



Featured Stories



Alumni Spotlight: Class of 2018

Catching up with Danny Rodriguez '18, Julia Tarantino '18, and Delaney Tight '18

PLUS: a blast from the past with Hallie Harness '10

Feat. Class: Climate Change in the High Alpine

Professor Ulyana Horodyskyj reflects on Niwot Ridge, digging snow pits, operating underwater drones, and more!

Department Updates: New EV Faculty & Staff

CC welcomes Professor Mike Angstadt to the EV Program



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Course Listing 19-20

1st Semester Course Offerings:

Block 1:

- EV120: FYE (Tyler Cornelius)
- EV128: Introduction to Global Climate Change (Rebecca Barnes)
- EV255: Nature & Society (Susan Ashley)
- EV271: Environmental Law & Policy (Mike Angstadt)
- EV315: Atmosphere-Biosphere Interactions (Miro Kummel)
- EV321: Environmental Management (Eric Perramond)
- EV355: Environmental Economics (Mark Smith)



Block 2:

- EV120: FYE (Tyler Cornelius)
- EV212: Environmental Thermodynamics and Energetics (Lynne Gratz)
- EV265: Foundations of Environmental Education [TREE Semester] (Howard Drossman)
- EV260: Tree Rings, Environment, and Archaeology on the Front Range (Ronald Towner)
- EV341: Ecological Economics (Jean Lee)
- EV373: Public Policymaking (Elizabeth Coggins)



Block 3:

- EV120: FSA [Costa Rica] (Miro Kummel)
- EV128: Introduction to Global Climate Change (Lynne Gratz)
- EV145: Environment & Society (Corina McKendry)
- EV321: Environmental Management (Jean Lee)
- EV351: Hydrology (Rebecca Barnes)



1st Semester Course Offerings [cont.]:

Block 3 [cont.]:

EV365: Sustainability Education [TREE Semester] (Howard Drossman)

Block 4:

EV126/221: Environmental Inquiry [TREE Semester] (Howard Drossman)

EV128: Introduction to Global Climate Change (Ulyana Horodyskyj)

EV145: Environment & Society (Tyler Cornelius)

EV220: FSA Belize: Tropical Ecology 2— Lowland Forests and Coral Reefs (Miro Kummel)

EV272: Cities, Sustainability, and Environmental Justice (Corina McKendry)

EV281: Environmental Ethics (Philosophy Visitor)

EV374: Environmental Law & Policy for the Global Commons (Mike Angstadt)

2nd Semester Course Offerings:

Block 5:

EV128: Introduction to Global Climate Change (Miro Kummel)

EV260: Nature & Urbanization in the Front Range (Corina McKendry)

EV271: Environmental Law & Policy (Mike Angstadt)

EV333: Atmospheric Dynamics (Lynne Gratz)

Block 6:

EV128: Introduction to Global Climate Change (Rebecca Barnes, Alan Townsend)

EV145: Environment & Society (Jean Lee)

EV309: Population Dynamics (Miro Kummel)

EV320: Landscape Ecology (Charlotte Gabrielsen)

EV391: Junior Research Seminar (Eric Perramond)

Block 7:

EV128: Introduction to Global Climate Change (Shane Burns)

EV145: Environment & Society (Susan Ashley)

EV209: Ecology and the Environment (Marc Snyder)



2nd Semester Course Offerings [cont.]:

Block 7 [cont.]:

- EV212: Environmental Thermodynamics and Energetics (Lynne Gratz)
- EV273: American Environmental History (Amy Kohout)
- EV276: Environmental Sociology (Wade Roberts)
- EV285: Introduction to Literature & the Environment (Sylvan Goldberg)
- EV375: Community Forestry (Jean Lee)
- EV421: Environmental Synthesis (Rebecca Barnes, Mike Angstadt)

Block 8:

- EV128: Introduction to Global Climate Change (Charlotte Gabrielsen)
- EV145: Environment & Society (Corina McKendry)
- EV209: Ecology & the Environment (Miro Kummel)
- EV281: Environmental Ethics (Philosophy Visitor)
- EV431: Atmospheric Chemistry (Lynne Gratz)

the 2019 Timothy C. Linnemann Memorial Lecture on the Environment



“

*Climate change and sustainable development:
how can we limit **global warming**,
reduce **climate risks**, and achieve global
goals for **development**?*

”



**Dr. Diana
Liverman**

Thursday, April 25, 2019 ~ 6pm

Celeste Theatre, Edith Kinney Gaylord Cornerstone Arts Center



Linnemann Lecture 2020



Michael Shellenberger to deliver speech

Michael Shellenberger is an “eco-pragmatist,” author of *Break Through* and *The Death of Environmentalism*, and founder of The Breakthrough Institute and Environmental Progress. He is a pro-nuclear environmentalist, and has been an environmental and social justice advocate for over 25 years. He was featured in “Pandora’s Promise”, has given a TEDx talk, and was named one of Time Magazine’s “Heroes of the Environment” in 2008.



