

The Office of Research & Sponsored Programs presents:

RESEARCH MATTERS!

YOUR NEOMED RESEARCH NEWS HUB

SPRING 2018

WELCOME

By Steven P. Schmidt, Ph.D.

Welcome back to the quarterly publication of *Research Matters!* from the Office of Research and Sponsored Programs (ORSP). *Research Matters!* was originally published during the leadership of Walter Horton, Ph.D., when he served as NEOMED's Vice President for Research (VPR). In the transition of leadership in the role of VPR *Research Matters!* was on hiatus. There was considerable debate amongst the ORSP team as to whether or not this publication should be re-named. In the end we stuck with *Research Matters!* because the intent of this publication is to present matters surrounding the conduct of research at NEOMED that are of importance to our university researchers and community as a whole as well as to emphasize that the research being conducted at NEOMED does matter - it matters by contributing to the breadth and depth of understanding the basis for both disease and health; it matters to our students who learn about scholarly activity and the role of research in their careers and care of patients; and most of all it matters to patients for whom research often means "hope." *Research Matters!* will hopefully address all of these aspects in this and coming issues.

Please enjoy the content of this issue of *Research Matters!* I welcome your feedback on how we can make this communication to you from ORSP as informative and useful as possible.



Steven P. Schmidt, Ph.D.
Vice President for Research
Dean of the College of
Graduate Studies

Hello, Kualu Research

By Andrew Skrinyer, M.A., ORSP Program Coordinator

Say goodbye to anxiety during the grant submission process beginning in 2018! Kualu Research, an electronic grants management system, now in use at NEOMED, will help streamline the proposal approval and submission processes and compliance management. This new web-based electronic research administration (eRA) system provides a powerful, easy-to-use tool that simplifies the administration of proposals and awards.

The built-in reporting tool will be part of Phase II of the implementation, which will begin during the spring of 2018.

Through its user-friendly interface, Kualu improves teamwork and communication. Kualu also allows NEOMED to go paperless throughout the pre-proposal and proposal stages, eliminating up to six paper processes. Furthermore, Kualu provides increased efficiency, data integrity and oversight. Kualu offers streamlined routing and approval processes — among them, expedited electronic submission to funding agencies including the National Institutes of Health by employing system-to-system submission processes.



TRAINING AVAILABLE

All research staff members are encouraged to attend hands-on software training sessions. To check out Kualu before your training, click [here](#) to access the Kualu site, then input your NEOMED username and password.

If you have questions or would like to sign up for training, please contact Amanda Lindsay, the Assistant Director of the ORSP, via phone at x6497 or email at alindsay@neomed.edu. We are thrilled to provide this latest addition to researchers' tool kits.

OBLIGATORY SCIENCE JOKE

Q: Why did the kangaroo join Elon Musk's space program?

A: He wanted to be a Mars-supial!

Faculty Profile: Vahagn Ohanyan

By Andrew Skrinyer, M.A., ORSP Program Coordinator

This column highlights the innovative research and entrepreneurship of Vahagn Ohanyan, M.D., Ph.D., assistant professor of Integrative Medical Sciences. We would also like to congratulate him on his recent transition to the tenure-track position of Assistant Professor.

Where did you receive your education/training?

My education began with an accelerated M.D./Ph.D. program at Yerevan State Medical University in Armenia. I began my research career in my second year as a medical student and continued into residency in cardiology with Hamayak Sisakyan, M.D., Ph.D., before obtaining my M.D. Shortly afterwards, I received my Ph.D. in molecular biology, working with Sos Sisakyan, M.D., Ph.D. In 2007, one year after receiving my Ph.D., I came to the United States to take a postdoctoral fellow position in the NEOMED lab of William Chilian, Ph.D. I received an American Heart Association postdoctoral fellowship grant from 2010-12. In 2012, I received a faculty promotion (to research assistant professor) to continue my teaching and research. As of April 1, I have transitioned to a tenure-track faculty position, assistant professor.

Describe your area of research and why it is important to you.

My interest in cardiovascular research came to me when I was a student shadowing Dr. Hamayak Sisakyan. He was looking at catecholamine (adrenaline-induced) cardiomyopathies. I continued this research in residency which led me further into cardiology research with my Ph.D. I joined Dr. Chilian because he does an array of cardiovascular research including: stress-induced cardiomyopathies, coronary blood flow regulation, and coronary angiogenesis. At NEOMED, I collaborate with all researchers in the Department of Integrative Medical Sciences (IMS) by helping with ultrasound imaging and developing disease models that are surgically induced.



