

**William J. Landesman**  
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### **PROFESSIONAL APPOINTMENTS**

2021 - present Associate Professor of Biology, Northern Vermont University, Johnson, VT  
2019 - 2021 Associate Professor of Biology, University of Bridgeport, Bridgeport, CT  
2017 - 2019 Associate Professor of Biology, Green Mountain College, Poultney, VT  
2011 - 2017 Assistant Professor of Biology, Green Mountain College, Poultney, VT  
2009 - 2011 Postdoctoral Fellow, University of Maryland Center for Environmental Science, Appalachian Laboratory, Frostburg, MD

### **EDUCATION AND TRAINING**

2002 - 2009 Rutgers University Graduate program in Ecology and Evolution, New Brunswick, NJ.  
Advisor: John Dighton; PhD.  
1995 Muhlenberg College, Allentown, PA; B.S.: Biology, Minor: Philosophy.  
1994 School for Field Studies, Center for Rainforest Studies, Far North Queensland, Australia.

### **PUBLICATIONS**

1. Baldwin, H, **Landesman, W J**, Borgmann-Winter, B, & Allen, D (2021) A Geographic Information System Approach to Map Tick Exposure Risk at a Scale for Public Health Intervention. *Journal of Medical Entomology*. <https://doi.org/10.1093/jme/tjab169>
2. **Landesman WJ**, Mulder K, Fredericks LP & Allan BF (2019) Cross-kingdom analysis of nymphal-stage *Ixodes scapularis* microbial communities in relation to *Borrelia burgdorferi* infection and load. *FEMS Microbiology Ecology* 95 (12). doi: 10.1093/femsec/fiz167
3. **Landesman WJ**, Mulder K, Allan BF, Bashor LA, Keesing F, LoGiudice K & Ostfeld RS (2019) Potential effects of blood meal host on bacterial community composition in *Ixodes scapularis* nymphs. *Ticks and Tick Borne Diseases* 10(3): 523-527. doi: 10.1016/j.ttbdis.2019.01.002
4. **Landesman WJ**, Freedman ZB & Nelson DM (2019) Seasonal, sub-seasonal and diurnal variation of soil bacterial community composition in a temperate deciduous forest. *FEMS Microbiology Ecology* 95(2). doi: 10.1093/femsec/fiz002
5. **Landesman WJ**, Nelson DM & Fitzpatrick MC (2014) Soil properties and tree species drive  $\beta$ -diversity of soil bacterial communities. *Soil Biology & Biochemistry* 76: 201-209. doi: 10.1016/j.soilbio.2014.05.025
6. **Landesman WJ** & Dighton J (2011) Shifts in microbial biomass and the bacteria: fungi ratio occur under field conditions within 3 h after rainfall. *Microbial Ecology* 62(1):228-236. doi:10.1007/s00248-011-9811-1
7. **Landesman WJ**, Treonis AM & Dighton J (2011) Effects of a one-year rainfall manipulation on soil nematode abundances and community composition. *Pedobiologia* 54(2): 87-91. doi: 10.1016/j.pedobi.2010.10.002
8. **Landesman WJ** & Dighton J (2010) Response of soil microbial communities and the production of plant-available nitrogen to a two-year rainfall manipulation in the New Jersey Pinelands. *Soil Biology & Biochemistry* 42(10): 1751-1758. doi: 10.1016/j.soilbio.2010.06.012
9. Allan BF, Langerhans RB, Ryberg WA, **Landesman WJ**, Griffin NW, Katz RS, Oberle BJ, Schutzenhofer MR, Smyth KN & Maurice AdS (2009) Ecological correlates of risk and incidence of West Nile virus in the United States. *Oecologia* 158(4): 699-708.
10. **Landesman WJ**, Allan BF, Langerhans RB, Knight TM & Chase JM (2007) Inter-annual associations between precipitation and human incidence of West Nile virus in the United States. *Vector-Borne and Zoonotic Diseases* 7(3): 337-343. doi: 10.1089/vbz.2006.0590

