

# The University RESEARCH NEWSLETTER

The University Research Newsletter is published twice a year by the Office of the Provost.

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MILLERSVILLE UNIVERSITY OF PENNSYLVANIA



## A Message from the Provost

As a public comprehensive institution of higher education, there is an intrinsic relationship between University research and the health and well-being of the citizens we serve. From the laboratory to the archives and the public school classroom, and in the diversity of community-based research projects that are now ongoing, Millersville University faculty and students maintain a commitment to improving the quality and character of public life.

Research not only engages the mind and the discipline, it can lead to new and unexpected discoveries of knowledge, insight, therapies, and technologies. Whether it is at the undergraduate or the graduate level, research and growing expertise in one's field or academic specialty is crucial to scholarship and intellectual engagement. When faculty are able to share this experience with their students, research holds the potential to remake a sense of individual achievement and add greater value and purpose to the proverbial "life of the mind."

As this issue of the *University Research Newsletter* illustrates, all research is

in some sense "applied" in nature. Research is also collaborative, whether between individuals, interests groups or educational institutions. With the addition of new doctoral programs that enhance Millersville's traditional academic strengths, applied and collaborative research will take on new dimensions that are related concretely to the needs of our fellow citizens. We seek to cultivate a broad and diverse research culture that has a positive effect on the lives of our students, on academic disciplines, and on the region we serve. Put another way, Millersville University is committed to training exceptional scholars and researchers who in one manner or another serve the public interest.

Sincerely,

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

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Millersville University

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# FACULTY RESEARCH

BY EMILY YOST



**Dr. Aaron Porter**  
(Assistant Professor of Sociology/Anthropology):

has a research expertise in the fields of urban sociology, social inequity and ethno-historical techniques. In April 2014, he edited and published a book entitled *Social Fabric Transformations: Research on International Perspectives*.

The book focuses on how economic transformation in the global economy has impacted a number of international spheres, including family and community life, national and local markets, political economies, education and gender issues. Currently, Porter is working on a biography of William H. Brown, a chairman of the Equal Employment Opportunity Commission who was incredibly influential in fighting discrimination and inequality in the workplace in the 1960s and 1970s. Porter also participates in the Ford

Foundation, a nonprofit NGO that supports visionary leaders and organizations on the frontlines of social change throughout the world. In this organization, he is one of a handful of sociologists who sit on the committee that decides Ford Foundation grant recipients. Additionally, Porter was appointed to the John Hope Franklin Award Committee and participates in numerous national and global conferences.



**Dr. Karena Rush** (Associate Professor of Psychology):

works with the Parent Choice Foundation as the principal investigator in developing a scale to evaluate the learning potential of children's toys and games. This scale assesses toys in terms of their contributions to children's cognition, language, creativity, motor skills, social and emotional skills, and potential

academic learning. The scale is a result of a coordinated effort of many professionals including psychologists, therapists, pediatricians and teachers, as well as toy companies and even the researchers involved in Sesame Workshop. Preliminary results suggest that this scale is valid, reliable and well on its way to the Parent Choice Foundation's ultimate outcome: the addition of a label to toys that resembles nutritional labels, but instead discloses the toy's developmental advantages. Rush is involved in another study on biofeedback and mindfulness sponsored by the York-based Lincoln Intermediate Unit

(LIU). This study focuses on children with social-emotional disorders facing severe challenges who generally do not respond well to treatment. Rush's collaboration with LIU utilizes a biofeedback-centered video game that teaches emotional regulation and mindfulness in a fun and accessible way. Preliminary results suggest that this intervention successfully decreases off-task behavior. In addition to her own research, Rush is also Chair of the Millersville University Institutional Review Board, which approves, monitors and reviews any research on campus that uses humans as subjects.

## Editing a World War Two Diary

As part of his sabbatical leave, **Andre Moine, Ph.D. (Foreign Languages)** has undertaken a complex research and editing project to bring his father's World War Two diary to publication. In addition to translating the original document

from French to English, Moine has made several extended research trips to France, conducting oral history interviews with villagers and visiting military archives. The resulting text presents a very personal and up-close account of

wartime experiences. Dr. Moine's father fought in the so-called 'Phoney War' during the German invasion of western Europe. He was captured and held as a prisoner for more than a month in the summer of 1940.



