**Curriculum Vitae**

# Jennifer Adams Krumins

Affiliation

Professor

Department of Biology

Montclair State University

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## Education

University of Texas at Austin, History, BA 1993

Texas State University, San Marcos, TX, Biology, MS 1998

Rutgers University, New Brunswick, NJ, Ecology and Evolution, PhD 2007

## Professional Appointments

2021-current Professor – Montclair State University

2020-current Visiting Professor – University of the Balearic Islands, Spain

2015-2021 Associate Professor – Montclair State University

2012-current Doctoral Faculty – Program in Environmental Management Montclair State University

2018-2019 Director – Science Honors Innovation Program – Montclair State University

2012-current Adjunct Doctoral Faculty – Rutgers New Brunswick Graduate Program in Ecology and Evolution

2010-15 Assistant Professor – Montclair State University

2009-10 Postdoctoral Fellow – The Netherlands Institute of Ecology

2008 Graduate Fellowship Advisor – Rutgers Graduate School New Brunswick

2008 (Spring) Postdoctoral Associate – Department of Biology, University of Pennsylvania, Philadelphia, PA

2007 (Fall) Substitute Assistant Professor – Baruch College, City University New York

2006 Graduate Fellowship Advisor – Rutgers Graduate School New Brunswick

2004-05 Eagleton Fellow, New Jersey’s Department of Environmental Protection

2003-07 Graduate Fellow, Rutgers University

2002-03 Teaching Assistant, (General Biology and Genetics) Rutgers University

1998-02 Microbial Ecologist, NASA’s Kennedy Space Center, FL

1996-98 Teaching Assistant, (Microbiology, Microbial Ecology and Pathogenic Microbiology) Texas State University, San Marcos, TX

Publications

**Books**

Dighton, J. and **J.A. Krumins**. Eds. (2014) Interactions in Soil: Promoting Plant Growth. Springer Publishers, Dordrecht, The Netherlands. ISBN 978-94-017-8890-8

**Book Chapters**

**Krumins, J.A**. “The positive effects of Trophic Interactions in Soil”. (2014) Interactions in Soil: Promoting Plant Growth. Eds. John Dighton and Jennifer Adams Krumins. Springer, Dordrecht, The Netherlands.

Thebault, E., **Krumins, J.A**. et al. “Toward Multiplex Ecological Networks: Accounting for Multiple Interaction Types to Understand Community Structure and Dynamics” (2018) Adaptive Food Webs: Stability and Transitions of Real and Model Ecosystems. Eds. J. C. Moore, P. C. de Ruiter, K. McCann and V. Wolters. Cambridge University Press, Cambridge, United Kingdom.

**Published Teaching Materials**

Lee, L.H., **J.A. Krumins** and T-C. Chu (2020) Microbiology Laboratory Manual. Hayden McNeil.

## Refereed Articles

*In Prep, Review or Revision*:

Barbero-Palacios, L., Krumins, J.A., José Antonio Carreira, J.A., Elena Baraza, E., Brolly, M., Niall G. Burnside, N.G., Jordi Bartolomé, J., Santiago Lavín, S., Juan Antonio Calleja, J.A. João Carvalho, J., Rita Tinoco-Torres, R., Clauss, M., Barrio, I.C., Perea, R. and Serrano, E. (in Prep for *Functional Ecology*) Large herbivores in biogeochemical cycles: A review across biomes.

Dyson, E., Hagmann, D.F., Idrovo, C., Krumins, J.A. Goodey, N.M. (in Revision for *Science of the Total Environment*) Vertical metal distributions in brownfield soils drive enzyme activities and plant success

Chien, S-C. and J.A. Krumins (in prep for *Nature Geosciences*) Global patterns of nitrogen pool in natural and anthropogenic soils*.*

*Published:*

Vaidya, B., D. Hagmann, J. Balacco, S. Passchier, **J.A. Krumins** and N.M. Goodey (in Press at *Environmental Chemistry Letters*) Artificial exudates improve extracellular enzyme activity in metal contaminated soil.

Balacco, J. B. Vaiyda, D. Hagmann, N.M. Goodey and **J.A. Krumins** (2022)Arbuscular Mycorrhizal Fungi Can Ameliorate Environmental Stress in Contaminated Soils. *Microbial Ecology.*

Ibañez, M. Elena Baraza, E., Serrano, E., Romero-Munar, A., Cardona, C. Bartolome, J. and **Krumins, J.A**. (2022) Ungulates alter plant cover without consistent effect on soil ecosystem functioning. *Agriculture, Ecosystems and Environment 326:* 107796 <https://doi.org/10.1016/j.agee.2021.107796>

Chien, S-C. and **J.A. Krumins** (2022) Carbon Storage in Urban Parks: A Global Meta-Analysis. *Science of the Total Environment*. DOI: <https://doi.org/10.1016/j.scitotenv.2021.150999>

Jarque-Bascuñana, L., J.A. Calleja, J. Bartolomé, E. Albanell, J. Espunyes, A. Gálvez-Cerón, J-M. López Martín, M. Villamuelas, D. Gassó, X. Fernández-Aguilar, A. Colom-Cadena, **J.A. Krumins**, E. Serrano (2021) Overgrazing influences biomass production and protein content of alpine plants. *Science of the Total Environment* <https://doi.org/10.1016/j.scitotenv.2021.151771>

