



JMU Research, Scholarship & Creative Endeavors

Volume 3, Issue 5

Greetings!

We would like to extend our thanks and appreciation to Dr. Yvonne Harris, who recently left James Madison University for a position at California State University, Sacramento. Dr. Harris served as JMU's Vice Provost for Research & Scholarship for four years, and is now the Associate Vice President for Research, Innovation and Economic Development at Sacramento State. Our best wishes to Dr. Harris in her new role.

JMU's Provost and Senior Vice President for Academic Affairs, Dr. Heather Coltman, recently appointed Dr. Anthony Tongen and Dr. Keith Holland as Interim Vice Provosts for Research & Scholarship. Dr. Tongen also serves as Associate Dean of the College of Science and Mathematics and Professor of Mathematics. Dr. Holland is an Associate Professor of Engineering at JMU, and previously served as Assistant Department Head for Engineering. We hope you will join us in welcoming Drs. Tongen and Holland to Research & Scholarship.

Earlier this month, Governor Northam released the 2018 Virginia Energy Plan, authored with input from a variety of agencies, offices, and key stakeholders, including Virginia Clean Cities, JMU's alternative fuel vehicle and infrastructure public policy center. The report stated, "The electric vehicle recommendations include adopting the Advanced Clean Cars (ACC) program, developing a comprehensive electric vehicle transportation plan, and setting targets for both electric vehicle charging infrastructure and the Commonwealth's vehicle fleet. The advanced transportation recommendations note that the Commonwealth's existing programs to promote alternative fuel vehicles have worked well and should continue forward with additional technical support." Visit Virginia Clean Cities' [website](#) for more information on their clean energy efforts and the Virginia Energy Plan.

Director of the [Center for International Stabilization & Recovery](#) (CISR), Dr. Ken Rutherford, presented at the Middle East Institute's conference on the growing threat of landmines and other explosive devices. *Landmines, IEDs, and other Explosive Hazards in the Middle East: Addressing a Growing Threat* convened three panels on the following topics – 1) Mapping the Threat, Assessing the Human Costs; 2) New Strategies and Technologies; and 3) Policy Responses and Priorities. Joining Dr. Rutherford were fellow international experts in humanitarian demining, including: Prince Mired bin Ra'ad of Jordan; Stanley Brown, Director, Office of Weapons Removal and Abatement, Bureau of Political-Military Affairs, U.S. Department of State; and Ambassador Fareed Yasseen, Ambassador of Iraq to the United States.

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CISR's Ken Rutherford and Lindsay Aldrich visited Capitol Hill in September to brief congressional staff on international humanitarian issues.

Faculty Grant Awards

Notable awards from August 2018:

Carole Nash (Associate Professor of Geographic Science and Integrated Science and Technology, and Director of the Shenandoah National Park Environmental Archaeology Program) received \$25,000 from the National Park Service to continue to provide archeological evaluations and surveys of the Shenandoah National Park.

Yasmeen Shorish (Associate Professor, JMU Libraries) received \$89,333 from the Institute of Museum and Library Services to convene experts and stakeholders to address key opportunities and challenges in building an open access collection development platform.

James Sochacki (Professor of Mathematics) received \$70,717 from Idaho National Laboratory to increase the relevance of the Applied Visualization Laboratory in the Center for Advanced Energy Studies and to evaluate and enhance the usability and effectiveness of immersive visualization applications and mathematical analytics of database.

Morgan Steffen (Assistant Professor of Biology) received \$399,313 from the National Science Foundation to elucidate the fundamental interactions between the phylogenetic, genetic, and functional relationships within one of the most common and dominating ecosystem phenomena of the Anthropocene – proliferating freshwater cyanoHABs.

Gerald Weniger (Assistant Professor and Director, Physician Assistant Studies Program) received \$42,457 from Health Resources and Services Administration (HRSA) to expand on research addressing specific needs around the training of individuals that deliver and/or support the treatment of opioid use disorder, including the comprehensive services for successful medication-assisted treatments.

Nathan Wright (Associate Professor of Biochemistry) received \$60,000 from the Camille and Henry Dreyfus Foundation, Inc. to focus on how mutations in the giant muscle cytoskeletal proteins titin and obscurin weaken their attachments to various cellular targets.