Alumni Spotlight

“Cloud Wizard” Danny Rodriguez ‘18 reflects on CC, environmental issues

Were there any moments in your life that spurred you to go into the environmental field? Where did your involvement/care for the environment begin?

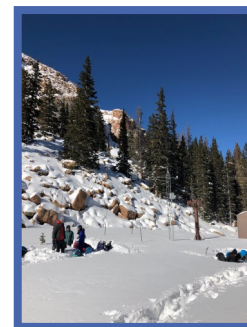
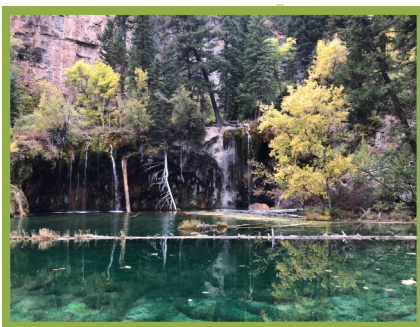
I live very close to Great Falls Park in Northern Virginia, and I spent a lot of time around the park during middle and high school. My love for nature probably began somewhere on those trails, or near the crashing white water of the Falls themselves. I applied that love of nature towards studying the effects humans have on our atmosphere as the most pressing environmental issue we face.

I was lucky enough to take several influential classes in high school that motivated me to dive into environmental science. One class was an Environmental History and Philosophy class that covered everything from Jared Diamond’s “Collapse” about how societies choose to succeed or fail to Krakauer’s “Into the Wild”. While this class focused heavily on how we can make better decisions for the environment, it reminded me of a love for great wild places that I never realized I had all along. The second class was a Subtropical Ecology summer course in Southwest Florida. We spent four weeks on Sanibel Island and two weeks on Pigeon Key (an island set aside for educational pursuits). It was on this trip that I blindly stumbled into the world of atmospheric science. I decided to write my final project on “Observational Meteorology” because I wanted to do a project that I could do while adventuring outside all day. Little did I know that this first foray into “cloud reading” would land me the titles of “Cloud Wizard” and “Atmospheric Chemist” later in life.

I wasn’t sure if I would be able to affect the most amount of change from studying atmospheric science. It wasn’t until I did an REU at the Colorado State Department of Atmospheric Science that I realized how important it is to conduct good science and, almost even more important, to be able to communicate that science to the masses.

What were you interested in as a student at CC? What led you to become an EV major? What else were you involved in? Did you do any research, or write a thesis?





Danny Rodriguez '18 [cont.]:

... On what?

I was interested in many things while a student at CC. I was very interested in all things chemistry, ecology, and atmospheric science related. Would often run out of meetings or class to go and watch a cumulonimbus cloud come thundering down Pikes. Outside of classes, I spent my time working for the Office of Sustainability, taking photos for the Office of Communications, climbing, skiing, or playing ultimate Frisbee. I also created a club called the Student Organization for Green Events (SOGREEN) that helped large on-campus student events make their events as eco-friendly as possible and wrote for the ENACT newsletter occasionally.

I spent any other free time I had exploring the amazing geography and topography of the Pikes Peak region. Many of the places that have defined me as an adventurer have been remote, frozen areas that are being heavily affected by climate change. I would love to be able to share these places with the next generation and all the ones to follow. Edward Abbey wrote, "My job is to save the wilderness. I don't know anything else worth saving. That's simple right?" I would like to also think that it's all of our jobs to protect those wild places.

My thesis was based on research I did during my research experience for undergrads (REU) program at CSU. I wrote it on the abundance of oxygenated volatile organic compounds (OVOCs) in the Northern Front Range of Colorado and tried to identify and quantify the sources of one of those OVOCs (methyl ethyl ketone).

Do you remember any field trips at CC?

