

LAURA LYNN SHACKELFORD

Phone: (217) 265-6741
llshacke@illinois.edu

607 S. Mathews Ave., 109 Davenport Hall
Urbana, IL 61801

CURRENT INSTITUTIONAL AFFILIATIONS

University of Illinois Urbana-Champaign, Urbana, IL

8/2021-present Department of Anthropology, Professor
2020-present Center for Social and Behavioral Sciences, Faculty Affiliate
2019-present Department of Informatics, Faculty Affiliate
2021-present Game Studies & Design Program, Faculty Affiliate (program established 12/2021)
4/2023-present Center for Immersive Computing, Faculty Affiliate

Carle Illinois College of Medicine, Urbana, IL

2021-present Department of Biomedical and Translational Sciences,
Professor and Anatomy Thread Director
8/2022-present Health Innovation Professor

Texas A&M University, College Station, TX

2017-present Department of Anthropology, Faculty Affiliate

PROFESSIONAL APPOINTMENTS

University of Illinois Urbana-Champaign, Urbana, IL

8/2021-present Professor, Dept. of Anthropology
8/2021-present Professor, Dept. of Biomedical & Translational Sciences, Carle Illinois College of Medicine
2017-present Anatomy Thread Director, Carle Illinois College of Medicine
2014-2021 Associate Professor, Dept. of Anthropology
2017-2021 Associate Professor, Carle Illinois College of Medicine
2014-2017 Associate Professor, Dept. of Surgery, UIUC College of Medicine
2007-2014 Assistant Professor, Dept. of Anthropology
2007-2014 Assistant Professor, Dept. of Surgery, UIUC College of Medicine
2005-2007 Visiting Assistant Professor, Dept. of Anthropology

EDUCATION

2005 Washington University, St. Louis, MO
Ph.D., Anthropology
Dissertation: *Regional variation in the postcranial robusticity of Late Upper Paleolithic humans*

2001 Washington University, St. Louis, MO

M.A., Anthropology

1998

Duke University, Durham, NC,
B.S., Biological Anthropology & Anatomy

GRANTS

- 2023-2024 Demeter F (PI), Shackelford LL, Bacon A-M, Westaway K, Duringer P, Kjaer KH. **Leakey Foundation: *The Denisovans and their past environment in mainland Southeast Asia: Tam Ngu Hao 2 cave, Laos.*** \$30,000.
- 2020-2023 Shackelford LL, Huang, D. **National Science Foundation: IUSE 2021460: *Game-based learning in virtual reality to engage college students using wheelchairs: Test case for field training in archaeology.*** \$296,426.
- 2020 Shackelford LL, Merrill C. **Epic Games MegaGrant. *Virtual Archaeology.*** \$25,000.
- 2018-2020 Shackelford L. **National Geographic NGS-399R-18. *Quest for human origins in mainland Southeast Asia: Tam Pa Ling cave, Laos.*** \$50,000
- 2017-2020 Shackelford L, Huang D & LaValle S. **National Science Foundation IIS #17-36235: *EXP: Social Science Education through Virtual Reality Simulation of an Archaeological Research Site.*** \$525,985.
- 2017-2019 Demeter F, Shackelford LL. **Wenner-Gren Foundation. *Early modern human evolution and dispersal in mainland Southeast Asia at Tam Pa Ling cave, Laos.*** \$20,000.
- 2011 Shackelford LL. **Hewlett Foundation International Research Travel Grant, \$2,500.**
- 2007-08 Shackelford LL. **L.S.B. Leakey Foundation, \$8,165.**
- 2003-04 Trinkaus E, Shackelford LL. **National Science Foundation Doctoral Dissertation Research grant BCS-0314002. \$10,790.**
- 2002-03 Shackelford LL. **American Museum of Natural History Collection Study Grant, \$1,500.**
- 2002 Shackelford LL. **Sigma Xi Grant-in-aid of research, \$500.**

Internal Grants

- 2019 Clancy K, Shackelford L, Lara-Cinisomo S. **Illinois SBSRI. *Life history and hormones: mechanisms linking childhood experiences to women's health.***
- 2016 Shackelford LL, LaValle S, Craig AB. **ILSDI Phase II Grant. *Digital Archaeology: Virtual reality in social science education.***
- 2015 Aldridge B, Shackelford LL, Malnar J, Craig AB, Helms K, Sinn-Hanlon J, Edwards K, and del Cristo MM. **ILSDI Phase I Grant. *Teaching and Learning in the Three-Dimensional World.***
- 2013 Shackelford LL. **UIUC Scholars' Travel Award (#13334).**

- 2012 Shackelford LL. **UIUC Arnold O. Beckman Research Award**, UIUC Research Board.
- 2011 Shackelford LL. **UIUC Scholars' Travel Award** (#12376).
- 2009 Shackelford LL. **UIUC Research Board**.
- 2007 Shackelford LL. **UIUC Research Board**.
- 2006 Shackelford LL. Anthropology Department travel grant.

