Environmental Science and Sustainability Department Newsletter

April 2021

Eric Pallant Stepping Down as Department Chair in Fall 2021

Eric Pallant Staff Photo Provided by Allegheny Website

Eric Pallant has been the Chair of the ESS department off and on since 1989. He started as the only full time Environmental Science and Sustainability (formerly: Environmental Science/ Environmental Studies) staff member. The other two staff members at the time were also part of the Geology and Biology departments.

Eric stated that one of the best parts of being the department head was being able to make such amazing hires. One of the first hires they made for the department was Rich Bowden. With only one full time staff member and not nearly as many students, the ESS department was struggling in the 80s to gain credibility in the science field. It was generally noted at this time that if students failed out of Biology or Chemistry, they could always take a "step down" and become an ES major. To combat this stigma, they hired Rich, an experienced biogeochemist, to increase the rigor of the courses and prove that ES was not a "backup" major. Following this first hire, the ESS department blossomed into the 18 full-time faculty and staff that we know and love. He takes pride in knowing that they have chosen professors with a wide variety of backgrounds that are experts in their field who have a true passion and drive for teaching.

As could be expected with the growth of the department as well as an increase in ESS students, the volume of paperwork also increased exponentially. Acknowledging that organization and paperwork were not one of his strong suits, he commended his colleagues for their continued assistance with these processes. "Because these people are such amazing *amazing* people to work with, I'm really so fortunate in that a lot of the bureaucracy I have to deal with I can go to the department and say 'Can someone help me with this, please?' … and somebody always steps up," he praised.

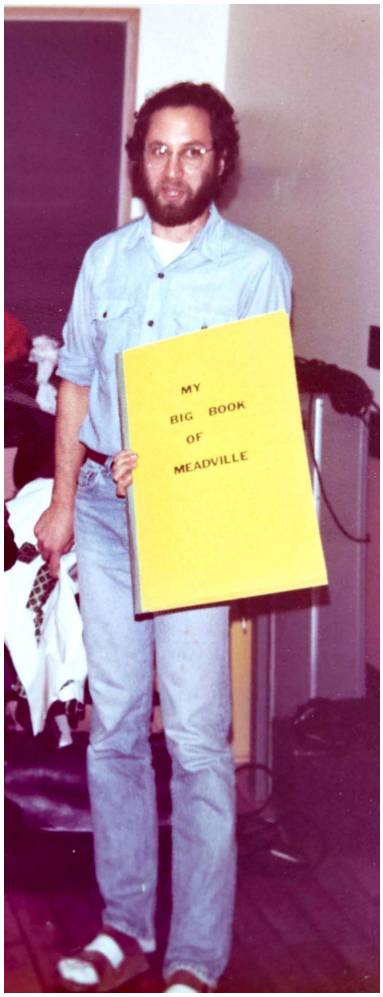

Photo provided by Eric Pallant. 1989

The socks with sandals have been a long-standing tradition

However, with the peaks come the valleys. Eric stated that the hardest parts of the job were mitigating conflicts and balancing everyone's teaching schedules. Being the department chair, he was responsible for alleviating any conflicts within the department. While this is an important role as faculty head, it is no secret that this is not his favorite aspect of the title. With most of his time being dedicated to paperwork, ES department meetings, science chair meetings, department chair meetings, etc., he is excited to get back to spending more time on what he really enjoys: teaching. In addition to conflict resolution being one of the more challenging aspects of department chair, balancing what people wanted to teach vs the classes that have to be offered each semester was another challenge. His philosophy for getting all these variables to work together was to try to let the faculty choose the courses they were most interested in so that they encouraged the students to engage with the material. Due to this, however, he was usually left with the courses that were required each semester such as the intro course, or freshman, junior, and senior seminars. Because of this, he has not been able to teach an upper level class of his own in about 10 years. Now that he can focus more of his time on teaching instead of the responsibilities of department chair, he hopes to integrate two classes into the ESS curriculum: Rural Geography, and The History and Culture of Bread and The Environment. Most people who know Eric also know of his famous sourdough starter. This class (and subsequent sourdough bread) is something to look forward to after it is safe to be in close proximity and cook in the Carr kitchen again.

