Department of Environmental Studies and Science

Pace University

Environmental Center Classroom Building, Room 102

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**Education**

2007 – 2014 **Stony Brook University**, Stony Brook, NY

Ph.D., *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

**Research Experience**

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

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)**

**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., Mcnees, 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 Modeling 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: 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 doloureux)*. 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.,** Slingsby, J., Merow, C., Kilroy Mollmann, H., Euston-Brown, D., Jones, C., Silander, J.A., Jr. 2015. *Processes of community composition in an environmentally heterogeneous, high biodiversity region.* Ecography

Merow, C. Allen, J.M., **Aiello-Lammens, M.E.,** Silander, J.A., Jr. 2015. *Minxent: Methods for using spatially explicit information in Maxent models of species’ ranges*. Global Ecology and Biogeography

**Aiello-Lammens, M.E.** and Akçakaya, H.R. 2015. *Global sensitivity analysis for impact assessments.* Conservation Biology

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*. Ecology and Evolution

**Publications (in preparation)**

**Aiello-Lammens, M.E.** *Reconstructing the historical spread of* Frangula alnus *using herbarium records*

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

Ariori, C.,\* **Aiello-Lammens, M.E.**, Silander, J.A. Jr.. *Plant invasion along an urban-to-rural gradient in northeast Connecticut* (\*M.S. student mentee)

Martinod, K.,\* **Aiello-Lammens, M.E.**, Silander, J.A. Jr.. *Do Invasive Plant Species Have Different Niche Attributers Than Native Analogs? Insight from Functional Trait Analysis.* (\*Undergraduate co-advisee)

**Meeting Abstracts**

**Aiello-Lammens, M.E.,** Merow, C., Kilroy, H., Euston-Brown, D., Slingsby, J., Silander, J.A., Jr. 2015. *Processes of community composition in an environmentally heterogeneous, high biodiversity region.* Oral presentation. Ecological Society of America, Baltimore, Maryland.

**Aiello-Lammens, M.E.,** Merow, C., Kilroy, H., Euston-Brown, D., Slingsby, J., 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.,** 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.

**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

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

***Pace University***

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 Foundation – Volunteer Instructor***

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

**Invited Talks**

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

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

**Awards, Fellowship, Scholarships**

2015 Team member on project Wallace, a submission to the GBIF Nielsen Challenge

2013 Top Graduate Student Award, The Graduate School at 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**

2015 – Pace University, Department of Environmental Studies and Science Curriculum Committee

2015 – Lower Hudson Partnership for Regional Invasive Species Management, Pace University representative

2015 – Secretary – Ecological Society of America Early Career Ecologists Section

2014 – Software Carpentry Instructor

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)

**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