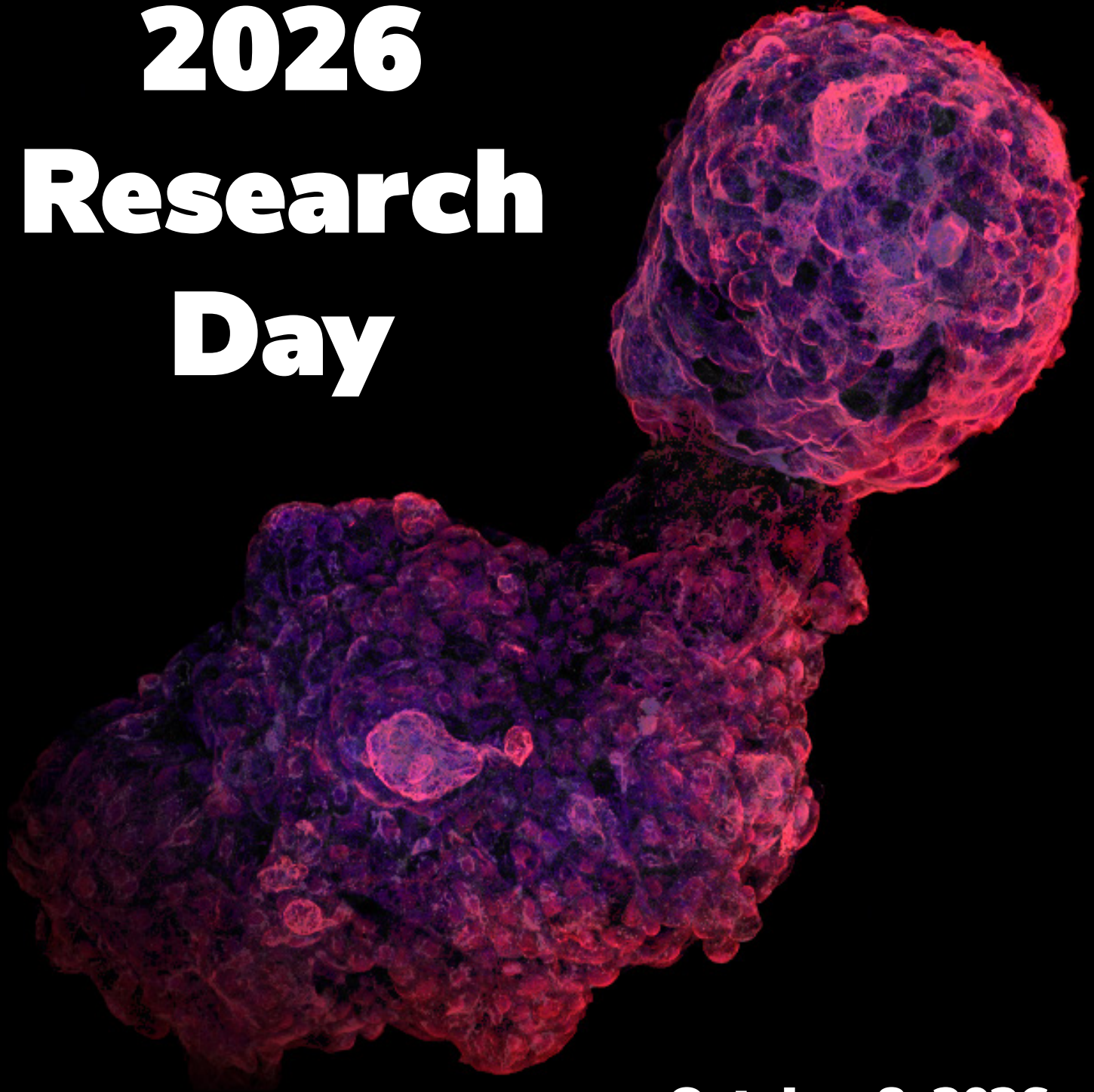


Dorothy M. Davis
Heart and Lung Research Institute

2026
Research
Day



October 8, 2026

Made possible through the generous support of the Webb Family Fund



Cover art courtesy of the
Mahmood Khan, MPharm, PhD Lab

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Dorothy M. Davis
Heart and Lung Research Institute
 The Ohio State University
 473 W 12th Avenue
 Columbus, OH 43210

[@OhioStateDHLRI](https://go.osu.edu/DHLRI)



AGENDA - OCTOBER 8, 2026

8:30AM **Poster Set-Up (BRT Lobby)**

9:00am - 11:00am **Poster Session (BRT Lobby)**

Even Numbered Posters (9:00am - 10:00am)

Odd Numbered Posters (10:00am - 11:00am)

11:00am **Opening Remarks (BRT 115)**

Thomas J. Hund, PhD - Director, DHLRI

11:00am **Short Talks (BRT 115)**

11:00am - 11:12am **Yanlin Chen (Graduate Student)**

Mechanistic Roles of Neutrophils in Pulmonary Vascular Remodeling

11:12am - 11:24am **Daniel Kasprovic (Graduate Student)**

Cardiomyocyte-Specific HuR Regulates Macrophage Responses and Intercellular Communication Following Ischemic Cardiac Injury

11:24am - 11:36am **Casey Lalisan (Graduate Student)**

Cardiovascular Benefits of Menopause Hormone Treatment is Age-Dependent

11:36am - 11:48am **Sourabh Soni, PhD (Research Staff)**

Therapeutic Targeting of the ARIH2-BIK Axis Restricts Influenza A Virus Replication and Mitigates Severe Lung Injury

11:48am - 12:00pm **Clara Planner (Medical Student)**

Higher Patient Activation Associated with Better Life's Essential 8 Cardiovascular Health Among Black Adult Men

12:00pm - 1:00pm **Lunch (BRT 105)**

1:20pm

Introduction to Keynote Speaker (DHLRI 170)

John Warner, MD

Chief Executive Officer,
The Ohio State University Wexner Medical Center
Executive Vice President,
The Ohio State University

1:30pm

Keynote Lecture (DHLRI 170)

**“Closing the loop - strategies for integrating
fundamental science, translation and care”**

Calum MacRae, MD, PhD

Director, One Brave Idea
PI, Apple Health Study
Professor of Medicine, Harvard Medical School

2:15pm

Keynote Q&A

2:45pm

Award Ceremony (DHLRI 170)

Opening Remarks

Amy Moore, MD

Interim Dean, College of Medicine
Interim Vice President of Health Sciences,
The Ohio State University Wexner Medical Center

Presentation of Awards

Tom Hund, PhD

Director, Dorothy M. Davis Heart and Lung Research Institute
John H. and Mildred C. Lumley Chair in Medicine
Professor, Department of Internal Medicine,
Division of Cardiovascular Medicine
Professor, Department of Biomedical Engineering

Mona El Refaey, PhD

Associate Professor, Department of Surgery,
Division of Cardiac Surgery
Chair, Dorothy M. Davis Heart and Lung Research Institute
Education Committee

Dorothy M. Davis Heart and Lung Research Institute
Office of the Director
473 W 12th Avenue, 110G
Columbus, OH 43210-1252
Phone: 614.247.7766
Fax: 614.247.7799
Twitter: @OhioStateDHLRI

Dear Colleagues and Guests,

Welcome to the 21st Annual DHLRI Research Day. This year, we are especially pleased to welcome Calum MacRae, MD, PhD, as our keynote speaker. Dr. MacRae is Vice Chair for Scientific Innovation in the Department of Medicine, Director of One Brave Idea at Brigham and Women's Hospital, and Professor of Medicine at Harvard Medical School. Trained as a cardiologist, geneticist, and developmental biologist, he has built a career at the intersection of human genetics and systems biology, using model organisms and stem cells to trace heart disease to its earliest origins. In 2016, his multi-institutional team received the American Heart Association's One Brave Idea Award, a \$75 million commitment from the AHA, Verily, and AstraZeneca that ranks among the largest single research grants ever made to rethink coronary heart disease prevention. His work, published regularly in journals such as *Nature Medicine* and *Circulation*, continues to shape how the field approaches early detection and prevention of cardiovascular disease.

FY26 was a record year for the Institute by nearly every measure. Our investigators submitted more than 400 grant applications and contributed to more than 600 publications across our four core research areas: Cardiovascular, Lung, Metabolism, and Advanced Therapeutics and Engineering. What stands out is not only the volume, but also who is driving it. Senior investigators are leading ambitious programs alongside a growing cohort of trainees and early-career scientists poised to carry the field forward. We are also building for what comes next by expanding the infrastructure and cross-disciplinary collaborations that will shape the coming decade of heart and lung research, including a fast-growing role for clinical data and artificial intelligence.

None of this happens without the people in this room. Our faculty, staff, and trainees turn ambitious ideas into funded grants, published papers, new collaborations, and meaningful discoveries. Just as importantly, you make DHLRI feel like a genuine community rather than a collection of labs. Thank you for being here today, and for everything you do throughout the year to make days like this worth celebrating.