Vermeire M.-L., Thoresen J., Lennard, K., Vikram, S., Venter Z., Brunel, C., Wolfaard, G., **Krumins, J. A**., Cramer, M.D., Hawkins H-J (2021) Fire and herbivory affect bacteria mainly through edaphic variables and fungi through vegetation characteristics. *Science of the Total Environment* 785: 147189. <https://doi.org/10.1016/j.scitotenv.2021.147189>

Thoresen, J., M-L. Vermeire, Z. Venter, G. Wolfaard, **J.A. Krumins**, M. Cramer and H-J. Hawkins (2021) Fire and herbivory shape soil arthropod food webs in savannas through multiple secondary and tertiary interactions. *Global Ecology and Conservation.* <https://doi.org/10.1016/j.gecco.2020.e01413>

Carfora, K., Forgoston, E., Billings, L. and **Krumins, J.A.**  (2021) Seasonality as a Mechanism for Fungal versus Bacterial Nutrient Cycling. *Theoretical Ecology.* https://doi.org/10.1007/s12080-020-00500-8

Barbero-Palacios, L., J.A. Carreira, E. Baraza, **J.A. Krumins**, M. Brolly, N. G. Burnside, J. Bartolomé, S. Lavín,J. A. Calleja, J. Carvalho, R. T. Torres, I. C. Barrio, R. Perea and E. Serrano (2020) The role of wild ungulates in nutrient cycling in Mediterranean ecosystems. *Galemys* 32. <https://doi.org/10.7325/Galemys.2020.F1>

Vaidya, B., D. Hagmann, J. Balacco, S. Passchier, **J.A. Krumins** and N.M. Goodey (2020) Plants mitigate abiotic restrictions to enzymatic function in metal contaminated soils. *Environmental Pollution* 265: 114801.

Hagmann, D.F., M. Kruge, N. M. Goodey, **J.A. Krumins** (2020) Characterization of coal particles in the soil of a former rail yard and urban brownfield: Liberty State Park, Jersey City (NJ), USA. *International Journal of Coal Geology 217*, 103328

Singh, J.P., E. Ojinnaka, **J.A. Krumins** and N.M. Goodey (2019) Abiotic context drives functional outcome of microbial inoculation in metal contaminated soil. Ecotoxicology and Environmental Safety. 168: 450-456.

Singh, J.P., B. Vaidya, N.M. Goodey and **J. A. Krumins** (2019) Soil microbial response to metal contamination in a vegetated and urban brownfield. Journal of Environmental Management. 244:313-319.

Hagmann, D., M. Kruge, M. Cheung, M. Mastalerz, J.L.R. Gallego, J.P. Singh, **J.A. Krumins**, X. Li and N.M. Goodey (2019) Environmental forensic characterization of former rail yard soils located adjacent to the Statue of Liberty in the New York/New Jersey harbor. Science of the Total Environment 690:1019-1034.

Gallagher, F., N.M. Goodey, A. Salisbury, M. Lithwiler, J.P. Singh, D. Hagmann and **J.A. Krumins**. (2018) Urban Re-Greening: a case study in multitrophic biodiversity and ecosystem health in a post industrial landscape. Diversity. 10, 119; doi:10.3390/d10040119.

Mulder, C., Bennett, E.M., Bohan, D.A., Bonkowski, M., Carpenter, S.R., Chalmers, R., Cramer, W., Durance, I., Eisenhauer, N., Fontaine, C., Haughton, A.j., Hettelingh, J-P, Hines, J., Ibanez, S., Jeppesen, E., **Krumins, J.A.**, Ma, A., Mancinelli, G., Massol, F., McLaughlin, O., Naeem, S., Pascual, L., Penuelas, J., Pettorelli, N., Pocock, M.J.O., Raffaelli, D., Rasmussen, J.J., Rusch, G.M., Scherber, C., Setälä, H., Sutherland, W.J., Vacher, C., Voigt, W., Vonk, J.A., Wood, S.A., Woodward, G. (2016) Chapter One-10 Years Later: Revisiting Priorities for Science and Society a Decade After the Millennium Ecosystem Assessment. Advances in Ecological Research. 53:1-53.

Evans, J. E., Parker, A., Gallagher, F. and **Krumins, J.A.** (2015) The Relationship among plant productivity, ectomycorrhizae and heavy metal contamination in urban soil. Soil Science. 180:198-206.

Hagmann, D., Goodey, N., Gallagher, F., Evans, J., Aronson, M.F., Matheaiu, C. and **Krumins, J.A.**  (2015) Soil enzyme response to contamination in an urban brownfield. Soil Biology and Biochemistry 91:291-297.

**Krumins, J.A.,** V.J. Krumins, E. Forgoston, L. Billings and W.H. van der Putten (2015) Modeling rhizosphere herbivory and microbial feedbacks. Plos One 10(6): e0129775. doi:10.1371/journal.

pone.0129775

Gallagher, F., Caplan, J., **Krumins, J.A**. and Grabowski, J. (2015) Root Growth in *Betula populifolia* Marsh. in a Naturally Assembled Urban Woodlot: Implications for Restoration of Metalliferous Soils. Ecological Restoration. 33:10-13.

