# *The* **University RESEARCH** NEWSLETTER

### MILLERSVILLE UNIVERSITY OF PENNSYLVANIA

*The University Research Newsletter* Published by the Office of the Provost

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Millersville University is off to a great start to the 2019 spring semester, with our "Made in Millersville"

conference quickly approaching. This event, which takes place on April 16, is a showcase of our students' research and creativity. Students from all majors, disciplines, and programs are featured and acknowledged on this special day for their dedication to scholarly endeavors.

Our University community encourages students to delve into scholarship and creativity, whether it is part of a class, a department's research program or creative presentation, or an honors thesis. The endless resources provided by our professors, library faculty, digital databases, and state-of-the art laboratories place every student in a position to expand their knowledge, present, and even publish scholarly work during their years at Millersville. The scholarship our students produce gives them the ability to present their findings here at "Made in Millersville," and for many, even beyond our campus to regional, national, and even international audiences.

MU's core values, EPPIIC (Exploration, Professionalism, Public Mission, Inclusion,

### A Message from the Provost

Integrity, and Compassion) guide our endeavors, whether it is in the classroom, in the research lab, or in the music or art studio. Even though "Exploration" might speak most directly to outcomes of this newsletter or a campus event such as "Made in Millersville"-with its focus on scholarship, curiosity, and forward-thinking ideas and discovery—the five other EPPIIC core values are also important guiding principles. When we mentor our students in the context of collaborative projects and student-faculty research and then prepare them for sharing their work with our surrounding community and beyond, we encourage all of our institution's core values.

It is my hope that you will enjoy the summaries and profiles shared in this newsletter. We are extremely honored to have our President, Dr. Daniel Wubah, as the author of the "Commentary" for this edition of the University Research Newsletter.

Sincerely,

Vilas A. Prable

Vilas A. Prabhu, Ph.D., M.B.A. Provost and Vice President for Academic Affairs

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### Millersville University

# **FACULTY INTERVIEW**

### **Dr. Joel Piperberg**



When did you begin your time at Millersville? My first day at Millersville University was in August of 1989.

#### Were you always interested in biology?

I was always in biology. I was interested in it in high school and had a great teacher that kept me involved. I was a biology major when I went to college and during my freshman year; I was one of two people in my dorm that did not change their major. I received my Bachelor of Arts in biology and my Ph.D. in biology from the University of Pennsylvania.

I started my graduate school research project in my last three semesters as an undergraduate and then continued an extension of that project as a graduate student. I started working on a project with a graduate student when I was a junior and then, as a grad student myself, started a closely related project looking at how steroid receptors work.

#### What research have you conducted at Millersville? What work have you done with students?

When I first arrived at Millersville, I continued my work from my time as a grad student which was on steroid receptors on the embryonic retina.

More recently, I have worked with students on bovine red blood cells,

developing a treatment that will change the stability of the red blood cell membrane. The work on the red blood cells is mainly centered on getting a lab exercise that illustrates the changes in stability of the red blood cell membrane in response to either changes in temperature or treatment with a drug called propranolol (it is a blood pressure medication) and other drugs or perhaps both temperature and a drug together.

# What do you consider to be your greatest accomplishment in your career so far?

The longest lasting accomplishment would be the textbook that I am using for a course that I teach, Cell Biology. In the early 90s, I was asked to write the instructor's manual for the first edition and I have helped with every edition since then. The book is in its eighth edition. I work on the manual for about 10 months every three years; I am expecting to work on the ninth edition in 2019 or 2020.

It has lasted longer than much of the research I have conducted. I was the chair of faculty senate and then of the biology department which took time away from research.

### What is the importance of student research at Millersville?

Research by students is absolutely essential—it gives you a basis of

experience. It is very helpful in determining whether or not you actually enjoy working in a lab and/or doing field research.

How does conducting research while at college help students' future careers?

It got me into a career that I love. I am in my 37th year as a professor and have enjoyed it every year. The research I started as an undergraduate got me through graduate school and into my first few jobs in the field.

