

Jess Rubin

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Profile

Restoration Ecologist with 18 years of service as a researcher, practitioner, writer, and educator for schools, organizations, residents, farms, and urban communities. Offers student centered, inquiry-based education through facilitating active participation in the learning process amidst field, classroom, and lab contexts. Seasoned mentor offering careful, guiding support to mentees and students. Researcher collaborates with diverse teams in scientific and sociological fields sharing interdisciplinary intersections regarding equity, justice, and reconciliation.

Relevant Earthworks, Research Work Experience

UVM PSS Myco-Phytoremediation Research Technician | Burlington, VT | 2021- Present

- Write guide Myco-phytoremediation research projects on local farms, design, gather, analyze data, teach, write reports & publication, train interns, collaborate with Abenaki

Founder & Creative Director of MycoEvolve | Burlington, VT | 2016 – Present

- Design, Install, Maintain habitat revitalizing & watershed restoration green infrastructure (mycofiltering, pollinator habitat, forest gardening, rain gardens), offer corresponding education, Myco-phytoremediation research projects on local farms, design, gather, analyze, write; (DBA of Roots & TrailsL3C which started as Teshuvah Roots resilience service in 2010)

VT Mycolab (community branch of MycoEvolve) Founder & facilitator | Burlington, VT | 2017- Present

- Guide remediation, restoration research projects with accompanying educational opportunities on local farms and urban wilds with socio-ecological reconciliation lens rooted in fungal literacy

Co Leader & Curriculum Coordinator of Burlington Permaculture | Burlington, VT | 2017 |

- Organize, coordinate, facilitate educational workshops: seed saving, ecological economics, agroforestry, urban gardening, Abenaki land practices pre-permaculture

UVM BioLab Research Technician | Burlington, VT | 2017

- Researched ecological systems; gathered data, analyzed, wrote letters to farmers & articles for publication, outreach of findings, presented at international conference & local towns

Corridor Monitor Green Mountain Club | Waterbury, VT | 2010 - 12

- Monitor, maintain, record, report boundaries, health/condition of wilderness area, create species inventory.

Volunteer Field Research Assistant for Trophic Aspen Cascade Project | Waterton, BC Canada | 2007

- Gather quantitative data on mammal activity, wrote a plant inventory on wildflowers, recorded changed phenology from previous guides

Green Mountain Club Wilderness Caregiver | Peru, VT | 2006

- Educated hikers on AT while collecting fees & maintaining: trails, shelters, outhouses, campsites

Dilmun Hill Student Farm Co-Manager, Cornell University | Ithaca, NY | 1998

- Wrote & received grant, planned, planted, maintained, coordinated inner city garden & farm stand, guided volunteers, harvested, distributed, recorded, researched, mentored, watered, organized, set up systems, brought in permaculture & biodynamic principles & practices

Landscaper, gardener, farmer | NY, BC, CA, NM, NH, MA, VT | 1996 – 2021

- Woofing across BC & Mexico, CSA biodynamic & family animal powered farms, permaculture & market gardens: seed saving, pruning, compost, planting, mulching, weeding, harvesting, transplanting (Annie’s Garden Center, Littlewood, Riverside, Elmore Roots, East Hill Tree, Intervale Conservation Nursery, High Mowing, Pioneer Landscaping, Earthly Mirth, Walking Onion, Montpelier & Burlington Community Gardens, Dreaming Mountain, Perennial Pleasures)

Temple Wilton Biodynamic farm apprentice | Wilton, NH | 1996

- Planted, weeded, transplanted, harvested, farm stand tended, made & applied biodynamic preparations; studied and applied Rudolf Steiner’s work and biodynamic calendar.

Relevant Teaching Experience

Waterways Playwright and Educator | Burlington, VT | 2024 - 2025

- Write plays about the watershed, nature awareness, botany, mycology, earth and environmental science. Teach classes in camps and schools around VT with corresponding curriculum.

Restoration Ecology Educator | NY, MA, VT | 2017-2025

- Present on environmental science, mycology, botany, soil & forest health, mycoremediation, endangered/threatened plants, regenerative gardening, pollinator habitat, permaculture, ethically rewilding, decolonization; facilitate workshops on ecologically sound nonnative species removal, restoration & remediation design, facilitate community science inventory: Transition Town, BTV Permaculture, Permaculture Action Network, NOFA VT, Yestermorrow, Whole Systems Design, VT Healthy Soils Coalition, New Moon Mycology Summit, BTV City & Lakes, CVU, Burlington High School, NE Grassroots Environmental Fund, Spoonful Herbals, Women Business Owners Network, BTV Conservation Commission, Americorps, EcoCorps, VT Housing & Conservation Board

Guest Lecturer | UVM, St. Michael’s College | Burlington & Winooski, VT | 2018- Present