Enjoy the day,

Thomas J. Hund, PhD

Director, Dorothy M. Davis Heart and Lung
Research Institute
John H. and Mildred C. Lumley Chair in Medicine
Professor, Department of Internal Medicine,
Division of Cardiovascular Medicine
Professor, Department of Biomedical Engineering

Mona El Refaey, PhD

Associate Professor, Department of Surgery
Chair, DHLRI Education Committee



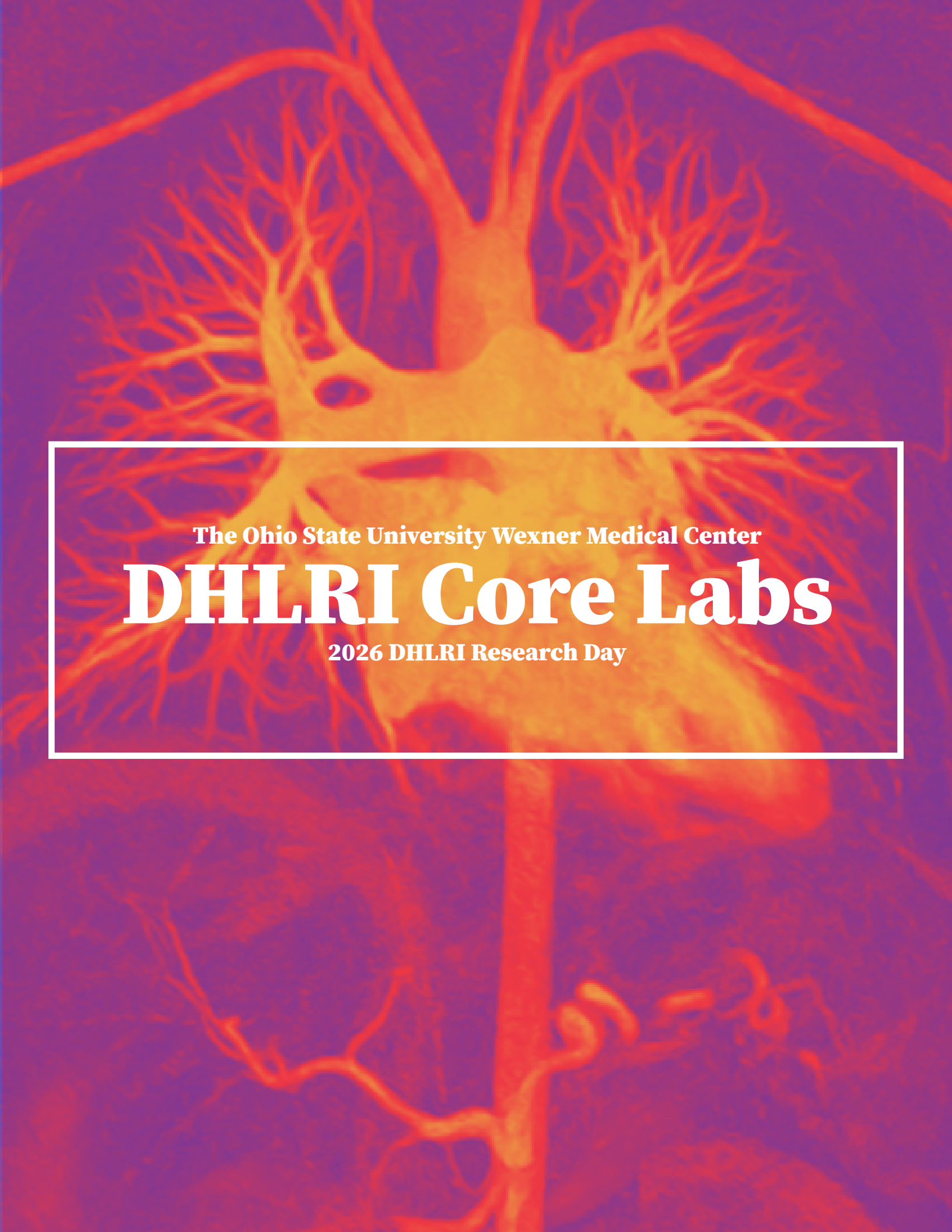
Calum MacRae, MD, PhD

Director, One Brave Idea
PI, Apple Health Study
Professor of Medicine, Harvard Medical School

“Closing the loop - strategies for integrating fundamental science, translation and care”



Calum A. MacRae, MD, PhD, is a Professor of Medicine at Harvard Medical School, the Director of One Brave Idea (a biomedical innovation program founded by Verily, the American Heart Association and AstraZeneca), Vice Chair for Scientific Innovation in the Department of Medicine at Brigham and Women's Hospital in Boston, a Principal Faculty Member at the Harvard Stem Cell Institute, and an Associate Member at the Broad Institute of Harvard and MIT. He directs an NIH-funded basic science group and has developed systematic approaches at the tech::bio interface to uncover novel human disease mechanisms. He is the principal investigator of the Apple Health Study and works on the integration of digital health and genomics with multiple large technology companies. In his clinical work, he is a Cardiologist and Geneticist, co-directs the Genomic Medicine Program at Brigham and Women's Hospital and is a clinical lead in the Harvard Undiagnosed Diseases Center. He and his collaborators have created rigorous approaches to automating accessible components of biomedicine to enable transformation of care delivery and real-world discovery, while building a foundation for continuously learning biomedical systems.



The Ohio State University Wexner Medical Center

DHLRI Core Labs

2026 DHLRI Research Day

Cardiovascular Imaging Research Center (CIRC)

Co-Directors: Orlando Simonetti, PhD & Yuchi Han, MD

The Cardiovascular Imaging Research Center (CIRC) is a state-of-the-art imaging core facility capable of in vivo imaging of human subjects and large animals for research purposes. It includes whole-body magnetic resonance imaging (MRI) scanners, whole-body X-ray computed tomography (CT) scanners, image post-processing hardware and software, and scientific and engineering personnel with expertise in human and large animal cardiovascular imaging.

Specific Instrumentation available with CIRC includes 3, 1.5 and 0.55 Tesla Resonance Imaging (MRI), Computed Tomography (CT) and MRI-compatible exercise stress ergometers. CIRC is administrated through the Dorothy M. Davis Heart and Lung Research Institute (DHLRI) and is a collaborative effort with the OSU Heart and Vascular Center (HVC). CIRC is under the direction of Drs. Orlando Simonetti and Yuchi Han and is available as a resource to all investigators at The Ohio State University (OSU), as well as at other academic institutions and commercial organizations. In addition, CIRC offers consultation, guidance, analysis and interpretation.

Cardiovascular Imaging Research Center Core Lab

2050 Kenny Road

Columbus, OH 43221

Email: iheartmri@osu.edu

Comprehensive Small Animal Surgery Core (CSASC)

Manager: Nuo Sun, PhD

The DHLRI Comprehensive Small Animal Surgery Core (CSASC) provides high quality services to support OSU investigators pursuing pre-clinical in-vivo rodent studies. The CSASC is a state-of-the-art small animal surgical core facility capable of cardiovascular small animal surgery for research purposes. There are fully equipped surgical stations including an isoflurane anesthesia system, MPS Millar Pressure catheter system with data analysis software, bioamp hardware for ECG recording, biopods for rectal probe, temperature recording, animal surgery heating pads for mouse homeostasis, bead sterilizer, surgical grade instruments, and scientific personnel with expertise in small animal cardiovascular surgery.

The CSASC provides a broad range of cardiovascular surgical and physiological services, including transverse aortic constriction (TAC), left anterior descending (LAD) coronary artery ligation, arteriovenous (AV) fistula creation, intracardiac injection, telemetry implantation, osmotic minipump implantation, intracardiac pacing, pressure-volume (PV) loop analysis, Vevo ultrasound imaging, and consultation and training services for investigators.

The CSASC maintains standard operating procedures (406-07 SOP approved by IACUC) that should be referenced in a PI's specific IACUC protocol. Any deviation from CSASC SOP must be approved in the PI's own protocol and shared with CSASC personnel prior to study.

The advantages to using the CSASC SOP include:

- The elimination of variations in surgery descriptions between protocols using the same surgeon
- The reduction of study team member changes and amendments for protocols referencing to an IACUC approved SOP
- The responsibility of the Core for facility and supplies inspected during IACUC semi-annuals

Comprehensive Small Animal Surgery Core

Davis Heart and Lung Research Institute

473 W 12th Avenue

Columbus, OH 43210

Email: Nuo.Sun@osumc.edu

Flow Cytometry Core Lab

Manager: Trent Sandstrom, BS

The Flow Core is DHLRI's all-in-one hub for everything flow cytometry. We provide the tools and expertise needed to perform advanced cell sorting, high-dimensional cell phenotyping, and nanoparticle analysis to support a wide range of research projects. From detailed immune profiling to stem cell characterization, and anything else you can tag with a fluorophore, the Flow Core has you covered.

Our suite of three carefully selected instruments provides maximum flexibility, covering a wide range of applications:

Cytek Northern Lights – A full-spectrum flow cytometer equipped with 3 lasers (405, 488, 640 nm) and 38 fluorescence channels. It utilizes Full Spectrum Profiling and Spectral Unmixing technology to enable high-dimensional analysis with panels of 25+ markers.

Cytek Aurora – Spectral cell sorter for collecting choice populations in test tubes. Uses the same 3-laser, 38-channel setup as the Northern Lights, allowing for convenient panel-optimization prior to sorting. Sorts up to 6 populations at a time and supports multiple nozzle sizes.

NanoFCM – High-resolution cytometer for nanoparticles (7–1000 nm). It is equipped with a blue (488 nm) laser and utilizes single-photon counting modules (SPCM) for side scatter and fluorescence detection, with detection ranges centered around 525 nm (FITC/GFP) and 660 nm (PerCP). Useful for extracellular vesicles, viral particles, and other nanoscale analyses.

Flow Cytometry Core

358 DHLRI

473 West 12th Avenue

Columbus, OH 43210

Email: DHLRI-FlowCore@osumc.edu

Interventional Cardiology Cath Core Lab

Manager: Matthew Joseph, BS

The Cath Core specializes in providing fluoroscopic (real-time x-ray) based services to institutional investigators as well as external private companies. We can support a wide array of preclinical research projects including:

- Basic Research
- Medical Device Development
- R&D / Proof of Concept
- Cellular Therapy / Biologics
- Training Labs

The Cath Core is a fully equipped interventional Cath/EP suite with an OEC 9800 Plus fluoroscopic C-arm and GE CardioLab recording system. This fluoroscopy unit has cine, digital spot, and digital subtraction angiography (DSA) capabilities. In addition to the equipment, the Cath Core also provides the experienced interventional and surgical support personnel needed to complete your large animal preclinical experiments.

Our main focus is on surgical and interventional cardiovascular research models in various large animal species. However, the use of fluoroscopy is not limited to cardiovascular research. Other disciplines including pulmonary, neurology, orthopedics, oncology, and urology have benefited by utilizing this imaging technology. If your translational studies encompass a different field, we can either reproduce published in vivo models or develop a unique model to fit your research objectives.