If a student thinks that he or she may be interested in research, it is a good idea to do some independent study or studies to find out what research is like. A student may find out that they love it or that they don't. That is a valuable lesson to learn and may help a student decide what they want to do after graduation. A student may decide he or she loves research and goes onto graduate school or get a job in a science lab. A student may also discover that he or she doesn't like research and may decide to go into an area of science that does not require them to do research. Research as an undergrad may also help a student determine what type of research they might like the most.

Research is crucial no matter what profession you are in. It is a way to learn more about topics and ideas that you are interested in. You can go deeper and figure out how to ask and answer the right questions.  $\blacklozenge$ 

Byshanee Robinson '16, received her bachelor's degree in psychology at MU and then went on to complete her master's

degree in business administration and human resource management at Lincoln University in Pennsylvania. She is currently a Quality Assurance Coordinator for Liberty Resources. Liberty Resources works for and with people with disabilities in order to ensure their civil rights are respected and that they are provided equal access to all aspects of life in the community.

"My biggest accomplishment in my career so far is helping my local community," Robinson explained. "I am able to go out into the community and local senior centers and talk to people with physical disabilities and people who may need assistance, in their homes or out in the community, about the services that they are eligible for through the waiver program in Pennsylvania."

Robinson also has a clothing line called Christian Robinson, established in 2013.

# **MU ALUM PROFILES**

She taught herself to sew by watching YouTube tutorials.

"I created Christian Robinson as a way to express myself by making unique garments. I sell some of my garments on my business Instagram page called 'crdesignsss'," she explained.

As another way to give back to her community, she participates in after-school workshops in Philadelphia teaching young adults how to sew. +



### Dr. Daniel Chapman '13, received his

received his bachelor's degrees in psychology and government & political affairs. After leaving Millersville University, Chapman received his master's

degree in psychology in 2016, and his Ph.D. in the psychology of peace and violence in 2018, from the University of Massachusetts Amherst. Currently, he is a distinguished postdoctoral fellow with the Annenberg Public Policy Center at the University of Pennsylvania, a research fellow at Yale Law School, and a research scientist for the See Change Institute.

Chapman is a behavioral research scientist working on applying social scientific insights to environmental dilemmas, primarily using quantitative research methods. His research spans interdisciplinary and international boundaries, drawing on insights from psychology, political science, communications, geography and experimental philosophy, among others, and utilizing data collected from the continental U.S., Alaska, Chile, Argentina, Ireland, New Zealand, the United Kingdom and Germany.

Ultimately, he hopes his research can help us better understand the cultural and political dynamics that shape how we collectively respond, or fail to respond, to problems such as climate change, humanitarian and disaster responses, and other environmental hazards. His interests in many of these topics started while he was at Millersville, thanks to mentoring from Dr.'s Woo, Foster-Clark, and Cook in the psychology department and Dr. Bookmiller in the government & political affairs department.

In addition to his main research, Chapman also has served as a consultant and project evaluator for news organizations (e.g., PBS NewsHour, KQED Science, The Guardian, Huffington Post), international organizations and advocacy groups (e.g., the International Energy Agency, The Nature Conservancy), and energy utilities (e.g., Pacific Gas & Electric), among others.  $\bigstar$ 



Mr. Paul Beideman '71, received his degree in social studies education from Millersville University (MU). After graduation,

Beideman's life took an unexpected turn. Due to the scarcity of teaching jobs at the time, Beideman ended up joining a management team at a bank. He worked there for 40 years, completed his MBA in finance at Widener University, and then eventually became the CEO of Associated Bank Corps.

Beideman truly believes that his degree from Millersville prepared him for his career in banking, due to the fact that a degree is an "experience" qualifying him for all life and career possibilities. He received the position at the bank due, in part, to the fact that he did not come in with a finance degree. More recently, Beideman is the President of the Avenue of the Arts. He describes this non-profit organization as a "Chamber of Commerce" for the art-focused areas of Philadelphia.

