

**A. R. VENTRESCA MILLER**  
**Assistant Professor / Assistant Curator of Asian Archaeology**  
**Director of the Ancient Protein and Isotope Laboratory**  
**Department of Anthropology**  
**Museum of Anthropological Archaeology**  
**University of Michigan**  
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## CAREER SUMMARY

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I have had a diverse career, with experience in commercial archaeology, as a volunteer, and as an academic. I have extensive knowledge of contract archaeology, having worked my way from a technician to a project manager. As a Peace Corps volunteer I brought my focus on the past into the present while working with archaeologists in Kazakhstan to write grants, prepare exhibitions, and disseminate research to the public. I co-directed excavations of Bronze Age cemeteries that formed the basis for my dissertation, which integrated osteological, mortuary, and stable isotopic analyses of human remains. In my current work, I act as a bridge between anthropology and genetics to provide nuanced interpretations of genomic, cultural, and economic connections. I have recently expanded my research expertise into ancient proteins and ZooMS to investigate key transitions in human societies, including the adoption of cultigens, disease transmission, and the spread of dairying across North-Central Asia.

## EDUCATION

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- 2013**                      **Ph.D. in Anthropology**, University of Pittsburgh  
*Dissertation Title: Social Organization and Interaction in Bronze Age Eurasia (2100 to 1400 BC): A Bioarchaeological and Statistical Approach to the Study of Communities*
- 1999**                      **Master of Arts in Anthropology**, New Mexico State University
- 1997**                      **Bachelor of Arts in Anthropology**, State University of New York at Buffalo

## PROFESSIONAL POSITIONS

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### ACADEMIC

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- 2019 to present**      **Assistant Professor**, Department of Anthropology, University of Michigan  
**Assistant Curator of Asian Archaeology**, Museum of Anthropological Archaeology, University of Michigan  
**Director**, Ancient Protein and Isotope Laboratory, University of Michigan
- 2019 to present**      **Research Affiliate**, Max Planck Institute for the Science of Human History, Department of Archaeology, Stable Isotope Research Group, Proteomics Research Group
- 2017 – 2019**            **Postdoctoral Researcher**, Max Planck Institute for the Science of Human History, Department of Archaeology, Stable Isotope Research Group, Proteomics Research Group  
**Faculty**, International Max Planck Research School for the Science of Human History
- 2016 – 2017**            **Research Fellow**, Christian-Albrechts-Universität zu Kiel, Graduate School Human Development in Landscapes and the Archaeological Stable Isotope Laboratory
- 2015 – 2016**            **Maternity Leave** (14 months)
- 2013 – 2015**            **Research Fellow**, Christian-Albrechts-Universität zu Kiel, Graduate School Human Development in Landscapes and the Archaeological Stable Isotope Laboratory

### VOLUNTEER / COMMERCIAL ARCHAEOLOGY

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- 2004 – 2006**            **US Peace Corps Volunteer**, Non-Governmental Organization, Kazakhstan
- 2002 – 2003**            **Project Manager (Archaeology)**, R. C. Goodwin & Associates, Louisiana

2000 – 2002      **Assistant Project Manager (Archaeology), R. C. Goodwin & Associates, Louisiana**

### **GRANTS AND AWARDS (PRINCIPAL INVESTIGATOR OR CO-PI)**

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- 2021-23      Awarded Project Grant to fund ‘Centering the Northern Realms: Integrating Histories and Archaeologies of the Mongol Empire (1200-1500 CE)’ from the Humanities Collaboratory at the University of Michigan **\$571,491**
- 2021      Awarded Proposal Development Grant to fund for our project ‘Centering the Northern Frontier: Integrating Histories and Archaeologies of the Mongol Empire’ from the Humanities Collaboratory at the University of Michigan **\$84,020**
- 2021      Awarded a 5x5 incubator grant for the project ‘Northern Frontiers of the Mongol Empire’ from the Humanities Collaboratory at the University of Michigan **\$3000**
- 2020      Awarded funding for fieldwork in Mongolia on the project ‘Preserved in the Permafrost’ from the American Center for Mongolian Studies **\$4,000**
- 2020      Awarded funding for fieldwork in Mongolia on the project ‘Preserved in the Permafrost’ from the National Geographic Society Grant **\$29,900**
- 2018      Awarded funding for a workshop ‘Mosaic of Millet’ from the Max Planck Institute for the Science of Human History **€ 4,035**
- 2014      Awarded funding for a workshop ‘Coming of Age? Stable isotopes in archaeology’ from the Graduate School Human Development in Landscapes **€ 6,735**
- 2014      Awarded a Gerda Henkel Grant for field research **€ 8,200**
- 2009      Awarded a FLAS (Foreign Language and Area Studies) Fellowship **\$17,000**
- 2008      Awarded a FLAS (Foreign Language and Area Studies) Fellowship **\$17,000**
- 2008      Awarded an Arts and Science Fellowship from the University of Pittsburgh **\$18,000**
- 2008      Awarded a Pre-dissertation Research Grant by the University of Pittsburgh Department of Anthropology **\$1600**
- 2007      Awarded a Pre-dissertation Research Grant by the University of Pittsburgh Department of Anthropology **\$3400**

