

THE RESEARCH REVIEW

School of Medicine Quarterly Newsletter

Issue No. 9



RESEARCH-FOCUSED

"Research is seeing what everybody else has seen and thinking what nobody else has thought."

- Albert Szent-Györgyi

NEW NIH AWARDS

IN THIS ISSUE

**NEW NIH AWARDS:
OCT-DEC 2024**

**OTHER NEW AWARDS:
OCT-DEC 2024**

NEW IN RESEARCH

 **NEED MORE INFO?**

For more information on School of Medicine research opportunities and policies visit our web page [HERE](#).



PI: Sahar Bannoura -Oncology

The Role of Guanine Exchange Factors in Pancreatic Ductal Adenocarcinoma (PDAC)

Award Number: 1F99CA294132-01

Pancreatic ductal adenocarcinoma is one of the leading causes of cancer related deaths in the United States, with limited options for therapy. Our proposed research will investigate how cancer cells use the nuclear cytoplasmic trafficking pathway to promote cellular growth and metastasis. This proposal will advance our understanding of the mechanisms that contribute to PDAC development and progression and identify potential therapeutic targets.



PI: Dr. Pablo Ortiz - Physiology

Measuring kidney NaCl transport in vivo with genetically encoded sensors

Award Number: 1R21DK142082-01

To study the role of dysregulated renal ion transport in animal models of disease, new methods are needed to measure ion transport in the intact kidney in vivo. We propose to use multi-photon imaging of the intact kidney of live mice after transgenic expression of genetically-encoded ion sensitive probes in different nephron segments. We will express Chloride and pH-sensitive fluorescent proteins in cortical Thick Ascending Limbs, distal tubules and principal cells before performing in vivo multi-photon microscopy of renal tubular transport.

NEW NIH AWARDS CONTINUED



PI: Dr. Avril Holt-Ophthalmology, Visual and Anatomical Sciences

The impact of peripheral injury on central vestibular pathways

Award Number: 1R56DC021073-01A1

Vestibular dysfunction is a significant public health problem with evidence of postural instability has been reported in 35% of older adults, yet the effects of noise, on central vestibular pathways and resulting behavioral dysfunction are understudied. The proposed studies will expand our knowledge of afferent irregular fiber contributions to activation of vestibular nuclei, by assessing neuronal activity, indicators of synaptic transmission, and behavioral performance following bilateral noise-induced hypofunction. In the future, these results will contribute to the development of targets and a temporal window for pharmacotherapeutic intervention to direct vestibular rehabilitation.

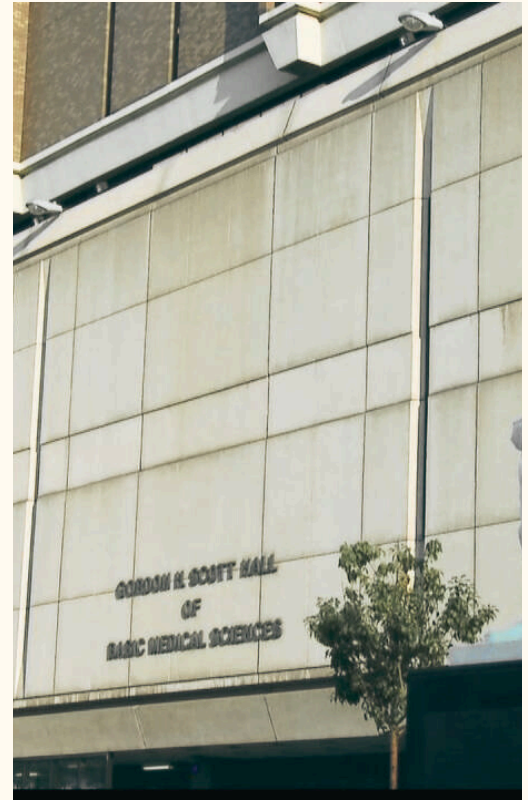


PI: Dr. Sneha Singh-Ophthalmology, Visual and Anatomical Sciences

Mechanisms Regulating Breach of Blood Retinal Barrier Upon Zika Virus Infection

Award Number: 1K99EY036452-01

Zika virus (ZIKV) is the causative agent of smaller head (microcephaly) and other severe brain and eye defects in newborn. However, it is not known how ZIKV enters the eye or brain to cause the Congenital Zika Syndrome (CZS). In this study, we plan to delineate the molecular mechanisms of ZIKV induced breach of blood-retinal barrier using retina organoids and animal models.