PUBLICATIONS

Books and Book Chapters

- 2021 Shackelford L, Bacon A-M, Demeter F. Tam Pa Ling and the Eastern Asian Hominin Fossil Record. In Coppens Y, Vialet A, eds. *Un Bouquet D'Ancêtres. Premiers humains: qui était qui, qui a fait quoi, où et quand?* Académie Pontificale des Sciences, CNRS Éditions: Paris. p. 359-381. In English and French.
- 2014 Shackelford LL. Bone strength and subsistence activities at Point Hope. In Auerbach B, Cowgill L, Hilton C, eds. *The Foragers of Point Hope: the biology and archaeology of humans on the edge of the Alaskan arctic*. Cambridge University Press.
- 2014 Shackelford LL. Variation in mobility and anatomical strategies in the Late Pleistocene. In Carlson K, Marchi D, eds. *Mobility: towards a definition for application in Human Evolution*. Springer.
- 2012 Bacon A-M, Demeter F, Sayavongkhamdy T, Durringer P, Patole-Edoumba E, Coupey A-S, Shackelford L, Westaway K, Ponche J-L, Antoine P-O, Sichanthongtip P. *Les sites de Tam Hang, Nam Lot et Tam Pa Ling au nord du Laos. Des gisements à vertébrés du Pléistocène aux origines des Hommes modernes*. CNRS Editions: Paris. In French.
- 2011 Shackelford LL. Descriptive and comparative study of the lower limb. In Rougier H, Semal P, eds. *Spy Cave: State of 125 years of pluridisciplinary research on the Betche-aux-Rotches from Spy (Jemeppe-sur-Sambre, Province of Namur, Belgium)*. Royal Belgian Institute of Natural Sciences and NESPOS Society: Brussels.
- 2011 Stock JT, O'Neill MC, Ruff CB, Zabecki M, Shackelford LL, et al. Body size, skeletal biomechanics, mobility and habitual activity from the Late Palaeolithic to the Mid-Dynastic Nile Valley. In Pinhasi R, Stock JT, eds. *Human Bioarchaeology of the Transition to Agriculture*. Wiley-Blackwell: West Sussex. Pp 347-370.
- 2005 Trinkaus E, Smith FH, Stockton TC and Shackelford LL. The human postcranial remains from Mladec. In: Teschler-Nicola M, ed. *The Human Remains from Mladec*. Vienna: Springer Verlag.

Selected Journal Articles (mentored or advised students underlined)

- 2023 Freidline S, Westaway K, Joannes-Boyau R, Durringer P, Ponche J-L...Shackelford S & Demeter F. Early presence of Homo sapiens in Southeast Asia by 86-68 kyr at Tam Pa Ling, Northern Laos. Nature Comm. 14, 3193.
<https://doi.org/10.1038/s41467-023-38715-y>
News Coverage (partial list): [Nature](#), [Science](#), [Smithsonian Magazine](#), [New Scientist](#), [Le Monde](#), [CNN](#), [Live Science](#), [UIUC News Bureau](#)
- 2022 Demeter F, Zanolli C, Westaway K, Joannes-Boyau R, Durringer P, Morley M...& Shackelford L. A Middle Pleistocene Denisovan molar from the Annamite Chain of northern Laos. Nature Comm 13, 2557. <https://doi.org/10.1038/s41467-022-29923-z>
News Coverage (partial list): [NY Times](#), [National Geographic](#), [CNN](#), [USA Today](#), [Washington Post](#), [The Guardian](#), [Nature News](#), [Science News](#), [Reuters](#), [Smithsonian Magazine](#)
- 2022 Yarlagadda K, Zachwieja AJ, de Flamingh A, Phungviwatnikul T, Rivera-Colón AG, Roseman C, Shackelford L, Swanson KS, Malhi RS. Geographically diverse canid sampling provides novel insights into pre-industrial microbiomes. Proc R Soc B 20220052. <https://doi.org/10.1098/rspb.2022.0052>
- 2021 Bacon A-M, Bourgon N, Welker F, et al. A multi-proxy approach to exploring *Homo sapiens*' arrival, environments and adaptations in Southeast Asia. Scientific Reports 11: 21080. <https://doi.org/10.1038/s41598-021-99931-4>
- 2021 Bourgon N, Jaouen K, Bacon A-M, et. al. Trophic ecology of a Late Pleistocene early modern human from tropical Southeast Asia inferred from zinc isotopes. Journal of Human Evolution 161: 103075.
<https://doi.org/10.1016/j.jhevol.2021.103075>
News Coverage (partial list): [Phys.org](#), [Science Daily](#)
- 2021 Chen V, Shackelford L, Spain M. Pelvic floor dysfunction after hysterectomy: Moving the investigation forward. Cureus 13(6):e15661. [doi: 10.7759/cureus.15661](https://doi.org/10.7759/cureus.15661).
- 2021 Galvez R, Wallon RC, Shackelford L, Amos J, Rowen J. Use of virtual reality to educate undergraduate medical students on cardiac peripheral and collateral circulation. Medical Science Educator 31(1): 19-22 <https://doi.org/10.1007/s40670-020-01104-x>.
- 2020 Zachwieja AJ, Bacon A-M, Nguyen TMH, Nguyen AT, Westaway K, Durringer P, Ponche J-L, Patole-Edoumba E, Sichanthongtip P, Sayavongkhamdy, Dunn TE, Demeter F, Shackelford LL. Understanding Late Pleistocene human land preference using ecological niche models in an Australasian test case. Quaternary International 563: 13-28. [10.1016/j.quaint.2020.09.026](https://doi.org/10.1016/j.quaint.2020.09.026)
- 2020 Bourgon N, Jaouen K, Bacon A-M, Jochum KP, Dufour E, et al. Zinc isotopes in Late Pleistocene fossil teeth from a Southeast Asian cave setting preserve paleodietary information. Proceedings of the National Academy of Sciences USA 117(9): 4675-4681. <https://doi.org/10.1073/pnas.1911744117>