Oh boy, yes I remember a lot of them. Honestly, field trips were one of my favorite parts about CC and I took as many field classes as I could. Some of my favorites were going to the Great Sand Dunes NP (check out the pics by Sharon's office if they're still there!) and consulting with the Blue Raven Farm during Miro's Atmo-Bio class, as well as any of the times I went to NCAR with Lynne's classes. I'm always in awe of the work they do up at NCAR.

What does your post-CC life look like thus far?

My post-CC life has been busy as usual. I have been continuing my research on OVOCs as well as exploring my creative side. I have taken the opportunity to pursue photography and filmmaking more seriously. I also work at a climbing gym and my local REI.

I was lucky enough to present my thesis research at the American Meteorological Society's 99th Annual Meeting last year in Austin, Texas. This conference (like most) was overwhelming but gave me an amazing look into work being done by other atmospheric scientists. I was able to meet up with many of the students from my summer research at an REU-nion, if you will. My photography and filmmaking career took me to Chile in September where I helped shoot a short ski



Danny Rodriguez '18 [cont.]:

film ("Wallmapu") for DPS Skis, Outdoor Research, Osprey Packs, and New Belgium Brewing. Pretty awesome experience!

For this current paper, I am continuing our investigation into OVOCs in the Northern Front Range. My thesis only focused on one compound, methyl ethyl ketone (MEK), but our dataset has a couple other OVOCs (acetone and acetaldehyde). I'm applying a similar metric I used in my thesis to the other species and digging into each compound to see if we can narrow down the sources of each. Previous literature has pointed towards secondary photochemistry as one of the largest sources of these OVOCs as well as light alkane emissions from oil and natural gas production. In the Northern Front Range, we have both of those but also some interesting meteorological and transport mechanisms. I'm still picking those details apart to see if we can nail down any one mechanism or transport regime. In my photography work, I'm hoping to shoot a project on a family of urban BASE jumpers this spring. Stay tuned!

What is your impression on the current status of environmental issues? Are you optimistic? Why?

I am always optimistic. The global political climate is starting to shift (albeit slowly) to reflect the importance of acting on climate change. External costs are being internalized. Politicians are running on solely environmental platforms. People are marching in the streets. If we become pessimistic we miss whatever the chance we have to act.

The most pressing issue is the amount of carbon we are putting into our atmosphere. We have drastically affected the carbon cycle by using huge amounts of fossil fuels. I also love to see the new work coming out about how to deal with plastics in our environment. I think plastics will become a much larger issue as we begin to learn the true effects of plastics in human bodies (e.g. acting as endocrine disruptors or hormone mimics).

Do you have any critiques of the environmental program? Any "thanks" you'd like to note?

I would love to have a larger emphasis on what we can do to fix the environmental problems we face. Many EV classes come across as doom and gloom because the environmental issues we face are daunting. The Environmental Management class I took with Phil Kannan highlighted the things we can do to fix those problems and it felt incredibly empowering to learn that knowledge.

Huge thanks to Lynne Gratz and Emily Fischer, at CSU, for all of their continued help on my research.



Julia Tarantino '18 talks eco-friendly investments

What were your predispositions toward environmental work, and how did they influence your ultimate choice to pursue such matters at CC?

One of life's greatest privileges is the opportunity to choose how you want to spend your time. The first class I took within the environmental department at CC made me feel I had that privilege.

On a personal level, my natural predisposition is to be inquisitive, adventurous, slightly skeptical, creative, and overly empathetic; I felt (and still feel) that my college major complimented these slightly erratic qualities fairly well. From Environmental Policy, to Geology, to Environmental Ethics,



Julia Tarantino '18 [cont.]:

to Biogeochemical Cycles, these topics appealed to different facets of my identity while allowing me to explore and understand the complex relationship between humans and nature.

Through the core EV curriculum, I learned how to demand environmental improvement through frameworks that require accountability and incentives, active management, top-down policies, and a forward-thinking approach. Notably, beyond these skills, my major allowed me to synthesize a vision of how to help shift our economy so that it is more aligned with our natural systems, through top-down systemic change.

The topic of environmental degradation can be rather pessimistic, but the EV program taught me that there is so much beauty in this world left to be saved and restored, and that it is possible. Personally and professionally, I hope to continue to dedicate my life to connecting natural and societal factors in a way that is equitable, hopeful, and sustainable. I hope that all the EV majors at CC feel empowered to achieve goals that transcend 'self': it is possible to do good while doing well.

What was your degree (specifically), and why did you choose it over others?

