$6,000. Lead PI; co-PI Steven Swanson.
- 2002 Socioecology and landscape dynamics of the beginnings of food production on the southern Colorado Plateau: pilot study (5/2002). National Forest Service, \$10,500. Lead PI; co-PI: M. MacMinn-Barton.
- 2001 Creating an internet map server for AZSITE, Arizona's cultural resource archive (11/2001). Arizona State Parks, State Historic Preservation Office, \$85,000. Lead PI; co-PI: Jana Hutchins.
- 2001 Improving preservation and access for documentation from the CARP survey project (10/2001). National Forest Service, \$9,000. Lead PI; co-PI: M. MacMinn-Barton.
- 2001 Research Experience for Undergraduates (5/2001). National Science Foundation, \$3,633. PI.
- 2001 Long-term dynamics of anthro-ecosystems in the Mediterranean Basin: a natural laboratory for the human role in biocomplexity (1/2001). ASU Multi-Investigator Proposal Development Grant Program, \$15,000. Lead PI; S. Falconer, F. Fall, and G.A. Clark co-PI's.
- 2000 Analyzing ecological data from the Chevelon Creek Drainage, Arizona (9/2000). U.S. Forest Service. \$5,700. Lead PI; co-PI: M. MacMinn-Barton.
- 2000 Prehistoric land use and its impact on the Blue River drainage (6/2000). U.S. Forest Service, \$11,950. Lead PI; S. Swanson co-PI.
- 2000 Holocene land use dynamics in the western Mediterranean: a regional approach to the transition to domestication economies, phase II: excavation (6/2000). National Science Foundation, Grant #BCS-0075292, \$134,330. Lead PI; co-PI's: J. Bernabeu, J.E. Aura, and M. MacMinn-Barton.
- 1999 Land use and socioeconomic change in the Chevelon Creek drainage, Arizona: phase 2 (5/99). U.S. Forest Service. \$15,000. Lead PI; co-PI's: M. MacMinn-Barton and T. Orozco.
- 1999 Excavations at Mas d'Is and Cova de la Falguera, Alicante, Spain (4/99). Submitted to a consortium of Spanish funding agencies. Co-PI with J. Bernabeu and J.E. Aura.
- 1998 Developing a pilot national guide to anthropological collections and archives (10/98). Wenner-Gren Foundation, \$16,931. Co-PI with P. McCartney.

- 1998 A regional approach to the transition to food production in the Mogollon highlands of Arizona (5/98). U.S. Forest Service, \$11,175. Lead PI; co-PI: M. MacMinn-Barton.
- 1997 Chavez Pass archaeological collections: improving research potential (9/97). U.S. Forest Service, \$11,549. PI.
- 1997 Small sites study in the Chevelon drainage (3/97). U.S. Forest Service, \$10,000. Lead PI; co-PI: M. MacMinn-Barton.
- 1996 Inventory and study of the Chevelon collection (9/96). U.S. Forest Service, \$15,062. Lead PI; co-PI: M. MacMinn-Barton.
- 1995 Central Arizona Project Repository (9/95). Bureau of Reclamation, \$6,200,000. Co-PI with C.L. Redman and J. Collins.
- 1995 Archaeological investigations at the Phoenix Indian School (3/95). National Park Service, \$187,942. Co-PI with C.L. Redman.
- 1994 Native American Graves Protection and Repatriation Act inventory of Navajo Reservoir osteological collections (11/94). Bureau of Reclamation, \$6,807. PI.
- 1994 Anthropology collections inventory for the Native American Graves Protection and Repatriation Act (2/94). U.S. Bureau of Land Management, \$1,601. PI.
- 1993 Anthropology collections inventory for the Native American Graves Protection and Repatriation Act (9/93). U.S. Bureau of Land Management, \$6,193. PI.
- 1992 Native American Graves Protection and Repatriation Act inventory of human remains and sacred and funerary objects (11/92). U.S. Forest Service, \$12,664. PI.
- 1991 Epipaleolithic and Neolithic economy and settlement in the western Mediterranean: a regional approach to understanding the transition to domestication economies (6/91). National Science Foundation, Grant# BNS-9115209, \$19,983. Lead PI; co-PI's: E.M. MacMinn-Barton, J.E. Aura Tortosa, and J. Bernabeu Auban.
- 1991 A program for improving access and storage conditions for research collections in archaeology and dental anthropology at Arizona State University (4/91). National Science Foundation, Grant# BNS-9108353, \$73,865. Lead PI; co-PI's: C.L. Redman, R.A. Barnes, and A.L. Hedlund.
- 1990 The transition to agricultural economies in eastern Spain (12/90). Arizona State University, \$5,500. PI.
- 1990 Archaeological research at Abric de la Falguera, Spain (4/90). College of Liberal Arts and Sciences, Arizona State University, \$1,900. PI.
- 1986 Lithic variability and human adaptation during the Middle Paleolithic of the eastern and southern Iberian Peninsula (5/86). Educational Fund for Archaeology, Department of Anthropology, University of Arizona, \$498. PI.
- 1985 Dating samples from the Middle and Upper Paleolithic levels of Cueva Beneito, eastern Spain (5/85). National Science Foundation Accelerator Facility for Radioisotope Analysis, University of Arizona, \$800. PI.
- 1984 Middle Paleolithic adaptive strategies in southern and southeastern Spain: an analysis of variability (1/84). Graduate Student Program Development Fund, University of Arizona, \$600. PI.
- 1983 An investigation of relationships between lithic and environmental variability in the Middle Paleolithic of southern and southeastern Spain (11/83). Educational Fund for Archaeology, Department of Anthropology, University of Arizona, \$500. PI.

## PUBLICATIONS

**Books and Monographs (\* peer reviewed, \*\*student coauthors)**

- 2015 Alessa, Lilian, Andrew Kliskey, **C Michael Barton**, Steven C Bankes, Eduardo Brondizio, Daniel G Brown, Johannes J Feddema, et al. *Best Practices for Integrating Social Sciences into Social Ecological Systems Science: Future Directions for Building a More Resilient America*. Center Resilient Communities, University of Idaho.
- 2004\* **C. Michael Barton**, G.A. Clark, D. Yesner, & G. Pearson (editors). *The Settlement of the American Continents: a Multidisciplinary Approach to Human Biogeography*. University of Arizona Press, Tucson.
- 1997\* **C. Michael Barton** & G.A. Clark (editors). *Rediscovering Darwin: Evolutionary Theory in Archaeological Explanation*. Archaeological Papers of the American Anthropological Association, no. 7, Washington, D.C.
- 1991 **C. Michael Barton** & Steven R. James. *The Phoenix Indian School Archaeological Project: Results of the Test Investigations*. Anthropological Field Studies, No. 25. Arizona State University, Office of Cultural Resource Management, Tempe.
- 1988\* **C. Michael Barton**. *Lithic Variability and Middle Paleolithic Behavior: New Evidence from the Iberian Peninsula*. BAR International Series 408, Oxford.
- 1983 **C. Michael Barton**. *Archeological survey in northeastern Death Valley National Monument*. Western Archeological and Conservation Center Publications in Anthropology No. 23. W.A.C.C., National Park Service, Tucson.
- 1975 **C. Michael Barton** & Mark F. Baumler. *Archaeological Survey and Inventory of the Middle Walnut Watershed Area of Butler, Cowley, Sedgwick, and Sumner Counties, South-central Kansas*. Project Report Series No. 25. Museum of Anthropology, Univ. of Kansas, Lawrence.

**Articles in Peer-Reviewed Journals (\*\*student coauthors)**

- 2025 Garcia, I.K., Erdmann, C., Gesing, S., **Barton, M.**, Cadwallader, L., Hengeveld, G., Kirkpatrick, C.R., Knight, K., Lemmen, C., Ringuette, R., Zhan, Q., Harrison, M., Gabhann, F.M., Meyers, N., Osborne, C., Till, C., Brenner, P., Buys, M., Chen, M., Lee, A., Papin, J., Rao, Y., 2025. Ten simple rules for good model-sharing practices. *PLOS Computational Biology* 21, e1012702. <https://doi.org/10.1371/journal.pcbi.1012702>.
- 2024 Chen, M., Qian, Z., Boers, N., Creutzig, F., Camps-Valls, G., Hubacek, K., Claramunt, C., Wilson, J.P., Nativi, S., Jakeman, A.J., Müller, R.D., Batty, M., Zhou, C., Chen, F., Wang, Q., Zhang, F., **Barton, C.M.**, Strobl, J., Meadows, M., Ratti, C., Hess, P., Xu, Q., Zhang, Z., Gu, Q., Zhu, A.-X., Lin, H., Yuan, L., Lü, G., 2024. Collaboration between artificial intelligence and Earth science communities for mutual benefit. *Nature Geoscience*. 17, 949–952. <https://doi.org/10.1038/s41561-024-01550-x>.
- 2024 **Barton, C.M.**, Aura-Tortosa, J.E., Garcia-Puchol, O., Riel-Salvatore, J., Ullah, I., 2024. Lessons for an invisible future from an invisible past: Risk and resilience in deep time. *The Holocene* 34, 1422–1438. <https://doi.org/10.1177/09596836241259788>.
- 2024 Berger, U., Bell, A., **Barton, C.M.**, Chappin, E., Dreßler, G., Filatova, T., Fronville, T., Lee, A., van Loon, E., Lorscheid, I., Meyer, M., Müller, B., Piou, C., Radchuk, V., Roxburgh, N., Schüler, L., Troost, C., Wijermans, N., Williams, T.G., Wimmmler, M.-C., Grimm, V.. Towards reusable building blocks for agent-based modelling and theory development. *Environmental Modelling & Software* 175, 106003. <https://doi.org/10.1016/j.envsoft.2024.106003>.
- 2023 Cegielski, W.H., Snitker, G., **Barton, C.M.**, Bernabeu Aubán, J., Cortell-Nicolau, A., Pardo-Gordó, S., Bergin, S., Diez Castillo, A., 2023. A multi-method approach with machine learning to evaluating the distribution and intensity of prehistoric land use in Eastern Iberia. *Quaternary International*, 677–678, 78–94. <https://doi.org/10.1016/j.quaint.2023.08.011>.