- 2019 Shackelford L, Huang WD, Craig A, Merrill C, Chen D. Relationships between motivational support and game features in a game-based virtual reality learning environment for teaching introductory archaeology. *Educational Media International* 56(3): 183-200 <https://doi.org/10.1080/09523987.2019.1669946>.
- 2019 Shackelford L, Huang WD, Craig A, Merrill C, Chen D, Chao X, Arjona J. Relationships between cognitive loads and motivational support in a virtual reality game-based learning system for teaching introductory archaeology. 2019 E-Learn: World Conference on E-learning, New Orleans, LA, USA.
- 2018 Shackelford L, Huang WD, Craig A, Merrill C, Chen D, Arjona J. A formative evaluation on a virtual reality game-based learning system for teaching introductory archaeology. In *Proceedings of E-Learn: World conference on E-learning in Corporate, Government, Healthcare, and Higher Education*. United States Association for the Advancement of Computing in Education. pp. 605-611. <https://www.learntechlib.org/primary/p/185014/>
- 2018 Bacon A-M, Bourgon N, Dufour E, Zanolli C, Durringer P, Ponche JL, Antoine P-O, Shackelford L, et al. Nam Lot (MIS 5) and Duoi U’Oi (MIS 4) Southeast Asian sites revisited: Zooarchaeological and isotopic evidence. *Palaeogeography, Palaeoclimatology, Palaeoecology*. <https://doi.org/10.1016/j.palaeo.2018.03.034>
- 2018 Milano S, Demeter F, Hublin J-J, Durringer P, Patole-Edoumba E, Ponche J-L, Shackelford L, et al. Environmental conditions framing the first evidence of modern humans at Tam Pa Ling, Laos: a stable isotope record from terrestrial gastropod carbonates. *Palaeogeography, Palaeoclimatology, Palaeoecology* 511: 352-363. <https://doi.org/10.1016/j.palaeo.2018.08.020>
- 2018 McColl H, Racimo F, Vinner L., et al. The prehistoric peopling of Southeast Asia. *Science* 361(6397): 88-92. <https://doi.org/10.1126/science.aat3628>
News Coverage (partial list): [Smithsonian Magazine](#), [Science Alert](#), [Science Daily](#), [Phys.org](#)
- 2017 Corny J, Galland M, Arzarello M, Bacon A-M, Demeter F, Grimaud-Herve D, Higham C, Matsumura H, Cuong NL, Thuy NTK, Nguyen V, Oxenham M, Sayavongkhamdy T, Semah F, Shackelford LL, Detroit F. Dental phenotypic shape variation supports a multiple dispersal model for anatomically modern humans in Southeast Asia. *Journal of Human Evolution* 112: 41-56. <http://dx.doi.org/10.1016/j.jhevol.2017.08.017> .
- 2017 Demeter F, Shackelford L, Westaway K, Barnes L, Durringer P, et al. Early modern humans from Tam Pa Ling, Laos: fossil review and perspectives. *Current Anthropology* 58(S17): S527-S538. <https://www.journals.uchicago.edu/doi/full/10.1086/694192>
- 2017 Shackelford L, Demeter, F, Westaway K, Durringer P, Ponche J-L, et al. Additional evidence for early modern human morphological diversity in Southeast Asia at Tam Pa Ling, Laos. *Quaternary International* 466A: 93-106. <https://doi.org/10.1016/j.quaint.2016.12.002> .
News Coverage (partial list): [ArsTechnica](#)

- 2017 Sparacello V, Villotte S, Shackelford L, Trinkaus E. Patterns of humeral asymmetry among Late Pleistocene humans. *Comptes Rendus Palevol* 16(5-6): 680-689. <http://dx.doi.org/10.1016/j.crvp.2016.09.001>
- 2016 Willman J, Shackelford L, Demeter F. Incisor avulsion among the Late Upper Paleolithic people of Tam Hang (Northern Laos): Social identity, mortuary practice, and oral health. *American Journal of Physical Anthropology* 160(3): 519-528. <http://dx.doi.org/10.1002/ajpa.22988>
- 2015 Demeter F, Shackelford L, Westaway K, Durringer P, Bacon A-M, et al. Early modern humans and morphological variation in Southeast Asia: fossil evidence from Laos. *PLOS One* 10(4): <https://doi.org/10.1371/journal.pone.0121193>.
News Coverage (partial list): [Nature World News](#), [Science World Report](#), [Science Daily](#), [Phys.org](#)
- 2015 Bacon A-M, Westaway K, Antoine P-O, Durringer P, Amandine B, Demeter F, Ponche J-L, Zhao J-X, Barnes LM, Sayavongkhamdy T, Nguyen TK, Long VT, Patole-Edoumba E, Shackelford L. Late Pleistocene mammalian assemblages of Southeast Asia: new dating, mortality profiles and evolution of the predator-prey relationships in an environmental context. *Palaeogeography, Palaeoclimatology, Palaeoecology* 422: 101-127. <https://doi.org/10.1016/j.palaeo.2015.01.011>
- 2015 Patole-Edoumba E, Durringer P, Richardin P, Shackelford L, Bacon A-M, et al. Evolution of the Hoabinhian techno-complex of Tam Hang rock shelter in Northeastern Laos. *Archaeological Discovery* 3:140-157. [10.4236/ad.2015.34013](https://doi.org/10.4236/ad.2015.34013)
- 2013 Shackelford LL, Marshall F, Peters J. Identifying domestication of the donkey through changes in cross-sectional geometry of long bones. *Journal of Archaeological Science* 40: 4170-4179. <https://doi.org/10.1016/j.jas.2013.06.006>
- 2012 Demeter F, Shackelford L, Bacon A-M, Durringer P, Westaway K, et al. An anatomically modern human in Southeast Asia (Laos) by 46 ka. *Proceedings of the National Academy of Sciences USA* 109(36): 14375-14380. <https://doi.org/10.1073/pnas.1208104109>
- 2012 Shackelford LL, Demeter F (2012). The place of Tam Hang in Southeast Asian human evolution. *Comptes Rendus Palevol* 11(2-3): 97-115. <https://doi.org/10.1016/j.crvp.2011.07.002>
- 2012 Shackelford LL, [Stinespring A](#), [Konigsberg L](#) (2012). Estimating the distribution of probable age-at-death from dental remains of immature human fossils. *American Journal of Physical Anthropology* 147(2): 227-253. <https://doi.org/10.1002/ajpa.21639>
- 2011 Bacon A-M, Durringer P, Antoine P-O, Demeter F, **Shackelford L**, Sayavongkhamdy T, et al. (2011). The Middle Pleistocene mammalian fauna from Tam Hang karstic deposit, northern Laos: New data and evolutionary hypothesis. *Quaternary International* 245: 315-332. <https://doi.org/10.1016/j.quaint.2010.11.024>
- 2007 Shackelford LL. Regional variation in the postcranial robusticity of late upper paleolithic humans. *American Journal of Physical Anthropology* 133(1): 655-668. <https://doi.org/10.1002/ajpa.20567>