Overall, Beideman sees his time here at MU as an irreplaceable experience that set the stage for his career path and notable accomplishments. +



#### Megan McAuliffe '16,

received a bachelor's degree in meteorology with minors in math and environmental hazards and

emergency management (EHEM). McAuliffe completed her master's degree in atmospheric science at University of California, Davis in winter 2019.

"Besides my master's degree, I think my biggest accomplishment would have been choosing Millersville for my undergraduate education. I shamelessly advertise for the meteorology department and the research opportunities it provided me," said McAuliffe.

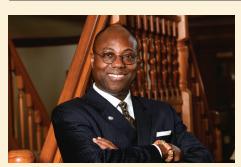
While at Millersville, she was a part of two research projects organized by Dr. Richard Clark, who is the chair of the Earth Sciences Department. The first project, DISCOVER-AQ (Deriving Information on Surface conditions from Column and Vertically Resolved Observations Relevant to Air Quality), is a field campaign led by NASA. During a field campaign, measurements are taken from airborne platforms and/or ground sites to study both the chemical and physical processes in the atmosphere.

"Although air quality research wasn't a major focus of mine," explained McAuliffe, "my time on this project introduced me to an aspect of atmospheric science that I grew to love: setting field experiments, working with instrumentation, and using the collected data to answer research questions."

The following summer she worked on another field campaign, PECAN (Plains Elevated Convection at Night), which became the subject of her honors thesis at Millersville and also led to her master's research. ◆

# **COMMENTARY**

### **Student Research—the Center of Success**



Dr. Daniel A. Wubah, President

Throughout my career, one of the questions I often ask students during an initial meeting is "Have you done an internship, research or any creative work as part of your undergraduate experience?" In most cases, I ask this question unconsciously because that is how I was educated as an undergrad. The response that I get from students depends on the institution and its culture. Surprisingly more students at non-research-intensive campuses tend to respond positively to this question than those at research-intensive universities or colleges. This outcome is not what one would predict, and while I have not done a scientific survey, I can safely surmise that factors such as faculty-to-student ratio and institutional culture play a role.

As an academic, when asked what I consider to be my most important accomplishment, the first thought that comes to mind is the international summer research experiences for undergraduates (REU) program funded by the National Science Foundation that I ran in Ghana from 2002 to 2016. Without taking away anything from the courses that I taught for over two decades and the students who worked in my lab, this program led to the most measurable outcomes because of its impact on the education on the participants. In addition, I have kept in touch with them and know the current roles and affiliations of 98 percent of the participants. About 75 percent have either earned or are enrolled in programs that will lead to their doctorates. To understand what made this research program so special, let me share the story with you.

After leading two REU domestic programs at Towson University and James Madison University, I started wondering how to use my international background to enhance the experiences of the participants. A quick survey in 2001 indicated that there was only one international REU program in sub-Sahara Africa so there was an opportunity to fill this gap. When I first floated a proposal to run an REU program in Ghana with the NSF Biology Directorate, the immediate response was negative. The program director was not sure that panelists would support the program due to lack of knowledge about how research was done in a developing country. Fortunately, the program director called me back a few days later to offer an opportunity to carry out a two-year pilot program to demonstrate the feasibility of running a summer research program at a university in Ghana. That started the 15-year program that took 118 undergraduates to Ghana to carry out research in sub-disciplines ranging from aquatic ecology, environmental toxicology, entomology, ethnobotany, fisheries through malacology to taxonomy. This program was run from the four previous universities at which I worked before coming to Millersville University.

As part of the evaluation process, the program was designed to help students develop four basic skills in addition to the content or knowledge development. The first skill was critical thinking. Upon acceptance into the program, students worked with their faculty mentors in Ghana to identify a project. This process involved reviewing the literature to find gaps that needed to be filled. In order to come up with good questions, students had to analytically figure out what was missing in our current knowledge about the topic. That led to developing hypotheses that needed to be tested. The entire process helped students sharpen their critical thinking skills.