JMU Hosts Inaugural Virginia Cyber Security Education Conference



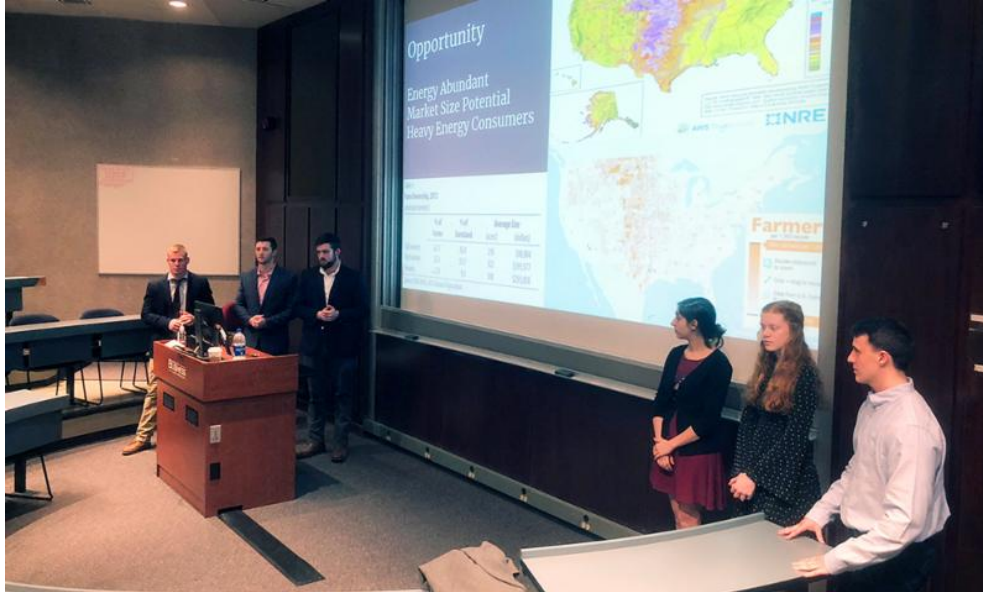
Virginia Secretary of Education Atif Qarni delivers the keynote address.

James Madison University hosted the inaugural Virginia Cybersecurity Education Conference on August 14th and 15th. Held on campus in the ISAT/CS Building, the event was a collaboration between the College of Integrated Science & Engineering, Research & Scholarship, and the Virginia Cyber Range, of which JMU is a member. Housed at Virginia Tech, the Range is led by an executive committee representing 11 Virginia colleges and universities, all of whom are nationally recognized centers of academic excellence in cybersecurity.

The purpose of the conference was to introduce high school teachers and college faculty to the Cyber Range -- a cloud-hosted, virtual environment that provides an extensive courseware repository and hands-on laboratory exercises to enhance cybersecurity education in the Commonwealth. More than 170 educators, policymakers, and industry representatives participated in sessions focusing on innovative and practical approaches to improve student outcomes. Virginia Secretary of Education Atif Qarni delivered a keynote address applauding the Range's efforts to build the necessary infrastructure to educate the next generation of cybersecurity professionals. Additionally, former Virginia Secretary of Technology Karen Jackson moderated a panel of educators who shared best practices for utilizing the Range in classroom settings.

[Learn more about the VA Cyber Range](#)

Interdisciplinary Student Team Wins Top Business Plan Prize at Wind Energy Competition



This past May, 30 students representing the Integrated Science and Technology, Engineering, and Management departments traveled to Chicago to participate in the third biennial Collegiate Wind Competition sponsored by the U.S. Department of Energy. Students spent the two semesters prior to the competition studying sustainable energy, brainstorming ideas for a project, and determining the most viable solution considering both engineering and marketing perspectives. The JMU team won the top business plan prize for their *Neighboring Winds* project, which they designed to provide new housing communities a renewable energy source at a competitive price. "The wind industry is growing and participating in this competition gave [students] a great opportunity to get experience and engage with people who make wind energy," said Dr. C.K. Lee, professor of management. [Read more](#)