- 2004 Churchill SE, Shackelford LL, Georgi JN and Black MT. Morphological variation and airflow dynamics in the human nose. *American Journal of Human Biology* 16(6): 625-638. <https://doi.org/10.1002/ajhb.20074>
- 2002 Shackelford LL and Trinkaus E. Late Pleistocene human femoral diaphyseal curvature. *American Journal of Physical Anthropology* 118(4): 359-370. <https://doi.org/10.1002/ajpa.10093>

Selected Abstracts and Reports (mentored or advised students underlined)

- 2022 Shackelford L, Huang WD, Sung J, Carducci P. Impacting student learning: Motivational needs of wheelchair users in a VR game-based learning environment for archaeology. 2022 Association for Educational Communications and Technology International Convention.
- 2022 Hernandez V, Shackelford L, Bacon A-M, Durringer P, Westaway K, et al. Preliminary microstratigraphic observations from Tam Pa Ling Cave, Laos: Situating early humans within the changing tropical environment. 22nd Congress of the Indo-Pacific Prehistory Association: 131.
- 2022 Zanolli C, Bacon A-M, Boualaphone S, Demeter F, Durringer P...Shackelford L, et al. Denisovans: How to recognize them in the fossil record. 22nd Congress of the Indo-Pacific Prehistory Association: 132-3.
- 2022 Bacon A-M, Bourgon N, Dufour E, Demeter, Zanolli, C...Shackelford L, Hublin J-J. Climate changes, environments and dynamics of human evolution in Southeast Asia: From Denisovans to Homo sapiens. 22nd Congress of the Indo-Pacific Prehistory Association: 130-1.
- 2022 Zachwieja A, Bacon A-M, Mane T, O-Connor S, Huong NTM...Shackelford L. Hunting methods influenced human-carnivore competition in Late Pleistocene Southeast Asia but not Australia. 22nd Congress of the Indo-Pacific Prehistory Association: 290.
- 2021 Shackelford L, Huang WD, Merrill C, Chen A, Craig A. Blurring design boundaries between methods and media in a game-based VR learning environment. 2021 Association for Educational Communications and Technology International Convention.
- 2020 Galvez R, Wallon RC, Shackelford L, Amos J, Rowen J. Evaluation of a virtual reality task to educate undergraduate medical students on peripheral and collateral circulation in cardiology. Central Group on Educational Affairs.
- 2020 Zachwieja A, Bacon A-M, Nguyen TMH, Nguyen AT, Sichanthongtip P, Sayavongkhamdy T, Demeter F, Shackelford L. Hunting method choice influenced human-carnivore competition in Late Pleistocene Southeast Asia. *American Anatomical Association*.
- 2020 Shackelford L, Verstraete E, Huang WD, Merrill C, Craig A. Virtual Archaeology: Teaching archaeology using virtual reality and game-based learning. *Society for Historical Archaeology*.
- 2019 Galvez R, Shackelford L, Amos J, Rowen J. The use of virtual reality with clinical case studies to facilitate learning of 3-dimensional anatomical concepts in cardiology.

- Poster Presentations Abstracts, 23rd Annual Meeting of the International Association of Medical Science Educators, Roanoke, VA, June 8-11, 2019. *Medical Science Educator* 29: 19-68. <https://doi.org/10.1007/s40670-019-00869-0>
- 2019 Shackelford L, Athreya S. Neanderthal-Upper Paleolithic human population dynamics. *American Journal of Physical Anthropology* 168(S68):225.
- 2019 Zachwieja A, Shackelford L. Sampling bias in the trend of post-Pleistocene gracilization: how terrain affects lower limb robusticity. *FASEB Journal* 33 (S1):612.19.
- 2019 Zachwieja A, Demeter F, Bacon A-M, Nguyen TMH, Nguyen AT, Westaway K, Durringer P, Ponche J-L, Sichanthongtip P, Sayavongkhamdy T, Dunn, T, Shackelford L. Ecological niche models of human land use in Late Pleistocene Southeast Asia suggest both abiotic and biotic variables influenced human dispersal. *American Journal of Physical Anthropology* 168(S68):278.
- 2019 Zachwieja A, Shackelford L. Sampling bias in the trend of post-Pleistocene gracilization: how terrain affects lower limb robusticity. *FASEB Journal* 33 (S1): 612.19.
- 2019 Shackelford L, Huang W, Craig A, Merrill C, Chen D, & Arjona J. Motivational processing in a game-based virtual reality learning system for teaching introductory archaeology. 2019 Association for Educational Communications and Technology International Convention.
- 2018 Shackelford L, Huang W-H, Craig A, LaValle S, Merrill C, Zeng Y. Digitally-empowered learning: Teaching archaeology through virtual reality and game-based learning. *Paleoanthropology* 2018:A1-A41.
- 2018 Willman JC, Schmidt CW, Remy A, Shackelford L, Demeter F. Dental microwear texture analysis of the Late Upper Paleolithic/Neolithic humans at Tam Hang (Northern Laos). *American Journal of Physical Anthropology* 165(S66): 302.
- 2018 Milano S, Demeter F, Hublin J-J, Durringer P, Patole-Edoumba E, Ponche J-L, Shackelford L, et al. Environmental reconstruction in the context of the first *Homo sapiens* in Indochina. *Proceedings of the European Society for the Study of Human Evolution* 7:128.
- 2018 Bourgon N, Jaouen K, Bacon A-M, Dufour E, Demeter F, Antoine P-O, Boesch Q, Durringer P, Patole-Edoumba E, Ponche J-L, Shackelford L, et al. Zinc isotopes as a dietary indicator for archaeology and paleontology: insights from a Southeast Asia Late Pleistocene food web. *Proceedings of the European Society for the Study of Human Evolution* 7:25.
- 2018 Bourgon N, Jaouen K, Bacon A-M, Dufour E, Demeter F, Antoine P-O, Boesch Q, Durringer P, Patole-Edoumba E, Ponche J-L, Shackelford L, et al. Zinc isotopes in fossil teeth and their use as dietary tracer: evidence from a multi-isotopes study. 2nd annual Frontiers in Archaeological Sciences meeting, Simon Fraser University, BC, Canada.

