



## **Office of Research Affairs**

### **Annual Report:**

July 1, 2022 – June 30, 2023

Paul J. Hershberger, PhD, Associate Dean for Research Affairs  
Mary Crane, MBA, Research Affairs Manager

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## Statement from the Associate Dean

Following are several highlights from the 2022-23 academic year for the Office of Research Affairs:

- The Research Committee awarded two seed grants.
  - Amanda Hinson-Enslin, PhD (Population and Public Health Sciences) with Josephine Wilson, PhD, DDS serving as mentor (\$9,990.00). “The Process of Investigating COVID-19 Vaccine Behaviors among Deaf American Sign Language Users”
  - J. Ashot Kozak, PhD (Neuroscience, Cell Biology and Physiology) collaborating with Lucile Wrenshall, MD, PhD (Surgery and NCBP) (\$10,000). “Role of TRPM7 Channel-Kinase in Smooth Muscle and Lymphocyte Proliferation”
- The Second Annual BSOM Research Symposium was held on April 13, 2023. Four medical students and two faculty presented their research in a plenary session and 82 students and faculty posters were included in the Poster Session.
- In July 2022, Dr. Paul Hershberger was appointed to serve as Associate Dean for Research Affairs. Dr. Hershberger had been serving as Interim Associate Dean for Research Affairs since February 2022.
- Effective April 1, 2023, Mary Crane was named the Research Affairs Manager. In this role, Ms. Crane will be supporting investigators across BSOM departments in grant-related activities, including:
  - grant preparation and submission
  - assistance with proposal and budget development
  - coordination of pre-submission review and critique
  - assistance with submission to RSP
  - assistance with project management including setting up a budget tracking system, labor reallocations, assuring expenditures are following the Uniform Guidance principles, reviewing reports required by the sponsor, and working with outside vendors
- The Office of Research Affairs collaborates with the Department of Medical Education in the administration of Medical Student Travel Awards, the Medical Student Summer Stipend Program, and the Medical Student Research Grant program.
- In collaboration with the Department of Medical Education, a Medical Student Research Policy was developed. The policy was approved by the Research Committee and subsequently approved by the Executive Committee on April 4, 2023.

# 2 Scholarly Activity

## Grant Funding Overview

	Count	Total Direct Cost	Facilities and Administrative Costs (F&A)	Project Total
<b>School of Medicine Totals</b>	<b>95</b>	<b>\$11,848,950</b>	<b>\$3,051,194</b>	<b>\$14,900,144</b>
Biochemistry/Molecular Biology-BSOM (BYM55)	5	\$506,503	\$178,251	\$684,754
Business Office-BSOM (BOM55)	1	\$250,000	\$0	\$250,000
Clinical Trials Research Alliance (CTRA)	4	\$883,510	\$229,712	\$1,113,222
Family Medicine (FPR55)	2	\$920,810	\$78,014	\$998,924
Medical Education – BSOM (ASM55)	1	\$27,727	\$7,209	\$34,936
Medicine (MED55)	2	\$266,631	\$22,552	\$289,183
Neuroscience, Cell Biology, and Physiology-BSOM (ANM55)	21	\$2,931,876	\$1,248,130	\$4,180,006
Obstetrics & Gynecology (OBJ55)	2	\$988,761	\$148,753	\$1,137,514
Pediatrics (PED55)	7	\$161,555	\$43,268	\$204,823
Pharmacology & Toxicology-BSOM (PCL55)	32	\$2,122,714	\$609,020	\$2,731,734
Population and Public Health Sci (CMH55)	10	\$2,003,415	\$466,233	\$2,469,648
Psychiatry (PYC55)	8	\$785,448	\$20,052	\$505,500

## Funded Grants by Department

### Biochemistry/Molecular Biology - BSOM (BYM55)

Weiwon Long, Role of FXBL16 in Lung Adenocarcinomas with Activating KRAS Mutations, American Lung Association, \$100,000, awarded 7/29/2022

Madhavi Kadakia, Enhancing STEM education through the iGEM competition, Universal Energy Systems Inc. (UES Inc.), \$146,850, awarded 8/12/2022

Michael A Schmidt, Influence of Plant Secondary Metabolites on Abiotic CO<sub>2</sub> Efflux from Soils Animal and Plant Health Inspection, Service/Department of Agriculture (APHISUSDA), \$50,000, awarded 9/15/2022

