

Karthik Panchanathan

Curriculum Vitae

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University of Missouri
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RESEARCH INTERESTS

- Cooperation and Social Evolution
- Cultural Evolution
- Evolution of Learning and Development
- Metascience
- Philosophy of Biology

EDUCATION

2010 Ph.D. Anthropology, UCLA
2001 M.A. Biological Anthropology, UCLA
1997 B.S. Biology, B.A. Cultural Anthropology, UCLA

ACADEMIC POSITIONS

2018– Associate Professor, Department of Anthropology,
University of Missouri

2012–2018 Assistant Professor, Department of Anthropology,
University of Missouri

2011–2012 Visiting Assistant Professor, Department of Anthropology,
Pomona College

2010–2011 Adjunct Faculty, Santa Monica College

REPRESENTATIVE AWARDS

- 2022 Win Horner Award for Innovative Writing Intensive Teaching
- 2022 Maxine Christopher Schutz Award and Lecture for Distinguished Teaching
- 2020 Center for a Public Anthropology Franz Boaz Global Citizenship Award
- 2019 Fetzer Franklin Fund Metascience Grant, \$10,000
- 2002 National Science Foundation Graduate Research Fellowship, \$96,000
- 1997 Phi Beta Kappa, Liberal Arts and Sciences Honors Society

RESEARCH AND SCHOLARSHIP

Peer-Reviewed Articles and Book Chapters

- 2023 Daniel Nettle, Willem E. Frankenhuis, and Karthik Panchanathan. “Biology, society, or choice: How do non-experts interpret explanations of behaviour?” *Open Mind* 7 (2023): 625–651.
- 2023 Leonid Tiokhin, Karthik Panchanathan, Paul Smaldino, and Daniel Lakens. “Shifting the level of selection in science.” *Perspectives on Psychological Sciences* (2023).
- 2023 André Ariew and Karthik Panchanathan. “Tinbergen’s Fifth: What role should subjective experience play in human ethology?” *Evolutionary Thinking Across Disciplines: Problems and Perspectives in Generalized Darwinism*, edited by Agathe du Crest, Martina Valković, André Ariew, Hugh Desmond, Philippe Huneman, and Thomas Reydon. Springer.
- 2023 Karthik Panchanathan. “Cultural Evolution.” *Human Behavioral Ecology*, edited by Jeremy Koster, Brooke Scelza, and Mary Shenk. Cambridge University Press.

- 2022 Willem E. Frankenhuis, Karthik Panchanathan, and Paul Smaldino. “Strategic Ambiguity in the Social Sciences.” *Social Psychological Bulletin* (2022).
- 2022 Nicole Walasek, Willem E. Frankenhuis, and Karthik Panchanathan. “Sensitive periods, but not critical periods, evolve in a fluctuating environment: A model of incremental development.” *Proceedings of the Royal Society B* (2022).
- 2021 Nicole Walasek, Willem E. Frankenhuis, and Karthik Panchanathan. “An evolutionary model of sensitive periods when the reliability of cues varies across ontogeny.” *Behavioral Ecology* 33 (2021): 101–114.
- 2021 Leonid Tiohkin, Karthik Panchanathan, Daniel Lakens, Simine Vazire, Thomas Morgan, and Kevin Zollman. “Honest Signaling in Academic Publishing.” *PLoS One* 16 (2021): e0246675.
- 2019 Kotrina Kajokaite, Andrew Whalen, Karthik Panchanathan, and Susan Perry. “White-faced capuchin monkeys use both rank and relationship quality to recruit allies.” *Animal Behaviour* 154 (2019): 161–169.
- 2019 Robert Lynch, Virpi Lummaa, Karthik Panchanathan, Kevin Middleton, Anna Rotkirch, Mirkka Danielsbacka, David O’Brien, and John Loehr. “Integration involves a trade-off between fertility and status for World War II evacuees.” *Nature Human Behavior* 3 (2019): 337–345.
- 2019 Karthik Panchanathan and William Baum. “The Many Faces of Behavioral Evolution.” *Behavioral Processes* 161 (2019): 1–2.
- 2019 Willem E. Frankenhuis, Karthik Panchanathan, and Andrew Barto. “Enriching Behavioral Ecology with Reinforcement Learning Methods.” *Behavioral Processes* 161 (2019): 94–100.
- 2016 Terence Burnham, Stephen Lea, Adrian Bell, Herbert Gintis, Paul Glimcher, Robert Kurzban, Leonhard Lades, Kevin McCabe, Karthik Panchanathan, Miriam Teschl, and Ulrich Witt. “Evolutionary Behavioral Economics.” *Complexity and Evolution: Toward a New Synthesis for Economics*, edited by David Sloan Wilson and Alan Kirman, MIT Press, 2016, 113–144.

