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Adam Thomas Clark

Education

2011–ongoing **PhD Candidate**, *University of Minnesota*, Saint Paul, MN.
Ecology, Evolution, and Behavior

2007–2011 **BA**, *Harvard University*, Cambridge, MA, *Cum laude* .
Environmental Science and Public Policy

Teaching Experience

2014 **Community Ecology Field Tech and Intern Program**, *Cedar Creek Ecosystem Science Reserve*, Bethal, MN.
Instructor and Research Mentor

2013 **EEB 8990-002: A (very slow) introduction to R programming**, *University of Minnesota*, Saint Paul, MN.
Instructor

2012–2013 **BIOL 3407: Introduction to Ecology**, *University of Minnesota*, Saint Paul, MN.
Teaching Assistant

2013 **ESM 201: Ecology of Managed Systems**, *University of Santa Barbara*, Santa Barbara, CA.
Unofficial Teaching Assistant

Research experience

2011–ongoing **Successional dynamics of old fields**, *Cedar Creek Ecosystem Science Reserve*, Bethal, MN, Dr. David Tilman Lab.
Graduate Student

Surveyed abandoned agricultural fields and compiled existing data to model and predict future trajectories of successional grasslands.

2007–2011 **Insect Systematics**, *Harvard Museum of Comparative Zoology*, Cambridge, MA, Dr. Brian Farrell Lab.
Undergraduate Field Research Assistant, Taxonomist

Sorted insect samples to order, identified ant samples to species for National Park Service inventory. Independent research on distribution of invasive ants.

2008–2010 **Ant taxonomy and community ecology**, *Universidad Autonoma de Santo Domingo*, Dominican Republic, Dr. Brian Farrell and Dr. Ruth Bastardo.
Undergraduate Field Researcher/Collection Position

Led insect collecting expedition to sites in Pedernales, Monte Cristi, Los Haitises, and Punta Cana. Collected ants for the Harvard and UASD, analyzed for invasive species.

2010 **Ant community ecology of eastern North America**, *Harvard Forest*, Petersham, MA, Israel del Toro.
Research Experience Undergraduate (REU)

Maintained existing field projects, sorted insect samples, prepared field sites. Conducted an independent research on spatial distributions of ant communities.

Outreach

2012–ongoing **Cedar Creek LTER Intern Mentor**, *Cedar Creek Ecosystem Science Reserve*, Bethal, MN.

2013–Ongoing, Climate and Community Trends in Old Fields at Cedar Creek, *L.M., Oberlin College student*

2013–Ongoing, Seed Dispersal Patterns and Genetics of Andropogon gerardii, *A.B., E.G., and A.N., Cedar Creek interns*

2013, Associations Between Coleopteran and Plants Functional Groups, *J.P., Anoka-Ramsey Community College student*

2012, Seed Dispersal Patterns and Genetics of Andropogon gerardii, *J.G., and J.S., Cedar Creek interns*

2012 **Cedar Creek LTER BioBlitz**, *Cedar Creek Ecosystem Science Reserve*, Bethal, MN.
Volunteer Educator/Taxonomist

Lead public tours of Cedar Creek to find, collect, and identify insects.

2011–ongoing **Math and Science Teacher Partnership Program**, *Cedar Creek Ecosystem Science Reserve*, Bethal, MN.
Volunteer Educator

Lead field technique and data analysis clinics for interns and local K-12 teachers and students.

2008-2010 **EnviroEd**, *Philips Brooks House Association*, Charlestown and Cambridge, MA, www.hcs.harvard.edu/eed/.
Director

Designed and taught students in grades 3-8 curriculum based on science of global warming, energy efficiency, and conservation.

Awards

2013 **Award for Outstanding Performance as a Teaching Assistant for the College of Biological Sciences**.
For BIOL 3407 and EEB 8990-002

2012–2016 **National Science Foundation Graduate Research Fellowship (NSF GRFP)**.
Living stipend

2011–2015 **University of MN, Biological Sciences Graduate Excellence Fellowship**.