- 2023 Popescu, G.M., Covătaru, C., Opreș, I., Bălășescu, A., Carozza, L., Radu, V., Haită, C., Sava, T., **Barton, C.M.**, Lazăr, C.. Sine qua non: inferring Kodjadermen-Gumelnița-Karanovo VI population dynamics from aggregated probability distributions of radiocarbon dates. *Radiocarbon* 1–22. <https://doi.org/10.1017/RDC.2023.6>
- 2023 Chen, M., Qian, Z., Boers, N., Jakeman, A.J., Kettner, A.J., Brandt, M., Kwan, M.-P., Batty, M., Li, W., Zhu, R., Luo, W., Ames, D.P., **Barton, C.M.**, Cuddy, S.M., Koirala, S., Zhang, F., Ratti, C., Liu, Jian, Zhong, T., Liu, Junzhi, Wen, Y., Yue, S., Zhu, Z., Zhang, Z., Sun, Z., Lin, J., Ma, Z., He, Y., Xu, K., Zhang, C., Lin, H., Lü, G.. Iterative integration of deep learning in hybrid Earth surface system modelling. *Nature Reviews Earth & Environment* 1–14. <https://doi.org/10.1038/s43017-023-00452-7>
- 2023 Little, J.C., Kaaronen, R.O., Hukkinen, J.I., Xiao, S., Sharpee, T., Farid, A.M., Nilchiani, R., **Barton, C.M.**. Earth systems to Anthropocene systems: an evolutionary, system-of-systems, convergence paradigm for interdependent societal challenges. *Environmental Science & Technology* <https://doi.org/10.1021/acs.est.2c06203>
- 2022 Xu, K., Chen, M., Kettner, A.J., **Barton, C.M.**, Croke, B.F.W., Jakeman, A.J., Ames, D.P., Wang, H.-H., Cuddy, S.M., Yue, S., Wen, Y., Zhang, F., Zhang, Y., Lü, G., 2022. A new academic impact metric for evaluating geographic simulation models. *International Journal of Digital Earth* 15, 1856–1881. <https://doi.org/10.1080/17538947.2022.2138589>
- 2022 **Barton, C.M.**, Ames, D., Chen, M., Frank, K., Jagers, B., Lee, A., Reis, S., & Swantek, L. Making modeling and software FAIR. *Environmental Modelling & Software*, 105496. (in press). <https://doi.org/10.1016/j.envsoft.2022.105496>
- 2022 **Barton, C. M.**, Lee, A., Janssen, M. A., van der Leeuw, S., Tucker, G. E., Porter, C., Greenberg, J., Swantek, L., Frank, K., Chen, M., & Jagers, H. R. A.. How to make models more useful. *Proceedings of the National Academy of Sciences*, 119(35), e2202112119. <https://doi.org/10.1073/pnas.2202112119>
- 2022 Vanegas Ferro, M.\*\*, Lee, A., Pritchard, C., **Barton, C. M.**, & Janssen, M. A. Containerization for creating reusable model code. *Socio-Environmental Systems Modelling*, 3, 18074–18074. <https://doi.org/10.18174/sesmo.18074>
- 2022 Clark, G. A., & **Barton, C. M.** The Mesolithic of Atlantic Coastal Spain – a comparison with the Middle Ebro Basin. *Comptes Rendus Palevol*, 21(3), 39–114. <https://doi.org/10.5852/cr-palevol2022v21a3>
- 2021 Brovkin, V., Brook, E., Williams, J. W., Bathiany, S., Lenton, T. M., **Barton, C. M.**, DeConto, R. M., Donges, J. F., Ganopolski, A., McManus, J., Praetorius, S., de Vernal, A., Abe-Ouchi, A., Cheng, H., Claussen, M., Crucifix, M., Gallopín, G., Iglesias, V., Kaufman, D. S., ... Yu, Z.. Past abrupt changes, tipping points and cascading impacts in the Earth system. *Nature Geoscience*, 14, 550–558. <https://doi.org/10.1038/s41561-021-00790-5>
- 2021 **Barton C.M.** & Clark G.A. From Artifacts to Cultures: Technology, Society, and Knowledge in the Upper Paleolithic. *Journal of Paleolithic Archaeology*, 4(16). <https://doi.org/10.1007/s41982-021-00091-8>
- 2021 Iwanaga, T., Wang, H.-H., Hamilton, S.H., Grimm, V., Koralewski, T.E., Salado, A., Elsayah, S., Razavi, S., Yang, J., Glynn, P., Badham, J., Voinov, A., Chen, M., Grant, W.E., Peterson, T.R., Frank, K., Shenk, G., **Barton, C.M.**, Jakeman, A.J., Little, J.C.. Socio-technical scales in socio-environmental modeling: managing a system-of-systems modeling approach. *Environmental Modelling & Software*, 104:104885. <https://doi.org/10.1016/j.envsoft.2020.104885>
- 2020 Chen, M., Voinov, A., Ames, D.P., Kettner, A.J., Goodall, J.L., Jakeman, A.J., **Barton, M.**, Harpham, Q., Cuddy, S.M., DeLuca, C., Yue, S., Wang, J., Zhang, F., Wen, Y., Lü, G., 2020. Position paper: Open web-distributed integrated geographic modelling and simulation to enable broader participation and applications. *Earth-Science Reviews* 103223. <https://doi.org/10.1016/j.earscirev.2020.103223>



- 2020 **Barton, C. M.**, Alberti, M., Ames, D., Atkinson, J.-A., Bales, J., Burke, E., Chen, M., Diallo, S. Y., Earn, D. J. D., Fath, B., Feng, Z., Gibbons, C., Hammond, R., Heffernan, J., Houser, H., Hovmand, P. S., Kopainsky, B., Mabry, P. L., Mair, C., ... Tucker, G. Call for transparency of COVID-19 models. *Science*, 368(6490), 482–483. <https://doi.org/10.1126/science.abb8637>
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- 2006\* S. B. McClure\*\*, M. A. Jochim, & **C. M. Barton**. Human behavioral ecology, domestic animals, and land use during the transition to agriculture in Valencia, eastern Spain. In *Foraging Theory and the Transition to Agriculture*, edited by D. Kennett & B. Winterhalder. University of California Press, Berkeley. Pp. 197-216
- 2005 George Indruszewski & **C. Michael Barton**. DSMs, anisotropic spread and least cost paths for simulating Viking Age routes in the Baltic Sea. Proceedings of the 9<sup>th</sup> Workshop on Archaeology and Computers, edited by Wolfgang Börner. CD published and distributed by the Vienna City Administration, Vienna, Austria.
- 2004\* **C. Michael Barton**, Joan Bernabeu, J. Emili Aura, & Lluís Molina\*\*. Historical contingency, nonlinearity, and the neolithization of the western Mediterranean. In *Current Issues in Mediterranean Landscape Archaeology*, edited by LuAnn Wandsnider and Effie Athanassopoulos. University of Pennsylvania Press. Pp. 99-124.
- 2004 Steven Schmich\*\* & **C. Michael Barton**. Breaking the ice: introducing northern European experiences to North American expectations. In *On Being First: Cultural Innovation and Environmental Consequences of First Peopling*, Proceedings from the 31st Annual Chacmool Conference, edited by Jason Gillespie, Susan Tupakka and Christy de Mille. Archaeological Association of the University of Calgary, Calgary, Alberta.
- 2004\* **C. Michael Barton**, Steven Schmich\*\*, & Steven James. The ecology of colonization in pristine landscapes. In *The Settlement of the American Continents: a Multidisciplinary Approach to Human Biogeography*, edited by C. M. Barton, G.A. Clark, D. Yester, & G.A. Pearson, pp. 138-161. University of Arizona Press, Tucson
- 2004\* Geoffrey A. Clark, **C. Michael Barton**, Georges A. Pearson, & David Yesner. The human settlement of the American continents: multidisciplinary perspectives on human biogeography. In *The Settlement of the American Continents: a Multidisciplinary Approach to Human Biogeography*, edited by C. M. Barton, G.A. Clark, D. Yester, & G.A. Pearson, pp. 1-8. University of Arizona Press, Tucson.
- 2004\* David Yesner, Geoffrey A. Clark, **C. Michael Barton**, & Georges A. Pearson. Peopling of the Americas and continental colonization: a millennial perspective. In *The Settlement of the American Continents: a Multidisciplinary Approach to Human Biogeography*, edited by C. M. Barton, G.A. Clark, D. Yester, & G.A. Pearson, pp. 196-213. University of Arizona Press, Tucson.

- 2001 **C. Michael Barton.** Book review of *Social Dynamics of the Prehistoric Central Mediterranean*, edited by R.H. Tychot, J. Morter, & J.E. Robb. *American Antiquity* 66(3): 552-556.
- 2000 **C. Michael Barton.** Book review of *Lithics: Macroscopic Approaches to Analysis*, by W. Andrefsky, Jr. *American Antiquity* 65: 202-204.
- 1998 **C. Michael Barton.** Looking back from the world's end: Paleolithic settlement and mobility at Gibraltar. In *Las culturas del Pleistoceno superior en Andalucía*, edited by J.L. Sanchidrián Torti & M.D. Simón Vallejo, pp. 13-23. Patronato de la Cueva de Nerja, Málaga.
- 1997\* **C. Michael Barton.** Stone tools, style, and social identity: an evolutionary perspective on the archaeological record. In *Rediscovering Darwin: Evolutionary Theory in Archaeological Explanation*, edited by C.M. Barton & G.A. Clark, pp. 141-156. Archaeological Papers of the American Anthropological Association, no. 7, Washington, D.C.
- 1997\* **C. Michael Barton & G.A. Clark.** Evolutionary theory in archaeological explanation. In *Rediscovering Darwin: Evolutionary Theory in Archaeological Explanation*, edited by C.M. Barton & G.A. Clark, pp. 3-18. Archaeological Papers of the American Anthropological Association, no. 7., Washington, D.C.
- 1997\* G.A. Clark & **C. Michael Barton.** Rediscovering Darwin. In *Rediscovering Darwin: Evolutionary Theory in Archaeological Explanation*, edited by C.M. Barton & G.A. Clark, pp. 309-319. Archaeological Papers of the American Anthropological Association, no. 7., Washington, D.C.
- 1996 G.A. Clark, **C. Michael Barton & Allison Cohen\*\*.** Explaining art in the Franco-Cantabrian refugium: an information exchange model. In *Debating Complexity*, edited by D. A. Meyer, P.C. Dawson, & D.T. Hanna, pp 241-253. Archaeological Association of the University of Calgary, Calgary, Alberta.
- 1993\* **C. Michael Barton & G.A. Clark.** Cultural and natural formation processes in late Quaternary cave and rockshelter sites of western Europe and the Near East. In *Formation Processes in Archaeological Context*, edited by P. Goldberg, D.T. Nash, & M.D. Petraglia, pp 33-52. Prehistory Press.
- 1993 **C. Michael Barton.** For the records: computerizing anthropological collections at Arizona State University. *Registrars Quarterly*, Spring 1993.
- 1991 **C. Michael Barton.** The digital museum. *Museum Association of Arizona Newsletter*, 9(1): 1-2.
- 1991\* **C. Michael Barton.** Retouched tools: fact or fiction? Paradigms for interpreting chipped stone. In *Perspectives in prehistory: paradigmatic biases in circum-Mediterranean hunter-gather research*, edited by G.A. Clark, pp. 143-163. University of Pennsylvania Press, Philadelphia.
- 1984 **C. Michael Barton**, Glen D. Stone & Anne F. Cunningham. Arizona D: 11: 2038; Arizona D: 11: 2052. In *Excavations on Black Mesa, 1982: a descriptive report*, ed. by D.L. Nichols & F.E. Smiley. Center for Archaeological Investigations, Research Paper No. 39. Southern Ill. Univ., Carbondale.
- 1983 **C. Michael Barton**, Patricia Gilman, & David Cushman. Arizona D: 11: 2098. In *Excavations on Black Mesa, 1981: a descriptive report*, ed. by F.E. Smiley, D.L. Nichols, & P.P. Andrews. Center for Archaeological Investigations, Research Paper no. 36. Southern Ill. Univ., Carbondale.
- 1981 **C. Michael Barton.** Cultural and natural stratigraphy in the Campo Santo of Tumacacori Mission. In *Excavations at Tumacacori, 1979/1980*. Western Archeological and Conservation Center Publications in Anthropology No. 17. W.A.C.C., National Park Service, Tucson.

