Schedule of Events

Thursday, March 31, 2022

1:00 PM - 5:00 PM  Postdoctoral Fellow Oral Presentations
Health Sciences Building - EC 1210

Friday, April 1, 2022

10:30 AM - 12:30 PM  Fisher Scientific/Phi Kappa Phi Poster Session
Student Wellness Center

1:00 PM - 2:30 PM  Keynote Address & Lunch
J. Harold Harrison, M.D. Education Commons – GB 1210B

Opening Remarks
Jennifer Sullivan, Ph.D.
Dean, The Graduate School

Introduction of the Speaker
Rudolf Lucas, Ph.D.
Associate Professor, Medical College of Georgia

Keynote Address - “How Did Our Immune System Evolve?”
Max Dale Cooper, MD
Georgia Research Alliance Eminent Scholar
Professor of Pathology & Laboratory Medicine
Emory University School of Medicine
You're Invited!

GRADUATE RESEARCH DAY
AWARDS LUNCHEON

TUESDAY, APRIL 19, 2022
12:00 PM
AMPHITHEATER | SUMMERVILLE CAMPUS

RSVP to Christian Middleton at
chrmiddleton@augusta.edu
no later than April 8, 2022
Graduate Research Day 2022 Keynote Speaker, Max D. Cooper, M.D., is a Georgia Research Alliance Eminent Scholar, Professor of Pathology and Laboratory Medicine and member of the Vaccine Center at the Emory University School of Medicine. Cooper obtained his medical degree and pediatric residency training at Tulane University Medical School. While at the University of Minnesota from 1963-1967 he worked with Robert Good to establish the dual nature of the immune system. With UAB graduate student Paul Kincade, he discovered antibody class switching by B cells. Dale Bockman and Cooper described the lymphoid follicle-associated epithelial “M” cells in the intestine and their transcytotic function. While on sabbatical at University College London in 1974, he worked with Martin Raff and John Owen to define the fetal liver and bone marrow origin of B cells and pre-B cells. His laboratory currently studies the evolution of adaptive immunity and explores the use of lamprey monoclonal antibodies for diagnosis and therapy of infectious diseases and lymphoid malignancies. Cooper is a former president of the American Association of Immunologists, the Clinical Immunology Society and the Kunkel Society. He is a member of the U.S. National Academy of Sciences, National Academy of Medicine, American Academy of Arts and Sciences, a foreign member of the French Academy of Sciences and the Royal Society of London. Honors include the Society for Experimental Biology and Medicine Founder’s Award (1966), Sandoz Prize in Immunology (1990), American College of Physicians Science Award (1994), American Association of Immunologists (AAI) Lifetime Achievement Award (2000), AAI-Dana Foundation Award in Human Immunology Research (2006), Avery-Landsteiner Prize (2008), Robert Koch Prize (2010), AAI Excellence in Mentoring Award (2012), Japan Prize (2018), Albert Lasker Basic Medical Research Award (2019), and National Academy of Inventors Fellow (2021).
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 the 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

Excellence in Research Awards

Allied Health Sciences
Biomolecular Science
Biostatistics
Cellular Biology & Anatomy
Clinical Laboratory Sciences
Education
Genomic Medicine
Medical Illustration
Molecular Medicine

Neuroscience
Nursing
Oral Biology
Physiology
Public Health
The Graduate School (6)
UGA Clinical & Experimental Therapeutics
Vascular Biology

Postdoctoral Associate Awards
Excellence in Research – Poster Presentation & Oral Presentation
Graduate Research Day Committee

Bill Andrews, MA
Baban Babak, Ph.D.
Wendy Bollag, Ph.D.
Pamela Cameron, Ph.D.

Rudolf Lucas, Ph.D.
Jennifer Sullivan, Ph.D.
Sabina Widner, Ph.D.
Julie Zadinsky, Ph.D.

JUDGES

Postdoctoral Fellow Oral Presentations

Wendy Bollag, Ph.D.
Ahmed Chadli, Ph.D.
Frank Deak, Ph.D.
Nevin Lambert, Ph.D.