Above: Vahagn and his daughter, Sophie, at a poster presentation: graduation of fellowship of academic medicine 2017 (FAME).

VAHAGN OHANYAN M.D., PH.D.

Assistant Professor

Integrative Medical Sciences

Research Focus Area:

Heart and Blood Vessel Group

Recently, we have focused on heart failure – a disease that kills 1 out of 8 people in the United States. We develop a variety of heart failure models (surgically induced or drug-induced) in mice, we then study cardiac function following the treatment methods. This allows us to investigate new treatment methods and develop new drugs.

Currently, I am Co-PI on four NIH-funded research projects: two with Dr. Chilian, one with Yong-Renn Chen, Ph.D., and one with Priya Raman, Ph.D. However, my main project is to study the role of ion channels in coronary metabolic blood flow regulation and the role of the coronary microcirculation in heart failure.

You have an innovative research/entrepreneurship model here at NEOMED. Could you describe that model and how it advances your research?

I started my own contract research organization (CRO), called Ohan Cardiovascular Innovations in the REDzone. From 2013-2017 I directed mouse microsurgery and echocardiography workshops on site at NEOMED for both national and international participants. After several workshops, I realized many of my participants still had difficulties performing mouse surgeries. It occurred to me that I could open this company and offer these services to not only these participants, but to other NEOMED scientists.

My CRO officially began on January 1st, 2018. Ohan Cardiovascular Innovations offers over thirty cardiovascular cancer techniques including animal disease models, hemodynamic measurements, cardiac imaging, histologic staining, and data analysis. Primarily, we offer mouse and rat models, but we also offer larger animals (rabbit, dog, pig) models.

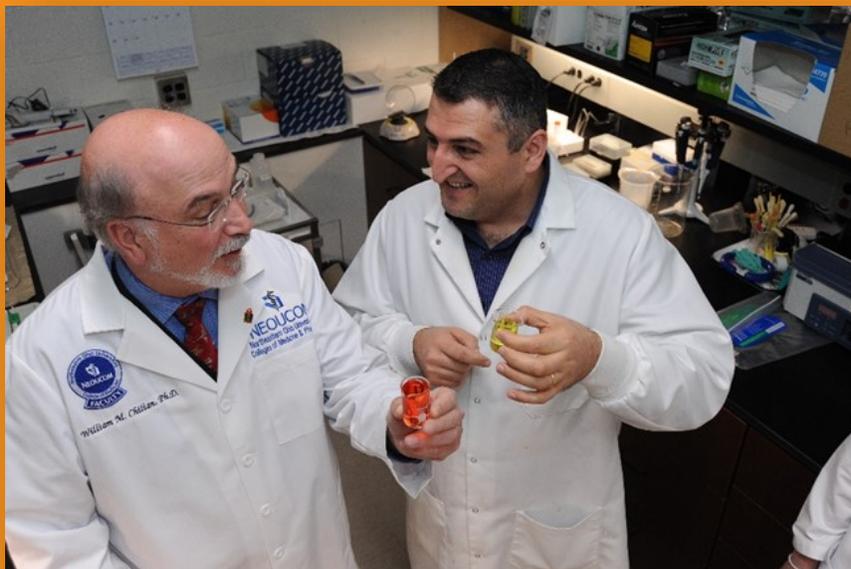


Above: Vahagn shown with his wife, Tatevik Hakobyan, M.D., and daughter, Sophie.

The other reason to open this company is the shortage of funding dollars. I wanted to do something different to bring in money for my research. My first alternative funding sources were the mouse microsurgery and echocardiography workshops, which brought up to \$30,000/year in support. It is my hope that this CRO will bring bigger projects from pharmaceutical companies to fund future research projects.

One idea that came out of the microsurgery workshops and the challenges of the participants is a mouse intubation system that allows us to intubate a mouse in less than 30 seconds. I invented and patented this system last year, and it is expected to be out on the market later this year.

Furthermore, last year Dr. Chilian, Liya Yin, Ph.D. and I repurposed an old, out-of-market drug that we believe can treat non-obstructive coronary microvascular disease. Small animal research data is very promising. We are working on a large animal model and progressing towards human clinical trials.