- 2018 Zachwieja AJ, Shackelford LL. Ecological niche models of human land use in Pleistocene Southeast Asia must account for both overall climate and environmentally specific variables. *American Journal of Physical Anthropology* 165(S66):309.
- 2018 Zachwieja AJ, Shackelford LL. Ecological niche models of human land use at the Last Glacial Maximum in Southeast Asia: A comparison of GARP and MaxEnt. Abstracts of the PaleoAnthropology Society 2018 Meeting. *Paleoanthropology* 2018:A1-A41.
- 2017 Zachwieja A, Shackelford L. Paleobiology, competition and migration in Late Pleistocene Southeast Asia. *American Journal of Physical Anthropology* S64:355.
- 2015 Demeter F, Shackelford LL, Braga J, Westaway K, Durringer P, et al. Early modern humans and morphological variation in Southeast Asia: fossil evidence from Tam Pa Ling, Laos. *American Journal of Physical Anthropology* S60:119.
- 2015 Fox M, Shackelford L. Morphology and locomotor function of the hominin pubis. *American Journal of Physical Anthropology* S60:136.
- 2014 Bacon A-M, Shackelford LL, Demeter F. Le site de Pa Hang au Laos: Histoire des premiers homes modernes dans le Sud-est de l'Asie. Rapport 2011-2014. Presented to the Ministry of Foreign Affairs, France and Ministry of Culture, Vientiane, Laos.
- 2014 Zachwieja AJ, Shackelford LL. Post-Pleistocene gracilization and the effects of terrain on the lower limbs of modern humans. *American Journal of Physical Anthropology* 153(S58):280.
- 2014 Demeter F, Shackelford L, Braga J, Westaway K, Durringer P, et al. The Tam Pa Ling case: where archaic and modern humans met. 20th Indo-Pacific Prehistory Association Congress.
- 2013 Shackelford LL, Demeter F, Bacon A-M, Durringer P, Westaway K, et al. Mosaic traits of the human mandible from Tam Pa Ling, Laos at 46 ka. *Paleoanthropology* 2013:A34.
- 2012 Shackelford LL, Demeter F, Bacon A-M, Durringer P, Westaway K, et al. Modern human fossils from Tam Pa Ling, Laos. *American Journal of Physical Anthropology* 147 (S54):266-267.
- 2011 Shackelford LL. Paleoanthropology in Mainland Southeast Asia: Excavation at Tam Hang Laos. Final report to L.S.B. Leakey Foundation.
http://leakeyfoundation.org/wp-content/uploads/Reports/Shackelford,L-final_report-F2011.pdf
- 2011 Shackelford LL. What does mobility look like in the Late Pleistocene? *American Journal of Physical Anthropology* 144(S52):271.
- 2011 Stinespring A, Shackelford LL, Konigsberg L. Estimating the distribution of probable age-at-death from the dental remains of immature human fossils. *American Journal of Physical Anthropology* 144(S52):156.

- 2010 Jungers W, Farke A, Sutikna, T, Ruff C, Shackelford L, Stock J, et al. Long-bone geometry and skeletal biomechanics in *Homo floresiensis*. *American Journal of Physical Anthropology* 141(S50).
- 2008 Shackelford LL, Demeter F, Bacon A-M, Durringer P, Edoumba E, Sayavaongkhamdy T, et al. Results from early excavation at Tam Hang, Laos. *American Journal of Physical Anthropology* 138(S48):235.
- 2006 Shackelford LL. Long bone robusticity and behavioral variability in the Inuit sample from Point Hope, Alaska. *American Journal of Physical Anthropology* 129(S42):163.
- 2006 Shackelford LL. Postcranial anatomy and robusticity in Tam Hang, Laos. 18th Indo-Pacific Prehistory Association Congress.
- 2005 Shackelford LL. Regional variation in Late Pleistocene human postcranial robusticity. *Paleoanthropology* A31.
- 2004 Shackelford LL. Behavioral adaptations in a Late Upper Paleolithic Southeast Asian population (Tam Hang, Laos). *American Journal of Physical Anthropology* 123(S38):179.
- 2003 Shackelford LL. Late Pleistocene Postcranial Skeletal Remains from Tam Hang (Laos). *American Journal of Physical Anthropology* 120(S36):189.
- 2001 Shackelford LL, Trinkaus E. Late Pleistocene human anterior femoral curvature. *American Journal of Physical Anthropology* 114(S32):135.

SELECTED PRESENTATIONS AND INVITED LECTURES

- 2023 UIUC Game Studies & Design Spring showcase, faculty roundtable: *Teaching through games*
- 2022 Shackelford L, Huang W, Sung J, Carducci P. Impacting student learning: Motivational needs of wheelchair users in a VR Game-based learning (VRGBL) environment for archaeology. 2022 Association for Educational Communications and Technology International Convention, Las Vegas, NV + Virtual.
- 2022 Coursera Conference: The Future of Learning and Work. Panel session: *Web3: The Internet multiverse is near, but is our tech stack ready?*
- 2022 UIUC Center for Instructional Teaching and Learning, Art of Teaching Seminar Series, *Gameful Pedagogy in Practice*, Urbana IL
- 2021 Shackelford L, Huang D, Merrill C, Chen D, Craig A. Blurring design boundaries between methods and media in a game-based VR learning environment. 2021 AECT International Convention. Chicago, IL + virtual.
<https://convention2.allacademic.com/one/aect/aect21>
- 2021 Playful by Design Symposium, *Serious games and simulations* Roundtable session, Urbana IL.
- 2020 UIUC College of Liberal Arts & Sciences Technology Presentation Series, *Creating and using immersive technology in the classroom*, Urbana IL.