### **RESEARCH GRANTS (SENIOR INVESTIGATOR OR COLLABORATOR)**

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- 2021-2024      Alexander von Humboldt Foundation - Alumni Award 2021 for innovative networking initiatives for the project ‘The Steppe Sisters: A Networking Group for Women in the Human Sciences’. **PI:** D. Duturaeva. **Co-PI’s:** A. Ventresca Miller, A. Haruda, A. Childebaeva, U. Brosseder, J. Lhuillier, L. Rouse, K. Hopper, G. Sultonova **€26,660**
- 2021-2022      National Science Foundation Doctoral Dissertation Research: Diet Alteration in a High Altitude Environment (Award Number: 2104477) **PI:** Brian Stewart, **Co-PI:** Yuchao Zhao, **Senior Investigator:** Alicia Ventresca Miller **\$24,903**
- 2020      China Scholarship council funding for Liang Qiyao to undertake research in my laboratory at U of M as a graduate student. **PI:** Alicia R. Ventresca Miller **Graduate student tuition and housing covered** \*Canceled due to visa restrictions – COVID19\*
- 2020      U-M Lieberthal-Rogel Center for Chinese Studies Grant to support an exhibit centered on the UMMAA Chinese Government Collection and focused on textiles from the late 19<sup>th</sup> century. **Co-PI’s:** Par Cassel, Debing Su, Alicia R. Ventresca Miller and Jim Moss **\$13,400**
- 2019      Wenner-Gren Foundation Research Grant: Multi-resource subsistence among ancient

Jordanian pastoralists and townsfolk: health, diet and paleoethnobiology. **PI:** Dr. M. Judd. **Senior Investigator:** A. R. Ventresca Miller (portion of grant allotted to Proteomics research \$10,000)

- 2017 Awarded funding for a workshop ‘Telescopic and Microscopic Visions of Central Asian Prehistory’ from the Max Planck Institute for the Science of Human History € 8,000
- 2017 DFG Grant: Nomad state formation and urbanization on the northern Silk Road: The early medieval town of Dzhanakent (Aral Sea region, Kazakhstan). **PI’s:** Dr. H. Härke and Dr. A. Tazhekeev. **Senior Investigator:** A. R. Ventresca Miller (*Portion of grant for Stable Isotope Research: € 17,460*)
- 2015 National Geographic: A bioarchaeological study of the Iron Age site of Bel’sk in Ukraine. **PI’s:** Dr. J. Johnson (Univ. of Copenhagen), Prof. Dr. S. Makhortykh (Ukrainian Institute of Archaeology), Prof. Dr. T. Taylor (Univ. of Vienna). **Senior Investigator:** A. R. Ventresca Miller (*Funding provides for stable isotope analyses*)

## BOOKS

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- 2018 **Ventresca Miller, A.** and C. Makarewicz (Eds). *Isotopic Investigations of Pastoralism in Prehistory*. Oxford, Routledge.

## JOURNAL ARTICLES

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*\*denotes paper where I am a corresponding author (when not first author)*

- 2021 Shevan Wilkin, **Alicia Ventresca Miller**, Ricardo Fernandes, Robert Spengler, William Taylor, Dorcas R. Brown, David Reich, Douglas Kennett, Laura Kunz, Claudia Fortes, Aleksandra Kitova, Nina Morgunova, Pavel Kuznetsov, Andrey Epimakhov, Alan Outram, Egor Kitov, Aleksandr Khokhlov, David Anthony, Nicole Boivin. Dairying enabled Early Bronze Age Yamnaya steppe expansions. *Nature*, in press.
- 2021 Bullion, Elissa, Zhuldyz Tashmanbetova and **Alicia Ventresca Miller**. Bioarchaeology in Central Asia: Growing from Legacies to Enhance Future Research. *Asian Perspectives*, in press.
- 2021 Clark, Julia, Jamsranjav Bayarsaikhan, **Alicia Ventresca Miller**, Sandra Vanderwarf, Isaac Hart, Gino Caspari, William Timothy Treal Taylor. Mongolia’s Frozen Heritage: A Summary of the Archaeology of the Cultural Cryosphere. *Journal of Glacial Archaeology*, 5: 103-120.
- 2021 Hoggarth, J.A., S. Batty, V. Bondura, E. Creamer, C.E. Ebert, K. Green-Mink, C.L. Kieffer, H. Miller, C.V. Ngonadi, S.E. Pilaar Birch, C. Pritchard, K. Vacca, T.B. Watkins, E. Zavodny, **A. R. Ventresca Miller**. Impacts of the COVID-19 Pandemic on Women and Early Career Archaeologists. *Heritage*, 4(3): 1681-1702.
- 2021 Spengler, R. N. III, **A. R. Ventresca Miller**, T. Schmaus, G. Motuzaitė-Matuzevičaitė, B. Miller, S. Wilkin, T. Taylor, A. Haruda, P. Roberts, N. Boivin. An Imagined History? Circular Arguments of Nomadism in Central Eurasian Archaeology. *Current Anthropology*, 62(3): 251-286.
- 2021 Kradin, N.N., Khubanova A.M., Bazarov B.A., Miyagashev D.A.\*, Khubanov V.B. Kononov P.B., Klementiev A.M., Posokhov V.F., **Ventresca Miller, A. R.\***. Iron Age Societies of Western Transbaikalia: Reconstruction of Diet and Lifeways. *Journal of Archaeological Science: Reports*, 38: 102973.
- 2021 Wordsworth, Paul, Ashleigh F. Haruda, **Alicia R. Ventresca Miller**, Samantha Brown. The earliest water buffalo in the Caucasus: shifting animals and people in the medieval Islamic world. *Antiquity*, 95(383): 1231-1247.
- 2021 **Ventresca Miller, A.**, J. Johnson, S. Makhortykh, S. Andruk, G. Toshev, L. Litvinova, C. Gerling, P. LeRoux, C. Makarewicz, N. Boivin, P. Roberts. Re-evaluating Scythian nomadism: Isotopic analysis of diet and mobility in Iron Age Ukraine. *PLOS ONE*, 16(3): e0245996