Michael Markey, Specimen Analysis for Community Tissue Services, Community Tissue Services - Dayton, \$17,811, awarded 1/13/2023

Hongmei Ren, The Role of Lipin1 in Myofiber Stability and Integrity, National Institute of Arthritis & Musculoskeletal & Skin Diseases/NIH/DHHS (NIAMS), \$370,093, awarded 5/19/2023

### Clinical Trials Research Alliance (CTRA)

Tracy Eicher, CTRA - FENHANCE, Genentech, Inc., \$347,058, awarded 8/12/2022

Tracy Eicher, CTRA - FENTREPID, Genentech, Inc., \$409,883, awarded 8/12/2022

Esteban Cheng-Ching, CTRA SUMMIT MAX, Route 92 Medical, \$87,067, awarded 6/21/2023

Bradley Jacobs, CTRA OCEANIC Stroke, Bayer Healthcare Pharmaceuticals, Inc., \$269,214, awarded 6/21/2023

### Family Medicine (FPR55)

Paul Hershberger, Health Inequities MES Project, The Ohio State University, \$542,030, awarded 9/19/2022

Peter Reynolds, Program Augmenting Resident Training for Needs in the Emotional Realm (PARTNER), Health Resources and Services Administration/DHHS (HRSA), \$459,794, awarded 12/20/2022

### School of Medicine Administration – BSOM (ASM55)

Valerie D Weber, Greene County American Rescue Plan, Greene County, \$250,000, awarded 9/12/2022

### Medicine (MED55)

Luke McCoy, Dayton Children's Hospital Adult Cystic Fibrosis Center, Cystic Fibrosis Foundation (CFF), \$41,110, awarded 9/19/2022

James Lamb, Cardi-OH, Case Western Reserve University (CWRU), \$248,073, awarded 12/13/2022

### Neuroscience, Cell Biology, Physiology - BSOM (ANM55)

Keiichiro Susuki, Disruption of excitable axonal domains by glucose metabolite methylglyoxal, National Institute of Neurological Disorders and Stroke/NIH/DHHS (NINDS), \$341,622, awarded 8/3/2022

Sherif Elbasiouny, Brain-Computer Interfaces for Assessment and Enhancement of Airman and Teams in Operational Environments (BCI-AEA-TOE), Ball Aerospace, \$62,378, awarded 8/10/2022

Adaku C. Ume, Role of the TGF-beta Receptor in Calcineurin Inhibitor-Induced Renal Damage, The Histochemical Society, \$2,000, awarded 8/26/2022

Adaku Ume, The role of NFkB in calcineurin inhibitor-induced renal fibrosis, National Institute of Arthritis & Musculoskeletal & Skin Diseases/NIH/DHHS (NIAMS), \$43,260, awarded 9/14/2022

Christopher Dupont, Treating Hyperkalemic Periodic Paralysis, National Institute of Neurological Disorders and Stroke/NIH/DHHS (NINDS), \$44,135, awarded 9/14/2022

Matthew Sherwood, Cognitive and Neurology Research, KBR, \$101,099, awarded 9/21/2022

Matthew Sherwood, Cognitive and Neurology Research, KBR, \$327,950, awarded 9/21/2022

Clintoria Williams, Mechanisms of the Renoprotective Properties of Zinc Supplementation in Mouse Models of Chronic Kidney Disease, National Institute of Diabetes and Digestive and Kidney Diseases/NIH/DHHS (NIDDK), \$485,718, awarded 10/5/2022

Matthew Sherwood, fMRI scanning to examine the neural effects of transcutaneous vagus nerve stimulation on learning, UES, Inc., \$100,000, awarded 10/17/2022

Mark Rich, Genetic suppression of SMN mutations in spinal muscular atrophy, The Ohio State University \$20,237, awarded 11/8/2022

Sherif Elbasiouny, Motoneuronal Mechanisms Underlying Age-related Muscle Weakness, Ohio University (OHIO), \$305,703, awarded 1/9/2023

Sherif Elbasiouny, Motoneuronal Mechanisms Underlying Age-related Muscle Weakness, Ohio University (OHIO), \$308,981, awarded 1/9/2023

Matthew Sherwood, Cognitive and Neurology Research 2, KBR, \$114,543, awarded 1/30/2023

Mark Rich, Novel Approaches to Therapy of Muscle Ion Channelopathies, National Institute of Arthritis & Musculoskeletal & Skin Diseases/NIH/DHHS (NIAMS), \$484,181, awarded 2/8/2023