Interventional Cardiology Cath Core Lab

1016 Wiseman Hall

400 West 12th Avenue

Columbus, Ohio 43210

Phone: 724-730-9337

Email: Matthew.Joseph@osumc.edu

Small Animal Imaging Core Lab (SAIC)

Manager: Anna Bratasz, PhD

Lab Personnel: Kamaria Davis, BA, RLAT

The Small Animal Imaging Core (SAIC) at the Davis Heart and Lung Research Institute (DHLRI) is a comprehensive small animal imaging facility available to investigators at DHLRI, The Ohio State University, as well as other academic and commercial institutions. The facility includes high-resolution imaging equipment (MRI, ultrasound, microCT, and optical), X-ray irradiators (SARRP and RS-2000), body composition analyzer, and personnel trained in the operation of each imaging modality, small animal handling procedures, and quantitative image analysis software.

Services:

- Consultation, data analysis and interpretation, training, and education
- Remote workstation access for image analysis and visualization software

Cardiovascular Services:

- Cardiac functional imaging using ultrasound (Vevo F2)
- ECG recording and physiological monitoring (Vevo Monitoring)

Metabolic Services:

- Body composition analysis (EchoMRI)
- Whole-body mouse imaging for assessment of visceral and subcutaneous adipose tissue (9.4T MRI)

Additional Services:

- Intracardiac ultrasound-guided needle injection (Vevo F2)
- Access to other imaging modalities listed below

Equipment at The Pelotonia Research Center:

- Ultrasound imaging (Vevo F2)
- Live Animal Body Composition Measurements (echoMRI)
- Optical Imaging (IVIS Lumina II)

Equipment at Biomedical Research Tower:

- Ultrasound (Vevo F2)
- Live Animal Body Composition Measurements (echoMRI)
- Magnetic Resonance Imaging (Bruker 9.4T)
- MicroCT Imaging (SkyScan 1276)
- Optical Imaging (IVIS Spectrum 2)
- X-ray irradiators (RS-2000 and SARRP)

Small Animal Imaging Core Lab

Phone: 614-688-8068

Email: DHLRI.SAIC@osumc.edu

DHLRI Metabolism Core

Manager: Lisa Baer, MS

Columbus Instrument's Comprehensive Lab Animal Monitoring System (CLAMS) incorporates sub-systems for open circuit calorimetry and activity in an environmental chamber: Oxymax/CLAMS is the one-test solution for simultaneous multi parameter assessment of one to nine mice. Operation of Oxymax/CLAMS and data collection is performed by an integrated program. The resulting secure data sets can be exported to Comma Separated Value (CSV) files and provide the link between Oxymax/CLAMS and your existing data analysis tools.

The **Agilent Seahorse XFe analyzers** measure and report the oxygen consumption rate (OCR), proton efflux rate (PER) or extracellular acidification rate (ECAR), as well as ATP production rates of live cells in a 96-well format. This analyzer features excellent OCR precision at low rates, verified performance, optimized temperature control, and is automation enabled.

OCR, PER, and ATP production rates are critical measurements of energy metabolism and vital indicators of mitochondrial health, toxicity, glycolysis, and overall cellular (dys)function. Together, these measurements provide a systems-level view of cellular metabolic function in cultured cells and ex vivo samples.