Eric has had the unique experience of seeing the department "grow up" in a sense. He gave the analogy that when you grow out of your awkward middle school phases, you can still find yourself caught in that self-image, even if that's not the case anymore. In this regard, he still thinks of the ESS department as a small, tight-knit family even though it has grown to become one of the biggest departments on campus. This is something unique to ESS. Even though the department has grown and is not recognizable from where it started, it has retained the same sense of community which is something he hopes will continue.

Outdoor Pizza Oven

Prior to Covid, here was a proposed project to build an outdoor pizza oven in close proximity to Carr Hall.
We are hoping that these plans can get back up and running soon!

Image Source: https://www.pinterest.com/pin/198299189829201782/

Brittany Davis's Junior Seminar: Erie's Green Potential

Brittany Davis Staff Photo Provided by Allegheny Website

For students and professors alike, this semester's module one presented unprecedented challenges and hurdles to overcome. Arranged as an entire class condensed into three weeks, the goal of the course was to mimic a full week of regular semester courses per day. This ensured that students stayed home and safe during the coldest months of winter and the most infectious time of flu season. Thankfully, both faculty and students rose to the challenge and the classes proved to be a successful learning experience despite the high intensity.

One such class was led by Professor Brittany Davis, a returning face to our environmental science and sustainability department this year. She was tasked to conduct a junior seminar class during the module one semester, and thus was determined to figure out how to best balance the components of a regular semester inside of the condensed course. The goal of each junior seminar, Davis explained, is to engage the students in a community based project that stretches outside of Allegheny's campus, all while challenging them to consider their upcoming senior projects and draft a project proposal.

For her module one class, Professor Davis allowed the students to select the project that interested them the most. At the end of a close poll, they elected to develop a plan for an industrial composting center in Erie, PA. Erie proved to be a location ready for green industry, as the International Recycling Group (IRG) is preparing to build a plastic recycling facility within the county. Davis and her students recognized that the process of plastic recycling could be harmful to the lake, as the plastics have to be broken down into microplastics in order to be recycled and are especially prone to runoff of wind. Such a production could threaten Lake Erie and expose it to an unprecedented amount of plastic pollution. Therefore, the class joined teams with Sarah Bennet of PennFuture, a nonprofit organization dedicated to promoting clean energy and sustainability within Pennsylvania, in order to draft a new solution for the green industry in Erie.

The module one presented new challenges for the students and faculty alike, as was seen with most classes which had to be condensed from their normal semester into three weeks. However, Professor Davis worked around such obstacles by encouraging the students to create small goals and offering class periods to work on their projects. Davis broke each day into two sections, one and a half hour blocks in morning and afternoon, to better allow the students to focus on their group project and individual comps in manageable, productive amounts of time. By the end, Professor Davis was pleased with their results.

The class created a facts sheet about the environmental impacts, financial logistics, and community benefits of industrial composting, an infographic providing visual information, and a document detailing frequently asked questions about composting to answer for any concerns the citizens of Erie might have. Some of these questions include the true benefit of the industry and the creation of jobs, as well as concerns about smell or what is appropriate to compost. Paired with this project, the students turned in their senior comp proposals, making the semester a success.

Their collective composting projects were given to Sarah Bennet of PennFuture, and the project now rests in her hands. The class hopes that their work can be put to good use and create a more sustainable and healthy environment for Erie citizens and the lake itself.

Writer: Molly Tarin

The Carrden Food Forest: changing the way we think about energy and sustainability

Waiting patiently within a food forest is the answer to all of our society's energy problems. I know, it sounds weird – but I can explain. First, how do you think about energy? What comes to mind is probably "energy is the ability to do work." But, what does "work" even mean? According to the founder of permaculture, Bill Mollison, "work is the result of not supplying an element of a system with its needs." In other words, if a system needs lots of energy to operate, it has a serious design flaw.

