

# RICHARD ALAN NIESENBAUM, Ph.D.

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**Director of Sustainability Studies**  
**Biology Department**  
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## EDUCATION

Ph.D., Biology with specialization in Ecology, University of Pennsylvania, Department of Biology, Philadelphia, PA, 1992

M.S., Biological Oceanography and Coastal Ecology, University of Connecticut, Department of Marine Science, Storrs, CT, 1986

B.A., Biology and Environmental Studies, University of Pennsylvania, Philadelphia, PA, 1984, *Cum laude*, Honors in Environmental Studies

## APPOINTMENTS

Professor of Biology and Sustainability Studies, Muhlenberg College, 2006-present

Director of Sustainability Studies, Muhlenberg College, 2007-present

Rita and Joseph B. Scheller Endowed Chair 2016-present

Program Faculty in Sustainability Studies, Environmental Science, Innovation & Entrepreneurship, Public Health, Latin American & Caribbean Studies

Co-Director of the Office of Campus Sustainability 2011-present

Director of the RJ Fellows Honors Program 2016-present

Principal & Founder, UrbanEcofish, 2011-2017

Department Chair, Biology Department, Muhlenberg College, 2004-2010

Associate Professor of Biology and Environmental Studies, Muhlenberg College, 1998-2006

Visiting Scholar, International Programs, The Rodale Institute, 1999-2000

Assistant Professor of Biology and Environmental Studies, Muhlenberg College, 1993-1998

Visiting Assistant Professor, Swarthmore College, 1992-1993

Lecturer, University of Pennsylvania, 1988-1992

## PUBLISHED BOOKS

Niesenbaum, R.A. 2019. *Sustainable Solutions: Problem Solving for Current and Future Generations*. Oxford University Press. New York, NY.

Niesenbaum, R.A. and J.E.B Elliott. 2018. *In Exchange for Gold: The Legacy and Sustainability of Mining in Las Juntas de Abangares, Costa Rica*, Common Ground Publishing. Champaign, IL.

## PEER REVIEWED PROFESSIONAL PUBLICATIONS

Niesenbaum, R.A. 2020. Artisanal Gold mining in Las juntas de Abangares, Costa Rica: Approaches and barriers to achieving sustainability objectives. *Environmental Science & Policy* 114:470-477.

Niesenbaum, R.A., 2019. The Integration of Conservation, Biodiversity, and Sustainability. *Sustainability* 11(17)1-11

Niesenbaum, R.A. 2013. Can latitudinal studies predict potential effects of global climate change on insect herbivore - host plant interactions? *Trends in Entomology* 8:1-8.