- Design curriculum, teach classes, guide students in projects involving restoration, remediation, permaculture, environmental justice UVM: PSS 259 Soil Water Pollution Remediation, PBIOL311 Field Naturalists, CDAE 395 Reclaiming the Commons, Local Environmental Action SWSS 1990’ St Michael’s: ES 201 Environmental Research & Methods, ES 261, GIS, ES

Science Teacher for VT Youth Build Resource | Burlington, VT | 2022-2023

- Offer active, hands-on curriculum weaving chemistry, earth science, biology, mycology, and botany into ecological restoration training and skill building projects

MycoEvolve’s Earth Repair Homeschool | Chittenden County | VT 2022-3

- Offer middle and high school programs integrating common core standards in inquiry-based, student-centered, place-based curriculum amidst local ecosystem contexts

TA: Fundamentals of Soil Science, Exploring Biology (BCOR) | UVM | Burlington, VT | 2020

- Facilitate labs, provide lectures, grade assignments, offer help

Middle and High School VT Science Teacher | Lyndon Town School, Pacem, Harwood Union, U32, Essex Technical Center, Colchester High School, VT | 2012-2019 (Licensed, full time)

- Designed curriculum, taught, graded, advised, ran after school groups, supported service learning

Adjunct Environmental Studies Instructor | Community College of VT | St. Johnsbury, St. Albans, Montpelier VT | 2014 – 16

- Taught Introduction to Chemistry, Natural History of VT, Earth Science, Environmental Science

Conservation Biology Teaching Assistant| Antioch New England| Keene, NH| 2011

- Designed/ facilitated quantitative labs, created rubrics, facilitated discussions, assessed work

Wilderness Crew Leader| Vermont Youth Conservation Corps| Richmond, VT| 2008

- Co-led two college wilderness crews; provided job training, supervisory feedback, nature awareness and trail building skills, support after-season crew in eco construction

Permaculture & Outdoor Instructor| Kroka, Marlowe, NH| 2008, 2012

- Co-instructed mini-permaculture course involving polyculture plantings rewilding a pond within earth science curriculum, 'Introduction to Adventure' & 'Grandfather's Camp'

Head Outdoor Instructor| Lamoille County Nature Center| Morrisville VT| 2009 – 17

- Design, instruct, facilitate girls' wilderness skills program: 'Girls from the Ground Up'

EarthCrafts Instructor| Orchard Valley Waldorf School| East Montpelier, VT| 2007-10

- Coordinated/taught environmental education program 3-8 grade: botany, permaculture gardening, nature awareness, ecological restoration, and primitive skills

Outdoor Mentor| Twinfield Public School via Earthwalk| Plainfield VT| 2007-8

- Co-design and instruct 4th grade outdoor education school program and Co-instruct summer camp program with nature awareness principles & practices

Mountain Class Instructor| Appalachian Mountain Club| Gorham NH| 2006-7

- Guide school groups on day hikes & hut trips while providing science: mountain ecology, geology, weather, tracking & wilderness awareness curriculum

Education Towards A Degree

M. S. (Ecological Landscape Design Concentration)| UVM PSS Department| Burlington, VT| 2022

M. S. Teacher Certifications| Antioch NE| Keene, NH| 2012

B.A. Eco-Literature; American Indian Studies Minor| Cornell University| Ithaca, NY|1998

Other Relevant Education

Applied Soil Microbiology: Mycorrhizae| University of FL Institute Food & Agricultural Science| 2022

Watershed Science And Management| Antioch New England, Keene, NH| 2018

Advanced Mycoremediation Course| White Pine Community Farm, Wingdale, NY| 2018|

Adirondack Field Mycology| Paul Smith College, Paul Smith, NY| 2018

Mycology Cultivation Course| May Day Space, Brooklyn, VT| 2017

Agroforestry Intensive| Valley Clay Plain Forest Farm, New Haven, VT| 2017

Burlington Master Naturalist Training| Burlington Parks & Recreation, Burlington, VT| 2017

Permaculture Educator Certification| Educational Ecosystems Garden Institute, La Vergne; TN| 2013

Permaculture Design Certification| Winooski Permaculture; Plainfield, VT| 2009

Kamana Level 1, 2, 3, Naturalist Training| Wilderness Awareness School| Duvall, WA| 2009

Science & Art of Herbal Medicine| Sage Mountain Herbal Center| Barre, VT| 2000

Research Funding & Experience

Lake Champlain Basin Program, Myco-Phytoremediation in Multi-Functional Riparian Forest Buffers: Restoration, Education, Training, and Rematriation| Shelburne, VT| 2024-2026

- (\$174,977) - triple size of original proof-of-concept study with endemic mycorrhizae grown from farm forest, with more native plants relevant to VT Abenaki, collaborate with Eco repair crews

