

Sarah Mathew

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School of Human Evolution and Social Change
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Education

- 2011 University of California, Los Angeles
Ph.D. in Anthropology
- 2003 Princeton University
A.B. (with Honors) in Ecology and Evolutionary Biology

Academic Appointments

- 2020 – now Associate Professor, School of Human Evolution and Social Change,
Arizona State University
- 2013 – 2020 Assistant Professor, School of Human Evolution and Social Change,
Arizona State University
- 2012 – 2013 Assistant Professor, Department of Anthropology, Stony Brook University
- 2011 – 2012 Postdoctoral Fellow, Center for the Study of Cultural Evolution
Stockholm University

I. RESEARCH

Honors and Awards

- 2015 *Andrew Carnegie Fellowship*. One among 32 scholars nationally to receive an award of \$200,000 for outstanding scholars in the social sciences and humanities addressing “current and future challenges to U.S. democracy and international order”

Funded Grants

Tenure-track at ASU

External

- 2025 – 27 Principal Investigator on “Using Natural Experiments to Identify the Causal Effects of Islamic Prosocial Norms on Everyday Cooperation Among Sama Marine Foragers” from *Templeton Religion Trust*; \$149,856 [in progress]
- 2025 – 26 Co-Investigator on “Risky meals: cultural and biological adaptations to reduce meat-borne disease risk” Leakey Foundation; (PI: Danson Mwangi Kareri); \$30,000; Recipient Institution – Kenya Institute of Primate Research; [in progress]
- 2023 – 24 Principal Investigator on “Normative infrastructure as a platform for reinventing social institutions” from *Cultural Evolution Society Transformation Fund (sponsored by John Templeton Foundation)*; \$111,603 [completed]
- 2021 - 23 Co-Investigator on “Evaluating community perceptions and ethical considerations in genetics research in small-scale populations (PI: Anne Stone)” from *National Institutes of Health*; \$424,910 [completed]
- 2020 - 21 Principal Investigator on “RAPID: How social norms impact COVID-19 transmission behaviors” from *National Science Foundation*; \$66882 [completed]
- 2014 - 17 Investigator on “Evolutionary Foundations of Human Uniqueness: Recovering Patterns of Cognition, Cumulative Culture and Cooperation” (PI: William Kimbel) from *John Templeton Foundation*. Grant total: \$4, 934,107; percent allocation: 11% [completed]
- 2014 - 15 Collaborator Investigator on “The Emergence of Prosocial Religions” (PI: Ara Norenzayan)” from *John Templeton Foundation* to University of British Columbia. Amount to ASU for subproject conducted by S. Mathew: CAD 16,675 [completed]

Internal

- 2025 – 26 Seed grant recipient for “Risky meals: The Risky Meals: Cultural and Biological Adaptations for Managing Meat-Borne Disease Risk”, *Institute of Human Origins Founders Grant*; \$15,000 [in progress]
- 2015 - 21 Principal Investigator on "The evolution of human cooperation: field studies among Turkana pastoralists in Kenya", *President's Strategic Initiative Funds*; \$495,385 [completed]

Doctoral

2010	Harry Frank Guggenheim Dissertation Fellowship
2009	NSF Doctoral Dissertation Improvement Grant
2009	Leakey Foundation Dissertation Research Grant
2007	Owen Aldis Award, International Society for Human Ethology
2004 - 07	NSF Graduate Research Fellowship

Publications

Authorship explanation:

- * Postdoctoral trainees (at the time published work was conducted)
- ** Graduate students
- # Senior supervising author.
- † Joint first or last authorship with both authors contributing equally.
- ^a First author took lead. All other authors contributed equally with authorship order determined alphabetically.

First authorship indicates major contribution in data collection/developing of model, data analysis and manuscript preparation. On papers with postdocs or students, last authorship indicates leadership in conceiving of and designing the study, and mentoring of postdocs or students in conducting the study and writing the paper.

Peer-reviewed research articles

1. **Mathew, S.,**[†] Hadfield, G.,[†] Mwangi, D., and Reynolds, S. 2025. Metanorms generate stable yet adaptable normative social order in a politically decentralized society. *Philosophical Transactions of the Royal Society B*, in press.
2. Kendal, R. L., Miltiadis, E., Asatsa, S., Boyette, A. H., Chimento, M., **Mathew, S.**, Reichard, B., Winship, L., and Wright, S. 2025. Introduction: Diversifying cultural evolution research and application to global futures. *Philosophical Transactions of the Royal Society B*, in press.
3. Lea, A. J., Caldas, I. V., Garske, K. M., Gerlinger, E. R., Arroyo, J. P., Echwa, J., Gurven, M., Handley, C., Kahumbu, J. C., Kamau, J., Kinyua, P., Lotukoi, F., Lopurudoi, A., Lowasa, S., Njeru, S. N., Mallarino, R., Martins, D. J., Messer, P. W., Miano, C., Muhoya, B., Peng, J., Phung, T., Rabinowitz, J. D., Roichman, A., Siford, R., Stone, A. C., Taravella Oill, A. M., **Mathew, S.**, Wilson, M. A., and Ayroles, J. F. 2025. Adaptations to water stress and pastoralism in the Turkana of northwest Kenya. *Science* 389(6766): 1246–1251.
4. Yan^{**}, M. Li, Z., Li Y. Boyd, R. and **Mathew S**[#] 2025. A norm about harvest division is maintained by a desire to follow tradition, not by social policing. *Proceedings of the National Academy of Sciences* 122 (25), e2413214122

