Jeremy Van Cleve

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Education

Ph.D.	**Stanford University** Stanford, CA	Department of Biological Sciences Advisor: Professor Marcus W. Feldman	2009
B.A.	**Oberlin College** Oberlin, OH	Majors in Mathematics and Biology	2003

Professional Experience

University of Kentucky Lexington, KY	**Assistant Professor of Biology**	2015 –
National Evolutionary Synthesis Center **Duke University** Durham, NC	**NESCent Postdoctoral Fellow**	2013–2014
Santa Fe Institute Santa Fe, NM	**SFI Omidyar Fellow**	2009–2012
University of Colorado at Boulder Boulder, CO	**Professional Research Assistant**	2003–2004

Publications (*=co-first author)

Dunoyer, L. A., Seifert, A. W. & **Van Cleve, J.** (2020 – in press) Evolutionary bedfellows: reconstructing the ancestral state of autotomy and regeneration. *Journal of Experimental Zoology Part B: Molecular and Developmental Evolution*. (doi:10.1002/jez.b.22974)

Akçay, E. & **Van Cleve, J.** (2020 – in press) Internalizing cooperative norms in group-structured populations. In *Social cooperation and conflict*. Cambridge, UK: Cambridge University Press. (doi:10.1101/722439)

Van Cleve, J. (2020) Building a synthetic basis for kin selection and evolutionary game theory using population genetics. *Theoretical Population Biology*, **133**, 65–70. (doi:10.1016/j.tpb.2020.03.001)

Andris, C., Liu, X., Mitchell, J., O'Dwyer, J. & **Van Cleve, J.** (2019) Threads across the urban fabric: Youth mentorship relationships as neighborhood bridges. *Journal of Urban Affairs*, **0**, 1–16. (doi:10.1080/07352166.2019.1662726)

Estrela, S., Libby, E., **Van Cleve, J.***, Débarre, F., Deforet, M., Harcombe, W. R., Peña, J., Brown, S. P. & Hochberg, M. E. (2019) Environmentally mediated social dilemmas. *Trends in Ecology & Evolution*, **34**, 6–18. (doi:10.1016/j.tree.2018.10.004)

Van Cleve, J. (2017) Stags, hawks, and doves: Social evolution theory and individual variation in cooperation. *Integrative and Comparative Biology*, **57**, 566–579. (doi:10.1093/icb/icx071)

Lehmann, L., Mullon, C., Akçay, E. & **Van Cleve, J.** (2016) Invasion fitness, inclusive fitness, and reproductive numbers in heterogeneous populations. *Evolution*, **70**, 1689–1702. (doi:10.1111/evo.12980)

Wilkins, J. F., Úbeda, F. & **Van Cleve, J.** (2016) The evolving landscape of imprinted genes in humans and mice: Conflict among alleles, genes, tissues, and kin. *BioEssays*, **38**, 482–489. (doi:10.1002/bies.201500198)

Van Cleve, J. (2016) Cooperation, conformity, and the coevolutionary problem of trait associations. *Journal of Theoretical Biology*, **396**, 13–24. (doi:10.1016/j.jtbi.2016.02.012)

Akçay, E. & **Van Cleve, J.** (2016) There is no fitness but fitness, and the lineage is its bearer. *Philosophical Transactions of the Royal Society B*, **371**, 20150 085. (doi:10.1098/rstb.2015.0085)

Akçay, E., Linksvayer, T. A. & **Van Cleve, J.** (2015) Bridging social evolution theory and emerging empirical approaches to social behavior. *Current Opinion in Behavioral Sciences*, **6**, 59–64. (doi:10.1016/j.cobeha.2015.09.002)

Van Cleve, J. & Weissman, D. B. (2015) Measuring ruggedness in fitness landscapes. *Proceedings of the National Academy of Sciences of the United States of America*, **112**, 7345–7346. (doi:10.1073/pnas.1507916112)

