

The University RESEARCH NEWSLETTER

The University Research Newsletter
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MILLERSVILLE UNIVERSITY OF PENNSYLVANIA



A Message from the Provost

At the conclusion of the spring semester, Millersville's campus was abuzz with

activities. The University hosted several major scholarly conferences that drew hundreds of visitors from across the Commonwealth and the Mid-Atlantic region. Baccalaureate and graduate degree candidates rushed to complete research theses and creative projects that earned them academic distinction. Our own "Made in Millersville" program showcased the creative and scholarly activities of hundreds of our best and brightest students. I am proud that Millersville students and faculty have embraced leadership roles in scholarly and community organizations.

This issue of *The University Research Newsletter*, produced by students in the University Honors College, will give you a taste of the wide variety of scholarly research projects offered by both faculty and students. In addition to highlighting the successes of current students and recently graduated alumni who have gone on to earn distinction in graduate and professional programs, this issue

provides a sampling of recent faculty sabbatical research achievements.

I wish to personally thank Managing Editor Rachel Kunicki and the editorial staff for their commitment to the success of Millersville's *University Research Newsletter*. I hope you enjoy learning about the wide variety of research-related projects that demonstrate the quality of a Millersville education in the 21st century.

Sincerely,

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

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SABBATICAL RESEARCH

BY BRITTNEY BROWN



Dr. Natalia Dushkina, Professor of Physics, conducted research over her 2014-2015 sabbatical to

study the structural colors—metallic colors exhibited by some animals and minerals—of biomicrostructures. Dushkina focused specifically on the transparency of the *Chorinea sylphina* butterfly and the light polarization of dogbane leaf beetles. Using a scanning electron microscope, Dushkina has found that the *C. sylphina*'s natural transparency is due to large transparent regions on the fore and hind wings. Dushkina currently is working on publications discussing the iridescent green coloration of the species.



Dr. Kenneth DeLuca, Professor of Applied Engineering, Safety & Technology, is currently

on sabbatical researching and visiting historic industrial sites associated with the birthplace of the Industrial Revolution. His research took him to early industrial sites throughout Cornwall in the South West region of the United Kingdom. These locations provide information about how the inhabitants were affected by the local industry and how their lives were changed, just as they are changed by industry today.



Dr. John Wright, Professor of Automation and Electronics Technologies in the Department of Applied Engineering,

Safety & Technology, went on sabbatical for the 2014-2015 school year to conduct research and enhance his knowledge of artificial intelligence. His research, which centered on the development of humanoid robots, was conducted at Millersville University and the computer support and services center at Multi-Dimensional Integration. Using the Aldebaran NAO Robotic Humanoid platform, Wright was able to develop various programming techniques. The culmination of his research resulted in a course proposal for Humanoid Robotics ITEC 477, which has been approved by his department and will be offered to students in the near future.



Dr. Gregory Seigworth, Professor of Communication Studies in the Department of Communication & Theatre, studied

sensation and aesthetics as well as affect theory during his sabbatical in 2014-2015. Seigworth helped organize an international conference on affect theory held at Millersville's Ware Center, with 225 presenters from 18 different countries. Seigworth also co-edited a double issue of the journal *Cultural Studies* (Sept.-

Nov. 2015) and co-wrote the issue's introduction, "Everyday Debt and Credit," with Dr. Joe Deville from Goldsmiths, University of London. In December 2015, his co-edited book, "*The Affect Theory Reader*," was translated and published in South Korea. Then on January 9 he gave a two-hour talk via video-link to a gathering of South Korean academics at "The Garden of Multitude Intelligence" center. In June 2016, Seigworth will be conducting a two-day-long workshop on affect theory to take place at the of Jón Sigurðsson Museum in Iceland.



