

## NATURAL RESOURCES

<http://www.uvm.edu/rsenr/>

### OVERVIEW

Graduate students in the Rubenstein School work closely with faculty who are dedicated to applied environmental research in service of society and have very active research programs. Faculty take an integrated approach to their research projects, work with other faculty teams in the School, and collaborate nationally and internationally with other researchers.

### DEGREES

Natural Resources AMP

Natural Resources M.S.

Natural Resources: Leadership for Sustainability M.P.S.

Natural Resources: Master of Environmental Law and Policy/Master of Science in Natural Resources (MELP/MSNR)

Natural Resources Ph.D.

Transdisciplinary Leadership and Creativity for Sustainability Ph.D.

### FACULTY

**Adair, Elizabeth Carol;** Associate Professor; Rubenstein School of Environment and Natural Resources; PHD, Colorado State University

**Aflitto, Nicholas;** Research Assistant Professor, Department of Natural Resources; PHD, Cornell University

**Bierman, Paul Robert;** Professor, Rubenstein School of Environment and Natural Resources; PHD, University of Washington

**Bowden, William Breck;** Professor Emeritus; Rubenstein School of Environment and Natural Resources; PHD, North Carolina State University Raleigh

**Brooks, Christopher;** Senior Lecturer, Department of Natural Resources; JD, Vermont Law School

**Chase, Lisa Cheryl;** Extension Professor and Associate Professor; Department of Ext - Programming and Faculty Support; PHD, Cornell University

**Coghill-Wemple, Beverley;** Professor, Department of Geography; PHD, Oregon State University

**Coleman, Kimberly;** Associate Professor, Department of Natural Resources; PHD Virginia Polytechnic Institute and State University

**D'Amato, Anthony;** Professor, Rubenstein School of Environment and Natural Resources; PHD, University of Massachusetts Amherst

**Danks, Cecilia Marie;** Associate Professor; Rubenstein School of Environment and Natural Resources; PHD, University of California Berkeley

**Dimov, Luben D.;** Senior Lecturer, Rubenstein School of Environment and Natural Resources; PHD, Louisiana State University

**Donovan, Therese M.;** Research Associate Professor; Rubenstein School of Environment and Natural Resources; PHD, University of Missouri Columbia

**Dupigny-Giroux, Lesley-Ann;** Professor, Department of Geography; PHD, McGill University

**Erickson, Jon;** Professor; Rubenstein School of Environmental and Natural Resources; PHD, Cornell University

**Farley, Joshua;** Professor, Department of Community Development and Applied Economics; PHD, Cornell University

**Fisher, Brendan;** Professor, Rubenstein School of Environment and Natural Resources; PHD, University of Vermont

**Galford, Gillian Laura;** Research Associate Professor; Rubenstein School of Environment and Natural Resources; PHD, Brown University

**Georgiou, Elena;** Adjunct Assistant Professor, Rubenstein School of Environment and Natural Resources; MA, City University of New York

**Gieder, Katherina;** Adjunct Assistant Professor, Rubenstein School of Environment and Natural Resources; PHD, Virginia Tech

**Ginger, Clare A.;** Professor Emeritus; Rubenstein School of Environment and Natural Resources; PHD, University of Michigan Ann Arbor

**Gould, Rachele;** Associate Professor, Rubenstein School of Environment and Natural Resources; PHD, Stanford University

**Grant, Evan H.;** Adjunct Associate Professor, Rubenstein School of Environmental and Natural Resources; PHD, University of Maryland, College Park

**Henderson, Mark J.;** Research Associate Professor, Rubenstein School of Environment and Natural Resources; PHD, College of William and Mary

**Hill, Jason M.;** Adjunct Assistant Professor, Rubenstein School of Environment and Natural Resources; PHD, Pennsylvania State University

**Hughes, Jeffrey Winston;** Professor Emeritus; Department of Plant Biology; PHD, Cornell University

**Ivakhiv, Adrian J.;** Professor Emeritus, Rubenstein School of Environment and Natural Resources; PHD, York University

**Jefferson, Anne;** Professor, Rubenstein School of Environment and Natural Resources; PHD, Oregon State University

**Kapil, Bhanu;** Adjunct Associate Professor, Rubenstein School of Environmental and Natural Resources; MA, SUNY Brockport

**Keeton, William Scott;** Professor, Rubenstein School of Environment and Natural Resources; PHD, University of Washington

**Kolan, Matthew Peter;** Senior Lecturer; Rubenstein School of Environment and Natural Resources; PHD, University of Vermont

**Kuentzel, Walter Frederick;** Professor Emeritus; Rubenstein School of Environment and Natural Resources; PHD, University of Wisconsin-Madison

**Lawson, Steven R.;** Adjunct Associate Professor; Rubenstein School of Environment and Natural Resources; PHD, University of Vermont

**Lloyd, John D.;** Adjunct Associate Professor, Rubenstein School of Environment and Natural Resources; PHD, University of Montana

**Marsden, J. Ellen;** Professor Emeritus; Rubenstein School of Environment and Natural Resources; PHD, Cornell University