5. Zefferman, M*, Baumgarten, M**. Trumble, B. and **Mathew, S#**. 2025. Little evidence that posttraumatic stress is associated with diurnal hormone dysregulation in Turkana pastoralists. *Evolution, Medicine, and Public Health* 13.1 (2025): 77-91.
6. Lenfesty, H*., **Mathew, S.**, Fikes, T., Ross, C., Boyd, R. 2024. Third-party arbitration and forgiving strategies increase cooperation when perception errors are common. *Proceedings of the Royal Society, B*. **291**: 20240861
7. Yan, M.**., **Mathew, S.** and Boyd, R. 2023 “Doing what others do” does not stabilize continuous norms, *PNAS Nexus* 2(3) pgad054, <https://doi.org/10.1093/pnasnexus/pgad054>
8. Theiss Bendixen, Aaron D Lightner, Coren Apicella, Quentin Atkinson, Alexander Bolyanatz, Emma Cohen, Carla Handley, Joseph Henrich, Eva Kundtová Klocová, Carolyn Lesorogol, **Sarah Mathew**, Rita A McNamara, Cristina Moya, Ara Norenzayan, Caitlyn Placek, Montserrat Soler, Tom Vardy, Jonathan Weigel, Aiyana K Willard, Dimitris Xygalatas, Martin Lang, Benjamin Grant Purzycki. 2023. Gods are watching and so what? Moralistic supernatural punishment across 15 cultures. *Evolutionary Human Sciences*, 5, E18. doi:10.1017/ehs.2023.15
9. **Mathew, S.** 2022. Turkana warriors’ call to arms: how an egalitarian society mobilizes for cattle raids. *Philosophical Transactions of the Royal Society, B*. 377 (1851) 20210144.
10. Taravella Oill**, A.M., Handley, C., Howell, E. K., Stone, A. C., **Mathew, S[†]**, Wilson, M. A[†]. 2022. Genomic analysis reveals geography rather than culture as the predominant factor shaping genetic variation in northern Kenyan human populations. *American Journal of Biological Anthropology* <https://doi.org/10.1002/ajpa.24521>
11. Benjamin Grant Purzycki, Aiyana K. Willard, Eva Kundtová Klocová, Coren Apicella, Quentin Atkinson, Alexander Bolyanatz, Emma Cohen, Carla Handley, Joseph Henrich, Martin Lang, Carolyn Lesorogol, **Sarah Mathew**, Rita A. McNamara, Cristina Moya, Ara Norenzayan, Caitlyn Placek, Montserrat Soler, Tom Vardy, Jonathan Weigel, Dimitris Xygalatas & Cody T. Ross (2022) The moralization bias of gods’ minds: a cross-cultural test, *Religion, Brain & Behavior*, 12:1-2, 38-60, DOI: 10.1080/2153599X.2021.2006291
12. Vardy, T., Moya, C., Placek C.D, Apicella, C., Bolyanatz, A., Cohen, E., Handley, C., Klocová E.K., Lesorogol, C., **Mathew, S.**, McNamara, S. A., Purzycki, B. G., Soler, M., Weigel, J. L., Willard, A. K., Xygalatas, D., Norenzayan, A., Henrich, J., Lang, M., Atkinson Q. D. 2022. The religiosity gender gap in 14 diverse societies. *Religion, Brain & Behavior* 12 (1-2): 18-37.
13. Baimel, A., Apicella, C., Atkinson, Q., Bolyanatz, A., Cohen, E., Handley, C., Henrich, J., Klocová, E.K., Lang, M., Lesogorol, C., **Mathew, S.**, McNamara, R., Moya, C.,