Meghan McGee-Lawrence, Ph.D.
Shruti Sharma, Ph.D.
Alexander Verin, Ph.D.

Poster Presentations

Justine Abais-Battad, Ph.D.
Amy Abdulovic-Cui, Ph.D.
Ahmed Aleroud, Ph.D.
Ali Arbab, MD, Ph.D.
Clement Aubert, Ph.D.
Andrew Balas, MD, Ph.D.
Amanda Behr, MA
Eric Belin de Chantemele, Ph.D.
Lori Bolgla, Ph.D.
Wendy Bollag, Ph.D.
Darren Browning, Ph.D.
James Bryan, DHS
Patricia Cameron, Ph.D.
Jian-Kang Chen, Ph.D.
Jie Chen, Ph.D.
Steven Coughlin, Ph.D.
Emily Crider, MAcc
Gabor Csanyi, Ph.D.
Tiana Curry-McCoy, Ph.D.
Waaqo Daddacha, Ph.D.
John Henry Dasinger, Ph.D.
Jennifer Davis, MLIS

Gianluca De Leo, Ph.D.
Ahmed El-Marakby, Ph.D.
Jessica Faulkner, Ph.D.
David Fulton, Ph.D.
Santu Ghosh, Ph.D.
Mark Hamrick, Ph.D.
Vahe Heboyan, Ph.D.
John Johnson, Ph.D.
Keri Jones, MSMI
Seungwoo Kang, Ph.D.
Hasan Korkaya, DVM, Ph.D.
Dariusz Kowalski, Ph.D.
Kenneth Kwon, Ph.D.
Hedong Li, Ph.D.
Kebin Liu, Ph.D.
Pamela Martin, Ph.D.
David Mattson, Ph.D.
Lynnette McCluskey, Ph.D.
Meghan McGee-Lawrence, Ph.D.
Regina Messer, Ph.D.
Riyaz Mohamed, Ph.D.

Tran Nguyen, DPH
Michael Nowatowski, Ph.D.
Tadd Patton, Ph.D.
Folami Powell, Ph.D.
Sharad Purohit, Ph.D.
Brett Rice, MHS
Sharanjot Saini, Ph.D.
Yoon Ho Seol, Ph.D.
Somanath Shenoy, Ph.D.
Huidong Shi, Ph.D.
Jeane Silva, Ph.D.
Lynsey Steinberg, MSMI
Sangeetha Sukumari-Ramesh, Ph.D.
Jennifer Sullivan, Ph.D.
Maiko Suzuki, DDS, Ph.D.
Richard Topolski, Ph.D.
Juan Walker, Ph.D.
Guangyu Wu, Ph.D.
Lufei Young, Ph.D.
Julie Zadinsky, Ph.D.
Ming Zhang, Ph.D.
Abstracts

Masters

Board #

1  Central Line Care for Kids  
   Caely Blechschmid, Medical Illustration

2  Patient Education Brochure: Managing Your Sleep Apnea with At-Home Testing  
   Peter Naktin, Medical Illustration

3  Designing a Digital Rectal Exam Patient Education Brochure  
   Ronald Pettit, Medical Illustration

4  Patient Education Brochure, Vascular Access for Hemodialysis  
   Julia Smithing, Medical Illustration

5  Explaining Corneal Wound Healing and the Role of Inflammation Using 3D Animation  
   Sarah H. Sutton, Medical Illustration

6  Twist1 Evokes Matrix Metalloproteinase 9 and Collagen IV Secretion in Activated Pancreatic Stellate Cells  
   Emma Geister, Biomolecular Science

7  The Inhibition of NOX1/PDI Recovers GADD34, which Facilitates Bim-Induced Cell Death Via Accumulation of Unfolded Proteins in Pancreatic Cancer  
   Henry Knox, Biomolecular Science

8  Cancer Cells Reduce Macrophage CXCL10/CXCR3 Axis Expression Through Canonical NF-kB Signaling  
   Ahmet K. Korkaya, Biomolecular Science

9  Development of Potential Drug Candidates Against SARS-CoV-2 Using Molecular Hybridization Approach  
   Kailey Wyman, Biomolecular Science

