



COLORADO COLLEGE
Environmental
Studies Program



Newsletter

Spring 2022

The EV Program has been fortunate enough to provide unique and world-class opportunities to its students over the years, and these opportunities have helped us become a **topped-ranked program** that attracts increasing numbers of students to CC each year. With these increasing demands in mind, this issue will highlight and celebrate some of the programs made possible through the donations of our extended EV community, like the **Linnemann Lectures** and **EV Drone Program**, and talk with **EV alumni Colleen Orr '17** and **Ethan Watel '07** who have chosen to give back to the EV Program since graduating.



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Ecology and the Environment students in front of an old-growth Mahogany in Costa Rica (left); Senior Synthesis students take in the views at CC's Baca Campus (right)

30+ Years of Linnemann

Timothy Linnemann (Class of '91) was a Biology major at Colorado College, an outdoorsman, environmental activist, and a member of the EnAct student environmental group. The summer before his senior year, Tim tragically died on his way back to Colorado College. Tim's parents, Dr. Calvin and Patricia Linnemann, and his sister and brother, Cathy and Mark Linnemann, established the Timothy C. Linnemann Memorial Lecture on the Environment "in memory of Tim's lifelong interest in the environment and his love of Colorado College." This lecture is given each year in conjunction with Earth Week. Since 1991, the Environmental Studies Program has hosted 28 prominent leaders in the environmental field across more than 30 lectures. These lectures are accompanied by a private dinner for graduating seniors. Some notable lecturers include, but are far from limited to: Elizabeth Kolbert, Author of *The Sixth Extinction* and a journalist for the New Yorker magazine (2016); Winona LaDuke, Indigenous economist, activist, and author (1992, 2012); and Dr. Wes Jackson, Co-Founder of The Land Institute (2005).

A complete list of previous speakers can be found on the EV Website. If you are interested in watching any previous lectures, please reach out to the EV Administrative Assistant (sgelbman@coloradocollege.edu). Some lectures have been digitized and can be available for alumni upon request.

Over the years, the Linnemann family has continued to add generously to the fund, providing even more opportunities for EV students. Since 2015, the fund has expanded to provide a complementary "Linnemann Course" that builds off the themes of the year's lecture. In the Fall of 2021, the fund expanded to support "Linnemann Scholars," students conducting collaborative research with environmental studies program faculty on pressing current issues in environmental studies and science. We thank the Linnemanns for the incredible opportunities they have made available to EV students and the wider campus community!



Linnemann Lectures and Dinners from Elizabeth Kolbert (2016, top and bottom left), Dr. Wes Jackson (2005, top and bottom middle), and James Balog (2015, top and bottom right)

2022 Linnemann Speaker

Linnemann Lecture and Dinner: Tuesday April 26, Dr. Ivette Perfecto, the James E. Crowfoot Collegiate Professor of Environmental Justice at the University of Michigan.

Title: Agriculture and Food Systems at a Crossroad

Agriculture is moving in two opposite directions: 1) industrial agriculture which implies corporate consolidation, intensification, simplification, monocultures and large-scale; and 2) agroecology, which implies, diversification, complexity, and small scale. In this talk we will examine the impact of industrialized agriculture and food systems and the need to transform them. We will also examine examples of how that transformation is happening through the growing worldwide agroecological movement.

Dr. Perfecto is an agroecologist whose work centers around small-scale sustainable agriculture, biodiversity, and food sovereignty. Her work in Puerto Rico and Mexico has involved understanding complex ecosystem dynamics in coffee agroecosystems, with intentions of improving farmer livelihoods and informing better farming practices. She is the co-author of four books: *Breakfast of Biodiversity*, *Nature's Matrix: Linking Agriculture, Conservation and Food Sovereignty*, and *Coffee Agroecology*, and *Ecological Complexity and Agroecology*. She has over 100 published articles with over 20,000 citations.

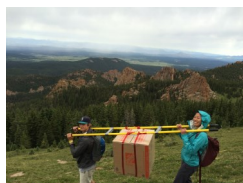


EV Drone Program

Dr. Miro Kummel Discusses How Donations Have Saved His Drone Projects

Since the introduction of drones to the EV Program in 2015, become an increasingly popular and beneficial resource for student research and courses. The program has been utilized for a wide variety of student projects and partnerships. For example, students heavily relied on drones for their research on the micro-climate (e.g. patterns of snow pack depth; temperatures & snowmelt; seedling establishment, survival & growth) and spatial structure of the Pikes Peak treeline, and more recently on the erosion of semi-arid ranchland and spatial structuring of grasses at Chico Basin Ranch. EV's Drone Program has also been critical for EV courses, as it allowed for remote site visits used for "virtual fieldtrips" during the COVID-19 pandemic. It played a key role in the Atmosphere-Biosphere course, where 25+ class projects partnered with local & regional farmers to address questions regarding crop health, changes in climate & micro-climate, heat transfer effects, and the movement of H₂O. The Drone Program has also led to beneficial collaborations across the CC campus, the Colorado Springs community, and internationally. On campus, it has contributed to projects on the heat effects of CC's astro-turf vs. natural grass on soccer fields, creating high-resolution maps of CC campus, and collaborating with Innovation @ CC on a drone building and remote sensing class. Beyond campus, the drones have been utilized in a partnership with startup company Spectrabotics to identify Ash Trees effected by the Emerald Ash Borer, as well as a partnership with the Applied Ecology Institute on a developing project on the spatial distribution of cyanobacteria in lakes in the Czech Republic.