- Norenzayan, A., Placek, C. D., Soler, M., Vardy, T., Weigel, J., Willard, A., Xygalatas, D., Purzycki, B. 2022. Material insecurity predicts greater commitment to moralistic and less commitment to local deities: a cross-cultural investigation. *Religion, Brain & Behavior* 12(1-2): 4-17.
14. Zefferman, M.* and **Mathew, S[#]**. 2021. Combat Stress in a Small-scale Society Suggests Divergent Evolutionary Roots for Posttraumatic Stress Disorder (PTSD) Symptoms. *Proceedings of the National Academy of Sciences* 118:15 e2020430118.
15. Boyd, R. and **Mathew, S.** 2021. Arbitration supports reciprocity when there are frequent perception errors. *Nature Human Behavior*.
16. Zefferman, M.* and **Mathew, S[#]**. 2020. An evolutionary theory of moral injury with insights from Turkana warriors. *Evolution and Human Behavior* 41(5): 341-353
17. Handley, C.* and **Mathew, S[#]**. 2020. Human large-scale cooperation as a product of competition between cultural groups. *Nature Communications* 11:702.
<https://doi.org/10.1038/s41467-020-14416-8>.
18. Lang, M., Purzycki, B., Apicella, C., Atkinson, Q., Bolyanatz, A., Colleran, H., Curtis, R., Handley, C*., Klocova, E., Lesorogol, C., **Mathew, S.**, Moya, C., Placek, C., Soler, M., Stagnaro, N., Vardy, T., Weigel, J., Xygalatas, D., Norenzayan, A. and Henrich, J. 2019. Moralizing gods, impartiality and religious parochialism across 15 societies. *Proceedings of the Royal Society, Series B* 286 (1898): 20190202
19. Ghrear S. E., Chudek M.*, Flung K., **Mathew, S.**, and Birch, S. A. J. 2019. Cultural Variations in the Curse of Knowledge: the Curse of Knowledge Bias in Children from a Nomadic Pastoralist Culture. *Journal of Cognition and Culture* 9 (3-4), 366-384
20. **Mathew, S.** 2017. How the second-order free rider problem is solved in a small-scale society. *American Economic Review: Papers & Proceedings* 107 (5) 578-81.
21. **Mathew, S.[†]** and Perreault, C.[†] 2016. Cultural history, not ecological environment, is the main determinant of human behavior. *Proceedings of the Royal Society, Series B* 283 (1826): 20160177
22. ^aRicherson, P., Baldini, R., Bell, A., Demps, K., Frost, K., Hillis, V., **Mathew, S.**, Newton, E., Narr, N., Newson, L., Ross, C., Smaldino, P., Waring, T., Zefferman, M. 2016. Cultural group selection follows Darwin's classic syllogism for the operation of selection. *Behavioral and Brain Sciences* 39, e58.
23. Richerson, P., Baldini, R., Bell, A., Demps, K., Frost, K., Hillis, V., **Mathew, S.**, Newton, E., Narr, N., Newson, L., Ross, C., Smaldino, P., Waring, T., Zefferman, M. Cultural Group Selection Plays an Essential Role in Explaining Human Cooperation. A Sketch of the Evidence. 2016. *Behavioral and Brain Sciences* 39, e30.

24. **Mathew, S.[†]** and Perreault, C.[†]. 2015. Behavioral variation in 172 small-scale societies indicates social learning to be the main mode of human adaptation. *Proceedings of the Royal Society, Series B* 282(1810): 20150061
25. Boyd, R. and **Mathew S.** 2015. Third-party monitoring and sanctions aid the evolution of language. *Evolution and Human Behavior* 36(6): 475-479.
26. Zefferman, M. and **Mathew, S.** 2015. An Evolutionary Theory of Large-scale Human Warfare: Group-structured Cultural Selection. *Evolutionary Anthropology: Issues, News and Reviews* 24(2): 50-61.
27. **Mathew, S.** and Boyd, R. 2014. The cost of cowardice: third-party punitive sentiments towards free riders in Turkana raids. *Evolution and Human Behavior* 35: 58-64.
28. Perreault, C.[†] and **Mathew, S.[†]** 2012. Dating the origin of language using phonemic diversity. *PLoS ONE* 7(4): e35289.
29. **Mathew, S.** and Boyd, R. 2011. Punishment sustains large-scale cooperation in prestate warfare. *Proceedings of the National Academy of Sciences* 108 (28): 11375 – 11380.
30. **Mathew, S.** and Boyd, R. 2009. When does optional participation allow the evolution of cooperation? *Proceedings of the Royal Society, Series B* 276: 1167 – 1174.

Chapters in edited volumes

1. Zefferman, M*. and **Mathew S[#]**. In press, Intergroup violence without essentialist beliefs: the case of Turkana cattle raiders. In *Culture, Identity, and Essentialism: Anthropological and Psychological Perspectives*, edited by Wagner W. and Moya. C.
2. **Mathew, S.** In press. Competition. *Routledge Handbook of Pastoralism*, edited by Moritz M., Samuels I., Schareika N. and Schlecht E.
3. **Mathew, S.**, Boyd, R. and van Veelen, M. 2013. Human cooperation among kin and close associates may require enforcement of norms by third parties. In: *Cultural Evolution*, ed. P. J. Richerson and M. Christiansen. *Strüngmann Forum Report 12*, series editor J. Lupp. Cambridge, MA: MIT Press.
4. ^a Jordan, F. M., C. van Schaik, P. François, H. Gintis, D. B. M. Haun, D. J. Hruschka, M. A. Janssen, J. A. Kitts, L. Lehmann, **S. Mathew**, P. J. Richerson, P. Turchin, and P. Wiessner. 2013. Cultural evolution of the structure of human groups. In: *Cultural Evolution*, ed. P. J. Richerson and M. Christiansen. *Strüngmann Forum Report 12*, series editor J. Lupp. Cambridge, MA: MIT Press.