Lake Champlain Basin Program, Healthy Ecosystems Grant| Shelburne, VT|2022-2024

- (\$25,000) - continue our long-term study monitoring through data gathering, analysis, writing

SARE Partnership Grant, Mycorrhizal Banks to Enhance Vegetable Yield and Reduce Water Quality Impairment by mitigating excessive soil phosphorus| Intervale, Burlington, VT| 2021-222

- (\$30,000) - design, implement, gather data, analyze, report

Lintilhac Foundation Grant, Myco-Phytoremediation for Water Quality, Trophic Resilience| Shelburne, VT| 2021-2022

- (\$5000, \$7000) monitor, maintain long-term restoration pilot of degraded waterway, gather data, microscopy, analyze, train interns, work with Abenaki in extending our research plots into harvest ways to facilitate rematriation of their ancestral lands, report

James W. Marvin Science Award in Science & Conservation, Myco-Phytoremediation Pilot| UVM College of Agriculture & Life Sciences| Burlington, VT| 2020-2021

- (\$5000) train interns, maintain & monitor research plots, expand data sets, analyze, report

Gund Institute for the Environment Enrichment Funds| UVM Burlington, VT| 2020-2021

- (\$750) - analyze data, write, publish

SARE Partnership Grant, Mycoremediation of Phosphorus in Agricultural Runoff using Mycorrhizal-Plant Associations| Shelburne Farms, Shelburne VT| 2019-2021

- (\$29981); locate critical source area, design, implement restoration, gather data, analyze

Mycoremediation Pilot in Impaired Waterways| Project Director, MycoEvolve & Town of Colchester; Colchester, VT| 2019-2020

- (\$25,000) - grow mycelium, create team, design pilot, inoculate substrates, implement, gather data, support data analysis, report

Mycoremediation Strategies for Watershed Restoration| Project Director, EPSCOR BREE; UVM & MycoEvolve| Burlington, VT| 2018

- (\$10,000) - grant writing, co design study, field and lab research, poster create, report & article writing, present findings

NE Grassroots Environmental Fund Seed & Grow Grants| Charlotte & Burlington VT| 2017-23

- (\$750, \$2625, \$500, \$3060, \$4000) - build & activate community fungi lab, host workshops to grow fungal literacy, design & begin superfund site remediation research, conservation efforts through community science inventory, ecological restoration workshops & Abenaki collaboration

Ben & Jerry's Community Action Award for VT Myconode-Mycolab | VT|2017

- (\$1800) build & activate community fungi lab

Ben & Jerry's Community Action Award for United Plant Savers | East Montpelier VT| 2008-9

- (\$2000) create sanctuary, trail, curriculum

Relevant Presentations

Fungi of VT w/ VTFSAG|Forest Ecosystem Monitoring Conference| November 2025| UVM, Burlington VT

Restoring Degraded Riparian Forested Buffers into Multi-Functional Habitats for Socio-Ecological Resilience| Pollinator Working Group 3rd Annual Meeting, Forest Ecosystem Monitoring Conference, UVM ALE Department, VT Mycology Society| October & November 2025| Burlington, VT.

Myco-Phytoremediation in Multi-Functional Riparian Forest Buffers: Restoration, Education, Training, and Rematriation| July 2024 – July, 2025| Shelburne Farms, Shelburne VT; UVM ALE Department, Burlington, VT; Eagle Hill NE Natural History Conference| Springfield, MA| NOFA VT

Working with Mycorrhizae on Local Farms| North Branch Nature Center| 2023| Montpelier, VT.

Growing Endemic Mycorrhizal Fungi with Regenerative Farms, NOFA VT Winter Conference, February 2023| Burlington, VT

Underground Communication of Trees, Mycology & Ecological Restoration. Academy for Jewish Religion| April 5, 2022| Burlington VT and Manhattan NY

Mycoremediation Strategies for Watershed Restoration. UVM PSS 269 Soil Water Pollution, Remediation| April 2, 2022| Burlington, VT.

Research on the Role of Mycorrhizae in Riparian Forest Restoration Regarding Phosphorus Mitigation and Pollinator Habitat| Riparian Practitioner Conference| March 30, 2022| Burlington VT

Exploring Mycorrhizae in Riparian Restoration to Enhance Phosphorus Mitigation and Pollinator Habitat to Enhance Phosphorus Mitigation and Pollinator Habitat on Unceded Territory| UVM Plant Soil Science Department Seminar| March 25, 2022| Burlington VT.