Mark Rich, Novel Approaches to Therapy of Muscle Ion Channelopathies, National Institute of Arthritis & Musculoskeletal & Skin Diseases/NIH/DHHS (NIAMS), \$53,797, awarded 2/8/2023

Sherif Elbasiouny, Mechanisms Underlying Excitability Regulation of Motoneuron Types in ALS Year 6-10, National Institute of Neurological Disorders and Stroke/NIH/DHHS (NINDS), \$556,417, awarded 2/11/2023

David Ladle, Sustained Peripheral Nerve Injury in Military Relevant Operational Environment: Role of Mitochondrial Function, Strategic Ohio Council for Higher Education (SOCHE), \$52,260, awarded 4/26/2023

Clintoria Williams, Mechanisms of the Renoprotective Properties of Zinc Supplementation in Mouse Models of Chronic Kidney Disease, National Institute of Diabetes and Digestive and Kidney Diseases/NIH/DHHS (NIDDK), \$485,718, awarded 6/6/2023

Thomas Brown, Development of approaches for inducible trophoblast-specific gene modulation: the role of trophoblast Lat1 in the regulation of placental function and fetal growth, Univ of Colorado, \$210,007, awarded 6/12/2023

Esteban Cheng-Ching, WSU/Premier Stroke and NeuroInterventional fellowship, American Heart Association (Great Rivers Affiliate), \$24,000, awarded 6/12/2023

Sherif Elbasiouny, Cognitive and Physical Performance in Operational Environments (CaPPOE), Ball Aerospace, \$56,000, awarded 6/16/2023

## **Obstetrics & Gynecology (OBJ55)**

David Nathaniel Dhanraj, Boonshoft School of Medicine/Miami Valley Regional Quality Improvement Hub, Ohio State University, \$393,745, awarded 10/6/2022

Erica Taylor, Intergroup Dialogue in Medicine Program, Genentech, Inc., \$743,769, awarded 12/8/3738

## **Pediatrics (PED55)**

Cynthia Sieck, Total Engagement and Activation Measure (TEAM): Developing a measure of the capacity for patients to engage in their health care, Ohio State University, \$86,794, awarded 9/29/2022

Cynthia Sieck, ACHIEVE: Successfully achieving and maintaining euglycemia during pregnancy for type 2 diabetes through technology and coaching, The Ohio State University, \$26,207, awarded 10/25/2022

Catherine Sherwin, A Histamine Pharmacodynamic Biomarker to Guide Treatment in Pediatric Asthma, Children's Mercy Hospitals and Clinics, \$7,892, awarded 11/17/2022

Catherine Sherwin, Pharmacometric Modeling and Simulation for Evaluation of Bioequivalence for Leuprolide Acetate Injection, University of Utah, \$15,000, awarded 12/20/2022

Cynthia Sieck, Adoption and Implementation of an Evidence-based Safe Driving Program for High-Risk Teen Drivers, Nationwide Children's Hospital, \$14,755, awarded 12/21/2022

Cynthia Sieck, Total Engagement and Activation Measure (TEAM): Developing a measure of the capacity for patients to engage in their health care, The Ohio State University, \$39,010, awarded 5/3/2023

Cynthia Sieck, Adoption and Implementation of an Evidence-based Safe Driving Program for High-Risk Teen Drivers, Nationwide Children's Hospital, \$15,165, awarded 6/15/2023

## **Pharmacology & Toxicology - BSOM (PCL55)**

Mae Carpenter, Damaged DNA Released from UVB Irradiated Keratinocytes, Mary Kay Cosmetics, \$25,000, awarded 7/21/2022

Courtney Sulentic, Utilization of Advanced Analytical Techniques and Methods for the identification of protein-protein interactions of the Aryl Hydrocarbon Receptor Complex in Human B Cells, Universal Energy Systems Inc. (UES Inc.), UES, Inc., \$13,506, awarded 8/8/2022

Ravi Sahu, Mechanisms of augmented UVB immunosuppressive responses by polyaromatic hydrocarbons, National Institute of Environmental Health Sciences/NIH/DHHS (NIEHS), \$225,000, awarded 8/22/2022

Jeffrey Travers, Laboratory Animal Resources Care, Department of Veterans Affairs, \$19,200, awarded 8/22/2022

Jeffrey Travers, Wounding Therapy and Photocarcinogenesis, National Institute on Aging/NIH/DHHS (NIA), \$472,255, awarded 10/28/2022