Vendettuoli, J., Priesser, E., **Krumins, J.A**. and Orwig, D (2015) Hemlock woolly adegid's effect on eastern hemlock fine root bacterial abundance and mycorrhizal associations. Forest Ecology and Management. 339:112-116.

**Krumins, J.A**., Goodey, N., Gallagher, F. (2015) Dynamic Plant-Soils Interactions in Metal-Contaminated Soils. Soil Biology and Biochemistry. 80:221-234.

Meisner, A., W.H.G Hol, W. de Boer, **J.A. Krumins,** D.A. Wardle, W.H. van der Putten. (2014) Plant soil interactions of invasive – exotic plant species. Biological Invasions. 16:2551-2561.

**Krumins, J.A**., D. van Oevelen, E. van Donk, W.H.G. Hol, W. de Boer, M. Viketoft, G.B. de Deyn, F. Monroy-Martinez, J. Middelburg, T.M. Bezemer, P.C. de Ruiter, J. van Veen, J. van de Koppel, E. Thebault, W.H. van der Putten (2013) Soil, fresh water and marine sediment food webs: similarities and differences in their structure and functioning. BioScience 63(1): 35-42.

Meisner, A., W. De Boer, W.H.G. Hol, **J.A. Krumins** and W.H. van der Putten 2009 No paradox for plant invasions. Science 325:814.

**Krumins, J.A**., J. Dighton, R.B. Franklin, D. Gray, P.J. Morin and M.S. Roberts 2009 Biogeography affects soil microbial community response to simulated nitrogen deposition. Forest Ecology and Management 258: 1383-1390.

**Krumins, J. A**., Z.T. Long, C.F. Steiner and P.J. Morin. 2006. Interacting Effects of Food Web Diversity and Productivity on Bacterial Community Function and Composition. Functional Ecology 20:514-521.

Martiny, J.B.H., B.J.M. Bohannan, J.H. Brown, R.K. Colwell, J. Fuhrman, J. Green, M. C. Horner-Devine, M. Kane, **J.A. Krumins**, C. Kuske, P.J. Morin, S. Naeem, L. Ovreas, A. Reysenbach, V. Smith and J. Staley 2006. Microbial Biogeography: Putting Microbes on the Map. Nature Reviews Microbiology 4(2):102-112.

Jiang, L. and **J. A. Krumins**. 2006. Consumer versus environmental productivity control of bacterial diversity and bacteria-mediated organic matter decomposition: evidence from a laboratory microbial community. Oikos 114:441-450.

Jiang, L.and **J. A. Krumins**. 2006. Multiple predator effects in an experimental microbial community. Ecological Research 21:723-731.

Long, Z. T., C.F. Steiner**, J.A. Krumins** and P.J. Morin. 2006. Species Richness and Allometric Scaling Jointly Determine Biomass in Model Aquatic Food Webs. Journal of Animal Ecology 75(4): 1014-1023.

Steiner, C.F., Z.T. Long, **J.A. Krumins** and P.J. Morin 2006. Population and Community Resilience in Multitrophic Communities. Ecology 87: 996-1007.

Steiner, C.F., Z.T. Long, **J.A. Krumins** and P.J. Morin. 2005. Temporal Stability of Aquatic Food Webs: Partitioning the Effects of Species Diversity, Species Composition and Enrichment. Ecology Letters. 8:819-828.

Krumins, V., M. Hummerick, L. Levine, R. Strayer, **J.L. Adams** and J. Bauer 2002. Effect of hydraulic retention time on organic nutrient recovery and biodegradable organics removed in a biofilm reactor treating plant biomass leachate. Bioresource Technology 85(3): 243-248.

Garland, J.L., K.L. Cook, **J.L. Adams** and L. Kerkhof. 2001. Culturability as an Indicator of Succession in Microbial Communities. Microbial Ecology 42:150-158.

Garland, J.L., L. Levine, N.C. Yorio**, J.L. Adams**, K.L. Cook 2000. Graywater Processing in Recirculating Hydroponic Systems: Phytotoxicity, Surfactant Degradation, and Bacterial Dynamics. Water Research. 34:3075-3086.

### Garland, J.L., M. P. Alazraki, N.C. Yorio, and **J.L. Adams**. 2000. Composting inedible crop residue for advanced life support systems: nutrient extraction and recycling for hydroponic plant growth. Proceedings of the International Composting Symposium.

# Adams, J.L. and McLean, R.J.C. 1999. The impact of *rpoS* deletion on *Escherichia coli* biofilms. Applied and Environmental Microbiology. 65:4285-4287.

McLean, R.J.C., C. Fuqua, D.A. Siegele, B. Kirkland-George, **J.L. Adams** and M. Whiteley 1999 Biofilm Growth and its Role in Mineral Formation. Proceedings of the 8th International Symposium for Microbial Ecology.

