



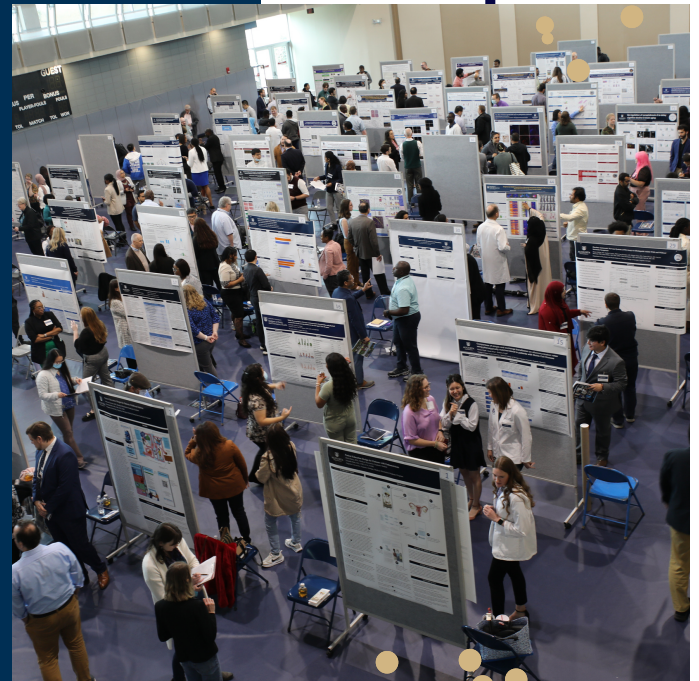
THE GRADUATE  
SCHOOL

AUGUSTA UNIVERSITY



The 39th Annual

# GRADUATE RESEARCH DAY



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March 7 - March 8, 2024



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## ***Schedule of Events***

### **Thursday, March 7, 2024**

**1:00 PM - 5:00 PM**

**Postdoctoral Fellow Oral Presentations**

*Interdisciplinary Research Center – CA 2109*

### **Friday, March 8, 2024**

**10:30 AM - 12:30 PM**

**Fisher Scientific/Phi Kappa Phi Poster Session**

*Greenblatt Library*

**1:00 PM - 2:30 PM**

**Keynote Address & Lunch**

*Lee Auditoria – BC 1040*

**Opening Remarks**

Jennifer Sullivan, Ph.D.

*Dean, The Graduate School*

**Introduction of the Speaker**

Elena Dent, Ph.D.

*Assistant Dean, The Graduate School*

**Keynote Address - “Cardiovascular Disease in Women: Epidemiology, Awareness, Access, and Delivery of Equitable Health Care”**

Nanette K. Wenger, MD, MACC, MACP, FAHA

*Professor Emeritus, Division of Cardiology, Emory School of Medicine*

*Consultant, Emory Heart & Vascular Center*

*Founding Consultant, Emory Women’s Heart Center*

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# YOU'RE INVITED!

## GRADUATE RESEARCH DAY AWARDS LUNCH

Amphitheater | Summerville Campus

Rain Location: JSAC Ballroom

April 17, 2024 at 12:00 PM

RSVP to Afua Adu-Wusu  
at [aaduwus1@augusta.edu](mailto:aaduwus1@augusta.edu)  
no later than April 5, 2024

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## **Nanette K. Wenger, MD, MACC, MACP, FAHA**

*Graduate Research Day Keynote Speaker*

Dr. Wenger is a Professor of Medicine in the Division of Cardiology at the Emory University School of Medicine. She is a Consultant to the Emory Heart and Vascular Center, and Founding Consultant, Emory Women's Heart Center.

Coronary heart disease in women is one of Dr. Wenger's major clinical and research interests. She chaired the U.S. National Heart, Lung, and Blood Institute Conference on Cardiovascular Health and Disease in Women. Dr. Wenger has expertise in cardiac rehabilitation. She chaired the World Health Organization Expert Committee on Rehabilitation after Cardiovascular Disease and co-chaired the Guideline Panel on Cardiac Rehabilitation for the U.S. Agency for Health Care Policy and Research. Dr. Wenger has a longstanding interest in geriatric cardiology, is Past President of the Society of Geriatric Cardiology and was Editor-in-Chief of the American Journal of Geriatric Cardiology for over 15 years.

Dr. Wenger received the Outstanding Professional Achievement Award from Hunter College (1993), the Physician of the Year Award of the American Heart Association (1998), and the Distinguished Achievement Award from the Scientific Councils of the American Heart Association and its Women in Cardiology Mentoring Award (1999).

In 2000, Dr Wenger was presented the James D. Bruce Memorial Award of the American College of Physicians for distinguished contributions in preventive medicine (2000). In 2002 she received the Distinguished Fellow Award of the Society of Geriatric Cardiology, and was included in the National Library of Medicine Exhibition Changing the Face of Medicine: A History of American Women Physicians (2003). Dr. Wenger received the Gold Heart Award, the highest award of the American Heart Association (2004).

At the Emory University 2004 Commencement, Dr. Wenger received the Emory Williams Distinguished Teaching Award of the University and the Evangeline Papageorge Alumni Teaching Award of the School of Medicine. Dr. Wenger was selected to deliver the 2004 Laennec Lecture of the American Heart Association. In 2006, Dr. Wenger received the Hatter Award, an international recognition for the

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advancement of cardiovascular science. The Georgia Chapter, American College of Cardiology, presented Dr. Wenger its Lifetime Achievement Award in 2009. She was selected Georgia Woman of the Year for 2010. In 2011, Dr. Wenger was selected to deliver the James B. Herrick lecture by the American Heart Association for her outstanding achievement in clinical cardiology. She was elected a member of Emory's 175 History Makers during Emory's first 175 years.