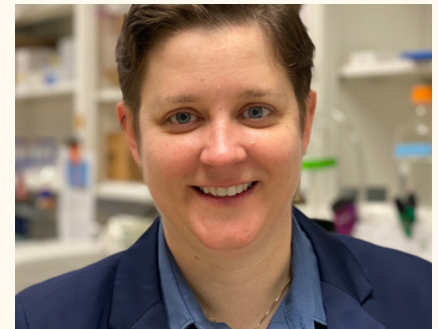


PI: Dr. Kristen Purrington - Oncology

Disparities in Immuno-oncology Outcomes in Detroit (DIODE)

Award Number: 1P20CA290450-01

A better understanding of the mechanisms regulating response to anti-HER2 antibodies is critical for the development of improved clinical strategies, and the inclusion of a diverse patient population and consideration of group- and individual-level genetic differences is essential for ensuring that these strategies are equitable. This work will provide the basis for moving towards a more race-inclusive, equity-focused precision medicine approach to the use of immunotherapies to improve overall treatment response, identify novel biomarkers, and reduce racial disparities in outcomes.



PI: Dr. Heather Gibson- Oncology



PI: Dr. Ashok Kumar-Ophthalmology, Visual and Anatomical Sciences

Vitreous metabolic perturbations during bacterial and fungal endophthalmitis

Award Number: 1R01EY035499-01A1

Infectious endophthalmitis remains a frightening complication after eye surgeries, which often results in blindness, or in severe cases, enucleation of the eye. Unfortunately, few clinical tests can differentiate infectious endophthalmitis from non-infectious, making it challenging to identify patients which can delay proper treatment with the appropriate antimicrobial therapy to prevent vision loss. Here, we will integrate cutting-edge metabolomics technology and a machine-learning bioinformatic approach to identify vitreous metabolic signatures to aid in potential clinical diagnosis and study the pathobiology of ocular infections.

Targeted drug delivery system to overcome blood-brain barrier and therapeutic resistance to current standard of care in Glioblastoma

Award Number: 7R01CA269607-03 1

O6-methylguanine-DNA methyltransferase (MGMT) plays a prominent role in DNA adduct repair that limits the mutagenic and cytotoxic effect of alkylating agents. The goal of this research project is to apply biodegradable small-sized polymer for targeted delivery of DNA MGMT inhibitor with combination of TMZ and radiation therapy for real time monitoring of response to the treatment. Success in our study in preclinical animal tumor models should provide us with novel DNA inhibitors and methods to further develop clinical applications of such therapy options for the improved treatment of brain tumors.



PI: Dr. Ali Meser- Oncology

NEW NIH AWARDS CONTINUED



PI: Dr. Ryan Mohan-Pharmacology

Mechanism and effects of communication between actin and gene regulatory complexes

Award Number: 7R01NS117539-04

Although a strikingly similar spectrum of disease symptoms, including blindness and neurodegeneration, are associated with the misregulation of protein complexes critical for controlling gene expression and cytoskeletal organization, the mechanisms linking the regulation of these complexes are not well understood. Here, we leverage a newly identified regulatory axis between the gene regulatory complex "SAGA" and the cytoskeletal regulatory complex "WRC" to understand the molecular components involved in this regulatory pathway, the basic mechanisms of their co-regulation, and the major biological functions that depend on their interplay. These experiments will provide new insight into the underlying mechanisms contributing to blindness and neurodegeneration and inform the search for new therapeutics to treat these devastating diseases.



PI: Dr. Linda Hazlett-Ophthalmology, Visual and Anatomical Sciences

Core Grant for Vision Research

Award Number: 2P30EY004068-41

Continuing funds are requested by 18 vision scientists (holding 20 core eligible NEI R01 grants) to support three resource cores in the merged Department of Ophthalmology, Visual and Anatomical Sciences (official partnering of Ophthalmology and Anatomy/Cell Biology Departments). The cores requested will be central facilities that offer state of the art equipment and experienced research assistants with a common purpose to enable and enhance R01 funded vision research at Wayne State University, and the nearby institution, Oakland University (15 minutes away).