**Dr. Erin Moss**  
(Associate  
Professor of  
Mathematics  
Education):

was a co-editor for  
*Teaching Children  
Mathematics*, the  
official journal

of the National Council of Teachers of Mathematics. She co-edited a section about problem solving, which focused on how mathematics problems and lesson plans help professionals explore how students learn math. A math problem, with

multiple possible solutions, was sent out to teachers, who in turn gave the problem to their students. The students' work and solutions were returned to the journal, which assessed and then published the general trends of the student problem solvers. Additionally, Moss is looking forward to the upcoming publication of her piece titled "Philosophies of Mathematics and their Implications for Mathematics Education." Her work will be featured as a book chapter for a volume about integrating philosophies of mathematics into university mathematics courses, published by the Mathematics

Association of America (MAA) Notes series. This piece encourages educators to consciously teach math as an accessible subject, and to focus on strategies and critical thinking. She hopes to "change the perception of what it means to be 'good at math' through educators' problem selection, class discussions and interactions with students."

## Career & Life Studies Program

Millersville University has launched a new post-secondary education option for individuals with an intellectual disability. Created under the leadership of **Thomas Neuville, Ph.D. (Educational Foundations)**, Career & Life Studies is an inclusive initiative focusing on strengthening academic and vocational skills while enhancing community. One of its novel features is providing internship and applied research opportunities for undergraduate and graduate students. The initiative also reflects the University's commitment to diversity and multidisciplinary research in Disability Studies.



*Americans Disability Act rally on campus*

# STUDENT RESEARCH PROJECTS

BY EMILY YOST



**Nicholas Heil:**  
(’15, Math Education, University Honors College) attended the 2015 Joint Mathematics Meetings (JMM) in San Antonio,

Texas from January 9-13. Encouraged by his honors thesis advisor, Dr. Ximena Catepillan, Heil presented his research on Maya division and was awarded an Outstanding Presentation Award in the Mathematical Association of America

(MAA) Undergraduate Poster Session. His work began when Catepillan assigned him the task of researching and developing information on Maya division, a topic which previously “has not been focused on much at all.” Although he acknowledges there is no evidence that the Maya people ever completed division, Heil explains his project’s intent was “to show that it is possible to do so with the math system that they used.” In conversation about his initial research, Heil shares, “While I was trying to come up with a method of division, I began focusing on what division really was; repeated subtraction.

This was my starting point, but I had to make the process much more efficient. I was unable to think of a process until I found a multiplication table online.” Using the knowledge that the Mayan base 20 math system relied on position to determine value, Heil incorporated the Maya positional grid system with the use of the multiplication table to result in a long division process. In reflecting on his success at the JMM, Heil comments, “I am extremely pleased with the entire experience and I am looking forward to continuing my research and completing my thesis.”



**Emily Yost:**  
(’15, Psychology and Multidisciplinary Studies, University Honors College) recently accepted a job offer to train and work with Teach for America beginning

this summer following graduation. Teach for America is a national organization whose primary mission is to ensure that access to high-quality education is

a universal right of all students. Corps members, those recruited to work for the organization, are trained, mentored and commit to serve a two-year term teaching in a low-income area. Inspired by their “phenomenal mission statement,” Yost decided to pursue a career with Teach for America: “It was an opportunity to implement the information I’ve learned in a way that would help people who needed it.” After completing the initial application, she was also required to do a phone interview followed by an all-day

interview in Philadelphia. Selective and rigorous, the application process was only the beginning. Now, after being accepted, she must take several competency exams and then attend a five-week mandatory training in Georgia over the summer. Likely to be placed in a public school in Cincinnati or Dayton, Yost will be teaching Secondary Science in a high school or middle school classroom. Incredibly passionate about the cause, she shared that she can’t wait to “get [her] hands dirty and do some real work that will make a difference.”





**Charissa Mohn:** ('15, Earth Science with minors in Biology and Water Resources, University Honors College) completed her senior thesis through the Biology department, with a research concentration on Botany. Her thesis project, titled "Impacts of *Ailanthus altissima* leaf pack leachate on Radish (*Raphanus sativus*) and Wheat (*Triticum aestivum*) Seed Germination and Seedling Growth," was also featured at the Commonwealth of Pennsylvania University Biologists meeting

in April. During her time at Millersville, she won the Millersville University Class of 1947 Scholarship, the Linglestown Community Garden Club Scholarship, a Student Research Grant to help fund the research for her thesis, and was selected to be part of the 2014 PASSHE Summer Honors Program, traveling to New Brunswick and Nova Scotia. Additionally, Mohn is currently involved with two internships. At the Lancaster County Conservation District, she is "working with the watershed specialist on various tasks such as stream restoration surveys, entering data and creating reports for the Department of Environmental Protection about stream restoration projects." She also

initiated her own research project, "Physical Changes occurring in the Bald Eagle Stream after Restoration Efforts," which was presented at the Made in Millersville conference in April. Of her internship with York County Conservation District, she explained, "I work with the Agricultural Specialist team on entering agriculture conservation plans into their GIS database. I am working on making a map of the entire county and all of the conservation methods that farms are implanting in York." After graduation, Charissa plans to find a job at a local conservation district or conservation company.