In 2012, Dr. Wenger received the Charles R. Hatcher, Jr., MD, Award for Excellence in Public Health from Emory University; and was honored in 2013 by the establishment of the J. Willis Hurst, R. Bruce Logue, and Nanette K. Wenger Cardiovascular Society for Emory Cardiology Trainee Alumni. In 2013, she received the Inaugural Distinguished Mentor Award of the American College of Cardiology and the Arnall Patz Lifetime Achievement Award of the Emory School of Medicine Medical Alumni Association. The American Society of Preventive Cardiology honored Dr. Wenger by naming an annual Nanette K. Wenger Distinguished Lecture focusing on cardiovascular prevention in women (2014).

In 2015, she was awarded the Inaugural Bernadine Healy Leadership in Women's CV Disease Award, American College of Cardiology. Dr. Wenger received the Spirit of the Heart Legacy Award of the Association of Black Cardiologists (2017), and was an invited lecturer for the 70th Anniversary NHLBI program in Bethesda, MD (2018). In 2019 she received the Outstanding Alumna Award from the Emory Alumni Association, and in 2020 the American Heart Association's Eugene Braunwald Academic Mentoring Award. In 2021, the American Heart Association established the annual Dr. Nanette K. Wenger Award for the best scientific publication in cardiovascular disease in women. The American College of Cardiology conferred its Lifetime Achievement Award on Dr. Wenger in 2022. She also received a Lifetime Achievement Award from the World Heart Federation.

Dr. Wenger has participated as an author of several American College of Cardiology/American Heart Association Clinical Practice Guidelines. She is the past Chair of the board of Directors of the Society for Women's Health Research. Dr. Wenger serves on editorial boards of numerous professional journals and is a sought-after lecturer for issues related to heart disease in women, heart disease in the elderly, cardiac rehabilitation, coronary prevention, and contemporary cardiac care. She is listed in Best Doctors in America.

Dr. Wenger has authored or co-authored over 1700 scientific and review articles and book chapters.

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## Awards & Sponsors

*Fisher Scientific-Phi Kappa Phi Award for Excellence in Biomedical Research*

*Ji Cheng Memorial Award for Excellence in Research by a Biomedical Science student in early years of training*

*Lowell M. Greenbaum Award for Research in Pharmacology*

*R. August Roesel Memorial Award for Research Excellence in Biochemistry*

*Virendra B. Mahesh Award for Research Excellence in Endocrinology*

*Georgia Cancer Center Award for Excellence in Graduate Student Research in Cancer*

*James and Jean Culver Vision Discovery Institute Award for Research Excellence in Vision*

*Tapan Chatterjee Award for Research Excellence in Vascular Biology*

### *Excellence in Research Awards*

Allied Health Sciences	Neuroscience
Biomolecular Science	Nursing
Biostatistics	Oral Biology
Cellular Biology & Anatomy	Physiology
Clinical Laboratory Sciences	Public Administration
Education	Public Health
Genomic Medicine	The Graduate School (6)
Medical Illustration	UGA Clinical & Experimental Therapeutics
Molecular Medicine	Vascular Biology

### *Postdoctoral Associate Awards*

Excellence in Research – Poster Presentation & Oral Presentation

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# JUDGES

## Poster Presentation Judges

Justine Abais-Battad, Ph.D.	Daria Ilatovskaya, Ph.D.	Barbara Mysona, Ph.D.
Amy Abdulovic-Cui, Ph.D.	Deborah Jehu, Ph.D.	Priya Narayanan, Ph.D.
Keri Alber, MSMI	Michael Jensen, MSMI	Tran Nguyen, DPH
Michelle Altvater, Ph.D.	Mohsen Jozani, Ph.D.	Benard Ogola, Ph.D.
Benjamin Ansa, Ph.D.	Seungwoo Kang, Ph.D.	Siva Panda, Ph.D.
Manuela Bartoli, Ph.D.	Zubair Karim, Ph.D.	Sharad Purohit, Ph.D.
Shannon Barwick, Ph.D.	Balveen Kaur, Ph.D.	Brett Rice, MHS
Eric Belin de Chantemele, Ph.D.	Anekay Kelly, MSMI	Shalini Saggi, Ph.D.
David Blake, Ph.D.	Chung Sub Kim, Ph.D.	Sharanjot Saini, Ph.D.
Wendy Bollag, Ph.D.	A.J. Kleinheksel, Ph.D.	Yoon Ho Seol, Ph.D.
Darren Browning, Ph.D.	Dariusz Kowalski, Ph.D.	Ashok Sharma, Ph.D.
James Bryan, DHS	Kenneth Kwon, Ph.D.	Somanath Shenoy, Ph.D.
Patricia Cameron, Ph.D.	Nevin Lambert, Ph.D.	Huidong Shi, Ph.D.
Ahmed Chadli, Ph.D.	Paul Langridge, Ph.D.	Brian Stansfield, MD
Jian-Kang Chen, Ph.D.	Lawrence Layman, MD	Lynsey Steinberg, MSMI
Raymond Chong, Ph.D.	Yun Lei, DSC	Jessica Stewart, Ph.D.
Michelle Cox-Henley, DNP	Ellen LeMosy, MD, Ph.D.	Huabo Su, Ph.D.
Emily Crider, MAcc	Hedong Li, Ph.D.	Sangeetha Sukumari-Ramesh, Ph.D.
Gabor Csanyi, Ph.D.	Jie Li, Ph.D.	Jennifer Sullivan, Ph.D.
Mustafa Culha, Ph.D.	Kebin Liu, Ph.D.	Yaoliang Tang, MD, Ph.D.
Waaqo Daddacha, Ph.D.	Yutao Liu, Ph.D.	Menaka Thounaojam, Ph.D.
Biplab Datta, Ph.D.	Mary-Kate Lizotte, Ph.D.	Richard Topolski, Ph.D.
GianLuca De Leo, Ph.D.	Bal Lokeshwar, Ph.D.	Dustin Tracy, Ph.D.
Elena Dent, Ph.D.	Xiaochun Long, Ph.D.	Meng-Han Tsai, Ph.D.
Gokila Dorai, Ph.D.	Rudolf Lucas, Ph.D.	Alexander Verin, Ph.D.
Ahmed El-Marakby, Ph.D.	Ban Majeed, Ph.D.	Gursimran Walia, Ph.D.
Ali Eroglu, DVM, Ph.D.	Hoda Maleki, Ph.D.	QingQing Wei, Ph.D.
Jessica Faulkner, Ph.D.	Mykola Mamenko, Ph.D.	Neal Weintraub, MD
David Fulton, Ph.D.	Pamela Martin, Ph.D.	Guangyu Wu, Ph.D.
Vijay Ganta, Ph.D.	David Mattson, Ph.D.	Weiming Xiang, Ph.D.
Santu Ghosh, Ph.D.	Lynnette McCluskey, Ph.D.	Hongyan Xu, Ph.D.
William Hatcher, Ph.D.	Meghan McGee-Lawrence, Ph.D.	Julie Zadinsky, Ph.D.
Jay Hegde, Ph.D.	Richard McIndoe, Ph.D.	Duo Zhang, Ph.D.
Jessica Hoffman, Ph.D.	Wesley Meares, Ph.D.	Ming Zhang, Ph.D.
Bangxing Hong, Ph.D.	Riyaz Mohamed, Ph.D.	Gang Zhou, Ph.D.
Anatolij Horuzsko, MD, Ph.D.	Danielle Mor, Ph.D.	Jiliang Zhou, Ph.D.
Stephen Hsu, Ph.D.	Shogo Mori, Ph.D.	