After orientation at the host institution in the United States, students traveled as a group to the University of Cape Coast (UCC) in the Central Region of Ghana. The first week was used for onsite orientation followed by designing projects that were carried out over a six-week period. Because of the lack of highly sophisticated or state-of-the-art equipment in the UCC labs, creativity was highly required in the designing of projects to address carefully selected scientific questions. Often, these projects were initially designed based on modern equipment found in a typical lab in the U.S., but upon arrival in Ghana the students quickly realized that they had to use fundamental equipment. On other occasions, students developed their hypotheses based on limited knowledge about UCC and the surrounding area. This situation provided opportunities for them to be creative. For example, one student designed a project that aimed at examining how familiar Ghanaians were about a particular disease based on their proximity to an information center. The initial project was designed by the student to focus on quantitative analysis. During preliminary data collection after arriving at UCC, the student realized that almost everyone he interviewed knew about the disease. In order to carry out a valid project, the student worked with his faculty mentor to shift the focus of the project to qualitative analysis instead. An intense level of creativity was required to design a viable project and the student was able to do so after several efforts.

# **STUDENT PROFILES**

Most of the projects that REU students engaged in required collaboration with their Ghanaian or US peers in real time or a continuation of projects done by previous REU participants. An example of a project that required real time collaboration was determination of the impact of an insecticide on mosquito larvae. While the lead investigator was located in the Zoology Department, the equipment needed for most of the project was available in the Department of Agriculture and in the Department of Chemistry. Ultimately, the student had to collaborate with peers from both departments to gather and analyze data to support the hypothesis developed for this project. Also, there were instances when students had to travel to research labs in the capital city of Accra, which is 90 miles away because of lack of equipment at UCC.

Student participants attended two seminars each week. The first seminar focused on science in Ghana in general on Wednesdays and the second focused on the interface between science and Ghanaian culture on Fridays. REU participants presented their work during the Wednesday seminars and Ghanaian experts were the main presenters on Fridays. The Wednesday seminars provided REU students an opportunity to hone their skills in oral presentation. Among the topics covered on Fridays were the use of herbs as prophylactics and social and scientific role of music in the Akan culture. The closing event of the eightweek program was a conference to which the entire UCC campus was invited. Each REU student gave a 30-minute oral presentation at this conference on their projects, and UCC faculty often had difficult questions for them. In addition, the final written report submitted by each REU participants was in the form of a manuscript for submission to a scientific journal. The best reports were subsequently submitted to peer review journals. The UCC REU program has produced 46 peer-reviewed articles.

The oral and written presentations made by the REU participants demonstrably improved their communication skills. One other communication skill acquired by some of the participants is their ability to speak Fanti, which is the local language spoken in the Cape Coast region.

The four essential skills that the REU participants acquired or improved on are identified as the 4Cs of the 21st century. Most employers look for these skills when they interview prospective employees. Critical thinking not only empowered the REU students to think analytically and solve problems, but it also allowed them to develop skills in separating facts from opinions. By solving multiple problems, REU students developed skills in looking at issues from several perspectives. This way of thinking enhanced their creativity because it allowed them to think differently. Collaborating with other REU participants and their Ghanaian peers helped students realize that their individual ideas were not enough to solve problems in isolation, but by allowing others to build on these ideas, challenges that initially appeared to be intractable could be addressed. Finally, without effective communication skills, we cannot convey or exchange ideas to others.