Comments and Invited Articles

1. Why reciprocity is common in humans but rare in other animals. **Mathew, S.** 2024. *Nature* **626**, 955-956.
2. **Mathew S.** and Zefferman M. 2024. Group-structured cultural selection can explain both war and peace. *Behavioral and Brain Sciences*. 2024; 47: e18.
3. Zefferman M., Baldini R. and **Mathew, S.** 2015. Solving the puzzle of human warfare requires an explanation of battle raids and cultural institutions. *Proceedings of the National Academy of Sciences* 112(20): E2557.
4. Panchanathan, K., **Mathew, S.** and Perreault, C. 2014. Explaining group-level traits requires distinguishing process from product. *Behavioral and Brain Sciences* 37(3): 269-270.
5. Bowles, S., Boyd, R. **Mathew, S.** and Richerson, P. J. 2012. The punishment that sustains cooperation is often coordinated and costly. *Behavioral and Brain Sciences* 35(1): 20-21.
6. **Mathew, S.** and Boyd, R. 2011. Mechanistic accounts need to specify why reputation systems yield cooperative outcomes on observed scales. *Proceedings of the National Academy of Sciences* 108(39): E754.
7. Boyd, R. and **Mathew, S.** 2007. A Narrow Road to Cooperation, *Science*, 316: 1858 – 1859.

Encyclopedia Articles

1. **Mathew, S.** 2026. Cooperation. In M. C. Frank & A. Majid (Eds.), *Open Encyclopedia of Cognitive Science*. MIT Press. <https://doi.org/10.21428/e2759450.9dd2a47d>
2. **Mathew, S.** 2015. The evolution of human cooperation. *International Encyclopedia of the Social and Behavioral Sciences 2nd edition* 11: 259-266.

Book Reviews

1. **Mathew, S.** 2015. Are Cultural and Evolutionary Views of Human Warfare Converging? A Review of “War, Peace and Human Nature: The Convergence of Evolutionary and Cultural Views, edited by Douglas P. Fry (Oxford University Press, 2015)”. *Cliodynamics: The Journal of Quantitative History and Cultural Evolution* 6 (1).

Invited Talks

External

- 2024 *Plenary speaker* – European Human Behavior and Evolution Association Conference, Montpellier, France (Apr 14-16, 2024)
The normative underpinnings of human sociality
- 2024 Evolution and Human Behavior Seminar Series, Research Center for Group Dynamics (RCGD) and Evolution and Human Adaptation Program (EHAP) University of Michigan, Ann Arbor. (Mar 4, 2024)
How cultural norms structure the evolution of human behavior and psychology
- 2023 Towards an Economics of Culture in Organizations Workshop Massachusetts Institute of Technology (Dec 7-8, 2023)
Normative infrastructure as a platform for reinventing social institutions
- 2023 *Keynote Speaker* - Society for Institutional and Organizational Economics (SIOE) Conference, Goethe University, Frankfurt, Germany (Aug 24-26, 2023)
Self-Governance in Pastoral Kenya: Examining Norms and Meta-norms that Support Decentralized Social Order among Turkana Herders
- 2023 Complexity Science Hub Vienna Winter School, (Jan 14-19); Obergurgl, Austria [virtual]
Integrative and disintegrative norms in a cattle raiding complex
- 2022 Center for Advanced Study in the Behavioral Sciences (CASBS) at Stanford University, Palo Alto, CA (Jul 21) [virtual]
The cultural evolution of cooperative norms
- 2022 Santa Fe Institute Workshop: Constructing and Deconstructing Collectives: Signals to Space and Society, Santa Fe, NM. (Jan 19-21) [virtual]
Cultural evolution of cooperative norms: insights from Kenyan pastoralists.
- 2021 Amsterdam-Copenhagen Cooperation Colloquia, Vrije Universiteit Amsterdam, and University of Copenhagen (Dec 10) [virtual]
The cultural evolution of cooperative norms.
- 2021 Absolutely Interdisciplinary Conference: Human and Machine Normativity – New Connections, University of Toronto. (Nov 4-6) [virtual]
What are the minimal components that a system requires for the emergence of a human-like normative system?
- 2021 Institute of Advanced Studies, Toulouse, France (Oct 8) [virtual]

- The cultural evolution of cooperative norms.
- 2021 Club Ev Med: Virtual Evolutionary Medicine Conversations (May 17)
Divergent evolutionary roots for post-traumatic stress disorder symptoms
(co-presented with Matthew Zefferman)
- 2021 Dynamics of Social Complexity Webinar on Human Origins and Cultural
Evolution (Mar 23) [virtual]
War and peace: the cultural evolution of conflict and cooperation.
- 2021 Schwartz Reisman Institute, University of Toronto (Mar 10) [virtual]
The cultural evolution of cooperative norms.
- 2021 University of Liverpool Evolutionary Anthropology Webinar Series (Feb 25)
[virtual]
The cultural evolution of cooperative norms: insights from pastoral Kenya.
- 2020 Canadian Institute for Advanced Research Interdisciplinary Workshop on Culture
and Preference Formation. University of California Los Angeles. (Feb 6-7)
The cultural evolution of cooperative norms: insights from pastoral Kenya.
- 2019 Human Behavior and Evolution Society Preconference on “Integrated Approaches
to Research on Culture: Professional and Practical Considerations”. Boston, MA
Three recent projects, three unique challenges.
- 2019 Mind, Technology and Society Series, *University of California Merced* (Apr 22)
Is the cultural boundary also the moral boundary? An empirical test of
cultural group selection
- 2017 Center for Behavior, Evolution and Culture, *University of California Los Angeles*
Peer sanctioning and cultural group selection promotes large-scale
cooperation: Evidence from Kenyan pastoralists
- 2017 Anthropology Department, *University of Missouri*
Conflict and Cooperation In A Pastoral Society Shows That Cultural
Transmission Enabled The Evolution Of Human Prosociality
- 2017 (Key speaker) Descent of Moral Sentiments Symposium, *Utrecht University*,
Netherlands (Feb 13-15)
Is the cultural boundary also the moral boundary?
- 2016 Workshop on African History and Economics: Towards a Deeper Understanding
of African Culture and Society, *Hutchins Center for African and African
American Research, Harvard University*