DHLRI Metabolism Core

340 Biomedical Research Tower (BRT)

460 West 12th Avenue

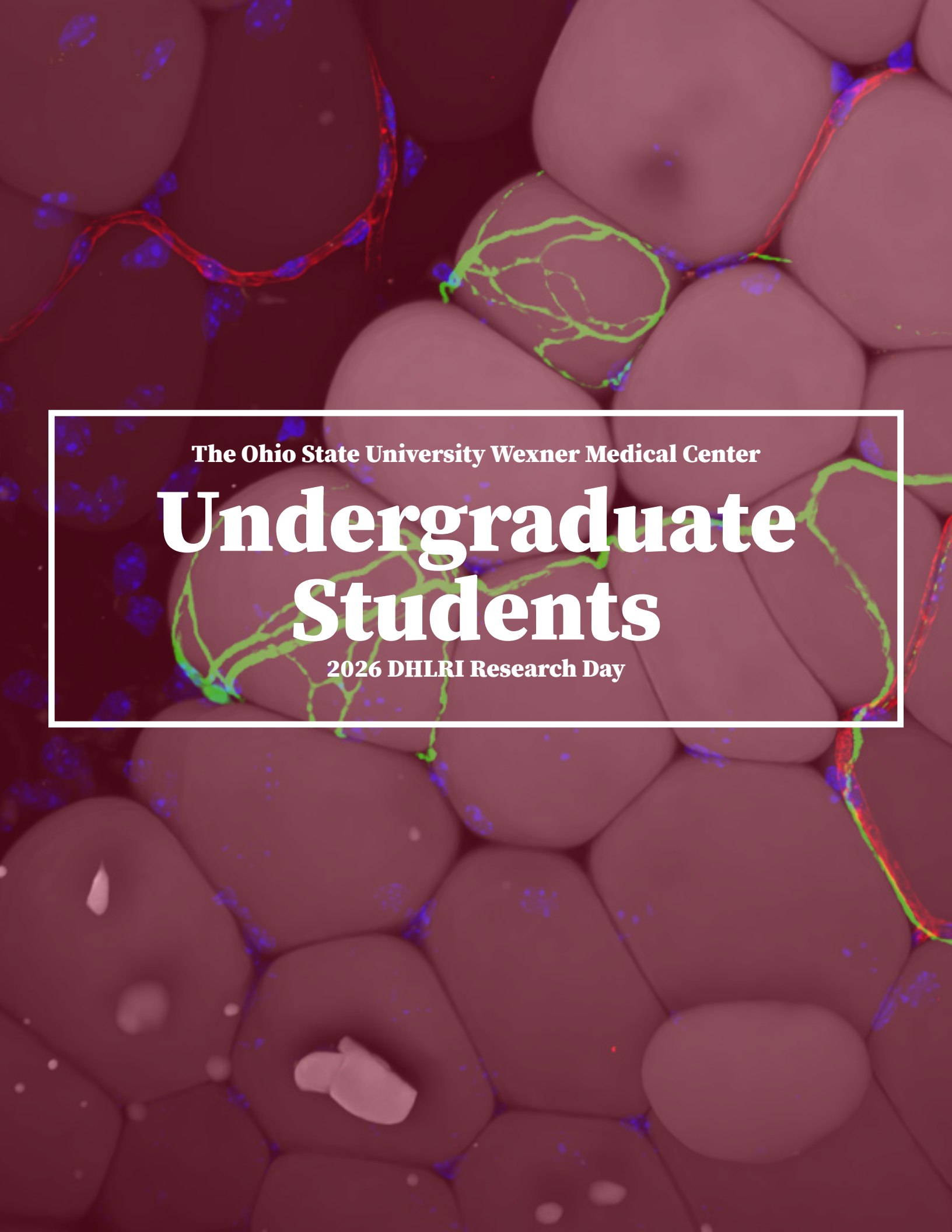
Columbus, Ohio 43210

Phone: 614-247-8287

Email: Lisa.Baer@osumc.edu

Presenter Abstracts

- 1 - **Ahuja** (Undergraduate Student)
- 2 - **Albers** (Graduate Student)
- 3 - **Albers** (Graduate Student)
- 4 - **Allue Guardia, PhD** (Faculty)
- 5 - **Anang, PhD** (Post-Doctoral Researcher)
- 6 - **Anthony, MS** (Research Staff)
- 7 - **Argall, PhD** (Post-Doctoral Researcher)
- 8 - **Ashfaq** (Undergraduate Student)
- 9 - **Bahassi** (Undergraduate Student)
- 10 - **Balaloski** (Undergraduate Student)
- 11 - **Batabyal, MS** (Graduate Student)
- 12 - **Baylon-Valdez, MD** (Post-Doctoral Researcher)
- 13 - **Biswas, PhD** (Post-Doctoral Researcher)
- 14 - **Bobik** (Graduate Student)
- 15 - **Bogdanov** (Graduate Student)
- 16 - **Boobalan** (Undergraduate Student)
- 17 - **Borjigin, MS** (Research Staff)
- 18 - **Burghaze, MS** (Graduate Student)
- 19 - **Burke, MS** (Graduate Student)
- 20 - **Campbell, PhD** (Post-Doctoral Researcher)
- 21 - **Cao** (Graduate Student)
- 22 - **Chacon** (Graduate Student)
- 23 - **Chahal, MD** (Clinical Fellow / Resident)
- 24 - **Charif** (Research Staff)
- 25 - **Chen, MS** (Graduate Student)
- 26 - **Cochran, PhD** (Post-Doctoral Researcher)
- 27 - **De, PhD** (Research Staff)
- 28 - **Dona** (Graduate Student)
- 29 - **Durcan, MS** (Graduate Student)
- 30 - **Durda, MD** (Clinical Fellow / Resident)
- 31 - **Elgaddafi** (Graduate Student)
- 32 - **El-Shazly** (Research Staff)
- 33 - **Esteves, PhD** (Post-Doctoral Researcher)
- 34 - **Feng** (Graduate Student)
- 35 - **Fitts** (Research Staff)
- 36 - **Frimpong** (Undergraduate Student)
- 37 - **Ge** (Graduate Student)
- 38 - **Ghobashi, PhD** (Post-Doctoral Researcher)
- 39 - **Gordon, MD** (Faculty)
- 40 - **Gosselin** (Graduate Student)
- 41 - **Guirao Abad, PhD** (Faculty)
- 42 - **Gul** (Undergraduate Student)
- 43 - **Gulick** (Research Staff)
- 44 - **Habib, MD** (Post-Doctoral Researcher)
- 45 - **Hanley** (Graduate Student)
- 46 - **Haque** (Graduate Student)
- 47 - **Henricks, MD** (Clinical Fellow / Resident)
- 48 - **Huang, MS** (Graduate Student)
- 49 - **Ilangovan** (Undergraduate Student)
- 50 - **Joseph** (Research Staff)
- 51 - **Kaboff, DO** (Clinical Fellow / Resident)
- 52 - **Kalavakolanu** (Undergraduate Student)
- 53 - **Kalinin, PhD** (Post-Doctoral Researcher)
- 54 - **Kanj** (Undergraduate Student)
- 55 - **Karimpour** (Graduate Student)
- 56 - **Kasprovic** (Graduate Student)
- 57 - **Kavedia** (Undergraduate Student)
- 58 - **Kern** (Graduate Student)
- 59 - **Koelbel, PhD** (Post-Doctoral Researcher)
- 60 - **Kolodny** (Graduate Student)
- 61 - **Kolonay** (Graduate Student)
- 62 - **Krishnan** (Undergraduate Student)
- 63 - **Kumar, PhD** (Research Staff)
- 64 - **LaFollette** (Graduate Student)
- 65 - **Lalisan** (Graduate Student)
- 66 - **LaRussa, PhD** (Post-Doctoral Researcher)
- 67 - **Lee** (Graduate Student)
- 68 - **Lefers, MS** (Graduate Student)
- 69 - **Leuenberger, MD** (Faculty)
- 70 - **Liang** (Graduate Student)
- 71 - **Lim** (Graduate Student)
- 72 - **Lindsey** (Research Staff)
- 73 - **Link** (Graduate Student)
- 74 - **Liu** (Research Staff)
- 75 - **Mack** (Undergraduate Student)
- 76 - **Mahalingam, MS** (Graduate Student)
- 77 - **Mariangelo, PhD** (Post-Doctoral Researcher)
- 78 - **Marius** (Undergraduate Student)
- 79 - **Mendu** (Undergraduate Student)
- 80 - **Meyerink, MS** (Graduate Student)
- 81 - **Miller** (Research Staff)
- 82 - **Minnery** (Undergraduate Student)
- 83 - **Morales** (Research Staff)
- 84 - **Morales** (Graduate Student)
- 85 - **Motiwalla, PhD** (Faculty)
- 86 - **Naqvi** (Undergraduate Student)
- 87 - **Naresh Kumar, PhD** (Research Staff)
- 88 - **Nirengi, PhD** (Research Staff)
- 89 - **Nishiga, MD, PhD** (Faculty)
- 90 - **Novotny** (Graduate Student)
- 91 - **Odayil Muralidharan, MS** (Graduate Student)
- 92 - **Ogundare** (Undergraduate Student)
- 93 - **Olverson, MS** (Graduate Student)
- 94 - **Ozabrahamyan** (Graduate Student)
- 95 - **Pant** (Research Staff)
- 96 - **Planner** (Graduate Student)
- 97 - **Pokhrel, PhD** (Post-Doctoral Researcher)
- 98 - **Pokrass, MS** (Graduate Student)
- 99 - **Polkam** (Undergraduate Student)
- 100 - **Pradhan** (Research Staff)
- 101 - **Price** (Undergraduate Student)
- 102 - **Pugh** (Graduate Student)
- 103 - **Qureshi** (Undergraduate Student)
- 104 - **Raut, PhD** (Post-Doctoral Researcher)
- 105 - **Reis** (Graduate Student)
- 106 - **Rincon-Benavides, PhD** (Post-Doctoral Researcher)
- 107 - **Rosas, PhD** (Research Staff)
- 108 - **Rosenzweig** (Graduate Student)
- 109 - **Ryan** (Undergraduate Student)
- 110 - **Sakai** (Graduate Student)
- 111 - **Salazar** (Graduate Student)
- 112 - **Saldivar, MD** (Clinical Fellow / Resident)
- 113 - **Sarkar** (Graduate Student)
- 114 - **Sattler** (Graduate Student)
- 115 - **Schott** (Graduate Student)
- 116 - **Seighali, MS** (Research Staff)
- 117 - **Seo, MS** (Graduate Student)
- 118 - **Seramur, PhD** (Post-Doctoral Researcher)
- 119 - **Shaheen, PhD** (Post-Doctoral Researcher)
- 120 - **Shaheen** (Graduate Student)
- 121 - **Siddavarapu** (Undergraduate Student)
- 122 - **Sollenberger** (Undergraduate Student)
- 123 - **Soni, PhD** (Research Staff)
- 124 - **Sridhar, MD** (Clinical Fellow / Resident)
- 125 - **Steckner** (Undergraduate Student)
- 126 - **Tamimi** (Research Staff)
- 127 - **Tang** (Graduate Student)
- 128 - **Taylor** (Graduate Student)
- 129 - **Thuma** (Graduate Student)
- 130 - **Tizazu, PhD** (Post-Doctoral Researcher)
- 131 - **Ulker** (Graduate Student)
- 132 - **Ushakumary, PhD** (Research Staff)
- 133 - **Vanegas-Avendano, PhD** (Research Staff)
- 134 - **Velasquez Ramirez** (Graduate Student)
- 135 - **Veress, PhD** (Research Staff)
- 136 - **Villanueva** (Undergraduate Student)
- 137 - **Wall** (Graduate Student)
- 138 - **Watkins, MS** (Graduate Student)
- 139 - **Wen, MS** (Graduate Student)
- 140 - **Winkle, MS** (Graduate Student)
- 141 - **Xie** (Graduate Student)
- 142 - **Xu, MD, PhD** (Research Staff)
- 143 - **Xu, MS** (Graduate Student)
- 144 - **Yaeger, MS, PhD** (Post-Doctoral Researcher)
- 145 - **Yang, PhD** (Graduate Student)
- 146 - **Yurtsever, PhD** (Post-Doctoral Researcher)
- 147 - **Zedan** (Undergraduate Student)
- 148 - **Zhang, MS** (Graduate Student)
- 149 - **Zhou, PhD** (Research Staff)
- 150 - **Zoller** (Graduate Student)



The Ohio State University Wexner Medical Center

Undergraduate Students

2026 DHLRI Research Day

Poster #1: Misha Ahuja

Temporal Lung Remodeling and Inflammatory Resolution Following Acute Infection with Aspergillus fumigatus

Department of Molecular Medicine and Therapeutics & Department of Emergency Medicine

PI: Jose Guiara-Abad, PhD & Michael Tranter, PhD

Poster #8: Taukeed Muhammad Ashfaq

β IV-spectrin Deficient Cardiac Fibroblasts Influence Macrophage Phenotype

Department of Biomedical Engineering, Department of Internal Medicine, Division of Cardiovascular Medicine

PI: Thomas J. Hund, PhD

Poster #9: Ramy Bahassi

Characterizing a Truncus Arteriosus-Associated NOTCH1 Splicing Variant During Cardiac and Valvular Differentiation

Center for Cardiovascular Research, Natiowide Children's Hospital

PI: Mingtao Zhao, DVM, PhD

Poster #10: Alek Balaloski

BB-031 Aptamer Inhibition of von Willebrand Factor Demonstrates Reduced Neutrophil-Associated Inflammatory Signaling Following Acute Ischemic Stroke

Department of Neurological Surgery

PI: Paco Herson, PhD

Poster #16: Rajguru Boobalan

Reducing Atherosclerosis in a Model of Menopause Hormone Therapy

Department of Internal Medicine, Division of Endocrinology, Diabetes, and Metabolism

PI: Lin Zhu, MD, PhD

Poster #36: Kwaku-Anim Frimpong

Cardiac-Specific Loss of PP2A-B56 α Protects Against Stress-Induced Ventricular Arrhythmias

Department of Surgery, Division of Cardiac Surgery

PI: Mona El Refaey, PhD, MS

Poster #42: Iza Gul

Cardiac Aging and Its Effect on Left and Right Ventricular Fibroblasts In Vitro

Department of Surgery, Division of Cardiac Surgery

PI: Matthew W. Gorr, PhD

Poster #49: Sandy Ilangovan

Recanalization after Murine Venous Thrombosis with Von Willebrand Factor Inhibition by Aptamer BB-031: Does Sex Really Matter?

Department of Neurological Surgery

PI: Shahid Nimjee, MD, PhD

Poster #52: Shrilekha Kalavakolanu

Cpt1a Overexpression in Type II Alveolar Epithelial Cells Attenuates Age-Related Lung Fibrosis

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Ana L. Mora, MD

Poster #54: Andrew Kanj

Sex Dimorphisms In Platelet Biology: Src Kinase And Estradiol As The Mechanistic Drivers Of Protective Female-Specific Platelet Hyperactivity

Department of Surgery, Division of Trauma, Critical Care, and Burn

PI: Julia Coleman, MD, MPH

Poster #57: Janhavi Kavedia

Gai Pathway Disruption Promotes Fibrotic Activation of Human Lung Fibroblasts in Response to TGF- β

Department of Surgery, Division of Cardiac Surgery

PI: Matthew W. Gorr, PhD

Poster #62: Aniruddh Krishnan

Analyzing The Effects Of Cardiac Dysfunction Brought About By HER2 Inhibition And The Potential Protective Role Of ADM Signaling.

Department of Internal Medicine, Division of Cardiovascular Medicine

PI: Sakima Smith, MD, MPH

Poster #75: Madison Mack

Changes in Body Composition and Circulating Biomarkers Following Ketogenic Versus Mixed Diet in Patients with Heart Failure with Preserved Ejection Fraction

Department of Radiology

PI: Christopher Crabtree, PhD

Poster #78: Nathyn Marius

Quantitative Structural and Molecular Gradients Define the Functional Pacemaker Compartments of the Human Sinoatrial Node

Department of Physiology and Cell Biology

PI: Vadim Fedorov, PhD

Poster #79: Haasini Mendu

Cardiac Magnetic Resonance Radiomics for Risk Stratification in Pulmonary Hypertension

Department of Internal Medicine, Division of Cardiovascular Medicine

PI: Rebecca Vanderpool, PhD

Poster #82: Spencer Minnery

Two Ultra-Rare Candidate Splice-Altering Variants at the BAG3 Cardiomyopathy Locus Identified by Multimodal In Silico Prioritization

Department of Internal Medicine, Division of Cardiovascular Medicine

PI: Megan Lancaster, MD, PhD

Poster #86: Mehak Naqvi

The Association Between Health-Related Social Needs and the Diabetes Care Cascade Among U.S. Adults: Sex Differences from NHANES

Department of Internal Medicine, Division of Endocrinology, Diabetes, and Metabolism

PI: Joshua J. Joseph, MD, MPH, FAHA

Poster #92: Patience Ogundare

Understanding Global Hypertension: A Narrative Review of International Hypertension Guidelines