#### Published Computational Models and Data Sets

- 2023 Barton, C. M., Cegielski, W. H., Snitker, G., Pardo-Gordó, S., Cortell-Nicolau, A., Diez Castillo, A., & Bergin, S. M.. Data and analysis for paper in quaternary international: A multi-method approach with machine learning to evaluating the distribution and intensity of prehistoric land use in eastern iberia, by W. Cegielski. Zenodo. <https://doi.org/10.5281/zenodo.8096982>



- 2023 Barton, C. M., Aura Tortosa, E., Garcia Puchol, O., Riel-Salvatore, J., & Ullah, I. Lessons for an Invisible Future - Data Files and Analysis Scripts. Zenodo. <https://zenodo.org/record/8187662>
- 2021 **C Michael Barton** & Clark, G. A. (2021). cmbarton/mesolithic\_atlantic\_spain: Mesolithic of Atlantic Spain (v1.0) [data and analysis scripts]. Zenodo. <https://doi.org/10.5281/ZENODO.5501599>
- 2018 **C Michael Barton**, Clark, G.A., Straus, L.G.. Upper Paleolithic of N Spain - Lithic and C14 Data and Analysis. DOI: 10.5281/zenodo.1215819
- 2017 **C Michael Barton.**, Aura Tortosa, J.E., Garcia Puchol, O., Riel-Salvatore, J.G., Gauthier, N., Vadillo Conessa, M., Pothier Bouchard, G.. Risk-Resilience\_QSR2017: Risk & resilience meta-analysis data and scripts for QSR 2017 paper. DOI: 10.5281/zenodo.842863
- 2016 **C Michael Barton.**, Riel-Salvatore, J.G., Popescu, G.. Middle and Upper Paleolithic dataset used for whole assemblages behavioral indicator (WABI) research. DOI: 10.5281/zenodo.45841
- 2015 **C Michael Barton**, Isaac Ullah, Gary Mayer, Sean Bergin, Hessam Sarjoughian, Helena Mitsova. MedLanD Modeling Laboratory v.1. CoMSES Computational Model Library. Retrieved from: <https://www.openabm.org/model/4609>.
- 2015 Sean M Bergin, **C Michael Barton**, Salvador Pardo Gordó, Joan Bernabeu Aubán. Neolithic Spread Model Version 1.0. CoMSES Computational Model Library. Retrieved from: <https://www.openabm.org/model/4447>
- 2013 **C Michael Barton** & Julien Riel-Salvatore. Formation of Lithic Assemblages v.1. CoMSES Computational Model Library. Retrieved from: <http://hdl.handle.net/2286.0/oabm.3949>.
- 2013 **C Michael Barton**. Swidden Farming Version 2.0. CoMSES Computational Model Library. Retrieved from: <http://hdl.handle.net/2286.0/oabm.3826>.
- 2011 **C Michael Barton**. Hominin ecodynamics v.2. CoMSES Computational Model Library. Retrieved from: <http://hdl.handle.net/2286.0/oabm.2639>.
- 2011 **C Michael Barton**. Hominin ecodynamics v.1. CoMSES Computational Model Library. Retrieved from: <http://hdl.handle.net/2286.0/oabm.2648>.

### Presented Papers and Posters

- 2024 Manuela Vanegas Ferro, Scott Foster, Allen Lee, and Michael Barton. Developing a Societal Dynamics Model Component for Earth System Models. Paper presented at the International Environmental Modelling and Software Biennial Congress. Lansing, MI, June 2024
- 2024 Michael Barton. Modeling, Data, and Open Science for Long Term Human Ecology. Invited keynote presentation, Advances in modelling past human ecosystems workshop. University of Cologne, Germany, May 2024
- 2024 Michael Barton, Alfredo Cortell-Nicolau, Agustín Díez-Castillo, Javier Fernández-López-de-Pablo, Salvador Pardo-Gordó, & Grant Snitker. Machine Learning for Chronology Building in Regional-Scale Synthesis. Invited symposium paper presented at the 89th Annual Meeting of the Society for American Archaeology. New Orleans, LA, April 2024.
- 2023 Felgenhauer, T., Lawrence, P., Lawrence, D., Tilmes, S., Smith, A., **Barton, C. M.**, ... Roberts, K. Developing Global Climate Intervention Scenarios for Modeling and Stakeholder Use. American Geophysical Union Annual Meeting. San Francisco, CA.
- 2022 Scenarios to Models: Towards Integrating Human and Earth Systems. Invited poster, American Geophysical Union Annual Meeting, December 2022.
- 2022 Michael Barton. Geography, Computation, and Modeling. Keynote presentation for the China Geographic Modelers Association Annual Meeting, September 2022.

- 2022 Michael Barton. Regional Data and Regional Analyses for Regional Systems. Keynote presentation for the Thematic Einstein Semester on the mathematics of complex social systems: past, present, and future, Workshop II: Data past and present. MATH+ Berlin Mathematics Research Center, May 2022
- 2022 Michael Barton. Modeling for Resilience. Invited presentation for Earth Resilience in the Anthropocene 2022 workshop, organized by the PIK (Potsdam Climate Institute) and Stockholm Resilience Centre, May 2022,
- 2021 Michael Barton. CoMSES.Net and the Open Modeling Foundation Initiative: Global Collaborations for FAIR Models. Invited symposium presentation at the Society for Medical Decision Making annual meeting, October 2021
- 2021 C Michael Barton, Janssen, M. A., Lee, A., & Buetow, K. H. Engaging a Global Scientific Community for Publishing Code: CoMSES.Net and the Open Modeling Foundation Initiative. Invited presentation at the Earth Science Information Partners Summer 2021 Meeting, July 2021.
- 2021 **Michael Barton.** Long-term social-ecological dynamics requires open science. Invited presentation at the Earth Archive Virtual Congress, Colorado State University. June 2021.
- 2021 **Michael Barton.** The challenge of risk and resilience: where invisible past meets invisible future. Keynote presentation at workshop "From past to future: Deep-time patterns of sustainability and resilience in socio-ecological systems", University of Leuven. May 2021.
- 2021 **Michael Barton.** CoMSES.Net - Enabling FAIR for Scientific Computation. Invited presentation at "Best Practices in Making Research Datasets Publicly Accessible", National Science Foundation Webinar. January 2021.
- 2020 **Michael Barton.** FAIR incentives: catalyzing collective action for science and society. Poster presentation at the American Geophysical Union Annual Meeting, December 2020.
- 2020 **Michael Barton.** The Open Modeling Foundation: Community Standards for Next Generation Modeling of Human and Earth Systems. Presented at the Annual Meeting of the Agricultural Model Intercomparison and Improvement Project. October 2020.
- 2020 **Michael Barton.** Coupled Models for Coupled Systems: Next Generation Modeling of Human and Earth Systems and The Open Modeling Foundation: Community Standards for Next Generation Modeling of Human and Earth Systems. Presented at Social Simulation Week 2020, European Social Science Association. September 2020.
- 2020 **Michael Barton.** The Open Modeling Foundation: Community Standards for Next Generation Modeling of Human and Earth Systems. Presented at workshop "Large-Scale Behavioural Models of Land Use Change", organized by the AIMES/GLP, Future Earth. May 2020
- 2019 **Michael Barton, Julie Demuth, Rebecca Morss, Sean Bergin.** Modeling Risk and Decision-Making in an Information-Rich Social Environment: The CHIME Project. Annual Meeting of the international Society for Risk Analysis, Arlington, VA, December 2019.
- 2019 **C Michael Barton.** Discovered or Devised: Making Typology Transparent, Replicable, Defensible, Useful, and Meaningful. Presented at All These Fantastic Cultures? Cultural Taxonomies in the Palaeolithic – Old Questions, Novel Perspectives. ClioArch ERC Workshop. Aarhus University, Denmark. November 2019
- 2019 **C Michael Barton.** The Open Modeling Foundation Initiative: A Scientific Community for Common Standards and Best Practices for Integrative Modeling of the Earth System. Keynote presentation at the Asian Regional Conference on Environmental Modeling and Software, Nanjing, China, May 2019.
- 2019 **C. Michael Barton.** Archaeology for the past, present, and future: new scientific approaches for understanding long term change in human societies. Keynote presentation at the XIII Encontro Arqueológico do Barbanza, Boro, Galicia, Spain, February 2019.