Strayer, R.F., M.P. Alazraki, J. Judkins, **J.L. Adams**, J.L. Garland, V. Hsu 1999. Development and Testing of Inocula for Biodegradation of Igepon under Denitrifying Conditions. SAE Technical Paper. 1999-01-1949.

Speaking Engagements and Presentations

## Invited Seminars

Contextualizing Plant-Soil Interactions: The Applied and the Basic. University of the Balearic Islands, Palma, Spain. October 19, 2020

The Paradox of Being Consumed: Modeling Herbivory and Plant Soil Feedbacks. University of Cape Town, Cape Town, South Africa. May 5, 2018.

The Paradox of Being Consumed: Modeling Herbivory and Plant Soil Feedbacks. Department of Biology, University of Indiana, Bloomington, IN, March 23, 2018.

Microbial Biodiversity and Functioning in Contaminated Soils. Department of Biology, Villanova University, Philadelphia, PA, May 4, 2017.

Microbial Biodiversity and Functioning in Contaminated Soils. Department of Biology, Rutgers University Camden, NJ, October 27, 2016.

The Microbial World Behind the Fence at Liberty State Park, Department of Biology, Seton Hall University, October 8, 2015.

Teaching Ecology to Learn Math, Department of Mathematics, Montclair State University, Montclair, NJ March 27, 2013

Balancing the Good and the Bad in Soil Communities, Fairleigh Dickinson University, Madison, NJ October 25, 2012

Balancing the Good and the Bad in Soil Communities, Southern Connecticut State University, New Haven, CT October 16, 2012

Stimulation of Microbial Metabolism by Inefficient Herbivory, Hofstra University, Hempstead, NY April 27, 2012

Embracing the Good: When Negative Interactions Turn Positive in Soil, Rutgers University, Department of Ecology and Evolution, New Brunswick, NJ February 2, 2012

Trophic Interaction and Microbial Function in the Rhizosphere Rutgers University, New Brunswick, NJ Department of Environmental Sciences. April 22, 2011

Soil Microbial Communities in a Changing World. Rutgers University, New Brunswick, NJ. Department of Microbiology – Fermentation Club. May 2, 2008

Soil Microbial Communities under Elevated Nitrogen Deposition. Virginia Commonwealth University, Department of Biology, Richmond, VA May 5, 2008

Causes and Consequences of Diversity in Microbial Communities. Kennedy Space Center, Florida January 10, 2006

Analysis of Bacterial Communities in Controlled Biological Systems. Florida International University. Miami, FL February 20, 2001.

##### Professional Presentations/Abstracts at National or International Meetings (Only First Authored Listed)

## *Invited Keynote Address:*

Krumins, J.A. and E. Thebault. Linking Food Web Systems. Food Webs: Science for Impact. (Decennial Meeting) November 11-16, 2013. Giessen, Germany.

*Invited Conference Presentation:*

Krumins, J. A., Goodey, N.M., Hagmann, D., Evans, J.M., Singh, J., Ojinnaka, E. and Gallagher, F., Microbial Biodiversity and Functioning in Contaminated Soils. EcoSummit 2016. August 29, 2016. Montpellier, France.

*Published Abstracts and Presentations (note – only first and presenting author listed):*

Krumins, J.A., Singh, J.P., Hagmann, D. F., Vaidya, B. and Goodey, N.M. Plants Mitigate Stress in Contaminated Soils. Annual Meeting of the British Ecological Society. December 8-14, 2019.

Krumins, J.A., J. Reidy, C. Navarro, B. Vaidya, D. Hagmann, J.P. Singh and N.M. Goodey. Plant and soil interactions in metal contaminated soils. Soil Ecology Society of America Biennial Meeting. Toledo, Ohio. May 2019.

Krumins, J.A. Novel approaches to linking above- and below-ground networks. Ecological Society of America. Baltimore, MD August 2015.

Krumins J.A., N.M. Goodey, J. Evans, D. Hagmann and F. Gallagher. Microbial Biodiversity and Functioning in Urban Brownfield Soils. Soil Ecology Society in Colorado Spring, CO. June 2015.

Krumins, J.A., M.F. Aronson, N. Goodey, J.Evans, J. Greendyk, D. Hagmann and C. Haines-Klaub. Case Studies in Microbial Biodiversity and Functioning in Urban Soils. First Global Soil Biodiversity Conference. December 5, 2014. Dijon, France.

Krumins, J.A., V. Krumins and W.H. van der Putten. Modelling Rhizospher Herbivory and Plant Feedbacks. Biennial Meeting of the Soil Ecology Society of America. Camden, NJ June 13, 2013.

Krumins, J.A., V. Krumins and W.H. van der Putten. Stimulation of Microbial Metabolism by Inefficient Herbvivory. 14th Meeting of the International Society for Microbial Ecology. Copenhagen, Denmark. August 19-14, 2012

Krumins, J.A., V. Krumins and W.H. van der Putten Modeling Microbial Communities in Soil Food Webs. Ecological Society of America Meeting. Austin, TX August 7-12, 2011.

Krumins, J.A., V. Krumins and W.H. van der Putten. Rhizosphere Herbivory and Microbial Communities. Ecology of Soil Microorganisms. Prague, The Czech Republic April 27-May 1, 2011

Krumins, J.A., V. Krumins and W.H. van der Putten. The Role of Microbial Communities in Soil Food webs. International Symposium for Microbial Ecology. Seattle, WA August 2010.