10 Patellofemoral Pain and Osteoarthritis: A Pilot Study for the Identification of "At-Risk" Females  
    Bryaunna Barrera & Jasmine Crockett, Clinical Laboratory Science
11 Age Relatedness to the Persistent Loss of Smell Due to COVID-19
Brittney Craig, Clinical Laboratory Science

12 Evaluation of Complete Blood Count Delta Checks on Auto-Verification Performance
Tanner Davis, Clinical Laboratory Science

13 Validity of Hemoglobin Delta Check in a Core Hematology Laboratory- The Underlying Cause for Failed Delta Checks Due to a Change in Hemoglobin was Investigated
Shannon Dutterer, Clinical Laboratory Science

14 COVID-19 Variants: Detection and Management
Benjamin Ewing, Clinical Laboratory Science

15 The Effects of Major Depressive Disorder on Routine Laboratory Values
Amanda Fields, Clinical Laboratory Science

16 A Prevalence Study of Community-Acquired Clostridiodes Difficile Infection at a Level One Trauma Hospital
Lauren Giron & Rachel Woodard, Clinical Laboratory Science

17 Investigating Biovariability of CBC Parameters
Sam Parrish, Clinical Laboratory Science

18 Lessons from COVID-19 Prevention: Accelerating Vaccine Development
Charmi Patel, Clinical Laboratory Science

19 Accelerating Development of Companion Diagnostics for Anti-Cancer Drug Therapy
Nauka Patel, Clinical Laboratory Science

20 Polycystic Ovarian Syndrome and Caffeine Intake Survey
Princess Stephens, Clinical Laboratory Science

21 County-Level Socioeconomic Factors Associated with Elevated Blood Lead Levels in Children: A Study of Georgia Counties
Joseph Aguilar, Public Health
The Impact of Primary Care Visits in Regards to Emergency Department Utilization  
David Clements, Public Health

Post-Traumatic Stress Disorder: A Sexually Dimorphic Mental Health Disorder  
Rachael Dixon-Melvin, Public Health

The Impact of Medical and Public Health Schools on the Health of Neighboring Communities  
Daniel Horuzsko, Public Health

Influence of the COVID-19 Pandemic on Rates of Seasonal Influenza Vaccination Among People Living with HIV  
Amber Ladak, Public Health

Evaluating the Effectiveness of Mental Health First Aid Training and its Impact at Augusta University  
Chelsea Paulding, Public Health

Serum Levels of Clinical Markers Predicts Recovery from Severe COVID-19 Infection  
Katherine P. Richardson, Public Health

Review of Questionnaire Instruments for the Assessment of Audio-Visual Telemedicine  
Raphael Agbali, Public Health

Doctoral

Assessing Obesity Related Risk Factors in Burke, Columbia, Richmond (BCR) Adult Population  
Giti Bayhaghi, Applied Health Sciences

Verification and Validation of a Biomarker that Responds to Acute Kidney Injury  
Kendra Bufkin, Applied Health Sciences

Characteristics of Nobel Prize-Winning Collaborations  
Wendy J. Burnett, Applied Health Sciences
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<td>Dina O. Kira, Biochemistry and Cancer Biology</td>
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55 Cldn17 Loss Exhibit Systemic Inflammation in Mice
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56 Distinct Mechanisms of Human Retinal Endothelial Barrier Modulation by Mediators of Diabetes and Uveitis
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57 Evading Transfer Learning-Based Intrusion Detection Systems Using Multi-Sources Poisoning Attacks
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58 Semantic-Preserving Optimization Algorithm for Automatic Program Parallelization
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59 Leadership Processes During the COVID-19 Pandemic: Implications for Leadership Preparation and Training
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60 Succeeding in Introductory STEM Courses at Community Colleges: STEM Instructors' Perceptions of Essential Skills and Barriers to Success
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61 COGS: A Gene Signature to Differentiate Chromophobe Renal Cancer and Oncocytoma
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62 Blunted Rest-Activity Circadian Rhythm is Associated With Increased Rate of Biological Aging: An Analysis of NHANES 2011-2014
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63 The Role of Complement-Mediated Signaling During Antigen Presentation
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<td>Yanna Tian, <em>Physiology</em></td>
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Stimulation of Macropinocytosis by SARS-CoV-2 Spike Proteins
WonMo Ahn, Vascular Biology

