



# ACHIEVE

RESEARCH & GRANTS ACTIVITIES @ ROBERT MORRIS UNIVERSITY • 6th Edition Volume 1 • Fall 2020

## Associate Provost's Message

The Research & Grants Administration (R&GA) is happy to share the Fall 2020 issue of the R&G Newsletter. We hope this newsletter will play an important role in showcasing research & grant activities at RMU.

In this issue, we feature thirteen grant applications submitted by RMU faculty from January to June 2020. The summaries presented here are in the Principal Investigators' own words. Some of these applications have been awarded and others are pending. For this period, sixteen opportunities were discussed/explored and eleven proposals were submitted. Most grant proposals were written by our faculty and staff with support from Research & Grants Administration, and Financial Operations. As always, supporting institution data was provided by the Office of Institutional Research.

The Research & Grants Administration encourages all faculty and staff to pursue research and participate in various research & grants related activities. The R&GA is available to help you answer questions related to grant searching, writing, budgeting, and managing. Please contact us with your questions, comments, suggestions, and concerns.

Have a great Fall semester!

Sincerely,

### Sushil Acharya

Associate Provost for Research,  
Global Initiatives and Development



## ➤ Technologies for Advanced Monitoring of Blood Pressures

Grant Agency: **American Heart Association Center for Health Technologies and Innovation**

Primary Institution: *University of Pittsburgh*

Blood pressure (BP) is the measure of force required to pump blood around the body. When the force is too high, this is known as hypertension (HTN) or high blood pressure (HBP). HTN, also known as the "silent killer" afflicts about one-half of Americans. Hypotension, or low blood pressure, is associated with major surgeries where there is blood loss; it can also result from other conditions. In either case, hypertension and hypotension require BP monitoring. While there are several methods for measuring blood pressure, automatic BP cuff devices have emerged as the most popular. Unfortunately, among other limitations, these devices are (1) inaccurate in patients with stiff arteries due to aging, or other conditions, resulting in misdiagnosis and misclassification; (2) not readily accessible to those of low socioeconomic status, resulting in individuals unaware of their condition; and (3) disruptive to patients during periodic cuff inflations for outpatient, ambulatory and/or nighttime monitoring. A team of interdisciplinary researchers, developers, and clinicians propose to establish technologies to overcome the aforementioned limitations, including (1) a BP cuff device for more accurate BP estimation; (2) smartphone applications for readily accessible BP measurement; and (3) a wearable patch system for ambulatory/nighttime BP monitoring. The BP measurement devices will be developed through physiological principles, data-driven machine learning algorithms, and/or innovative sensors. Successful completion of this project may ultimately translate to more accurate diagnosis and management of hypertension and hypotension; improved classification of cardiovascular disease and risk stratification; and enhanced patient awareness of conditions, as well as strategies to improve health outcomes.

### Grant Proposal Activities - January to June 2020



Grant Opportunities  
Explored



Grant Proposals  
Submitted

**Nadine Englert**  
Co-Principal Investigator  
Professor of Nursing  
SNEHS



## ➤ **Military Affairs Council Study for Western Pennsylvania as a Military Logistics Lift Hub**

Grant Agency: **Department of Community and Economic Development**  
Primary Institution: *Military Affairs Council of Western Pennsylvania*

Center for Conflict Resolution received notification that they received \$60,000 to develop a white paper that considers Western Pennsylvania as a Military Logistics Lift Hub. The Pittsburgh airport is already doing its own cargo expansion planning. The community and military presence would be well positioned to work with the airport plans looking toward the future of a military cargo hub at the Pittsburgh airport. There already is significant unused infrastructure on the airfield to support expansion, namely the cargo distribution facility between the 911th and the FBO. We believe that it would be an economic boost with cargo perhaps coming from across PA and other places to load onto C-17s at PIT for whatever the destination. There would be an increase in air traffic resulting in increased personnel flow through the area for hotels, restaurants, and local expenditures. As we look to future military development, we would like to leverage the activities that have already taken place in the region such as the 911th receipt of the C-17s to make arguments for future development. We are thinking of continued support to maintain the operation support for the 316th and 2nd Brigade. We are also thinking to a future when we will need to support the 171st to receive the KC-46s and funding for the Marine Reserves to build a new facility to house them. If planned imaginatively with the airport's support, it could develop into a win/win for all. Our proposal is to use the funds to contract with a research team from Robert Morris University School of Business and the International Center for Conflict Resolution, Joseph M. Katz Graduate School of Business, University of Pittsburgh, who will work with the Airport Authority, the Military Units (local as well as the Defense Logistics Agency and TRANSCOM), and local stakeholders to conduct the feasibility study and produce a white paper that can be used to support the community in promoting the concept. We will also conduct an economic impact study that will project what the economic benefits – direct, induced, and spillovers - to the region would be should the report's findings be implemented.