The benefits of carrying out research, whether in the form of an apprenticeship or mentorship, ultimately results in a better educational experience for students. In an ideal world, all students should be given an opportunity to carry out research or a creative experience as part of their educational process. At Millersville University, we are striving to make this possible by encouraging students to showcase their research work during the "Made-in-Millersville" event. Our current fundraising effort is another indication of our commitment to providing research opportunities for our students because 50% of our goal will be used to support faculty-student interactions. +



Jacqueline Buck '20,

a dual major economics/ government and political affairs Honors College student, presented her peer-reviewed paper

titled, "What is the Public Good: The Unethical Practice of Eminent Domain," at the October 2018 Great Lakes Academy of Legal Studies in Business Conference hosted by Saginaw Valley State University in Frankenmuth, Michigan. +



Nathan Vonderheid '19,

a government and political affairs major with a minor in accounting, presented his peerreviewed paper titled,

"Betting on the Integrity of Professional Sports," at the October 2018 Great Lakes Academy of Legal Studies in Business in Frankenmuth, Michigan.

Dr. Joseph Galante served as a mentor and advisor for both students for this academic conference. Both papers were the result, in part, of the Economics of Justice class with Galante.

Both Buck and Vonderheid plan on attending law school upon graduation. The Great Lakes Academy of Legal Studies in Business is a regional organization which is part of the Academy of Legal Studies in Business, an international academic organization. The conference afforded both students the opportunity to present their respective research and to engage with economics and law faculty from institutions in Ohio, Michigan and Indiana. ◆



Adam Weiner '20,

University Honors College, was chosen to represent Millersville University at the Undergraduate Leader Workshop hosted by the

National Center of Atmosphere Research in Boulder, Colorado. Twenty-four American universities were represented at the conference, along with students from West Africa, Puerto Rico and Nepal.

# **STUDENT PROFILES**

#### Cont. from Page 5

The workshop helps those with a focus in atmospheric science improve their verbal and written communication skills. Some of the activities were geared toward developing listening and encouraging collaboration while other activities helped students with polishing their resumes and exploring career paths in atmospheric science outside of research. Professionals in the field, such as Dr. Warren Washington, a senior scientist with the National Center for Atmospheric Research, gave students the opportunity to make connections and practice their networking skills.

"We as students are the future of atmospheric science. This is a workshop that is focused on career development, and this is an experience you cannot get anywhere else," said Weiner.

Student **Adam Weiner** details his experience at the Undergraduate Leader Workshop on page 7, which was hosted by the National Center of Atmosphere Research, in Boulder, Colorado from June 3-9.

# **FACULTY-STUDENT COLLABORATION**



#### Dr. Kelly Banna and Students

Dr. Kelly Banna, Assistant Professor of Psychology, and four students, are currently

investigating the role of environmental factors in drug use and relapse using female rats trained to self-administer alcohol. This study uses what is called the drug self-administration model. This model allows animals to determine if and when to take a drug, thus approximating real-world drug use in humans.

According to Banna, "This type of research is really important because cause-effect relations can only be established through experiments, which means that researchers systematically manipulate one or more variables to determine their effects on another variable. Doing this in the context of drug research would be highly unethical in human populations, so most of the data we have available about human drug use is only correlational in nature."

In the current study, Banna and her students are evaluating if the rewarding value of alcohol and relapse to alcohol seeking depend on the quality of the conditions in which the rats live. To accomplish this, each of 16 rats was assigned to either standard or enriched living conditions at the beginning of the study. The standard housing conditions are similar to those used in many rat studies. While the cages contain appropriate bedding material in which the animals can nest, they do not contain toys or other objects with which the animals can play. Animals in the enriched conditions live in the lap of rat luxury. They are housed four to a large cage, which is lined with fleece bedding and contains rat toys and chews.

Rats in both conditions were trained to press a lever in a Skinner box for access to a small amount of alcohol. The number of lever presses required to get alcohol was increased over time to see how much the rats were willing to respond for each drink. Doing so allows the researchers to track how hard animals will work for the drug, which reflects its reward value. "Basically, we're asking the rats how much they're willing to pay for a shot of vodka," said Banna. "The more they're willing to pay, the more rewarding they find the drug." The drug is then removed from the Skinner boxes and, once lever pressing decreases, a number of tests are conducted to see if certain factors (e.g., drug-paired cues) can induce relapse to drug-seeking. This allows the researchers to compare responding and relapse in the standard condition to that observed in the enriched condition, providing insight on the role of environmental quality on factors thought to be related to substance abuse and relapse.

