

Paul David Bausemer

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Education

- Sustainability Studies, Bachelors of Arts at Colorado Mountain College. Steamboat Springs, CO. 80487 (Sept, 2016- May, 2021) GPA- 3.486
- Out-Door Education, Associates of Arts at Colorado Mountain College. Steamboat Springs, CO. 80487 (Sept, 2016- Dec, 2020) GPA- 3.398
- Fine Arts-Painting at San Diego State University. San Diego, CA. 92182 (Sep, 2011 – Dec, 2012) GPA- 2.5
- Liberal Arts at San Diego Mesa College. San Diego, CA. 92111 (Jan, 2010 – May, 2011) GPA- 2.84
- Liberal Arts at Quincy College. Quincy, MA. 02169 (Jan, 2007- Dec, 2009) GPA- 3.27

Honors, Awards & Scholarships

- President’s List Honors (Spring, 2021)
- Dean’s List Honors (Fall, 2019) (Spring, 2020) (Fall, 2020)
- IRS Scholarship- \$900 (Spring, 2020)
- CMC Scholarship Council- John Vickery Continuing Student Scholarship- \$1,200 (Spring, 2020)

Experiences

Research & Lab Experience

Lab Assistant

2021-Present

Department of Environmental Science, Emory University

Supervisor: Debjani Sihi

Key Responsibilities: Day to day job includes; Conducting multivariate analysis of data, Field studies with experimental manipulations, Compiling, ordering and organization of lab supplies, Lab equipment assembly & installation. Soil & plant matter biomass analysis using high efficiency oven, Deep freezer operation/inspection, GC/MS CO2 Injection analysis, Millipore UV Water Purification proficient, Scan Electron Microscopy, Lab Safety Certification (2021) EHOS, Bio Safety Certification (2021) EHOS, Emory Driving Consent Certification (2021), Emory Express/ P-Card Proficient (2021), Title IX certified (2021)

Teachers Assistant (TA)

Department of Environmental Science, Emory University

Supervisor: Debjani Sihi

Key Responsibilities include: Classroom set up and preparations. Provide students with office hours to help answer questions related to homework and quizzes. Grading of assignments, quizzes and tests. Taking attendance and recording class participation.

Compost Tea Brewer 2019-Present
Better Earth

Description: A business which I envisioned and founded.

Key responsibilities: Conceptualizing, designing and operation of new kinds of agricultural equipment, keeping food-scrap out of landfills and returning them to the soil where they belong by composting, brewing compositions of different recipes of compost tea, and application of final compost tea product. The impacts of these actions, conducted on a large scale, have the ability to dramatically reverse the effects of climate change.

Class Research Project Experiences

International Union for the Conservation of Nature Mock Presentation (IUCN) 2020
 Steamboat Springs, CO

Description: Class Project, Geospatial Mapping of proposed Protected Areas in Southeast Alaska's Tongas National Forest. Persuasion in the form of identifying and combining Areas of Use in combination with Protected Areas in order to conserve wildlife biology in the midst of new and widespread development. Examining/ evaluating the roles of key stakeholder species. Reporting estimated calculations.

Rita Valentine Park Permaculture Design Project. Steamboat Springs, CO. 2020
 Steamboat Spring, CO

Description: Permaculture design map drafting, construction, recording and reporting including: Base mapping, Sector mapping, Zone Mapping, Sun mapping, Plant guild design, Slope analysis water mapping, Master plan mapping, and Boundary mapping. Identify microclimates and opportunities to be implemented.

Colorado Yampa Valley Resilience Plan- Community Composting 2020
 Steamboat Springs, CO

Description: As a project for my Social Entrepreneurship Course at Colorado Mountain College, in which I provided a 125-gallon JORA compost tumbling bin for 44 apartments in the Main Street apartment complex. Also, collecting compost from local restaurants on a 3-day basis for 12 months.

Bottle Brick Project 2020-Present

Description: As a project for my Fostering Sustainable Behavior Course at Colorado Mountain College, I have not thrown away a shred of plastic in almost 2 years. Instead, I repurpose my plastic waste into what is known as "bottle bricks" for the purpose of sustainable building material. I currently have hundreds of bottle bricks, densely packed with plastic waste.