Above: Dr. Chilian and Dr. Ohanyan in the lab.

What do you enjoy doing in your spare time?

Is this a trick question? My spare time is spent running my lab and companies. If someone could donate some spare time, I would take it!

I am trying to spend my spare time with my daughter and wife. I love cooking, mostly Armenian foods (stuffed grape leaves, Armenian barbeque and shish kebab).

On a more serious note, each year I help organize the American Heart Association Heart Walk at NEOMED, which is a 5k run/walk around the NEOMED campus to benefit patients with heart diseases. BMR Supply was one of the sponsors for this heart walk. Each year I also participate in the American Heart Association Heart Walk at Akron.



**“Sometimes while I’m fishing,
“crazy” research ideas come to
mind that later become reality.”**

For further information on Dr. Ohanyan’s research and entrepreneurship, see the following links:

Ohan Cardiovascular Innovations – www.ohcvi.com

Best Medical and Research Supply – BMR Supply

Funding Opportunities

ORSP recently surveyed research faculty across campus regarding how we can best provide access to new funding opportunities. In response to the survey, we are providing links to federal agency-sponsored email lists that deliver updates about available funding opportunities.

<u>NSF Update Daily Digest Bulletin</u>	<u>DOD Funding Mailing List</u>	<u>NIH Weekly Funding Opportunities</u>	<u>NIH Extramural Nexus</u>
After inputting your email, the site will give you a list of topics. There you can choose the most relevant for your research goals.	Navigate to the SUBSCRIBE button in the lower left corner. After you input your email, the site will give you menus so that you can choose the most relevant topics.	Enter your name and email to subscribe. We suggest the NIH Guide for Grants and Contracts, but there are hundreds of options from which to choose.	News, updates and blog posts on extramural grant policies, processes, events and resources, including Open Mike blog posts. Option to register for monthly or real-time updates.

Federal Funding News

Agency	Description
U.S. Dept. of Health & Human Services	<u>Avoid Grant Scams</u>
NSF	<u>Significant Changes and Clarification to the PAPPG</u>
NIH "Open Mike"	<u>A Look at Cumulative Investigator Funding Rates</u>
NIH Funding Strategies	<u>Find out about funding strategies and budget overviews</u>

Other News

- ◆ [Find out about a new a research-tracking tool, Dimensions](#)
- ◆ [NIH is awarding grants to discover ways to test storage, access, sharing, and computation of biomedical data in the cloud](#)
- ◆ [Find out about ORCID, a digital identifier that distinguishes you from every other researcher](#)

Compliance Updates

By Trish Wilson, C.R.A., Regulatory Affairs Coordinator

Changes to the Common Rule

Changes to the federal regulations that protect the rights and welfare of individuals participating in human subject research, known as the Common Rule, were recently announced by the Office of Human Research Protections (OHRP). The Common Rule changes seek to modernize and make more effective the federal policies for the protection of human research participants. The Common Rule changes are currently set to be effective 07/19/18, with an expected delay in the implementation deadline until sometime in 2019. Unless further changes are announced, key changes would include:

- The requirement for consent forms to provide potential research subjects with a better understanding of a project's scope, including its risks and benefits, so they can make a more fully informed decision about whether to participate.
- Requirements, in many cases, to use a single institutional review board (IRB) for multi-institutional research studies. The requirement has been modified, however, to add substantial increased flexibility in now allowing broad groups of studies (instead of just specific studies) to be removed from this requirement.
- For studies on stored identifiable data or identifiable biospecimens, researchers will have the option of relying on broad consent obtained for future research as an alternative to seeking IRB approval to waive the consent requirement. As under the current rule, researchers will still not have to obtain consent for studies on non-identified stored data or biospecimens.
- The establishment of new exempt categories of research based on the level of risk they pose to participants.
- Removal of the requirement to conduct continuing review of ongoing research studies in certain instances where such review does little to protect subjects.
- Requirement that consent forms for certain federally funded clinical trials be posted on a public website.

Additional information on the Common Rule

changes can be found on the [OHRP website](#). Upcoming informational sessions for investigators conducting human subjects research will be announced in *The Pulse*.



REDIzone Update

By Marilyn Baade, J.D., REDIzone Program Coordinator

Research Matters highlights the collaboration between the REDIzone® and Vahagn Ohanyan, M.D., Ph.D., assistant professor of integrative medical sciences.