- 2019 Pontifical Academy of Sciences, Vatican, *Premiers humains: Qui était qui, qui faisait quoi, où et quand? (The earliest humans: who was who, who did what, where and when?)*, Rome (with Fabrice Demeter).
- 2019 Big Ten Academic Association, *Virtual reality in the classroom: teaching with immersive technology*, Urbana IL.
- 2019 Campus Alliance for Advanced Visualization, *Virtual Archaeology: The efficacy of virtual reality of social science education*, Bloomington IN.
- 2019 NSF Cyberlearning Conference, *Teaching with Immersive Technology: Virtual Archaeology*, Alexandria VA.
- 2019 Playful by Design, *VR in the Classroom*, Urbana IL.
- 2019 American Association of Physical Anthropology, Symposium: “From pedestrian to cerebral in the Pleistocene: a symposium in honor of Erik Trinkaus,” *Neanderthal-Upper Paleolithic human population dynamics*, Cleveland OH.
- 2019 UIUC Technology Innovation in Educational Research & Design (TIER-ED), *Lightning Talk: Digitally empowered learning: Virtual reality and social science education*, Urbana IL.
- 2018 UIUC Human Subjects Research Conference, *Digitally empowered learning: Virtual reality and social science education*, Urbana IL.
- 2018 UIUC College of Liberal Arts and Sciences Teaching Academy, *Digitally empowered learning: Teaching archaeology through virtual reality and game-based learning*.
- 2018 UIUC Dept. of Educational Psychology, Division of Cognitive Science, *Virtual Archaeology*.
- 2017 American Association of Physical Anthropology, Symposium: “The paleobiology of Upper Paleolithic/Later Stone Age humans,” *Paleobiology, competition and migration in Late Pleistocene Southeast Asia*, New Orleans LA.
- 2017 IEEE Aerospace Conference Keynote, *Human Evolution: A view from the East*, Big Sky, MT.
- 2016 Lao National Museum, *Presentation of fossils from Tam Pa Ling, Laos*, Vientiane, Laos.
- 2015 American Association of Physical Anthropology, *Early modern humans and morphological variation in Southeast Asia: Fossil evidence from Tam Pa Ling, Laos*, St. Louis MO.
- 2015 Roland Park Country School, *Being a scientist and a girl*, Baltimore MD.
- 2012 Illinois State Geological Survey Seminar Series, *Southeast Asian Paleoanthropology*, Urbana IL.
- 2012 UT Knoxville Anatomy Lecture Series, *Biobehavior of Late Pleistocene Humans from Southeast Asia*, Knoxville TN.
- 2011 French Embassy, *Updates on excavations from Tam Pa Ling, Laos*, Vientiane, Laos.
- 2011 UIUC Program in Ecology & Evolutionary Biology, *Late Pleistocene human biology*.

- 2011 American Association of Physical Anthropology, Symposium: “Mobility: Towards a definition for application in human evolution,” *What does mobility look like in the Late Pleistocene?*, Minneapolis MN.
- 2010 French Embassy, *Updates on excavations from Hua Pan Province, Laos*, Vientiane, Laos.
- 2006 Indo-Pacific Prehistory Association, *The Tam Pa Ling case: Where archaic and modern human biology met*, Manila, Philippines.
- 2006 American Association of Physical Anthropology, Symposium: “Pre-contact forager adaptations to NW Coastal Alaska: the bioarchaeology of Point Hope,” *The biology and biomechanics of foragers from Point Hope*, Anchorage AK.

TEACHING EXPERIENCE

University of Illinois Urbana-Champaign, Urbana, IL

Anthropology Department

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| ANTH 102 | Human Origins and Culture |
| ANTH 399, 499 | Biology of the Neandertals |
| ANTH 226/399VR | Virtual Archaeology |
| ANTH 435 | The Neandertal Debate |
| ANTH 440 | Human Paleontology |
| ANTH 456 | Human Osteology |
| ANTH 499 | Anthropology and Ethics |
| ANTH 444, 445 | Human Anatomy |

Animal Sciences Department

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| ANSC 298 | Africa Wildlife Discovery in South Africa (Study abroad) |
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UIUC College of Medicine

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| BMS 622 & 623 | Human Anatomy I and II (cadaver-based anatomy) |
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Carle Illinois College of Medicine (systems-based curriculum)

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| BSC 601 | Human Anatomy (cadaver-based anatomy for cardiovascular, respiratory, renal, musculoskeletal, digestion, genitourinary, and Women’s health courses) |
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Advanced Anatomy elective: one-on-one advanced exploration of anatomical topics or research projects

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| 2023 | Peggy Palsgaard, Female pelvic anatomy, scheduled 8/28-9/22/2023 |
| 2023 | Szymon Kasperek, Anatomy for diagnostic radiology, scheduled 9/25-10/22/2023 |
| 2023 | Richard Li, Vascular anatomy & physiology |
| 2023 | Caleb Bowman, Joint structure & function |
| 2023 | Diana Wu, educational simulations for anatomy |
| 2022 | Mark Nyaeme, head and neck surgery and ENT disorders |
| 2022 | Dylan Mann, musculoskeletal anatomy with a focus on orthopedics |
| 2022 | Zachary Meade, head and neck anatomy for general surgery |
| 2021 | Ethan Chen, neck dissection, from radical to elective and sentinel lymph node biopsy |

- 2021 Phani Gaddipati, immediately sequential and delayed sequential cataract surgery
- 2021 Matthew Lee, genitourinary anatomy with a focus on kidney & ureter transplantation
- 2021 Jan Lee, insulin secretion post Roux-en-Y gastric bypass
- 2021 Ashkhan Hojati, GI anatomy and gastrointestinal perforation
- 2021 Kanasha Overton, urology and male reproductive anatomy