Van Cleve, J. (2015) Social evolution and genetic interactions in the short and long term. *Theoretical Population Biology*, **103**, 2–26. (doi:10.1016/j.tpb.2015.05.002)

Servedio, M. R., Brandvain, Y., Dhole, S., Fitzpatrick, C. L., Goldberg, E. E., Stern, C. A., **Van Cleve, J.** & Yeh, D. J. (2014) Not just a theory—the utility of mathematical models in evolutionary biology. *PLoS Biology*, **12**, e1002 017. (doi:10.1371/journal.pbio.1002017)

Van Cleve, J. & Akçay, E. (2014) Pathways to social evolution: Reciprocity, relatedness, and synergy. *Evolution*, **68**, 2245–2258. (doi:10.1111/evo.12438)

Van Cleve, J. & Lehmann, L. (2013) Stochastic stability and the evolution of coordination in spatially structured populations. *Theoretical Population Biology*, **89**, 75–87. (doi:10.1016/j.tpb.2013.08.006)

Akçay, E. & **Van Cleve, J.** (2012) Behavioral responses in structured populations pave the way to group optimality. *American Naturalist*, **179**, 257–269. (doi:10.1086/663691)

Brandvain, Y., **Van Cleve, J.***, Úbeda, F. & Wilkins, J. F. (2011) Demography, kinship, and the evolving theory of genomic imprinting. *Trends in Genetics*, **27**, 251–257. (doi:10.1016/j.tig.2011.04.005)

Liberman, U., **Van Cleve, J.** & Feldman, M. W. (2011) On the evolution of mutation in changing environments: recombination and phenotypic switching. *Genetics*, **187**, 837–851. (doi:10.1534/genetics.110.123620)

Van Cleve, J., Feldman, M. W. & Lehmann, L. (2010) How demography, life history, and kinship shape the evolution of genomic imprinting. *American Naturalist*, **176**, 440–55. (doi:10.1086/656277)

Akçay, E., **Van Cleve, J.***, Feldman, M. W. & Roughgarden, J. (2009) A theory for the evolution of other-regard integrating proximate and ultimate perspectives. *Proceedings of the National Academy of Sciences of the United States of America*, **106**, 19 061–19 066. (doi:10.1073/pnas.0904357106)

Salathé, M., **Van Cleve, J.** & Feldman, M. W. (2009) Evolution of stochastic switching rates in asymmetric fitness landscapes. *Genetics*, **182**, 1159–64. (doi:10.1534/genetics.109.103333)

Van Cleve, J. & Feldman, M. W. (2008) Stable long-period cycling and complex dynamics in a single-locus fertility model with genomic imprinting. *Journal of Mathematical Biology*, **57**, 243–264. (doi:10.1007/s00285-008-0156-4)

Van Cleve, J. & Feldman, M. W. (2007) Sex-specific viability, sex linkage and dominance in genomic imprinting. *Genetics*, **176**, 1101–1118. (doi:10.1534/genetics.107.071555)

Guralnick, R. & **Van Cleve, J.** (2005) Strengths and weaknesses of museum and national survey data sets for predicting regional species richness: comparative and combined approaches. *Diversity and Distributions*, **11**, 349–359. (doi:10.1111/j.1366-9516.2005.00164.x)

Preprints

Hoke, K. L., Barron, A. B., Hauber, M. E., Kopp, M. & **Van Cleve, J.** Sensitive periods and the ontogenetic shape of behavioral plasticity. *Preprint available.*

Kessinger, T. A. & **Van Cleve, J.** (2018 – in revision) Genetic draft and valley crossing. *bioRxiv*, p. 383737. (doi:10.1101/383737)

Andris, C., Adler, L., Atwater, C., **Van Cleve, J.** & O'Dwyer, J. (2016) Assessing an educational mentorship program in an urban context. *SSRN*. Http://ssrn.com/abstract=2811315