As someone interested in pre-law, nature, and ethics, I thought that the Environmental Policy major was the most holistic major at Colorado College. It exposed me to almost every department from economics to anthropology, which equip me with a framework embedded with diverse modes of problem-solving and critical-thinking (particularly focusing on the long-term and "sustainability").

What I most enjoyed about my major was being able to connect the dots between what I learned in the classroom to the natural landscape of Colorado—something only possible because of the block plan.



What were you interested in as a student at CC? What classes and teachers inspired you?

I played Division III lacrosse from my freshman to junior year. I also contributed to the news section of the Catalyst and was a member of EnAct. During my senior year, I did an internship at the Fine Arts Center that exposed me to museum operations and allowed me to conceptualize interactive initiatives that connected visitors to new exhibitions.

Miro's ecology field trips to Catamount enabled me to actually see species diversity and tree line migration, which was truly unreal. Every field trip I took for Geo as a sophomore was also eye-opening. Phil Kannon and Jean Lee helped me throughout my entire career at CC, and Marion Hordiquin's class on Environmental Ethics genuinely changed my perspective on life (we must align our ethical groundings with our actions).

What kind of work have you been involved in professionally since graduating from CC?

I am an ESG investing communicator who has worked with a team of finance professionals to extend our market reach by organizing and reframing macro and micro environmental data and investment trends into digestible communications. In my role as Communications Associate for Terra Alpha Investments, an investment firm managing a global equity portfolio, I was the lead curator and writer in the firm's external publications related to the advocacy, investor relations, and business development programs, which included quarterly newsletters, reporting on fund performance, press releases, monthly Environmental Productivity examples, and social media communications. I took the role as lead author on our research report surrounding forest health, which focused on pathways for investors and business leaders to mitigate forest related risk within their direct operations and supply chains (set to be released in April).

I represented Terra Alpha at nationwide conferences and networking events, liaising with investment managers and other financial market participants, and presented how the firm engages with companies to encourage adoption of natural resource efficiency practices and their disclosure on a CERES-hosted webinar. Collectively, these advocacy and outreach efforts have reached thousands of interested readers, investor prospects, and business leaders. Additionally, alongside senior team members based in different regional offices, I manage our CRM database to track and maintain current



Julia Tarantino '18 [cont.]:

and prospective investor information, take the lead in distributing mass emails to Terra Alpha constituents and clients, guide proxy voting, and maintain a library of PowerPoint decks and financial returns data related to our business development programs. These efforts, ranging in importance from micro to macro, have helped to keep the team organized and prepared to correspond with numerous stakeholders while ensuring that our advocacy and marketing materials were consistent across programs and offices.

Has your perspective on the environment shifted during your professional experience?

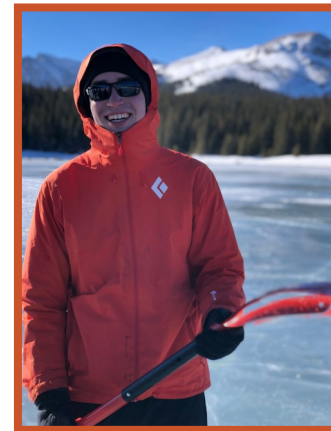
Yes, I have gained a lot of insight into the investment world and how we can leverage market actors to shift to a low-carbon economy. I have also learned how to integrate both quantitative environmental factors and qualitative environmental data into investment decision-making, how important natural-use efficiency is throughout company's value chains, and how the flows in equity can drive systemic change.

Do you enjoy your current job? Why or why not? What motivates you on a daily basis? What challenges you, and how do you reconcile your challenges?

It's challenging to sit at a desk most of the day and have long hours. What motivates me is that I have been able to advocate for changes that aren't confined to a desk. Integrating environmental data into investment decisions can have massive implications on our economy and future.

What are your short-term personal goals?

I am going to volunteer for the non-profit Citizens for Climate Lobby, so that I can practice more direct Environmental Policy-related work: something I've missed during my time out of school. I also plan to volunteer for DC Greens, an urban garden, this upcoming spring. *And* I'm planning on running a marathon within the next 2 years! (This upcoming April, I will be running the Cherry Blossom 10-mile with other CC alumni in DC—a small step in building up to the 24-miler).



Delaney Tight '18 discusses her PIFP opportunity, environmental non-profit work

How did you get involved in the environmental field? What made you want to continue this sort of work?