**Jordan Rast:** ('15, Psychology with a minor in History, University Honors College) spent last year working as a research intern at both Lancaster

General Hospital and Hershey Medical Center assisting psychologists with their research in the field of health psychology.

This year, he presented his thesis for the University Honors and Psychology Departmental Honors. Rast focused his research on the "impact of fact sheet distribution on acceptability of HPV vaccination." After analyzing 32 surveys using Fisher's exact test, he interpreted his results to indicate that "fact sheet distribution did not have a significant effect on HPV vaccine acceptability." Jordan will be continuing his education next year at Villanova University as a graduate

assistant in the General Psychology Master's Program, with a concentration in Health Psychology. After completing this two-year program, he hopes to "gain entry into a clinical psychology Ph.D. program and focus on health behavior research." Rast shared that he is also currently "in the process of recording a new solo album that will be released on June 19 at Tellus360 in Lancaster, Pa." Entitled *Cowboy Money*, the album contains thirteen of his original songs.



# IN THE FIELD

BY LARA ADAMS

## Applied Research in New Millersville Doctoral Programs

Challenging research opportunities are opening up at Millersville in the form of several new doctoral programs. Currently approved or soon to be approved, the advanced degrees in Education Leadership, Nursing and Social Work represent a new departure in Millersville's historic mission. They also reaffirm the central role of applied research in the life of the University.

Offered in partnership with Shippensburg University, the new Ed.D. degree in Education Leadership "focuses on poverty and technology" to equip "educational leaders with the knowledge, skills and dispositions" needed to support students in achieving success in a diversity of educational settings. The program is not only set up to help with curriculum development, but also will focus on other factors affecting students, such as rates of poverty and digital learning. Dr. Tiffany Wright of the Education Foundations Department explains that one of the principal goals of the program is for degree candidates to gather research from the school districts and aid schools in improving the lives and education of their K-12 students in a way that will allow the district to continue to improve independently in the future. Graduate students will have the opportunity to work in small cohorts with regular interaction with faculty members, Leadership Fellows who currently work in the field and District Level administrators. The program seeks to teach leadership and research skills to affect positive change at the school district level. The pilot cohort will begin during summer 2015, with a second cohort planned for January 2016.

The recently approved Doctor of Social Work (DSW) program is offered in collaboration with Kutztown University as an online degree program, with weekend residency and face-to-face engagement. In discussing the program, Dr. Karen Rice, chair of the Department of Social Work says that "We will prepare academicians who can lead, and effective leaders who can teach." The curriculum and schedule offerings accommodate working professionals with a part-time sequence of two courses per session: fall, spring and summer terms. There is an applied or experiential component to the program, with courses related to leadership and teaching.

The proposed doctorate in Nursing builds on the traditional strengths of the MSN and graduate certification in Nursing Education, Family Nurse Practitioner and Case Management. Emphasizing research methodology, improved skills and nursing practices, the doctorate will offer advanced training that is applied or evidence-based, and builds on a solid undergraduate education. Dr. Kelly Kuhns, chair of the Department of Nursing, states, "As part of [the Nursing Research course], all undergraduate nursing students engage in an evidence-based practice analysis. This project requires them to investigate the existing research on a particular practice question, typically related to their own area of practice. As part of their research, the students must examine the existing body of literature to determine if a practice change is supported by research or if there is insufficient research, and therefore a recommendation for additional research

is warranted." Students then create poster presentations on their findings which are displayed for practitioners at various locations to view. Several students have gone on to present their projects at both regional and national conferences. Millersville's undergraduate and graduate nursing programs promote the necessity of research in nursing as it relates to understanding and improving current practices to help advance the medical community at large.

These three doctoral degree programs will launch Millersville into a new era of advanced studies and add another level of applied research expertise to the University's evolving educational culture.