## Postdoctoral Fellows Oral Presentation Judges

Wendy Bollag, Ph.D.	Meghan McGee-Lawrence, Ph.D.	Xingming Shi, Ph.D.
Darren Browning, Ph.D.	Richard McIndoe, Ph.D.	Sangeetha Sukumari-Ramesh, Ph.D.
	Rudolf Lucas, Ph.D.	

## Postdoctoral Fellows Oral Presentation Ad Hoc Subcommittee

Fan Fan, MD	Kate Kosmac, Ph.D.	Benard Ogola, Ph.D.
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# Abstracts

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## *Masters Students*

### Board #

- 1** Use of a Patient Education Brochure for Mohs Micrographic Surgery  
**Jillian Derjue**, *Medical Illustration*
  - 2** Migraine and Headache Patient Brochure  
**J. Landon Dyer**, *Medical Illustration*
  - 3** Getting to Know Your Injection: A Guide to Common Injection Types and Regions  
**Avery C Fleischman**, *Medical Illustration*
  - 4** Understanding and Managing Cystic Fibrosis  
**Adam Hanley**, *Medical Illustration*
  - 5** Interactive Wound Debridement Model (A Wound Stimulation Model of Various Skin Tones for Physical Therapy Students)  
**Hiroko Tanaka**, *Medical Illustration*
  - 6** Your Guide to the IVF Process  
**Eva Weber**, *Medical Illustration*
  - 7** A Comprehensive Review of Infant Feeding Practices in the First Six Months of Infancy: How do They Impact Growth in Later Childhood?  
**Paige Botten & Carly Clark**, *Allied Health - Nutrition*
  - 8** A Comprehensive Review of Infant Feeding Practices in the First Six Months of Infancy: How do They Impact Growth in Later Childhood?  
**Sadie Underwood & Stephanie Brimeyer**, *Allied Health - Nutrition*
  - 9** Investigating The Evolution of Force-Dependence in the Activation of Notch Receptors  
**Rama Alashqar**, *Biomolecular Science*
  - 10** Twist1 Induces Alterations in the Expression of Galectin-1 and Fibulin-1 in Pancreatic Stellate Cells of Nox1 Knock-out Mice  
**Dalton Ard**, *Biomolecular Science*
  - 11** The Effects of Microbiome Transplants on Drosophila Melanogaster Lifespan  
**Benjamin Levine**, *Biomolecular Science*
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- 12** Design and Synthesis of Ursolic Acid Hybrids as Potential Therapeutics for Cancer  
**Ashley M. Pham**, *Biomolecular Science*
- 13** Effects of AhR and Kynurenine on Longevity and Aging in *Drosophila Melanogaster*  
**Shelton Swint**, *Biomolecular Science*
- 14** Using Force Sensitive Domains to Produce Synthetic Receptors in *Drosophila*  
**Breana R Walton**, *Biomolecular Science*
- 15** Clinical Manifestations in African American Males with Multiple Myeloma: Moving Beyond CRAB Symptoms  
**Tiffany Benjamin**, *Clinical Laboratory Science*
- 16** The Effects of False Positive Blood Cultures and their Impact on Patients and Clinical Laboratory Personnel  
**Eugene Chong**, *Clinical Laboratory Science*
- 17** Smudge Cell Threshold for Albumin Reflex  
**Courtney Moon**, *Clinical Laboratory Science*
- 18** Post- Graduation Job Selection in Clinical Laboratory Science: The Other Side of the Employment Equation  
**Taylor Moosman**, *Clinical Laboratory Science*
- 19** A Pilot Study: NGS-based HLA Typing and CLS Education  
**Shaniece Nelson**, *Clinical Laboratory Science*
- 20** Platelet Aggregate Detection by CellaVision DM9600  
**Madeleine Stoffle**, *Clinical Laboratory Science*
- 21** Comparing Hemoglobin Variant Detection via High-Performance Liquid Chromatography and Newborn Genetic Screening  
**Kendra Williams**, *Clinical Laboratory Science*
- 22** From Federal Undertaking to Federal Undertaker: Judicial Misapplication of Section 106  
**R. Katherine Croft**, *Public Administration*
- 23** Creating an Open Access Processing Charges Pilot Program for Augusta University  
**Courtney Walker**, *Public Administration*
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- 24** An Analysis of Maternal and Infant Mortality Rates and Associated Risk Factors in the United States  
**Brandi E. Bell, Public Health**
- 25** Progression Towards Successful Smoking Cessation in U.S. Adults Who Smoke Cigarettes With or Without Other Tobacco Products: A Scoping Review of What Works to Facilitate Cessation  
**Grace Carruth, Public Health**
- 26** Self-Management Practices among Adult Americans with Diabetes: A Study of the 2017 – 2020 National Health and Nutrition Examination Survey  
**Lindsay Chandler, Public Health**
- 27** Targeted HIV Testing, Education and Treatment in the Southern United States  
**Karen Dantzler, Public Health**
- 28** Patterns of Preventative Behaviors in Women with Increased Risk of Breast Cancer  
**Aneesha Gummadi, Public Health**
- 29** Evidence-Based Employee Wellness Initiatives for the University System of Georgia  
**Gabrielle Hunter, Public Health**
- 30** Improving the Quality and Trustworthiness of Clinical Trials to Better Serve Public Health  
**Lilley Jack, Public Health**
- 31** Establishing Health Self- Management Practices Among Adult Americans with Diabetes: A Study of the 2017 – 2020 National Health and Nutrition Examination Survey  
**Tapanga Langnehs, Public Health**
- 32** Examining Patterns of Electronic Cigarette Use Among Youth in Jones County Through the Evaluation of an Evidence-Based Vaping Prevention Program, CATCH My Breath  