## ACTIVE GRANTS

- 2021 – present **W.J. Landesman**, Allan, B.F., Keesing, F., Ostfeld, R. and Zhang, F. “Application of parallel PCR and DNA sequencing for detecting remnant host DNA from the prior blood meal of *Ixodes scapularis*”. National Institute of Allergy and Infectious Diseases Small Grants Program (R03). Budget: \$153,000
- 2019 - 2021 Reed, M.R., Ragoussis, I., **Landesman, W.J.**, Ndao, M., Vidal, S., Bourque, G., Dewar, K., Moreira, S., Thivierge, K. and Leighton, P. “Integration of genomics and metagenomics for the surveillance of the Lyme disease vector *Ixodes scapularis* in Canada and the USA.” MI4 Seed Fund Grant, McGill University (CAD 150,300). Role: Co-Investigator.

## TEACHING (+online course; \*contribution to Sustainable Liberal Arts curriculum)

- Fall 2021 Cellular and Molecular Biology (BIO 3130), Ecology (BIO 2340)
- Spring 2021 +Bioinformatics (BIOL 479), +Genetics (BIOL 307), +Cellular and Molecular Biology (BIOL 102)
- Fall 2020 +Genetics (BIOL 307), +Cellular and Molecular Biology with Laboratory (BIOL 102)
- 2019-20 Genetics (BIOL 307), Cellular and Molecular Biology (BIOL 102)
- 2018-19 Sabbatical leave
- 2017-18 Microbiology with Laboratory (BIO 4008), \*Sustainable Soil, Sustainable Food (ELA 1116), First Year Reading Seminar (BIO 1000), Biology IV: Cell Biology with Laboratory (BIO 2015)
- 2016-17 Soil Ecology (BIO 4005), Conservation Genetics (BIO 6050), Biology I: Ecology (BIO 1031) with Laboratory
- 2015-16 Microbiology with Laboratory (BIO 4008), \*Origins of Life (First Year Reading Seminar, BIO 1000), Conservation Biology (BIO 6040), Conservation Genetics (BIO 6050), \*Sustainable Soil, Sustainable Food (ELA 1116)
- 2014-15 Ecology with Laboratory (BIO 2025), General Chemistry Laboratory (CHE 1021), Soil Ecology (BIO 4005), Sustainable Soil, Sustainable Food (ELA 1116), +Conservation Genetics (BIO 6050)
- 2013-14 Microbiology with Laboratory (BIO 4008), Becoming a professional in Biology (BIO 3005), First Year Reading Seminar (BIO 1000), Biological Systems (BIO 1038), \*Origins of Life (ELA 2111), +Conservation Genetics (BIO 6050)
- 2012-13 Soil Ecology (BIO 4005), Ecology with Laboratory (BIO 2025), +Conservation Genetics (BIO 6050), Independent study in Mycology (BIO 4000), \*Environmental Science (ELA 1013)
- 2011-12 Ecology with Laboratory (BIO 2025). \*Environmental Science (ELA 1013), Microbiology with Laboratory (BIO 4008)

## ADDITIONAL TEACHING EXPERIENCE

- 2007 - 2009 NSF GK12 Fellow, Rutgers University. Teaching collaboration with 6<sup>th</sup> and 8<sup>th</sup> grade physical science and math teachers.
- 2002 - 2007 Teaching Assistant, Rutgers University, Department of Life Sciences. Courses: Genetics Laboratory (2006 - 2007), Genetic Analysis I & II recitation (Genetics majors, 2004 - 2006), Genetics recitation (2003 - 2004), General Biology Laboratory (2002 - 2003)

## COMPLETED GRANTS AND OTHER AWARDS

- 2021 University of Bridgeport Faculty Research Day, First place post in Faculty Competitive category (\$1,000)
- 2018 **W.J. Landesman**, Mulder, K. and Allan, B.F. “Role of the *Ixodes scapularis* microbiome in Lyme disease transmission risk.” Project Grant, Vermont Genetics Network (\$74,941). Role: PI.