- 2019 **C. Michael Barton.** Computational socioecological science: quantitative approaches to long-term dynamics and feedbacks in coupled human and natural systems. Keynote presentation at the International Colloquium on Digital Archaeology, Bern, Switzerland, February 2019.
- 2018 **Michael Barton,** Allen Lee, Marco Janssen, Calvin Pritchard, & Kenneth Buetow. Discoverable, Accessible, Documented, Reusable, Interoperable: the Imperative to Publish Code in Modern Science. Poster presented at the American Geophysical Union Annual Meeting, Washington, DC, December 2018.
- 2018 **C Michael Barton,** Isaac IT Ullah, Nicolas Gauthier, Nari Miller, Grant Snitker, Irene Esteban, Joan Bernabeu, and Arjun Heimsath. 'Digital Proxies' for Validating Models of Past Socio-Ecological Systems in the Mediterranean Landscape Dynamics Project. Invited paper presented at the European Archaeological Association meeting, Barcelona, September 2018.
- 2018 Miguel F. Acevedo, William Boyd, Hessam Sarjoughian, Isaac Ullah, **Michael Barton.** Integrating socio-environmental models: vegetation, agriculture, and landform dynamics . Invited paper presented at the 9th International Congress on Environmental Modelling and Software, June 24-28 2018, Fort Collins, USA
- 2018 **C Michael Barton & Julien Riel-Salvatore.** You're Going to Carry that Weight a Long Time. Invited paper presented at the 83rd Annual Meeting of the Society for American Archaeology, Washington, DC, April 2018.
- 2018 **C Michael Barton.** Discussant. Forum: The Nuts and Bolts of Agent-Based Modelling For Archaeological Science. 83rd Annual Meeting of the Society for American Archaeology, Washington, DC, April 2018.
- 2017 **C Michael Barton,** Gerald C Nelson, Gregory E Tucker, Allen Lee, Cheryl Porter, Isaac Ullah, Eric W H Hutton, Gerrit Hoogenboom, Kimberly Rogers, Calvin Pritchard. A Community Framework for Integrative, Coupled Modeling of Human-Earth Systems. Paper presented at the American Geophysical Meeting Fall Meeting, New Orleans, December 2017.
- 2017 Agustín Díez Castillo, Grant Snitker, Joan Bernabeu Aubán, Oreto García Puchol, Salvador Pardo Gordó, **C. Michael Barton.** Examen de las dinámicas socio-ecológicas en el valle medio del Xùquer (Valencia) desde el Pleistoceno Medio hasta el Calcolítico. Paper presented at the 12th Iberian Congress of Archaeometry. Burgos, Spain. October 2017.
- 2017 ComSES@CSDMS: A Dynamic Duo. Keynote speaker for Modeling Coupled Earth and Human Systems - The Dynamic Duo. Community Surface Dynamics Modeling System Annual Meeting, University of Colorado, Boulder, CO. May, 2017
- 2017 Sean Bergin, Salvador Pardo Gordó, **Michael Barton,** Joan Bernabeu Aubán, Nicolas Gauthier, and Ricky Robertson. Testing Social and Ecological Drivers for the Initial Spread of Agriculture in the Western Mediterranean. Invited paper presented at the 82nd Annual Meeting of the Society for American Archaeology, Vancouver, Canada. April 2017
- 2017 **Michael Barton.** Reproducibility for Modeling and Scientific Computation. Agent-Based Modeling (ABM) 17: A Symposium That Advances the Science of ABM (NSF Sponsored BCS #1638446), San Diego, CA. April 2017
- 2017 **Michael Barton.** Integrated modeling of socio-biophysical systems. Presentation at Integrated Modeling of Socio-Environmental Systems, Future Earth Workshop. Institute for Advanced Sustainability Studies, Potsdam, Germany, March 13-15, 2017.
- 2016 Marina Alberti, Luís Bettencourt, **Michael Barton,** José Lobo, Jose, Mingyu Kang, Philippe Vaillant, and Tianzhe Wang. Detecting signatures of socio-ecological innovation in urbanizing regions: uncovering universal laws and underlying mechanisms. Poster presented at the 56<sup>th</sup> Annual Conference of the Association of Collegiate Schools of Planning, Tempe, AZ. October 2016
- 2016 **Michael Barton.** Science and Policy in a Humanized World. Presentation at Modeling Challenges for Sustainability, Future Earth Workshop. Research Institute for Humanity and Nature, Kyoto (Japan), September 28-30, 2016.

- 2016 Ariane Burke, Julien Riel-Salvatore, & **Michael Barton**. Modelling human systems and their response to climate variability during the Last Glacial Maximum. Poster presented at the Annual Meeting of the European Society for the study of Human Evolution, Madrid, September 2016.
- 2016 **Michael Barton**. Discussant for symposium "Calibrating' palaeoclimatology-informed research in old world archaeology: data, methods and theories". 81<sup>st</sup> Annual Meeting of the Society for American Archaeology, Orlando, FL. April 2016.
- 2016 Geoffrey Clark and **Michael Barton**. Lithics, Landscapes & la Longue-Durée—Curation as an Expression of Forager Mobility. Invited symposium paper presented at the 81<sup>st</sup> Annual Meeting of the Society for American Archaeology, Orlando, FL. April 2016.
- 2016 **Michael Barton**. A National Initiative for Integrative Human Systems Science. Social Observatory Coordinating Network, Conference on New Data Linkages, Arlington, VA. March 2016.
- 2016 **Michael Barton**. Modeling Human Systems: Computation & Social Science. Presented at "Modeling Socioecological Dynamics: Methods and Case Studies" workshop, Istanbul Technical University, Istanbul, Turkey. March 2016.
- 2016 **Michael Barton**. Modeling and Complexity in Socioecological Systems. Presented at "Modeling Socioecological Dynamics: Methods and Case Studies" workshop, Istanbul Technical University, Istanbul, Turkey. March 2016.
- 2016 **Michael Barton**, Emili Aura Tortosa, Oreto Garcia Puçol, Julien Riel-Salvatore, Nicolas Gauthier, Margarita Vadillo Conesa, and Geneviève Pothier-Bouchard. Risk and Resilience in the Late Glacial: a Case Study from the Western Mediterranean. Keynote presentation for "Late Glacial to Early Holocene Socio-ecological responses to climatic instability within the Mediterranean Basin" (MEDINES) conference, Tarragona, Spain. February 2016.
- 2015 **Michael Barton**. CoMSES Net 2007-2015: Scientific Community for Computational Modeling of Social and Ecological Systems. Keynote presentation for "Computational Transparency in Modeling Complex Systems" satellite session. Conference on Complex Systems 2015 (CCS15), Tempe, AZ. September 2015
- 2015 **Michael Barton**, Marco Janssen, Dawn Parker, Allen Lee, Sean Bergin\*\*, and Nathan Rollins\*\*. Opening the Black Box: Enabling Transparency in Scientific Computation. Invited symposium paper presented at the 80<sup>th</sup> Annual Meeting of the Society for American Archaeology, San Francisco, CA. April 2015.
- 2015 Isaac Ullah and **C. Michael Barton**. Complexity in space and time: spatio-temporal variability and scale in simulations of social-ecological systems. Invited symposium paper presented at the 80<sup>th</sup> Annual Meeting of the Society for American Archaeology, San Francisco, CA. April 2015.
- 2015 **Michael Barton**. Culture, Adaptation, Extinction. Origins of Extinctions Workshop: the Year of the Anthropocene, Tempe, AZ. February, 2015.
- 2014 Agustín Díez Castillo, Joan Bernabeu Aubán, **C. Michael Barton**, Oreto García Puchol, Sean Bergin\*\*, Salvador Pardo Gordó\*\*, Wendy H. Cegielski\*\*, y Grant Snitker\*\*. Paperless survey? New methodological approaches to archaeological fieldwork, the case of La Canal de Navarrés (València). Invited session paper presented at *Dando Sentido a la Prospección Arqueológica. (Making Sense of Archaeological Survey)*, workshop at the Instituto Universitario de Investigación en Arqueología Ibérica Universidad de Jaén, Spain, 13-14 noviembre 2014
- 2014 Sean M Bergin\*\*, **Michael Barton**, Salvador Pardo Gordó\*\*, Joan Bernabeu Aubán. Alternative Stories of Agricultural Origins: Testing Models for the Spread of Food Producing Economies in the Iberian Peninsula. Invited session paper presented at the XVII World USIPP Congress, Burgos, Spain, 1-7 September, 2014.
- 2014 **Michael Barton**, Peter Hiscock, Julien Riel-Salvatore, Steven Kuhn, Todd Surovell, Peter Bleed, and Gabrielle Popescu\*\*. A Paradigm Shift for Archaeological Research in Lithic Technology. Invited symposium paper presented at the 79<sup>th</sup> Annual Meeting of the Society for American Archaeology, Austin, TX. April 2014.

- 2014 Wendy Cegielski\*\*, 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 79<sup>th</sup> Annual Meeting of the Society for American Archaeology, Austin, TX. April 2014.
- 2013 **C. Michael Barton**, Sean Bergin\*\*, Joan Bernabeu, & Salva Pardo\*\*. Modeling Neolithic dispersal in Iberia. Paper presented at the Complex Systems in Prehistoric Research Workshop, European Conference on Complex Systems, Barcelona, Spain. September 2013
- 2013 Sean Bergin\*\* & **C. Michael Barton**. Dimensions of human land-use practices: an exploration of socio-natural interactions in Neolithic Spain. Invited symposium paper presented at the 78<sup>th</sup> Annual Meeting of the Society for American Archaeology, Honolulu, HI. April 2013.
- 2013 Isaac I.T. Ullah & **C. Michael Barton**. Simulating “collapse”: A computational modeling approach to understanding adaptive reorganization in socio-natural systems. Invited symposium paper presented at the 78<sup>th</sup> Annual Meeting of the Society for American Archaeology, Honolulu, HI. April 2013.
- 2013 Salvador Pardo Gordó\*\*, Joan Bernabeu Aubán, **Michael Barton**, & Agustín Díez Castillo. The Neolithic in Iberia, spread and speed: a preliminary approximation. Paper presented at the 7<sup>th</sup> World Archaeological Congress, Dead Sea, Jordan. January 2013.
- 2012 **C Michael Barton**, Valentin Villaverde Bonilla, João Zilhão, J Emili Aura Tortosa, and Oreto Garcia Puchol. In Glacial Environments Beyond Glacial Terrains: Human Adaptation in Mediterranean Iberia 22,000–12,000 cal-BP. Invited symposium paper presented at the 77<sup>th</sup> Annual Meeting of the Society for American Archaeology, Memphis, TN.
- 2012 Sean Bergin\*\*, Isaac IT Ullah\*\*, **C Michael Barton**, & Claudine Gravel-Miguel\*\*. Human-Environment Interactions in a Changing Environment: A Computational Model of Agropastoral Practices and Landscapes in Neolithic Spain. Invited paper presented in the symposium “Socio-natural systems in pastoral and agro-pastoral societies: Archaeological investigations of pastoral landscapes” at the 77<sup>th</sup> annual meeting of the Society for American Archaeology, Memphis, TN.
- 2012 **C Michael Barton**. Symposium discussant for “Socio-natural systems in pastoral and agro-pastoral societies: archaeological investigations of pastoral landscapes”. 77<sup>th</sup> Annual Meeting of the Society for American Archaeology, Memphis, TN.
- 2011 **Michael Barton**, Isaac Ullah\*\*, & Helena Mitasova. High resolution surface process modeling in a GRASS GIS environment. Keynote presentation at the Community Surface Dynamics Modeling System 2011 Annual Meeting: Impact of Time and Process Scales, October 28-30<sup>th</sup>, Boulder Colorado, USA
- 2011 **Michael Barton** and George Indruszewski. Simulating early medieval navigation in the North Atlantic seascape. Keynote presentation at the IV<sup>th</sup> Nordic Geographers Meeting, May 24-27, 2011, Roskilde, Denmark.
- 2011 Ernestina Badal, **Michael Barton**, Yolanda Carrión, and Margaret MacMinn-Barton. Reconstructing past landscapes from charcoal: new data from middle Chevelon Creek (Arizona). Invited symposium paper presented at the 76<sup>th</sup> Annual Meeting of the Society for American Archaeology, Sacramento, CA.
- 2011 Isaac Ullah, **C. Michael Barton**, Sean M. Bergin and Alexandra E. Miller. Simpler is better: lessons from modeling coupled human and natural systems in the Mediterranean Landscape Dynamics Project. Invited symposium poster presented at the 76<sup>th</sup> Annual Meeting of the Society for American Archaeology, Sacramento, CA.
- 2011 Sean M. Bergin, Isaac Ullah, **C. Michael Barton**, Hessam Sarjoughian and Gary Mayer. Simulating Neolithic Landscape Dynamics: A Coupled ABM-GIS Model of Agro-Pastoral Systems in Eastern Spain. Invited symposium poster presented at the 76<sup>th</sup> Annual Meeting of the Society for American Archaeology, Sacramento, CA.

