

Matthew E. Aiello-Lammens

Curriculum Vitae

Department of Environmental Studies and Science
Pace University
Environmental Center Classroom Building, Room 102
861 Bedford Road
Pleasantville, New York 10570
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E-mail: matt.lammens@gmail.com
Website: <http://mlammens.github.io/>
Google Scholar: <https://goo.gl/e7Ox5b>

Education

- 2007 – 2014 **Stony Brook University**, Stony Brook, NY
Ph.D., Ecology and Evolution, Dissertation: *Patterns and Processes of the Invasion of *Frangula alnus*: An Integrated Model Framework*, Advisor: Dr. H. Resit Akçakaya
- 1999 – 2003 **Columbia University**, New York, NY
B.A. in Physics

Experience

- 2015 – **Assistant Professor and Director of Graduate Program in Environmental Science**, Pace University, Pleasantville, NY
Department of Environmental Studies and Science
- 2013 – 2015 **Postdoctoral Research Assistant**, University of Connecticut, Storrs, CT
Carry out community ecology field research and analysis as part of the multi-faceted NSF Dimensions of Biodiversity project “Parallel Evolutionary Radiations in *Protea* and *Pelargonium* in the Greater Cape Floristic Region.”
Supervisor: Dr. John Silander, Jr.
- 2009 – 2012 **Research Assistant**, Stony Brook University, Stony Brook, NY
Integrated climate change and threatened bird population modeling to carry out impact assessments and inform land management decisions on Florida military installations.
Supervisor: Dr. H. Resit Akçakaya
- 2009 **Graduate Assistant**, Stony Brook University, Stony Brook, NY
Assisted in organizing and carrying out field surveys for long-term monitoring of Long Island Pitch Pine demography.
Supervisor: Dr. Jessica Gurevitch
- 2008 – 2009 **Research Consultant**, Applied Biomathematics, Setauket, NY
Developed and applied models of population level effects of aquatic toxins.
Supervisor: Dr. Lev Ginzburg

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2005 – 2007 **Research Assistant**, P.A.I.N. Group, McLean Hospital, Belmont, MA
Analyze large datasets from neuroimaging research studies on neurological pain disorders and maintain computation systems for P.A.I.N. research group.
Supervisor: Dr. David Borsook

Publications (peer-reviewed Ecology)

+ graduate student mentee

- Szewczyk, T.M., Lee, T., Ducey, M.J, **Aiello-Lammens, M.E.**, Bibaud, H., Allen, J.M. 2019. *Local management in a regional context: simulations with process-based species distribution models*. Ecological Modelling. In Press.
- Toomey, A.H., Copa Alvaro, M.E., **Aiello-Lammens, M.E.**, Cossio, O.L., Barlow, J. 2019. *A question of dissemination: Assessing the practices and implications of research in tropical landscapes*. *Ambio*. 48: 35-47.
- Barry, J.M.⁺, Elbroch, L.M., **Aiello-Lammens, M.E.**, Sarno, R.J., Seelye, L., Kusler, A., Quigley, H.B., Grigione, M.M. 2018. *Pumas as ecosystem engineers: ungulate carcasses support beetle assemblages in the Greater Yellowstone Ecosystem*. *Oecologia*. In Press. <https://doi.org/10.1007/s00442-018-4315-z>
- Moore T.E., Bagchi R., **Aiello-Lammens M.E.**, Schlichting C.D. 2018. *Spatial autocorrelation inflates niche breadth–range size relationships*. *Global Ecology and Biogeography*. 27:1426–1436.
- Moore, T., Schlichting, C., **Aiello-Lammens, M.E.**, Mocko, K., Jones, C. 2018. *Divergent trait and environment relationships among parallel radiations in Pelargonium (Geraniaceae): a role for evolutionary legacy?* *New Phytologist*. 219: 794–807.
- Kass, J., Vilela, B., **Aiello-Lammens, M.E.**, Muscarella, R., Merow, C., Anderson, R.P. 2018. *Wallace: a flexible platform for reproducible modeling of species niches and distributions built for community expansion*. *Methods in Ecology and Evolution*. 9(4): 1151-1156.
- Schliep, E., Gelfand, A., Mitchell, R., **Aiello-Lammens, M.E.**, Silander, J.A. 2017. *Assessing the joint behavior of species traits as filtered by environment*. *Methods in Ecology and Evolution*. 9(3): 716-727.
- Airori, C., **Aiello-Lammens, M.E.**, Silander, J.A., Jr. 2017. *Plant invasion along an urban-to-rural gradient in northeast Connecticut*. *Journal of Urban Ecology*. 3:jux008.
- Slingsby, J.A., Merow, C., **Aiello-Lammens, M.E.**, Allsopp, N., Hall, S., Kilroy Mollmann, H., Turner, R., Wilson, A.M., Silander, J.A., Jr. 2017. *Intensifying postfire weather and biological invasion drive species loss in a Mediterranean-type biodiversity hotspot*. *Proceedings of the National Academy of Sciences*. 114(18): 4697-4702.
- Aiello-Lammens, M.E.** and Akçakaya, H.R. 2017. *Global sensitivity analysis for impact assessments*. *Conservation Biology*. 31: 116-125.