Conflict and Cooperation in A Pastoral Society Shows That Selection Among Cultural Groups Enabled the Evolution of Human Cooperation

- 2016 Toulouse Economics and Biology Workshop, *Toulouse School of Economics & Institute for Advanced Study in Toulouse*, Toulouse, France
Altruistic Warriors and Moral Citizens: Conflict and Cooperation In A Pastoral Society Shows That Cultural Transmission Enabled The Evolution Of Human Prosociality
- 2016 Center for Philosophy, Arts and Literature (PAL) and the Franklin Humanities Institute (FHI), *Duke University*
How Turkana pastoralists cooperate, and what it means for the origins of human prosociality
- 2014 Anthropology Colloquium, *University of California, Davis*
The evolution of large-scale cooperation in humans: insights from Turkana warfare
- 2014 Collective Intentionality Conference, *Indiana University*, Bloomington
Group-functional design in informal institutions: Cooperation & punishment among acephalous Turkana herder
- 2013 *International Max Planck Research School on Retaliation, Mediation and Punishment*, Winter University 2013. Heppenheim, Germany
Punitive sentiments towards free riders in Turkana raids
- 2012 The Research Group for Evolutionary Theory, *Max Planck Institute for Evolutionary Biology*, Plön, Germany
Evolution of cooperation via enforcement of cultural norms:cattle-raiding among acephalous Turkana pastoralists
- 2012 Modeling Social Complexity Workshop, National Institute for Mathematical and Biological Synthesis & National Evolutionary Synthesis Center, Knoxville
Has cultural group selection enabled human ultrasociality?
- 2011 *California Polytechnic University*, San Luis Obispo
Warfare, collective action and the scale of human cooperation
- 2010 Workshop: Evolutionary Perspectives of Human Behavior, San Luis Obispo
Warfare and collective action: cattle raiding among Turkana pastoralists
- 2010 Workshop: Coevolution of Behaviors and Institutions, *Santa Fe Institute*
Collective action in pre-state warfare: cooperative cattle-raiding among Turkana pastoralists

- 2009 *Leakey Foundation Board Meeting, San Francisco*
Altruistic warriors: cooperative cattle-raiding among Turkana pastoralists

Internal

- 2025 *Institute of Human Origins Board Meeting*
Adaptations to water stress and pastoralism in northwest Kenya
- 2024 *Lucy 50 Monthly Lecture Series: Common Origins-Shared Futures, ASU*
How contemporary human populations have adapted to the semi-arid savanna
- 2022 *Institute of Human Origins Board Meeting, ASU*
Turkana warriors' call to arms: how an egalitarian society mobilizes for cattle raids
- 2017 *Faculty Cross-Talks on Health in the Social Sciences: Mental Health, College of Liberal Arts and Sciences, ASU*
Finding the roots of PTSD and Moral Injury in warriors of small-scale societies
- 2016 *Institute of Human Origins Board Meeting, ASU*
How Turkana pastoralists cooperate, and what it means for the origins of human prosociality
- 2014 *Center for the Study of Institutional Diversity, ASU*
Informal sanctions solve the collective action problem in acephalous warfare

Conferences

Sessions Chaired

- 2014 Empathy, conformity, and (im)moral killing: anthropology at the limits of knowledge. Co-chaired session with Carolyn R. Nordstrom. *American Anthropological Association*. Washington D. C.

Peer-reviewed Conference Presentations

- 2025 Genetic research dissemination methods, perspectives, and preferences in genetic research in small scale northern Kenyan populations. *Annual Meeting of American Association for Biological Anthropology*, Baltimore, MD (Mar 12 – 15, 2025) (Presenting author: Rebecca Siford)
- 2025 Little evidence that posttraumatic stress is associated with diurnal hormone dysregulation in Turkana pastoralists. *Annual Meeting of American Association for Biological Anthropology*, Baltimore, MD (Mar 12 – 15, 2025) (Presenting author: Michael Baumgarten)
- 2024 Normative versus prosocial underpinnings of human decision making. *Cultural Evolution Society Conference*, Durham, UK (Sep 9 -11, 2024)
- 2024 How do people make and change rules? *Capstone Conference - Cultural Evolution Society Transformation Fund*, Durham, UK (Sep 12-13, 2024). (Presenting author: Danson Kareri Mwangi)
- 2024 Evaluating community perceptions and ethical considerations in genetics research in small scale Kenyan populations. *Annual Meeting of the Society for Molecular Biology and Evolution* July 7-11, 2024, Mexico. (Presenting author: Rebecca Siford)
- 2024 Evaluating community perceptions and ethical considerations in genetics research in small scale northern Kenyan populations. *American Society of Human Genetics*, Denver Nov 5-9, 2024. Poster. (Presenting author: Rebecca Siford)
- 2024 Normative Infrastructure Supports Within-Group Adaptation Among the Turkana. *Society for Institutional and Organizational Economics Conference*. Jun 27-29, 2024. University of Chicago, IL. (Presenting author: Gillian Hadfield)
- 2024 How are norms maintained and how do they change? A theoretical model and a field study. *European Human Behavior and Evolution Association Meeting*, Montpellier, France Apr 16-19, 2024. (Presenting author: Minhua Yan)
- 2023 Poster: Cortisol sensitivity and combat stress in Turkana pastoralist warriors. *International Society for Evolution, Medicine and Public Health Annual Meeting*, Irvine, CA (Presenting author: Michael Baumgarten)
- 2021 Commanded by culture: how decentralized cattle raids are organized. *Cultural Evolution Society Conference*, Sapporo, Japan [virtual] (Jun 9-11, 2021).
- 2019 Is the cultural boundary also the moral boundary? An empirical test of cultural group selection among pastoral populations in Kenya. *Human Behavior and Evolution Society Conference*, Boston, MA (May 31-Jun 2019)