- 2016 Karthik Panchanathan and Willem E. Frankenhuis. "The evolution of sensitive periods in a model of incremental development." *Proceedings of the Royal Society B* 283 (2016): 20152439.
- 2016 Willem E. Frankenhuis, Karthik Panchanathan, and Jay Belsky. "A Mathematical Model of the Evolution of Individual Differences in Developmental Plasticity Arising through Parental Bet-hedging." *Developmental Science* 19 (2016): 251–274.
- 2016 Willem E. Frankenhuis, Karthik Panchanathan, and Daniel Nettle. "Cognition in harsh and unpredictable environments." *Current Opinion in Psychology* 7 (2016): 76–80.
- 2014 Karthik Panchanathan, Sarah Mathew, and Charles Perreault. "Explaining group-level traits requires distinguishing process from product." *Behavioral and Brain Sciences* 37 (2014): 269–270.
- 2013 Karthik Panchanathan. "Game Theory." *Theory in Social and Cultural Anthropology*. Eds. Jon McGee and Richard Warms, SAGE Publications.
- 2013 Willem E. Frankenhuis, Karthik Panchanathan, and H. Clark Barrett. "Bridging developmental systems theory and evolutionary psychology using dynamic optimization." *Developmental Science* 16 (2013): 584–598.
- 2013 Karthik Panchanathan, Willem E. Frankenhuis, and Joan B. Silk. "The bystander effect in an N -person dictator game." *Organizational Behavior and Human Decision Processes* 120 (2013): 285–297.
- 2011 Daniel Nettle, Karthik Panchanathan, Taze Rai, and Alan Page Fiske. "The Evolution of Giving, Sharing, and Lotteries." *Current Anthropology* 52 (2011): 747–756.
- 2011 Willem E. Frankenhuis and Karthik Panchanathan. "Individual differences in developmental plasticity may result from stochastic sampling." *Perspectives on Psychological Science* 6 (2011): 336–347.
- 2011 Willem E. Frankenhuis and Karthik Panchanathan. "Balancing sampling and specialization: An adaptationist model of incremental development." *Proceedings of the Royal Society B* 278 (2011): 3558–3565.

- 2011 Karthik Panchanathan. “Two wrongs don’t make a right: The initial viability of different assessment rules in the evolution of indirect reciprocity.” *Journal of Theoretical Biology* 277 (2011): 48–54.
- 2010 Karthik Panchanathan, Willem E. Frankenhuis, and H. Clark Barrett. “Development: Evolutionary ecology’s midwife.” *Behavioral and Brain Sciences* 33 (2010): 105–106.
- 2005 Karthik Panchanathan and Robert Boyd. “Human cooperation: Second-order free riding problem solved?” *Nature* 437 (2005): E8–E9.
- 2004 Karthik Panchanathan and Robert Boyd. “Indirect reciprocity can stabilize cooperation without the second-order free rider problem.” *Nature* 432 (2004): 499–502.
- 2003 Karthik Panchanathan and R. Boyd. “A Tale of Two Defectors: The Importance of Standing in the Evolution of Indirect Reciprocity.” *Journal of Theoretical Biology* 224 (2003): 115–126.

Blog posts

- 2021 Leonid Tiokhin, Karthik Panchanathan, Paul Smaldino, and Daniel Lakens. “Why indirect contributions matter for science and scientists.” Leonid Tiokhin’s Blog, May 2021.
- 2021 Willem E. Frankenhuis, Karthik Panchanathan, and Paul Smaldino. “Strategic ambiguity or unknown unknowns?” Science Hamster, PhD, April 2021.

Papers under review or in preparation

Karthik Panchanathan. “The evolution of prestige-biased transmission.”

Karthik Panchanathan and Tim Waring. “The cultural evolution of sustainable institutions in common-pool resources.”

Book Reviews

- 2016 Karthik Panchanathan. “Culture, conflict, and the birth of a cooperative species.” A Review of Samuel Bowles and Herbert Gintis’s *A Cooperative Species*. *Journal of Bioeconomics* 18 (2016), 229–232.
- 2011 Karthik Panchanathan. “George Price, the Price Equation, and Cultural Group Selection.” A Review of Oren Harman’s *The Price of Altruism: George Price and the Search for the Origins of Kindness*. *Evolution and Human Behavior* 32 (2011): 368–371.
- 2007 Karthik Panchanathan and Andreas Wilke. “Are the readers of *Evolution and Human Behavior* interesting people?” A review of Hanna Kokko’s *Modelling for field biologists and other interesting people*. *Evolution and Human Behavior* 28 (2007): 448–450.