#### **STUDENTS IN THE LAB**

Of the six students currently working with Banna on this project, two are completing their undergraduate Departmental Honors Thesis. Two of the students have presented their data at regional professional conferences, and will be presenting additional data in May at the annual meeting of the Association for Behavior Analysis International, which will be held in Chicago this year. The current students are: Morgan Chamberlain, '21, Departmental Honors Student, (Major in Psychology, Minor in Biology); Tom Clothier, '19, Research Assistant (Major in Psychology, Minor in Athletic Coaching); Eduardo Jorge, '19, Graduate Student (Master of Clinical Psychology); Amanda Simon, '21, Research Assistant (Psychology); Gabrielle Sutton, '19, Departmental Honors Student (Psychology, Minor in Chemistry); Courtney Wilkinson, '19, Departmental Honors Student (Double major in Psychology and Environmental Hazards & Emergency Management). Both Gabrielle and Courtney will be attending Ph.D. programs in the fall. +



Photo by Shawn Gallagher

# **STUDENT INTERVIEW**

### **Undergraduate Leader Workshop** | Interview with Adam Weiner '20



#### SUMMARY OF THE WORKSHOP:

"In order to attend you have to be nominated by a professor, so it is very competitive to get in. The faculty choose which student gets to attend. The workshop is about bringing together highly motivated students in atmospheric science and to learn about things that we wouldn't get to learn in college. We don't have class for things like that here. You got to learn how to listen and participate in a bunch of activities that allowed us to experience collaboration. We also met a lot of big names in atmospheric research such as Dr. Warren Washington. One of the most important things was to learn all of the other sides and all the different carrier paths other than just research because there are a multitude of different things in atmospheric science. We also had a resume workshop which helped us learn about so many different carrier options and we met so many different people. There was a workshop just on listening where we had situations that helped us experience talking to someone and the person wasn't allowed to respond or react back to you to learn what it is like to actively listen.

Nowadays what a lot of people think about is how they want to respond, but they don't actually listen."

### What was your favorite aspect of the workshop or something you felt you really took away from this experience?

"There are a couple of things that I really enjoyed about this. There were so many different students who came to this. There were only 25 students total but we became a family. There were 24 universities represented. One was from the United States: one was from West Africa: one was from Puerto Rico; one was from Nepal, and they all went to school in the United States which is how we were all able to go. We all got to meet up and hang out and get dinner. Your network is so important so this experience allowed me to expand my network and have all these different people in all these different places who are in the field of atmospheric science. That was a lot of fun to see all of these people and then see these people six months later at this workshop. We stayed in contact which was nice."

### How do you think this experience helped you as an honors student?

"This workshop helped me improve my verbal and written communication skills. Many scientists aren't very good at breaking down information in a way that people can understand. This workshop helped with that and improved my listening skills. It was helpful for research, for getting a job. Same goes for being an honors student. It helped me listen to my professors and write well in terms of scholarship and internships which really helped with those skills. It helped me be open minded, sympathetic and respectful."

### What would you say to an upcoming student about this experience?

"This experience definitely was one to remember. Being able to experience this in college, you have to be open minded about it and you should feel honored to attend. It's resume worthy and it is one of the best networking experiences you can get because you get to work with these people, you get to know these people and it helps you expand your view on atmospheric science. I've written a lot of research and going to this experience I learned that there is still so much that you can do with atmospheric science. The people who you talk to who are doctors and directors and they are all very personable and you can network with them as well. We as students are the future of atmospheric science. This is a workshop that is focused on career development and this is an experience you cannot get anywhere else. It is absolutely a worthwhile experience. It makes it even easier to talk to some of these directors because they know you because you're from Millersville. Its all for your benefit, and it is there for you. You have a lot to bring back to your university through atmospheric science." +

# **FACULTY PROFILES**



Dr. Gregory J. Seigworth, Professor of Communication and Theatre, has established and co-edits a new peerreviewed open

access academic journal, *Capacious: Journal* for Emerging Affect Inquiry, that focuses on publishing work by graduate students and early career researchers, alongside established scholars, in the field of affect studies. *Capacious* has published four issues with the most recent edition printed in March 2019. Affect studies look to how bodies (human and otherwise) realize their capacities for relation in ways that often pass beneath attention.