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- Merow, C. Allen, J.M., **Aiello-Lammens, M.E.**, Silander, J.A., Jr. 2016. *Improving niche and range estimates with Maxent and point process models by integrating spatially explicit information*. *Global Ecology and Biogeography*. 25:1022-1036.
- Aiello-Lammens, M.E.**, Slingsby, J., Merow, C., Kilroy Mollmann, H., Euston-Brown, D., Jones, C., Silander, J.A., Jr. 2016. *Processes of community composition in an environmentally heterogeneous, high biodiversity region*. *Ecography* (In Press)
- Prowse, T.A.A., Bradshaw, C.J.A., Delean, S., Cassey, P., Lacy, R.C., Wells, K., Aiello-Lammens, M.E., Akçakaya, H. R., Brook, B.W. 2015. *An efficient protocol for global sensitivity analysis for stochastic ecological models*. *Ecosphere* 7(3): e01238.
- Aiello-Lammens, M.E.**, Boria, R.A, Radosavljevic, A., Anderson, R.P. 2015. *spThin: An R package for spatial thinning of species occurrence records for use in ecological niche models*. *Ecography* 38: 541-545.
- Pearson, R.G., Stanton, J.C., Shoemaker, K.T., **Aiello-Lammens, M. E.**, Ersts, P.J., Horning, N., Fordham, D.A., Raxworthy, C.J., Ryu, H.Y., Mcneese, J., Akçakaya, H.R. 2014 *Life history and spatial traits predict extinction risk due to climate change*. *Nature Climate Change* 4: 217–221.
- Cahill, A.E.*, **Aiello-Lammens, M.E.***, Fisher-Reid, M.C., Hua, X., Karanewsky, C.J., Ryu, H.Y., Sbeglia, G.C., Spagnolo, F., Waldron, J.B., and Wiens, J.J. 2014. *A review of the causes of warm-edge range limits: proximate factors and implications for climate change*. *Journal of Biogeography* 41: 429-442. (* These authors contributed equally to this study)
- Watts, M.J., Fordham, D.A., Akçakaya, H.R., **Aiello-Lammens, M.E.**, and Brook, B.W. 2013. *Tracking metapopulation range margin changes using geographical centroids of patches weighted by population size and density*. *Ecological Modelling* 269: 61-69.
- Fordham, D.A., Mellin, C., Russel, B., Akçakaya, H.R., Bradshaw, C., **Aiello-Lammens, M.E.**, Caley, M., Connell, S., Mayfield, S., Shepherd, S., Brook, B.W. 2013. *Population dynamics can be more important than physiological limits for determining range shifts under climate change*. *Global Change Biology* 19: 3224-3237.
- Linhoss, A.C., Kiker, G.A., **Aiello-Lammens, M.E.**, Chu-Agor, M.L., Convertino, M., Muñoz-Carpena, R., Fischer, and R., Linkov, I. 2013. *Decision analysis for species preservation under sea-level rise*. *Ecological Modelling* 263: 264-272
- Cahill, A.,* **Aiello-Lammens, M.E.***, Fisher-Reid, M.C., Hua, X., Karanewsky, C.J., Ryu, H.Y., Sbeglia, G.C., Spagnolo, F., Waldron, J.B., Warsi, O., and Wiens, J.J. 2013. *How does climate change cause extinction?* *Proceedings of the Royal Society B* 280: 20121890. (* These authors contributed equally to this study)
- Lowry, E., Rollinson, E.J., Laybourn, A., Scott, T., **Aiello-Lammens, M.E.**, Gray, S., Mickely, J., and Gurevitch, J. 2012. *Biological Invasions: a field synopsis, systematic review and database of the literature*. *Ecology and Evolution* 3(1):182-196.
- Aiello-Lammens, M.E.**, Chu-Agor, M.L., Convertino, M., Fischer, R., Linkov, I., and Akçakaya, H.R. 2011. *The impact of sea-level rise on Snowy Plovers in Florida*:

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Integrating hydrological, habitat, and metapopulation models. Global Change Biology 17(12): 3644-3654.