- Mooney, E.H. and R.A. Niesenbaum. 2012. Population-specific responses to light influence herbivory in the understory shrub *Lindera benzoin*. *Ecology* **93**(12): 2683-2692.
- Ingersoll, C.M., R.A. Niesenbaum, C.E. Weigle and JH. Lehman. 2010. Total Phenolics and Individual Phenolic Acids Vary with Light Environment in *Lindera Benzoin*. *Botany* **88**(11): 1007–1010.
- Mooney, E.H., M.E. Edwards, and R.A. Niesenbaum. 2010. Genetic differentiation between sun and shade habitats in populations of *Lindera benzoin* L. *Population Ecology*, 52:417-425.
- Mooney, E.H., E.J. Tiedeken, N.Z. Muth, and R.A. Niesenbaum. 2009. Differential induced response to generalist and specialist herbivores by *Lindera benzoin* L. (Lauraceae) in sun and shade. *Oikos*, 118:1181-1189.
- Muth, N.Z., E.C. Kluger, J.H. Levy, M.J. Edwards and R.A. Niesenbaum. 2008. Increased per capita herbivory in the shade: necessity, feedback, or luxury consumption? *Ecoscience*, 15:182-188
- Skoczylas, D., R.A. Niesenbaum, and N.Z. Muth. 2007. Top-down control of herbivory by insectivorous avifauna. *Acta Oecologica*, 32:337-342.
- Edwards, M.E., and R.A. Niesenbaum. 2007. Eleven polymorphic microsatellite loci in *Lindera benzoin*, Lauraceae. *Molecular Ecology Notes*, 7:1302-1304.
- Niesenbaum, R.A., J.F. Cahill, and C. Ingersoll. 2006. Light, Wind, and Touch Influence Leaf Chemistry, Growth, and Rates of Herbivory in *Apocynum cannabinum* (Apocynaceae). *International Journal of Plant Sciences* 167:511-521
- Niesenbaum, R.A. and E.C. Kluger. 2006. When Studying the Effects of Light on Herbivory, Should One Consider Temperature? The Case of *Epimecis hortaria* F. (Lepidoptera: Geometridae) Feeding on *Lindera benzoin* L. (Lauraceae). *Environmental Entomology* 35:600 - 606
- Lewis, T.L. and R.A. Niesenbaum. 2005. Extending the Stay: Using Community-Based Research and Service-Learning to Enhance Short-Term Study Abroad. *Journal of Studies in International Education*, 9:251-264.
- Niesenbaum, R.A., M.E. Salazar, and A.M. Diop. 2004. Community Forestry in the Mayan Biosphere Reserve in Guatemala. *The Journal of Sustainable Forestry* 19:11-28
- Niesenbaum, R.A. 2004. Creating an undergraduate culture of science by integrating inquiry, project-based learning and research into the curriculum. In: *Innovations in Undergraduate Research and Honors Education*, National Collegiate Honors Council, State College, PA, pp. 36-41.
- Bharucha, D.X., B. Morling, and R.A. Niesenbaum. 2002. Use and definition of herbal medicines differ by ethnicity. *Annals of Pharmacotherapy* 37:1409-1413
- Niesenbaum, R.A. and T. Lewis. 2003. Ghettoization in Conservation Biology: How Interdisciplinary is our teaching? *Conservation Biology* 17:6-10.
- Niesenbaum, R.A. and B. Gorka. 2001. Community-based international eco-educational programming: Sound ecology and effective education. *Journal of Environmental Education*. 33:12-16.
- Gorka, B. and R.A. Niesenbaum. 2001. Beyond the language requirement: Interdisciplinary short term study abroad programs in Spanish. *Hispania*. 84:100-109.
- Niesenbaum, R.A. 1999. The effects of pollen load size and donor diversity on pollen performance, selective abortion, and progeny vigor in *Mirabilis jalapa*. *American Journal of Botany*. 86:261-268.
- Niesenbaum, R.A., M.D. Patselis, and S.D. Wiener. 1999. Does flower color change in *Aster vimineus* cue pollinators? *American Midland Naturalist*. 141:59-68.

- Niesenbaum, R.A. and S.K. Schueller. 1997. The effects of pollen competitive environment on pollen performance in *Mirabilis jalapa*. *Sexual Plant Reproduction* (Springer-Verlag), 10: 101-106.
- Niesenbaum, R.A. 1996. Linking Herbivory and pollination: Defoliation and selective fruit abortion based on pollen tube numbers in *Lindera benzoin*. *Ecology*, 77:2324-2331.
- Niesenbaum, R.A. and B.B. Casper. 1994. Pollen tube numbers and selective fruit maturation in *Lindera benzoin*. *The American Naturalist*, 144:184-191.
- Niesenbaum, R.A. 1994. Spatial and temporal variation in pollen tube numbers in *Lindera benzoin* (Lauraceae). *Canadian Journal of Botany*, 72:268-271
- Casper, B.B. and R.A. Niesenbaum. 1993. Pollen versus resource limitation of seed production: A reconsideration. *Current Science*, 65:210-214
- Niesenbaum, R.A. 1993. Light or pollen: Seasonal limitations on fruit set in *Lindera benzoin*. *Journal of Ecology*, 81:315-323
- Niesenbaum, R.A. 1992. Sex ratio, components of reproduction, and pollen deposition in *Lindera benzoin*. (Lauraceae). *American Journal of Botany*, 79:495-500.
- Niesenbaum, R.A. 1992. The effects of light environment on herbivory and growth in the dioecious shrub *Lindera benzoin* (Lauraceae). *American Midland Naturalist*, 128:270-275.
- Petratis, P.S., R.E. Latham, and R.A. Niesenbaum. 1989. The maintenance of species diversity by disturbance. *Quarterly Review of Biology*, 64:393-418.
- Niesenbaum, R.A. 1988. The ecology of sporulation by the macroalga *Ulva lactuca* L. (Chlorophyceae). *Aquatic Botany*, 32:155-166.