When Vahagn Ohanyan, M.D., Ph.D., inquired about the REDIzone® program at NEOMED, Elliot Reed, Entrepreneur in Residence and Program Manager, welcomed him with enthusiasm. Dr. Ohanyan's vision for his new company as a contract research organization in cardiovascular testing embraces the REDIzone mission of aiding NEOMED researchers in crystallizing the market potential of their discoveries. REDIzone stands for "Research - Entrepreneurship - Discovery - Innovation" and is designed to drive regional economic prosperity in the life sciences by uniting early-stage entrepreneurs with NEOMED resources. The program has guided Dr. Ohanyan in scaling his business for growth by securing critical legal and business advisors to form Ohan Cardiovascular Innovations Corp. and acquainting him with the support resources available in the region. As a collaborator with the Northeast Ohio Startup Network – the regional Entrepreneurial Services Program (ESP) supported in part by Ohio Third Frontier – the REDIzone connects Northeast Ohio Medical University entrepreneurs with a host of experienced business professionals.

Through engagement with the REDIzone, researchers like Dr. Ohanyan receive support in identifying the novel aspects of their research for patent filings; accessing funding sources to validate their research further; participating in programs that help tailor the technology to the market interest for market potential; developing effective presentations to venture capitalists; navigating regulatory approvals; and selecting an effective team to scale the business. The REDIzone can also assist in mining revenue opportunities through government grant programs like the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs.

The REDIzone corridor was established through a generous donation from the Timken Foundation of Canton and currently, houses 10 life science companies and mentors over 10 NEOMED researchers as well as over 35 Northeast Ohio regional entrepreneurs. The table below indicates the programs' regional economic development effectiveness as of December 31, 2017:

Year	Employment	Patent Issues	Patents Pending	Follow On* Funding	Sales of Products
2014	53	9	50	\$3,896,440	\$714,466
2015	52	16	45	\$1,087,543	\$787,146
2016	57	35	64	\$19,260,103	\$559,963
2017	78	61	58	\$8,734,239	\$1,501,997
Total				\$32,978,325	\$3,563,572

*Follow-On is a subsequent investment made by an investor who has made a previous investment in the company, generally a later stage investment in comparison to the initial investment.

ORSP Team Member Spotlight: Amanda Lindsay

By Andrew Skrinyer, M.A., ORSP Program Coordinator



Amanda Lindsay, assistant director of the Office of Research and Sponsored Programs (ORSP), arrived at NEOMED one month prior to the departure of the previous executive director. During that time, the ORSP didn't miss a beat! Combining her research administration experience with an upbeat attitude and a strong work ethic, Amanda instantly asserted herself as a valuable member of ORSP. We would like to give all of NEOMED a chance to meet our assistant director!

Where were you educated?

I received my undergraduate degree (B.A. in English and Psychology) and master's degree (M.D.S. in Digital Sciences, Systems Management) from Kent State University.

Andrew: Why did you want to work at NEOMED?

I was excited to work at NEOMED for several reasons including its proximity to where I grew up, in Randolph, and to my current home in Kent. I felt that working at a health sciences university would give me an opportunity to diversify my experience in the field of research administration. I was excited by the opportunity to help implement an electronic grants management system here.

What is something that prepared you for the challenges you've faced while working here?

My research administration experience prior to NEOMED included tasks from all stages of the sponsored programs funding lifecycle, which prepared me well for the different but similar functions of our ORSP. I was tasked with helping to bring an electronic grants management system to NEOMED, and this ambitious project was made somewhat less daunting by my previous experience with similar software implementations – first as a subject matter expert for a campus-hosted system and then with subsequent migration to a web-based solution.

One of the more challenging (but intellectually gratifying) things about being a research administrator in a one-stop-shop office is that you must be knowledgeable about and assist with a variety of processes, involving an array of sponsors, for many different types of programs. I may not know the answer to a given question immediately, but my experiences thus far help me know where, how, and with whose help I can find them.

Fun Fact: Amanda enjoys making costumes and would like to improve her crafting and sewing abilities for both costuming and general garment construction. Some recent costumes include those inspired by favorite films such as: Ellen Ripley, *Alien* (complete with Nerf-gun-based “incinerator unit”); an alien from *They Live*; and a rogue from *The Warriors*.