- 2020 Choongwon Jeong, Ke Wang, Shevan Wilkin, William Timothy Treal Taylor, Bryan K. Miller, Tömörbaatar Tüvshinjargal, Sodnon Ölziibayar, Raphaela Stahl, Chelsea Chioveli, Jan H. Bemann, Sarah Nagel, Matthias Meyer, Florian Knolle, Nikolay Kradin, Bilikto A. Bazarov, Denis A. Miyagashev, Prokopy B. Konovalov, Elena Zhambaltarova, **Alicia Ventresca Miller**, Wolfgang Haak, Stephan Schiffels, Nicole Boivin, Erdene Myagmar, Jessica Hendy, Christina Warinner. A dynamic 6,000-year genetic history of Eurasia's Eastern Steppe. *Cell*, 183(4), 890-904.
- 2020 Itahashi, Yu, Elina Ananyevskaya, Minoru Yoneda, Alicia R. Ventresca Miller, Yoshihiro Nishiaki, Giedre Motuzaite Matuzeviciute. Dietary diversity of Bronze–Iron Age populations of Kazakhstan quantitatively estimated through the compound-specific nitrogen analysis of amino acids. *Journal of Archaeological Science: Reports*, 33, 102565.
- 2020 Haruda, A, **Ventresca Miller, A.**, Pajmans, J. L. A., T., Tazhekeev, A., Bilalov, S., Hesse, Y., Prieck, M., King, T., Thomas, R., Härke, H., Arzhantseva, I. The earliest domestic cat on the Silk Road. *Scientific Reports*, 10: 11241
- 2020 **Ventresca Miller, A.**, A. Haruda, B. Miller, R. Spengler, S. Wilkin, P. Roberts, P. Roberts, N. Boivin. Ecosystem engineering among ancient pastoralists in northern Central Asia. *Frontiers in Earth Science*, 8: 168.
- 2020 **Ventresca Miller, A.**, A. Haruda, V. Varfolomeev, A. Goryachev, and C. Makarewicz. Close management of sheep in ancient Central Asia: evidence for foddering, transhumance, and extended lambing seasons during the Bronze and Iron Ages. *STAR: Science & Technology of Archaeological Research*, 6(1): 41-60.
- 2020 Wilkin, S., **A. Ventresca Miller**, Bryan Miller, Robert Spengler, William Taylor, Ricardo Fernandes, Jessica Hendy, Erdene Myagmar, Nicole Boivin, Patrick Roberts. Economic Diversification Supported the Growth of Mongolia's Nomadic Empires. *Scientific reports*, 10: 3916.
- 2020 Wilkin, S., **A. Ventresca Miller**, W. Taylor, B. K. Miller, R. Hagan, F. Irmer, M. Bleasdale, A. Scott, S. Gankhuyag, C. Trachsel, J. Grossmann, M. Horton, E. Myagmar, N. Boivin, C. Warinner, J. Hendy. Dairy pastoralism sustained eastern Eurasian steppe populations for 5,000 years. *Nature Ecology & Evolution*, 4(3): 346-355.
- 2020 W. Taylor, J. Clark, J. Bayarsaikhan, T. Tüvshinjargal, J. Thompson Jobe, W. Fitzhugh, R. Kortum, R. Spengler, S. Shnaider, F. Seersholm, I. Hart, N. Case, S. Wilkin, J. Hendy, U. Thuring, B. Miller, **A. Ventresca Miller**, A. Picin, N. Vanwezer, F. Irmer, S. Brown, A. Abdykanova, D. Shultz, V. Pham, K. Douka, E. Jones, N. Boivin. Early Pastoral Economies and Herding Transitions in Eastern Eurasia. *Scientific reports*, 10: 1001.
- 2019 Stephens, L. et al. (**Ventresca Miller, A.**). Archaeological assessment reveals Earth's early transformation through land use. *Science*, 365: 897-902.
- 2019 **Ventresca Miller, A.**, J. Johnson S. Makhortykh, L. Litvinova, T. Taylor, R. Rolle, and C. Makarewicz. Mobility and diet in the Iron Age Pontic forest-steppe: A multi-isotopic study of urban populations at Bel'sk. *Archaeometry*, 61(6): 1399-1416.
- 2019 **Ventresca Miller, A.** and C. Makarewicz. Intensification in pastoralist cereal use coincides with the expansion of trans-regional networks in the Eurasian steppe. *Scientific Reports*, 9: 8363.
- 2019 **Ventresca Miller, A.**, T. M. Bragina, Y. A. Abil, M. M. Ruleva, and C. Makarewicz. Pasture usage by ancient pastoralists in the northern Kazakh steppe informed by carbon and nitrogen isoscapes of contemporary floral biomes. *Archaeological and Anthropological Sciences*, 11(5): 2151-2166.
- 2018 **Ventresca Miller, A.**, R. Fernandes, A. Janzen, A. Nayak, J. Swift, J. Zech and P. Roberts. Sampling and Pretreatment of Tooth Enamel Carbonate for Stable Carbon and Oxygen Isotope Analysis. *Journal of Visualization Experiments*, 138: e58002.
- 2018 Judd, M. A., J. Walker, **A. Ventresca Miller**, D. Rajev, A. Epimakhov, and B. Hanks. Life in the fast lane: settled pastoralism in the Central Eurasian Steppes during the Middle Bronze

Age. *American Journal of Human Biology*, 30(4): e23129.