From these various projects over the last 7 years, EV's Drone Program has produced 3 journal manuscripts in preparation with CC student co-authors, 6 student posters at international conferences, and 18 student theses.



EV Drone Program [cont.]

None of the aforementioned projects or outcomes would have been possible without the generous donations of our alumni. As Dr. Kummel describes: “The drones have frequently relied on the EV discretionary fund for maintenance and repairs. While that may not sound super exciting, without repairs and maintenance there would be no safe way to fly and hence no drone-based opportunities for the students. For example, one drone ‘Sparky’ once had an airborne collision that knocked out a motor and made landing very difficult. Luckily the drone was designed with a large number of redundancies -- it has 8 motors so the drone was still operable on 7 motors, preventing a catastrophic crash and irreparable damage. However, the drone still had to be repaired quickly because there were student thesis projects in the pipeline and we needed funds relatively quickly to repair Sparky so we can get the thesis data in --- the discretionary funds were essential then.”



The Drone Program is just one example of how alumni donations support student research and opportunities. From theses and gear to field trips and snacks, alumni donations provide students unique and exciting opportunities that sets CC's EV Program apart from other institutions.

Below are interviews with two of our graduates who have chosen to make regular donations to the EV Program. Thanks to all of you who have supported us!



Alumni Spotlights:

Checking in with Colleen Orr '17

What events in your life inspired you to pursue a degree in environmental science/studies?

I grew up in Louisville, Kentucky. I spent a lot of time playing outside and was always interested in the natural world. In elementary school, my science teacher helped cultivate my interest in the environment by allowing me to start a recycling program in the science classroom.

As I got older, I spent hours running in Louisville's amazing parks. It is one of the best parts of the city. In high school, I left Louisville to attend High Mountain Institute in Leadville, CO. I credit HMI for many decisions I've made in my life. HMI helped me build confidence, step out of my comfort zone and move away from home for the first time. The science class we took cemented my desire to study environmental science and put CC at the top of my list, given CC's similar ethos about experiential learning.

What was your most memorable experience from your time with the EV Program?

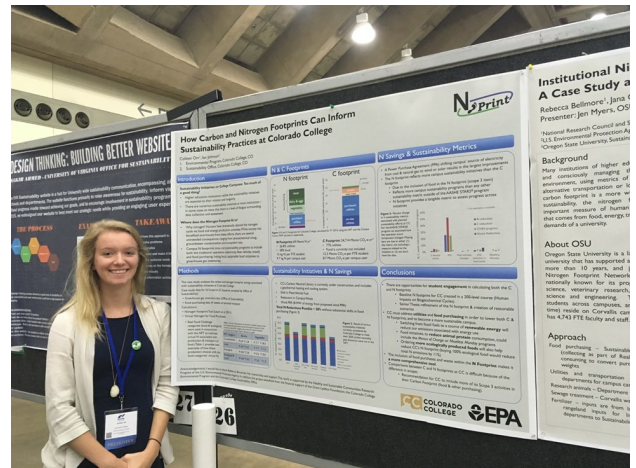
My work with Professor Becca Barnes on nitrogen calculation. It was a project for a class that I couldn't get out of my head. I wanted to continue the work and see how I could help CC in calculating its greenhouse gas footprint. Becca made it possible to take this idea and run with it.

I worked over the summer on this research, and it became the basis of my thesis on CC's Carbon and Nitrogen footprints. I presented a poster on the topic at the AASHE Conference and, with Becca and Jennifer Andrews from UNH, published the research in [Sustainability: The Journal of Record](#).

What have you been up to since CC?

I moved home for the summer, eager to find a job that married my interest in climate change and how we can move capital or policy to fix it. A few months later, I started at Terra Alpha Investments. It was a great introduction to the field of ESG investment. After that, I joined the Principles for Responsible Investment and have worked here for four years. I spend most of my time working on federal US financial policy, at the Securities and Exchange Commission (SEC) and the Department of Labor (DOL). I recently moved to Tucson, Arizona with my partner, and enrolled in the Evening MBA program at Eller College of Management at the University of Arizona this summer.

It's challenging to work and pursue my MBA at the same time, but CC's block plan helped me learn how to manage my time well and power through long classes. I love how I can apply what I learn in class on Tuesday nights to my work on Wednesday morning.



Colleen Orr '17 [cont.]

How did the EV Program shape your current environmental interests/profession, if at all?

Senior year, I was interested in corporate social responsibility and took International Politics of Energy and Climate Change with the (late) Andrew Price-Smith. I really enjoyed being able to apply environmental science knowledge from the EV Program in a policy setting. There was a whole world out there I didn't know about – ESG. APS connected me with a former student, Sarah Davidson, who works at the New York Green Bank. She sent job postings my way, including the one at Terra Alpha.