PI: Dr. Boris Pasche-Oncology

P30 Administrative Supplement for Multi-Channel Communication Campaigns for Improvements in Cancer Education and Outcomes (MICEO) in Underserved Populations

Award Number: 3P30CA022453-42S1

The proposed work will extend efforts originally funded in 2023 through the P30 Administrative Supplement for Multi-Channel Communication Campaigns for Improvements in Cancer Education and Outcomes (MICEO) in Underserved Populations. Ultimately, the proposed work will increase breast cancer knowledge and screening among Black and MENA women in metro Detroit through strategic use of multiple communication channels.



SOM RESEARCH FACTS

The SoM award total for 2024 is \$165,903,841 and approximately 70% of the proposals submitted were awarded

We also compared the number of proposals submitted and the number of awards received for 2023 to this year, see below for the figures.

Proposals

2023 \$519,523,540/630 submitted
2024 \$617,207,881/708 submitted

Awards

2023 \$183,422,919/482 awarded
2024 \$165,903,841/499 awarded

Note:

We strive to include all new awards for the quarter in the newsletter. However, if you wish to guarantee the mention of your award, please don't hesitate to send the details to us at WSU-RAS@wayne.edu

OTHER NEW AWARDS

MDHHS TOBACCO USE REDUCTION FOR PEOPLE LIVING WITH HIV

PI: Dr. Angulique Outlaw-Department of Family Medicine-23U2T

MDHHS PSYCHIATRY PROGRAM 2025

PI: Dr. David Rosenberg-Department of Psychiatry and Behavioral Neurosciences-23U2K

MDHHS ENDING THE HIV EPIDEMIC- SELF TESTING E20232326

PI: Dr. Angulique Outlaw-Department of Family Medicine-23U2U

RACIAL DISPARITY OF LOCAL AND SYSTEMIC TUMOR MICROENVIRONMENT IN BREAST CANCER

PI: Dr. Hasan Korkkaya-Department of Oncology-25Y2L

RACIAL DISPARITY OF LOCAL AND SYSTEMIC TUMOR MICROENVIRONMENT IN BREAST CANCER

PI: Dr. Gretchen Newman- Department of Internal Medicine-23U3B

DEVELOPMENT AND PREPARATION OF [89ZR]ZR-DFO-USTEKINUMAB FOR FIRST-IN-MAN (FIM) TRIALS

PI: Dr. Nerissa Viola-Department of Oncology-25Y2D

UNDERSTANDING THE DEVELOPMENT OF POSTTRAUMATIC GROWTH (PTG) AFTER TBI: THE ROLE OF PSYCHOSOCIAL ADJUSTMENT AND EVENT CENTRALITY

PI: Dr. Robin Hanks -Department of Oncology-25Y25

FRONTLINE STRONG TOGETHER 2025

PI: Dr. Alireza Amirsadri-Department of Psychiatry and Behavioral Neurosciences-23U2L

ENROLLMENT OF MYELOMA PATIENTS TO THE ROCS COHORT

PI: Jennifer Beebe-Dimmer-Department of Oncology-25Y2M

MDHHS HIV PREVENTION - HORIZON PROJECT

PI: Dr. Angulique Outlaw-Department of Family Medicine-23U2W

IDENTIFYING BARRIERS, FACILITATORS, AND PREFERENCES FOR LUNG CANCER SCREENING IN MENA COMMUNITIES

PI: Dr. Morhaf Al Achkar -Department of Oncology-25Y2I

MDHHS KARMANOS CANCER INSTITUTE-BCCCP

PI: Dr. Robert Burack -Internal Medicine-23U2P



OTHER NEW AWARDS

CAPABLE: CROSSTRaining AND PHYSICAL ACTIVITY AND BETTER LIFE EXPERIENCE: AN RCT TO EXAMINE IMPACT OF HIGH-INTENSITY INTERVAL TRAINING ON SLEEP HEALTH AND OTHER OUTCOMES.