Grants

2020–2024 Co-PI. National Science Foundation. $793,508
"Uneasy alliances: emergent properties and feedback mechanisms among manipulative endosymbiotic communities"

2019–2024 PI. National Science Foundation. $781,397
"CAREER: Genetic architecture and the construction of complex social traits"

2015–2017 PI. National Academy of Sciences and Keck Foundation – Futures Initiative. $50,000
"Social evolutionary systems biology: Studying collective behavior by integrating social evolution theory with sociogenomics"

2015 Co-PI. National Academy of Sciences and Keck Foundation – Futures Initiative. $25,000
"Origin of multicellular development via the capture of a stochastic process"

2013 Co-PI. Frost Foundation. $20,000
"Quantifying the Impact of Mentorships on Human and Social Capital in Santa Fe New Mexico"

Awards and Honors

2019 NSF CAREER Award

2014 Institute for Genomic Biology (UIUC), Carl Woese Fellowship (declined)

2010 Samuel Karlin Prize in Mathematical Biology (Stanford University)

2009 National Institutes of Health Postdoctoral Fellowship (declined)

2008 National Institutes of Health NLM Training Grant Appointment

2007 Stanford University Centennial Teaching Award

2006 Stanford University Department of Biological Sciences Excellence in Teaching Award

2004 Anne T. and Robert M. Bass Stanford University Graduate Fellowship

2002 Elected Phi Beta Kappa

2001 Barry M. Goldwater Scholarship

Invited Talks

University of Tennessee, National Institute for Mathematical and Biological Synthesis, September 2019.

Washington University, Department of Biology, November 2017.

University of Kentucky, Department of Geography, November 2017.

Georgia Institute of Technology, School of Biological Sciences, October 2016.

University of Kentucky, Center for Ecology, Evolution and Behavior Annual Symposium (Keynote). May 2015.

University of Pennsylvania, Department of Biology, April 2014.

North Carolina State University, Biomathematics Graduate Program, April 2014

Florida State University, Department of Biology. January 2014.

University of California, San Diego, Section of Ecology, Behavior and Evolution. January 2014.

University of Kentucky, Department of Biology. December 2013.

Harvey Mudd College, Department of Biology. December 2012.

University of Lausanne, Switzerland, Department of Ecology and Evolution. May 2012.

Center for Nonlinear Studies, Los Alamos National Laboratory. April 2012.

University of Colorado, Boulder, Department of Ecology and Evolutionary Biology. January 2012.

University of New Mexico, Computer Science Department. November 2010.

National Institute for Mathematical Biology and Synthesis, Knoxville, TN. March 2010.

Conferences

American Society of Naturalists Conference, Concurrent session talk. January 2020.

Evolution Conference, Providence, Rhode Island. Concurrent session talk. June 2019.

2nd Joint Congress on Evolutionary Biology, Poster. August 2018.

American Society of Naturalists Conference, Concurrent session talk. January 2018.

Evolution Conference, Austin, Texas. Concurrent session talk. June 2017.

Society for Integrative and Comparative Biology, New Orleans, Louisiana.
Invited symposium talk. January 2017.

Evolution Conference, Austin, Texas. Concurrent session talk. June 2016.

National Academies Keck Futures Initiative, "Collective Behavior", Irvine, CA. November 2014.

Evolution Conference, Raleigh, North Carolina. Concurrent session talk. June 2014.

Toulouse Economics & Biology Workshop, Institute for Advanced Study in Toulouse, France. Poster. May 2014.

American Society of Naturalists, Asilomar, CA. Concurrent session talk. January 2014.

Evolution Conference, Snowbird, Utah. Concurrent session talk. June 2013.

Evolution Conference, Ottawa, Canada. Concurrent session talk. July 2012.

Animal Behavior Society and Human Behavioral and Evolution Society Meetings, Albuquerque, NM.
Concurrent session talk. June 2012.