**Marcel Minutolo**  
*Principal Investigator*  
Professor of Management,  
SBUS



**Steven Clinton**  
*Co-Principal Investigator*  
Professor of Marketing,  
SBUS



**Brian O'Roark**  
*Co-Principal Investigator*  
Professor of Economics,  
SBUS

## ➤ **Enhancing Skills and Career Preparedness Using IT and Cloud Computing**

Grant Agency: **PASmart**

Demand for qualified STEM and computing workforce is rising rapidly and universities are not meeting it. More students need to enroll in these fields to fill the gap. This proposal aims to enhance high school students' preparedness for STEM and Computing careers by expanding their exposure and experience in computing. It offers an opportunity for workforce development by targeting talents in high schools with a focus on underrepresented groups. The grant will bring cloud computing to students and increase their awareness of STEM fields and technology career opportunities. It will help prepare students for AWS certifications, further enhancing their career perspectives. Cloud computing is a strong driver for adopting technology in industries and enterprises in all fields and RMU has strong connections with Amazon and AWS Academy. Thus, we have the resources and experience necessary to successfully accomplish our goals. We will train high school teachers in cloud computing then work with them to create and deliver students' modules. We plan to make the modules available for wider use by interested schools in an effort to achieve a sustainable influx of trained students. The grant will familiarize high school students with college level experiences and encourage them to pursue STEM related education. We will include incentives for students to participate, such as scholarships for those who enroll in a RMU STEM program.



**Maria Kalevitch**  
*Principal Investigator*  
University Professor  
of Biology,  
SEMS

## ➤ DoD CySP at RMU for Cyber Student Recruitment and Student Success

Grant Agency: **U.S. Department of Defense (DoD)**

This proposal is for establishing a new DoD CySP (Department of Defense Cyber Scholarship Program) at Robert Morris University (RMU) for the 2020-2021 academic year to recruit and prepare cyber talent for the DoD cyber workforce and to enhance the national pipeline for qualified cyber professionals. The requested funding from DoD will provide support for student scholarships (including full tuition, fees, living stipends, laptop computers, and textbook allowance) and for faculty research on cybersecurity education, mentoring, and talent recruitment. Graduates from the CySP program will serve in professional positions of cybersecurity with DoD agencies. The proposed project at RMU will adopt a systematic approach to cyber talent recruitment based on the AAA Model of advertising, assisting, and assessing to identify, evaluate, and select qualified and talented student candidates for the program. Students' successful academic and professional preparation during the scholarship period is essential to their readiness for and success in their future professional service for the DoD employers. As a national Center of Academic Excellence in Cyber Defense Education (CAE-CDE), RMU will provide quality education for all cybersecurity students. In addition, the proposed CySP program at RMU will adopt and implement a comprehensive mentoring model to enable the student scholars to succeed academically and professionally. The faculty research will focus on how to continuously improve cyber talent recruitment and student retention and completion in cybersecurity education.