Take our food system for example: fossil fuels allow semi-trucks to do lots of work, using energy to transport our food from California. This energy expenditure is necessitated by growing food far away from where people consume it – and there's the design flaw. In a well-designed food system, transportation "work" will be virtually eliminated, as would energy consumption. Other flawed systems include the distance between home and workplace for most Americans, the fact that most houses don't take advantage of solar gain… you get the idea.

The significance of the permaculture perspective is that we already have everything we need to create a sustainable future – through *careful, thoughtful design*. Permaculture is a decision-making framework that begins with observation, walks through a series of guiding principles, and produces truly sustainable human habitats. It tells us that poor functional interconnection creates the need for work (energy use), and that underutilized surpluses become pollutants if they are not recycled back into the system. It even tells us what sustainability is: a sustainable system produces more energy than it consumes through establishment and maintenance, such as a tree. Pretty cool, right? Sounds like something we could use.

In fact, our very own Sustainable Design Team has applied the principles of permaculture to Allegheny's campus and designed the Carrden Food Forest. It began with our recognition that most lawn space is underutilized; we found a space that could instead be growing food, which reduces the amount we have to import from far away. Next, we picked perennial foods like apples and asparagus (there's 46 species in total), which won't need to be replanted for a long time. We picked plants that served multiple functions in the system (food, nitrogen fixation, insect attraction) and ensured that each function was fulfilled by multiple plants – this makes the food forest resilient.

Then, we placed each plant in relative location with each other and with the surrounding landscape; each fruit tree will have a nitrogen-fixing shrub to provide nitrogen in its early years and flowering plants to attract pollinators. Shade-loving plants will grow on the north side of fruit trees, and sun-loving plants will flourish on the south. The food forest is designed to integrate with the human energies of campus as well; students will use the food forest for research and enjoyment, and the college won't have to spend money and fossil fuels mowing the lawn anymore. The Carrden Food forest is the product of two years of thoughtful planning, utilizing the principles of permaculture design.

We need the wisdom of permaculture now more than ever before. The sustainability world is full of calls to "use less energy" and "produce less waste," but there is no unified understanding of what these changes ultimately contribute to. At times, the sustainability movement has been dismembered into a collection of various recycling-, food-, and solar panel-related efforts rather than serving as the rallying force it needs to be. Ecology offers us the understanding that "everything is connected," but this concept is too vague to mobilize for much practical impact. If we are to solve our numerous environmental challenges, we need a clear framework that actually tells us what sustainability is and provides a roadmap for how to get there. Permaculture provides just that.

Questions?
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Writer: Sebastian McRae

Tips for a Successful Job Interview

Recently, I had a job interview with TRC Companies Inc., a national engineering and environmental consulting firm that provides integrated services to the energy, environmental, and infrastructure markets. TRC serves a range of clients in government and industry, implementing complex projects from initial concept to delivery and operation. This was my first interview for a post-graduation position, and thanks to my research and preparation I was offered the position, which starts in June.

I applied to the position at TRC in February and had a follow up conversation with one of the company's recruiters in March to discuss my interests and goals, which then led to an interview being scheduled for the following week. I want to share how I prepared for this interview.

I began researching the company and becoming familiar with not just the position I was applying for, but the company's goals as a whole. Then, using LinkedIn, I researched the company's employees to find people within the company and see what type of jobs and education was in each person's background so that I could gage the type of personnel TRC was seeking. I connected with Allegheny Biology and ESS Alumni Jeffery Vanderveer and Isaac Pallant to get a better understanding of how these former Allegheny students felt about the work environment and work load at TRC.