- 2018 Hanks, B., **A. Ventresca Miller**, M. Judd, A. Epimakhov, D. Razhev, and K. Privat. Bronze Age diet and economy: New stable isotope data from the Central Eurasian steppes (2100-1700 BC). *Journal of Archaeological Science*, 97: 14-25.
- 2018 **Ventresca Miller, A.**, C. Schuh, E. R. Usmanova, A. Logvin, I. Shevnina, and C. Makarewicz. Pastoralist mobility in Bronze Age landscapes of Northern Kazakhstan:  $^{87}\text{Sr}/^{86}\text{Sr}$  and  $\delta^{18}\text{O}$  analyses of human dentition from Bestamak and Lisakovsk. *Environmental Archaeology*, 23(4): 352-366.
- 2017 **Ventresca Miller, A.**, B. Hanks, M. Judd, A. Epimakhov, and D. Rajev. Weaning practices among pastoralists: New evidence of infant feeding patterns from Bronze Age Eurasia. *American Journal of Physical Anthropology*, 162(3): 409-422.
- 2014 **Ventresca Miller, A.**, E. R. Usmanova, I. Shevnina, A. Logvin, and A. Kolbina. Dental health, diet, and social transformations in the Bronze Age: Comparative analysis of pastoral populations in northern Kazakhstan. Special Issue, The Bridging Eurasia Research Initiative: Modes of mobility and sustainability in the palaeoenvironmental and archaeological archives from Eurasia. *Quaternary International* 348:130-146.
- 2014 **Ventresca Miller, A.**, E. R. Usmanova, V. N. Logvin, I. Shevnina, S. Kalieva, A. Logvin, A. Kolbina, A. Simonich, K. Privat, K. Haas, and M. Rosenmeier. Subsistence and social change in central Eurasia: stable isotope analysis of populations spanning the Bronze Age transition. *Journal of Archaeological Science* 42:525-538.

#### CHAPTERS IN EDITED VOLUMES

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- 2018 **Ventresca Miller, A.** and Makarewicz, C. Isotopic Approaches to Pastoralism in Prehistory: Diet, Mobility, and Isotopic Reference Sets. In: A. Ventresca Miller & C. Makarewicz eds., *Isotopic Investigations of Pastoralism in Prehistory*. Oxford, Routledge, 1-14.
- 2018 **Ventresca Miller, A.** Modeling modern surface water  $\delta^{18}\text{O}$  to explore prehistoric human mobility. In: A. Ventresca Miller & C. Makarewicz eds., *Isotopic Investigations of Pastoralism in Prehistory*. Oxford, Routledge, 41-56.
- 2013 **Ventresca Miller, A.** An interdisciplinary analysis of the social system at Lisakovsk: Bioarchaeological and ethnographic research and interpretations. *Archaeology of the Lisakovsk Site*. Monograph edited by E. Usmanova. Karaganda – Lisakovsk, Tengri Press. (In Russian)
- 2006 Usmanova E.R., Merts V.K., Kolbina A.B., and **Ventresca A.** On the Subject of "Text" in Bronze Age Funerary Rites. *Investigations of Cemeteries, Archaeology of Pavlodar and the Irtysh River*. (In Russian)
- 2005 Usmanova E., Merts V., **Ventresca A.**, Kolbina A. Features of the Andronovo Funeral Rite. Pavlodar, Kazakhstan. (In Russian)

#### MANUSCRIPTS SUBMITTED

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- In Review** **Ventresca Miller, A.**, S. Wilkin, J. Bayarsaikhan, A. Ramsøe, J. Clark, B. Byambadorj, S. Vanderwarf, N. Vanwezer, A. Haruda, R. Fernandes, B. Miller, N. Boivin. Exceptional permafrost preservation reveals first proteomic evidence for yak milk consumption. (*Proceedings of the Royal Society B*)
- In Review** **Ventresca Miller, A.**, S. Wilkin, J. Hendy, Ts. Turbat, D. Batsukh, N. Bayarkhuu, P.-H. Giscard, J. Bemmann, J. Bayarsaikhan, B. Miller, J. Clark, P. Nanni, P. Roberts, N. Boivin. The spread of herds and horses into the Altai: How livestock and dairying drove social complexity in Mongolia. (*PLOS ONE*)

#### MANUSCRIPTS IN PREPARATION

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*\*denotes paper where student is first author and I am a corresponding author*

- Full Draft** Miller, Bryan K. and **A. R. Ventresca Miller**. Cultivating a nomad identity: divergence of lifeways and cultural politics in Early Iron Age Eurasia. (*Journal of World History*)
- Partial Draft** \*Runge, T., J. Johnson, S. Makhortykh, L. Litvinova, and **A. Ventresca Miller**. Dental attrition and dietary intake of urban Scythian populations. (*American Journal of Physical Anthropology*)
- Partial Draft** \*Tomažič, I., K. Larson, A. Haruda, A. Tazhekeyev, H. Harke, I. Arzhantseva, **A. R. Ventresca Miller**. Life along the Silk Roads: Provisioning and livestock management at the urban site of Dzhanakent (*Journal of Archaeological Research*)
- Partial Draft** **Ventresca Miller, A.**, *Domesticated: How the adoption of cultivated species impacted early Silk Road societies*. (Book Manuscript)

