

MATTHEW R. ZEFFERMAN

Institute of Human Origins
Arizona State University, Tempe, AZ 85287
<http://www.zefferman.com>
zefferman@asu.edu

EDUCATION

- 2013 Ph.D., Ecology (human ecology emphasis), University of California, Davis
Committee: Peter J. Richerson, Richard McElreath, Zev Maoz, Kyle Joyce
Dissertation: *Cultural evolution of human cooperation and conflict*
- 2002 MPS, Environmental Management, Cornell University
- 2001 BS, *cum laude*, Biological and Environmental Engineering, Cornell University

EMPLOYMENT

- 2015- Postdoctoral Fellow, Institute of Human Origins, Arizona State University
- 2013-15 Postdoctoral Fellow, National Institute for Mathematical and Biological Synthesis
- 2002-07 Civil Engineering Officer, United States Air Force (Texas, Alaska, UAE, Afghanistan)
- 2000 Researcher, Ecological Assessment Division, Lawrence Livermore National Lab

ACADEMIC AWARDS AND FUNDING

- 2017 ASU Center for Evolutionary Medicine Seed Grant (\$20K)
- 2013-15 NIMBioS Postdoctoral Research Fellowship (> \$120K)
- 2007-12 Block Grant Fellowships (five awards), UC Davis (> \$50K)
- 2008-13 Post-9/11 GI Bill, US Department of Veterans Affairs (> \$120K)
- 2010-11 Professors for the Future Fellowship, UC Davis (\$3K)
- 2009 Institute on Global Conflict and Cooperation Fellow, UC Santa Barbara
- 2009 NSF Graduate Research Fellowship in Integrative Social Science (honorable mention)

PEER-REVIEWED JOURNAL ARTICLES

- 2016 Richerson, P.J., Baldini, R., Bell, A., Demps, K., Frost, K., Hillis, V., Mathew, S., Narr, N., Newson, L., Newton, E., Ross, C., Smaldino, P., Waring, T., **Zefferman, M.R.** Cultural group selection plays an essential role in explaining human cooperation: A sketch of the evidence. *Behavioral and Brain Sciences*. 39: e30-49.
- 2016 **Zefferman, M.R.** Mothers teach daughters because daughters teach granddaughters: the evolution of sex-biased transmission. *Behavioral Ecology*. 27:1172-1181.
- 2015 **Zefferman, M.R.**, S. Mathew. An evolutionary theory of large-scale human warfare: group-structured cultural selection. *Evolutionary Anthropology* 24: 50-61.
- 2014 **Zefferman, M.R.** Direct reciprocity under uncertainty does not explain one-shot cooperation, but demonstrates the benefits of a norm psychology. *Evolution and Human Behavior*. 35: 358-367.
- 2003 Olabi, A., et al. 2003. Work measurement for estimating food preparation time of a bioregenerative diet. *Habitation* 9: 17-30.
- 2002 Pimentel, D., M. Herz, M. Glickstein, **M. Zimmerman**, et. al. 2002. Renewable energy: current and potential issues. *Bioscience* 52: 1111-1120.

COMMENTARIES AND BOOK CHAPTERS

- 2016 Richerson, P.J., Baldini, R., Bell, A., Demps, K., Frost, K., Hillis, V., Mathew, S., Narr, N., Newson, L., Newton, E., Ross, C., Smaldino, P., Waring, T., **Zefferman, M.R.** Cultural group selection follows Darwin's classic syllogism for the operation of selection. *Behavioral and Brain Sciences*. 39: e58-81.
- 2015 **Zefferman, M.R.**, R. Baldini, S. Mathew. Solving the puzzle of human warfare requires an explanation of battle raids and cultural institutions. *Proceedings of the National Academy of Sciences*. 112: E2557.
- 2014 **Zefferman, M.R.** When repentance and forgiveness are possible, direct reciprocity does not explain one-shot generosity, even under arbitrarily high levels of uncertainty. *Evolution and Human Behavior*. 35: 547-549.
- 2014 **Zefferman, M.R.**, P.J. Richerson. Many important group-level traits are institutions (commentary). *Behavioral and Brain Sciences*. 37: 280-281.
- 2013 **Zefferman, M.R.** Should the consensus be essentialist and adaptationist? A comment on David Sloan Wilson. *Cliodynamics*. 4: 120-122.
- 2012 **Zimmerman, M.R.**, R. McElreath, P. Richerson. The evolution of cooperation. In *Encyclopedia of Theoretical Ecology*, eds. A. Hastings and L. Gross. University of California Press. pp. 155-162.