FY 2018 Awards July 1, 2017 - December 31, 2017

Investigator	Department	Funding Source(s)	Project Title
Baughman, Kristen	Family and Community Medicine	Summa Health System Hospitals/HRSA	Nurse Education, Practice, Quality and Retention - Interprofessional Collaborative Practice
Boltri, John	Family and Community Medicine	Health Resources and Services Administration	Advancing Primary Care Competency Across the Training Continuum in Northeast Ohio's Rural and Underserved Communities
Boltri, John	Family and Community Medicine	Health Resources and Services Administration	HRSA PCTE Opioid NCC FY 18
Sanders, Margaret	Family and Community Medicine	Summa Health System Hospitals/HRSA	Geriatric Workforce Development through Interdisciplinary Team Learning
Sanders, Margaret	Family and Community Medicine	Summa Health System Hospitals/HRSA	Geriatric Workforce Development through Interdisciplinary Team Learning
Thornborough, Patricia	Family and Community Medicine	Health Resources and Services Administration	Area Health Education Center Program
Weisblat, Gina	Family and Community Medicine	Health Resources and Services Administration	Health Careers Opportunity Program (HCOP) of the Ohio Alliance
Weisblat, Gina	Family and Community Medicine	Serve Ohio	Corps for Rural and Urban Success and Health
Weisblat, Gina	Family and Community Medicine	Kent State University/ Ohio Department of Higher Education	Ohio Means Internships and Co-ops RAPIDS - Telemedicine Units
Weisblat, Gina	Family and Community Medicine	HealthPath Foundation of Ohio	Healthcare Workforce in Southeast Ohio
Weisblat, Gina	Family and Community Medicine	Ohio Department of Education	21st Century Community Learning Center
Weisblat, Gina	Family and Community Medicine	Kent State University/ Ohio Department of Higher Education	Ohio Means Internships and Co-ops RAPIDS
Boltri, John	SOAR, LLC	United Way of Portage County	Health & Income Community Impact Grant 2017
Boltri, John	SOAR, LLC	Ohio Department of Health	SOAR, LLC (Student Outreach to Area Residents)

FY 2018 Awards July 1, 2017 - December 31, 2017

Investigator	Department	Funding Source(s)	Project Title
Chen, Yeong-Renn	Integrative Medical Sciences	National Heart, Lung, and Blood Institute	Myocardial Injury Associated with Mitochondria-Derived Oxygen Free Radicals
Chilian, William	Integrative Medical Sciences	National Institutes of Health	What Mechanisms Underlie Coronary Collateral Growth
Meszaros, J. Gary	Integrative Medical Sciences	National Institutes of Health	Targeting Collagen 6 for Post-Infarction Recovery
Raman, Priya	Integrative Medical Sciences	American Heart Association	Targeting OGT in Diabetic Vascular Disease
Yin, Liya	Integrative Medical Sciences	National Institutes of Health	What Mechanisms Underlie Coronary Collateral Growth
Zhang, Ping	Integrative Medical Sciences	National Institute on Alcohol Abuse and Alcoholism	Alcohol, Hedgehog Signal, and HSC Dysfunction in Host Defense Against Septicemia
Zhang, Yan-qiao	Integrative Medical Sciences	National Institute of Diabetes and Digestive and Kidney Diseases	Mechanisms Underlying the Pathogenesis of Non-alcoholic Fatty Liver Disease
Zhang, Yan-qiao	Integrative Medical Sciences	National Institutes of Health	Carboxylesterase 1 in Alcoholic Liver Disease