Not any super specific event – I was always exposed to the outdoors, from skiing to swimming to just hiking in the nearby hills growing up that I always had that attachment to nature. In high school, I started some "green" initiatives like recycling and battery drives. Once I got to CC, my passion for the environment kept bringing me back to understanding the natural world, how humans are affecting earth's cycles, and finding out more about the ways I can get involved in fighting climate change.



Delaney Tight '18 [cont.]:



Environmental advocacy and awareness always seemed like somewhat of a burden. Every action or way to engage in the environmental movement was an extra step that required more resources, time, and energy. Sorting through my trash to make sure I was recycling things correctly, biking places rather than driving, taking speedy showers, spending more money to buy sustainable products at the grocery store... each of these things required being more conscious and dedicating more time and resources to do. I think as I learned about the social injustices tied to the environmental movement that affect people's basic needs and rights, such as the relation to agriculture and air and water quality, it no longer seemed burdensome. Rather, it was an avenue where I could combine my

passion for nature and tackling social issues in environmental work.

What did you decide to study at CC? What did your research focus on?

I created an Independently Designed Major in Environmental Mathematics. I always had a love for numbers and concrete answers and found that this is very applicable to the environmental world, especially in modeling ecosystems. It was a great way to combine my analytical brain to a real-world application of math.

During the summer of my junior year, I spent about a month in Ohio, collaborating with Audrey Sawyer from the Ohio State University and Becca Barnes. We were looking at the tidal freshwater zone of a coastal river in Delaware and using math models to analyze the data observed in the field. For my thesis, I worked with David Brown in the math department and Becca in environmental science to construct a mathematical model that aimed to recreate the chemistry and geology of White Clay Creek in Delaware. I did this using Matlab and running many simulations to adjust the model to match our findings.

What else did you pursue as a CC student?

I enjoyed all outdoor activities, from leading trips with the ORC to going on ski adventures with friends. I also founded the Crunchy Grind with Kelsey Maxwell, participated in Room 46 and a student band, and volunteered with the Food Rescue.

What is your new job like? What sort of problems are you trying to solve?

I currently am a PIFP year-long fellow with Volunteers for Outdoor Colorado (VOC). VOC is an environmental nonprofit that engages people to become active stewards of Colorado's public lands. My role as Programs Coordinator is to support VOC's youth programming and general project support by collaborating with land managers, partnering with organizations, and finalizing details to put on a wide range of stewardship projects, from trail building/maintenance to habitat restoration to invasive species removal.

My organization aims to address the increased need in Colorado to care for our public lands, due to overuse of trails, natural resource depletion, and habitat degradation. Colorado's population is only increasing and more people are coming to Colorado for our pristine public lands, which is adding stress on the land and the species that rely on it for survival.

In the past 6 months, my perspectives have broadened on how we need to address pressing environmental issues. I've seen the importance of large corporations in driving change and providing funding to support environmental work. I also have understood better the need for nonprofit collaboration with other organizations and corporations for everyone to accomplish their missions and work to make change.



Delaney Tight '18 [cont.]:

What new things have you learned since graduating from CC?

I have learned much more about how to find a role within an organization and adapt to where I am needed at work. CC helped me think on my toes and accomplish work affectively and quickly, and I have been able to expand this to taking on various tasks through my job. Outside of my career, I have learned so much more about how to live independently and pursue things that I am genuinely passionate about. So often, as students, we are told what to do and how to do it, so it has been a great learning experience to identify where I want to spend my time and energy and apply myself in these areas.

Do you enjoy your nonprofit work? What makes this realm challenging? What are you looking to do next?

I really enjoyed learning the basics of a nonprofit in an environmental context. I have been able to get involved with the environmental education community in Colorado in many different ways and have explored the various avenues I can apply my degree to the working world.

I appreciate the various perspectives that are involved in the work I do. From land management agencies to corporate funders to local partner organizations, it has been both a challenge and a joy to see how the different players in public land management

come together to promote outdoor stewardship and care for our lands. Given that we need the support and resources from oil and gas companies and companies with large carbon footprint, it makes me rethink who is involved in the environmental movement and where support comes from.

I'd like to explore the increasingly pressing issue of food insecurity, sustainability, and availability. While I'm not sure what this looks like yet, I would love to be involved with an organization or company that aims to address the above issues in an interdisciplinary and collaborative way. I also hope to engage my analytical brain with my more creative and imaginative tendencies in the next job I pursue.