## INVITED LECTURES

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- 2020** *Before the Silk Roads: Tracking domesticates and interactions across Eurasia*. Paper presented at the Tang Center for Silk Road Studies, Berkeley. (remote lecture due to COVID)
- 2020** *Before the Silk Roads: Tracking domesticates and interactions across Eurasia*. Paper presented at ACES at Indiana University. (remote lecture due to COVID)
- 2020** *Archaeology Job Search*. Workshop for Archaeology Graduate Students at the University of Michigan, Ann Arbor. (remote lecture / discussion)
- 2019** *Globalization and the emergence of the Silk Roads*. Paper presented for the Max Planck Society at the Max Planck for Human Cognitive and Brain Sciences, Leipzig.
- 2019** *Dietary transitions in the steppe: Neolithic to Bronze Age*. Paper presented at the Botai Culture and Other Neolithic Monuments of Central Asia Conference at Al-Farabi Kazakh National University.
- 2018** *Mosaic of Millet: Adoption of Cultigens by Pastoral Populations in Central and Inner Asia*. Paper presented at the Isotope Research in Archaeology Workshop at the Max Planck Institute for the Science of Human History.
- 2018** *Urban Nomads: Linking mobilities and economies in ancient Eurasia*. Department of Anthropology, University of Pittsburgh.
- 2017** *Mobility in the Age of Nomads? How Grains and Horses Transformed Eurasian Steppe Networks*. Department of Archaeology, Max Planck Institute for the Science of Human History.
- 2017** *Shifting Diets and Networks in Eurasia: Tracking Cereal Consumption by Ancient Pastoralists*. CCAW (Culture Contact in the Ancient World), Oxford University.
- 2017** *Shifting Diets and Networks in Eurasia: Tracking Cereal Consumption by Ancient Pastoralists*. Monuments and Pastoral Regimes – Archaeology of Inner Asia from the Eneolithic to the Early Iron Age, University of Bonn.
- 2015** *Understanding local communities within global trends: Investigations of diet, mobility and pastoral lifeways in the Eurasian steppe*. Bioarchaeology Seminar Series, Oxford University.
- 2015** *Against the Grain: A re-evaluation of the role of millet in the diets of central Eurasian populations*. The Introduction and Intensification of Agriculture in Central Eurasia: The Exception to the Rule or the Exception that Proves the Rule? German Archaeological Institute, Berlin.
- 2014** *Modeling Bronze Age Isoscapes: Evaluating prehistoric subsistence and movement via modern*

*biosphere sampling in Kazakhstan*. Leibniz Graduate School RITaK, Bochum.

- 2014 *Dynamic Pastoral Landscapes*. On the Road – Bioarchaeological and Cultural Scientific Aspects of Non-Sedentary Communities. Topoi, Berlin.
- 2013 *Dynamic Pastoral Landscapes: Subsistence, Mobility, and Society in the Bronze Age Eurasian Steppe*. Postdoctoral Symposium 2013: New Perspectives on Human Development in Landscapes at CAU Kiel.

## WORKSHOPS AND CONFERENCE SESSIONS ORGANIZED

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- 2018 **Workshop Organizer, *Mosaic of Millet* (Jena, Germany).**
- 2017 **Workshop Co-organizer, *Telescopic and Microscopic Visions of Central Asian Prehistory* (Jena, Germany).**
- 2017 **Session Co-Organizer, *Pastoralists as Catalysts of Change: How archaeological science is revolutionizing studies of the ancient steppe* (EAA Meeting Maastricht).**
- 2017 **Session Co-Organizer, *Extrapolating from the Provincial: Linking Ancient Societies, Technologies, and Landscape Use in Eurasia* (The Creation of Landscapes V Conference, Kiel).**
- 2015 **Session Co-Organizer, *Dietary Biographies: Chronicling past husbandry, mobility and exchange practices through isotopic analysis of plant and animal tissues*, (SAA Meeting San Francisco, CA).**
- 2014 **Workshop Co-organizer, *Coming of Age? Stable Isotopes in Archaeology* (Kiel, Germany).**
- 2014 **Session Co-Organizer, *Isotopic Investigations of Pastoral Production: Innovative Approaches to Patterns of Mobility, Economy, and Exploitation* (EAA Meeting Istanbul).**
- 2009 **Workshop Co-Organizer, *Taking Small Steps: Conducting Archaeological Research in Eurasia* (Univ. Pittsburgh).**

## CONFERENCE PRESENTATION

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- 2020 *Dairying and domestication in the Altai Mountains*. Poster to be presented at the 84<sup>th</sup> Annual Society for American Archaeology meetings in Austin. \*Canceled due to COVID19\*
- 2018 *Re-evaluating Scythian nomadism: Stable isotopic analysis of diet and mobility in Iron Age Ukraine*. Paper presented at the 9th International Symposium of Biomolecular Archaeology in Jena Germany.
- 2018 *Mosaic of Millet: Adoption of Cultigens by Pastoral Populations in Central and Inner Asia*. Paper presented at the 9th Annual conference of Mongolia, Buryatia, and northern China in Ulan-Ude, Russia.
- 2018 *Close management of sheep in ancient Central Asia: Early evidence for foddering and transhumance in the Final Bronze Age*. Paper presented at the 82nd Annual Society for American Archaeology meetings in Washington, DC.
- 2017 *The Rise of Urban Economies in the Steppe: Diversification of Pastoral Lifeways*. Paper presented at Telescopic and Microscopic Visions of Central Asian Prehistory Workshop in Jena, Germany.
- 2017 *Pastoralist mobility in Bronze Age landscapes of Northern Kazakhstan: <sup>87</sup>Sr/<sup>86</sup>Sr and  $\delta^{18}O$  analyses of human dentition from Bestamak and Lisakovsk*. Paper presented at the 22nd Annual European Association of Archaeology conference in Maastricht, Netherlands.
- 2015 *A Grain of Truth: Evaluating dietary reconstructions and interpretations in central Eurasian*

*populations*. Paper presented at the 21st Annual European Association of Archaeology conference in Glasgow, Scotland.

- 2015** *Local or non-local? Evaluation of techniques for constructing  $\delta^{18}O$  baselines*. Paper presented at the 80th Annual Society for American Archaeology meetings in San Francisco, California.
- 2014** *Archaeological Research in Post-Soviet Central Asia: Adjusting our focus from global to local datasets*. Paper presented at the 20th Annual European Association of Archaeology conference in Istanbul, Turkey.
- 2014** *Dynamic Pastoral Landscapes: Modeling Bronze Age Isoscapes in Central Asia*. Paper presented at the 20th Annual European Association of Archaeology conference in Istanbul, Turkey.
- 2014** *Prehistoric globalization in Central Asia: Reconsidering the Andronovo development*. Paper presented at the 20th Annual European Association of Archaeology conference in Istanbul, Turkey.
- 2014** *Human-Animal Relationships and Agency: Evidence for interaction, companionship, and consumption in mortuary practices*. Paper presented at NordicTAG in Stockholm, Sweden.