Hexosamine Biosynthesis Pathway and its Therapeutic Potential in Patients with Peripheral Arterial Disease
Suhib Alhusban, Vascular Biology

Ovariectomy Does Not Further Elevate Blood Pressure in Obese Female Mice but Preserves the Contribution of Leptin to Hypertension
Candee T. Barris, Vascular Biology

PBK Drives Pulmonary Artery Smooth Muscle Proliferation and Vascular Remodeling in Pulmonary Arterial Hypertension
Zsuzsanna Bordan, Vascular Biology

Role of Histone Deacetylase 9 in the Development of Adipose Tissue Senescence and Mitochondrial Dysfunction in Aging
Brandee Goo, Vascular Biology

GAL3 Excretion in SMC Survival and Proliferation in PAH
Stephen Haigh, Vascular Biology

Identification of Human-Specific Novel Long Non-Coding RNA in Neointima Formation
David S. Kim, Vascular Biology

HIV-Associated Hypertension is Immune Dependent in Male Mice
Taylor C. Kress, Vascular Biology

Galectin-3 Regulates Microvascular NADPH Oxidase I-Derived Oxidative Stress in Obesity
Caleb Padgett, Vascular Biology

An Adeno Associated Model of Murine Pre-Diabetic Obesity
Hunter Sellers, Vascular Biology

Deletion of Myostatin Resolves Myosteatosis and Improves Angiogenesis in Obese Mice
Andrew Speese, Vascular Biology
## Postdoctoral Fellows – Poster

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Postdoctoral Fellows – Oral

Endothelial Cu Transporter ATP7A Deficiency Promotes Endothelial-to-Mesenchymal Transition via Metabolic Reprogramming: Role in Atherosclerosis
**Dipankar Ash, Vascular Biology Center**

Impairment in Endothelial Bioenergetics Contributes to Diabetes-Induced Vascular Dysfunction
**Reem Atawia, Vascular Biology Center**

NOX2-Derived Reactive Oxygen Species Contribute to Impaired Renal Function and Increased Maternal Mortality Observed in Dahl SS Rat After Multiple Pregnancies
**John Henry Dasinger, Department of Physiology**

Smooth Muscle Cell-Specific IncRNA CARMN is Regulated by SRF/MYOCD Complex
**Kunzhe Dong, Department of Pharmacology and Toxicology**

Bmal1 Regulates the bHLH Transcription Factor Tal1 and VE-Cadherin to Restrict the Endothelial Barrier
**Qimei Han, Department of Pharmacology and Toxicology**

In Vivo Vasculo-Neuronal Coupling in a Mouse Model of High Blood Pressure Variability
**Perenkita Mendiola, Department of Physiology**

Protein Disulfide Isomerase A1 Functions as a Novel Redox Sensor in VEGFR2 Signaling and Angiogenesis
**Sheela Nagarkoti, Vascular Biology Center**

A Novel and Important Role of UFM1-Binding Protein 1 (UFBP1) in the Regulation of ER and Cardiac Homeostasis
**Varsha Tandra, Vascular Biology Center**

Macrophage Dynamin-Related Protein1 (Drp1) is Required for Ischemia-Induced Neovascularization
**Shikha Yadav, Vascular Biology Center**

Does Arginase-2 (A2) Mediate Retinal Ganglion Cell Death by Exacerbating Excitotoxicity-Induced Calcium Signaling and Promoting Mitochondrial Dysfunction?
**Syed Adeel Zaidi, Vascular Biology Center**
THANK YOU

to all who played a part in making our 37th 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. Lucas, Dr. Bollag, members of the GRD committee and judges for all of your time and effort to coordinate such a successful event

💡 The Office of Alumni Affairs for the delicious donuts and your continued support throughout the year

💡 Our generous graduate student volunteers for your help in making GRD run smoothly

💡 Our dedicated Graduate School staff for your continued commitment towards supporting the graduate community and for your significant role in making GRD a reality