Popular writing

- 2007 Siamak T. Naficy and Karthik Panchanathan. “Buffy the Vampire Dater.” *The Psychology of Joss Whedon: An Unauthorized Exploration of Buffy, Angel, and Firefly*. Ed. Joy Davidson. Dallas: BenBella Books, 2007. Pages 141–153.

Invited Workshops

- 2021 “The Writers Bloc.” Arts & Sciences Faculty Writing Workshop. University of Missouri.
- 2021 “Evolutionary Thinking Across Disciplines: Problems and Perspectives in Generalized Darwinism.” Institut des Systèmes Complexes, Paris, France.
- 2018 “Integrating Development and Inheritance.” Santa Fe Institute Workshop organized by Kevin Laland, Tobias Uller, Marcus Feldman, and Michael Lachmann. Santa Fe, New Mexico.
- 2018 “Post-Simian Seminar.” Organized by Jaimie Krems, Eric Pedersen, and Robert Kurzban. Bahamas.

- 2015 “Complexity and Evolution: A New Synthesis for Economics.” Ernst Strungmann Forum chaired by David Sloan Wilson and Alan Kirman. Frankfurt, Germany.
- 2014 “Evolution of Sustainability.” NIMBioS Working Group organized by Tim Waring, Marco Janssen, and Karolina Safarzynska. Knoxville, Tennessee.
- 2009 “Workshop on Dynamics in the Human Sciences: Cognitive, Behavioral, and Social Complexity.” NSF-ANR Workshop. Reims, France.
- 2004 “Analyzing pattern and process in human cultural diversity.” NCEAS Working Group organized by Michael Hochberg. Santa Barbara, California.

Invited presentations

- 2023 Shifting the Level of Selection in Science. Evolution and the Social Sciences. University of Missouri.
- 2022 Challenges and Opportunities in Teaching to Diversity. Maxine Christopher Shutz Award Lecture. University of Missouri.
- 2021 Unintended Consequences of Scientific Reforms. Panel Discussion, Metascience 2021 Conference.
- 2019 The evolution of sensitive periods. University of Oslo.
- 2018 Adaptation across evolutionary and developmental timescales. University of New Mexico.
- 2018 Adaptation across evolutionary and developmental timescales. Santa Fe Institute.
- 2018 The evolution of sensitive periods. UC Merced.
- 2017 The evolution of sensitive periods. Southern Methodist University.
- 2017 The evolution of sensitive periods. Northwestern University.

- 2016 Evolutionary approaches to culture and development. University of California, Davis.
- 2014 The evolution of developmental sensitivity. London School of Hygiene and Tropical Medicine.
- 2013 The developmental, cultural, and evolutionary dynamics of social behavior. University of California, Los Angeles.
- 2012 Culture and the evolution of social behavior. Clarkson University, Potsdam, New York.
- 2010 The Bystander Effect in a Multi-Player Dictator Game. Society for the Advancement of Behavioral Economics (SABE) Annual Conference, San Diego, California.
- 2009 Learning to Live: A model integrating evolutionary and developmental adaptation. Interdisciplinary Judgment and Decision Making Mini-Conference, Clarkson University, Potsdam, New York.
- 2009 The Bystander Effect in a Multi-Player Dictator Game. Interdisciplinary Judgment and Decision Making Mini-Conference, Clarkson University, Potsdam, New York.
- 2009 Divided We Stand: The Evolution of Altruism. Exploring Darwin, Palomar College, San Marcos, California.
- 2009 Complexifying Cooperation. Workshop on Dynamics in the Human Sciences: Cognitive, Behavioral, and Social Complexity, Reims, France.
- 2009 Quantifying the Bystander Effect in a Multi-Player Dictator Game. Center for Behavior, Evolution, and Culture. University of California, Los Angeles.
- 2008 Darwinism and the Paradox of Altruism. Anthropology Lecture Series. Pierce College, Los Angeles, California.
- 2008 Reputation, reciprocity, and large-scale cooperation. Santa Fe Institute, New Mexico.