- 2011 **C. Michael Barton.** Looking for the Future in the Past Long-Term Change in Socioecological Systems. Invited symposium paper presented at the American Association for the Advancement of Science, Washington, DC, February 17-21, 2011.
- 2010 **Michael Barton** & Nathan Rollins. Current status and upcoming developments for the CoMSES Network and OpenABM: recent enhancements, coming changes to the NSF model archive, and new tools for collaboration. Paper presented at the 2010 meeting of the Computational Social Sciences Society, November 4-6, 2010, Tempe, AZ.
- 2010 **C. Michael Barton.** Modeling complex ecodynamics in Mediterranean landscapes. Invited paper presented at *Bio-Diversity of Ancient Societies: Explorations on Nature, Worldviews, and Human Evolution Conference*, Aichi Prefectural University, Nagoya, Japan. October 6-8, 2010.
- 2010 **C. Michael Barton** & Julien Riel-Salvatore. Agents of change: modeling biocultural evolution in Late Pleistocene western Eurasia. Invited paper presented at *Cultural Evolution in Spatially Structured Populations*, conference organized by the Centre for the Evolution of Cultural Diversity, University College London, September 13-15, 2010.
- 2010 Helena Mitsova, **Michael Barton**, Maria Brovelli, & Venkatesh Raghavan. Open source approach to geospatial research and education: accomplishments and challenges. Plenary address to FOSS4G 2010 Conference, Barcelona, September 6-9, 2010.
- 2010 Alexandra E. Miller\*\*, Arturo de Lombera Hermida, Ramón Fábregas Valcarce, & **C. Michael Barton.** A new view of the Paleolithic settlement of the Galician hinterland, Spain. Paper presented at the 75th Annual Meeting of the Society for American Archaeology, St. Louis, MO.
- 2010 Sean Bergin\*\*, Isaac Ullah\*\*, **Michael Barton**, Gary Mayer\*\*, & Hessam Sarjoughian. Coupled ABM-GIS Modeling of Agro-Pastoral Systems in Eastern Spain. Poster presented at the 75th Annual Meeting of the Society for American Archaeology, St. Louis, MO.
- 2010 **C. Michael Barton.** Coupling the past, present, and future of socio-ecological systems: the Mediterranean Landscape Dynamics Project. Invited paper presented at *Frontiers in Research on Coupled Human and Natural Systems (CHANS): Current Progress and Future Opportunities*, conference sponsored by the National Science Foundation, Washington, DC, April 15, 2010.
- 2010 **C. Michael Barton**, Isaac Ullah\*\*, Gary Mayer\*\*, Hessam Sarjoughian, Sean Bergin\*\*, Alexandra Miller\*\*, & Helena Mitsova. Coupled Models for Coupled Systems: Land-Use and Landscape Dynamics in the Mediterranean. Invited symposium paper presented to the Annual Meeting of the American Association of Geographers, Washington, DC.
- 2010 J. Brett Hill, Alexandra Miller\*\*, Elizabeth Wentz & **C. Michael Barton.** Archaeoclimatology and ancient Mediterranean landscape dynamics. Poster presented to the Annual Meeting of the American Association of Geographers, Washington, DC.
- 2010 Helena Mitsova & **C. Michael Barton.** Open source GIS in interdisciplinary education and research. Invited symposium paper presented to the Annual Meeting of the American Association of Geographers, Washington, DC.
- 2009 **C. Michael Barton.** Land-use, water, and Mediterranean landscapes: modeling long-term dynamics of complex socioecological systems. Invited paper presented at *Water and Society: Past, Present, and Future*, conference jointly sponsored by the Royal Society and British Academy, London, November 9-10, 2009.
- 2009 **C. Michael Barton.** CoMSES: computational thinking and computational modeling for the social sciences. Invited plenary session paper presented at the 2009 meeting of the North American Association for Computational Social and Organization Sciences, October 23-24, Tempe, AZ.
- 2009 **C. Michael Barton.** From narratives to algorithms: extending archaeological explanation beyond archaeology. Invited Plenary Session paper presented at the 74rd Annual Meeting of the Society for American Archaeology, Atlanta, GA.

- 2008 **C. Michael Barton**. Computational modeling for socioecological systems science. Invited speaker for *Modeling Social Behavior*, Informational Conference at National Institutes of Health, Washington, DC, November 6-7, 2008.
- 2008 **C. Michael Barton**. AZSITE: a review and look ahead. Panelist: *Large databases for archaeology*. Pecos Conference, Flagstaff, AZ.
- 2008 **C. Michael Barton** & Julien Riel-Salvatore\*\*. A lithic Perspective on Ecological Dynamics in the Upper Pleistocene of Western Eurasia. Invited symposium paper presented at the 73rd Annual Meeting of the Society for American Archaeology, Vancouver, BC.
- 2008 Isaac Ullah\*\*, Gary Mayer\*\*, **C. Michael Barton**, & Hessam Sarjoughian. Coupled agent-based and geospatial models: a new approach to socioecological simulation. Invited symposium paper presented at the 73rd Annual Meeting of the Society for American Archaeology, Vancouver, BC.
- 2008 Alexandra Miller\*\*, **C. Michael Barton**, Steven Schmich\*\*, & Sarah McClure. Climate change and socioecological dynamics in eastern Spain. Invited symposium paper presented at the 73rd Annual Meeting of the Society for American Archaeology, Vancouver, BC.
- 2008 J. Brett Hill, Alexandra Miller\*\*, Elizabeth Wentz. & **C. Michael Barton**. Archaeoclimatology and Ancient Mediterranean Landscape Dynamics. Invited symposium paper presented at the 73rd Annual Meeting of the Society for American Archaeology, Vancouver, BC.
- 2007 E.N. DiMaggio\*\*, N. La Roca, JR Arrowsmith, A Diez Castillo, J Bernabeu Auban, **CM Barton**. Field Investigations of Landscape Development in southeast Spain for use in Modeling Holocene (8,000 – 1,500 yr) Agropastoral Landuse and Landscape Interactions. Poster presented at the American Geophysical Union 2007 meeting.
- 2007 Marc Tiffagom, Jesús Francisco Jordá Pardo, **Michael Barton**, Joan Emili Aura Tortosa. Le vent de l'Est... Essai de mise en contexte chronologique et paléogéographique de la pointe à cran solutréenne. Poster presented at "Le Solutréen ...40 ans après le Smith'66" Conference of the Union Internationale des Sciences Préhistoriques et Protohistoriques, Preuilley-sur-Claise, France, October-November, 2007.
- 2007 Mariela Soto\*\*, P. Fall, **C.M. Barton**, S. Falconer, H. Sarjoughian, R. Arrowsmith. Land Cover Change in the Southern Levant: 1973 to 2007. Paper presented at the ASPRS Southwest Technical Conference, Arizona State University, March 7, 2007.
- 2007 Isaac Ullah\*\* & **Michael Barton**. Alternative futures of the past: modeling Neolithic landuse and its consequences in the ancient Mediterranean. Contributed paper presented at the 72st Annual Meeting of the Society for American Archaeology, Austin, TX.
- 2007 **Michael Barton**, Oreto Garcia, & Margaret MacMinn-Barton. Alt del Punxó: results of multistage fieldwork, geophysical survey, and GIS. Invited symposium paper presented at the 72st Annual Meeting of the Society for American Archaeology, Austin, TX.
- 2007 Agustín Diez Castillo, Joan Bernabeu Auban, **C. Michael Barton** y Neus La Roca. Socioecologia de los paisajes Holocénicos (10000-4000BP) en el valle del Serpis. Paper presented at the I Jornadas de SIG Libre, March 2007, Girona, Spain.
- 2007 Hessam Sarjoughian & **Michael Barton**. Composing Agent and Landscape Models: An Example from the Mediterranean. Invited paper presented at the Workshop on aspects of Social and Socio-Environmental Dynamics (supported by ASU and the Centre National de la Recherche Scientifique, France), Arizona State University, January 2007.
- 2006 J. R. Arrowsmith, E.N. DiMaggio\*\*, **C.M. Barton**, H. Sarjoughian, P. Fall, S. Falconer, I. Ullah\*\*. 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 American Geophysical Union 2006, San Francisco.
- 2006 Isaac Ullah\*\* & **Michael Barton**. Modeling impacts of landuse practices on Mediterranean landscapes. Presentation at the Archaeological Sciences of America Symposium, September 2006, Tucson, AZ.