## EXTERNAL FUNDING

- Principal Investigator – **VentureWell** – Accelerating Sustainable Design and Entrepreneurship in Support of Sustainable Food Systems Through Targeted Coursework Combined with Summer Entrepreneurial Workshops and Continued Structured Support for Venture Development with Rita Chesterton. \$30,000, 2021-2024
- Principal Investigator – **VentureWell** – Linking Sustainability Studies and Innovation and Entrepreneurship Programs to Promote Integrative Learning in Sustainable Design. Pilot Grant with Rita Chesterton. \$9,000, 2018-2020
- Principal Investigator – **The National Science Foundation**, Cross-Disciplinary Research at Undergraduate Institutions (NSF-CRUI), Linking ecology, leaf chemistry, and genetics to assess abiotic and biotic determinants of herbivory. One of 4 awards nationally. \$1,050,000. 2005-2009.
- Principal Investigator – **The National Science Foundation**, Research Experiences for Teachers - Supplement to NSF-CRUI. \$10,000, 2005-2006.
- Principal Investigator - **FIPSE** - Discovery and Exploration in the Physical and Life Sciences - A grant to support students at risk. \$99,410, 2004-2006.
- Co-Principal Investigator - **Merck/AAAS** – Undergraduate Research Experiences at the Interface of Biology and Chemistry. \$75,000, 2003-2005
- Principal Investigator - **The National Science Foundation**, Division of Environmental Biology, RUE Supplement, How Experimenter Visitation and Measurement Affect Herbivory and Plant Growth, 2003, \$6,000
- Principal Investigator - **The National Science Foundation**, Division of Environmental Biology, RUE Supplement, How Experimenter Visitation and Measurement Affect Herbivory and Plant Growth, 2002, \$6,000

- Principal Investigator - **The National Science Foundation**, Division of Environmental Biology, Research Award, How Experimenter Visitation and Measurement Affect Herbivory and Plant Growth, 2002-2004, \$75,000
- Co-Principal Investigator – **Merck/AAAS** – Undergraduate research experiences integrating Biology and Chemistry, \$60,000.
- Principal Investigator – **The Kellogg Foundation & Keystone 21**. Linking biological, economic and social indicators to evaluate international conservation programs \$7200.
- Co-Principal Investigator – **The National Science Foundation** (NSF-ILLI). Establishment of a Biology Computer Lab for a project based curriculum, \$31,765
- Principal Investigator - Conservation Assessment Program Grant - **Institute of Museum and Library Services**. Assessment of the Graver Arboretum, \$5700
- Principal Investigator - Technical Assistance Grant - **Institute of Museum and Library Services**. A curatorial study at the Graver Arboretum, \$3180
- Co-Principal Investigator - Institutional Incentive Grant - **PA Summer Academy Expansion Project**. Improving teaching effectiveness at through the establishment of the Faculty Center for Teaching, \$13,000

### **PUBLISHED BOOK REVIEWS**

- Niesenbaum RA (2009) Foundations of environmental sustainability: the coevolution of science and policy. Rockwood, Larry L., Ronald E. Stewart, and Thomas Dietz, editors. *Ecology* 90:573-574
- Niesenbaum, R. A. 2005. Sustainability on Campus: Stories for Strategy and Change by Barlett, Peggy F., Chase, Geoffrey W. (Editors). *Journal of Society and Natural Resources*, 18:775-777.
- Niesenbaum. R. A. 2004. Bringing the Food Economy Home: Local Alternatives to Agribusiness by Helena Norberg-Hodge, Todd Merrifield and Steven Gorelick. *Journal of Society and Natural Resources* 17(4): 319-321
- Niesenbaum, R.A. 2001. The Rose's Kiss: A Natural History of Flowers. *Plant Science Bulletin* 48:32-33.
- Niesenbaum, R.A. 2000. Towards a Sustainable Future: Environmental Activism in Russia and the United States. *Human Ecology Review*. 7:81-82
- Niesenbaum, R.A. 1999. Plant Life Histories: Ecology, Phylogeny, and Evolution. *Quarterly Review of Biology* 74:83.
- Niesenbaum, R.A. 1995. Plant Conservation Biology. *Plant Science Bulletin*, 43:25-26.
- Niesenbaum, R.A. 1993. Ecology and evolution of plant reproduction: New approaches. *Plant Science Bulletin*, 39:25-26

### **RECENT INVITED AND CONFERENCE PRESENTATIONS**

- Niesenbaum, R.A. 2020. Digital Tools to Enhance Integrative Learning and Global Perspectives in Sustainability Studies. Association for Environmental Science and Studies. Remote Conference.
- Niesenbaum, R.A. 2020. In Exchange for Gold: The Legacy and Sustainability of Artisanal Gold Mining in Las Juntas de Abangares Costa Rica. Sixteenth International Conference on Environmental, Cultural, Economic & Social Sustainability. Santiago, Chile
- Niesenbaum. R.A. and Chesterton, R. 2019. Linking Sustainability Studies and Innovation & Entrepreneurship Programs to Promote Integrative Learning in Sustainable Design, VentureWell OPEN, Washington D.C.
- Niesenbaum, R.A. 2019. A Problem Solving Approach to Teaching Sustainability Studies. AASHE Annual Conference. Spokane, WA.