Jeffrey Travers, Platelet Activating Factor and Epidermal Cytotoxicity, National Heart, Lung, and Blood Institute/NIH/DHHS (NHLBI), \$337,500, awarded, 11/10/2022

Alycia Ketter, VA IPA - A. Ketter, Veterans Affairs Medical Center (VAMC), \$3,750, awarded 11/29/2022

Christopher Howard, VA IPA - C. Howard, Veterans Affairs Medical Center (VAMC), \$122,032, awarded 11/29/2022

Karen Henkels, VA IPA - K. Henkels, Veterans Affairs Medical Center (VAMC), \$5,126, awarded 11/29/2022

Jessica Hong, VA IPA - J. Hong, Veterans Affairs Medical Center (VAMC), \$7,443, awarded 12/5/2022

Alycia Ketter, VA IPA - A. Ketter, Veterans Affairs Medical Center (VAMC), \$11,250, awarded 12/8/2022

Christopher Howard, VA IPA - C. Howard, Veterans Affairs Medical Center (VAMC), \$15,179, awarded 12/8/2022

Karen Henkels, VA IPA - K. Henkels, Veterans Affairs Medical Center (VAMC), \$15,378, awarded 12/8/2022

Christine Rapp, VA IPA - C. Rapp, Veterans Affairs Medical Center (VAMC), \$13,724, awarded 12/8/2022

Anita Thyagarajan, VA IPA - A. Thyagarajan, Veterans Affairs Medical Center (VAMC), \$16,985, awarded 12/8/2022

Elizabeth Cates, Dayton Veterans Affairs Medical Center IPA Agreement, Veterans Affairs Medical Center (VAMC), \$15,953, awarded 12/8/2022

Michael Kemp, DNA damage response kinase signaling in non-replicating human cells and tissues, National Institute of General Medical Sciences/NIH/DHHS (NIGMS), \$268,200, awarded 1/11/2023

Yong-jie Xu, DNA Replication Checkpoint in Fission Yeast, National Institute of General Medical Sciences/NIH/DHHS (NIGMS), \$375,000, awarded 2/7/2023

Elizabeth Cates, Dayton Veterans Affairs Medical Center IPA Agreement, Veterans Affairs Medical Center (VAMC) \$47,861, awarded 2/8/2023

Jeffrey Travers, Platelet Activating Factor and Epidermal Cytotoxicity, National Heart, Lung, and Blood Institute/NIH/DHHS (NHLBI), \$37,500, awarded 2/11/2023

Jessica Hong, VA IPA - J. Hong, Veterans Affairs Medical Center (VAMC), \$22,330, awarded 2/14/2023

Karen Henkels, VA IPA - K. Henkels, Veterans Affairs Medical Center (VAMC), \$44,486, awarded 2/14/2023

Christine Rapp, VA IPA - C. Rapp, Veterans Affairs Medical Center (VAMC), \$41,171, awarded 2/14/2023

Alycia Ketter, VA IPA - A. Ketter, Veterans Affairs Medical Center (VAMC), \$33,750, awarded 2/22/2023

Christopher Howard, VA IPA - C. Howard, Veterans Affairs Medical Center (VAMC), \$45,537, awarded 2/22/2023

Michael Kemp, DNA damage response kinase signaling in non-replicating human cells and tissues, National Institute of General Medical Sciences/NIH/DHHS (NIGMS), \$29,800, awarded 2/22/2023

Jeffrey Travers, UVB Radiation-generated Microvesicle Particles as Effectors for Photosensitivity, National Institute of Environmental Health Sciences/NIH/DHHS (NIEHS), \$337,500, awarded 2/22/2023

Mae Carpenter, VA IPA - A. Carpenter, Veterans Affairs Medical Center (VAMC), \$42,055, awarded 2/24/2023

Anita Thyagarajan, VA IPA - A. Thyagarajan, Veterans Affairs Medical Center (VAMC), \$34,240, awarded 2/24/2023

Michael Kemp, High-Throughput Luminometry to Support AFRL Collaborative Projects on the Interplay between Circadian Rhythms and Cellular Responses to Operational Stress, Air Force Office of Scientific Research (AFOSR), \$87,375, awarded 2/28/2023

Stanley Rider, VA IPA - S. Dean Rider, Veterans Affairs Medical Center (VAMC), \$32,568, awarded 5/11/2023

Christina Knisely, VA IPA - C. Knisley, Veterans Affairs Medical Center (VAMC), \$38,747, awarded 5/11/2023