- 2006 Markus Neteler, Alessandro Bezzi, R. Gietl, D. Francisci, **Michael Barton**. GRASS: A powerful GIS for archaeologists. Invited paper presented at the "Open Source, Free Software e Open Formats nei processi di Ricerca Archeologica". Workshop at the Università degli Studi di Siena, Polo Universitario Grossetano, 8 May 2006.
- 2006 Matthew Peeples\*\*, **Michael Barton**, & Steven Schmich\*\*. Landscapes and long-term landuse along the middle Chevelon Creek drainage, AZ. Poster presented at the 71st Annual Meeting of the Society for American Archaeology, San Juan.
- 2006 Eowyn Allen\*\*, Steven Falconer, , **Michael Barton**, & Pat Fall. Modeling of agropastoral human activities using agent-based simulation. Poster presented at the 71st Annual Meeting of the Society for American Archaeology, San Juan.
- 2006 Alexandra Miller\*\*, **Michael Barton**, & Oreto Garcia. Surviving the Holocene crisis: human ecological responses to the onset of the current interglacial. Invited symposium paper presented at the 71st Annual Meeting of the Society for American Archaeology, San Juan.
- 2006 **Michael Barton**, H. Sarjoughian, S. Falconer, H. Mitsova, R. Arrowsmith, & P. Fall. Modeling long-term landscape dynamics and the emergence of intensification. Invited symposium paper presented at the 71st Annual Meeting of the Society for American Archaeology, San Juan, Puerto Rico.
- 2006 George Indruszewski & **C. Michael Barton**. Simulating sea surfaces for modeling Viking Age seafaring in the Baltic. Computer Applications in Archaeology Conference, Fargo, ND. April 2006.
- 2005 Steven Schmich\*\*, **Michael Barton**, & Matthew Peeples\*\*. Resilience lost: intersecting landuse and landscape dynamics in the upland Southwest. Invited symposium paper presented at the annual meeting of the American Anthropological Association, Washington, DC. December 2005.
- 2005 **Michael Barton** & Hessam Sarjoughian. Modeling long-term socioecology: the Mediterranean Landscape Dynamics Project. Invited presentation for "Next Generation Simulations of Human-Environmental Interactions". Sponsored by the Santa Fe Institute and the University of Arizona, Tucson, 12-14 December, 2005.
- 2005 **Michael Barton**. Integrating spatial and temporal dynamics in ecological modeling: issues and directions. Invited presentation for "Eco-cultural Niche Modeling: an OMLL - NSF Symposium", Les Eyzies, France, 22-26 September, 2005.
- 2004 George Indruszewski & **C. Michael Barton**. A cost-surface DEM for modelling Viking Age seafaring in the Baltic Sea. Presented at the 9<sup>th</sup> Workshop for "Archaeologie und Computer", Vienna, November 3-5, 2004
- 2004 **Michael Barton**. Landuse and landscape socioecology in the Mediterranean Basin: an overview of planned research. Invited presentation to workshop "Modeling Long Term Culture Change", Santa Fe Institute, Santa Fe, NM. October 24-27, 2004.
- 2004 **Michael Barton**, Joan Bernabeu, Oreto Garcia, Teresa Orozco, & Agustin Diaz. Multiscale research and monumental earthworks in eastern Spain. Paper presented at the USIPP Commission IV Meeting, Santa Fe, NM. October 11-13, 2004.
- 2003 Steven Schmich\*\* & **C. Michael Barton**. Stone soup: Paleo-Indian and Archaic archaeology in an urban basin. Poster presented at the 68th Annual Meeting of the Society for American Archaeology, Milwaukee, Wisconsin.
- 2002 Julien Riel-Salvatore\*\* & **C.M. Barton**. New quantitative perspectives on the Middle-Upper Paleolithic transition. Invited symposium paper presented at the 67th Annual Meeting of the Society for American Archaeology, Denver.
- 2001 Steven Schmich\*\*, **Michael Barton**, Margaret MacMinn-Barton, & Julien Riel-Salvatore\*\*. Landscape stability, biodiversity, and the dynamics of human ecology across the transition from forager to food producer economies in the Middle Chevelon Creek drainage of Arizona. Invited symposium paper presented at the 66th Annual Meeting of the Society for American Archaeology, New Orleans.



- 2001 **C. Michael Barton**, Joan Bernabeu, J. Emili Aura, & Lluís Molina\*\*. Historical contingency, nonlinearity, and the neolithization of the western Mediterranean. Invited forum paper presented at the 66th Annual Meeting of the Society for American Archaeology, New Orleans.
- 2001 Carol Griffith & **C. Michael Barton**. The AZSITE Project: heritage preservation through digital technology. Presented at the National Conference of State Preservation Officers, Washington, DC, March 2001.
- 2000 Alanna Ossa\*\* & **C. Michael Barton**. Preserving the legacy of Shoofly Village: relational databases and research design. Invited poster presented at the 65th annual meeting of the Society for American Archaeology, Philadelphia, PA.
- 1999 **C. Michael Barton**, Steven Schmich\*\*, & Steven James. Colonization ecology and the peopling of the New World. Paper presented at *Pioneers on the Land: How America Got its People*, research conference at Arizona State University, Tempe, December 1999.
- 1999 **C. Michael Barton**, Margaret MacMinn-Barton, & Ernestina Badal Garcia. Preceramic settlement in the middle Chevelon Creek drainage. Invited symposium paper presented at the 72nd annual Pecos Conference, Pinedale, Arizona.
- 1999 **C. Michael Barton**. Style. Invited symposium paper presented at the 64th annual meeting of the Society for American Archaeology, Chicago, IL.
- 1998 **C. Michael Barton**, Joan Bernabeu, J. Emili Aura, Neus LaRoca, & Oreto Garcia\*\*. An integrated approach to modeling landuse dynamics at a regional scale in the Western Mediterranean. Paper presented at the Inter-Congress Meeting of Commission 4 of the Union Internationale des Sciences Préhistoriques et Protohistoriques, Tempe, AZ, USA
- 1998 Steven Schmich\*\* & **C. Michael Barton**. Breaking the ice: northern European experiences and North American expectations. Paper presented at the 31st Chacmool Conference, Calgary, Alberta.
- 1997 Linda Martin, **C. Michael Barton**, Margaret MacMinn-Barton, & Steve Plog. A fine kettle of fish - reconstituting CARP (Chevelon Archaeological Research Project). Presented at the 70th Pecos Conference, Pecos NM, 1997.
- 1996 **C. Michael Barton**. El Paleolítico del fin del mundo: reflexiones sobre la tecnología y el asentamiento de Gibraltar. Invited paper presented at the I Simposio de Prehistoria Cueva de Nerja: las culturas del Pleistoceno superior en Andalucía, Nerja, Granada, Spain.
- 1995 **C. Michael Barton** & G.A. Clark. A selectionist model for information exchange in late Pleistocene/early Holocene Europe. Invited symposium paper presented at the 60th annual meeting of the Society for American Archaeology, Minneapolis, MN.
- 1994 **C. Michael Barton**. Introductory address for *Evolutionary theory in anglo/American archaeology*. Symposium for the 59th annual meeting of the Society for American Archaeology, Anaheim, CA.
- 1993 G.A. Clark & **C. Michael Barton**. The rise and fall of social complexity in late Pleistocene Europe: an evolutionary perspective. Paper presented at the 26th Chacmool Conference, Calgary, Alberta.
- 1992 **C. Michael Barton**, Joan Bernabeu, J. Emili Aura, Margaret MacMinn-Barton, & Imma Guitart\*\*. Prehistoric settlement and land use during the neolithization of eastern Spain: evidence from systematic survey in the Province of Alicante. Invited symposium paper presented at the 91st annual meeting of the American Anthropological Association, San Francisco, CA.
- 1991 **C. Michael Barton** & G.A. Clark. Upper Pleistocene cave site formation processes in Europe and the Levant. Invited symposium paper presented at the 56th annual meeting of the Society for American Archaeology, New Orleans, LA.
- 1990 John Lindly\*\*, **C. Michael Barton**, & Steven Falconer. A preliminary lithic analysis of Early and Middle Bronze Age industries from two village sites in the Levant. Presented at the 55th annual meeting of the Society for American Archaeology, Las Vegas, NV.
- 1989 **C. Michael Barton**, Deborah I. Olszewski, & Nancy R. Coinman\*\*. Burins, tool or technique? Presented at the 54th annual meeting of the Society for American Archaeology, Atlanta, GA.

- 1988 **C. Michael Barton.** Middle Paleolithic tools: variability and human behavior. Presented at the 53<sup>rd</sup> annual meeting of the Society for American Archaeology, Phoenix, AZ.
- 1986 **C. Michael Barton.** Patterns of variability in Middle Paleolithic stone tools. Presented at the 51<sup>st</sup> annual meeting of the Society for American Archaeology, New Orleans, LA.
- 1981 **C. Michael Barton.** Technologically produced variation in lithic debitage and the predictive ability of flake attributes. Presented at the 46<sup>th</sup> annual meeting of the Society for American Archaeology, San Diego, CA.
- 1979 **C. Michael Barton.** Terminal Pleistocene environments and human adaptation in North America. Presented at the 44<sup>th</sup> annual meeting of the Society for American Archaeology, Vancouver, B.C.

#### **Workshops and Symposia Organized**

- 2024 Michael Barton, Allen Lee, Serena Hamilton, Iestyn Woolway, Min Chen, Andrew Bell, & Charlotte Till. Fostering and Sustaining FAIR in Modeling Science. Workshop organized for the International Environmental Modelling and Software Biennial Congress. Lansing, MI, June 2024
- 2021 Establishing the Open Modeling Foundation. International organizational meeting to formally establish the Open Modeling Foundation, supported by the Alfred P. Sloan Foundation. ASU Washington, DC and online. December 2021
- 2021 Open Modeling Foundation: Strategic Planning Workshops 4. International workshops to develop the Open Modeling Foundation Initiative, supported by the Alfred P. Sloan Foundation. Arizona State University online. May 2021.
- 2020 Open Modeling Foundation: Strategic Planning Workshops 3. International workshops to develop the Open Modeling Foundation Initiative, supported by the Alfred P. Sloan Foundation. Arizona State University online. October 2020.
- 2020 Open Modeling Foundation: Strategic Planning Workshops 2. International workshops to develop the Open Modeling Foundation Initiative, supported by the Alfred P. Sloan Foundation. Arizona State University online. May 2020.
- 2019 Large-Scale Behavioral Models of Land Use Change. Workshop supported by Analysis and Integrated Modeling of the Earth System and Global Land Project, Future Earth. Arizona State University. September 2019 (co-organizer with M. Rounsevell and S. van der Leeuw)
- 2019 The Open Modeling Foundation Initiative: a Scientific Community for Common Standards and Best Practices for Integrative Modeling of the Earth System. Workshop organized at the Institute for Advanced Sustainability Studies, Potsdam, Germany. May 2019
- 2019 Integrative Modeling of the Energy Transition. Workshop organized at the Institute for Advanced Sustainability Studies, Potsdam, Germany. March 2019 (co-organizer with O. Renn)
- 2018 Open Modeling Foundation: an International Alliance for Scientific Computational Modeling Standards. Workshop organized at Colorado State University, Ft. Collins, CO. June, 2018
- 2017 Modeling Coupled Earth and Human Systems - The Dynamic Duo. Community Surface Dynamics Modeling System Annual Meeting, University of Colorado, Boulder, CO (co-organizer and keynote speaker with J Syvitski, CSDMS Executive Director). May, 2017
- 2017 Integrated Modeling of Socio-Environmental Systems (AIMES/FutureEarth Workshop), Institute for Sustainability Studies, Potsdam, Germany (co-organizer with Sander van der Leeuw). March 2017
- 2016 The Future of Social Science as Science Integrating the Science of Human and Biophysical Systems. Workshop at the Institute for Social Research, University of Michigan (co-organizer with James Jackson and David Lam). October, 2016.
- 2016 Linking Earth System Dynamics and Social System Modeling, NSF/Future Earth Workshop, Boulder, Colorado (co-organizer). 23- 25 May 2016.