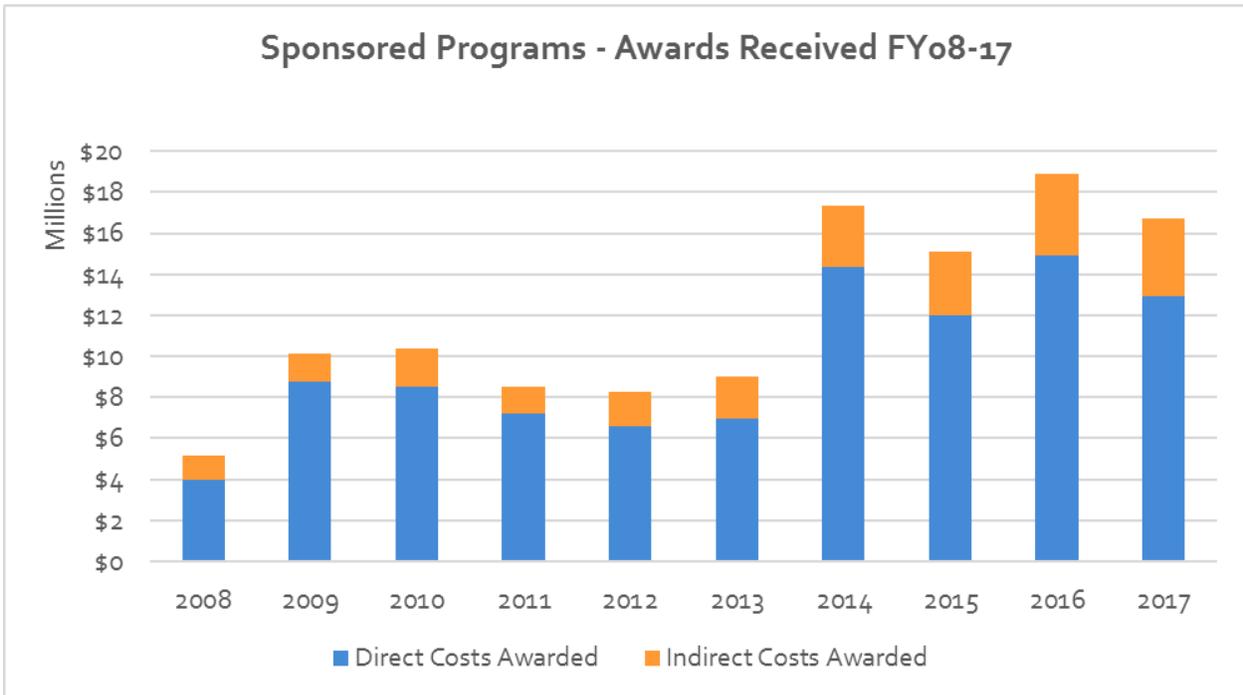
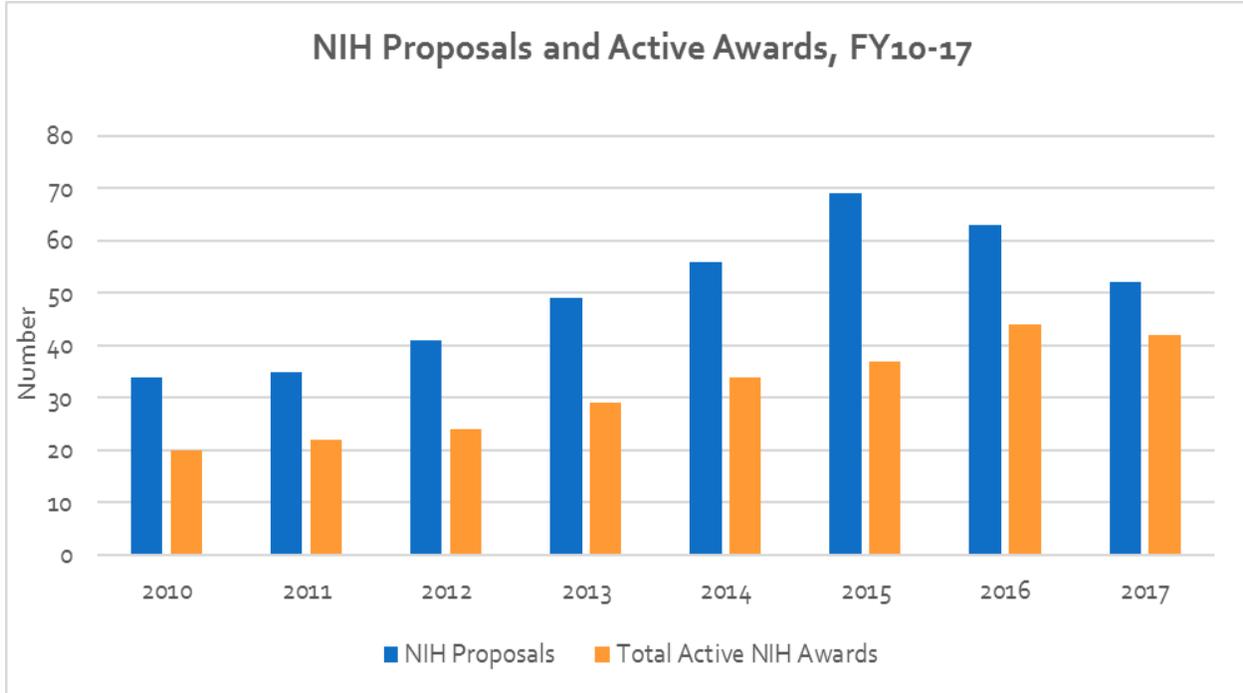
FY 2018 Awards July 1, 2017 - December 31, 2017