## **Population and Public Health Sciences (CMH55)**

Nicole Kinzeler, Evaluation of Montgomery County Juvenile Court Programs, Montgomery County Juvenile Court, \$28,350 awarded, 8/16/2022

Nicole Kinzeler, Zero Suicide, Montgomery County ADAMH Services Board, \$80,000, awarded 9/2/2022

Jo Ann Ford, Minority AIDS Initiative (MAI) - High Risk Populations "Reachable, Teachable, and Inclusive" (RTI) project, Substance Abuse & Mental Health Services Administration (SAMHSA), \$494,925, awarded 10/27/2022

Jo Ann Ford, Day-TREE, Substance Abuse & Mental Health Services Administration (SAMHSA), \$541,103, awarded 10/27/2022

Nicole Kinzeler, Program Evaluation for the Pickaway Addiction Action Coalition's (PAAC) Drug-Free Communities (DFC) Grant, Pickaway County, \$12,500, awarded 12/6/2022

Nicole Kinzeler, Program Evolution: Mitigation of Trauma-Related Mental Health Conditions Experienced by Black Youth through Policy Reform, Alcohol, Drug Addiction & Mental Health Services Board of Montgomery County, \$59,096, awarded 12/14/2022

Jo Ann Ford, The Offender Reentry Program, Substance Abuse & Mental Health Services Administration (SAMHSA), \$424,768, awarded 1/11/2023

Sydney Silverstein, Evaluating the decriminalization of non-prescribed buprenorphine in Rhode Island, Rhode Island Hospital, \$33,684, awarded 1/24/2023

Nicole Kinzeler, SARDI Program Evaluation of SOR 2.0 NCE Project, Ohio Department of Mental Health and Addiction Services, \$780,222, awarded 1/30/2023

Sydney Silverstein, Evaluation of PHMDS Overdoes Prevention Grant Work, Public Health Dayton and Montgomery County, \$15,000, awarded 4/13/2023

## **Psychiatry (PYC55)**

Julie Gentile, Coordinating Center of Excellence in Mental Illness/Intellectual Disability, Ohio Department of Mental Health and Addiction Services, \$85,500, awarded 7/12/2022

Ryan Mast, Child Psychiatry Placements, Montgomery County ADAMH Services Board, \$150,000, awarded 7/21/2022

Danielle Michelle Gainer, Rural General Psychiatry, Ohio Department of Mental Health and Addiction Services, \$10,000, awarded 7/25/2022

Ryan Christopher Mast, Child and Adolescent Psychiatry, Ohio Department of Mental Health and Addiction Services, \$35,000, awarded 7/25/2022

Brian Merrill, Adult Psychiatry, Ohio Department of Mental Health and Addiction Services, \$15,000, awarded 7/25/2022

Brian Merrill, Community General Psychiatry, Ohio Department of Mental Health and Addiction Services, \$15,000, awarded 7/25/2022

Julie Gentile, Ohio's Telepsychiatry Project in Intellectual Disability, Ohio Department of Developmental Disabilities, \$250,000, awarded 7/29/2022

Danielle Gainer, Wright OUTT (Opioid Use Treatment Training) Program, Substance Abuse & Mental Health Services Administration (SAMHSA), \$245,000, awarded, 8/31/2022

**Publications are included in departmental annual reports.**



# 3 Hosted Events

## **Boonshoft School of Medicine Second Annual Research Symposium.**

**April 13, 2023 | 4:30 – 7:00 p.m.**

- 82 posters were presented by students and faculty.
- Featured Faculty Research Talks
  - **J. Ashot Kozak, Ph.D.**
    - The Function of TRPM7 Channel – Kinase in Immune Cells
  - **Amanda M. Hinson-Enslin, Ph.D., M.P.H., CHES**
    - The Process of Investigating COVID-19 Vaccine Behaviors among Deaf American Sign Language Users
- Featured Student Research Talks
  - **Morgan Hendrixson, MS3 & Yev Gladkiy, M.S., MS2**
    - Platelet-Activating Factor-Receptor Pathway Modulates Sorafenib-Mediated Effects on Lung Cancer Growth and Microvesicle Particles Release
  - **Roselle Almazan, MS3**
    - A Structured Approach to Increasing Diversity, Equity, and Inclusion Aspects of Surgery
  - **Adaku Ume, Ph.D., MD/PhD Student**
    - Calcineurin Inhibitors: A Double Edge Sword