## INTERNATIONAL PROJECTS

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- 2019 to Present** **Life under the Mongol Empire: Transmission of commodities, cuisine, and disease; Director.** In collaboration with the National Museum of Mongolia and NOMAD Science. This cemetery is under threat from looting and needs to be excavated in order to preserve one of only two Mongol period elite cemeteries identified in Mongolia. **PI's: Dr. A. Ventresca Miller, Dr. J. Clark and Dr. J. Bayarsaikhan**
- 2017 to Present** **Mobility in the Age of Nomads; Director.** At the dawn of the Iron Age, a dramatic shift in the scale of interactions occurred across Eurasia. Recent research suggests that pastoralists were supplementing their diets with domesticated cereals and that many communities were sedentary. Mobility will be investigated from the Trans-Urals to eastern Mongolia through stable isotope analyses (SIA) of human and horse osteological remains alongside detailed reference isoscapes built from targeted modern samples. <http://www.shh.mpg.de/910455/mobility-nomads>
- 2017 to Present** **Sustenance in the Hungry Steppe: The Emergence and Resilience of Final Bronze Age Regional Centers; Director.** Geophysical prospection and excavation of Final Bronze Age (FBA) settlements identified as regional centers and associated mortuary sites. Compare strategies of resource exploitation related to human dietary intake, pasturing of animals, cultivation of domesticated plants, and metal resources. Explore how regional centers were anchored within broader externally focused socio-political networks that emerged in the FBA. **PI's: Dr. A. R. Ventresca Miller (MPI-SHH), Dr. V. Varfolomeev (Karaganda State Univ., Kazakhstan), Dr. A. Haruda (Martin Luther University Halle-Wittenberg).**
- 2016 to Present** **Dietary Reconstruction in Serbia and Hungary (Bronze Age); Co-director, Stable Isotope Analyst.** Human dietary reconstruction using stable isotopic analysis (C, N) of human and faunal remains. **PI's: K. Pompeani (Univ. of Pittsburgh), Dr. A. R. Ventresca Miller (MPI-SHH)**
- 2016 to Present** **Tuzusai Project, Kazakhstan (Iron Age); Stable Isotope Analyst.** Stable isotopic analysis (C, O) of sheep teeth to investigate livestock management and mobility; Stable isotopic analysis (C, N) of grains to examine shifting temporal patterns of manuring fields. **PI: Dr. C. Chang (Sweetbriar College)**
- 2015 to Present** **Dzhankent Project, Kazakhstan (Medieval); Stable Isotope Analyst.** Stable isotopic analysis (C, O, Sr) of sheep, goat and cattle teeth to understand livestock trading. **PI's: Dr. I. Arzhantseva (Russian Academy of Sciences - Moscow), Prof. Dr. H. Härke (Univ. of Tübingen)**



- 2014 to 2018**      **Bel'sk Project, Ukraine (Iron Age); Senior Investigator.** Physical analysis of human skeletal remains (sex, age, pathology, dental wear), stable isotopic analysis (C, N, O, Sr) of human and faunal samples to understand diet, mobility and trade. **PI's: Dr. J. Johnson** (Univ. of Copenhagen), **Prof. Dr. S. Makhortykh** (Ukrainian Institute of Archaeology), **Prof. Dr. T. Taylor** (Univ. of Vienna). **\*\*Current funding (National Geographic) provides for stable isotope analyses and student lab assistant\*\***
- 2014 to 2017**      **Dynamic Pastoral Landscapes: Subsistence, Mobility, and Interaction in the Bronze Age Eurasian Steppe, Kazakhstan; Director.** Create isotopic reference sets for comparison with ancient humans and fauna. Stable isotopic analyses (C, N, O, Sr) of modern plants, water, and fauna at two archaeological sites to investigate mobility and subsistence in the past.
- 2010 to 2017**      **Metallurgical Practice, Technology and Social Organization during the Middle to Late Bronze Age in the Southern Urals, Russia; Stable Isotope Analyst.** Stable isotope analysis (C, N) of human remains to reconstruct diet and explore practices of weaning. **PI's: Dr. B. Hanks** (Univ. of Pittsburgh), **Dr. R. Doonan** (Univ. Sheffield)
- 2008 to 2017**      **Bestamak Project, Kazakhstan (Bronze Age); Biological Anthropologist / Stable Isotope Analyst.** Physical analysis of human remains, stable isotopic analysis (C, N, O, Sr) of human remains to understand diet and mobility. **PI: Dr. A. Logvin** (Kostanai Governmental Univ., Kazakhstan), **Dr. I Shevnina** (Kostanai Governmental Univ., Kazakhstan)
- 2004 to 2017**      **Lisakovsk Project, Kazakhstan (Bronze Age); Field Director / Bioarchaeologist / Stable Isotope Analyst.** Excavation of mortuary remains, analysis of human remains, stable isotopic analysis (C, N, O, Sr) of human remains to reconstruct diet and mobility. **PI: E. Usmanova** (Karaganda State Univ. Museum, Kazakhstan)

## TEACHING EXPERIENCE

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**Assistant Professor**, University of Michigan

**Archaeology II (Core Course).** This seminar is designed to acquaint graduate students, across subfields of anthropology, with the concepts and methods used by archaeologists to understand the organization and development of complex societies. Concepts to be discussed include social evolution, the role of domesticates, status and rank, complex hunter-gatherers, states, and urbanism.

**Early Civilizations.** A course for advanced undergraduates; lectures on the domestication of plants and animals globally, ecological variation, and the rise of complex societies.