**Giuliana Larosa, Public Health**
- 33** Dental and Mental Health and Their Impact on Pregnant Women and Mothers of South Georgia  
**Amnor Markwalter, Public Health**
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- 34** Examining Racial Disparities in COVID-19 Recovery: A Biochemical Analysis of CONGA Study  
**Brianna McIndoe**, *Public Health*
- 35** Comparing Clinical Trial Quality: An Analysis of RCT Completion, Reporting, and Characteristics Across Four Major Southeastern Research Institutions  
**Mehul Mehra**, *Public Health*
- 36** The Impact of COVID-19 on the Mental Health of Food Insecure People  
**Callie O'Bryant**, *Public Health*
- 37** Barriers to Care in the CSRA Region  
**Natasha Ramaswamy**, *Public Health*
- 38** Impact of Neighborhood Characteristics on Overall Physical Activity Level as a Measure of Health  
**Sholeh Rezaee**, *Public Health*
- 39** Literature Review & Cluster Analysis of Urinary Tobacco Biomarkers in US Adults  
**Summer Roberson**, *Public Health*
- 40** Socioeconomic and Demographic Factors Associated with Maternal Health Outcomes in the United States: A Study of Health Disparities  
**Stevauney Samuels**, *Public Health*
- 41** Association Between Adverse Childhood Experiences (ACEs) and Gestational Diabetes Mellitus: A Secondary Data Analysis  
**Samantha Summers**, *Public Health*
- 42** Carbohydrate Intake and Physical Activity Impact on Prediabetes Diagnosis  
**Michaela Treadway**, *Public Health*
- 43** Cultivating Healthy Habits: A Strategic Plan for a Fresh Food Pharmacy at Wellstar MCG Health  
**Sandya Vikram**, *Public Health*
- 44** Enhancing the Trustworthiness in Clinical Trials to Improve Public Health  
**Jessica Walker**, *Public Health*
- 45** The Association Between Telehealth Utilization and Health Status Among Those with Mental Health Issues  
**Morgan Wan**, *Public Health*
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- 46 Factors Associated with Relapse after Smoking Cessation in the Population of Tobacco and Health (PATH) Study  
**Jacob Weiser**, *Public Health*
- 47 Urban-rural Difference in Food Environmental Index Among 159 Counties of Georgia  
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- 48 Identification and Validation of Novel microRNA Predictive Biomarkers for Acquired Bortezomib Resistance in Multiple Myeloma Patients Treated at a Southeast Medical Center.  
**Shafisha Bamfield Cummings**, *Applied Health Sciences*
- 49 Assessing the Effect of MC4R Gene Variants on Caloric Intake in a Heterogeneous Population  
**Giti Bayhaghi**, *Applied Health Sciences*
- 50 Design and Remote User Testing of a Hollow Bladder Simulation Model to Collect Evidence of Validity  
**Amanda Behr**, *Applied Health Sciences*
- 51 Barriers to Participant Recruitment and Retention: Prospective from Researchers  
**Tiffany Coleman**, *Applied Health Sciences*
- 52 Thoracic Spinal Neuromodulation: Unveiling Neuroplastic Pathways, Molecular Mechanisms, and Gender Dynamics in Diabetic Gastroparesis Management  
**Audrey Eubanks**, *Applied Health Sciences*
- 53 A Thesis Investigating Fall-Related Physical and Psychological Harm  
**Albert K Okrah**, *Applied Health Sciences*
- 54 A Study of Antimicrobial Efficacy and Safety of Hypericum Kiboense in the Management of Urinary Tract Infections by the Kikuyu Community of Aberdare Ranges, Kenya  
**Jespher Onyango**, *Applied Health Sciences*
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- 55           HYAL4 Splice Variant Induces Treatment-Resistance in Advanced Bladder Cancer  
**Karina Aguilar**, *Biochemistry and Cancer Biology*
- 56           HCAR2/GPR109A Regulates Outer Retinal Cholesterol via Modulation of ABCA1 and ABCG1  
**Ronny Amamoo**, *Biochemistry and Cancer Biology*
- 57           Ubiquitin-fold Modifier 1 Supports the Development and Humoral Functions of Plasma Cells  
**Francis Anazodo**, *Biochemistry and Cancer Biology*
- 58           Investigating the Role of POU-Domain Transcription Factors BRN1 and BRN4 in Neuroendocrine Prostate Cancer (NEPC) Pathogenesis  
**Diana Asante**, *Biochemistry and Cancer Biology*
- 59           Myeloid Olfactory Receptors Sniff Out Cancer  
**Elayne Benson**, *Biochemistry and Cancer Biology*
- 60           Establishment of a Novel Mouse Model in which to Study the Impact of Hb Variants on Diabetic Retinopathy Development and Progression  
**Malita A. Jones**, *Biochemistry and Cancer Biology*
- 61           Multi-omic Studies Highlight the Polyamine-Hypusine Axis as a Promising Avenue to Improve T-cell Metabolism for Adoptive Cell Therapy  
**Mercy Kehinde-Ige**, *Biochemistry and Cancer Biology*
- 62           Developmental ZNHIT3 Expression in Mice Embryos in Mayer-Rokitansky-Küster-Hauser (MRKH) Syndrome Related Organs  
**Dina Kira**, *Biochemistry and Cancer Biology*
- 63           Modulated dNTP Pools and Their Influence on DNA Repair Mechanisms and Apoptosis in Therapy Resistant Cancers  
**Dominique Monroe**, *Biochemistry and Cancer Biology*
- 64           Systemic Neutrophilic Switch Correlates with Inflammation in Experimental Models of Diabetic Retinopathy  
**Sheila Ngumbi**, *Biochemistry and Cancer Biology*
- 65           Enhancing Double-Strand Break Induction in Hypoxic Glioblastoma Cells Through dNTP Modulation and its Potential Therapeutic Implications  