Department of Family and Community Medicine

PI: T.M Ayodele Adesanya, MD, PhD

Poster #99: Vivaan Polkam

Balancing Metabolic and Nerve Health Benefit with Reproductive Safety of Estrogenic Interventions Across Aging and Obesity

Department of Neurological Surgery

PI: Kristy Townsend, PhD, MA, BS

Poster #101: Audrey Price

Cardiac Myocyte GPCRs as Drug Targets in the Treatment of Pulmonary Hypertension

Department of Surgery, Division of Cardiac Surgery

PI: Matthew W. Gorr, PhD

Poster #103: Shaihrum Qureshi

Two-pore-domain Potassium Channel TREK-1 Regulates STAT3 Activity to Influence Cardiac Remodeling

Department of Biomedical Engineering,

Department of Internal Medicine, Division of Cardiovascular Medicine

PI: Thomas J. Hund, PhD

Poster #109: Angela Ryan

Effects of Maternal Dietary Zinc Deficiency on Heart Morphogenesis

Center for Cardiovascular Research, Natiowide Children's Hospital

PI: Deqiang Li, MD, PhD

Poster #121: Varsha Siddavarapu

Maternal Exercise Alters the Offspring Gut Microbiome to Improve Metabolic Health in Female Offspring

Department of Surgery, Division of General and Gastrointestinal Surgery

PI: Kristin I. Stanford, PhD

Poster #122: William Sollenberger

Targeting mt-His-tsRNA Protects MI by Regulation of MFF

Department of Surgery, Division of Cardiac Surgery

PI: Hua Zhu, PhD

Poster #125: Eric Steckner

Short Term Effects of Ketone Exposure on the Brain and Heart in Healthy Middle-Aged Participants: A Randomized Crossover Imaging Trial

Department of Radiology

PI: Christopher Crabtree, PhD

Poster #136: Juan Villanueva

Thrombolytic Efficacy of Aptamer-Based BB-031 von Willebrand Factor Inhibition in a Microfluidic Model

Department of Neurological Surgery

PI: Shahid Nimjee, MD, PhD

Poster #147: Ziad Zedan

Engineering Extracellular Vesicles with Enhanced Tropism to Schwann Cells as a Gene Delivery Treatment for Neurofibromatosis Type 1 (NF1)

Department of Biomedical Engineering

PI: Natalia Higuera-Castro, PhD



The Ohio State University Wexner Medical Center

Graduate Students

2026 DHLRI Research Day

Poster #2: Cora Albers

Cabozantinib-Induced Cardiotoxicity Is Associated With Camkii Activation And Increased Late Sodium Current

Department of Internal Medicine, Division of Cardiovascular Medicine

PI: Sakima Smith, MD, MPH

Poster #3: Cora Albers

Identification Of Non-Coding Variants Affecting LMNA Expression In A Biobank Cohort Of Dilated Cardiomyopathy Patients

Department of Internal Medicine, Division of Cardiovascular Medicine

PI: Megan Lancaster, MD, PhD

Poster #11: Anandi Batabyal, MS

Maternal Exercise Responsive Metabolites Influence Offspring Metabolic Health Via Changes In The Gut Microbiome.

Department of Surgery, Division of General and Gastrointestinal Surgery

PI: Kristin I. Stanford, PhD

Poster #14: JT Bobik

Evaluation of the Role of G-Protein Coupled Inwardly Rectifying Potassium Subunit GIRK4 on KACH Function in Atrial Fibrillation

Department of Surgery, Division of Cardiac Surgery

PI: Mona El Refaey, PhD, MS

Poster #15: Vladimir Bogdanov

Calmodulin–Ryanodine Receptor 2 Conformational Coupling, Not Binding Affinity Alone, Suppresses Pathological Cardiac Ca²⁺ Leak

Department of Physiology and Cell Biology

PI: Sandor Gyorke, PhD

Poster #18: Madeline Burghaze, MS

The “Estrogen Paradox” of Pulmonary Hypertension Directs Remodeling of Right Ventricular Fibroblasts

Department of Surgery, Division of Cardiac Surgery

PI: Matthew W. Gorr, PhD

Poster #19: Savanna Burke, MS

Understanding The Role Of METTL3 In Neural Crest Cell Development

Center for Cardiovascular Research, Natiowide Children's Hospital

PI: Jihyun Jang, PhD

Poster #21: Yuanyuan Cao

Engineering Maternal 12,13-diHOME Signaling Improves Offspring Cardiac Metabolism Through Placental Remodeling

Department of Surgery, Division of General and Gastrointestinal Surgery

PI: Kristin I. Stanford, PhD

Poster #22: Nadine Chacon

The Human Alveolar Environment As A Determinant Of Mycobacterium Tuberculosis Susceptibility

Department of Internal Medicine, Division of Infectious Diseases

PI: Jordi B. Torrelles, PhD

Poster #25: Yanlin Chen, MS

Mechanistic Roles of Neutrophils in Pulmonary Vascular Remodeling

Department of Surgery, Division of Cardiac Surgery

PI: Qing Lin, MD, PhD

Poster #28: Kameron Dona

Epigenetic Mechanisms Regulating Stem Cell Fate During Muscle Regeneration

Department of Physiology and Cell Biology

PI: Kiran Nakka, PhD

Poster #29: Colin Durcan, MS

Multiple Imputation Expands PREVENT Risk Assessment in the All of Us Research Program

Department of Internal Medicine, Division of Cardiovascular Medicine

PI: Megan Lancaster, MD, PhD

Poster #31: Lina Elgaddafi

Immune-Mediated Mechanisms of PD-1 Inhibitor–Associated Cardiotoxicity

Department of Internal Medicine, Division of Cardiovascular Medicine
PI: Sakima Smith, MD, MPH

Poster #34: Yiru Feng

Fibroblast-Specific Nedd4L-Deficiency Modulates B Cell Profile In Experimental Pulmonary Fibrosis

Department of Physiology and Cell Biology
PI: Yutong Zhao, MD, PhD

Poster #37: Qianyun Ge

AMPK γ 2 Subunit Regulates Cardiac Hypertrophy and Electrophysiology via Myosin Interaction

Department of Molecular Medicine and Therapeutics
PI: Wandi Zhu, PhD

Poster #40: Haley Gosselin

Characterization Of A Novel Plastin-3 Osteogenesis Imperfecta Mutation In The Linker Between Regulatory And Actin-Binding Domains Reveals Mechanism Of Calcium Inhibition

Department of Physiology and Cell Biology
PI: Dmitri Kudryashov, MD, PhD

Poster #45: Meghan Hanley

NOTCH1-Deficient Chamber-Specific Cardioids Reveal Dysregulation In Cardiac And Vascular Development

Center for Cardiovascular Research, Natiowide Children's Hospital
PI: Mingtao Zhao, DVM, PhD

Poster #46: Tasfia Haque

The Cardiotoxic Role of Cardiac Macrophages in Cabozantinib and Nivolumab Combination Therapy for Renal Cell Carcinoma

Department of Internal Medicine, Division of Cardiovascular Medicine
PI: Sakima Smith, MD, MPH

Poster #48: Jiali Huang, MS

Selective Disruption Of Microrna-1 Biophysical Function Delays Cardiac Maturation

Department of Physiology and Cell Biology

PI: Jidong Fu, MD, PhD

Poster #55: Kamellia Karimpour

Identification Of Novel Small-Molecule Inhibitors Of Camkii Inspired By Endogenous 12,13-Dihome Regulation

Department of Biomedical Engineering, Department of Internal Medicine, Division of Cardiovascular Medicine

PI: Thomas J. Hund, PhD

Poster #56: Daniel Kasprovic

Cardiomyocyte-Specific HuR Regulates Macrophage Responses and Intercellular Communication Following Ischemic Cardiac Injury

Department of Emergency Medicine

PI: Onur Kanisicak, PhD

Poster #58: Benjamin (Hank) Kern

MED12 is Essential for Skeletal Muscle Development

Department of Physiology and Cell Biology

PI: Kedryn Baskin, PhD

Poster #60: Isabella Kolodny

Isoform-Specific Fine-Tuning of Nonmuscle Myosin-2A by the Essential Light Chain

Department of Physiology and Cell Biology

PI: Sarah Heissler, PhD

Poster #61: Dominic Kolonay

MED12 Controls Cardiomyocyte Polymerase Dynamics and Transcription Factor Recruitment

Department of Physiology and Cell Biology

PI: Kedryn Baskin, PhD

Poster #64: Alexandra LaFollette

The Cerebellum as a Novel Therapeutic Target Following Cortical Traumatic Brain Injury

Department of Neurological Surgery

PI: Megan S Keiser, PhD

Poster #65: Casey Lalisan

Cardiovascular Benefits of Menopause Hormone Treatment is Age-Dependent

Department of Internal Medicine, Division of Endocrinology, Diabetes, and Metabolism

PI: Lin Zhu, MD, PhD

Poster #67: Jiyeon Lee

Impaired Endocardial Differentiation And Endothelial-To-Mesenchymal Transition In Pulmonary Atresia With Intact Ventricular Septum (PA-IVS)

Center for Cardiovascular Research, Natiowide Children's Hospital

PI: Mingtao Zhao, DVM, PhD

Poster #68: Lucas Lefers, MS

Cardiac OSU-SP3 Enhances Skeletal Muscle Mitochondrial Function And Prevents HFD-Induced Obesity

Department of Physiology and Cell Biology

PI: Kedryn Baskin, PhD

Poster #70: Jingru Liang

Distinct Lipid Signatures Define Type 2 Diabetes and Cardiovascular Disease

Department of Surgery, Division of General and Gastrointestinal Surgery

PI: Kristin I. Stanford, PhD

Poster #71: Hwayeon Lim

Luminoptogenetic Induction of Cardiomyocyte Mitochondrial Depolarization Causes Cardiac Dysfunction and Remodeling in Mice

Department of Biomedical Engineering

PI: Lufang Zhou, PhD

Poster #73: Grace Link

TAS1R2 Deletion In Mice Alters Skeletal Muscle Glucose Utilization Through Enhanced Pentose Phosphate Pathway Activity