Farming Experiences

Farmer/Rancher 2012-2021

Key Responsibilities: Managing farming and ranching operations on a multitude of properties spanning the Western United States. Including non-certified organic farming, Ranch-hand work (horses), permaculture operations and design.

Research Internship Experience

Sustainability Research Internship

2021

Colorado Mountain College

Description: Analysis/ evaluation of isolated collections soil ecology samples before and after compost tea application (Data analysis). Experience in environmental research & communication (writing, editing, public speaking), analysis of environmental policy and governance (knowledge of environmental and sustainability background). And, hands-on field work in regenerative agriculture. (facilitation and ability to generate ideas), Improvement of Soil (physical, chemical and biological properties), Soil nutrient cycling, Compost composition (N,P,K), Air quality, River health and Terrestrial Ecosystems.

Out Door Education Internship

2019

Colorado Mountain College: Canyon Orientation Course

Description: GIS Wilderness Guide (Garmin- InReach), field supervision/critique of students during a 5-day backpacking trip in the backcountry canyons of Utah. Supplies budgeting/management, Photography, improvisational problem solving, Leadership, Plant Identification

Technical Skills and Interpersonal Skills

- Analytical Experience: Gas Chromatography, Gravity Spectrometry, Soil pH
- Data Visualization: Geospatial Mapping, systems diagrams, geospatial/ landscape design
- Communication: Written, oral, visual
- Quantitative Literacy: Data collection, experiment design, statistical analysis, data/database management, Microsoft Office Suites (Word, Excel, Power point)
- Community Engagement & Actions: Survey, interview, guide, service, learning, etc.

Selected Course Curricula Descriptions

Ecology & Sustainability

Explores the inter-relationships between organisms and their past, present, and future environments. Relationships include the physiological responses of individuals, the structure of populations, the interactions among species, the organization of biological communities, and the processing of energy and matter in ecosystems. Course addresses the biotic (living) and abiotic (non-living) factors that influence the distribution, abundance, and diversity of life on Earth.

Ecosystem function, health, and sustainability will be explored in the context of global change and human impacts on natural systems. Includes laboratory and field experiences.

Conservation Biology

Explores the science and practice of biological conservation with the goal of preserving Earth's biodiversity. Students will examine the causes of reduction in biodiversity from local to global scales, and investigate practical approaches to prevent the extinction of species, maintain genetic diversity within species, and protect and restore biological communities and their associated ecosystem functions. Conservation biology is an inter- and trans-disciplinary field that applies scientific knowledge to the process of conservation through strategies such as habitat restoration, wildlife conservation, adaptive management, and social/cultural change. This course also addresses diverse cultural approaches to conservation, including community-based natural resource management and non-western and/or indigenous approaches associated with traditional ecological knowledge. Includes laboratory and field experiences.

Soil Science

This course emphasizes soil physical, chemical, and biological properties in relation to plant growth, the environment, and the soil's place in our daily lives. The course is intended to introduce students to the importance of soils to humans and the environment through study of their morphology, physical and chemical properties, their distribution, and their biological significance.

Integrated Science of Sustainability

Draws upon and integrates knowledge from biological, physical, and social sciences to foster an interdisciplinary understanding of sustainability. Recognizes the relevance of scientific knowledge to sustainability as a process of social change and technological innovation. The course focuses on how diverse sciences inform sustainability initiatives, including non-western/indigenous science. Explores applied sustainability in inter- and transdisciplinary areas such as sustainability science research, urban/community planning, agro- and /or industrial ecology, and eco-design.

Biological Anthropology

Focuses on the study of the human species and related organisms, and examines principles of genetics, evolution, anatomy, classification, and ecology, including a survey of human variation and adaptation, living primate biology and behavior, and primate and human fossil evolutionary history.