Krumins, J. A. and W.H. van der Putten. Trophic Interactions in Soil Affecting Plant Production. Ecological Society of America Annual Meeting, Albuquerque, NM August 2-7 2009.

Krumins, J.A., R.B. Franklin, J.Dighton, M.S. Roberts, D. Gray and P.J. Morin. Trophic Control in Soil Microbial Food Webs. Netherlands Annual Ecology Meeting. Lunteren, The Netherlands. February 10, 2009.

Krumins, J.A., R.B. Franklin, J.Dighton, M.S. Roberts, D. Gray and P.J. Morin. Affects on Trophic Control in Soil Food Webs. Ecological Society of America Annual Meeting, Milwaukee, WI August 3-8, 2008.

Krumins, J.A., Z.T. Long, C.F. Steiner and P.J. Morin. Food Web Diversity and Bacterial Communities. British Ecological Society Annual Meeting. University of Glasgow, UK. September 10-12, 2007.

Krumins, J.A., Gray, D. and Dighton, J. Microbial Community and Soil Nutrient Response to a Gypsy Moth Outbreak in the New Jersey Pinelands. 11th Biennial Soil Ecology Society Meeting. Moab, Utah. April 29-May 2, 2007.

Krumins, J. A., J. Dighton, D. Gray and P.J. Morin. Effects of Nitrogen Deposition on Ectomycorrhizal and Bacterial Communities in Oak Forests. Ecological Society of America Annual Meeting in Memphis, TN, August 2006

Krumins, J.A., C.F. Steiner, Z.T. Long and P.J. Morin. Effects of Food Web Diversity and Productivity on Bacterially-Mediated Decomposition. Ecological Society of America Annual Meeting in Montreal Canada, August 2005.

Krumins, J.A., C.F. Steiner, Z.T. Long and P.J. Morin. Effects of Food Web Diversity and Productivity on Bacterially-Mediated Decomposition. American Society of Limnology and Oceanography Annual Meeting in Santiago de Compostella, Spain. June 2005.

Krumins, J.A., C.F. Steiner, Z.T. Long and P. J. Morin. Linking Ecosystem Biodiversity and Bacterial Decomposition. 10th International Symposium on Microbial Ecology. Cancun, Mexico August 2004.

Krumins, J.A. and L. Jiang. The effects of Keystone Predation and Productivity in a Model System. 89th Annual Meeting of the Ecological Society of America. Portland, Oregon August 2004.

Adams, J.L., Garland, J.L., Hummerick, M.P., Roberts, M.S. and Yorio, N.C. The Effects of Supra-Elevated CO2 on a Rhizosphere Community. 9th International Symposium for Microbial Ecology. Amsterdam, The Netherlands August, 2001.

Adams, J.L., Garland, J.L., Denhart, M. and Di Giovanni, G. The Persistence of Polio Virus in a Hydroponic Plant Growth System. ASM General Meeting. Orlando, FL May 2001.

Adams, J.L., Garland, J.L., Judkins, J.E., Yorio, N.C. and Levine, L. The Role of Biofilms in a Graywater Recycling and Processing Hydroponic Plant Growth System. ASM Biofilms 2000. Big Sky, Mt. July 2000.

Adams, J.L., Garland, J.L., Roberts, M.S. and Yorio, N.C. Structure and Culturability in a Rhizosphere Biofilm Community. ASM Biofilms 2000. Big Sky, Mt. July 2000.

Adams, J.L., Garland, J. L. and Kerkhof, L.J. Temporal Variation in Culturability as an Indicator of Succession. ASM Meeting for Microbial Biodiversity. Chicago, Ill. August 1999.

Adams, J.L., McLean, R.J.C., Siegele, D. The Significance of *rpoS*, A Slow Growth Gene, in an *E. coli* Biofilm. 8th International Symposium for Microbial Ecology. Halifax, Nova Scotia, Canada. August 1998.

Adams, J.L., McLean, R.J.C., and Siegele, D. The Importance of Slow Growth Genes on Biofilm Development. The American Society for Microbiology General Meeting. Atlanta, GA. May 1998.

##### Professional Presentations/Abstracts (student advisees as author at national or international meetings)

Reidy, J., C. Navarro, N.M. Goodey, B. Vaidya, J. A. Krumins Plant-Soil Feedbacks in Metal Contaminated Soils. Soil Ecology Society of America Biennial Meeting. Toledo, OH May 2019

Singh J. P., D. Hagmann, N.M. Goodey and **J. A. Krumins** Effect of drying and rewetting of contaminated soil on enzyme function. Bienniel Meeting of the Soil Ecology Society of America. Toledo, OH May 2019

Singh, J., Goodey, N.M., Ojinnaka, E. and Krumins, J.A. Microbial Activity of Metal Contaminated Soils. Soil Ecology Society of America. Ft. Collins, CO. June 6, 2017.