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- 66 Identifying Survival Subgroups with Autoencoder Using Multiple Types of High-Dimensional Genomic Data from Studies of Glioblastoma Multiforme  
**Imran Parvez**, *Biostatistics*
- 67 Two-Stage Procedure for the Detection of Differentially Methylated Regions Using WGBS Data  
**Kathryn Sinha**, *Biostatistics*
- 68 Tryptophan-Kynurenine Pathway as a Regulator of the Skeletal System  
**Dima Alhamad**, *Cellular Biology and Anatomy*
- 69 Transport of Dynein Dependent mRNA and Protein Cargos in the Drosophila Germline Functions Primarily via a Single Activating Adaptor, Bicaudal-D  
**Phylcia Allen**, *Cellular Biology and Anatomy*
- 70 FXR Signaling in Phase I of Retinopathy of Prematurity (ROP)  
**Briah Bailey**, *Cellular Biology and Anatomy*
- 71 11 $\beta$ -Hydroxysteroid Dehydrogenase Type 1 Activity Contributes to Glucocorticoid-Dependent Musculoskeletal Decline in Aged Mice  
**Husam Eldin Bensreti**, *Cellular Biology and Anatomy*
- 72 The Effects of Kynurenine Treatment in Bone-Targeted AhR-Deficient Mice  
**Jennifer Dorn**, *Cellular Biology and Anatomy*
- 73 Developing an Animal Model to Mimic Brain Aging  
**Kazi Rafsan Radeen**, *Cellular Biology and Anatomy*
- 74 Aryl Hydrocarbon Receptor Signaling in Musculoskeletal Frailty in HIV and Antiretroviral Therapy  
**Shabiha Sultana**, *Cellular Biology and Anatomy*
- 75 The Mineralocorticoid Receptor (MR) Regulates Cortical and Trabecular Bone Mass in Mice  
**Lucas Yearwood**, *Cellular Biology and Anatomy*
- 76 Secondary Analysis of Fluids and Catheters Treatment Trial (FACTT) Data Reveal Poor Clinical Outcomes in Acute Respiratory Distress Syndrome Patients with Diabetes  
**Abdulaziz H Alanazi**, *Clinical and Experimental Therapeutics*
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- 77 Validation of Estrogen-Responsive Tissue Inhibitor of Metalloproteinases-1 as a Sex-specific Biomarker for Acute Lung Injury  
**Sultan Almontashiri**, *Clinical and Experimental Therapeutics*
- 78 Circulating Nucleosomes Can Potentially Promote Acute Lung Injury  
**Saugata Dutta**, *Clinical and Experimental Therapeutics*
- 79 Spermine Oxidase Inhibition Attenuates Demyelination and Axonal Loss in an Experimental Model of Optic Neuritis  
**Harry Henry-Ojo**, *Clinical and Experimental Therapeutics*
- 80 Forensic Dive into Mint App Data  
**Rajon Bardhan**, *Computer and Cyber Sciences*
- 81 GRIEF in the Gray Zone: Identifying and Analyzing Vault Apps  
**Seth Barrett**, *Computer and Cyber Sciences*
- 82 Privacy-Preserving Aggregate Queries on Encrypted Multidimensional Databases  
**Mahdieh Heidaripour**, *Computer and Cyber Sciences*
- 83 Proof of Primacy: A Fault-Tolerant Blockchain Consensus Framework Featuring Polynomial Leader Election  
**Justin Henry**, *Computer and Cyber Sciences*
- 84 ForensiBlock: A Provenance-Driven Blockchain Framework for Data Forensics and Auditability  
**Asma Jodeiri Akbarfam**, *Computer and Cyber Sciences*
- 85 Enhancing Cloud Storage Security: Dynamic Models of Searchable Encryption  
**Ladan Kian**, *Computer and Cyber Sciences*
- 86 Data-Driven Decentralized Control Design for Discrete-Time Large-Scale Systems  
**Shuaizheng Lu**, *Computer and Cyber Sciences*
- 87 Compression Repair for Feedforward Neural Networks Based on Model Equivalence Evaluation  
**Zihao Mo**, *Computer and Cyber Sciences*
- 88 Seaweed to Security: The Emergence of Alginate in Compromising IoT Fingerprint Sensors  
**Pouria Rad**, *Computer and Cyber Sciences*
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- 89** Mass Spectrometry Analysis of Blank Schirmer Strips Reveals the Presence of Protein Contaminations in the Proteomic Analysis of Tear Fluid  
**Saleh Ahmed**, *Genomic Medicine*
- 90** Hypoxia Induces Altered VEGF Signaling in Müller Glial Cells Isolated From Interleukin-6 Receptor Knockout Mice  
**Stepan Budkin**, *Genomic Medicine*
- 91** Ultraviolet Irradiation Induces Keratoconus-Associated Changes in the Corneas of C57Bl/6J Mice  
**Rachel Hadvina**, *Genomic Medicine*
- 92** L-carnitine Ameliorates Hyperosmolarity-Induced Corneal Epithelial Barrier Dysfunction *in vitro*  
**Richard Kontoh-Twumasi**, *Genomic Medicine*
- 93** Molecular and Epigenetic Mechanisms by which STAT5 Regulates Polyfunctionality in Antitumor CD4+ T Cells  
**Ogacheko Okoko**, *Molecular Medicine*
- 94** Regional Manipulation of Striatal Circuit Shapes Motor Learning  
**Casey Cryan**, *Neuroscience*
- 95** Expression and Regulation of EZH2 in the Brain During Aging  
**Kirstyn Denney**, *Neuroscience*
- 96** Chd7 Deficiency in Postmitotic ACC Neurons Reduces Innate Anxiety and Enhances Social Behaviors in Mice  
**Emily Dew**, *Neuroscience*
- 97** Genetic Deletion of Ace2 in Taste Buds Alters Peripheral Taste Function and Lingual Macrophage Density in Male Mice  
**Emma Heisey**, *Neuroscience*
- 98** Investigating Opposing Roles of Gut Microbiome Species *Levilactobacillus brevis* in Aging and Parkinson's Disease  
**Nicole Johnson**, *Neuroscience*
- 99** The Actin Binding Protein Profilin 1 is Important for Maintaining the Integrity of the Endoplasmic Reticulum  