**Mathews, Nancy;** Professor Emeritus and Dean Emeritus, Rubenstein School of Environment and Natural Resources; PHD, State University of New York College of Environmental Science & Forestry

**Mitchell, Brian;** Adjunct Assistant Professor; Rubenstein School of Environment and Natural Resources; PHD, University of California Berkeley

**Morales, Ana Melinda;** Associate Professor, Rubenstein School of Environment and Natural Resources; DPHIL, Iowa State University

**Mosher, Brittany;** Assistant Professor, Rubenstein School of Environment and Natural Resources, PHD, Colorado State University

**Murdoch, James D.;** Associate Professor; Rubenstein School of Environment and Natural Resources; DPHIL, University of Oxford

**Nelson, Ingrid L.;** Associate Professor, Department of Geography; PHD, University of Oregon

**Panikkar, Bindu;** Associate Professor, Rubenstein School of Environment and Natural Resources; PHD, Tufts University

**Parrish, Donna;** Professor Emeritus; Rubenstein School of Environment and Natural Resources; PHD, Ohio State University

**Perdrial, Nicholas;** Assistant Professor, Department of Geology; PHD, Université Louis Pasteur, Strasbourg, France

**Pinto, Sayra;** Adjunct Assistant Professor, Rubenstein School of Environmental and Natural Resources; PHD, The Union Institute and University

**Poleman, Walter Mallery;** Senior Lecturer; Rubenstein School of Environment and Natural Resources; MS, University of Vermont

**Pontius, Jennifer A.;** Senior Lecturer; Rubenstein School of Environment and Natural Resources; PHD, University of New Hampshire

**Renfrew, Rosalind Brent;** Adjunct Associate Professor, Rubenstein School of Environment and Natural Resources; PHD, University of Wisconsin - Madison

**Ricketts, Taylor H.;** Professor; Rubenstein School of Environment and Natural Resources; PHD, Stanford University

**Rodriguez-Cabal, Mariano;** Research Assistant Professor, Rubenstein School of Environmental and Natural Resources; PHD, University of Tennessee

**Roman, Joe;** Non-salaried faculty; Rubenstein School of Environment and Natural Resources; PHD, Harvard University

**Roy, Eric;** Associate Professor, Rubenstein School of Environment and Natural Resources; PHD, Louisiana State University

**Schaberg, Paul ;** Adjunct Associate Professor; Rubenstein School of Environment and Natural Resources; PHD, University of Vermont

**Schattman, Rachel E.;** Rubenstein School of Environment and Natural Resources; PHD, University of Vermont

**Schroth, Andrew W.;** Research Associate Professor, Department of Geology; PHD, Dartmouth College

**Stepenuck, Kristine F.;** Extension Associate Professor, Rubenstein School of Environment and Natural Resources, PHD; University of Wisconsin-Madison

**Stephens, Jennie;** Adjunct Associate Professor, Rubenstein School of Environment and Natural Resources; PHD, California Institute of Technology

**Stockwell, Jason Dana;** Professor, Rubenstein School of Environmental and Natural Resources; PHD, University of Toronto

**Stokowski, Patricia A.;** Professor; Rubenstein School of Environment and Natural Resources; PHD, University of Washington

**Strong, Allan Matthew;** Professor; Rubenstein School of Environment and Natural Resources; PHD, Tulane University

**Talley, Heather;** Adjunct Assistant Professor, Rubenstein School of Environmental and Natural Resources; PHD, Vanderbilt University

**Twery, Mark;** Adjunct Associate Professor, Rubenstein School of Environment and Natural Resources; PHD, Yale University

**Uddin, M. Salim;** Assistant Professor, Department of Natural Resources; PHD, University of Manitoba, Canada

**Vatovec, Christine M.;** Lecturer and Research Assistant Professor; Rubenstein School of Environment and Natural Resources; PHD, University of Wisconsin Madison

**Ve, Marie C.;** Research Assistant Professor, Rubenstein School of Environment and Natural Resources; EDD, University of Vermont

**Ventriss, Curtis L.;** Professor Emeritus, Rubenstein School of Environment and Natural Resources; PHD, University of Southern California

**Vivanco, Luis A.;** Professor, Department of Anthropology; PHD, Princeton University

**Wollenberg, Eva (Lini);** Research Professor, Rubenstein School of Environmental and Natural Resources; PHD, University of California, Berkeley

**Yamamoto, Britt;** Adjunct Associate Professor, Rubenstein School of Environment and Natural Resources; PHD, University of Washington Seattle

### Natural Resources Courses

#### NR 5450. Data Vis & Communication. 3 Credits.

Focuses on fundamentals and practice of data visualization and communication. Learn the ways humans use cognitive and perceptual abilities to comprehend information, best practices for creating compelling and effective data visualizations, and the many nuanced factors influencing the successful application of practices. Includes work with an existing research data set. Prerequisite: Graduate student or Instructor permission.

#### NR 5460. Geospatial Computation. 3 Credits.

Geospatial Computation is the study of general computational methods applied to spatial and spatiotemporal data for exploratory, confirmatory, descriptive or predictive analysis. Introduces foundational concepts applications in spatial data science within the context of GIS. Computational approaches in spatial simulation, exploratory data analysis, predictive analysis and geospatial data visualization. Prerequisite: Graduate student or Instructor permission.