Dr. Carol Hepfer, Professor of Biology specializing in genetics, cells and molecular biology, took a sabbatical

leave to conduct a study on genome variations in *Doryteuthis pealeii*, a species of squid. Hepfer isolated DNA fragments to create different pools to be evaluated, the analysis of which showed there may be some correlation between the fragments and sex determination of squid. Her second study focuses on differential gene expression within *D. pealeii* related to their ability to maintain consistent forces. At this point, muscle tissue has been taken to preserve mRNA, but other steps of the experiment are still in process, therefore a conclusion of the results has yet to be made.

COMMENTARY

BY DENNIS DOWNEY

“I’m Not Retired, I’m on Sabbatical!”

One of the most rewarding experiences a faculty member can have is a sabbatical leave. The opportunity to step aside, refocus and recharge, and to engage in meaningful original research serves as a valuable reminder of why faculty chose the professorate in the first place.

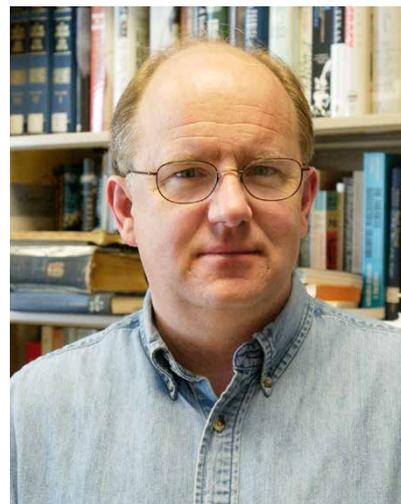
In my own case, the fall of 2015 was one of the busiest and most productive semesters in my 35 years as a university professor. I spent my time making frequent research trips to archives in the greater Philadelphia area. The College of Physicians and Surgeons and the Philadelphia City Archives provided all manner of assistance, as did staff at the National Archives, the Pennsylvania State Archives and numerous other repositories. The daily commute and the hours of concentrated research were exhausting and exhilarating at the same time.

My research centers on Philadelphia physicians and their role in shaping disability policy at the turn of the 20th century. Inspired in part by eugenics, a scientific and social movement that advocated restricting the rights and freedom of fellow citizens said to be “unfit” and “defective,” medical scientists championed policies that marginalized individuals with intellectual disabilities. Often the best and brightest of their

generation, these physicians and their political allies articulated a rationale that had global implications. One of my students summarized this work as an exploration into the “history of the awful.”

Why engage in such research? The simple truth is the subject fascinates me, and it is relevant to my specialty as a historian of American ideas and culture. Furthermore, it offers new avenues for professional development, and the topic permits an original contribution to the discipline. As a result, I have received numerous invitations to address national conferences on the subject of my research, and I am frequently asked to speak before clinical and community audiences. I am editing a special issue of a scholarly journal, been asked to write feature articles for national journals, and I am organizing a regional conference for fall 2016. And perhaps most fulfilling of all is the possibility of a new book that will expand on another work recently completed and under contract with Penn State Press.

But there are other reasons that this particular research has proven to be so tantalizing. Late in my professional career, this research and the doors it continues to open, so to speak, have a relevance that is at once professional and personal. My research has changed not only *how* I teach, but *what* I teach in my



American history courses. History, per se, is not some carcass of inert detail, but rather it is a discipline and mode of inquiry filled with controversy. I think I am a better and more substantive scholar-teacher with a fuller appreciation for history as something that happens to people. I have used history as a form of public advocacy on issues that affect citizens most adversely. And there is an intensely personal dimension to my scholarship. As I have come to realize, what often motivates people drawn to advocacy work in the field of disability rights and services is how public policy affects someone they know. For me as for many professors, scholarship, community education and advocacy have become entwined in a braided narrative freighted with meaning and significance.

WHERE ARE THEY NOW?



Jennifer Craighead, '90, History, University Honors College, graduated from Dickinson School of

Law in 1993 and is employed as a partner/attorney at Barley Snyder LLC in Lancaster. Craighead chairs the firm's Employment Law Group and concentrates her practice in the areas of labor and employment law, as well as school law.

Erin Donovan, '13, English-Journalism, University Honors College, worked as managing editor of this publication. She recently accepted a full-time position as an associate copy editor with Merkle, a national advertising agency in King of Prussia.