- 2017 **W.J. Landesman**, Mulder, K. and Allan, B.F. “Ecosystem and microbial drivers of Lyme disease risk in southern Vermont”. Project Grant, Vermont Genetics Network (\$75,000). Role: PI.
- 2016 **W.J. Landesman**, Mulder, K. and Allan, B.F. “Patterns and mechanisms of *Borrelia burgdorferi* loading in *Ixodes scapularis*. Project Grant, Vermont Genetics Network ((\$74,925). Role: PI Course Enhancement Award, Vermont Genetics Network (\$750).
- 2015 **W.J. Landesman**. Pilot Grant Renewal, Vermont Genetics Network. “Ecological drivers of *Borrelia burgdorferi* infection in *Ixodes scapularis*.” (\$24,999). Pilot Grant, Vermont Genetics Network. Role: PI.
- 2014 **W.J. Landesman**. “Linking *Borrelia burgdorferi* loads with Lyme disease risk in Rutland County, VT.” (\$24,991). Pilot Grant, Vermont Genetics Network. Role: PI.
- 2010 Travel award for the 2<sup>nd</sup> Annual Argonne Soils Workshop in Argonne, IL
- 2007 Selected to AAAS/Science Program for Excellence in Science, Rutgers University Ralph Goode Award, Rutgers Ecology and Evolution Academic Excellence Fund Award, Travel Grant, Rutgers University Graduate School of Arts and Sciences
- 2006 Summer Research Grant, Hutcheson Memorial Forest, Rutgers University

### **SELECTED ORAL PRESENTATIONS (\*indicates invited talk)**

- 2020 **Landesman, W.J.** and Serra, A. What is the reservoir potential of white-tailed deer (*Odocoileus virginianus*) for *Borrelia burgdorferi*? Vermont Disease Ecology Meeting via video conference. July 22, 2020.
- 2019 **Landesman, W.J.** Mulder, K., Allan, B. Drivers of microbiome variation in *Ixodes scapularis* nymphs. Ecological Society of America Annual Meeting, Portland, OR. August 14, 2019.  
\***Landesman, W.J.** The Role of Soil Biology in Earth's Systems. Winter Meeting of the Vermont Nursery and Landscape Association, Burlington, VT.
- 2018 \***Landesman, W.J.**, Ecological and microbiological drivers of Lyme Disease in the northeastern United States, Vermont Nursery and Landscape Association, Shelburne, VT. August 22, 2018  
**Landesman, W.J.** Mulder, K., Allan, B., Bashor, L., LoGiudice, K., Keesing, F., Ostfeld, R. The blood meal host drives variation in bacterial community composition among *I. scapularis* nymphs. Ecological Society of America Annual Meeting, August 8, 2018  
**Landesman, W.J.**, Mulder, K., Allan, B. Drivers of variation in bacterial community composition *Ixodes scapularis*. Arthropod Genomics Symposium, Urbana-Champaign, IL. June 8, 2018.
- 2017 \***Landesman, W.J.**, Mulder, K. and Allan, B. Ecosystem and microbial drivers of Lyme disease risk in southern Vermont. University of Vermont, Department of Biology, Burlington, VT.  
\***Landesman, W.J.**, Mulder, K. and Allan, B. Ecosystem and microbial drivers of Lyme disease risk in southern Vermont. Northeast Regional IDeA Network Conference, Burlington, VT.  
\***Landesman, W.J.** Application of high throughput sequencing for microbial community analysis. Union College, Schenectady, NY.  
**Landesman, W.J.**, Mulder, K. and Allan, B. Ecosystem and microbial drivers of Lyme disease risk in southern Vermont. Ecological Society of America Annual Meeting, Portland, OR.
- 2015 **Landesman, W.J.** and D. Nelson. Temporal dynamics of soil bacterial communities over hourly, daily and seasonal scales. 100th Annual Meeting of the Ecological Society of America, Baltimore, MD.
- 2014 \***Landesman, W.J.**, Spatial and temporal dynamics of soil bacterial communities in forests of the eastern United States. University of Vermont, Department of Plant and Soil Science, Burlington, VT.
- 2013 **Landesman, W.J.**, D. Nelson and M. Fitzpatrick. Metagenomic study of soil microbial community composition in relation to tree species, soil properties and geographic distance. Soil Ecology Society, Camden, NJ.