Balacco, JR, Vaidya, B, Goodey, G, Krumins, JA. Plant-Soil Interactions and the Role of Arbuscular Mycorrhizal Fungi in an Urban Brownfield. Annual Meeting of the Ecological Society of America.. August 11, 2017. Portland, OR

Singh, J., Goodey, N.M., Ojinnaka, E. and Krumins, J.A. Microbial Activity of Metal Contaminated Soils. ISME 16. August 22, 2016. Montreal, Canada.

Greendyk, J., Haines, C., Aronson, M.F. and Krumins, J.A. Fungal community composition of urban riparian soils. Annual Meeting of the Ecological Society of America. August 4-8, 2014, Sacramento, CA.

Haines, C., Aronson, M.F. and Krumins, J.A. Understanding eutrophication: Flora and bacterial communities of an urban watershed. Annual Meeting of the Ecological Society of America. August 4-8, 2014, Sacramento, CA.

Vendettuoli, J., Orwig, D., Krumins J.A., Preisser, E. The effect of hemlock woolly adelgid infestation on eastern hemlock foliar and fine root bacterial abundance. Annual Meeting of the Eastern Branch of the Entomological Society of America. March 15-18, 2014 Williamsburg, VA.

Evans, JM, Gallagher, F, Krumins J. A. The relationship between metal contamination, ectomycorrhizal diversity and plant biomass in an urban brownfield. Annual Meeting of the Ecological Society of America. Minneapolis, MN. August 5-9, 2013

Evans, JM, Gallagher, F. Krumins, JA. The relationship between metal contamination, ectomycorrhizal diversity and plant biomass in an urban brownfield. Biennial Meeting of the Soil Ecology Society of America. Camden, NJ. June 11-14, 2013.

Halawani, L., Vanderklein, D., Krumins, JA. The rhizosphere microbial community of adelgid infested eastern hemlock trees. Annual Meeting of the Ecological Society of America. Minneapolis, MN. August 5-9, 2013

Halawani, L., Vanderklein, D., Krumins, JA. Fingerprinting Analysis of Microbial Community of Adelgid Infested Hemlock Trees Biennial Meeting of the Soil Ecology Society of America. Camden, NJ. June 11-14, 2013.

Rios, I., Rabbe, C. Murphey, J. Krumins J.A. Soil Health Restoration Project: Microbial Community Assessment in a Watershed Upland Woodland Area in New Jersey. Benthic Ecology Meeting in Savannah, GA. March 26, 2013

## Grants, Awards and Honors

## Grants and Financial Support

* National Science Foundation (NSF) – DEB -Ecosystems, “MCA: A Meta-analytic approach to resolving mechanisms of plant-soil-herbivore interactions. 2021-2024 ($241,421)
* Ministerio de Ciencia, Innovacion y Universidades in Spain, “Analisis Global De Incremento Poblacional De Ungulados Silvestres Sobre La Integridad De Los Ecosistemas” Emmanuel Serrano-Ferron (PI), J.A. Krumins (International Collaborator). euro 252,793 (≈ $300,000), 2019-2022.
* National Research Foundation of South Africa (NRF – RISA) “Soil food webs, plant productivity and global change in South African grasslands.” Heidi-Jane Hawkins (PI), J.A. Krumins (International Collaborator). ZAR 1.3 million (≈ $100,000), 2017-2019.
* Royal Netherlands Academy of Arts and Sciences (KNAW) “Secondary succession belowground: top-down or bottom-up controlled?” (PI) Dr. Elly Morrien. J.A. Krumins (International Collaborator.) €250,000 (≈$225,000). 2016-2021.
* National Science Foundation (NSF) – Chemical Bioengineering Environmental and Transport Goodey and Krumins. RUI:SusChem: Increasing Soil Enzymatic Function with Targeted Microbial Inocula. $320,180 Sept 2016-June 2020.
* PSEG Summer Seed Grant, J.A. Krumins and N.M. Goodey $5,000 Increasing Soil Enzymatic Function with Targeted Microbial Inocula. Summer 2016
* Montclair State University – Student Faculty Research Award. $2000 Sequencing the Earthworm Microbiome from Contaminated Soils 2016.
* NSF S-STEM - Goodey, N.M. (PI), Herbert, K (co-PI), Kasner, M (co-PI), Krumins, J.A. (co-PI) and Siekierka, J (co-PI) Opening pathways, Engaging and Networking in Chemistry in Northern NJ, NJ-OPEN. National Science Foundation (August 2014) ($603,999)
* Montclair State University – Grant Development Support 2015-2016 (co-PI Nina Goodey) ($4,000)
* Montclair State University – Separately Budgeted Research Award 2015 (co-PI Nina Goodey) ($5,000)
* Environmental Protection Agency through Barnegat Bay Partnership - Role of Plant and Soil Community Structure in Riparian Soil Nutrient Retention 2013-2014 ($65,014)
* Montclair State University – Grant Development Support 2011-2012 ($3,500)
* Environmental Protection Agency through the Barnegat Bay Partnership – Soil Health Improvement Program 2012-14 ($25,156)
* PSEG Sustainability Studies Institute (PIs Hill and Herbert and I was Senior Personnel - Developing innovative tools for field research and data collection 2012-2013 ($30,000)