**Ping Wang**  
*Principal Investigator*  
Professor of  
Computer and Information  
Systems, SIHSS

## ➤ An Analytic Network Process Model to Estimate the Benefits, Opportunities, Costs, and Risks of Gun Policies and Violence Prevention Interventions for Legal Firearm Users

Grant Agency: **The National Collaborative on Gun Violence Research**

Primary Institution: *Katz Graduate School of Business, University of Pittsburgh*

This project puts forth a methodology for the collection and assembling of data that can be used to estimate the harms and benefits of various gun control policies to gun owners. The method we propose is feasible to implement with existing knowledge of the impact of gun control laws, and when data are not available it can incorporate expert judgment. Because gun control laws involve intangibles and hence not all impacts of a law are measurable in a quantitative scale, we need to compare the benefits, opportunities, costs, and risks (BOCR) created by each gun control law in relative terms. Thus, we need relative measurement as in the analytic network process. The analytic hierarchy process (AHP) and the ANP model use pairwise comparisons to construct relative scales for both tangibles and intangibles. The gun control laws are then evaluated in terms of their BOCR scores.



**Marcel Minutolo**  
*Principal Investigator*  
Professor of  
Management, SBUS

## ➤ Establishing a Community of Practice for Small- and Mid-Sized Academic Libraries to Explore the Possibilities of Transformative Agreements beyond the Top-Tier Research Library Level

Grant Agency: **National Leadership Grants for Libraries**

Collaborating Institution: *Wayne State University*

Tim Schlak and Alexis Macklin of Wayne State University Libraries received a \$149,000 Institute of Library and Museum Services National Forum grant to develop a community of practice from mid-sized and small academic libraries as well as their library consortia to foster agency to pursue transformative Open Access (OA) agreements. In furtherance of IMLS's goal to advance libraries and their users at a national level, the community will explore collectively held needs, facilitate conversations that identify possibilities for collaborative action, and articulate best practices to realize the community's aspirations and plan next steps. This project will result in a first-of-its-kind community that represents a critical mass of institutions with sufficient publishing output and negotiating power to speak with one voice. The driving question they seek to answer is: How can a diverse representation of small- and mid-sized academic libraries create more inclusive conversations on OA that empower them to operate at a network-level to participate in the national trend towards transformative agreements?



**Tim Schlak**  
*Principal Investigator*  
Assistant Professor of  
Learning Resources,  
RMU Library



**Vicki Donne**  
Principal Investigator  
Professor of Education,  
SNEHS



**Mary Hansen**  
Principal Investigator  
Professor of Education,  
SNEHS

## ➤ Middle School Success: The Path to Graduation (P2G)

Grant Agency: **Montgomery County Intermediate Unit 23**

*Middle School Success: The Path to Graduation (P2G)* grant is based on a partnership between the Pennsylvania Training and Technical Assistance Network (PATTAN) and Institutions of Higher Education (IHE) across the commonwealth. RMU professors Dr. Vicki Donne and Dr. Mary Hansen will collaborate with the Montgomery County Intermediate Unit and researchers from 11 universities across the state to provide intensive, ongoing professional development resources on practices with evidence supporting that implementation will reduce the risk factors associated with high dropout rates among students with emotional/behavioral disorders. The set of resources prepared by the team will be used to prepare PA preservice and in-service teachers on culturally responsive education, Early Warning System Tool, critical analysis of data, and evidence-based behavioral instructional practices. The grant award was for \$8,000.

## ➤ Religious & Spiritual Diversity on Campus

Grant Agency: **Interfaith Youth Core (IFYC)**

This project proposes a half-day workshop for Robert Morris University faculty and staff focused on the role of religion and spirituality in higher education, as well as promoting interfaith dialogue on campus, based on the book *No Longer Invisible: Religion in Higher Education* to be facilitated by the book's authors, Douglas Jacobsen and Rhonda Hustedt Jacobsen, of Messiah College. This half-day workshop would be offered to 20 faculty and staff, and would be followed by a 1.5 hour keynote presentation and panel open to the whole campus community, including faculty, staff, and students, for those unable to attend the workshop.