**Halli Lindamood**, *Neuroscience*
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- 100** Astrocytic DICER Deletion Induces Loss of Motor Function and Degeneration of Motor Neurons in the Spinal Cord  
**Kristopher Mayes**, *Neuroscience*
- 101** Effects of Up-Regulation of Synaptobrevin-2 on Age-Dependent Decline in Learning and Memory  
**Jacob Miller**, *Neuroscience*
- 102** Effects of Chronic Stress on Amyloid and Tau Pathologies in Animal Models of Alzheimer's Disease  
**Miskatul Mishu**, *Neuroscience*
- 103** Modulating NeuroD1 Expression Levels to Improve Neuronal Reprogramming  
**Natalie Mseis- Jackson**, *Neuroscience*
- 104** Exploration of Deep Brain Stimulation Effects on Neurotrophic Markers in Cerebrospinal Fluid (CSF) in Aged Rhesus Macaque Monkeys Using an Ommaya  
**Kendyl Rose Pennington**, *Neuroscience*
- 105** Elucidating the Synergistic Role of Tau and  $\alpha$ -synuclein in Mitochondrial Dysfunction and Cognitive Decline  
**Julie Vincent**, *Neuroscience*
- 106** Allostatic Load Theory: A Lens to View the Racial Disparity of Triple-Negative Breast Cancer  
**Kelly Cashin**, *Nursing*
- 107** Innate Lymphoid Cells (ILCS) as the Immune Maestro in Tongue Tumor  
**Bidhan Bhandari**, *Oral Biology & Maxillofacial Pathology*
- 108** SRC Phosphorylation of EPS8 Regulates SOX2 Expression and HNSCC Stemness  
**Harshit Singhania**, *Oral Biology & Maxillofacial Pathology*
- 109** Repeated Ethanol Exposures Alter the Reward-Dependent Spatiotemporal Cellular Activities in the Dorsal Striatum  
**Aubrey Bennett**, *Pharmacology*
- 110** TSPO Regulates Acute Brain Damage Post-Intracerebral Hemorrhage in Male, But Not Female, Mice  
**Fred Bonsack**, *Pharmacology*
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- 111** Genetic and Pharmacologic Inhibition of Histone Deacetylase 3 Improves Functional Outcomes Post-Intracerebral Hemorrhage via Reduction of Neuroinflammation  
**Noah Watson**, *Pharmacology*
- 112** Kir4.1 Channel Inhibition Acutely Ameliorates Hyperkalemia in a Rat Model of Chronic Kidney Disease  
**Sati Alexander**, *Physiology*
- 113** Role of Endothelial Cell-Selective Adhesion Molecule in the Regulation of Pulmonary Vascular Resistance in Mice  
**Vadym Buncha**, *Physiology*
- 114** Toll-like Receptor 4 Promotes Salt-Sensitivity in Dahl SS Rats: An Investigation into the Mechanism  
**Emily Burns-Ray**, *Physiology*
- 115** Coronary Vascular Rarefaction in Heart Failure  
**Katie Anne Fopiano**, *Physiology*
- 116** Nicotine Exposure Causes Nitrosative and Oxidative Stress in Glomerular Podocytes, Resulting in Renal Damage  
**Adam Jones**, *Physiology*
- 117** High-Fat Loading Abolishes Sex Differences in Blood Pressure (BP) Responses to High-Salt in Dahl Rats  
**Hannah Godley**, *Physiology*
- 118** The Role of Peroxisome Proliferator-Activated Receptor (PPAR)- $\gamma$  Coactivator-1 $\alpha$  (PGC-1 $\alpha$ ) in Aged Epidermis  
**Yonghong Luo**, *Physiology*
- 119** Eplerenone Ablates Maternal Hypertension in Leptin-Induced Preeclampsia in Pregnant Mice  
**Elisabeth Mellott**, *Physiology*
- 120** HDAC Inhibition by SAHA Increases Corneal Wound Healing Rates in Both Diabetic and Wild-Type Mice  
**Samuel Melnyk**, *Physiology*
- 121** A History of Acute Kidney Injury in Female Rats Causes Subclinical Renal and Endothelial Injury Which Predisposes to Adverse Pregnancy Outcomes  
**Desmond Moronge**, *Physiology*
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- 122** The Impact of Sex Hormones on Renal Mitochondrial Bioenergetics in Aging  
**Ryan Schibalski, Physiology**
- 123** Salt- Sensitive Hypertension and Renal Damage are Amplified by CD4+ but not CD8+ T cells: A Role of NADPH Oxidase 2 (NOX2)  
**Samuel Walton, Physiology**
- 124** SARS-CoV-2 Spike Protein Stimulates Macropinocytosis in Murine and Human Macrophages via PKC-NADPH Oxidase Signaling  
**WonMo Ahn, Vascular Biology**
- 125** WITHDRAWN
- 126** XX Chromosome Complement Predisposes Females to Obesity-Induced, Leptin-mediated Aldosterone Production and Hypertension  
**Candee Barris, Vascular Biology**
- 127** The Role of PBK in the Metabolic Reprogramming of Vascular Smooth Muscle Cells in Pulmonary Hypertension  
**Zachary Brown, Vascular Biology**
- 128** HIV-derived Proteins Induce Hypertension, Sympatho-activation, and Neuroinflammation via T cell-dependent Mechanisms  
**Beryl Khakina, Vascular Biology**
- 129** Role of Novel Long Non- Coding RNA BAZ1A - AS1 in Neointima Proliferation in Human Saphenous Vein Graft Disease  
**David Kim, Vascular Biology**
- 130** HIV Proteins Derived from CD4+ T Cells Promote Endothelial Dysfunction and Hypertension via Oxidative Stress and Interleukin-1 $\alpha$  Dependent Mechanisms in Mice  
**Taylor C. Kress, Vascular Biology**
- 131** The Role of Ufm1ylation in Endothelium  
**ChangMin Lee, Vascular Biology**
- 132** High Salt Diet Disrupts Endothelial Function in Young Female Mice via Dysregulated Leptin-Aldosterone- Endothelial Mineralocorticoid Receptor Axis  
**Ishara M G Menik, Vascular Biology**
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**133** Investigating the Role of MGAT1-Mediated Glycosylation and Galectin 3 in Pulmonary Arterial Hypertension Pathogenesis  
**Mitch Shivers**, *Vascular Biology*