Ecological Society of America Meeting, Austin, TX. Concurrent session talk. August 2011.

Evolution Conference, Portland, OR. Concurrent session talk. June 2010

Evolution Conference, Minneapolis, MN. Concurrent session talk, June 2008.

EVO-WIBO Conference, Port Townsend, WA. Session talk. April 2008.

Evolution Conference, Christchurch, New Zealand. Concurrent session talk. June 2007.

Teaching Experience

University of Kentucky (UK)

- Fall 2017, 2019. BIO 425 Undergraduate Seminar. "Reconstructing Human History with Genetics"
- Fall 2016, 2018. BIO 770 Graduate Seminar."Data Wrangling and Visualization Using R"
- Spring 2016–2020, Fall 2020. BIO 325. "Ecology"

- Fall 2015. BIO 770 Graduate Seminar. "Dr. Pangloss reborn? Natural selection in evolution"
- Postdoctoral Fellow Mentor: Dr. Taylor Kessinger (UK, 2016–2019); Dr. Daniel Priego Espinosa (UK, 2020–)
- Ph.D. Advisor: Luc A. Dunoyer (UK, 2017–); Kathryn Green (UK, 2019–); Elliott Greene (UK, 2020–)
- Ph.D. Committee Member: Emily E. Bendall (UK, 2016–2020); Kara Jones (UK, 2017–); Megan Thomas (UK, 2018–2019); Mariah Donohue (UK, 2019–); Kaylynne Glover (UK, 2019–)
- M.S. Committee Member: James Giordano (UK, 2018); M. Grayson McWhorter (UK, 2016–2019);
- Undergraduate Mentor: Lauren Lawless (UK, 2016–2017); Haley Holtmann (UK, 2019); Evan Yang (UK, 2019–)
- High School Mentor: Hugh Ronald (Paul Laurence Dunbar High School (PLDHS), 2015–2016); Blake Jaeger (PLDHS, 2016–2018); Max Bograd (PLDHS, 2017–2019); Maanasa Muthukrishnan (PLDHS, 2019); Parker Smith (PLDHS, 2018–2020)

National Evolutionary Synthesis Center / Duke University

- Lecturer: Santa Fe Institute Summer Complexity and Modeling Program, Groton School, MA (Summer 2013)
- Mentor: Chloe Atwater, Research Assistant, Santa Fe Institute (Summer–Fall 2013).

Santa Fe Institute (SFI)

- Lecturer: Santa Fe Institute Complex Systems Summer School (2011–2012)
- SFI Research Experience for Undergraduates Mentor: Austen Mack-Crane (Brown University, 2012); Brecia Young (Harvard University, 2011); Amalie McKee (Case Western Reserve University, 2010)
- High School Mentor. The Masters Program Charter High School, Santa Fe, NM (2010–2012)

Academic Service

Associate Editor (2019–2022), American Naturalist

Associate Editor (2016–2021), Theoretical Population Biology.

Reviewer: *Nature Communications*, *Proceedings of the National Academy of Sciences*, *Genetics*, *Theoretical Population Biology*, *Proceedings of the Royal Society B*, *Philosophical Transactions of the Royal Society B*, *The American Naturalist*, *Evolution*, *Evolutionary Ecology*, *Evolutionary Biology*, *Biological Reviews*, *Behavioral Ecology*, *Heredity*, *Journal of Heredity*, *PLOS Computational Biology*, *PLOS Genetics*, *PLOS ONE*, *Journal of Theoretical Biology*, *Bulletin of Mathematical Biology*, *Journal of the Royal Society Interface*, *Royal Society Open Science*, *BMC Evolutionary Biology*, *Ecological Complexity*, *Frontiers in Ecology and Evolution*, *Frontiers in Psychology*

Member of the American Society of Naturalists and the Society for the Study of Evolution.

Media Coverage

Albuquerque Journal Health section article, June 13, 2011.