###### Fellowships, Awards and Honors

* National Science Foundation - International Postdoctoral Research Fellowship 2009-2010 ($134,440)
* National Science Foundation - Advance – Negotiating the Ideal Faculty Position Workshop 2009
* Student Award 2nd Place – 11th Biennial Soil Ecology Society Meeting Moab, Utah April 2007
* Graduate Student Research Award 2007 – Rutgers Graduate School New Brunswick
* Ralph E. Good Award for Research in the New Jersey Pinelands 2007
* JBS Haldane Prize for the best paper by a young author, British Ecological Society 2006
* Rutgers University – Bevier Fellowship, Graduate School in New Brunswick, 2006-2007 ($16,000)
* Rutgers’ Eagleton Institute of Government and Politics - Governors Fellowship 2004-2005 ($8,600)
* NASA - Graduate Student Researchers Program Fellowship 2003-2006 ($72,000)
* Public Service Group Achievement Award, NASA 2000
* Best Paper Award - 3rd Annual Biology Colloquium, Texas State University, 1998
* George H. Meyer Scholarship for Microbiology, TSU, 1998
* Henry Norris, Jr. Scholarship for Biology, TSU, 1998
* Howard D. Schulze Biology Scholarship, TSU, 1998
* TSU Recognition for Academic Excellence, 1998

Teaching and Mentoring

**Courses Taught**

Montclair State University

BIOL 486/586 Island Ecology in the Galapagos Spring 2020

BIOL 213 Ecology - Spring 2012, Fall 2013, Summer 2016

BIOL 488/587 Microbial Ecology or Biodiversity – Spr 2011, 16 & 17, Fa 2012, 14, 17 & 19

BIOL 350 Microbiology – Fall and Spring 2010 through 2020

BIOL 199 Freshman Seminar - Fall 2010

BIOL 592/492 Graduate and Senior Colloquium Fall 2012

Baruch College – CUNY

Ecology – Fall 2007

The Environment in New York – Fall 2007

**Student Research Mentoring**

*Undergraduate Students*

Juanita Cook – Spring 2011

Fatima Hassan – Fall 2012

Jose Bazan – Spring 2013

Ariel Flood – Spring 2013

Guillermo Riestra - Spring 2013

Elijah Bohorquez – Summer 2013 – summer 2014

Julia Greendyk – Spring 2014 – fall 2014

Yanina Figurero – Spring 2015

Fathima Idris – Fall 2015 – Fall 2016

Nick Jacobelli – Summer and Fall 2017

Christian Navarro – Spring 2018 – Spring 2019

Justin Reidy – Summer 2018 – Spring 2019

Nicholas Frederick – Fall 2019- Spring 2020

*Graduate Students -Masters*

Jon Lerner – non –thesis project: Evolutionary arms race in a fungal bacterial relationship. Graduated Fall 2012

Kristen Lindstrom – non-thesis: Microbiota changes associated with a Western lifestyle. December 2013

Jessica Evans – thesis: Soil and Plant Community Structure in an Urban Brownfield. Spring 2014

Carolyn Haines – thesis: studies plant soil relationships to nutrient retention in a riparian woodland. Fall 2015

Diane Hagmann – thesis: Soil enzymatic activity of an urban brownfield. Spring 2015

Savannah Bennett – thesis: Linking Trophic Interactions in a Planted Soil System. Spring 2016

Jennifer Balacco – thesis: Mycorrhizal interactions in contaminated soils. Spring 2018.

Eshariah Dyson – thesis: Controls on soil functioning in an urban brownfield. Current

*Graduate Students – Doctoral*

Shih-Chieh Chien – Carbon storage in urban parks (MSU)

Tracy Youngster – Co-Advised with John Dighton (Rutgers University)

Diane Hagmann – PhD Candidate Co-Advised with Nina Goodey (MSU)

Bhagashree Vaiyda - PhD Candidate Co-Advised with Nina Goodey (MSU)

Jay Singh – 2019 (Now in a postdoctoral position at Thompson Rivers University in Canada).

Garrett Nieddu – 2018 (Committee service and advised by Eric Forgoston and Lora BilingsNow at Los Alamos National Laboratory)

Cara Faillace – 2017 Committee Service with Peter Morin as advisor (Rutgers University)

Service and Outreach

**Professional and Community Service Activities**

*Service to the Department and University (Montclair State University and Rutgers University)*

Wehner Fund Committee – to Organize an Annual Student Symposium 2017-2019

New Faculty Search – 2011, 2016, 2018, 2019 and 2021

Departmental Personnel Advisory Committee (DPAC) 2015-2018

Admissions committee for the PhD program in Environmental Management 2012-2019

PSEG Institute for Sustainability Studies Advisory Board 2015 and 2021

Montclair State Student Research Symposium CSAM Representative 2015 & 2016

Student Teacher Subject Area Mentor – Kearny High School fall 2014

Marshal or Platform Party for the CSAM Convocation and/or Graduation: 2011- 2016, 2019

Department of Biology and Molecular Biology Seminar Committee in spring 2013

Featured in the Creative Research Center Symposium 2012

CSAM Women in Science Symposium on March 5, 2012

Adjunct teaching observation 2012, 2014, 2015

President, Graduate Student Association - Graduate Program in Ecology and Evolution 2006-2007