2011-2012 Living stipend

2013-15 Summer research stipend *$5000/yr*

2011 **"Best Thesis in ESPP Award" for senior thesis at Harvard**.

2011 **Thomas T. Hoopes Prize for senior thesis at Harvard**.

Research Grants

2014 **University of Minnesota Sigerfoos Fellowship**.

Modeling species community dynamics, Barro Colorado Panama *$3000*

2013–2014 **XSEDE High-Power Computing resource grant**.

Simulation of succession in old fields *25,000 hours*

2011–2012 **Florence Rothman fellowship**.

Genetics of Andropogon gerardii dispersal in Cedar Creek LTER *$1400*

2010–2011 **Harvard College Undergraduate Research Project**.

P. longicornis invasion study, funding renewal *$700*

2009–2010 **Tracing biogeography and invasion patterns among ant communities on the islands in Boston Harbor, Massachusetts, USA**.

Herchel Smith Undergraduate Summer Research Fellowship *$4650*

Museum of Comparative Zoology Grants-in-aid of Undergraduate Research *$1390*

2007-8 **Mapping invasion of the tramp ant species Paratrechina longicornis along the Dominican/Haitian frontier (in collaboration with la Universidad Autonoma de Santo Domingo)**.

Harvard office of International Programs, Wilson Life Sciences Abroad *$2000*

Harvard University Center for the Environment *$1500*

Harvard College Undergraduate Research Project *$1000*

Publications

Adam T. Clark, Jessica J. Rykken, and Brian D. Farrell. The effects of biogeography on ant diversity and activity on the boston harbor islands, massachusetts, USA. *Plos One*, 6(11), 2011.

Adam T. Clark, H. Ye, Forest Isbell, Ethan R. Deyle, Jane Cowles, David Tilman, and George Sugihara. Spatial 'convergent cross mapping' to detect causal relationships from short time-series. *Ecology*, in press.

Jacob M. Jungers, Adam T. Clark, Kevin Betts, Margaret E. Wagner, Donald L. Wyse, and Craig C. Sheaffer. Biomass yield and species composition in native perennial bioenergy cropping systems: Long-term effects of species diversity and n fertilizer across environments. *Agronomy journal*, in review.

Software packages

2014 **CRAN R package**, *multispatialCCM*, A test for causal associations between pairs of processes represented by time series plot data.
cran.r-project.org/web/packages/multispatialCCM

2013 **GitHub R project**, *tilmanstability*, Code for calculating stability sensu Lehman and Tilman 2000 American Naturalist 156(5).
github.com/adamtclark/tilmanstability

Presentations

2014 **Contributed Presentation**, *American Society of Naturalists meeting on integrating pattern and process to understand biodiversity*, Asilomar Conference Center, Pacific Grove, CA.
Defining ecosystems by their interactions: using process to demystify pattern

2013 **Contributed Presentation**, *International Biogeography Society special meeting on species associations*, Montreal, QC, Canada.
Defining communities by their interactions: Using process to identify pattern

2013 **Presentations**, *Ecological Society of America Annual Meeting*, Minneapolis, MN.

Contributed Oral Session — Convergence and divergence in old field succession: Are there predictable trends in long-term dynamics?

Invited IGNITE presentation — Succeeding with succession: Using ecological community dynamics to build low-impact biofuels

2012 **Contributed Poster**, *Long Term Ecological Research Network Meeting*, Estes Park, CO.
Multiple Trajectories of old Field Succession at Cedar Creek

2012 **Contributed Presentation**, *Ecological Society of America Annual Meeting*, Portland, OR.
When resident species resist displacement, invading species have ecologically distinct impacts on communities

2011 **Contributed Poster**, *Nantucket Biodiversity Initiative Conference*, Nantucket, MA.
How Fifty-One Ant Species Can Co-Exist on the Harbor Islands

2011 **Contributed Presentation**, *Boston Harbor Islands Science Symposium*, Cambridge, MA.
How 51 Ant Species Can Co-Exist on the Harbor Islands

2010 **Contributed Poster**, *Nantucket Biodiversity Initiative Conference*, Nantucket, MA.
Classical island biogeography explains island-scale species richness for ants on the Harbor Islands

2009 **Poster**, *Harvard Undergraduate Research Symposium*, Cambridge, MA.
How do Landscape Factors Affect Community Structure?