**134** RBX1-CRLs are Essential for Perinatal Heart Development by Regulating Hippo-YAP Signaling  
**Josue Zambrano- Carrasco**, *Vascular Biology*

### ***Postdoctoral Fellows – Poster***

**135** Factors Influencing Advance Care Planning Activities in High-Income Countries: An Update from Commonwealth Fund's 2021 International Health Policy Survey  
**Preshit Ambade**, *Public Health*

**136** Critical Yet Overlapping Roles of Transcription Factors TEAD1 and TEAD3 in the Development and Homeostasis of Visceral Smooth Muscle  
**Zhixia Bai**, *Pharmacology and Toxicology*

**137** Lithium-Induced Nephropathy is Accompanied by a Local Anti-inflammatory Response  
**Irina Baranovskaya**, *Physiology*

**138** Protease-Cleavable Bispecific Antibody Therapy for Brain Metastasis  
**Akanksha Behl**, *Pathology*

**139** Blockade of Endothelial Adenosine Receptor 2A Suppresses Atherosclerosis in vivo through Inhibiting CREB-ALK5-mediated Endothelial to Mesenchymal Transition  
**Yongfeng Cai**, *Vascular Biology Center*

**140** ADT-030 is a Novel Dual-Acting RAS/b-Catenin Inhibitor that Potentiate Antitumor Immunity  
**Md Yeashin Gazi**, *Georgia Cancer Center*

**141** Comparative Study of a Novel Humanized ACE2 Mouse Model Versus K18 in SARS-CoV-2 Infection and Organ Pathology  
**Chunyu Ge**, *Vascular Biology Center*