- 2012 **Landesman, W.J.**, D. Nelson and M. Fitzpatrick. Metagenomic study of soil microbial community composition in relation to tree species, soil properties and geographic distance. 97th Annual Meeting of the Ecological Society of America, Portland, OR.
- 2010 **Landesman, W.J.** and J. Dighton. Effect of changing precipitation patterns on the soil nitrogen cycle in the New Jersey Pinelands. 95th Annual Meeting of the Ecological Society of America, Pittsburgh, PA.
- 2008 **Landesman, W.J.** The effect of climate change and precipitation on soil microbial community structure, nitrogen mineralization, and amino acid production in the New Jersey Pinelands. The Ecological Society of America 93rd Annual Meeting, Milwaukee, WI.
- 2007 **Landesman, W.J.** and J. Dighton. Response of soil microbial communities to manipulations of soil moisture and dry-wet cycles in two New Jersey forests. 11th Biennial Soil Ecology Society Meeting, Moab, Utah.
- 2007 Allan, B.F., **W.J. Landesman**, R.B. Langerhans, W.A. Ryberg, R.S. Ostfeld and J.M. Chase. A protective role for avian diversity in the United States West Nile Virus outbreak? Integrating Environment and Human Health: The 7th National Conference on Science, Policy and the Environment. Washington D.C. (Invited Symposium Presentation)
- 2005 **Landesman, W.J.**, B.F. Allan, R.B. Langerhans, T.M. Knight and J.M. Chase. Inter-annual associations between precipitation and human incidence of West Nile Virus in the United States. Annual Meeting of the Ecological Society of America, Montreal, QC.

#### **POSTER PRESENTATIONS (\*Indicates student co-authors)**

- 2019 \*Elder, J.M., Brown, M., **Landesman, W.J.** Assessing the Effects of Various Washing Procedures on the *Ixodes scapularis* Microbiome. Vermont Genetics Career Day, Burlington, VT.
- \*Elder, J.M., Mulder, O. **Landesman, W.J.** and Mulder, K. Comparison of Data Analysis Techniques for High Dimensional Datasets for *Ixodes scapularis* Microbiome Analysis. Vermont Genetics Career Day, Burlington, VT.
- \*Elder, J.M., **Landesman, W.J.**, Mulder, K. Comparison of Data Analysis Techniques for High Dimensional Datasets. Hudson River Undergraduate Mathematics Conference, Smith College, March 23, 2019.
- 2017 \*Schmitt, I., \*Wann, Nan H.L. and **W.J. Landesman**. Ecological Drivers of *Ixodes scapularis* and Risk Factors of Acquiring Lyme Disease. VGN Career Day, April 12, 2017.
- 2016 \*Haggerty-Perrault, \*B. H., Stephanson, C. and **Landesman, W.J.** "Site-dependent variation of *Borrelia burgdorferi* host loading and *Ixodes scapularis* population density." Vermont Genetics Network's Career Day, April 13, 2016.
- 2010 **Landesman, W.J.** and D. Nelson. Metagenomic study of soil microbial communities at multiple spatial scales in the northeastern and mid-western United States: Project design and preliminary results. 2<sup>nd</sup> Annual Argonne Soils Workshop, Argonne, IL. October 6-8, 2010.
- 2010 **Landesman, W.J.** and D. Nelson. Forensic Analysis of Soil Microbial Communities. Tenth Annual IC Postdoctoral Research Fellowship Colloquium. April 26-29, 2010.