- 2015 Building Capacity for 21st Century Social Sciences. NSF Workshop, Washington, DC (organizer). March 2015.
- 2013 New Directions in Modeling Dynamics in Coupled Social-Natural Systems. Symposium, 78th Annual Meeting of the Society for American Archaeology, Honolulu, HI. Session organizer and chair (S. van der Leeuw and S. Bergin co-organizers). April 2013.
- 2013 Computational Modeling in Education. CoMSES Net Workshop. Arizona State University, February 28-March 2, 2013. Sponsored by NSF. Lead organizer (M. Janssen and L. Alessa co-organizers).
- 2010 Digital Technologies for Cultural Resource Management. Workshop for Chinese resource managers, Ningming, Guangxi Province, China, July 4-7, 2010. Co-organizer with Su Sheng and speaker.
- 2010 Computational Modeling in Socio-Ecological Sciences (CoMSES) Planning Workshop. Arizona State University, February 18-20, 2010. Sponsored by NSF. Lead organizer (M. Janssen and L. Alessa co-organizers).
- 2009 Archaeology beyond anthropology. Plenary Session, 74rd Annual Meeting of the Society for American Archaeology, Atlanta, GA. Co-organizer with M. Smith and M. Hegmon.
- 2007 Integrating socio-ecological sciences through a community modeling framework. Planning workshop supported by NSF. Arizona State University, 1-3 March 2007. Lead organizer. (M. Janssen and L. Alessa\*\* co-organizers).
- 2000 The future of knowledge from the past: legacy data and archaeological research in the next millennium. Poster session for the 65<sup>th</sup> annual meeting of the Society for American Archaeology, Philadelphia, PA. Co-organizer with A. Simon.
- 1999 Preserving the anthropological record VI: CoPAR Guide to Anthropological Records thesaurus and keyword development workshop. Conference sponsored by the Wenner-Gren Foundation and the Council for the Preservation of Anthropological Records, Tucson, AZ. Leader of archaeology group.
- 1998 Preserving the anthropological record IV: developing a pilot national internet guide to anthropological collections and archives. Conference sponsored by the Wenner-Gren Foundation and the Council for the Preservation of Anthropological Records, Taos, NM. Co-organizer and discussion leader.
- 1995 Preserving the anthropological record III: developing standards for accessing anthropological documents. Conference sponsored by the Wenner-Gren Foundation and the Council for the Preservation of Anthropological Records, Arizona State University, Tempe, AZ. Co-organizer and discussion leader.
- 1994 The Information Superhighway: a Research Forum. Research forum sponsored by Arizona State University, Office of Research Publications, Tempe, AZ. Head of roundtable on the effects of the information superhighway on curatorship.
- 1994 Evolutionary theory in anglo/ American archaeology. Symposium for the 1994 meeting of the Society for American Archaeology, Anaheim, CA. Primary organizer, G.A. Clark co-organizer.
- 1988 The Basics: a computer workshop. Workshop sponsored by the Museum Association of Arizona, Phoenix, AZ. Co-organizer and featured speaker.

### Colloquia and Invited Lectures

- 2024 Open Source Workflows for Archaeological Research: Examples from Survey in Eastern Spain. DOI Open Source Geospatial Software Subcommittee. April 2024.
- 2024 The Need for Transparency in Socioecological System Science. Center for Informatics Research in Science and Scholarship Lecture Series, University of Illinois Urbana-Champaign. February 2024.

- 2023 The Open Modeling Foundation: a Global Community for Standards-Based Modeling of Human and Natural Systems. NFDI4DS Lecture Series Lecture Series, ZB MED – Information Centre for Life Sciences. Cologne. Germany, June 2023. <https://doi.org/10.5446/62444>
- 2023 The Open Modeling Foundation: a Global Community for Standards-Based Modeling of Human and Natural Systems. Invited colloquium at the Institut national d'histoire de l'art (INHA), Paris. Institut national d'histoire de l'art (INHA), Paris, June 2023.
- 2023 Risk, Resilience, and Archaeology: Where the Invisible Past Meets the Invisible Future. Invited colloquium at the Université Paris Nanterre. Université Paris Nanterre, June 2023.
- 2023 Risk, Resilience, and Archaeology: Where the Invisible Past Meets the Invisible Future. EF45 (Complex Social Systems) Lecture for MATH+ Berlin. Zuse Institute, Berlin, May 2023.
- 2021 Open Modeling Foundation: Community Standards for Next Generation Modeling of Human and Earth Systems. Colloquium at the Community Surface Dynamics Modeling System, University of Colorado, Boulder, CO. April 2021.
- 2020 The Promise of Archaeology as Long Term Human System Science. Colloquium at the University of Montreal, Montreal, Quebec, Canada, October 2020.
- 2020 The emergence natural and human landscapes in the Mediterranean: integrative science for the Anthropocene. Colloquium at the University of Washington, Seattle, WA, February 2020
- 2019 Integrative science for Anthropocene landscapes. Karlsruhe Institute of Technology, Garmisch-Partenkirchen, Germany, June 2019.
- 2019 Integrative science for coupled human & natural systems. Department of Geography, University of Bucharest, Bucharest, Romania, June 2019.
- 2019 Archaeology as a science of long term biosocial change. Department of Archaeology, University of Bucharest, Bucharest, Romania, June 2019.
- 2019 Integrative science for coupled human & natural systems. University of Potsdam, Potsdam, Germany, May 2019.
- 2019 Integrative science for the dynamics of Anthropocene landscapes: a Mediterranean perspective. Humboldt University, Berlin, Germany, May 2019.
- 2019 A global community for modeling human-earth system dynamics. International Institute for Applied Systems Analysis, Vienna, Austria, April 2019
- 2019 A global community for nextgen modeling of human-earth system dynamics. Institute for Advanced Sustainability Studies, Potsdam, Germany, January 2019.
- 2018 The emergence of a humanized planet: new scientific approaches to cultural-ecological niche construction and a coupled human-natural world. Colloquium, Colorado State University, November 2018.
- 2018 Computers and Stone Tools: Using Modern Technology to Study Ancient Technology. Invited lecture, Arizona Museum of Natural History, Mesa, AZ, March 2018.
- 2017 Integrative human & Earth systems. modeling anthropocene systems: the Mediterranean Landscape Dynamics project. Invited colloquium, Helmholtz Centre for Environmental Research GmbH – UFZ, Leipzig, Germany. March 2017
- 2016 The Emergence of a Coupled Natural & Human World: Interdisciplinary Research in Mediterranean Landscapes. Invited colloquium, Departement d'Anthropologie, Université de Montreal. November 2016.
- 2016 The emergence of a coupled natural & human world: interdisciplinary research in the Mediterranean Landscape Dynamics Project. Invited lecture for the US Global Change Research Program, Washington, DC. August 2016

- 2016 Earth Systems as Human Systems: Modeling Interactions Between People & the Environment in the Anthropocene. Invited colloquium, Istanbul Technical University, Istanbul, Turkey. March 2016.
- 2014 Earth systems as human systems: modeling interactions between people & the environment in the Anthropocene. Invited Colloquium, Woods Hole Oceanographic Institute, Massachusetts Institute of Technology, March 2014
- 2013 El Destino de los Neandertales: Prehistoria Paleolítico, Ciencia Basada en Modelos, y la Evolución Biocultural. Invited Colloquium, Institut Català de Paleoecologia Humana i Evolució Social (IPHES), Universitat Rovira i Virgili, Tarragona, Spain, May 2013
- 2013 Whither Neanderthals? Modeling Human Biocultural Dynamics in Late Pleistocene Western Eurasia. Invited lecture for the Arizona Archaeological Society, Queen Creek, AZ, May 2013.
- 2012 New approaches to socio-ecological science: modeling dynamic interactions between people and landscapes. Invited Colloquium, Roskilde University, Roskilde, Denmark, June 2012.
- 2012 Computational socioecology: modeling dynamic interactions between people and landscapes. Invited colloquium, Department of Anthropology, University of Colorado, Denver, May 2012.
- 2012 Computational socioecology: modeling dynamic interactions between people and landscapes. Invited colloquium, Institute for Arctic and Alpine Research, University of Colorado, Boulder, March 2012.
- 2010 Computational modeling in the future of the past : an example from the Mediterranean. Invited speaker at *Messages from Past Societies on Biological Diversity*, a public forum organized by Aichi Prefectural University, Nagoya, Japan. October 9, 2010
- 2010 Stories of the past or science of the future? Archaeology and computational social science. Invited colloquium, Institute of Archaeology, University of London, UK, March 2010.
- 2009 GIS and spatial technologies for archaeology & ecology in the 21st Century. Invited colloquium, Hetao University, Bayan Nur, Nei Meng Gu (Inner Mongolia), China, July 2009.
- 2008 Agent-based modeling in socioecological research: protocols for studying dynamic systems. Invited keynote speaker for *Complexity Science: Agent-Based Models and the New Paradigm of Uncertainty*, a workshop funded by NSF and Alaska EpsCoR, University of Alaska, Anchorage, September 2008.
- 2008 Modeling land-use & landscape dynamics in the ancient Mediterranean. Invited speaker for *Complexity Science: Agent-Based Models and the New Paradigm of Uncertainty*, a workshop funded by NSF and Alaska EpsCoR, University of Alaska, Anchorage, September 2008.
- 2008 SIG y tecnología espacial en la prehistoria y la arqueología. Invited colloquium, Departamento de Arqueología y Prehistoria, Universidad de Santiago de Compostela, Galicia, Spain, June 2008.
- 2008 Research protocols for an emerging science of social dynamics. Invited speaker for NSF-sponsored workshop on agent-based modeling, Colorado State University, April 2008
- 2008 Landscape dynamics, modeling, & archaeological science in the ancient Mediterranean. Invited colloquium for NSF-IGERT lecture series, University of Arizona, January 2008
- 2007 Mediterranean landscape dynamics: new approaches to modeling human-environmental interaction. Invited colloquium, Stanford University, November 2007.
- 2006 Is the future of archaeology in the laboratory of the past? Invited colloquium, Santa Fe Institute, October 2006.
- 2006 Is the future of archaeology in the laboratory of the past? Long-Term Consequences of Ancient Mediterranean Land Use. Invited lecture for the ASU Chapter of Sigma Xi, March 2006.
- 2005 Persistence and change in ancient human landscapes of Mediterranean Spain. Invited lecture for the Archaeological Institute of America, Arizona State University, Tempe, November 2005

- 2002 Long-term socioecology in the western Mediterranean. Invited lecture for the Arizona Archaeological and Historical Society, Arizona State Museum, Tucson. July 2002.
- 2001 Prehistoric landscapes and human ecology of the Chevelon area. Invited lecture for the Arizona Archaeological Society, Prescott Chapter, September 2001.
- 2001 Contingent ecology: landscape history in the western Mediterranean and American Southwest. Invited colloquium at the Department of Anthropology, University of Washington. February 2001.
- 2000 Dynamic human ecology and agricultural origins in prehistoric west Mediterranean landscapes. *Global Ancestors II*, lecture series sponsored by the Phoenix Public Library. October 2000.
- 1999 Scratching the surface: artifact taphonomy and dynamic settlement modeling in eastern Spain. Invited colloquium at the Department of Anthropology, University of Nevada, Reno, NV. April 1999
- 1999 A Valencian perspective on land use and prehistory in the western Mediterranean. Invited lecture to the Arizona Archaeological Society. January 1999.
- 1993 Settlement studies and geographic information systems: a Spanish case study. Invited colloquium for the Department of Anthropology, Western Michigan University, Kalamazoo, MI.
- 1992 Understanding stone tools. Lecture to the Arizona Lapidary Society, Phoenix, AZ.