What advice can you offer to current students and recent graduates?

Go into the working world as soon as possible! Whether that means getting a restaurant job, working as an administrative assistant, or interning with your favorite company, I am so glad that I jumped right into the nonprofit sector. I thought I may need some time, or would want to go to grad school to position myself better, but I have learned so much about myself and my own career goals in just jumping right in. If it weren't for the PIFP, I would have eventually found my way, but I am so thankful for the experiences I have gained and the connections I have made.

Are you optimistic about solving our environmental issues?

While I am not too optimistic, there are SO many opportunities for us environmentalists to find jobs that apply our love for the natural world with our career interests. I have found many people and organizations that are doing vastly different things, from climate advocacy to food insecurity to environmental education and they all collaborate. It is hopeful to see that many people are applying their careers to natural resources and want to find a way to intersect their expertise and their passions.

Any "thanks" you'd like to note?

A huge thank you to the PIFP Program for getting me where I am today and to my advisors Becca Barnes and David Brown for supporting me as I navigated through CC and beyond. I'm so thankful for the way my CC education has prepared me as a professional and for life beyond CC.



Hallie Harness '10 delves into the inter-section of environmental education & agriculture

How did you get started in the environmental field?

As a young person, I was always tuned in to the environmental movement and was deeply concerned about climate change, but going into college I was still trying to find my path. It was my Earth Systems Science class that I took freshman year that made me want to study Env Science! I loved learning about hydrology, atmospheric science, bioregions, and geology all in one course! I still have the textbook and reference it in my work today!

During the Earth Systems Science course, we learned about the Carbon Cycle and about other greenhouse gases and I had an "ahah" moment when I learned about the GHGs associated with beef cattle. Being from Kansas, I had beef as a staple in my diet, but didn't really crave it. My preference was neutral when it came to meat, but I knew it would be challenging to cut it out. Learning that I could reduce my footprint by becoming vegetarian, I stopped eating meat right away and have been a vegetarian (occasional pescatarian) ever since.



Environmental Science and Environmental Studies were relatively new degrees when I entered college and I faced a bit of concern from family members about whether there would be meaningful careers in this field as I entered the job market. It has been my experience that many jobs in education, natural resources, conservation, academia, and even government have looked favorably on this degree and it's often a preferred qualification. Overall, I'm grateful that I took the leap and pursued a degree in Environmental Science, it has opened so many doors for me!

What was the focus of your studies at CC? Did you do any research?

- My Environmental Science Degree included a focus on Environmental Education, some filmmaking courses, and continued learning in Spanish. Science and especially mathematics are a challenge for me, especially in a condensed format with CC's Block Plan, but I knew that if I wanted to be an environmentalist, I wanted to understand the science behind the systems and issues I was talking about. My advisor, Howard Drossman, encouraged me to focus on EE and it has been a rewarding and well-suited course for me. I learned so many important foundations at CC and developed and delivered lesson plans for various audiences. Also, the Environmental Education course culminated in the development of a portfolio to submit to the Colorado Alliance of Environmental Education. After a couple of years working in the EE field, I was able to complete the portfolio and was awarded certification from CAEE. It was a great career-building step to be able to apply to jobs and have the credentials "Certified Environmental Educator from CAEE".

My thesis project was environmental education focused, but also brought in technology from my filmmaking courses. It was called "the Environmental education through film-making project" and sought to promote students' awareness of environmental issues and increase their environmental literacy by exploring the conservation topics on multiple levels: carrying out research for their films, conducting interviews, and operating camera equipment. I worked with two groups of students at an alternative high school in Colorado Springs with the goal of using filmmaking as an engaging way to involve students in pro-environmental decision-making. Students worked together to research, conduct interviews, and produce two films, one on [water conservation](#), and one on [recycling](#). After completing the projects, we conducted focus group interviews with two control groups and two filmmaking groups and analyzed students' responses. Qualitative analysis of the focus group interview responses suggests filmmaking projects provided such opportunities and were successful in introducing strategies that encourage environmentally responsible behaviors amongst students. Howard Drossman and I worked together to submit our article to the Journal of Environmental Education Research and were published!

How did CC prepare you to do what you are doing now?