- 2017 Is the cultural boundary also the moral boundary? A cross-cultural test of cultural group selection.
Cultural Evolution Society Inaugural Meeting, Jena, Germany (Sep 12-15, 2017)
- 2017 Conflict and cooperation in a pastoral society shows that selection among cultural groups enabled the evolution of human cooperation
American Economic Association Annual Meeting Chicago IL (Jan 6-8 2017)
- 2014 Mechanisms of self-regulation in moral norms and psychology: a study of meta-norms governing punishment in Turkana society
American Anthropological Association Conference, Washington D. C.
- 2010 A causal understanding of warfare, based on the origins of human cooperation: case study of cattle raiding among Turkana pastoralists in East Africa
American Anthropological Association Conference, New Orleans, LA
- 2010 The collective action problem in warfare: data from cattle raiding among Turkana pastoralists
Human Behavior and Evolution Society Conference, Eugene, OR
- 2009 Cooperation and human warfare: case study of cattle raiding among Turkana pastoralists
American Anthropological Association Conference, Philadelphia, PA
- 2008 The empirical details of cooperation are key to its origins: some types of cooperative interactions evolve more easily than others, if participation is optional. [Poster]
American Anthropological Association Conference, San Francisco, CA
- 2008 When does optional participation allow the evolution of cooperation?
European Human Behavior and Evolution Society, Montpellier, France
- 2007 Does optional participation favor large-scale cooperation?
Human Behavior and Evolution Society Conference, Williamsburg, VA
- 2007 Modeling the role of solitary strategies, resource excludability and resource exhaustibility on the evolution of altruistic behavior
South. Calif. Animal Behavior Society Conference, Santa Barbara, CA
- 2006 The effect of excludability in stabilizing cooperation in an n-person public goods game.
Human Behavior and Evolution Society Conference, Philadelphia, PA

Workshops

Organized

- 2025 Co-organized international workshop on “AI and Evolutionary Reasoning” hosted by Institute of Human Origins at ASU, Johns Hopkins University and Fathom, to foster interdisciplinary discussion into the future trajectory of artificial intelligence based on insight from biological and cultural evolution (Oct 16-17, 2025)
- 2018 Co-organized international, interdisciplinary workshop “Understanding the origins of combat stress and moral injury through cross-cultural research” hosted by *Center for Evolution and Medicine, ASU* (Mar 1-2, 2018).

Attended

- 2025 *Social Consequences of Religion Methodology Workshop on Causal Inference, University of California, San Diego* (Aug 11-12)
- 2017 *National Science Foundation* workshop, “Enhancing robustness and generalizability in the social and behavioral sciences”, Washington D. C. (Mar 2017)
- 2014 The origin of violence: from brain to world war, *The Origins Project, ASU, Tempe, AZ*
- 2014 The Evolution of Institutions, *National Institute for Mathematical and Biological Synthesis (NIMBioS)*, Knoxville, TN
- 2012 *Ernst Strüngmann Forum on Cultural Evolution, Frankfurt, Germany*
- 2012 Modeling Social Complexity, *National Institute for Mathematical and Biological Synthesis (NIMBioS) & National Evolutionary Synthesis Center (NESCent)* Investigative Workshop, Knoxville, TN
- 2012 Cooperation in multi-partner settings: biological markets & social dilemmas, *Lorentz Center, Leiden, The Netherlands*
- 2010 Coevolution of Behaviors and Institutions, *Santa Fe Institute, NM*

II. TEACHING

Recognition

- 2020 Excellence in Undergraduate Teaching Award, School of Human Evolution and Social Change

- 2020 Nominee, College of Liberal Arts and Sciences *Zebulon Pearce Distinguished Teaching Award*
- 2018 Nominee, College of Liberal Arts and Sciences *Zebulon Pearce Distinguished Teaching Award*
- 2018 Nominee, Graduate & Professional Student Association *Centennial Professorship Award*
- 2018 Nominee, Graduate College *Outstanding Faculty Mentor Award* (Outstanding Master's Mentor Category)