Environmental Science W/ Lab

Introduces the basic concepts of ecology and the relationship between environmental problems and biological systems. This course includes interdisciplinary discussions on biology, chemistry, geology, energy, natural resources, pollution, and environmental protection. A holistic approach is used when analyzing how the foundations of natural sciences interconnect with the environment.

Basic Ecology

A natural science that focuses on physical physical and chemical processes of living organisms. A discipline which explores how organisms acquire and use energy and use energy to maintain homeostasis, how they reproduce, and how they interact with each other and their environment. Relying heavily on a chemistry foundation since living organisms are chemical systems.

Sustainability Capstone

Provides an opportunity to reflect upon, refine, and synthesize learning over time within the major. Students complete an undergraduate thesis project for which one or more methodological approach is chosen, articulated, and applied. Students learn to effectively apply research ethics, with particular focus on ethical treatment of human and non-human subjects. Through a balance of theory and practice, students weave together interdisciplinary thought, problem-solving, and appropriate research methodologies for their research endeavor. Students share their broad mastery of learning across the curriculum through sharing research findings with a broad audience.

Systems Thinking & Sustainability

Explores solutions to sustainability issues that often seem daunting because they are usually approached in a conventional problem-solving methodology (reductionism, analysis of individual parts). Systems thinking is an interdisciplinary approach to problem solving that emphasizes the interactions and connectedness of the different components and how they feedback and affect each other. Comprehension of how systems work, understanding systems thinking, and how to apply different systems models to sustainability problems.

Permaculture Design I

Introduces the central principles of permaculture, an approach to applied design aimed at increasing health, vitality, and resilience in human/nature systems. Focusing on basic agro-ecological design theory, comprehension and application of permaculture principles to plan and/or construct projects such as edible landscapes, gardens, compost systems, water saving and optimizing landscape features, and energy saving systems. This course is the first in a two-course sequence that comprises the Permaculture Design Certificate program.

Permaculture Design II

This course deepens and extensively applies understanding of permaculture principles and practices. Providing practical skills in building healthy and productive soils, water harvesting and water management for garden and landscape health, ecological pest control, and the development of beautiful, sustainable, and food-productive landscapes. The course is heavily project-based, calling upon students to design and implement advanced applications of permaculture principles in a culminating project. This course is the second in a two-course sequence that comprises the Permaculture Design Certificate program.

Ethnobotany

Tells the story of how cultures make use of plants in their local environment and ways to reverse the modern trend of environmental destruction and help close the widening gap between nature and man. Weekly lab includes making; salves, tinctures, extracts, essential oils and incense.

Careers & Professional Skills in Sustainability

Helps answer the question, "What are you going to do with a degree in Sustainability Studies?" by preparing students for initial employment, career advancement, or graduate education in the field of sustainability. Specifically, learning job skills- including interviewing, networking, resume and cover letter writing, and searching for employment locally, regionally, nationally, and abroad- for myriad sustainability career paths. Initiating a desirable post-graduation career or education pathway and will go through the process of applying for jobs and exploring graduate school programs. As a vehicle for highlighting professional abilities in the field, students develop and present professional sustainability portfolios- which culminate past coursework- with a particular employer or graduate program in mind.

Foundations of Sustainability

Introduces sustainability as a concept and practice. Explores the history and evolution of sustainability and examines key social, environmental, economic, and other factors that point to the need for sustainability-oriented social change. Provides a foundation to begin to evaluate sustainability in its social and historical context as a critical, paradigm shifting process. Introduction to issues related to overshoot and potential collapse of modern industrial societies such as pressing challenges to water, food, and energy systems. Also addresses innovative perspectives and practices related to increasing socio-ecological resilience such as ecological design, biomimicry, adaptive management, permaculture, sustainable business, and transition initiatives.

Leadership, Ethics, & Social Responsibility

Examines frameworks for effective and ethically grounded leadership and collective action through exploring contemporary social, humanitarian, business, economic, and/or sustainability issues. Through studying and interpreting interdisciplinary and cross-cultural texts, students examine question of ethics, meaning, purpose, power, and value. Readings are relevant to students from diverse majors. Development of leadership and collaborative potentials through engaging in applied research and/or project-based learning. Also drawing on inter- and trans-disciplinary course content to articulate conceptual and practical frameworks as emerging leaders in a complex world.