I definitely still use the knowledge and skills I gained at CC every day in my career. The valuable concepts for EE and environmental ethics have been so relevant when working with people and





Hallie Harness '10 [cont.]:

understanding different viewpoints and approaches to dealing with environmental issues. Also, the background on Earth Systems, energy, hydrology and even atmospheric chemistry prepared me with a solid foundation of understanding of how the world works. I find myself explaining to colleagues the basic concepts of nutrient cycles, ocean and air circulation, and (of course) climate change. After college, I had ample opportunity to learn about soil science which furthered this understanding. This living, breathing planet that supports such a diversity of life never ceases to amaze me.

What did you most enjoy about CC? The environmental program?

Field trips at CC were definitely a highlight. I remember doing a field study where we investigated the infestation of ponderosa pine with mistletoe, using GIS and modeling software. We went to the Catamount institute and studied forest succession and environmental education and did water quality monitoring at several sites. One project even involved round the clock stream samples of fountain Creek near campus which involved working with a professor (both Drossman and Kummel) at 2 am and 6 am.

I really enjoyed the hands-on nature of the classes, especially the courses that connected the science, statistical, and mathematic concepts together: Air, Water, and Energy! I remember being out in the field learning about forest succession, and monitoring stream water quality, and even launching weather balloons. The professors really spent personal time with the class and students and were really accessible and led powerful discussions.

Could you provide a timeline of your post-CC life thus far?

After college and a few odd jobs, I worked on the Colorado Conservation Corps as a crew mentor. We were outside full time, building trails and maintaining open spaces across the Front Range. Next, after starting as a volunteer, I spent two seasons as an educator and naturalist at Fountain Creek Nature Center (part of El Paso's County parks system).

I moved to WA in 2012 and started at WSU extension in the Agriculture Dept. where I coordinated a research and outreach project, working with local farmers to use recaptured food waste nutrients (in the form of commercial compost) to build soil fertility on local farms. This was my first experience in agriculture and I learned so much about soil science and the food system (and the passionate, hard-working farmers) and even did randomized, replicated research projects and scientific article submissions (and many speaking engagements and workshops). It was a very dynamic position that got me connected to the northwest.

How have you pursued EE and agriculture since?

I manage the education program at a non-profit Farm & Conservation Center dedicated to responsible land use. We host field trips, summer camps, and provide in-class lessons supporting classroom instruction and new science standards. At Oxbow, children can explore and connect to the natural world and witness our connections to Earth's ecosystems through the food we eat and the habitat we share. It's amazing to see the connection that students make when they realize that a carrot grows in the dirt, an apple grows on a tree, and that a sweet and juicy cherry tomato can be plucked directly from the vine. Often, students say "this is the best carrot I have ever had".

Many of the other experiences I've had have contributed to the work I do Oxbow, including writing and managing grants and conducting research. We also collaborate with the other business branches at Oxbow and other partners. Currently, I manage a team of five people and we have a 2-acre Kids Farm where we grow the food and plants that are used for the education programming. We highlight the process of decomposition and waste recovery through the compost system, and we talk about the importance of having a healthy ecosystem to support the healthy farm. A current project we're working on is a school partnership in which students build an outdoor garden!



Featured Class

Professor Ulyana Horodyskyj provides a recap on her *Climate Change in the High Alpine* class



During Block 5, I had the opportunity to teach EV 320: Advanced Topics in Environmental Science. Given my background and training as a field geologist/glaciologist and mountaineer, I crafted a course that integrated science and technology, providing students the opportunity to get their hands dirty through field experiences in the high alpine regions here in Colorado. We started the block by reading case studies on climate change in the high alpine which included the European and New Zealand Alps, Himalaya, Andes and Rockies. This provided students with a solid background on the types of climate change issues impacting mountains and mountain communities globally.

Class assignments included completing a series of "alpine challenges" and writing up the results in reports. For one challenge, students were members of a USGS team, tasked with solving a scientific problem while provided with a small budget. If they didn't have the budget, they couldn't use some of the instruments provided (which all had costs assigned to them) and had to determine other creative ways to make field measurements. Sometimes this went old-school – using tape measures! Students were taught how to build their "field toolboxes" and how to effectively use tools such as Google Earth, Excel and SNICAR (a numerical simulation program that shows the impacts of pollution on snow), backcountry snow kits (with snow density cutters, snow grain cards, hand lens' and snow thermometers), visible/near-infrared spectroradiometers sponsored by ASD and Spectral Evolution, handheld Kestrels (weather stations), aerial and underwater drones, and an ice auger. The course provided multiple opportunities for hands-on experience using scientific instrumentation to answer specific questions, depending on the alpine region where we were working.