Courses

Arizona State University

Undergraduate

- ASM 310 War and Peace—The Evolution of Conflict and Cooperation
- Fall 2016, Fall 2019, Fall 2022, Fall 2023, Fall 2024
 - Spring 2015
- ASM 342 Evolution and Human Behavior
- Spring 2014, 2016, 2019, 2020, 2022, 2023, 2024, 2025
 - Fall 2014
- ASM 300 Anthropological Sciences
- Fall 2018 (in person), Fall 2025 (online)
- ASB 210 Human Sexuality (online).
- Spring 2017, Fall 2017

Graduate

- ASM 591 Behavior, Culture, Cognition
- Spring 2022, Spring 2026
- ASM 579 Proposal Writing
- Fall 2021; Fall 2023
- ASB 501 Professionalism
- Fall 2025

ASM 590 Reading and Conference Graduate Course
▪ Recurring

Stony Brook University

ANP 403 Seminar in Bio Anthropology: The evolution of cooperation (Fall 2012)

ANP 200 Evolution of Human Behavior (Spring 2013)

ANP 391 Behavioral Ecology (Spring 2013)

Mentoring

Master's committee member

- | | |
|--------------------|-------------------------------|
| 1. Kelly Reina | Committee member (2015 – 16) |
| 2. Leonid Tiokhin | Committee member (2015 – 16) |
| 3. Scott Collins | Committee member (2018 – 19) |
| 4. Melanie Foreman | Committee member (2019 – 22) |
| 5. Maggie Hassler | Committee member (2024 – now) |

Doctoral supervision

- | | |
|-----------------------|--|
| 1. Minhua Yan | Co-chair with Robert Boyd (Fall 2016 – Summer 2023) <ul style="list-style-type: none">• Graduated Summer 2023;• Postdoctoral fellow (2023-2025) at Institute for Advanced Studies in Toulouse, Toulouse, France |
| 2. Liam Gleason | Chair (Fall 2017 – 2021) <ul style="list-style-type: none">▪ Completed MA requirement in Spring 2019;▪ Transfer (2021) to doctoral program in sociocultural anthropology |
| 3. Michael Baumgarten | Chair (Fall 2021 – now) <ul style="list-style-type: none">• Completed MA requirement in Spring 2023• Completed dissertation proposal defense Spring 2025 |

Doctoral committee

- | | |
|---------------------|---------------------------------------|
| 1. Angela Taravella | Committee member (Spring 2017 – 2022) |
|---------------------|---------------------------------------|

2. Rebecca Siford Committee member (Spring 2019 – 2025)
3. Julia Phelps Committee member (Spring 2021 – now)
4. Hovig Artinian Committee member (Spring 2021 – now)
5. Pietro Beltrame Committee member (Spring 2023 – now)

External committee member or reader

1. Asli Akdeniz University of Amsterdam, Amsterdam, Netherlands
Ph.D. Economics (Spring 2023)

Post-doctoral supervision

1. Danson Kareri Mwangi Metanorms and informal legal infrastructure in Turkana
(Jan 2023 – Jun 2024)
Current position: Research Scientist, Institute of Primate
Research, Karen, Kenya
2. Matthew Zefferman Post Traumatic Stress and Moral Injury in Turkana warriors
(Nov 2015-Aug 2017)
Current position: Assistant Professor at the
Naval Postgraduate School (NPS) in Monterey, CA.
3. Carla Handley Cooperation and population structure among pastoralists
(Dec 2014-Aug 2017)
Current position: Research consultant, Indica Consulting,
Washington D.C.
4. Hillary Lenfesty Economic experiments assessing the role of arbitration on
reciprocal cooperation when errors are common
(Aug 2015- Aug 2017).
Current position: Assistant Research Professor, School of
Human Evolution and Social Change.

Field site supervision

Postdoctoral

1. *Carla Handley*: Conducted study of cooperation among Turkana, Borana, Rendille and Samburu pastoralists in Kenya (4 visits of 2-3 months each between Dec 2014-Aug 2017).
2. *Matthew Zefferman*: Conducted study of post-traumatic stress disorder and moral injury among warriors at the Turkana fieldsite (3 visits of 2 months each between Nov 2015-Aug 2017).
3. *Bailey House*: Conducted study of the development of prosocial sentiments at the Turkana field site to pilot field methods to use in a larger cross-cultural study (Apr-May 2016)
4. *Matthew Chudek*: Conducted study of indirect reciprocity assessing how goodness is determined among Turkana and Canadian subjects (Jun-Jul 2014)
5. *Danson Mwangi*: Conducted study of how metanorms structure informal legal order in politically uncentralized pastoral communities. (4 months; April 2023 – Jun 2024)

Graduate students

6. *Liam Gleason*: Conducted six-week study of the role of gossip and reputation in sustaining cooperation among Turkana warriors (Jul-Sep 2018)
7. *Angela Taravella*: Conducted two-week science outreach and dissemination effort to communicate lab DNA methods and preliminary results to communities who contributed DNA samples for genetic analysis (Jul – Aug 2018).
8. *Rebecca Siford*: Conducted dissertation research on community perceptions and ethical considerations of genetic research in small-scale societies (6 months; Jun 2022 – Nov 2023)