Chu-Agor, M.L., Muñoz-Carpena, R., Kiker, G., **Aiello-Lammens, M.E.**, Akçakaya, H.R., Convertino, M., and Linkov, I. 2011. *Simulating the fate of Florida Snowy Plovers with sea-level rise: Exploring research and management priorities with a global uncertainty and sensitivity analysis perspective.* Ecological Modelling 224(1): 33-47.

Publications (peer-reviewed Neuroscience)

Moulton, E.A., Pendse, G., Morris, S., **Aiello-Lammens, M.E.**, Becerra, L.R., and Borsook, D. 2009. *Segmentally arranged somatotopy within the face representation of human primary somatosensory cortex.* Human Brain Mapping 30:757–765.

Lebel, A., Becerra, L.R., Wallin, D., Moulton, E.A., Morris, S., Pendse, G., Jasciewicz, J., Stein, M., **Aiello-Lammens, M.E.**, Grant, E., Berde, C., and Borsook, D. 2008. *fMRI reveals distinct CNS processing during symptomatic and recovered complex regional pain syndrome in children.* Brain 131:1854–1879.

Borsook, D., Moulton, E.A., Pendse, G., Morris, S., Cole, S.H., **Aiello-Lammens, M.E.**, Scrivani, S., and Becerra, L.R. 2007. *Comparison of evoked vs. spontaneous tics in a patient with trigeminal neuralgia (tic douloureux).* Molecular Pain 3:34.

Moulton, E.A., Pendse, G., Morris, S., Strassman, A., **Aiello-Lammens, M.E.**, Becerra, L.R., and Borsook, D. 2007. *Capsaicin-induced thermal hyperalgesia and sensitization in the human trigeminal nociceptive pathway: An fMRI study.* NeuroImage 35:1586–1600.

Publications (book chapters)

Convertino, M., Kiker, G.A., Chu-Agor, M.L., Muñoz-Carpena, R., Martinez, C.J., **Aiello-Lammens, M.E.**, Akçakaya, H.R., Linkov, I. 2011. *Integrated modeling to mitigate climate change risk due to sea-level rise: Imperiled shorebirds on Florida coastal military installations.* NATO Science for Peace and Security Series C: Environmental Security 4:433-464.

Publications (in review)

Aiello-Lammens, M.E. *Reconstructing the historical spread of Frangula alnus using herbarium records.* The Journal of the Torrey Botanical Society

Aiello-Lammens, M.E. *Understanding species invasions with integrated demographic and species distribution models.* Biological Invasions

Stark, J.R. ⁺, **Aiello-Lammens, M.E.**, Grigione, M.M. *The effects of urbanization on carnivores in the New York metropolitan area.* Urban Ecosystems

Publications (in preparation)

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Aiello-Lammens, M.E., Merow, C., Slingsby, J., Silander, J.A., Jr.. *Patterns of taxonomic and functional diversity across ecological scales.*

Teaching Materials

Aiello-Lammens, M. (2019). [Chi-squared test of independence between two categorical variables.](#) [Reducing Barriers to Teaching with R in Undergraduate Biology](#), QUBES Educational Resources. [doi:10.25334/Q4244V](https://doi.org/10.25334/Q4244V) (featured in QUBES Newsletter – Resource of the Week - <https://qubeshub.org/news/newsletter/row028>)

Meeting Abstracts

Raithel, S.L. ⁺, **Aiello-Lammens, M.E.** Venditti, D., Gonder, K., Cronin, D. 2019. *Using species distribution models to improve conservation and understanding of a rainforest primate community.* 29th International Congress for Conservation Biology, Kaula Lampur, Maylasia.

Galante, P J, Merow, C, Kass, J M, Gerstner, B E, Pinilla-Buitrago, G E, **Aiello-Lammens, M.E.**, Horning, N, Ersts, P J, Velasquez-Tibata, J, Anderson R P, Blair, M E. 2018. *Expanding Wallace species distribution modeling software to support national biodiversity change indicator calculations for GEO BON assessment and reporting.* 100th meeting of the American Geophysical Union, Washington, DC.

Aiello-Lammens, M.E. and Tierney, Jr. M.W. ⁺ 2018. *Integrated demographic and distribution modeling to mitigate road mortality for amphibian and reptile populations.* Poster presentation. Ecological Society of America, New Orleans, Louisiana. (*F1000Research* 2018, 7:1358 (poster) (doi: [10.7490/f1000research.1116021.1](https://doi.org/10.7490/f1000research.1116021.1))

Aiello-Lammens, M.E., Merow, C., Slingsby, J.A., Kilroy Mollman, H., van der Merwe, H., Euston-Brown, D., Silander, J.A., Jr. 2017. *Spatial and taxonomic scale effects on trait by environment relationships in the Cape Floristic Region of South Africa.* Poster presentation. Ecological Society of America, Portland, Oregon.