**Lecturer**, MPI-SHH, Spring 2018

**Modern Approaches to Human Osteology.** A course for early career colleagues and researchers; lecture related to osteological elements and markers, paleopathology, biological age and sex; lectured on bone biochemistry and diet and the interpretation of anthropological datasets.

**Lecturer**, CAU Kiel, Winter 2014

**Human Osteology I and II.** A course for undergraduate and graduate students; lectured and taught laboratory sessions related to human bone growth and development, osteological elements and markers, paleopathology, biological age and sex, non-metric variation, anthropometric techniques, joints and locomotion, muscle skeletal markers; lectured on bone biochemistry and diet, aDNA, formation processes of the archaeological record, and the interpretation of anthropological datasets.

**Teaching Fellow**, University of Pittsburgh, Fall 2007; Spring 2008; Fall 2010

**Archaeological Ceramics.** A course for graduate students; assisted students with course materials, lectures, and constructing vessels; organized and assisted with clay and temper preparation; learned vessel firing techniques; assisted with archaeological ceramics experiments.

**Artifact Analysis.** A course for upper level undergraduates; held lab hours and assisted students with lithic, ceramic, and faunal analysis of artifacts from an Iroquois village (16<sup>th</sup> century); created spreadsheets for analysis and recording; assisted students with final reports and graphs for each type of analysis.

**Teaching Assistant**, University of Pittsburgh, Fall 2006; Spring 2007

**Introduction to Archaeology.** A course for undergraduate students; prepared lectures, quizzes, and other course materials; lectured weekly on various topics including survey methodology and dating techniques.

## CURATORIAL EXPERIENCE

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### Ford Collection Curation Committee

- Advisory Board for non-NAGPRA human remains
- Advising museums and departments on both ethical and policy concerns
- Redrafting of our Guidelines for the Stewardship of Human Remains

### Meeting with Donors

- Attend meetings with donors at the Research Museums Collections space to discuss objects and collections that we are managing.

### Exhibition of the Chinese Government Collection

- Planning to exhibit clothing, furniture, and weaving equipment from the Pan-American exhibition, China section.

### Exhibition at the Sindecuse Dental Museum

- Planning and consultation of the use of images and labels for an exhibition on dental modifications through time.

### Research Requests for the Worcester collection

- Collaboratory 2yr Project Grant: ReConnect/ReCollect: Reparative Connections to Philippine Collections
- Collaboratory 5x5 Incubator Grant: Connecting Communities and Collections: Exploring Reciprocal Access to Philippine Indigenous Archives at Michigan
- R. Punzalan class SI633 - Digital Best Practices
- Consultation on the PBS series "Asian Americans" - Images and filming of select glass plates and photographs
- SI699 Digital Curation project (E. De Vera)

### Donations to the collection

- Assessing the feasibility of new acquisitions, in terms of space and research goals of the Asia section

### Collections used for teaching

## SUPERVISION AND MENTORING

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### Doctoral Student Supervision

- Megan Savoy, **Supervisor**, University of Michigan (Doctoral Student)
- Kara Larson, **Supervisor**, University of Michigan (Doctoral Student)
- Zhaneta Gjyshja, **Second Reader Pre-doctoral Paper**, University of Michigan (Doctoral Student)
- Iride Tomazic, **Dissertation Committee Member**, University of Michigan (Doctoral Candidate)
- Yuchao Zhao, *Taming the Plateau: From Hunting to Herding in the Second Millennium BCE at Meilong Cave, western Tibet*. **Dissertation Committee Member**, University of Michigan (Doctoral Candidate)
- Teresa Runge, *The Use of Maxillary Sinus Imaging as a Tool in Human Identification*. **External Supervisor**, Liverpool John Moores University, United Kingdom (Doctoral Candidate)
- Patxi Perez Ramallo, *Pilgrimage to Santiago: Osteological and Biomolecular Analysis of Medieval Individuals*. **Committee Member**, Universidad del Pais Vasco, Spain (PhD Completed 2021)
- Shevan Wilkin. *Dairying and Dietary Adaptive Evolution in Prehistoric Eurasia*. **Mentor**, Max Planck Institute for the Science of Human History, Germany (PhD Completed 2020)
- Katharina Fuchs. *Evaluating diet, health and social organisation during the 2<sup>nd</sup> mil BCE in the Northern Caucasus: Interdisciplinary analysis of the Bronze Age cemetery Kudachurt 14*. **Mentor**, Kiel University, Germany (PhD Completed 2020)

### Master's Student Supervision

- **External Supervisor** of Teresa Runge. *Comparative analysis of dental wear and diet in Iron Age Ukraine*

#### **Undergraduate Student Supervision**

- Madaline Topor, **Committee Member**, Anthropology, University of Michigan
- Isabel Matias, **Mentor**, Anthropology, University of Michigan
- **Supervisor (Second Reader)** of Teresa Runge (B.A.). *Comparative analysis of dental wear and diet in Iron Age Ukraine*. Kiel Universtiy, Germany.
- **Supervisor (Second Reader)** of Philipp Steevens (B.A.). *Isotopic Evidence for Human Weaning Practices at the Bronze Age (1780-1660 BC) site of Lisakovsk in Northern Kazakhstan*. Kiel University, Germany.