#### ARCHAEOLOGICAL FIELD WORK

- Eastern Spain and western Jordan. Modeling long-term agropastoral landuse and landscape dynamics from the Neolithic-Bronze Age. Institutions/sponsor: Arizona State University, University of Valencia, University of Jordan, North Carolina State University, University of Wisconsin, Hendrix College, University of Colorado Denver, National Science Foundation. Principal Investigator. 2004-2018.
- Alicante Province, Spain. Excavation of Mesolithic and Neolithic sites, focused on settlement, human ecology, and paleolandscapes. Institutions/sponsor: Arizona State University, the University of Valencia, National Science Foundation. Principal Investigator. 2000, 2001, 2003.
- Chevelon Creek drainage, Apache-Sitgreaves National Forest, AZ. Survey and testing, focused on Late Archaic and Basket Maker III/Pueblo I settlement and economy. Institutions/sponsor: Arizona State University, the University of Valencia, and the United States Forest Service. 1997-1999, 2002.
- Alicante Province, Spain. Survey, with emphasis on Epipaleolithic and Neolithic settlement and economy. Institutions/sponsor: Arizona State University, the University of Valencia, National Science Foundation, and the Committee for the International Exchange of Scholars. Principle Investigator. 1990, 1991, 1993, 1996.
- Phoenix Indian School, Phoenix, AZ. Test excavation. Institutions/sponsor: National Park Service, Department of Anthropology, Arizona State University. Project Director. 1990.
- Hohokam site of Los Morteros, Tucson, AZ. Test excavations. Institutions/sponsor: Institute for American Research, Tucson, AZ. Crew member. 1987.
- Various localities throughout Ohio. Survey and testing in right-of-way for highway projects. Institutions/sponsor: Ohio Department of Trans., Bureau of Environmental Services. College Intern. 1984.
- Death Valley National Monument, California-Nevada. Survey of northeastern boundary. Institutions/sponsor: Western Archeological and Conservation Center, National Park Service, Tucson, AZ. Field Director. 1983.
- Black Mesa Archaeological Project, Navajo Indian Reservation, Arizona. Excavation of Anasazi sites - Basketmaker II-Pueblo III. Institutions/sponsor: Peabody Coal, Center for Archaeological Research, Southern Illinois University. Assistant Crew Chief. 1981, 1982.
- N. Cent. Montana. Survey of oil and gas leases. Institutions/sponsor: Anthro Research Inc. Crew Chief. 1980.

Cent. Arizona. Survey for A.P.S. power line, mainly Mogollon sites - Pueblo I-IV. Institutions/sponsor: Arizona Public Service, Arizona State Museum, University of Arizona. Crew Member. 1978.

National Parks of southern Arizona and Nevada. Various short surveys and monitoring projects. Western Archeological and Conservation Center, N.P.S., Tucson. GS-5 and GS-7 Archaeologist. 1977-1979.

Blue Springs Reservoir, Missouri. Excavation of Woodland Period site. Institutions/sponsor: U.S. Army Corps of Engineers, Museum of Anthropology, University of Kansas. Crew Member. 1977.

Upper Paleolithic site of Kadar, Donji Svilaj, Bosnia, Yugoslavia. Excavation. Institutions/sponsor: National Geographic Society, Museum of Anthropology, University of Kansas. Field Assistant. 1976.

Eldorado Reservoir, S.E. Kansas. Survey, mapping, testing of mainly Woodland Period and Great Bend Focus sites. Institutions/sponsor: U.S. Army Corps of Engineers, Museum of Anthropology, University of Kansas. Crew Chief. 1975.

Upper Walnut R. watershed, S.E. Kansas. Archaeological survey. Institutions/sponsor: Soil Conservation Service, Museum of Anthropology, University of Kansas. Co-Field Director. 1975.

Eldorado Reservoir, S.E. Kansas. Kansas Archaeological Field School, excavation of Archaic and Woodland Period sites, artifact cataloging, paleoenvironmental study of mollusks from excavated sites. Institutions/sponsor: University of Kansas and Kansas State University. Student Crew Member. 1974.

## TECHNICAL EXPERTISE

### DATA SCIENCE

Analysis and visualization in R, JMP, SPSS, Systat; DBMS application development in Xbase and Filemaker, knowledge of SQL.

### GIS AND GEOSPATIAL TECHNOLOGIES

GRASS GIS (Project Steering Committee member, Development Team member, interface programmer), Quantum GIS, MultiSpec (multispectral image analysis), R, ArcGIS

### PROGRAMMING LANGUAGES

Python, R, WxPython, TclTK, NetLogo

## PROFESSIONAL SERVICE

### REGIONAL/NATIONAL/INTERNATIONAL

- Science Steering Committee, Analysis and Integrated Modeling of the Earth System, Future Earth (2018-present)
- Steering Committee, Community Surface Dynamics Modeling System (2020-present)
- Director, Network for Computational Modeling in Social and Ecological Sciences, Director (2008-present)
- Advisory Board, Center for Resilient Communities at the University of Idaho (2019-present)
- Editorial Board, SAGVNTVM. Papeles del Laboratorio de Arqueología de la Universitat de València.
- Editorial Board, Jordan Journal for History and Archaeology
- ASU representative, University Consortium for Geographic Information Science (2009-2019)
- OSGeo Foundation. Public Geospatial Data Committee (2006-present)
- GRASS GIS international development team (2004-present); Project Steering Committee (2006-2024) <http://grass.osgeo.org>

- Societal Dimensions Working Group, Community Earth Systems Model, National Center for Atmospheric Research (2012-present)
- Chair, External Expert Advisory Council, State of Alaska NSF EPSCoR program (2012-2017)
- Visiting Scientist, National Center for Atmospheric Research (2012, 2015, 2017)
- Governor's Archaeology Advisory Commission for Arizona (2002-2008)
- AZSITE Consortium Board, statewide internet database for archaeological sites and surveys (1995-2010), chair (1999-2004, 2007-2008)
- Society for American Archaeology: 2007 and 2018 Program Committee (2006-2007; 2017-2018)
- Committee for the Preservation of Anthropological Records (1995-2002).
- Tribal Museum Technical Assistance Program, Arizona Humanities Council, Consultant (1991-1995)
- Editor, Museum Association of Arizona (1990-1991)
- National Institutes of Health Review Panel (2011)
- National Science Foundation Review Panels: Coupled Human and Natural Systems (2005, 2008, 2010, 2012), Human Social Dynamics (2006)
- Project Review Panel: Canadian Social Science and Humanities Research Council (2003)
- Proposal reviewer, National Science Foundation, National Geographic, National Center for Preservation Technology and Training (National Park Service), Natural Environment Research Council (UK), Social Science Research Council (Canada), Austrian Science Fund.

#### ARIZONA STATE UNIVERSITY

- Head, Graduate Faculty for Complex Adaptive Systems Science (2011-present)
- Social Science Research Council (2015-present)
- ASU Research Computing Governance Board (2017-2020)
- University Undergraduate Standards Committee (2015-2017)
- Academic Standards Committee, College of Liberal Arts and Sciences (2013-2015)
- Executive Board, Consortium for Biosocial Complex Systems and Global Biosocial Complexity Initiative (2009-present)
- Director, Center for Social Dynamics & Complexity (2009-present); Steering Committee, Science Coordinator, Executive Board (2008-2009)
- GIServices Professional Advisory Council (2005-present)
- Faculty mentor, Faculty Development Program (2004-2005)
- Advisory Committee on Technology (1994-2000)
- Research Investigation Committee (Assoc. Vice Provost for Research, ASU, 1998-1999)
- Dean's Strategic Resource Planning Committee (1994-1996)
- Treasurer, Sigma Xi, ASU Chapter (1994-1995)
- Provost's Advisory Committee for Academic Professionals (1991-1994); chair (1992-1994)
- University Grievance Committee (1990-1992); chair (1992)
- Dean's Academic Professional Advisory Committee (ASU, 1990-1991)

#### SCHOOL OF COMPLEX ADAPTIVE SYSTEMS

- Associate Director, (2020-present)

#### SCHOOL OF HUMAN EVOLUTION & SOCIAL CHANGE/DEPT. OF ANTHROPOLOGY

- Graduate/Undergraduate Committee (2016)
- Archaeology Subdiscipline, chair and Archaeology Approach Head (1993-1995, 2004, 2016)
- Director of Graduate Studies (2007-2009)
- Affirmative Action Representative (1999-present)
- Museum Studies Committee (1997-2007)
- Museum of Anthropology Steering Committee (1998-2007)
- Executive Committee (2004-2006)
- Graduate Curriculum Committee (2005-2006)



- Ruppé Prize Committee (1997-1998, 2000-2001)
- Research and Development Committee (1995)
- Museum Advisory Committee (1987-1997; 1999)
- Curator of Anthropology Collections (1987-2007)

### POSTGRADUATE EMPLOYMENT HISTORY

Professor. Ariz. State Univ., Dept. of Anthropology. 2001-present.

Associate Professor. Ariz. State Univ., Dept. of Anthropology. 1995-2001.

Associate Museum Professional with tenure, Ariz. State Univ., Dept. of Anthropology. 1993-1995

Associate Museum Professional, probationary. Ariz. State Univ., Dept. of Anthropology. 1988-1993.

Archaeology Laboratory Technician IV. Ariz. State Univ., Dept. of Anthropology. 1987.