Investigator	Department	Funding Source(s)	Project Title
Fetzer, Patrice	Psychiatry	Coleman Professional Services, Inc./SAMHSA	Evidence Based Practice for First Episode Psychosis
Fetzer, Patrice	Psychiatry	Ohio Department of Mental Health and Addiction Services/SAMHSA	Evidence-Based Programs to Address First Episode Psychosis-Greater Cincinnati Behavioral Health Services
Fetzer, Patrice	Psychiatry	Illinois Department of Human Services /SAMHSA	Coordinated Specialty Care for First Episode Psychosis Training and Consultation
Fetzer, Patrice	Psychiatry	County of Summit Alcohol, Drug Addiction & Mental Health Services Board	Supervisor's Training in Cognitive Behavioral Therapy for Psychosis
Fetzer, Patrice	Psychiatry	Ohio Department of Mental Health and Addiction Services/SAMHSA	Evidence-Based Programs to Address First Episode Psychosis-TCN Behavioral Health
Lukes, Amy	Psychiatry	Ohio Department of Mental Health and Addiction Services	Ohio Program for Campus Safety and Mental Health Allocation
Messamore, Erik	Psychiatry	Ohio Colleges of Medicine Government Resource Center	Pharmacogenomic Testing (PGx) for Adolescent and Adult Medicaid Beneficiaries Prescribed Psychotropic Medication (PGx-M)
Messamore, Erik	Psychiatry	Ohio Department of Mental Health and Addiction Services	Heartland Hospital Psychiatric Consulting
Munetz, Mark	Psychiatry	County of Summit Alcohol, Drug Addiction & Mental Health Services Board	Criminal Justice Coordinating Centers of Excellence FY2018
Munetz, Mark	Psychiatry	Allwell Behavioral Health Services/SAMHSA	Six County Inc.-SAMHSA
Munetz, Mark	Psychiatry	Ohio Department of Mental Health and Addiction Services	Child and Adolescent Psychiatry
Munetz, Mark	Psychiatry	Ohio Department of Mental Health and Addiction Services	Community Psychiatry Program
Munetz, Mark	Psychiatry	Ohio Suicide Prevention Foundation/SAMHSA	Incorporating Evidence-Based Suicide Prevention in Undergraduate Medical Education
Munetz, Mark	Psychiatry	Ohio Department of Mental Health and Addiction Services	ECHO Training Model Grant
Simera, Ruth	Psychiatry	Ohio Department of Mental Health and Addiction Services	Opiate Mapping
Spieth, Russell	Psychiatry	Ohio Association of Community Health Centers	Ohio Assoc of Community Health Centers MI Training for Preceptors

FY 2018 Awards July 1, 2017 - December 31, 2017

Investigator	Department	Funding Source(s)	Project Title
Fitsanakis, Vanessa	Pharmaceutical Sciences	National Institutes of Health	Gene-Environment Interactions in Neurodegenerative Disease
Hossain, Muhammad	Pharmaceutical Sciences	National Institutes of Health	Pesticide Exposure and Adult Neurogenesis: Role of ER Stress
Kasumov, Takhar	Pharmaceutical Sciences	Cleveland Clinic Foundation	Effect of Obeticholic Acid on HDL Functionality in Patients with NASH
Plyler, Emily	Pharmaceutical Sciences	Prevent Blindness Ohio	Amyloid Pathology in the Retinal Projection
Richardson, Jason	Pharmaceutical Sciences	Private Donor	Neuroinflammation research
You, Min	Pharmaceutical Sciences	Cleveland Clinic Foundation/NIH	Alcohol and Tissue Injury from Mechanisms to Treatment/Lipin-1 and the Development of Alcoholic Liver Disease

NEOMED Performance



Research
Matters!

Spring
2018