MANUSCRIPTS IN REVIEW OR PREPARATION

- in rev* **Zefferman, M.R.**, K. Joyce. Modeling ideas in international conflict. In review at *International Organization*.
- in rev* **Zefferman, M.R.**, Cultural multilevel selection suggests fostering competition, not cooperation, is a better bet for solving climate change. In revision at *Sustainability Science*.
- in prep* **Zefferman, M.R.**, A. Robinson, S. Gavrillets, P. Turchin. Hierarchical organization requires both coordination *and* coercion. (draft, modelling complete)
- in prep* **Zefferman, M.R.** The evolution of hierarchical networks. (draft, modelling complete)
- in prep* **Zefferman, M.R.**, S. Mathew. From PTSD to moral injury: the gene-culture coevolution of combat stress. (early draft)

INVITED TALKS

- 2016 Interdisciplinary Perspectives on Modelling Conflict Workshop, University of Essex
- 2015 Ecology & Evolutionary Biology Departmental Seminar, University of Tennessee, Knoxville
- 2013 Modeling the Dynamics and Norms of Culture Workshop, University of Michigan, Ann Arbor
- 2012 Investigative Workshop on Modeling Social Complexity, NIMBioS, Knoxville, TN
- 2009 Santa Fe Institute Workshop on Frontiers in Complex Systems, Beijing, China

CONFERENCE TALKS

- 2017 American Anthropological Association Annual Meeting, Washing DC (forthcoming)
- 2017 Human Behavior and Evolution Society Annual Meeting, Boise, ID
- 2016 American Anthropological Association Annual Meeting, Minneapolis, MN
- 2016 Human Behavior and Evolution Society Annual Meeting, Vancouver, BC

- 2014 Ecological Society of America Annual Meeting, Sacramento, CA
- 2014 International Society for Research on Aggression World Meeting, Atlanta, GA
- 2013 Peace Science Society Annual Meeting, Knoxville, TN
- 2013 Political Networks Conference, University of Indiana, Bloomington
- 2011 Game Theory and Society Conference, ETH Zurich, Switzerland
- 2011 Midwest Political Science Association Conference, Chicago, IL
- 2010 Midwest Political Science Association Conference, Chicago, IL

POSTERS

- 2014 Mathematics of Social Learning, Institute for Pure and Applied Mathematics, UCLA
- 2011 Human Behavior and Evolution Society Annual Meeting, Montpellier, France
- 2011 Institute on Bounded Rationality, Max Planck Institute for Human Development, Berlin
- 2009 Evolution of Human Aggression: Lessons for Today's Conflicts, University of Utah

ADVANCED TRAINING

- 2013 Advanced Computational Social Science Modeling Workshop, Santa Fe Institute
- 2011 Institute on Bounded Rationality, Max Planck Institute for Human Development, Berlin
- 2010 Empirical Implications of Theoretical Models (EITM) Summer Institute, UC Berkeley
- 2009 Computational Social Science Modeling Graduate Workshop, Santa Fe Institute
- 2008 Santa Fe Institute Complex Systems Summer School, Beijing, China

TEACHING AWARDS AND FELLOWSHIPS

- 2009-10 Chancellor's Teaching Fellowship, UC Davis
- 1999-00 Undergraduate Teaching Assistant of the Year (departmental), Cornell University

COURSES TAUGHT

- Primary Instructor: Mathematical Biology Graduate Seminar, University of Tennessee
- Terrorism and War, UC Davis
- Positioning Yourself for Success, UC Davis
- Entering the Professional World, UC Davis

- Teaching Assistant: Environmental Economics, UC Davis
- Environmental Policy Evaluation, UC Davis
- Environmental Analysis, UC Davis
- Principles of Ecology and Evolution, UC Davis
- Career Discovery, UC Davis
- Engineering Applications in Biological Systems, Cornell
- Environmental Systems Analysis, Cornell
- Introduction to MATLAB Programming, Cornell

STUDENT MENTORING

- 2014 Undergraduate Summer Research Experience Mentor, NIMBioS
- 2011-13 Career Discovery Group Mentor, UC Davis
- 2001 Explorations in Engineering Mentor, Cornell University

INTERDISCIPLINARY WORKSHOPS AND WORKING GROUPS ORGANIZED

- 2017- Evolution of Combat Stress & Moral Injury Workshop, Center for Evolutionary Medicine
- 2013-15 Evolutionary Origins of Complex Institutions Working Group, NIMBioS
- 2013 Evolutionary Approaches to Peace Science Workshop, Peace Science Society

INTERDISCIPLINARY WORKING GROUP MEMBERSHIPS

2017- Modeling Violent Radicalization Working Group, Santa Fe Institute
2014-16 Modeling the Evolution of Sustainability Working Group, NIMBioS

ACADEMIC SERVICE

2011-12 Academic Senate Committee to Investigate 18 Nov (*UC Davis pepper spray incident*)
2010-12 Executive Committee, Graduate Group in Ecology, UC Davis
2008-11 Admissions Committee, Graduate Group in Ecology, UC Davis
2008-09 Chair, Ecology Graduate Student Association, UC Davis
2000-01 Curriculum Committee, Biological and Environmental Engineering, Cornell University
2000-01 University-ROTC Relations Committee, Cornell University

PROFESSIONAL ORGANIZATIONS

American Anthropological Association (Evolutionary Anthropology Section)
Human Behavior and Evolution Society
International Society for Traumatic Stress Studies
Cultural Evolution Society (founding member)

JOURNAL REVIEWER

American Political Science Review
Behavioral and Brain Sciences
Behavioral Ecology and Sociobiology
Evolution and Human Behavior
Evolutionary Anthropology
Human Nature
Journal of Artificial Societies & Social Simulation
Journal of Theoretical Biology
Philosophical Transactions of the Royal Society B
Sustainability Science