While "gadget-heavy", this course also emphasized using the scientific method to ask questions and seek answers while working in the field. Given inevitable instrument failures in the cold temperatures, students learned not to rely solely on technology to answer their questions; they also learned how important it is to adapt to making measurements in adverse field conditions. This is a problem that field scientists constantly face! Our first short excursion nearby Glen Cove Inn on Pikes Peak stressed the importance of appropriate clothing and boots, as well as being organized and efficient with equipment and data collection while working in below-freezing temperatures (we, of course, had the safe haven of the Inn close-by).

Students were responsible for writing an NSF proposal as their final project, with the option of using data they collected during our field trips on Pikes Peak, Niwot Ridge, and the Red Rock Lake/Brainard Lake region. At the end of the course, students came away with the following skills: (1) knowing how to create their own environmental research project, tied specifically to alpine climate change; (2) understanding what sources of data are available (e.g., from Niwot Ridge) and the various types of data



Dr. Ulyana Horodyskyj [cont.]:

they can gather; (3) carrying out their own small-scale experiments and data collection; (4) organizing and analyzing the data they collected (for some groups, this included lab work); and finally, (5) compiling their results into coherent reports, demonstrating understanding of climate change problems unique to alpine regions.

The course benefited greatly from assistance by EV's paraprof., Nick Zuschneid, and EV's Technical Director, Darren Ceckanowicz. I am indebted to them for helping me manage the challenging logistics of field excursions for 27 students!

Department Updates

Introducing New EV Professor Mike Angstadt

**Could you tell us a bit about your academic background?
What are your research interests?**

I earned my bachelor's degree in political science (with minors in Environmental Science & Policy and History) from Hartwick College (2008, summa cum laude). My senior thesis explored wind energy development in Upstate New York. I received my JD from Pace Law School (2011, magna cum laude), where I earned certificates in environmental and international law, served on the Pace Environmental Law Review, and participated in the UN Environmental Diplomacy Practicum. Finally, I will earn my PhD in Environmental Politics from Colorado State University in spring 2019, where I also completed an interdisciplinary NSF bioenergy IGERT fellowship.



I am interested in exploring how environmental law research can benefit from international relations theories and methods, how international environmental law can be applied to local environmental challenges, and how scholarly research can meaningfully support environmental protection. So far, I've pursued these goals by exploring specialized environmental courts, but I'm thrilled to begin my career in a region with a wealth of pressing environmental debates.

Since college, I've desired a career in environmental policy and law, and since law school I've harbored the long-term goal of teaching at a liberal arts college. It's really no stretch to say that joining Colorado College is a dream come true, but I've enjoyed the stops along the way. I've completed internships and externships at local, state, federal, and international levels; I briefly practiced law in the coastal city of Portsmouth, NH before beginning graduate school; and I've taught environmental politics and international environmental law at Colorado State University, the University of Wyoming, and the University of Alaska Fairbanks.



Dr. Mike Angstadt [cont.]:

What are your personal interests? Concerns? Things that excite you?

My wife and I recently welcomed our first daughter, Linnea, and she has become an amazing facet of my life! Other interests include playing trombone (jazz/funk) and bass, gardening, homebrewing, cross-country skiing (badly!) and running (slowly!). I love exploring environmental politics with students from diverse backgrounds and watching students connect environmental law topics to their own personal experiences.

These days, the things that keep me up at night include the challenges of climate change, making environmental laws just and equitable, and finding Thai food in Colorado that's as good as what exists in Fairbanks (seriously, it's amazing!).

Arielle Link '19 set to become Paraprofessional for 2019-20 academic year

From: North Miami, Florida

Education: B.A. Environmental Science: Integrated, Colorado College, Colorado Springs, CO

Research Interests:

- How disturbance from fire and climate change interact to structure forest ecosystem dynamics
- Spatial patterns of insect and pathogen-induced tree mortality
- Ocean acidification and its effects on zooplankton populations/food web distribution



Important Dates:

EV Day: April 12, 2019

~ Oral Presentations | Tutt Science Building 122, 3pm

~ Food, drinks (bring your state ID!), games | Hamlin House, 5pm

Linnemann Lecture: April 25, 2019 | Celeste Theatre, 6pm

Baccalaureate: May 18, 2019 | Tutt Science Building, 10:30am

Commencement: May 19, 2019 | Tava Quadrangle, 8:30am

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Environmental Program



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