Rutgers University Faculty Committee on Honorary Degrees 2006-2007

Graduate Student Representative - Executive Dean Robert Goodman’s Advisory Council on the Environment (ACE) 2005-2006

Graduate Student Representative to the Faculty - Graduate Program in Ecology and Evolution 2003-2006

*Service to the Discipline and Science*

Editor – Peer Community In Ecology – 2018 - current

Secretary – Soil Ecology Society of America – 2017 - current

President - NJ Chapter of the American Society of Microbiology/ Theobald Smith Society. FY 2017

At Large Representative – Soil Ecology Society of America – 2015 - 2017

Review Panelist – NSF Population and Community Ecology February 2011 & December 2014

Research and Development Council of New Jersey Merit Scholars Interviewer, 2014

External Reviewer –European Research Council 2016

External Reviewer National Environmental Research Council of the United Kingdom 2014 & 2017

External Reviewer – Maryland Sea Grant – August 2013

Organizer – Biennial Meeting of the Soil Ecology Society of America in New Jersey. June 2013

Invited Panelist – Rutgers GradFund Conference and Workshop September 2011, 2012

Invited Panelist – NSF Advance Program, The College of New Jersey April 2011

External Reviewer – NJ Academy of Sciences Grants in Aid of Research 2010-11

External Reviewer 2009 and 2011 – NSF – Division of Environmental Biology

External Reviewer 2009 & 2010 - The Portuguese Foundation for Science and Technology, Biological Sciences subdivision of Biodiversity, Ecology and Conservation

Reviewer for the Following Journals among others not listed:

*Ecology Letters, Oikos, Functional Ecology, Plant and Soil, Biology Letters, Biological Conservation, Forest Ecology and Management, New Phytologist and* *Estuaries and Coasts, Applied and Environmental Microbiology* and other journals.

*Outreach to the Community*

Guest Lecturer - University of North Carolina at Wilmington – October 2020

Guest Lecturer – University of the Balearic Islands, Spain – October – November 2020

Panel Leader & Field Trip and Outreach – Soil Reclaimed Lands Conference in collaboration with NY City Parks – June 2018

NYC Parks Meeting Planning and Advisory Committee 2017-2018

Outreach and Teaching - Guest Lecturer at Rutgers University – 2016-2020

Shade Tree Commission – Metuchen, NJ 2014

Soil Health Outreach Activities – Training community and practitioners about soils

- 2 events in 2014, 1 event in 2015, 4 events in 2016, 1 event 2017.

TED Lesson 2013 –

(<http://ed.ted.com/lessons/dead-stuff-the-secret-ingredient-in-our-food-chain-john-c-moore>)

G-K 12 Outreach to Franklin School in Kearny, NJ

Math Tutor - Trenton Area Soup Kitchen Adult Education Program Jan. 2005-Spring 2007

#### Synergistic Activities

* Symposium Chair and Speaker – EcoSummit 2020 “Urban Biodiversity and Ecosystem Functioning: Sustaining Human Habitation”, June 2020 Gold Coast, Australia. (Delayed due to Covid-19)
* Reclaimed Lands Conference. Together with NYC Parks, Organizer and Panel Leader, June 28 – July 1, 2018.
* Working Group “Networks in Networks” in Wageningen, The Netherlands, June 12-16, 2017.
* Working Group “Networks in Networks” in Cambridge, The United Kingdom, August 22-26, 2016.
* International Consortium on Soil Modeling. March 29-April 1, 2016 Austin, TX.
* Symposium Chair and Speaker – Ecological Society of America 100th Meeting, August 2015. Baltimore, MD.
* Workshop on “Fluctuations in Populations, Epidemiology and Evolution” at the Lorentz Center in Leiden, The Netherlands, August 11-15, 2014
* Working Group “Extinctions in Networks” in Wageningen, The Netherlands, August 18-20, 2014
* Working Group Organizer at ‘Food Webs: Science for Impact”, Giessen, Germany November 12-16 2013.
* Co-Organizer (Under Leadership of John Dighton) the Biennial Meeting of the Soil Ecology Society of America in Camden, NJ, June 2013
* Collaborator Sizemic working group funded by the European Science Foundation (Organizing PIs: Owen Petchey and Ute Jacob) - Meeting in Tjorn Island, Sweden June 6-8 2009
* Participant in food web working group in Cork, Ireland April 2006 (Organizing Host: Mark Emmerson)
* Participant in Microbial Biodiversity Working Group at The National Center for Ecological Assessment and Synthesis (NCEAS) in Santa Barbara, CA April, 2005 (Organizing PI: Brendan Bohannan)

Post-doctoral Advisor

Wim H. van der Putten (Netherlands Institute of Ecology)

Doctoral Advisors and Committee

Peter J. Morin, John Dighton, Joan G. Ehrenfeld (Rutgers University) and Michael S. Roberts (NASA)

Masters Thesis Advisor

Robert J.C. McLean (Texas State University)

Organization Memberships

International Society for Microbial Ecology

Ecological Society of America

British Ecological Society

Soil Ecology Society

American Society of Microbiology