2009 **Contributed Poster**, *Nantucket Biodiversity Initiative Conference*, Nantucket, MA.
What Landscape Factors Best Explain Ant Diversity on the Harbor Islands?

2009 **Poster**, *Boston Undergraduate Research Symposium*, Cambridge, MA.
Predicting and Managing Species Diversity on the MCZ's Boston Harbor Island ATBI Site

2008 **Contributed Presentation**, *Boston Harbor Islands Science Symposium*, Boston, MA.
Ants as an Indicator Species for Effects of Human Land Use

Professional Skills

Languages

English **Fluent,** speaking, reading, and writing

German **Fluent,** speaking, and reading**, Proficient** writing

Spanish **Proficient,** speaking, and reading**, Basic** writing

Computer Programming

Advanced R programming

Proficient ArcGIS, C, MATLAB

Familiar with Arduino, BASH, MySQL

Professional Affiliations

American Association for the Advancement of Science *Member since 2008*

Ecological Society of America *Member since 2010*

International Biogeography Society *Member since 2013*

American Society of Naturalists *Member since 2013*

Service

Peer reviews for journals

Ecography

Oikos

PLOS ONE

2014–2016 **Research technology governance committee** *University of Minnesota*

Voting committee member to determine allocation of College of Biological Sciences IT resources.

2013–2015 **Ecology, Evolution, and Behavior Ethics Committee** *University of Minnesota*

Organized and lead seminars to satisfy NSF ethics requirements around topics in Relationships in the academic community, Authorship and misconduct, Peer review, and Research conduct.

2012–2013 **EEB Fundraising Committee** *University of Minnesota*

Organized sales and events to raise funds for student travel grants.

2010–2011 **Agassiz Zoological Society,** *Harvard University*

Organized annual public "BioBlitz" events on the Harvard University Campus, and coordinated taxonomists.

2008–2011 **Environmental Action Committee, Education Committee** *Harvard University*

Represented EnviroEd during meetings, recruited and organized volunteers.

2008–2011 **Harvard Outing Club, Trip Leader** *Harvard University*

Organized and lead backbacking trips for undergraduate students in the White Mountains in NH and VT.

References

David Tilman — **Regents Professor and McKnight Presidential Chair in Ecology**, *University of Minnesota, Department of Ecology, Evolution, and Behavior*, Primary PhD Adviser.
tilman@umn.edu, +1 (612) 625 5743

Elizabeth Borer — **Associate Professor**, *University of Minnesota, Department of Ecology, Evolution, and Behavior*, PhD Committee Member.
borer@umn.edu, +1 (612) 624 9529

James Forester — **Assistant Professor**, *University of Minnesota, Department of Fisheries, Wildlife, and Conservation Biology*, PhD Committee Member.
jdforest@umn.edu, +1 (612) 626 6721

Clarence Lehman — **Professor**, *University of Minnesota, College of Biological Sciences*, PhD Committee Member.
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Claudia Neuhauser — **Associate Dean for Research and Graduate Education**, *University of Minnesota, College of Biological Sciences*, PhD Committee Member.
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Stefan Cover — **Curatorial Assistant, Myrmecology**, *Harvard University, Museum of Comparative Zoology*, Undergraduate Advisor.
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Brian Farrell — **Professor of Biology and Curator of Entomology**, *Harvard University, Museum of Comparative Zoology*, Undergraduate Advisor.
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