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- 142** Essential Role of Transcription Factors TEAD3 and TEAD1 in Maintaining Vascular Smooth Muscle Homeostasis  
**Xiaohui Guan**, *Pharmacology and Toxicology*
- 143** A Chemical Hybrid of Ursolic Acid as a Novel Treatment for Chemotherapy-Resistant Bladder Cancer  
**Kunj Bihari Gupta**, *Georgia Cancer Center*
- 144** Novel Role of Cu-dependent Transcription Factor Atox1 in Vascular Inflammation and Permeability Linked to Alzheimer's Disease  
**Md. Selim Hossain**, *Vascular Biology Center*
- 145** Exploring Racial Disparities in Endometrial Cancer: Unveiling Immune Landscapes through Single-Cell Spatial Imaging  
**Natalia Jaeger**, *Immunology*
- 146** The Cyclopeptide Enniatin A Inhibits the Chaperone Hsp90 and Induces Mitophagy in Breast Cancer Cells  
**Vamsi Krishna Kommalapati**, *Georgia Cancer Center*
- 147** UFLI Regulates T Cell Exhaustion  
**Kunal Kumar**, *Biochemistry and Molecular Biology*
- 148** Mitigating Feedback Immunosuppression Through IDO Inhibition During Oncolytic Virotherapy of Glioblastoma.  
**Yuchan Li**, *Pathology*
- 149** Heart Rate Variability, Cerebral Blood Flow, Blood Pressure Regulation, and Cognitive Dysfunction in a Novel Mouse Model of Increased Blood Pressure Variability  
**Perenkita Mendiola**, *Physiology*
- 150** Systemic Exposure to UVB is Sufficient to Induce AMD: Characterization of Novel Animal Model  
**Abdelhakim Morsy**, *Vascular Biology Center*
- 151** WITHDRAWN
- 152** The Role of UFSP2 in the Homeostasis of the Heart  
**Maryam Rezaei-Gazik**, *Vascular Biology Center*
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- 153** XX Sex Chromosome Complement Promotes Arterial Stiffening and High Blood Pressure in Female Mice  
**Anil Sakamuri**, *Vascular Biology Center*
- 154** An Insight into Embryonic-Heart-Expressed SEMA6D in Alzheimer's Disease  
**Saima Shakil Malik**, *Biotechnology and Genomic Medicine*
- 155** Acetylcholine Response to Deep Brain Stimulation of the Sub-Pallidal Basal Forebrain  
**Khadijah Shanazz**, *Neuroscience and Regenerative Medicine*
- 156** CD14 in Hypertension-Related Cognitive Impairments  
**Chengyun Tang**, *Physiology*
- 157** An Enhanced Spatial Analysis Pipeline for CosMx Data  
**Aleksandr Taraskin**, *Immunology*
- 158** MAPK14 Drives Vascular Smooth Muscle Cells Degeneration via Promoting Endoplasmic Reticulum Stress and Unfolded Protein Response Through MRTFA Protein Stabilization  
**Xiaoliang Wu**, *Vascular Biology Center*
- 159** Neddylation is Required for Intestinal Smooth Muscle Development and Homeostasis  
**Jiahe Xie**, *Pharmacology and Toxicology*
- 160** The Role of Adenosine Receptor 2A in Neovascular Age-Related Macular Degeneration  
**Qihua Yang**, *Vascular Biology Center*
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## ***Postdoctoral Fellows – Oral***

Soluble FMS-Like Tyrosine Kinase 1 Induces Fetal Malformations and Reduces Placental Efficiency in Pre-Eclamptic Female Mice

**Mona Elgazzaz**, *Physiology*

The Smooth Muscle-Specific Long Non-Coding RNA Carmn is Critical for Maintaining Vascular Smooth Muscle Contractility

**Xiangqin He**, *Pharmacology and Toxicology*

De Novo Nucleotide Synthesis is Necessary for DNA Damage and Repair in Atheroprone Endothelial Cells

**Qian Ma**, *Vascular Biology Center*

Excess Glycolysis Limits VEGF-induced VEGFR2 Activation and Angiogenesis via Cysteine Oxidation of VEGFR2

**Sheela Nagarkoti**, *Vascular Biology Center*

Role of the Long form Leptin Receptor (Ob-Rb) in Aldosterone Synthase (AS) Expressing Cells in the Control Cardiovascular Function in Female Mice

**Yoichi Ono**, *Vascular Biology Center*

Regulation of UFM1 Modification from ER Dynamics to Cardiac Homeostasis

**Varsha Tandra**, *Vascular Biology Center*

Myeloid Cells in Triple Negative Breast Cancer: Insights from Mouse Models

**Gabriel Valentin-Guillama**, *Immunology*

Macrophage Drp1 as a Novel Redox Sensor Driving Revascularization of Ischemic Muscle

**Shikha Yadav**, *Vascular Biology Center*

Novel Role of Copper Uptake Transporter CTR1 in Retinal Ischemia-Reperfusion Injury

**Mai Yamamoto**, *Vascular Biology Center*

Loss of Neurofibromin Facilitates Pathological Retinal Neovascularization (RNV) via Akt-2 Facilitated GLUT-1 Translocation

**Yusra Zaidi**, *Vascular Biology Center*

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**THANK YOU**

***To all who played a part in making our 39<sup>th</sup> Annual Graduate Research Day a success!***

- ❖ *Our supportive faculty for your tireless dedication to the education of our students*
  - ❖ *Our talented trainees – students, postdocs, residents, scholars – for your hard work and dedication towards amazing research that makes a difference*
  - ❖ *Dr. Bollag, members of the GRD committees and judges for all their time and effort to coordinate such a successful event*
  - ❖ *The Office of Alumni Affairs for the great donuts – and their continued support throughout the year*
  - ❖ *Our generous graduate student volunteers for your help in making GRD run smoothly*
  - ❖ *Our dedicated Graduate School staff for their continued commitment towards supporting the graduate community and for their significant role in making GRD a reality*
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