Department of Biological Chemistry and Pharmacology

PI: George Kyriazis, PhD

Poster #76: Neeraja Mahalingam, MS

MRI Enables Ectopic Fat Quantification Following Weight-Loss Intervention in Patients with HFpEF

Department of Biomedical Engineering

PI: Orlando P. Simonetti, PhD

Poster #80: Michael Meyerink, MS

The Effects Of HER2 Inhibition On Breast Cancer and the Synergistic Potentiation Of Cardiotoxicity

Department of Internal Medicine, Division of Cardiovascular Medicine

PI: Sakima Smith, MD, MPH

Poster #84: Jacob Morales

Finding the Hidden Drivers of Inherited Cardiomyopathy: A Deep Learning Approach to Noncoding Variation

Department of Internal Medicine, Division of Cardiovascular Medicine

PI: Megan Lancaster, MD, PhD

Poster #90: Meghan Novotny

Regulation of Myosin Function by UNC45 Chaperones

Department of Physiology and Cell Biology

PI: Sarah Heissler, PhD

Poster #91: Aparna Odayil Muralidharan, MS

From Injury To Healing: β IV-spectrin-STAT3 Drives Macrophage Mediated Cardiac Repair

Department of Biomedical Engineering,

Department of Internal Medicine, Division of Cardiovascular Medicine

PI: Thomas J. Hund, PhD

Poster #93: Zianne Olverson, MS

Gestational E-cigarette Aerosol Exposure Produces Shared Uterovascular Deficits and Distinct Female Placental Responses

Department of Surgery, Division of Cardiac Surgery

PI: Matthew W. Gorr, PhD

Poster #94: Serena Ozabrahamyan

12,13-diHOME Drives Endothelium-Dependent Vasodilation and PVAT Remodeling in the Thoracic Aorta

Department of Surgery, Division of General and Gastrointestinal Surgery

PI: Kristin I. Stanford, PhD

Poster #96: Clara Planner

Higher Patient Activation Associated with Better Life's Essential 8 Cardiovascular Health Among Black Adult Men

Department of Internal Medicine

PI: Joshua J. Joseph, MD, MPH, FAHA

Poster #98: Anastasiia Pokrass, MS

Atrial Remodeling Disrupts Spatial Protein Biogenesis at Contractile and Secretory Microdomains

Department of Physiology and Cell Biology

PI: Sandor Györke, PhD

Poster #102: Andrew Pugh

HDAC3 Regulates Ventricular Myocardial Morphogenesis

Center for Cardiovascular Research, Natiowide Children's Hospital

PI: Deqiang Li, MD, PhD

Poster #105: Sierra Reis

Piezo1 Drives Mechanically Induced Immunothrombosis

Department of Molecular Medicine and Therapeutics

PI: Wandu Zhu, PhD

Poster #108: Rachel Rosenzweig

Cardiac Immune Infiltration In Pulmonary Hypertension Is Ventricle-Specific

Department of Surgery, Division of Cardiac Surgery

PI: Matthew W. Gorr, PhD

Poster #110: Lilian Sakai

The Role Of MG53 In Limbal Stem Cell Regulation

Department of Surgery, Division of Cardiac Surgery

PI: Hua Zhu, PhD

Poster #111: Juan Salazar

Engineering Donor Cell Identity Enhances Schwann Cell Targeting and Delivery via Engineered Extracellular Vesicles

Department of Biomedical Engineering

PI: Natalia Higuera-Castro, PhD

Poster #113: Anusua Sarkar

Optogenetic Repolarization of Cardiomyocyte Mitochondrial Membrane Potential Protects the Heart from Ischemia–Reperfusion Injury

Department of Biomedical Engineering

PI: Lufang Zhou, PhD

Poster #114: Kristina Sattler

Assessment of Lectin Staining Biomarkers for GNE Myopathy Gene Therapy

Department of Physiology and Cell Biology

PI: Christoph Lepper, PhD

Poster #115: Evangeline Schott

Ozone-Induced Lung Injury Increases Susceptibility to Lower Respiratory Infections by Elevating Airspace Iron Concentrations

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Kymberly M. Gowdy, MS, PhD

Poster #117: Dongseong Seo, MS

GSTO1 as a Modulator of Myofibroblast Activity

Department of Emergency Medicine

PI: Onur Kanisicak, PhD

Poster #120: Rebecca Shaheen

β IV-spectrin macromolecular complex modulates the temporal and spatial development of cardiac repair and remodeling following myocardial infarction

Department of Biomedical Engineering,

Department of Internal Medicine, Division of Cardiovascular Medicine

PI: Thomas J. Hund, PhD

Poster #127: Feng Tang

Molecular Mechanism Of Mir1-Kir2.1 Interaction Reveals Independent Biophysical And RNA Interference Functions Of MicroRNA-1

Department of Physiology and Cell Biology

PI: Jidong Fu, MD, PhD

Poster #128: Carman Taylor

Functionalized Engineered Extracellular Vesicles for Targeted Delivery to Intervertebral Disc Cells

Department of Biomedical Engineering

PI: Natalia Higuera-Castro, PhD

Poster #129: Jenna Thuma

Troponin Enhanceropathies: A Novel Role for the Troponin Genes

Department of Physiology and Cell Biology

PI: Jonathan Davis, PhD

Poster #131: Ali Ulker

The D73n Troponin C Mouse: A Translational Model Of Dilated Cardiomyopathy

Department of Physiology and Cell Biology

PI: Jonathan Davis, PhD

Poster #134: Daniel Velasquez Ramirez

Extracellular Vesicle-Based Delivery of Anti-Inflammatory Cargo for Vision Preservation After Neurotrauma

Department of Biomedical Engineering

PI: Natalia Higueta-Castro, PhD

Poster #137: Matthew Wall

Investigating the Link Between Fluoroquinolone-Induced Cell Surface Remodeling and Broad-Spectrum Drug Tolerance in Mycobacterium tuberculosis

Department of Internal Medicine, Division of Infectious Diseases

PI: Jordi B. Torrelles, PhD

Poster #138: Jacob Watkins, MS

Molecular Characterization of Dystrophin Domains to Guide Microdystrophin Design for Duchenne Muscular Dystrophy Gene Therapy

Department of Physiology and Cell Biology

PI: Krishna Chinthalapudi, PhD

Poster #139: Bo-Yao Wen, MS

Periostin Deficiency Impairs Healthy Adipose Tissue Expansion by Attenuating the Adipogenic Progenitor Cells

Department of Molecular Medicine and Therapeutics

PI: Michael Tranter, PhD

Poster #140: Alexander Winkle, MS

The Role of β IV-spectrin in Regulation of TREK-1 Function

Department of Biomedical Engineering

PI: Thomas J. Hund, PhD

Poster #141: Yujia Xie

Distinct Metabolic Trafficking of Circulating Albumin-Bound versus Lipoprotein-Bound Long Chain Fats in the Heart

Department of Internal Medicine, Division of Endocrinology, Diabetes, and Metabolism

PI: E. Douglas Lewandowski, PhD

Poster #143: Siying Xu, MS

Pulmonary Delivery of Rapamycin-Loaded Liposomal Nanoparticles Attenuates Inflammation in an LPS-Induced ARDS Model

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine
PI: Joshua Englert, MD

Poster #145: Zengqiao Yang, PhD

BRD4-Dependent TSC22D1 Carian 1 Promotes the Hypertrophic Gene Program in Cardiomyocytes

Department of Physiology and Cell Biology
PI: Matthew Stratton, PhD

Poster #148: Luxi Zhang, MS

MG53 Promotes Corneal Repair And Nerve Regeneration Following Chemical-Induced Injury

College of Optometry & Department of Surgery, Division of Cardiac Surgery
PI: Heather Chandler, PhD & Hua Zhu, PhD

Poster #150: Kate Zoller

The E3 Ligase Subunit FBXL16 Regulates Innate Immune Responses in Influenza A Infections

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine
PI: Rama Mallampalli, MD

A detailed scanning electron micrograph of neural tissue, showing a dense network of long, thin axons and various cell bodies. The image is rendered in a monochromatic reddish-brown color, with the biological structures appearing in lighter shades of the same hue. The background is a deep, solid red.

The Ohio State University Wexner Medical Center

Post-Doctoral Researchers

2026 DHLRI Research Day

Poster #5: Vandana Anang, PhD

BIK as a Host-Intrinsic Regulator of Inflammation During SARS-CoV-2 Infection

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Yohannes Mebratu, DVM, MS, PhD

Poster #7: Aaron Argall, PhD

Trisomy 21 Alters Cardiac Differentiation Trajectories and 3D Cardioid Morphogenesis in a DS+AVSD iPSC Model

Center for Cardiovascular Research, Natiowide Children's Hospital

PI: Mingtao Zhao, DVM, PhD

Poster #12: Victor Baylon-Valdez, MD, MPH

The Effect of a Community-Based Cardiovascular Health Intervention in Black Men on Adiposity Measures: Black Impact

Department of Internal Medicine, Division of Endocrinology, Diabetes, and Metabolism

PI: Joshua J. Joseph, MD, MPH, FAHA

Poster #13: Rupam Biswas, PhD

Structural Basis of Multilayered Gating and Fast Inactivation Mechanisms in Human Nav1.5

Department of Physiology and Cell Biology

PI: Isabelle Deschenes, PhD

Poster #20: Ian Campbell, PhD

Molecular Mechanisms Of Dysferlin-Mediated Membrane Repair

Department of Physiology and Cell Biology

PI: Krishna Chinthalapudi, PhD

Poster #26: Samuel Cochran, PhD

NCOA4-Mediated Ferritinophagy In Ozone-Induced Asthma Exacerbation

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Kymberly M. Gowdy, MS, PhD

Poster #33: Joao Victor Esteves, PhD

Tissue Nanotransfection as a Novel Strategy to Improve Glycemic Control in Diet-Induced Obese Mice

Department of Surgery, Division of General and Gastrointestinal Surgery

PI: Kristin I. Stanford, PhD

Poster #38: Ahmed Ghobashi, PhD

Mapping Epithelial Stability States Reveals Plasticity Shifts in Aging and Fibrosis

Department of Biomedical Informatics

PI: Qin Ma, PhD

Poster #44: Alim Habib, MD

Restoring Maternal 12,13-diHOME to Mitigate Offspring Cardiometabolic Risk Following Burn Pit Relevant PM2.5 Exposure