#### NR 5990. Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

**NR 5993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NR 6060. Envisioning a Sust Future. 2 Credits.**

Seminar orienting Graduate students to RSENR and providing frameworks for collaborative leadership, whole systems thinking, and intercultural competency.

**NR 6070. Applied Ecol., Env. & Society. 2 Credits.**

Critically examines the process and ethics of science, including scientific reasoning, theory, hypotheses, and integration with experimental design, discovery, and ethics. Students will begin to form their professional networks and understand the historical and contemporary influences of professional networks on research and scholarship.

**NR 6110. Leadership for Sustainability. 3 Credits.**

Provides an experiential and theoretical orientation to foundational practices, principles, and skills of sustainability leadership with an emphasis on ecological/systems thinking, sustainability, and leadership.

**NR 6120. Power Privlge & Catalyz Change. 3 Credits.**

Focuses on leadership skills and systems frameworks for engaging with issues of diversity, power, and privilege and the implications of these topics on leaders' capacity. Designed to meet the Rubenstein School of Environment & Natural Resources graduate diversity requirement. Prerequisite: NR 6110.

**NR 6391. Master's Thesis Research. 1-18 Credits.**

Research for the Master's Thesis.

**NR 6392. Master's Project Research. 1-12 Credits.**

Research for the Master's Project.

**NR 6410. Ecological Economic Theory. 3 Credits.**

A transdisciplinary study of the economic system as embedded and interdependent on social institutions and environmental systems.

**NR 6420. Ecosystem Services. 3 Credits.**

Examines the economic and other benefits nature provides to people. Covers the ecological foundations of quantifying ecosystem services, the economics of valuing them, and the practical issues involved with putting them to work for conservation. Prerequisite: Instructor permission.

**NR 6430. Fndmntls of Geog Info Systems. 0 or 3 Credits.**

Concepts and methods in Geographic Information Systems (GIS) presented at an accelerated pace for Graduate students using ArcGIS software.

**NR 6520. Ecological Economics Practice. 3 Credits.**

An applied field course drawing from Ecological Economics theory and methods to help solve real-world problems at the interface among ecological, social, and economic systems.

**NR 6720. Transdisc Leadshp & Creatvty. 3 Credits.**

Explores the theoretical and practice-based fields and lineages associated with transdisciplinary leadership and creativity while providing a solid structural and relational grounding for students in the Transdisciplinary Leadership, Creativity & Sustainability Doctoral Program.

**NR 6730. Transdisc Mthds&Modes of Inqry. 3 Credits.**

Focuses on practices for engaging with inquiry, methods, and practice as students develop more clarity about the research questions, practices, structure, methods, and lineages that will inform their dissertation proposal and research.

**NR 6760. Graduate Teaching Practicum. 2 Credits.**

Natural Resource teaching practicum for Doctoral students in the Rubenstein School. Course is required if students are following the academic option. Should be taken concurrently or one semester in advance of completion of the doctoral teaching requirement. Prerequisite: Doctoral student.

**NR 6880. Ecological Leadership Seminar. 3 Credits.**

Explores emerging topics and themes related to the theory and practice of ecological leadership. Can be taken in successive semesters (up to two times), as learning module topics will change.

**NR 6890. Ecological Ldership Practicum. 3 Credits.**

An advanced exploration of ecological/systems thinking, sustainability, leadership skills, and leveraging change; offering students the opportunity to integrate these concepts and skills through an applied leadership practicum. Prerequisite: NR 6880.

**NR 6990. Special Topics. 1-18 Credits.**

Graduate topics and material that may eventually develop into a regular course offering.

**NR 6991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**NR 6993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NR 6995. Graduate Independent Research. 1-18 Credits.**

Graduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NR 7491. Doctoral Dissertation Research. 1-18 Credits.**

Research for the Doctoral Dissertation.

**NR 7740. Creative Practice & Dissertatn. 3 Credits.**

For Doctoral students nearing the end of dissertation research and beginning the integration, diffraction, synthesis, and meaning-making process essential to their dissertation. Provides structure, support and feedback in the creative act of crafting a dissertation. Prerequisites: NR 6720, NR 6730.

**NR 7990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**NR 7991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**NR 7995. Graduate Independent Research. 1-18 Credits.**

Graduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**Sustainability, Ecology and Policy Courses****SEP 5990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**SEP 6391. Master's Thesis Research. 1-18 Credits.**

Research for the Master's Thesis.

**SEP 6990. Special Topics. 1-18 Credits.**

Graduate topics and material that may eventually develop into a regular course offering.

**SEP 6991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**SEP 6995. Graduate Independent Research. 1-18 Credits.**

Graduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**SEP 7491. Doctoral Dissertation Research. 1-18 Credits.**

Research for the Doctoral Dissertation.

**SEP 7990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**SEP 7991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**SEP 7995. Graduate Independent Research. 1-18 Credits.**

Graduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.