I then took all this information and created a word document so that I could keep all this information in one place. Key aspects that included were: business description, position description, and information about interviewer(s). With this information at my disposal, and with my conversations with Allegheny Alumni, I was ready to create well thought out questions to ask during the interview. These questions included: What is a typically first project?, How many interns do you bring in and where are you recruiting them from?, and You both (Interviewers) have been with TRC for about 3-4 years now and you both have rather extensive backgrounds. Tell me how you got to TRC and what keeps you there? These questions allowed me to show that I had done my research and that I was interested in the position.

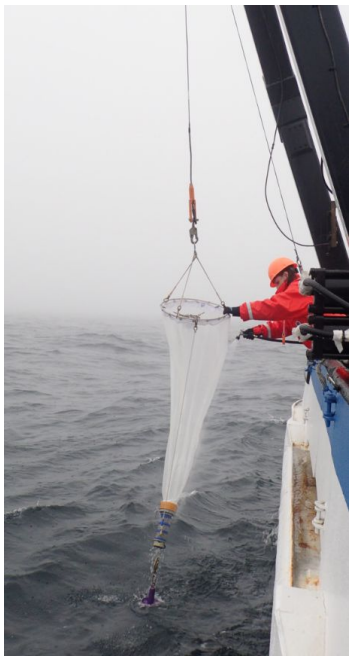
Finally, one of the key aspects that I believed helped me in my interview was my closing remarks. I had constructed an outline of how I wanted to close the interview, and the key points I wanted to make. These included: the "Thank you", my interest in the position, what TRC offers me, and what I offered TRC. I also asked the interviewers what their thoughts were about my interview, and made it very clear that I wanted the position. This was very effective and I got some good feedback from my interviewers. The interviewers told me that they loved my professionalism and they appreciated my research and fieldwork background.

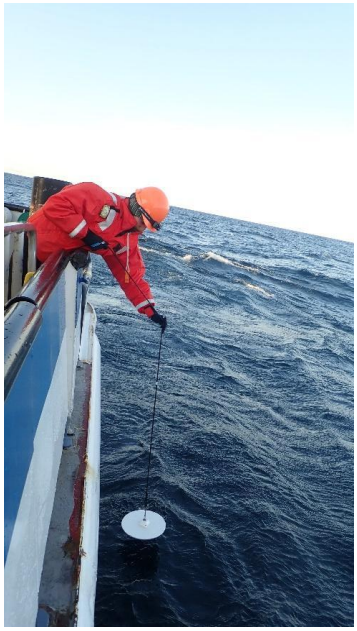
In the end, an important reason I was offered the position at TRC was due to how well prepared I was for the interview. Knowing yourself is the easy part but knowing the company, the interviewer(s), and the position is very important when it comes to a successful interview and the preparation helps you stand out and become successful.

Writer: Steven Spotts

A Month Aboard a Research Vessel: Sailing the U.S. Great Lakes

Ahoy from the Lake Guardian, the largest Great Lakes research vessel owned and operated by the EPA for long term monitoring of water quality. I am one of the 11 scientists aboard the vessel. Our goal is to collect sediment, water, phytoplankton, and zooplankton samples from pre-established sites across the five Great Lakes. This effort, conducted each spring and summer, takes about a month to complete if the vessel encounters calm seas. My job as a biological scientist aboard is to collect zooplankton samples via net tows.





We take tows from multiple depths throughout the water column using heavy machinery that is operated by the crew. Although this will likely be my only cruise on the boat, this experience is expanding my knowledge of funding and organizational efforts needed to sustain a long-term monitoring program. Being on a boat for a month has given me time to reflect on the steps that got me here and realizing it all started with my commitment to attend Allegheny. I fondly remember my FS110 class, "Natural Resources Management", where my interest in our natural world was sparked from a field trip camping at the Allegheny National Forest, discussing the history of the land in an old growth forest. I will be taking a deeper dive into this interest soon by starting a PhD in Geosciences where my focus will be on forest nutrient cycling post-harvest. These scientific and management skills I am learning from this experience will prove helpful in becoming an ecologist.

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