*New Doctoral Student Cohort 2015*

# COMMENTARY

BY RACHEL KUNICKI

## Research: A Student Perspective

*Rachel Kunicki is a junior, BA English major with a minor in Print Media Journalism, and a member of the University Honors College.*

Last semester, I attended a panel discussion led by several Millersville University graduates advising current students on how to prepare for success after college, whether that involves graduate school or a career in a specific field. Hosted by the Beideman Initiative, Paul Beideman himself sat on the panel and relayed his experiences and tips related to the interview process. Near the end of the session, he said something that had a huge impact on me: your degree and your GPA may get you an interview, but it is your ability to market yourself and your skills that get you the job. When I was asked to write this piece about research, that quote immediately came to mind, as I believe students' exposure to and experience in research make them the most marketable candidates in their career fields.

While a degree may teach the specifics of a job, research teaches habits of success. An article published by the Office of Research and Graduate Studies at Utah State University notes that research has been proven to enhance analytical skills, teamwork, time management, leadership, writing skills, troubleshooting,

understanding of ethics, communication and self-confidence. These abilities parallel the qualities that employers seek in new hires. Drs. Randall and Katharine Hansen, writing for *Quintessential Careers*, confirm the relationship between research and success in the work place, stating that "Employers want new hires who can assess a situation, seek multiple perspectives, gather more information if necessary and identify key issues that need to be addressed... No place is better than college for teaching you these skills because [research is central] to the curriculum at most colleges and universities." Additionally, the value of research extends even beyond career preparation, as several of the skills listed above also provide a foundation for dealing with the problems that arise from everyday life. Research imbues in students the ability to think critically and analytically in all facets of life.

When individuals decide to attend college, I doubt the majority enroll looking forward to the long hours of completing minimum 20 page research papers at least once a semester. In fact, most of my peers, and myself as well at times, tend to dread the inevitable process of writing a research paper or starting a senior thesis. But through my interactions with those

who have achieved success in their careers as well as my own personal journey at Millersville, it is my opinion that the process and experience of completing research are irreplaceable when it comes to job preparation, attainment and prosperity in everyday life.





# INTERVIEW WITH DR. STEVEN BONSER

BY EMILY NEIDEIGH



**Steven Bonser, Ph.D., is Assistant Professor of Chemistry at Millersville University.**

## **What are your research interests?**

As a synthetic organic chemist, I have many different research interests; however, the overall theme of most of my research has to do with drug research. Within the realm of this theme, a major direction has to do with drug discovery; that is to say, to better design, develop and synthesize specific types of molecules that might prove to be useful therapeutic candidates for the pharmaceutical industry.

## **What was your experience working in the industrial field?**

I had a very successful and rewarding career as a practicing organic chemist in the Research and Development Laboratories of the Eastman Kodak Company over a 22 year period. In that time frame, I worked as a senior scientist in applied materials development for the electrophotographic market; applied R&D in coupler and inhibitor chemistry for advanced 35 mm films; and as a senior process development chemist, synthesizing complex molecules and developing manufacturable processes for the thermal printing and graphic arts industry, as well as developing the chemicals for use in OLED (Organic Light Emitting Diode) products (flat panel display technology). In addition, I was a senior Ph.D. recruiter for all of Eastman Kodak's Research Laboratories for 18 years. I recruited Ph.D. and post-doctoral

students in all fields of chemistry and chemical engineering at the University of Minnesota-Minneapolis, and the University of Wisconsin-Madison, as well as Ph.D. and post-doctoral students in all fields of chemistry at Harvard University.

## **How has this applied research background helped in directing student research at Millersville?**

The knowledge and experiences gained as a practicing organic chemist in industry allows me to teach our undergraduate research students how real life, practical research is done. My projects are designed to augment the learning experience of the undergraduate research students and to help reinforce concepts learned in the classroom. They also allow the students to put into practice their critical thinking and experimental skills. The research projects that they will have an opportunity to work on in my laboratory are both relevant and current and would be of great interest to the scientific community.

## **Do you belong to any other professional organizations that place a high value on research?**

Yes, the American Chemical Society (ACS); the American Association for the Advancement of Science (AAAS); the Council on Undergraduate Research (CUR).

## **What is your view of research at Millersville?**

I still maintain that while completion of a research project is important, it is the process of engaging our students to learn and think independently that is just as important, if not more so, in the long run. To quote one of our own distinguished faculty members, Professor Dennis B. Downey, in his Commentary: Research and Strategic Vision (*The University Research Newsletter*, Spring 2014, Vol. 4, Issue 2); "The ability to engage in research, to conduct authentic and meaningful research in collaboration with highly skilled faculty, is one of the distinguishing features of a great university." I couldn't agree more.