Felicia Guarriello, '14, Meteorology, University Honors College, completed the master's degree at Texas A&M University and in June will begin her career with the National Oceanic and Atmospheric Administration in Silver Spring, Md.

Allison Heck, '12, Psychology, University Honors College, received her DPT (Doctor of Physical Therapy) from Arcadia University in 2016.

Melody R. Herr, '92, Biology and History, completed the Ph.D. in the History of Science, Medicine and Technology at Johns Hopkins University before embarking on a distinguished editing career. She served as acquisitions editor at several prestigious university presses and recently was appointed the inaugural head of the Office of Scholarly Communications at the University of Arkansas. She is in charge of public relations, outreach and project management, which includes strategic planning, and has developed an international network across academia, the publishing industry and the nonprofit sector.

Sharon Folkenroth Hess, '14, History and Archaeology, has been admitted into the graduate program in History and Museum Studies at the University of Delaware.



Gary Miller, '80, Biology, received his M.Sc. in entomology from the University of Tennessee in 1982 and then his Ph.D. in

entomology from Auburn University in 1991. Starting in 2003 he began work as a USDA research entomologist and is now a noted researcher in the community, having published over 100 papers.

Ella Hoover Musser, '91, Elementary Education, University Honors College, earned her doctorate in education and recently was appointed Superintendent of Schools in the Cocalico (Pa.) School District.

James Rooney, '16, History, will attend Drexel University School of Law.



Jessica Sheetz-Nguyen, '90, M.A. in History, received her Ph.D. in European history from Marquette

University in 1999 and started teaching at the University of Central Oklahoma in 2005. In 2013, she additionally took on the role of Assistant Dean in the College of Liberal Arts. Her current work includes developing a book project on British women travelers in Victorian Italy as well as completing a research project with her students on the London Foundling Hospital and the social history of London in the age of Victoria.

Jonathan Shoff, '07, Music Education, University Honors College, went on to earn his Master of Music Education with a piano performance concentration at West Chester University in 2013. He's worked in the School District of Lancaster for eight years and will be

BY RACHEL KUNICKI

finishing his fifth year this spring at King Elementary School as a general music teacher and director of band, chorus, and orchestra. Additionally, last summer he was appointed director of Lancaster's Music for Everyone Community Chorus, a group created by Millersville alumni A.J. Walker. The MFE chorus is a nonaudition, all-ages, multicultural collection of singers who sing a wide selection of music, often in other languages. All songs are learned by rote, meaning they're learned by ear and repetition rather than by reading sheet music, making the group accessible to all, regardless of music experience or knowledge. Shoff is married with three children and in his free time enjoys spending time with them, playing piano and singing. When interviewed for his bio page on the King Music Department website, he shared, "I wanted to become a music teacher because of the experiences that my music teachers gave me. Music is an important part of being human."



Wakenda Tyler, '97, Psychology, University Honors College, received her

MPH in public health from Johns Hopkins University in 2001 and her MD in Medicine from Johns Hopkins University School of Medicine in 2002. She is currently

an associate professor in the Department of Orthopedics at University of Rochester as well as a practicing orthopedic oncologist—a surgeon who cares for patients with bone and soft-tissue tumors.



A.J. Walker, '07, Music and Choral Conducting, helped found Lancaster's

Music for Everyone Community Chorus in 2010 and has been the director of music for the past four years at Linden Hall School for Girls. In September 2015, Walker moved to California to continue his education as he pursues a master's in choral conducting at California State University, East Bay.



Joshua Yablonski, '10, Chemistry, University Honors College, graduated in fall 2015 from

the University of North Carolina at Chapel Hill with a Ph.D. in inorganic chemistry. Still at the same school, he's now continuing his work as a graduate research assistant, working toward developing self-assembled monolayers and polymer films for use in permanent electronic devices.



CURRENT STUDENT ACTIVITIES

Pineal Bekere, '16, Chemistry, University Honors College, has been admitted to pursue the MD degree at Loyola University-Chicago's Stritch School of Medicine.