Niesenbaum, R.A., Everett, K. and Procyk, K. 2019. Developing Interdisciplinary Sustainability Programs at Small Liberal Arts Colleges. AASHE Annual Conference. Spokane, WA.  
Taub, L. R.A Niesenbaum, and T. D'Haeseleer. 2019. Countering Indifference: Domains and the Slow Fuse of Possibility. Domains 2019: Back to the Future. Durham, NC.  
Niesenbaum, R.A. 2018. Digital Tools to Enhance Integrative Learning and Global Perspectives in Sustainability Studies. American Association for Sustainability in Higher Education. Pittsburgh.

### **OTHER PROFESSIONAL PUBLICATIONS (Selected)**

Niesenbaum, R.A. 2021. Sustainable Growth. *Muhlenberg Magazine*, Summer 2021  
Lewis, T.L. and R.A. Niesenbaum. 2005. The benefits of Short-Term Study Abroad. *The Chronicle of Higher Education*, June 3, 2005, B20 (Invited article/Cover story).  
Niesenbaum, R.A. 2004. Hydrogen fuel initiative flawed from the start. *The Morning Call* (Letter), May 2, 2004  
Niesenbaum, R.A. and T. Lewis. 2003. Reviewing Conservation Biology Textbooks: A response to Primack. *Conservation Biology* 17:1.  
The Benefits to Students and Professors of Research by Undergraduates. *The Chronicle of Higher Education* (Letter), December 2000.

### **SELECTED PROFESSIONAL SERVICE**

#### **Editorial and Review**

Associate Editor the Journal *Sustainability*  
Reviewer: *Sustainability, Environmental Science and Policy, International Journal of Environment and Climate Change*

#### **VentureWell**

Grant Reviewer 2019-2021, Faculty Spotlight: <https://venturewell.org/richard-niesenbaum/>  
Contributed to White Paper on Sustainable Engineering

#### **ConservationX Labs**

Reviewer for Grand Challenges for Conservation (2020, 2021)

#### **National Science Foundation Panels**

NSF Graduate Research Fellowship (GRF): 2003, 2004, 2008-2018, Panel Chair: 2009, 2010  
NSF-Course, Curriculum, and Laboratory Improvement (CCLI): 1999, 2000

#### **Fulbright Panel for Central America and the Caribbean**

IIE, New York City, December 2012, 2013, 2014

#### **EPA STARS – Graduate Research Fellowship Panel Review**

March 2013 – Biofuels and Forestry

### **Other Service Related to Professional Expertise**

Contributor to Engineering for One Planet (EOP) -2021-present  
Association for Advancement of Sustainability in Higher Education Advisory Board 2017-2020  
School for Field Studies Advisory Board, 2018-2020  
Board member, Center for Regenerative Agriculture, Senegal 2016-present  
Allentown, PA, Planning Commission, 2015-2017  
Allentown, PA, Water Advisory Committee, 2013-2017  
Allentown, PA, Environmental Advisory Council (EAC), 2013-2015  
Lehigh Valley Planning Commission, 2004-2008. Committee membership: Transportation Committee

### **SELECTED MUHLENBERG COLLEGE SERVICE**

Provost Search Committee (2020)  
Social Judicial Board (2018-2021)  
Mellon Grant International Faculty Seminar (Costa Rica) Leader (2015-2016)  
Director of RJ Fellows Honors Program (2016-present)  
Director of Sustainability Studies (2009-present)  
Co-director of the Office of Campus Sustainability (2010-present)  
President's Committee on Sustainability – Co-Chair (2003-present)  
Appeals Committee – (2011-2015)  
Campus Tree Committee (1997-present)  
Building Executive Committee (2004-2007)  
Science Building Architect Selection Committee (2004)  
Chair of Biology Department (2004-2010)  
Presidential Search Committee – Selected by the Faculty (2002-2003)  
Faculty Evaluation Committee (1999-2003)  
Representative to the Board of Trustees (2001-2003)  
Faculty Center for Teaching Advisory Board (1995-2000, Founding member)  
Arboretum Advisory Committee (1993-present, chair)  
Greenhouse and College Herbarium Manager (Continuing)  
MILA Assessment Workshop Leader (2015-2016)  
Mellon Grant International Faculty Seminar (Costa Rica) Leader (2015-2016)