- 2008 Sex differences in mate choice: adaptation or inertia? Comment on “It Takes Two: Sexual Strategies and Game Theory.” Annual Meeting for the American Philosophical Association Pacific Division, Pasadena.
- 2008 Reputation, reciprocity, and large-scale cooperation. IGERT Program in Evolutionary Modeling, University of Washington.
- 2007 Reputation and the evolution of cooperation. “Exploring Darwin Conference at Palomar College.
- 2007 Evolutionary models and puzzle of altruism. Michigan State University.
- 2006 Indirect reciprocity and large-scale cooperation. Institute of Evolutionary Biology seminar series, University of Edinburgh.
- 2004 Punishment and the evolution of cooperation. “The challenge of cooperation: from bacteria to humans” seminar series. Department of Agronomy and Range Science, University of California, Davis.
- 2002 Social networks and the evolution of indirect reciprocity. Social Networks Brown Bag. University of California, Irvine.
- 2001 The evolution of indirect reciprocity. Developmental and Evolutionary Psychology seminar series, University of California, Santa Barbara.

Conference Presentations

- 2018 The evolution of sensitive periods. Annual meeting of the Human Behavior and Evolution Society, University of Amsterdam, Amsterdam, Netherlands.
- 2010 The evolution of prestige-biased transmission. Annual meeting of the Human Behavior and Evolution Society, University of Oregon, Eugene.
- 2009 Is Reputation the Proximate Motivation Underlying Pro-Social Behavior? Annual meeting of the Human Behavior and Evolution Society, California State University, Fullerton.

- 2009 The Bystander Effect in a Multi-Player Dictator Game. European Human Behaviour and Evolution Association Conference, St. Andrews, Scotland.
- 2008 Quantifying the Bystander Effect. Evolution, Mind, and Behavior Conference, UC Santa Barbara, California.
- 2008 The evolution of prestige-biased transmission. European Human Behaviour and Evolution Conference, Montpellier, France.
- 2008 Cultural evolution and the prestige-biased transmission. Evolution, Ecology, Mind and Behavior Conference, Cal Poly, San Luis Obispo.
- 2007 Two wrongs don't make a right? The initial viability of different reputation-assessment norms in indirect reciprocity. Annual meeting of the Human Behavior and Evolution Society, College of William and Mary, Virginia.
- 2006 Why indirect reciprocity isn't a good explanation of large-scale cooperation. Annual meeting of the Human Behavior and Evolution Society, University of Pennsylvania.
- 2004 Does punishment have to be costly? Indirect reciprocity can stabilize cooperation without the second-order free rider problem. 16th annual meeting of the Human Behavior and Evolution Society, Free University, Berlin.
- 2003 Indirect reciprocity and the evolution of social norms. Cooperation in Primates and Human: Mechanisms & Evolution, University of Göttingen, Germany.
- 2003 Ostracism can stabilize cooperation without the second-order free rider problem. Human Biology: an Evolutionary Perspective, University of Montpellier, France.
- 2003 Freemasons, the Kula Ring and eBay: group size, cultural workarounds and generalized exchange. Annual meeting of the Human Behavior and Evolution Society, University of Nebraska, Lincoln.
- 2003 Why direct reciprocity is common but indirect reciprocity is rare. UCLA-UCSB Quarterly Meeting. University of Los Angeles, California.

- 2002 Social networks and the evolution of indirect reciprocity. Annual meeting of the Human Behavior and Evolution Society, Rutgers University, New Jersey.
- 2001 Reputation, indirect reciprocity, and the evolution of cooperation. Annual meeting of the Human Behavior and Evolution Society, University College London.

TEACHING AND MENTORING

Courses I currently teach at the University of Missouri

- Cultural Anthropology (ANTH 2030)
- The Anthropology of Thinking (ANTH 3001)
- History of Anthropology Theory (ANTH 8010)
- Anthropology Capstone Seminar (ANTH 4990W)

Courses I previously taught at the University of Missouri

- The Evolution of Culture and Cooperation (ANTH 8687)
- The Evolution of Human Nature (ANTH 3340HW)
- Data Analysis (ANTH 3001)
- Anthropological Statistics (ANTH 7001)
- Bayesian Statistics (ANTH 8889)
- Introduction to R Programming (no course number)
- Bayesian Statistics Reading Group (no course number)
- How to Survive Graduate School (ANTH 7950)
- Epigenetics Seminar (GN HON 2450H)
- Economic Anthropology (ANTH 4003)

Courses I previously taught at other institutions

- Economic Anthropology (Pomona College)
- Biological Anthropology (Pomona College)
- The Origins of Virtue (UCLA, Pomona College)
- Evolution of Culture and Society (Pomona College)
- Physical Anthropology (Santa Monica College)
- Evolution and the Levels of Selection (UCLA)

Selected Student Publications

- 2021 *The Science of Fiction: Evolutionary Explanations of Hypothetical Human Behavior, Volumes 12.* University of Missouri.
- 2020 *The Science of Fiction: Evolutionary Explanations of Hypothetical Human Behavior, Volumes 11.* University of Missouri.