Kass, J.M., **Aiello-Lammens, M.E.**, Vilela, B., Muscarella, R., and Anderson, R.P. 2016. *Wallace: a user-friendly web app for advanced modeling of niches and distributions.* Poster presentation. 7th Annual Meeting, Student Conference on Conservation Science- New York, New York, NY.

Aiello-Lammens, M.E. *Using integrated demographic and occurrence models to study processes of species invasion.* 2016. Oral presentation. North American Congress of Conservation Biology, Madison, Wisconsin.

Aiello-Lammens, M.E., Merow, C., Kilroy, H., Euston-Brown, D., Slingsby, J., and Silander, J.A., Jr. 2015. *Processes of community composition in an environmentally heterogeneous,*

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high biodiversity region. Oral presentation. Ecological Society of America, Baltimore, Maryland.

Aiello-Lammens, M.E., Merow, C., Kilroy, H., Euston-Brown, D., Slingsby, J., and Silander, J.A., Jr. 2014. *Processes of community composition in an environmentally heterogeneous, high biodiversity region*. Poster presentation. Graybill Conference on Modern Statistical Methods for Ecology. Fort Collins, Colorado.

Aiello-Lammens, M.E., and Akçakaya, H.R. 2013. *Global sensitivity analysis for impact assessments*. Oral presentation. Ecological Society of America, Minneapolis, Minnesota.

Aiello-Lammens, M.E. 2012. *Using herbaria records to examine the spread of the invasive woody plant *Frangula alnus**. Poster presentation. Ecological Society of America, Portland, Oregon.

Aiello-Lammens, M.E., Akçakaya, H.R., Fischer, R., Convertino, M., Chu-Agor, M. L., Martinez, M., and Linkov, I. 2011. *Integrated climate change and threatened bird population modeling to assess risks from changes in sea-level and weather patterns*. Oral presentation, International Congress for Conservation Biology, Edmonton, Alberta, Canada.

Stanton, J.C., **Aiello-Lammens, M.E.**, and Akçakaya, H.R. 2009. *Relationship between abundance and range size trends in North American breeding birds*. Poster presentation, Ecological Society of America, Albuquerque, New Mexico.

Invited Talks

April 2019 Keynote Address for Pleasantville High School Science Research Symposium. Pleasantville, New York

April 2019 *Combining Natural History Collections and Field Observations to Understand Species Invasions*. LIISMA Invasive Species Conference. Brentwood, New York

January 2019 *Combining Natural History Collections and Field Observations to Understand Species Invasions*. 14th Annual NYC Restoration Practitioners Meeting. Queens, New York

June 2017 *Climate change and invasive species*. LIISMA Invasive Species Conference. Brentwood, New York.

May 2016 *Integrating ecological models to determine processes of species invasions*. Queens College at the City University of New York

Mar. 2016 *Integrating species distribution and population demographic models*. New York Species Distribution Modelling Discussion Group

Mar. 2014 *Using integrated demographic and occurrence models to study invasive species*. Harvard Forest

Dec. 2013 *Patterns and Processes of the Invasion of *Frangula alnus*: An Integrated Model Framework*. Suffolk County Community College

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Apr. 2012 *Introduction to demographic modeling and applications to invasive species assessment and management.* Long Island Invasive Species Management Area Scientific Review Committee Cultivar Subcommittee

Book Reviews

Aiello-Lammens, M.E. 2013. Review of *Maximum Entropy and Ecology: A Theory of Abundance, Distribution, and Energetics*. The Quarterly Review of Biology 88(2):133-134

Aiello-Lammens, M.E. 2012. Review of *Practical Computing for Biologists*. The Quarterly Review of Biology 87(4):372

Aiello-Lammens, M.E. 2010. Review of *A Primer of Ecology with R*. The Quarterly Review of Biology 85(3):350

Aiello-Lammens, M.E. 2009. Review of *Ecological Models and Data in R*. The Quarterly Review of Biology 84(3):288

Sponsored Research Awards

NYS Department of Environmental Conservation, award # DEC01-T00135GG-3350000
“Culvert Management Planning for Amphibian Connectivity”
Hudson River Estuary Program – Local Stewardship Planning
\$48,520 research budget, including student support
1 June 2016 to 31 January 2019

National Science Foundation, award # DBI-1661510, Co-PI
“Wallace: a flexible platform for reproducible modeling of species niches and distributions built for community expansion”
ABI Innovation
\$593,352 research budget (\$70,337 Pace sub-award)
1 August 2017 to 31 July 2020