#### **THESIS MENTORING**

- 2019 - present James Durrell, Master of Science in Biology, University of Bridgeport. Urban Pollination Research.
- 2015 - 2018 Jeffrey Budzik, Masters of Science in Environmental Studies, Green Mountain College. Application of bioinformatics to the study of algal blooms on Lake Champlain.  
Jeffrey Hanshaw, Masters of Science in Environmental Studies, Green Mountain College. "An Assessment of Mineral Levels in Fruits and Vegetables Grown by Small-Scale Community Farms and Large-Scale Corporate Farms"
- 2012 - 2014 Evan Burks, Masters of Science in Environmental Studies, Green Mountain College: "Use of ectomycorrhizal fungi to support restoration of red spruce (*Picea rubens sarg.*) on high elevation surface mines in Central Appalachia, USA."

- Heidi Hubbell, Masters of Science in Environmental Studies, Green Mountain College: “Survey of Submerged Aquatic Vegetation along the Rappahannock River, Fredericksburg, Virginia.”
- 2011 - 2015 Scott Keister, Masters of Science in Environmental Studies, Green Mountain College: “The Restoration Index: A Proposed Method for Prioritizing Ecosystem Restorations.”
- 2010 Betsy Evans, Master of Chemical and Life Sciences Program, University of Maryland.

## **MEDIA**

- June 2019 Vermont Digger article: <https://vtdigger.org/2019/06/17/deeper-dig-lyme-patients-limbo-tick-rates-rise/>, Live interview on Vermont Edition, Vermont Public Radio (link removed): <https://www.vpr.org/post/ticks-love-you-you-dont-love-them-our-lovehate-relationship>
- April 2019 Live interview on Vermont Edition, Vermont Public Radio: <https://www.vpr.org/post/blood-microbiomes-and-lyme-disease-ticks-diet-makes-difference#stream/0>
- May 2018 Live interview on Vermont Edition, Vermont Public Radio: <http://digital.vpr.net/post/understanding-growing-risk-lyme-and-other-tick-borne-diseases>
- May 2017 Live interview on Vermont Edition, Vermont Public Radio: <http://digital.vpr.net/post/ticks-and-diseases-they-carry-its-not-just-lyme>
- August 2016 Television interview for “Across the Fence” (University of Vermont Extension): <https://www.youtube.com/watch?v=SuxKinDL-jE>
- June 2016 Live interview on Vermont Edition, Vermont Public Radio: <http://digital.vpr.net/post/ticks-suck-examining-factors-lead-tick-borne-illness>

## **SERVICE AND SYNERGISTIC ACTIVITIES**

### *State and Federal agencies*

- 2021 Reviewer, National Institutes of Health, Infectious Diseases and Immunology Study Section (AREA/REAP)
- Reviewer, Vermont Biomedical Research Network Grant Writing Workshop
- 2018 - present Founding member of the Vermont Disease Ecology Working Group
- 2009 Ecological Society of America’s Annual Meeting. How Can Soil Microbial Ecology Contribute to the Sustainability of Agricultural Systems? Symposium co-organizer and moderator.

### *College/University Service*

- 2020 - 2021 Institutional Biosafety Committee, Senate Facilities Committee, University of Bridgeport
- 2019 - 2021 Campus Sustainability Committee (co-chair),
- 2016 - 2019 Biology Program Director, Green Mountain College
- 2015 - 2016 Curriculum Committee, Green Mountain College
- 2014 - 2015 Curriculum Committee, Campus Sustainability Council, Green Mountain College
- 2013 - 2014 Curriculum Committee, Religious Life Committee, Campus Sustainability Council, Green Mountain College
- 2012 - 2013 Curriculum Committee, Religious Life Committee, Green Mountain College

## **MANUSCRIPT REVIEWER**

Molecular Ecology, Ticks and Tick-Borne Diseases, Vector-Borne and Zoonotic Diseases, Soil Biology & Biochemistry, Global Change Biology, Applied Soil Ecology, Plant and Soil, Ecosphere, European Journal of Soil Biology, PeerJ