Cultural Place Based Equity

Focuses on how issues of culture and place relate to sustainability. Identify how sustainability involves relationships between people and places. A variety of global cultures, including those of nonwestern and/or indigenous societies, are considered in order to envision diverse perspectives on sustainability. Exploration and discussion of sustainability in terms of environmental health, justice, equity, and security. The course invites critical thinking and reflection and also challenges students to analyze the situations in which they live and participate.

Social Entrepreneurship

Provides an in-depth introduction to the concepts and practices of social entrepreneurship: the innovative use of entrepreneurial and market principles and practices to address environmental, economic, and social equity problems. Analysis and evaluation of social entrepreneurial initiatives in order to learn how to enhance social and natural capital using approaches drawn from social business, impact investment, microfinance, and eco-preneurial organizational

management, among others. Evaluating social innovation across diverse geographies and cultural settings, with a focus on leading exemplars in the Global South.

Microeconomics

Focuses on the consumer, the firm, the nature of cost, and how these relate to the economy as a whole. Analyzes economic models of the consumer, perfect competition, monopoly, oligopoly, and monopolistic competition. Explores economic issues including market power, population growth, positive and negative externalities, income distribution, poverty and welfare, discrimination, and international economic interdependence.

Wilderness and American Ethics

Presents historical and ethical views of the wilderness. Topics include the history of the wilderness movement and ways contemporary views of nature have shaped man's association with the wilderness.

Environmental Issues & Ethics

Focuses on special environmental problems, current issues, or trends. Traditional and environmental philosophies are discussed. Students debate various environmental issues.

Literature for Social Change

Interdisciplinary in nature, this course examines landmark texts that have shaped and are shaping sustainability thought and action. Texts are interpreted rhetorically within their historical, cultural, and political contexts in order to highlight their effects on policy, on conceptions of human relationships with the environment, and on social equity/justice. Texts are drawn from multiple genres that may include fiction, poetry, journalism, policy, nonfiction, scientific communication, public discourse, blogs, multimedia works, and film. Analysis of how and why particular texts have been/are highly influential within the growing body of sustainability thought. Voices emanating from diverse cultures globally are included.

Writing for Sustainability

Engages in analyzing diverse forms of sustainability-oriented writing aimed at communicating effectively to a broad range of audiences. Forms of writing addressed may include feature articles, narratives, editorials, essays, blogs, policies, creative nonfiction, and signs/public information used in displays; oral traditions may also be explored. Also, engages in reading and authoring communications designed to secure support for sustainability initiatives. Examples include letters and petitions as well as grant, research, and project proposals. To learn effective writing strategies, students analyze writing modes, techniques, and devices. Application of these elements into writing within a classroom peer review setting.

Fostering Sustainable Behavior

This course explores the roles of individuals, groups, and entire societies in fostering/inhibiting sustainable behaviors. Studies how changing individual worldviews and behaviors as well as altering pervasive social constructs are at the heart of sustainability work, and they explore diverse pathways for encouraging and implementing sustainability-oriented social change. Exploration of how a variety of perspectives from fields such as environmental sociology, ecological and conservation psychology, political ecology, and social ecology can contribute to

formulating appropriate personal and social responses to the sustainability crisis and to fostering sustainability-oriented social change.

Sustainable Economics

Presents an interdisciplinary approach to economics that includes concepts from ecology, physical science, and behavioral economics. Places traditional economic concepts within a foundation of sustainability by stressing the essential interconnections among the environment, economics, and social equity. Explores the limits of neoclassical economics to explain and predict economic phenomena and the failure of the mainstream economic approach to situate these phenomena sufficiently within biophysical and social equity contexts. Developing systemic and contextual understanding of economic theory and economic phenomena. This understanding forms a basis for seeking potential solutions to problems of unsustainability through a trans-disciplinary approach to economic changes.