Department of Surgery, Division of General and Gastrointestinal Surgery

PI: Kristin I. Stanford, PhD

Poster #53: Roman Kalinin, PhD

UTRs Spatially Organize ATP2A2 mRNA via Microtubules in Adult Cardiomyocytes

Department of Physiology and Cell Biology

PI: Sandor Györke, PhD

Poster #59: Calvin Koelbel, PhD

Cellular Senescence Is Associated With Accelerated Biological Age And Tumor Aggressiveness In Early Onset Lung Cancer

Department of Internal Medicine, Division of Medical Oncology

PI: Triparna Sen, PhD

Poster #66: Zachary LaRussa, PhD

Reduced Endothelial CD39 Expression Impairs Metabolic Function and Promotes an Atherogenic Phenotype

Department of Internal Medicine, Division of Cardiovascular Medicine

PI: Richard Gumina, MD, PhD

Poster #77: Juan Mariangelo, PhD

Sarcoplasmic Reticulum: A Spatial Platform for Excitation-Contraction Coupling Protein Synthesis

Department of Physiology and Cell Biology

PI: Sandor Györke, PhD

Poster #97: Narayan Pokhrel, PhD

Metabolic Regulation Of Gene Expression During Skeletal Muscle Homeostasis

Department of Physiology and Cell Biology

PI: Kiran Nakka, PhD

Poster #104: Satish Raut, PhD

CLIC1 Regulates Chronic Stress-Induced Diabetes and Cardiac Dysfunction via GLUT4 Trafficking

Department of Physiology and Cell Biology

PI: Harpreet Singh, PhD

Poster #106: Maria Rincon-Benavides, PhD

Retrograde Delivery of Engineered Extracellular Vesicles Enables Targeting of the Central and Peripheral Nervous System

Department of Biomedical Engineering

PI: Natalia Higuera-Castro, PhD

Poster #118: Mary Seramur, PhD

Obesity and Cardiac Stress-Dependent Adipose-Derived Extracellular Vesicle Signaling in Pathological Cardiac Remodeling

Department of Molecular Medicine and Therapeutics

PI: Michael Tranter, PhD

Poster #119: Nargis Shaheen, PhD

Indole-3-Acetic Acid Protects Against Lipopolysaccharide-Induced Lung Endothelial Inflammation And Barrier Disruption

Department of Physiology and Cell Biology

PI: Jing Zhao, MD, PhD

Poster #130: Anteneh Mehari Tizazu, PhD

BIK Negatively Regulates Immunoproteasome Induction and STAT1 Signaling During Influenza A Virus Infection

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Yohannes Mebratu, DVM, MS, PhD

Poster #144: Michael Yaeger, MS, PhD

Commensal Microbe Exposure in Early-Life Imprints Long-Lasting Healing Capabilities in Barrier Tissues

Department of Microbial Infection and Immunity

PI: Miqdad Dhariwala, MS, PhD

Poster #146: Ilknur Yurtsever, PhD

The Structural Determinants of FBXO24

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Rama Mallampalli, MD



A fluorescence microscopy image of a tissue section, likely a histological slide. The image shows a complex network of green, red, and blue structures. The green structures are elongated and wavy, resembling nerve fibers or muscle tissue. The red structures are more granular and clustered, possibly representing cellular components or specific protein expression. The blue structures are small, round, and numerous, likely representing cell nuclei stained with DAPI. The overall image has a high-contrast, vibrant appearance typical of fluorescence microscopy.

The Ohio State University Wexner Medical Center

Research Staff

2026 DHLRI Research Day

Poster #6: Sarah Anthony, MS

Increased H₂O₂ Expression In Adipose Tissue Impairs Fatty Acid Oxidation And Promotes Lipotoxic Stress And Loss Of White Adipose Tissue

Department of Molecular Medicine and Therapeutics

PI: Michael Tranter, PhD

Poster #17: Boina Borjigin, MS

Activation Of USP30 Impairs Lung Microvascular Integrity By Increasing DNA Methylation Through Deubiquitinating Methionine Adenosyltransferase

Department of Physiology and Cell Biology

PI: Yutong Zhao, MD, PhD

Poster #24: Amer Charif

Characterization Of CLIC6 In Lung Epithelial Cells: A Novel Role In Lung Ischemia-Reperfusion Injury

Department of Physiology and Cell Biology

PI: Yutong Zhao, MD, PhD

Poster #27: Mithu De, PhD

Development Of A Competitive Inhibition ELISA To Evaluate And Compare PR3 Epitope Specificity Of Antineutrophil Cytoplasmic Antibodies

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Lynn A. Fussner, MD

Poster #32: Xavier El-Shazly

Submaximal Cardiopulmonary Testing With A Concomitant In-Bore Cardiovascular MRI: A Comparison Of Cardiac And Pulmonary Results Between Patients With Dyspnea On Exertion and Healthy Controls.

Department of Radiology

PI: Christopher Crabtree, PhD

Poster #35: Emily Fitts

Contribution of Signals from Gut Microbiota on Adipose Tissue T cell Proliferation with High-Fat Diet Induced Rapid Adipose Tissue Expansion

Department of Surgery, Division of General and Gastrointestinal Surgery

PI: Ramiah Jacks, PhD

Poster #43: Nondyce Gulick

mTORC1 Inactivation in AT2 Cells Impairs Resolution of Lung Injury

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Joshua Englert, MD

Poster #50: Cristina Joseph

From Emotional Stress to Broken Heart: A Potential therapeutic target for Emotional Stress-Induced Cardiac Dysfunction

Department of Physiology and Cell Biology

PI: Xun Ai, MD

Poster #63: Pankaj Kumar, PhD

ARIH2 Overexpression Protects Against LPS-Induced Acute Lung Injury by Regulating NF- κ B-NLRP3 Signaling Axis

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Yohannes Mebratu, DVM, MS, PhD

Poster #72: Ella Lindsey

Association of Diabetes Distress with HbA1c Independent of Insulin Use in Adults with Food Insecurity and Uncontrolled Type 2 Diabetes

Department of Internal Medicine, Division of Endocrinology, Diabetes, and Metabolism

PI: Joshua J. Joseph, MD, MPH, FAHA

Poster #74: Jiaru Liu

Cardiomyokines Regulate Inter-Organ Communication and Improve Exercise Capacity

Department of Physiology and Cell Biology

PI: Kedryn Baskin, PhD

Poster #81: Lily Miller

Effects of Acute Ketone Ester Consumption on Postprandial Myocardial Perfusion in Adults with Type 2 Diabetes

Department of Internal Medicine, Division of Cardiovascular Medicine

PI: Yuchi Han MD, MMSc

Poster #83: Alena Morales

A Molecular Atlas of the Human Sinoatrial Node: Region- and Cell-Type-Specific Gene Expression Mapping

Department of Physiology and Cell Biology

PI: Vadim Fedorov, PhD

Poster #87: Naresh Kumar, PhD

CFTR Dysfunction Impairs Cardiomyocyte Calcium Handling and Excitation–Contraction Coupling to Drive Cardiac Dysfunction

Department of Microbial Infection and Immunity

PI: Murugesan Rajaram, PhD

Poster #88: Shinsuke Nirengi, PhD

Zbtb16 As A Novel Exercise-Induced Transcription Factor In White Adipose Tissue

Department of Surgery, Division of General and Gastrointestinal Surgery

PI: Kristin I. Stanford, PhD

Poster #95: Dipti Pant

Enriched but Expendable: Role of Dab2 in Developing Murine Valve Endocardium

Center for Cardiovascular Research, Natiowide Children's Hospital

PI: Jihyun Jang, PhD

Poster #100: Akansha Pradhan

LEDGF and Its Role in Cardiac Remodeling

Department of Physiology and Cell Biology

PI: Matthew Stratton, PhD

Poster #107: Lorena Rosas, PhD

Spatial Proteomic Profiling Reveals Region-Specific and Senescence-Associated Signatures in Idiopathic Pulmonary Fibrosis

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Mauricio Rojas, MD

Poster #116: Arian Seighali, MS

Time-Efficient Non-Contrast And Ferumoxytol-Enhanced 3D Real-Time ML-DIP Cine In A Pediatric Surrogate Porcine Model At 0.55T

Department of Radiology

PI: Juliet Varghese, PhD

Poster #123: Sourabh Soni, PhD

Therapeutic Targeting of the ARIH2-BIK Axis Restricts Influenza A Virus Replication and Mitigates Severe Lung Injury

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Yohannes Mebratu, DVM, MS, PhD

Poster #126: Nawal Tamimi

Membrane-Repairing lncRNA Masir Protects the Heart from Ischemic Injury

Department of Physiology and Cell Biology

PI: Jidong Fu, MD, PhD

Poster #132: Mereena George Ushakumary, PhD

ZEB1 As A Central Regulator Of Pro-Fibrotic Signaling And ECM Remodeling In Pathological Fibroblasts

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Richard Nho, PhD & Jeffrey Horowitz, MD

Poster #133: Natalia Vanegas-Avendano, PhD

In Vitro Culture Drives Transcriptional Drift of Human Lung Fibroblasts Away from Their Native CTHRC1+ Fibrogenic Identity

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Mauricio Rojas, MD

Poster #135: Roland Veress, PhD

Same Mutation, Different Disease: Distinct Arrhythmias from D132E in Calm2 and Calm3