PI: Dr. Jennifer Beebe-Dimmer-Department of Oncology-25Y2N

KCI NUCLEAR EXPORT PROTEIN XPO1 INH

PI: Dr. Yusra Shao-Department of Oncology-25Y1X

DUSP4 IN BREAST CANCER IMMUNOTHERAPY

PI: Dr. Gen Wu-Department of Oncology-25Y1R

MDHHS HIV PREVENTION-WSU ID CLINIC

PI: Dr. Lauren Toulegrou-Oncology-23U3L

LUNG CANCER SCREENING & TOBACCO CESSATION

PI: Dr. Cathryn Bock - Department of Oncology-23U2C

IDENTIFYING FACTORS ASSOCIATED WITH PROSTATE CANCER PROGRESSION AND SURVIVAL IN AFRICAN AMERICAN MEN: THE RESPOND COHORT

PI: Dr. Jennifer Beebe-Dimmer-Department of Oncology-25X93

EVALUATION OF IMMUNE CHARACTERISTICS OF PROSTATE CANCER CIRCULATING TUMOR CELLS

PI: Dr. Frank Cackowski -Department of Oncology-25Y1W

KCI DETECTION OF INFLAMMATION AND C

PI: Dr. Nerissa Viola-Department of Oncology-25Y1U

POISON CONTROL STABILIZATION AND ENHANCEMENT PROGRAM

PI: Dr. Varun Vohra-Department of Emergency Medicine-2WH4

RYAN WHITE PART D HORIZONS PROJECT

PI: Dr. Eric McGrath-Department of Internal Medicine-23U3P

HIV PREVENTION CLINICAL SERVICES

PI: Dr. Shira Heisler - Department of Internal Medicine-23U3H

HIV CARE COORDINATION

PI: Dr. Lauren Toulegrou-Oncology-23U3K

UNDERSTANDING ADOLESCENT SUICIDE RISK: INVESTIGATING THE ROLE OF THE ENDOCANNABINOID SYSTEM

PI: Dr. Hilary Marusak -Department of Psychiatry and Behavioral Neurosciences-25Y3I

I-REACH: INFRASTRUCTURE FOR RESEARCH IN EQUITY, AGING, CANCER AND HEALTH

PI: Dr. Ann Schwartz -Department of Oncology-25Y42

RYAN WHITE PART D WAYNE HEALTH ID CLINIC

PI: Dr. Gretchen Newman-Department of Internal Medicine-23U3B

AIDS RESEARCH AND EDUCATION PROGRAM

PI: Dr. Gretchen Newman-Department of Internal Medicine-23U3C

DEVELOPMENT OF A CLINICAL AND BIOMARKER-BASED MODEL TO PREDICT THE ABSENCE OF DISEASE RECLASSIFICATION FOR MEN ON ACTIVE SURVEILLANCE WITH LOW AND FAVORABLE INTERMEDIATE-RISK PROSTATE CANCER.

PI: Dr. Kevin Ginsburg - Department of Urology-25Y1Y

STI HIV CLINICAL SERVICES

PI: Dr. Shira Heisler- Department of Internal Medicine-23U3F

MICHIGAN COMMUNITY OUTREACH TO ADDRESS FINANCIAL TOXICITY (MI-COST)

PI: Dr. Theresa Hastert - Department of Oncology-25Y34

RYAN WHITE PART D SINAI GRACE SPECIALTY CENTER

PI: Dr. Gretchen Newman-Department of Internal Medicine-23U3D

HCV TREATMENT CLINICAL EDUCATION

PI: Dr. Gretchen Newman-Department of Internal Medicine-23U3E

HIV CARE CLINICAL SERVICES

PI: Dr. Shira Heisler- Department of Internal Medicine-23U3G

MOBILE TESTING FOR BLOOD LEAD LEVELS TO COMBAT LEAD EXPOSURE

PI: Dr. Bram Dolcourt -Department of Pediatrics-23U2G

DETROIT TB NURSING

PI: Dr. Sandhu Avnish -Department of Internal Medicine-23U2G

MDHHS E20254366-00 HIV PREVENTION - EMERGENCY ROOM TESTING

PI: Dr. Claire Pearson-Department of Emergency Medicine-23U2J

MI ALLIANCE FOR INNOVATION OF MATERNAL HEALTH.

PI: Dr. Gwendolyn Norman -Department of Obstetrics & Gynecology-23U3X

INVESTIGATING THE ROLE OF GUT-DERIVED EXTRACELLULAR VESICLES IN PTSD FOLLOWING TBI

PI: Dr. Seth Norrholm -Psychiatry and Behavioral Neurosciences-25Y4B

NEW IN RESEARCH

Beginning with 10/1/24 NIH updated processes for requesting revisions to an approved Data Management and Sharing Plan [NOT-OD-24-176](#)

Effective 5/30/24 the National Institute on Drug Abuse (NIDA) increased the salary limits on the career development awards.

[NOT-DA-24-032](#)

Effective immediately the National Institute of Neurological Disorders and Stroke (NINDS) will no longer support grant applications submitted to PAR-22-242 and PAR-22-243 [NOT-NS-25-004](#)