**Tim Schlak**  
Principal Investigator  
Assistant Professor of  
Learning Resources,  
RMU Library



**Stuart Allen**  
Co-Principal Investigator  
Professor of  
Organizational  
Leadership, SIHSS

## ➤ GET READY @ RMU

Grant Agency: **Federal Department of Education**



Submitted by the Office  
of Student Life

Student Support Services (SSS) submitted a proposal to not only retain and graduate RMU students, but also to provide affordable paths for students to obtain knowledge and skills and to promote the development of these skills to prepare students to be informed, thoughtful, and productive individuals and students. A pre-orientation program and five-year plan were developed to help first-generation students successfully move from semester to semester and eventually to life after school. The goal is for students to "Get Ready" to excel in the workplace and in life. This will be accomplished through financial wellness and career readiness workshops, career and cultural outings and a strong focus on developing a meaningful relationship between the SSS staff and the students. The program will assist 140 students. Of those 140 students, 105 students will be first generation, low income; 12 will be first generation; 13 will be low income; five will be students with a disability; and five will be low income students with a disability.

## ➤ **Bringing Voices of Academia and Civil Society to Combat Anti-Human Rights Movements and Sustain Democracy in the Post-Revolutionary Armenia**

Grant Agency: **Department of State**

Partner Institution: *Yerevan State University*

The intent of the project is to engender democracy by tackling disinformation, hate speech and the manipulations of people's thoughts and beliefs around gender equality and women's rights in Armenia, the models for which can be adapted for other human rights deficiencies, through increased knowledge, capacity, and skills in local stakeholders. Democratic republics need deliberative, engaged citizens with coordinated knowledge, messages, and actions. They need countervailing forces which are able to compete for attention and support. When controversies arise a democracy needs forums for people to argue, negotiate, and persuade with facts, agreed-upon conditions, clearly defined problems, and a choice of solutions from which to choose. A republic needs norms through which those who differ can maintain mutual respect for the process, if not for each other. Nothing about social media enriches the process of deliberation. This project is devoted to mitigating misinformation, that which is in error, and disinformation, that which is intentionally false, that challenges the rights of women and minorities to occupy equal space, have an equal voice, and make equal contributions with men to the development of democracy in Armenia. Basing our project to combat disinformation in the media on the issues of women and human rights, our team will build the capacity of civil society to combat false and misleading information. We expect that efforts to mitigate the proliferation of disinformation will usher in opportunities to change beliefs about women and girls, sexual minorities, and invisible people and reduce violence, which has as its only purpose to demonstrate supposed male supremacy and control over the "other."



**Elizabeth Stork**  
*Principal Investigator*  
Professor of  
Organizational  
Leadership, SCIS

## ➤ **Mindfulness and Post-secondary Student Outcomes**

Grant Agency: **Trust for the Meditation Process**



**Nathan Taylor**  
*Principal Investigator*  
Assistant Professor of Education,  
SNEHS

The proposed mindfulness program will introduce historically, underserved university students to key practices of meditation over an academic year and provide teachings on how to include mindfulness in students' everyday lives. The program will work in conjunction with an action research project to determine the program's efficacy in obtaining three goals: The impact of mindfulness training on students' self-efficacy/awareness, exploration of the program's impact on students' academic achievement, and, to determine the impact on student retention at RMU.

The first fifteen weeks (fall semester, 2020) will consist of weekly, one hour meetings among participants and Dr. Nathan Taylor, the instructor/researcher. These weekly meetings will follow the Mindfulness Based Stress Reduction curriculum created by Linda Lehaupt, Ph.D. and Petra Meibert, Dipl. Psych (2017) and is informed by the founder of MBSR Jon Kabat-Zinn. The mindfulness program will include other forms of mindfulness training including Koru Mindfulness, Tibetan signing bowl practices, and guest teachers from the Shambhala lineage. The anchor meditation practice will consist of Samatha Vipassana meditation. There will be a one day meditation retreat included during the fall semester. The curriculum includes, but is not limited to, learning and practicing mindfulness practices, identifying stress and coping with daily stressors, the use of meditation and other practices to effectively react to stress, promote mindful communication, and how to take care of one's self.

### **Contact us:**

Sushil Acharya, *Associate Provost*

Lisa Nauman, *Grants and IRB Specialist*

[acharya@rmu.edu](mailto:acharya@rmu.edu)

[nauman@rmu.edu](mailto:nauman@rmu.edu)

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