National Science Foundation, award # DBI-1827082, Co-PI
“The Biological and Environmental Data Education Network”
RCN-UBE Incubator
\$72,361 budget (\$7,673 Pace sub-award)
1 October 2018 to 30 September 2019

Teaching Experience (as instructor of record, unless otherwise noted)

Pace University

Introductory Statistics for Life Sciences (MAT 141), Fall 2018

Nature and Culture (ENV 100), Summer 2018

Research Methods and Statistics (ENS 623), Spring 2018, Spring 2019

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Introduction to Environmental Studies and Science (ENV 100), Fall 2016, Fall 2017, Fall 2018

Environmental Science I (ENS 610), Fall 2016, Fall 2017, Fall 2018

Plant Ecology and Conservation (ENS 511), Fall 2016, Fall 2018

Biostatistics (ENS 798), Spring 2016

Introduction to Environmental Science (ENV 221), Spring 2016, Spring 2017

Independent Study in Marine Population Ecology (ENS 798), Spring 2016

Science for Environmental Lawyers (LAW 802), Fall 2015

Independent Study in Biostatistics (ENS 798), Fall 2015

Stony Brook University

Biometry – Teaching Assistant (BEE 552), Spring 2013

Ecology Laboratory – Teaching Assistant (BIO 352), Fall 2012

Introduction to R Workshop – Instructor/ designer, Spring 2011

Critical Issues in the Environment – Teaching Assistant (SSO 102), Spring 2009

Fundamentals of Scientific Inquiry – Lab Instructor (BIO 204), Fall 2008

Applied Ecology and Conservation Biology – Lab Instructor (BIO 356), Spring 2008

The Living World – Teaching Assistant (BIO 150), Fall 2007

Software Carpentry and Data Carpentry Foundations – Volunteer Instructor

SWC Two-day Workshop – Stony Brook University, USA, August 2017

SWC Two-day Workshop – New York University, USA, May 2016

DC Two-day Workshop – Stony Brook University, USA, January 2016

SWC Two-day Workshop – University of Cape Town, South Africa, July 2015

SWC Two-day Workshop – University of Connecticut, USA, April 2015

SWC Two-day Workshop – New York Academy of Sciences, USA, March 2015

Awards, Fellowship, Scholarships

- 2015 Team member on project Wallace, finalist to the GBIF Nielsen Challenge (<http://gbif.devpost.com/submissions>)
- 2013 Top Graduate Student Award, The Graduate School at Stony Brook University
Conservation Leadership Award, Department of Ecology and Evolution, Stony Brook University
- 2010 Departmental Service Award, Department of Ecology and Evolution, Stony Brook University
- 2009 George C. Williams Award, Department of Ecology and Evolution, Stony Brook University
- 2007 – 2010 Presidential Recruitment Fellowship, Stony Brook University

Service

- 2018 – Pace University, University Budget Committee – Westchester Faculty Council Representative

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- 2018 – Pace University, Faculty Satisfaction Survey Committee Member
- 2017 – Pace University, Dyson College Curriculum Committee Member
- 2015 – Pace University, Department of Environmental Studies and Science Curriculum Committee, Chair
- 2015 – Lower Hudson Partnership for Regional Invasive Species Management, Pace University representative and Steering Committee Member
- 2014 – Software Carpentry Instructor
- 2017 – 2018 Chair – Ecological Society of America Early Career Ecologists Section
- 2016 – 2017 Vice Chair – Ecological Society of America Early Career Ecologists Section
- 2015 – 2016 Secretary – Ecological Society of America Early Career Ecologists Section
- 2008 – 2013 Volunteer mechanic, Secretary, and President of Stony Brook University FreeWheel Bicycle Collective
- 2010 – 2013 Graduate Student Representative to University Bicycle Use Committee
- 2009 – 2011 Departmental Senator for Graduate Student Organization
- 2010 – 2011 Graduate Student Representative to University Senate Campus Environment Committee
- 2010 – 2011 Graduate Student Representative to Department of Ecology and Evolution Faculty
- 2009 – 2010 Graduate Student Representative to University Senate Graduate Council

Professional Societies

- Society for Conservation Biology (since 2008)
- Ecological Society of America (since 2007)
- American Association for the Advancement of Science (since 2015)
- New York Flora Association (since 2015)

Peer Reviewer

Ecology Letters, PLoS ONE, BioScience, Global Change Biology, Global Ecology and Biogeography, Ecography, Ecological Modelling, Animal Conservation, Population Ecology, Journal of Mammology, Biological Invasions