Products:

- We are the blessing, not dressed in disguise, Op-Med Medical Humanities series, *Doximity*, June 2021
 - 2021 Samantha Houser, brachial plexus and circulation of the spinal cord and vertebral canal
 - 2020 Valerie Chen, post-hysterectomy pelvic floor dysfunction
- Products:**
- Chen V, Shackelford L, Spain M. Pelvic floor dysfunction after hysterectomy: Moving the investigation forward. *Cureus* 2021 Jun 15;13(6):e15661. doi: 10.7759/cureus.15661
 - Pelvic floor dysfunction after hysterectomy: Moving the investigation forward, 19th annual research day, CICOM, April 2021 (conference abstract and podium presentation)

Discovery Learning - one-on-one study of anatomical topics or pilot research with first-year medical students

- 2022 Monica Bhagavan, *Review of penetrating trauma injuries of the thorax and abdomen through a cadaveric learning module*
 - 2022 Michael Chen, *Orthopedic structures and applications*
- Products in prep:**
- Chen MP, Shackelford L, Hegazy S, Saluja R. Osteosarcoma of the distal scapula discovered post-mortem.
 - Chen MP, Shackelford L, Hegazy S, Saluja R. Heterotopic ossification of proximal femur discovered post-mortem.

Doctoral Students Advised

- Scott Williams, *Evolution of the hominoid vertebral column*, 2011
 - current position: Associate Professor, NYU Dept. of Anthropology
- Krista Milich, *The impact of habitat quality on female red colobus (*Procolobus rufomitratus*) reproduction in Kibale National Park, Uganda*, 2012
 - current position: Assistant Professor, Washington University Dept. of Anthropology
- Natalie Uhl, *Using multivariate calibration to evaluate hominin brain/body relationships*, 2014
- John Lindo, *Paleogenomics in the Americas: Demography, adaptations and resilience*, 2015
 - current position: Assistant Professor, Emory University Dept. of Anthropology
- Amanda Lee, *Multivariate asymmetry and allometry in human limb bones as a basis for osteometric sorting*, March 2019

- current position: Visiting Assistant Professor, University of Illinois Chicago, Dept. of Anthropology
- Alexandra Zachwieja, *Climate, environment and competition influenced human land use in Late Pleistocene Australasia*, November 2019 (primary adviser)
 - current position: Assistant Professor, University of Minnesota Medical School, Duluth, Dept. of Biomedical Sciences
- Matthew Go, *Sex and ancestry estimation in modern Filipino crania*, March 2020
 - current position: Forensic Anthropologist, DoD POW/MIA Accounting Agency
- Maria Fox, *The biomechanical consequences of body size differences in humans*, March 2020
- Katie Lee, *Estrogen, energy and bone: A life history approach to understanding skeletal phenotypes*, June 2020
 - current position: Assistant Professor, Tulane University, Dept. of Anthropology
- An-di Yim, Ph.D., *A quantitative genetic approach to study the ontogeny and evolution of ecogeographic patterns in the human limb skeleton*, April 2021
 - current position, Assistant Professor, Truman State University
- Tyler Dunn, Ph.D., *The effects of climate and subsistence on postcranial variation in modern humans through the lens of population history – a mixed model approach*, December 2021(primary adviser)
 - current position: Assistant Professor, Anatomical Sciences Education Center, Oregon Health Science University
- Valerie Sgheiza, *The conditional independence assumption in dental developmental age estimation*, October 2022
 - current position: Visiting Assistant Professor, UIUC
- James Planey (College of Education, DELTA program), *Immersive Production of Representations Exploring Science Sketching*, April 2023
 - current position: Postdoc, Seibel Center for Design, UIUC
- Aimee Carbaugh (entered program Fall 2014; ABD Spring 2019) (primary adviser)
- Michelle Farley (entered program Fall 2017; ABD Spring 2021) (primary adviser)
- Colleen Heinemann (Informatics, entered program Fall 2016)
- Natasha Mazumdar (entered program Fall 2014; ABD May 2018)
- Dan Matis (entered program Fall 2020) (primary adviser)
- Ashley Stinespring (entered program Fall 2009; ABD 2012)
- Brittany Staff Moody (Texas A&M University; ABD Fall 2020)

SELECTED AWARDS AND HONORS

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| 5/2023 | Phase I Golden Apple Award, Carle Illinois College of Medicine (selected by graduating class for excellence in teaching and service) |
| 5/2023 | 2023 Excellence in Teaching Award (faculty-nominated) |
| 8/22-present | Health Innovation Professor, Carle Illinois College of Medicine (5-year appointment) |
| 4/2022 | Phase 1 Golden Apple Award, Carle Illinois College of Medicine (selected by the Inaugural Class of 2022 for excellence in teaching and service) |
| 2018-present | National Geographic explorer, National Geographic Foundation |
| AY 2019-20 | Distinguished Service Award, Anthropology Dept. |

- Fall 2020 Nominated for UIUC Campus Award for Excellent in Graduate and Professional Teaching by Anthropology Dept.
- Spring 2020 Nominated for UIUC Campus Award for Excellence in Graduate and Professional Teaching by Carle Illinois College of Medicine
- Fall 2019 List of Teachers Ranked as Excellent, Anth 399 (Virtual Archaeology)
- Spring 2019 List of Teachers Ranked as Excellent, Anth 499 (NAGPRA and Ethics)
- Spring 2019 List of Teachers Ranked as Excellent, Anth 399 (Virtual Archaeology)
- AY 2017-18 Raymond B. Allen Instructorship Award (“Golden Apple Award”), College of Medicine, UIUC (chosen by first-year class for excellence in teaching)
- Spring 2017 List of Teachers Ranked as Excellent, BMS 622/23, College of Medicine
- Fall 2016 List of Teachers Ranked as Excellent, BMS 622/23, College of Medicine
- Spring 2015 List of Teachers Ranked as Excellent, Anth 456 (Human Osteology)
- Spring 2013 List of Teachers Ranked as Excellent, Anth 456 (Human Osteology)
- October 2012 Arnold O. Beckman Research Award, UIUC Campus Research Board
- Spring 2012 List of Teachers Ranked as Excellent, Anth 456 (Human Osteology)