Myco-Phytoremediation Strategies for Water Quality and Pollinator Habitat| VT NOFA Winter Conference| February 3, 2022| Burlington, VT

Investigating Role of Fungi in Soil Health| VT Healthy Soil Coalition Climate Change Series| March 27, 2019| White River Junction, VT

Mycology, Ecology, Cultivation, Application in Trophic Health| Whole Systems Design PDC| July 15, 2019| Rochester, VT

Current Mycoremediation Research in VT| Transition Town| February 25, 2019| Jericho, VT

Partner with Fungi to Support Ecosystem Health| MycoEvolve| May 27, 2019| Burlington, VT

Mycoremediation for Watershed Restoration| Society for Ecological Restoration Conference| October 11, 2018| New Haven, CT|(represented research team: Rubin J., J. Gorres, A. Ghalehbolabbehbahani, S. Van Hook, H. Huber, T. Berg, & A. Dorr)

Effects of Exotic Earthworms on Maple Forests in Northeastern States. NAMSC – ISMI Annual Meeting & Maple Conference| October 25, 2017| Quebec, Canada| (represented research team: Rubin J, Gorres, J, Parker, B. Skinner, M. Ghalehgholabbehbahani, A.)

Peer -Reviewed Publications

Rubin, J., McGranaghan, C., Kolba, L., Görres, J., 2024. Restoring a Degraded Riparian Forested Buffer While Balancing Phosphorus Remediation, Biodiversity, and Indigenous Land Access. *Sustainability* 16, 3366. doi:10.3390/su16083366

Ohlsen .E. *The Regenerative Landscaper: Design and Build Landscapes that Repair the Environment*. iX. *Restore the Wild*. Ch 52. *Stewards of the Earth; Case Study: Mycoremediation*. Santa Fe, NM: Synergetic Press 2023.

Rubin, J. A., & Görres, J. H. (2022). Effects of mycorrhizae, plants, and soils on phosphorus leaching and plant uptake: Lessons learned from a mesocosm study. *Plants, People, Planet*, 4(4), 403–415. <https://doi.org/10.1002/ppp3.10263>

Rubin, J.A., Görres, J.H., 2022. The effects of mycorrhizae on phosphorus mitigation and pollinator habitat restoration within riparian buffers on unceded land. *Restoration Ecology*, e13671. doi:10.1111/rec.13671

Rubin, J.A.; Görres, J.H. Potential for Mycorrhizae-Assisted Phytoremediation of Phosphorus for Improved Water Quality. *Int. J. Environ. Res. Public Health* 2021, 18, 7. <https://doi.org/10.3390/ijerph18010007>

Rubin, J. 2020. “Mycelial Musings” *Our Basin of Relations; The Art & Science of Living with Water*. Edited by Trevien Stanger, Clean Water Advocates INC, 2020,136-138.

Relevant Awards and Honors

- **James W. Marvin Science Award in Science & Conservation** | Burlington, VT| 2021
 - **University of Vermont Graduate Gund Fellow** | Burlington, VT| 2019
 - **Greenfield Community College Outdoor Leadership Program Dean’s List** | Greenfield, MA| 2005
 - **Cornell University Dean's List & Cum Laude** | Ithaca, NY| 1998
 - **Robinson-Appel Humanitarian Award** | Ithaca, NY| 1998
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Related Additional Skills

Mentoring: +20 yrs wilderness guiding, teaching earth living skills, offering natural history interpretation, leading nature camps, leading & recording ecosystem/habitat inventories

Collaboration: +22 yrs co-creating community networks: member of Dawnland decolonization group, co-facilitated Winooski Permaculture Collective, supports various Earth First & conservation actions

Regenerative earthworks: +22 yrs design, implement, maintain, monitor permaculture & agroforestry gardens, compost systems, endangered plant sanctuaries with corresponding curriculum, gather baseline inventory & apply to design in various contexts

Writing: +18 yrs writing, editing, and publishing poetry, songs, plays, blog posts, essays, curriculum, reports, letters to the editor, zines, peer-reviewed journal articles

Related Volunteer Work

Leadership Team Member | VT Fungal Scientific Advisory Council | 2022 – Present | Burlington, VT

Steering Council Member | Friends of the Barge Canal | 2022 | Burlington, VT

Wildlands Corridor Monitor | Green Mountain Club | 2010-2011 | Johnson, VT

Volunteer Research Assistant | Aspen Trophic Cascade Project | 2007 | MT- Alberta, BC

Relevant Professional Organizations

North American Mycology Association | Member, 2025

New England Botanical Society | Member, 2022 - Present

Society for Ecological Restoration | Member, 2017 - Present

NOFA VT | Member, 2009 - Present

United Plant Savers | Member, 2007 - Present

Green Mountain Club | Member, 2006 - Present

Outreach

MycoEvolve website: www.mycoevolve.net

Research Gate Page: <https://www.researchgate.net/profile/Jessica-Rubin-2>

Linked In Page: <https://www.linkedin.com/in/jess-rubin-55538855/>