Seigworth has organized two international conferences at Millersville University, in

2015 and 2018, in this area of research. The conferences were attended by a combined total of more than 500 scholars from over 20 different countries. Presently, Seigworth is working on a follow-up volume to his academic best-seller, *The Affect Theory Reader*, which was co-edited with Dr. Melissa Gregg, and published by Duke University Press in 2010.

Last April, Seigworth taught as an invited instructor at a week-long spring school seminar at the Affective Societies Research Group at the Free University of Berlin. This summer he will spend a month as an invited guest researcher at Aarhus University in Denmark, working with their research cluster on "affects/interfaces/events." In recent years, Seigworth has conducted similar workshops and taught courses in Iceland, Canada and Finland. He is often asked to serve as the external examiner for dissertations; most recently for Ph.D. candidates in Australia, the Netherlands and England.

At the end of July 2019, Seigworth will host the Society for Affect Studies Summer School at the downtown Ware Center. It will be a week-long series of summer courses taught by scholars from around the world including South Africa, Germany, Australia, Canada, the United Kingdom and more. Enrollment is open to students and faculty from everywhere. He is also working with other faculty from across Millersville's College of Arts, Humanities and Social Sciences to initiate the first-ever statewide Pennsylvania State System of Higher Education student/faculty conference on the liberal arts, "Boundless: Arts and Intellects." +



Dr. A. Nicole Pfannenstiel, Assistant Professor of English/ Digital Media, shared that she loves to play games. It was

while taking a game studies course with Betty Hayes Gee that she began to realize how much learning was possible through good game design and how incredibly misunderstood videogames are. During one particular class, she described play style and game design in "Farmville" to connect theories of literacies, which are broadly defined as how people learn to read and writing in specific discourse communities and contexts. While the course content addressed education and videogames, students in the course were unable to take "Farmville" game design seriously. They asked questions like "Do you garden?" Most players of games that involve violence are rightly offended when asked about game violence leading to real life violence. There is significant research in this area, but no one in the class knew how to understand

casual games. Pfannenstiel was struck by the inability of students to look beyond the label "causal game" to consider how casual game design attracts billions of players to games every day. This was the moment that she began to seriously study play, games and social media.

Her current research focuses on how game design can support learning, and how to connect habits of mind research from composition studies to metareflection through play. The goal of this research is to help writers better understand and develop approaches to writing that will help them in various rhetorical situations across life. She designs Twitter games that parallel her course curriculums to provide fun quests for students to write their way into. She works with Research Librarian Michele Santamaria to co-design the Orientation game "Bibliomarauding" to demonstrate ways that college students read, and the value of recognizing ways of reading, and ways of engaging with the campus One Book. She also works with English graduate assistant Jason Hertz to design a card game to teach argument structure in English composition courses.

However, according to Pfannenstiel, "It's not all fun and games. Yup, terrible professor transition." She is working with and combining game design research, composition research, transfer research, play research and social media research to find ways to develop quests within and alongside curriculum that support creative, open, engaging, curious, persistent, responsible, flexible and metacognitive habits of mind. When writers engage writing situations through these habits of mind, they produce more effective writing that better attends to the realities and requirements of the writing situation. She seeks ways of supporting engaged, student-centered learning that helps all students write. She seeks ways of supporting teachers and faculty to develop engaged, student-centered learning situations that include playfulness. This is the part that has helped her the most. Every semester she surprises at least one student when they realize how much they wrote for class, and how little they struggled with all that writing! +