#### **COMMISSION OF TRUST**

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**2018-19**                      **Officer of the Equal Opportunities Commission:** Support and encourage equal opportunities within the MPI-SHH (Institute-wide)

#### **MEDIA**

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**GIZMODO** “Long Known as Nomads, Scythians May Have Been Solidly Sedentary”

<https://gizmodo.com/long-known-as-nomads-scythians-may-have-been-solidly-s-1846448929>

**SCIENCE ALERT** “Secrets From Ancient Bones Have Changed What We Know About The Scythians”

<https://www.sciencealert.com/secrets-locked-in-ancient-bones-upend-what-we-know-about-the-scythians>

**SCIENCE DAILY** “Scythian people weren't just nomadic warriors, but sometimes settled down”

<https://www.sciencedaily.com/releases/2021/03/2103210310150420.htm>

**SCIENCE NEWS** “Scythians Led More Complex Lives Than Previously Assumed”

<http://www.sci-news.com/archaeology/scythian-ukraine-09439.html>

**HAARETZ** “Nomadic Warrior People of Scythia’ Is a Myth, Archaeologists Discover”

<https://www.haaretz.com/archaeology/.premium.HIGHLIGHT-nomadic-warrior-people-of-scythia-is-a-myth-archaeologists-discover-1.9606726>

**POPULAR ARCHAEOLOGY** “Scythian people weren’t just nomadic warriors, but sometimes settled down”

<https://popular-archaeology.com/article/scythian-people-werent-just-nomadic-warriors-but-sometimes-settled-down/>

**ZME SCIENCE** “Scythians weren’t the nomadic warriors many portray them as — they also settled down”

<https://www.zmescience.com/science/archaeology/scythians-nomadic-warriors-07032021/>

**SCIENTIFIC REPORTS** “The earliest domestic cat on the Silk Road” received *17,123 article downloads in 2020*, placing it as **one of the top 100 downloaded papers** in 2020

**SCIENTIFIC AMERICAN (Quoted in 2019)**

<https://www.scientificamerican.com/article/ancient-teeth-reveal-social-stratification-dates-back-to-bronze-age-societies/>

**The University Record (U. Michigan)**

March 16, 2021                      <https://record.umich.edu/newsletters/03-16-21/>

October 18, 2019                      <https://record.umich.edu/newsletters/10-18-19/>

## REVIEWER FOR

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### JOURNALS

PLOS ONE, STAR: Science and Technology in Archaeological Research, Journal of Archaeological Science, Journal of Archaeological Science: Reports, American Journal of Physical Anthropology, International Journal of Osteoarchaeology, International Journal of Paleopathology, The Silk Road Journal, Anthropological and Archaeological Sciences, Journal of Anthropological Archaeology, Quaternary Science Reviews, Quaternary International, Asian Perspectives, Archaeological Research in Asia

### BOOKS

Cambridge University Press (Book Proposal)

### GRANTS

National Science Foundation (Grant Proposal)

## FACULTY TRAINING (PEDAGOGY, MENTORSHIP, CLIMATE)

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Systemic Racism and Anti-Blackness Facilitated Dialogue, RaceTalk LLC for Department of Anthropology, **2021**  
Principles and Practices of Anti-Racist Pedagogy, CRLT for UMMAA, **2021**  
Mentoring Workshop for New Faculty, Rackham Graduate School, MORE, **2021**  
The Art of Leading a Research Group, LSA Faculty Workshop, Advance Program, **2021**  
Getting Your Book Published, LSA Faculty Workshop, Advance Program, **2020**  
Creating Climates Resistant to Sexual Harassment: A Toolkit for Academic Leaders, **2019 and 2020**

## SPECIALIZED TRAINING

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SPATIAL Stable Isotope Short Course, University of Utah, **2014**  
Applied Stable Isotope Geochemistry, University of Pittsburgh, **2008**  
Paleopathology, University of Pittsburgh, **2008**  
Advanced GIS Systems and Computer Methods, **2008**  
Human Skeletal Analysis, University of Pittsburgh, **2007**  
GIS, GPS, and Computer Methods, University of Pittsburgh, **2007**  
National Environmental Protection Act Class (as it pertains to Section 106), **2002**  
Introduction to Federal Projects and Historic Preservation Law Class, **2001**

## SERVICE

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### INTERNAL (MICHIGAN)

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<b>2021-2023</b>	<b>Member of the Executive Committee</b> for the Museum of Anthropological Archaeology
<b>2020-present</b>	<b>Member of the Safety Committee</b> for the College of Literature, Science, and the Arts
<b>2020-present</b>	<b>Faculty Sponsor:</b> Collaborative Archaeology Workgroup (CAW)
<b>2021 (Winter)</b>	<b>Graduate School Application Workshop for underrepresented scholars in Anthropology, Writing Statements</b> for the Department of Anthropology
<b>2021 (Winter)</b>	<b>Member of the Executive Committee</b> for the Department of Anthropology
<b>2019-20</b>	<b>Member of the Executive Committee</b> for the IPCAA (Interdepartmental Program in Classical Art and Archaeology)
<b>2019-21</b>	<b>Faculty Advisor:</b> Archaeology Club (U. Michigan)
<b>2019-20</b>	<b>Co-Organizer:</b> Curator's Colloquia

## EXTERNAL

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<b>2021-present</b>	<b>Editorial Board Member:</b> Quaternary International
<b>2019-present</b>	<b>Co-Founder:</b> MASS (Michigan Archaeological Science Society)
<b>2017-present</b>	<b>Co-Founder:</b> Steppe Sisters Network, a platform for women, and people that identify as women, who research Central and Inner Asia
<b>2018</b>	<b>Conference Co-Organizer:</b> 8 <sup>th</sup> International Symposium on Biomolecular Archaeology, held at Fredrich Schiller University (FSU)
<b>2017</b>	<b>Co-organizer:</b> Bi-weekly professionalization seminar for students and staff of MPI-SHH (Archaeology)
<b>2014-15</b>	<b>Postdoctoral representative:</b> Executive board, Graduate School Human Development in Landscapes
<b>2014-15</b>	<b>Postdoctoral representative:</b> Executive board, Institute for pre- and proto-historic archaeology

## LANGUAGES

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**Russian:** Advanced Level of Speaking / Intermediate High Level of Reading and Writing

**German:** Intermediate Level of Speaking, Reading, Writing

**Kazakh:** Beginner Level of Speaking, Reading