SELECTED PUBLIC ENGAGEMENT

- 2022 Ghosts of the Denisovans, Evolution Soup podcast with Mark Torrender. Aired 6/18/2022. <https://www.youtube.com/watch?v=LmBaBrZT7MM&feature=youtu.be>
- 2021 UIUC Office of the Provost, Thriving as an Associate Professor seminar series: *Congrats, You’ve been promoted, Now what?*
- 2021 Contributor to *Windows into Human Diversity*, ep. 6, aired 6/2021, [https://urldefense.com/v3/https://www.youtube.com/playlist?list=PLu2nD5Nr8-4gWioPiGZTM70Cwdlh6WULo_!!DZ3fjg!rgdCdUN8EMpdIYnMWYHt2UUzBRSexBbdc-yp0IJCnRqTRcybKoRLvN4uQZVc8759Mbs\\$](https://urldefense.com/v3/https://www.youtube.com/playlist?list=PLu2nD5Nr8-4gWioPiGZTM70Cwdlh6WULo_!!DZ3fjg!rgdCdUN8EMpdIYnMWYHt2UUzBRSexBbdc-yp0IJCnRqTRcybKoRLvN4uQZVc8759Mbs$)
- 2021 Dear Alma Podcast, Office of the Provost, UIUC, <https://provost.illinois.edu/faculty-affairs/faculty-development-mentoring/dear-alma-podcast-series/>
- 2020 NSF Update, 2/27/2020 <https://www.youtube.com/watch?v=HxVFMQC9b0g&feature=youtu.be>
- 2020 UIUC News Bureau: Team creates game-based virtual archaeology field school, 1/29/2020 <https://news.illinois.edu/view/6367/805645>
- 2018-present
Technology Innovation in Educational Research & Design Program (TIER-ED), UIUC: Research group dedicated to research and design of educational technologies
- 2018 News Gazette: Dig this: VR lab lets UI archaeology students explore mammoth cave on campus, 11/25/2018 <http://www.news-gazette.com/living/2018-11-25/dig-vr-lab-lets-ui-archaeology-students-explore-mammoth-cave-campus.html>
- 2018 NSF Science360 Newsletter, 11/16/2018 <https://news.science360.gov/archives/20181116>
- 2018 UIUC News Bureau: Excavating a cave without leaving campus, 11/14/2018 <https://emails.illinois.edu/newsletter/193435.html>

- 2017 Story Collider, hosted by Liz Neeley and Ari Daniel. Scientists tell personal stories about the human side of science. <https://www.storycollider.org>
- 2017-present
Playful by Design Research group: IPRH Research cluster dedicated to interdisciplinary game studies throughout the CU community
- 2015 Contributor to *First Peoples: Asia*, PBS documentary, aired Summer 2015
- 2013 Contributor to the Academic Minute, WAMC Northeast Public Radio
- 2012 BBC World Service Newshour radio interview, 8/21/2012 on Tam Pa Ling skull from Laos
- 2007 Carle Hospital Community Medical School, *Joints*, Urbana IL.

UNIVERSITY SERVICE

University & College of LAS Service

- 4/2022 Chair, Executive Officer Evaluation Committee, Communication Dept., UIUC
- 8/2021-present Educational Policy Committee
- 8/2021-present Teaching Advancement Board
- 8/2022-present *Chair*
- 2/2021-6/2021 Task Force on Post-Pandemic Innovation in Teaching and Learning
- 2017-2020 IT Faculty Advisory Committee
- 2018-2020 Faculty Women in the Classroom
- 2011-2016 College Committee on Student Promotions, UI College of Medicine (overseeing 4 regional campuses)
- 2011-2013 LAS Faculty Senator for Anthropology

Departmental Service: Anthropology

- 2017-2020 Director of Graduate Studies
- 2014-15, 2017-20 Anthropology Advisory Committee
- 2017-present NAGPRA & Ethics Committee
- 2011-12, 2017-20 Admissions Committee
- 2010-11, 2012-13, 2021-present Awards Committee
- 2021-present *Chair*
- 2007-10, 2013-14 Courses & Curriculum Committee
- 2007-11, 2013, 2016-present Osteology Committee
- 2010-11, 2014-15 Financial Aid Committee
- 2008-13, 2019-present Diversity Committee
- 2020-present Departmental Green Team

Departmental Service: UIUC College of Medicine (2007-2017)

- 2007-2017 Basic Sciences Subcommittee
- 2011-2017 Educational Policy Committee

2008-2011 Student Progress & Promotions Committee

Departmental Service: Carle Illinois College of Medicine (2017-present)

2020-present Biomedical & Translational Sciences Appointment,
Promotions & Tenure (APT) Committee

8/2022-present *APT Chair*

2019-present Electives Review Subcommittee

2017-2019 Basic Science Curriculum Subcommittee

2017-2018 Committee on IT for Simulation Education

PROFESSIONAL SERVICE

Review Panels: Journals & Publishers

- American Journal of Physical Anthropology
- Cambridge University Press
- Current Anthropology
- Journal of Human Biology
- Journal of Human Evolution
- Midcontinental Journal of Archaeology
- Routledge, Taylor & Francis Group

Review Panels: Granting Agencies

- Hewlett Foundation Review Committee for International Research Travel Grants
- Leakey Foundation Scientific Executive Committee for grant review
- National Geographic Society
- National Science Foundation
 - IUSE: EDU Program
 - SBIR/STTR Program
 - Methodology, Measurement, and Statistics Program
- Swiss National Science Foundation

Review Panels: UIUC

- Center for Social and Behavioral Sciences
- Research Board grant review committee
- Technology Innovation in Educational Research & Design Program (TIER-ED)