Department of Physiology and Cell Biology

PI: Dmitry Terentyev, PhD

Poster #142: Qiaoyi Xu, MD, PhD

A Novel Insight Of Bone Morphogenetic Protein 5 Signaling In Pulmonary Fibrosis

Department of Physiology and Cell Biology

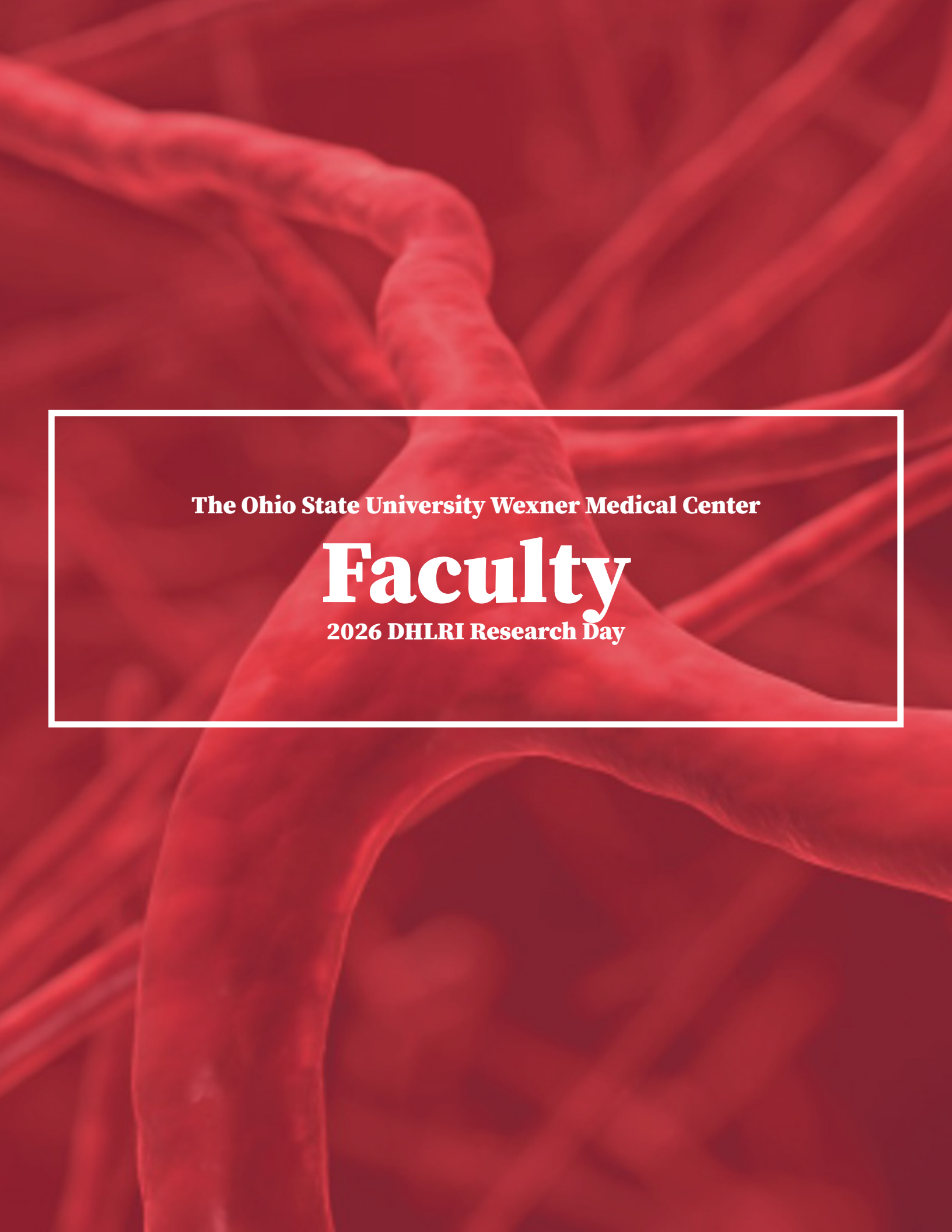
PI: Yutong Zhao, MD, PhD

Poster #149: Ye Zhou, PhD

Role Of Kinesin (Kif20a) In Myocyte Sarcomere Organization And Expression

Department of Physiology and Cell Biology

PI: Drew Nassal, PhD

The background is a red-tinted anatomical illustration of human internal organs, specifically showing the branching structure of the lungs and major blood vessels. A white rectangular frame is centered on the page, enclosing the text.

The Ohio State University Wexner Medical Center

Faculty

2026 DHLRI Research Day

Poster #4: Anna Allue Guardia, PhD

Impairment Of Mitochondrial Pathways In The Aging Lung

Department of Internal Medicine, Division of Infectious Diseases

PI: Jordi B. Torrelles, PhD

Poster #39: Joshua Gordon, MD

Relationship Between Pre Critical Illness Handgrip Strength and Post Critical Illness Disability

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: James Burke, MD

Poster #41: Jose Guirao Abad, PhD

Fibroblast Heterogeneity And Function During Pulmonary Aspergillus Fumigatus Challenge

Department of Emergency Medicine

PI: Onur Kanisicak, PhD

Poster #69: Laura Leuenberger, MD

Linoleic Acid Derived Mediators are Associated with Metabolic Comorbidities in Patients with Acute Respiratory Distress Syndrome

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Kymberly M. Gowdy, MS, PhD

Poster #85: Tasneem Motiwala, PhD

Association Of Vitamin D With Progression Of Cardiovascular-Kidney-Metabolic Syndrome: A Retrospective Cohort Study

Department of Family and Community Medicine

PI: Daniel M. Walker, PhD, MPH

Poster #89: Masataka Nishiga, MD, PhD

Targeting the CXCL10-IFN- γ Axis to Prevent Myocardial Injury Following mRNA Vaccination

Department of Molecular Medicine and Therapeutics

PI: Masataka Nishiga, MD, PhD



The Ohio State University Wexner Medical Center

Clinical Fellows / Residents

2026 DHLRI Research Day

Poster #23: Simran Chahal, MD

A Novel Spirometry Parameter for the Detection of Subglottic Stenosis in Patients with Granulomatosis with Polyangiitis

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Lynn A. Fussner, MD

Poster #30: Michael Durda, MD

Hidden In Plain Sight: A Case Of Tracheal Injury After Intubation

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Avraham Cooper, MD

Poster #47: Jonathan Henricks, MD

Not So Mono-tonous – A Case of EBV-positive Lymphoplasmacytic Lymphoproliferative Disorder Leading to HLH and Multiorgan Failure

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Patrick Kramer, MD

Poster #51: Austin Kaboff, DO

Bochdalek Hernia Presenting with Spontaneous Diaphragm Rupture and Respiratory Failure

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Nitin Bhatt, MD

Poster #112: Laura Saldivar, MD

When Treatment Options (and a Pulmonary Artery) are Constricted: Solitary Lung Transplantation for Fibrosing Mediastinitis

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Stephen Kirkby, MD

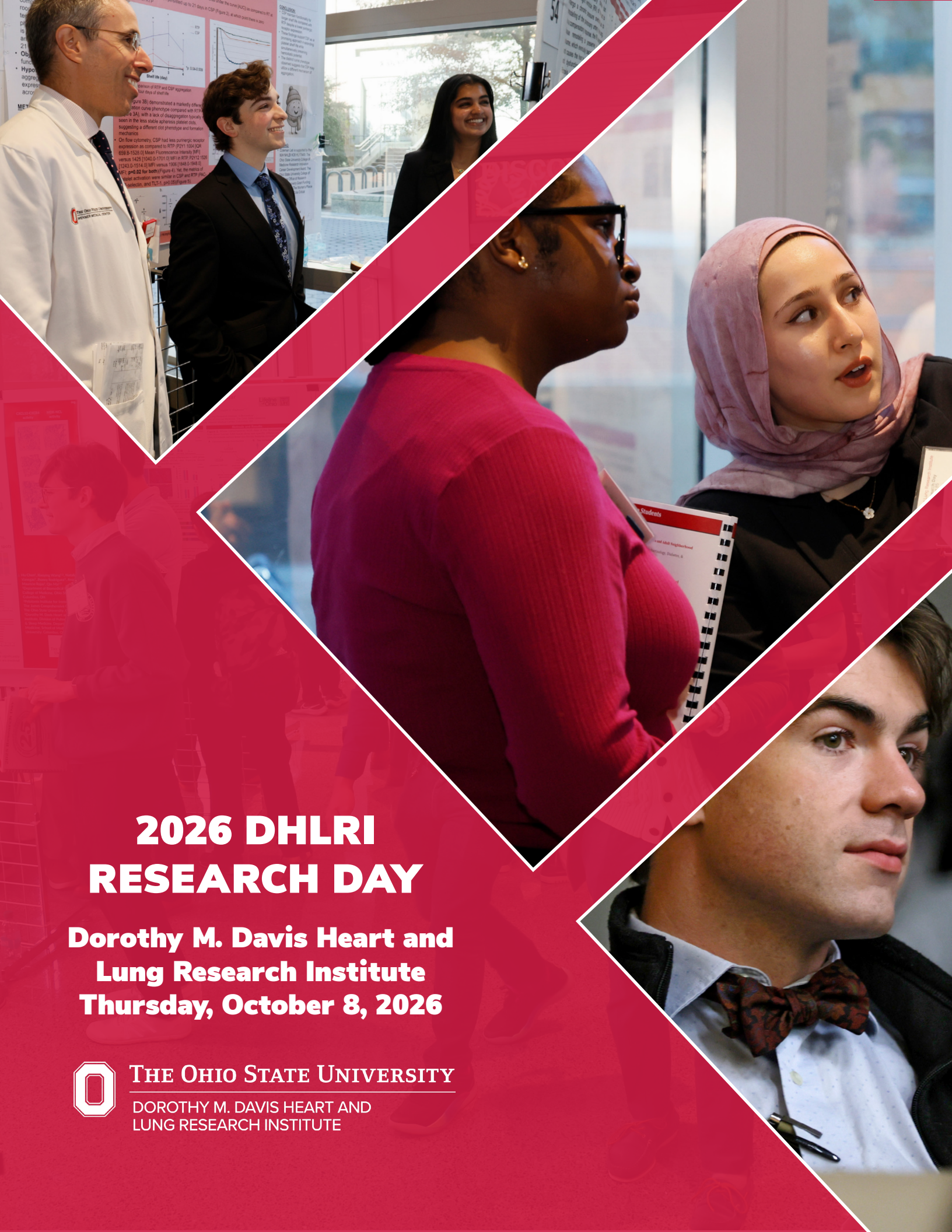
Poster #124: Shilpa Sridhar, MD

The Association of Venous Thromboembolism with Disease Manifestations in ANCA-Associated Vasculitis

Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

PI: Lynn A. Fussner, MD





2026 DHLRI RESEARCH DAY

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