III. SERVICE

Professional Service

Leadership

2022 – 2023 President, *Cultural Evolution Society* (Jan 1, 2022 – Dec 31 2023)

Editorial Service

2024 – 2025 Co-editor, Special Issue “Transforming cultural evolution research and its application to global futures”, *Philosophical Transactions of the Royal Society, B*

Dec 2020 Guest Editor, *Proceedings of the National Academy of Sciences*

2015-2016 Consulting Editor, *Evolution and Human Behavior*

Journal Referee

1. Adaptive Behavior,
2. Behavioral Ecology and Sociobiology
3. Biology Letters
4. Biological Reviews
5. Current Biology
6. Evolution and Human Behavior
7. Evolutionary Human Sciences
8. Human Nature
9. Journal of the Commons
10. Journal of the Royal Society Interface
11. Journal of Theoretical Biology
12. Nature
13. PLoS Computational Biology
14. PLoS ONE
15. Philosophical Transactions of the Royal Society B
16. Proceedings of the Royal Society B
17. Psychological Review
18. Science

Committee Service

Spring 2024 Program Committee, *Human Behavior and Evolution Society Conference*
May 22 - 25 2024, Aarhus University, Aarhus, Denmark

Spring 2024 Executive Program Committee, *Society for Institutional and Organizational Economics*, Jun 27-29, 2024, University of Chicago

2024 – 2025 Past President, *Cultural Evolution Society*

2021 – 2022 President Elect, *Cultural Evolution Society*

Spring 2021 Postdoc Award Committee, *Human Behavior and Evolution Society*

2019-2021 Executive committee member, *Cultural Evolution Society*

SHESC Director search committee	Fall 2016
Panelist, Postdoc and grad student career advise session	Fall 2016
Search committee for target hire opportunity	Spring 2016
Diversity task force	Spring& Fall 2015
Personnel committee	Spring 2015
Professional conduct committee	Fall 2015
Search committee for Southwest Borderlands hiring initiative	Fall 2014
Search committee for two evolutionary anthropology hires	Spring 2014

Public Outreach

Podcasts and Interviews

- *Transmissions*, Talk Series by Cultural Evolution Society: Episode 2 [What is WEIRD about human warfare](#). Jan 2026
- *Evolutionary Psychology (The Podcast)*: [Culture, killing, and PTSD with Sarah Mathew](#), Dec 2025.
- *Game Changer Podcast by TWS Partners*: How to achieve cooperation: learnings from fieldwork with the Turkana people with Sarah Mathew, Feb 25, 2025 <https://www.tws-partners.com/podcast/>
- *Nature Podcast*. Why are we nice? Altruism's origins are put to the test. <https://www.nature.com/articles/d41586-024-00539-1> Feb 2024
- *The Dissenter*: Human sociality, cooperation, reciprocity and warfare. [Episode 725](#), Oct, 2022

News Coverage

- If you donate DNA what should scientists give in return? A pathbreaking new model. [NPR Goats and Soda](#) Jan 2024
- Engaging underrepresented communities in research. [ELSIhub](#), Ethical, Legal and Social Implications Research Program, National Human Genome Research Institute, 2024
- “It’s not easy to take a life’: is coping with PTSD harder for US soldiers?” Manvir Singh, *The Guardian*, Jun 2021
- “Shared Truth Is Key to Human Cooperation”, Arunas Radzvilavicius, *Psychology Today*, Feb 2021
- “Do wild animals get PTSD? Scientists probe its evolutionary roots”, Sharon Levy, *Knowable Magazine*, Aug 2021
- “What do babies and warring groups have in common? Altruism”, Eoin O'Carroll, *Christian Science Monitor*, Feb 2020

- “Evolution is evolving: 13 ways we must rethink the theory of nature”, Michael Le Page et al, *New Scientist*, Sep 2020
- “The Evolution of Shaming”, Ed Yong, *The Atlantic*, Feb 2016
- “Why Its Brave To Think Like A Coward”, Chris Walsh, *Aeon*, Feb 2015
- “Friends, not foes, boost warriors’ success”, Elizabeth Wade, *Science*, Nov 2014
- “Transformers”, Colin Barras, *New Scientist*, Oct 2014
- “It Is Human Nature to Cooperate With Strangers”, Michael Marshall, *New Scientist*, Jun 2011

Blog contributions

- “The Paradox of Human Warfare Explained” Social Evolution Forum Blog, The Evolution Institute: <https://evolution-institute.org/blog/the-paradox-of-human-warfare-explained/> (2016)

Public presentations

- “Contemporary behavioral adaptations in a semi-arid savanna population.” *Institute of Human Origins Lucy 50th Anniversary Lecture*, Walton Center for Planetary Health, Arizona State University. (Mar 2024).
- “Is the cultural boundary also the moral boundary?” Project presentation for the “Evolution of Human Uniqueness” *Templeton Research Symposium* hosted by *Institute of Human Origins* at Tempe Center for the Arts (Apr 2017). <https://iho.asu.edu/2017-symposium-video>
- Panelist, *Origins Project Great Debates “Transcending Our Origins: Violence, Humanity and the Future”* hosted by Steven Pinker, Grady Gammage Memorial Auditorium, Tempe (Apr 2014). <https://youtu.be/vxMP4IAkqpU>