Laura Saltzman-Golden, '16, Social Work, University Honors College, will enroll at the University of Pennsylvania for graduate studies leading to the MSW degree. In July, she will begin an intensive internship for Belmont Behavioral Health.

Taylor Lagler, '16, Mathematics, University Honors College, is admitted into the Ph.D. program in biostatistics at the University of North Carolina at Chapel Hill.

Nikki J. Wolford, '16, Chemistry, University Honors College, will be attending the University of Rochester to pursue a Ph.D. in chemistry.

Lindsay K. Harrison, '16, Biology, University Honors College, will pursue graduate studies in microbiology at Mississippi State University.

Megan McAuliffe, '16, Meteorology, University Honors College, has been accepted into the Ph.D. program at the University of California-Davis.

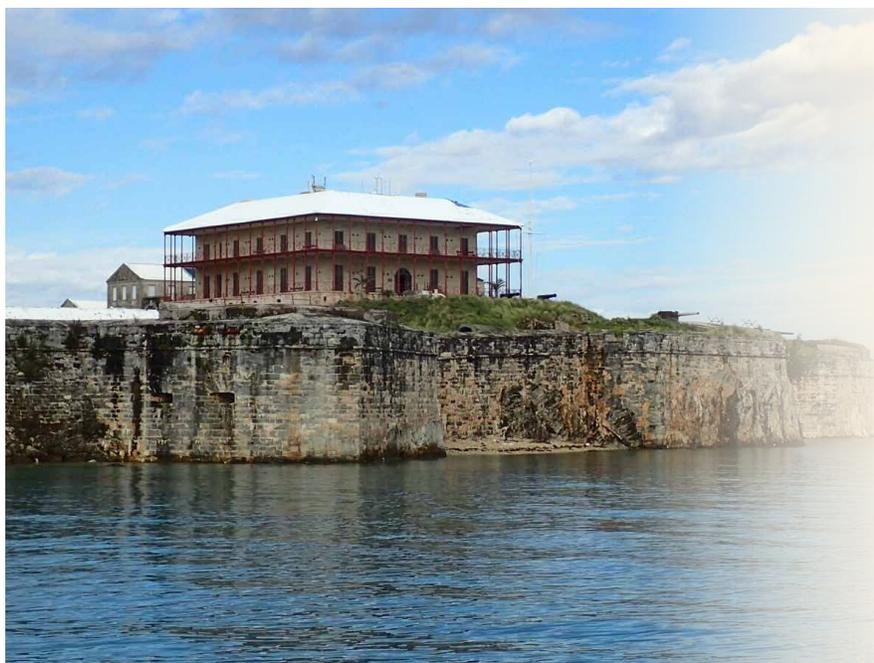
Laura Cray, '16, Linguistics and History (MDST), University Honors College, has been admitted for advanced studies in applied linguistics at the University of Groningen in the Netherlands.

Joseph Receveur, '16, Biology, University Honors College, has been accepted into the PhD program in entomology and ecology at Michigan State University.

Shane C. Kacsos, '16, Chemistry, University Honors College, will spend a year with AmeriCorps before pursuing graduate studies.

Kelsey M. Miller, '16, Psychology, University Honors College, will enroll in the graduate program in school counseling at Kutztown University.

Leah Schwartz, '16, Biology, University Honors College, will spend six months researching animal behaviors at Badlands National Park.



Bermuda Bound: Summer Research Internships, National Museum of Bermuda

Four Millersville University students will travel to Bermuda to conduct historical and material culture research under the direction of Dr. Clarence Maxwell and curators at the National Museum of Bermuda. Abigail Gruber, Helen Devonshire, Jon Bannan and Alexander Goodrich will be investigating material artifacts and helping NMB staff to catalogue the rich collection of material artifacts involved in trans-Atlantic maritime history and commerce.