Educational Foundations and Exceptionalities Professor Publishes Paper on Computer Assisted Instruction

Dr. Sara Snyder, assistant professor in the Educational Foundations and Exceptionalities Department, recently co-authored a paper that was accepted for publication in the *American Journal of Intellectual and Developmental Disabilities*. Snyder and her colleague, Dr. Heartley Huber, assistant professor at the College of William and Mary, reviewed existing literature to examine how researchers have used Computer Assisted Instruction (CAI) to teach academic skills to students with Intellectual Disability (ID). Dr. Snyder said they "wanted to know more about the programs being investigated, specifically, what academic areas were targeted for instruction and how instruction in the programs aligned with what we know about how to best teach academic skills to students with ID." While Snyder and Huber found evidence supporting the use of computer programs to teach basic reading skills and math skills, they did not find as much support for teaching more complex academic tasks. They also found "...less evidence for teaching science and social studies compared to other subjects like reading," said Dr. Snyder. Overall, the review found that evidence is growing to support using computer programs to teach academic skills to students with ID. The title of their paper is "Computer assisted instruction in academic skills for students with intellectual disability".

Nursing Director Testifies before the U.S. Senate



Senator Tim Kaine greeting JMU School of Nursing Director, Dr. Julie Sanford.

Dr. Julie Sanford, professor and director of the JMU School of Nursing, testified before the U.S. Senate's Health, Education, Labor, and Pensions Committee. Her testimony focused on nursing workforce development programs in disadvantaged and underserved communities, where there is a critical need for quality health care. Sanford informed the committee that nationwide there are approximately 1600 unfilled nursing faculty positions, while the Center on Education and Workforce at Georgetown University projects a nursing shortfall of 200,000 professionals by 2020. JMU was recently awarded a \$2.7 million federal grant to support nursing education. [Read more](#)

Undergraduate Research Grant Awarded to Studio Art Major



Matthew Perkins, a Studio Art major (and May 2018 graduate) with a concentration in I-3D, received a College of Visual and Performing Arts Undergraduate Grant to study and dissect the ideas and roles that clothing played in the late 19th century, by studying 3 bodices that were donated to JMU in the 1980s. Perkins became interested in costuming after attending a Blizzard Entertainment convention in high school. Following his

research, he plans to create an originally designed wearable sculpture that discusses this research and how the gender assumption on garments has changed over the past 100 years. Additionally, Perkins aspires to be a social media influencer and his costumes and cosplays have already gained a following. Not only will he use this medium as a way to promote his work and craft, but he also hopes to be invited to international conventions where he can teach people who wish to get started in the cosplay and costuming community.

Learn more: <https://crimsyncosplay.weebly.com/>

Research Q&A with Alumnus Rusty Carlock

JMU Research & Scholarship recently interviewed Russell (Rusty) Carlock, an ESOL (English for Speakers of Other Languages) and Social Studies teacher at Albemarle High School, about the impact of research and scholarship on his education and career. Dr. Carlock graduated from James Madison University with a B.A. in English (with a Creative Writing Minor), and then went on to earn a Master's from the University of Virginia and both a Master's and Doctor of Education from Harvard University's Graduate School of Education. Dr. Carlock was named the 2018 Virginia History Teacher of the Year, selected among 160 nominees from across the Commonwealth. [Read more](#)



Geology & Environmental Science Faculty-Student Team Explore the History of James Madison's Montpelier



When the resident archaeologist at the historic home of James Madison uncovered what could be a slave cemetery on the property, he enlisted the help of Dr. Shane McGary, professor of geology and environmental science. Dr. McGary teamed with senior geology major Michelle Proulx, who he had previously partnered with to examine slave burial grounds at other historic sites. Utilizing ground-penetrating radar, McGary and Proulx gather data on the electrical properties of the site in question. McGary stated, "Our work is trying to get a sense of whether there are burials there, where exactly they might be, and

helping [Montpelier] better understand the history of the place.” This project is a unique opportunity for geophysicists to provide a more complete picture of the history at Montpelier, and in particular, bring new details to light about a forgotten community.

[Read more](#)

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