- 2019 *The Science of Fiction: Evolutionary Explanations of Hypothetical Human Behavior, Volumes 10.* University of Missouri.
- 2018 *The Science of Fiction: Evolutionary Explanations of Hypothetical Human Behavior, Volumes 9.* University of Missouri.
- 2017 *The Science of Fiction: Evolutionary Explanations of Hypothetical Human Behavior, Volumes 8.* University of Missouri.
- 2016 *The Science of Fiction: Evolutionary Explanations of Hypothetical Human Behavior, Volumes 7.* University of Missouri.
- 2015 *The Science of Fiction: Evolutionary Explanations of Hypothetical Human Behavior, Volumes 6.* University of Missouri.
- 2014 *The Science of Fiction: Evolutionary Explanations of Hypothetical Human Behavior, Volumes 5.* University of Missouri.
- 2013 *The Science of Fiction: Evolutionary Explanations of Hypothetical Human Behavior, Volumes 4.* University of Missouri.
- 2012 *The Science of Fiction: Evolutionary Explanations of Hypothetical Human Behavior, Volume 3.* Pomona College.
- 2010 *The Science of Fiction: Evolutionary Explanations of Hypothetical Human Behavior, Volumes 2.* University of California, Los Angeles.
- 2009 *The Science of Fiction: Evolutionary Explanations of Hypothetical Human Behavior, Volumes 1.* University of California, Los Angeles.

Representative Public Lectures

- 2022 What's so special about humans? Comparing human intelligence to animal, artificial, and alien intelligences. Science on Screen, Ragtag Cinema, Columbia, Missouri.
- 2017 Are we naughty or nice? Insights from behavioral economics. Science Café, Broadway Brewery, Columbia, Missouri.

- 2015 Genes, culture, and evolution. Saturday Morning Science, University of Missouri.
- 2009 Some facts about social preferences, or why we're sometimes nice and sometimes not. Continuing Medical Education, Tarzana Hospital, Los Angeles, California.
- 2008 Divided We Stand: Understanding the Evolution of Cooperation. Exploratorium, San Francisco, California.

ACADEMIC SERVICE

Editorial Experience

- 2019 Guest Editor, *Behavioural Processes*, volume 161.
- 2013–2023 Consulting Editor, *Evolution and Human Behavior*

Professional Service

- 2018– Member, Grievance Committee, Human Behavior and Evolution Society (HBES)
- 2015 Conference Organizer, Annual Meeting of the Human Behavior and Evolution Society (HBES)

University of Missouri Service

- 2022– Member, Campus Writing Board
- 2018– Member, Phi Beta Kappa Committee
- 2018– Member, International Studies Committee
- 2016– Co-Director, Evolution and Social Science Group
- 2016–2018 Member, Arts and Sciences Diversity Curriculum Committee
- 2015–2016 Organizing Committee, Evolutionary Bootcamp

- 2014–2023 Chair, Lectures Committee, Department of Anthropology
- 2014–2019 Curriculum, Instruction & Advising Committee, University of Missouri
- 2013–2017 Organizer, Evolutionary Anthropology Informal Lecture Series
- 2013–2016 Member, Evolutionary Studies, University Missouri

Ad hoc journal reviewer

Acta Biotheoretica, Adaptive Behavior, Animal Behaviour, Behavioral and Brain Sciences, Behavioral Ecology, Behavioral Ecology and Sociobiology, Biology and Philosophy, Biology Letters, Computational and Mathematical Organization Theory, iCurrent Directions in Psychological Science, Ecology Letters, Evolution and Human Behavior, Evolutionary Anthropology, Evolutionary Behavioral Sciences, Evolutionary Human Sciences, Evolutionary Psychology, Games, Humanities & Social Sciences Communications, Human Nature, Journal of Bioeconomics, Journal of Evolutionary Biology, Journal of Evolutionary Psychology, Journal of Human Evolution, Journal of Personality and Social Psychology, Journal of Theoretical Biology, Judgment and Decision Making, Philosophical Transactions of the Royal Society B, PLoS Biology, PLoS Computational Biology, PLoS One, Proceedings of the National Academy of Sciences, Proceedings of the Royal Society B, Psychological Review, Social Psychology, Social Psychological and Personality Science, Sustainability Science, Theoretical Population Biology

REFERENCES

Robert Boyd (PhD Advisor)
School of Human Evolution and Social Change
Arizona State University
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Martin Daly
Department of Psychology, Neuroscience & Behaviour
McMaster University
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Daniel Nettle
Centre for Behaviour & Evolution
Newcastle University
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