Disability History Conference

On March 28 Millersville University and the Pennsylvania Disability History Coalition co-sponsored a regional disability rights and research conference in the Bolger Conference Center. More than 240 scholars, advocates and members of the general public registered for the day-long program that showcased a variety of initiatives focused on research and public advocacy. Eric Rosenthal, J.D.,

an international advocate for disability rights and the Drinan Professor of Human Rights at Georgetown University School of Law, served as the keynote speaker. Other panels and presentations emphasized ongoing research projects. More than a dozen organizations mounted exhibits including a feature on the Pennhurst Memorial and Preservation Alliance. In the afternoon, WITF Public Media premiered the new documentary "I Go



Home" as well as older documentaries that narrated institutionalization and the origins of the disability rights movement in Pennsylvania

Student Policy Initiative

COURAGE is a research group dedicated to civic engagement. Through public colloquia the group seeks to educate the community on the importance of policy by providing opportunities to interact with guest speakers from different backgrounds. The group uses research

to draft policy proposals with key figures in the state government, including Senator Lloyd Smucker, Governor Tom Wolfe and Lt. Governor Mike Stack. The group is currently working on a proposal to strengthen communities through collaboration with other educational institutions. Based in the University

Honors College, the working group includes Marthelis Abreu, Bryan Diem, Cara Discavage, Dustin Hornberger, Elizabeth Quinn, and Kelsy Snavelly, as well as Kurt Lituma. Dr. Aaron Porter serves as advisor, and membership is open to all MU students.



FACULTY INTERVIEW

BY RACHEL KUNICKI

Dr. Nanette Dietrich

Nanette Dietrich, Associate Professor of Educational Foundations, was awarded a \$300,000 National Science Foundation (NSF) grant in fall 2014. This four-year grant will provide aid for the project "Teaching Environmental Sustainability: Model My Watershed" (TES: MMW), a large-scale collaborative research effort focusing on environmental science.

What inspired you to pursue this field of work and this particular project?

I have always been passionate about science and began my career over 20 years ago as a secondary science teacher. After a decade of classroom teaching, I completed my Ph.D. in Curriculum and Instruction in Science Education at the University of Delaware. To get students excited about science, I believe, we must provide them with the tools and resources to investigate REAL problems, in REAL places, using REAL data in order to make REAL decisions. TES: MMW gives students the tools to be informed and empowered watershed stewards.

The NSF grant, awarded in 2014, spans four years. What are the outcomes of your research to date? What do you still hope to learn more about in the future?

The goal of the TES: MMW project is to provide students and teachers with access to scientifically valid and easy-to-use watershed tools to accurately examine their own neighborhoods, to define local environmental problems or challenges, and to develop solutions to improve their environment. Effectiveness

of the project is measured by the curriculum's ability to promote critical incidents for students in terms of their engagement with watershed ideas and concepts outside the classroom in their personal lives. We are currently in the first year of data collection, and preliminary results should be available in the summer of 2016.

How will your research with this project impact the local community. . .and the national community?

A part of the TES: MMW project curriculum includes the development of a watershed modeling web-application, which provides secondary students, citizens and science professionals with the ability to simulate and visualize how storm-water runoff and water quality impact their neighborhoods. This application uses professional-grade models and real land-use, soil and topographic data. Historically, such capabilities typically required expensive and time-consuming consulting services. The Model My Watershed app is free, easy to use, is completely web-based and requires no download. Check it out at app.wikiwatershed.org/.

Is there any topic or aspect of your research I didn't ask about that you'd like to share?

I would like to encourage Millersville students to get involved in watershed stewardship. Dr. John Wallace and I recently founded the Watershed Education Training institute (WETi)

at Creek Lodge to foster watershed stewardship and student/faculty research for the region. Through the development of innovative science-based solutions and programs, the mission for the institute is to address the impact of historically destructive land-use practices and policies across multiple watersheds through the education of people of all ages and backgrounds on watershed advocacy and research. This spring we will be hosting a tree-planting event to reforest an area near the institute. Contact Dr. Wallace or me for information on how to get involved.