Sustainable Business

Uses the triple bottom line sustainability framework to introduce in-depth principles and practices of sustainable business. Expanding on how sustainable businesses can serve as vehicles to pursue integrated approaches to restoring the environment, ensuring long-term economic profitability, and fostering social equity. In order to recognize and analyze the widespread potential for and challenges to application of sustainable business principles, exploring and evaluating contemporary sustainable business initiatives and successes.

Conferences and Workshops

- “Crop Rotations for Organic Vegetable Production” Workshop attended (Dec. 13, 2021) hosted by Daniel Parson, Emory University- Oxford College. Oxford, GA
- “Envision Sustainability 2021” Online Conference hosted by Colorado Mountain College (April 24, 2021) (Presenter): Presentation of my Capstone research project titled “Compost Tea as an Essential Mechanism in Global CO₂ Sequestration”. Soil/carbon dynamic estimation, mathematical models. Via Zoom/Microsoft Excel/ Microsoft PowerPoint.
- “2016 Symbiosis Festival’s Permaculture Action Network’ (September 18, 2016) (Presenter): Alongside Vandana Shiva regarding Nutrient management, Water management, Bioremediation, Regenerative agriculture in relationship to social justice.
- “Herbstalk Conference”, Boston, MA. (June, 6, 2015) (Attendee): A grassroots herbal event that host classes teaching people about plants, holistic health, wellness, forest succession, the science of herbalism and natural remedies.

Publications, Proposal and Reports

- **Bausemer, P** (2021) Report: Compost Tea as an Essential Regenerative Agricultural Mechanism in Global CO₂ Sequestration. *Colorado Mountain College, Steamboat Springs, CO.*
- **Bausemer, P** (2020) Compost Research and Education Foundation Grant Proposal for compost tea research including: Sustainable use of chemicals and materials in modern

agricultural practices, modification of compost tea soil improvement @\$4,000 (*not funded*)

Professional Affiliations and Certification

- ISSP (International Society for Sustainability Professionals) - Sustainability Excellence Associate (June 11, 2021) A credential which demonstrates an understanding of core sustainability concepts and best practices. Developed through global collaboration by sustainability practitioners. Designed with rigorous international standards in mind, these credentials provide third-party verification of competency in the profession. Credential ID: #101171
- Permaculture Design Certified through Colorado Mountain College (May, 2020). Supervisors: Tina Evan, Kelly Simmons
- Social and Behavioral Research Certified through CITI Program (Collaborative Institutional Training Initiative) (March, 2020) Credential ID: #41420891

Leadership and Volunteer Experience

- The Permaculture Action Network (2015-2021) A national network which organizes surrounding cultural events across the US. Providing incentives for stakeholders to participate in the planting of community gardens for disenfranchised neighborhoods facing issues with social justice. I have been working with the Permaculture Action Network since 2015 through the facilitation of workshops, community murals during Permaculture Action Events, providing necessary farming tools and the planting of community gardens.
- Elkstone Farm (USDA Certified Organic) (2018-2021) Steamboat Springs, CO. Planting, Monitoring, Maintaining, Harvesting, Cataloguing, Preparing, Packaging organic food crops.
- Yampa Valley Sustainability Council River Clean-Up (September 18, 2019) Steamboat Springs, CO. Community river clean-up of river banks along the Yampa River to enhance water security for communities, agriculture, and the natural environment in the Yampa Valley Watershed.
- Whittum Ranch (2017-2020) Steamboat Springs, CO. Ranch Hand (Caring for stable of horses) Fencing, Hay Stacking, Feeding, Grooming, Operation of ditch water management.

References

- Tina Evans, Ph.D. Professor of Sustainability Studies. tevans@coloradomtn.edu
 - John Saunders, Ph.D. Professor of Sustainability Studies. jsaunders@coloradomtn.edu
 - Nathan Stewart Ph.D. Professor of Sustainability Studies. nlstewart@coloradomtn.edu
 - Patrick Staib Ph.D. Professor of Sustainability Studies. pstaib@coloradomtn.edu
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