Why have you chosen to give to the EV Program since graduating?

I split my gifts to CC between the EV Program and financial aid. I give to the EV Program because I am so grateful for the professors and staff that invest so much in the students. Every bit helps to fund field trips, research projects AND the coffee and snacks necessary to fuel through 3 hours of lecture plus lab!



Colleen during move-in (2015, left) and when she returned to campus for SRI in the Rockies Conference (2019, right)



Alumni Spotlights:

Catching up with Ethan Watel '07

What events in your life inspired you to pursue a degree in environmental science/studies?

I grew up attending summer camp in northern Minnesota, connecting with nature through hiking, canoeing, and biking. In high school I was involved with an environmental club that was in charge of the recycling program and spreading general awareness of environmental issues. We did not have AP Env. Science at my school so I had no experience with the curriculum and I had not chosen a major before



coming to CC. I knew I wanted to be a science major but focusing purely on Biology, Physics, Geology or Chemistry did not speak to me. The small size (at the time!) and the interdisciplinary nature of the EV program and the field trips really drew me in. EV let me experience all the major sciences while also giving non-science classes as a balance.

What was your most memorable experience from your time with the EV Program?

In general I have to say that all the field trips and hands-on education were the highlight. The most memorable was the week spent in Summit, Eagle, and Lake Counties with Walt Hecox's Sustainable Development, getting to visit the molybdenum mine in a blizzard. The experiential nature of the EV program lets you learn not only facts but CC's sense of place and our connectivity with the landscape. I also would be remiss if I didn't mention Phil Kannan's memorable seminars.

What have you been up to since graduating from CC?

After graduating in 2007 Lauren (Bennett) and I moved to Bainbridge Island, Washington while she pursued an environmental education program and degree at IslandWood with a M.Ed. from the University of Washington. During this time I completed the online PostBac Certificate in Geographic Information Systems from Penn State. After two years in cloudy Washington we moved back to sunny Colorado and I started my Master of Urban and Regional Planning (MURP) degree at CU-Denver. I spent some time as an open space planner at Arapahoe County Open Spaces. Since 2012 I have been employed as a land use planner at Baseline, a civil engineering consulting firm in Golden, Colorado. I mainly manage applications for development projects such as rezonings, site plans, and annexations. Lauren I live in Denver with our two children Bennett (7) and Leigh (4) and dog Ralph.

Ethan Watel '07 [cont.]

How did the EV Program shape your current environmental interests/profession, if at all?

My interests in GIS were strong while I was in the EV Program (thank you, Eric Perramond and our trip to Taos mapping acequias) and I saw Urban Planning as a way to use GIS without being a GIS analyst or mapmaker. I didn't realize it at the time but Walt Hecox's Sustainable Development course was actually a crash course to the planning field and I often think about that class and its field trips as I work throughout Colorado. In my profession I do a fair amount of public speaking at community meetings and public hearings, something that CC definitely prepared me for.

Why have you chosen to give to the EV Program since graduating?

Lauren and I choose to give back to CC because we both cherished our experiences there, and particularly because I was the recipient of scholarship funds that allowed me to attend. I direct a portion of my annual giving directly to the EV Program in honor of all the great times my cohort had back in the day, and to help ensure the program lives on. We believe that every gift helps in some way, and we want to show our support and appreciation through designating some of our giving to EV.



Paraprof Updates

Introducing Frannie Nelson, the Paraprofessional for the '22-23 Academic Year

Where are you from?

Seattle, Washington

What are your research interests?

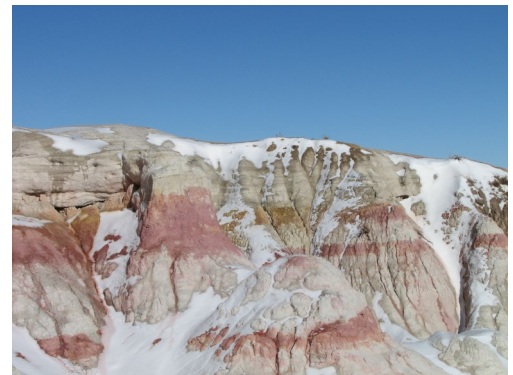
I am interested in landscape ecology, remote sensing and GIS analysis in combination with biology and natural resources!

What was your favorite moment/experience that you had with the EV Program as a student?

Doing night hikes in the rainforest in Costa Rica is pretty hard to beat. Little eyeballs everywhere leading to giant spiders, frogs and stick bugs among pitch blackness, cricket sounds, occasional flashes from lighting bugs and the smell of moist soil fostered a huge appreciation and fascination for the diverse ecology of the tropics. However, it wasn't just a cool moment, I was shown how and why lightning bugs create electricity, how spiders rebuild their webs every night, that stick bugs can spray toxins out of their heads, how frogs have recovered from aggressive international fungus-instigated depletion, or that the nutrients and rain sitting in the soil earlier that day had likely already been absorbed and recycled.

What about this position are you the most excited about?

To work with students and foster community in the EV department. Paraprofs in years past have always been very helpful yet fun and friendly so I'm hoping I can continue the legacy!



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