First off, I want to commend all the members of our department because we continue to excel in supporting the teaching and research mission of the Quillen College of Medicine. This is only possible because of our Faculty, Staff and student members, who are working together as a team within the department, as well as with others in the College. I am very grateful for your efforts.

The department continues to undergo changes, moving forward to meet the challenges we face and which are real. We have been asked to make substantial changes to the M1 and M2 curriculum, involving courses that are already excellent and were developed over an extended time. I believe that those involved have shown both professionalism in making the changes and have exhibited a great level of collegiality, as well as utilized opportunities to further enhance the collaboration and integration between courses. We can do this because we have excellent teachers who work together well and are committed to the students and the welfare of the College. Please join me in thanking those who have been involved in the lengthy process so far, including Dr. Schoborg as Vice Chair for Education, the Course Directors, those serving on MSEC, and, of course, our support Staff. I do believe that when we look back at these transition years, we will conclude that all our efforts were worthwhile.

Our research endeavor is undergoing change as well and is growing. Several Faculty members received grants and many have published their research in leading journals. Several have accepted new graduate and undergraduate students into their labs, training the next generation of scientists. We also continue to host medical students in our

(Cont’d on Page 2)
Chair’s Message (Cont’d)

summer research program, which is organized so well by Dr. Hoover and Wright. We have seen existing collaborations be productive and new collaborations emerge between Faculty from different disciplines. Our internal and external seminar series continue to be a great success and all are encouraged to nominate speakers to Drs. Rowe and Zou. Dr. Rodriguez-Gil is thanked for setting up and leading the Biomedical Sciences journal club, which has been well-received.

Our department has also welcomed new people, including Natalie Jones, who replaced Keith Davenport as the Business Manager. We continue our efforts to recruit new Faculty members in support of both our teaching and research mission. I am grateful for the hard work of the committee chaired by Dr. Hoover in search for someone in the cardiovascular field, to the committee, led by Dr. Yakubenko, to recruit someone in the Cancer/DNA regulation/Genetics fields, and to the microbiology search committee, led by Dr. Hayman. We also said farewell to some of our department. We congratulated Dr. Wondergem on his many accomplishments over a 38 year period at ETSU during his retirement reception. I am pleased to note that he continues to be involved as an Emeritus Professor. Lastly, we are honoring Dr. Skalko, who passed away on May 28. He led the Anatomy and Cell Biology department for 34 years, and as his daughter noted, as first and only Chair, and many of you have also expressed your highest regards for him.

We are well on our way as a merged department and I am grateful to be part of this exciting voyage. Together, we will continue to succeed.

IN MEMORY…

Dr. Richard (Dick) Skalko served as Professor & Chair of the former Department of Anatomy and Cell Biology from 1977 until 2012. He was one of the original founding members of the James H. Quillen College of Medicine. He passed away on May 28, 2017.
Dr. Robert Wondergem
Years of Service: 1978-2016
Founding Faculty Member
James H. Quillen College of Medicine

Dr. Robert Wondergem retired after 38 years of dedicated and outstanding service to the College of Medicine. Rob was among the original faculty hired at the college, which opened its doors to the first medical class of 24 students in 1978.

Dr. Wondergem received his BS in 1972, from Calvin College, Grand Rapids Michigan, and his PhD in 1977 from the Medical College of Wisconsin. He completed a NIH-Postdoctoral Fellowship at the University of Wisconsin-McArdle Laboratory for Cancer Research with Prof. Van Rensselaer Potter.

Rob began his teaching and research career at the ETSU College of Medicine as an Assistant Professor for the Department of Physiology in 1978. He was promoted to Associate Professor with tenure in 1983 and to Full Professor in 1989. Upon the retirement of the original departmental Chair, Dr. Robert W. Rasch, Rob fulfilled a three-year term as Interim Chair (1987-1989). He also was appointed the Executive Director of the East Tennessee State University Research Foundation (2008-2014).

Rob’s professional endeavors have been diverse. Coincident to his ETSU faculty position he was a Principal Investigator and Fellow of the Lucille P. Markey Charitable Trust at the Mount Desert Island Biological Laboratory, Salisbury Cove, Maine from 1985-1990. He returned there as a Visiting Scientist in 2015-16. He also received a prestigious Fulbright Research Fellowship Award and Visiting Professorship in the College of Medicine at the Laboratorium voor Fysiologie, Katholieke Universiteit, Leuven, Belgium in 2002-03.
Rob taught in the Medical Physiology Course throughout his career, and he served as the physiology Course Director from 1983-1986. He received the Dean’s Teaching Recognition Award for four years. He also received the Mentor Award from the American Physiological Society in support of an APS undergraduate summer research fellow. He has been a dedicated educator and graduate advisor for 8 graduate students completing PhD and Master’s degrees under his direction. He also served as research advisor and committee member to many graduate students, several medical students and undergraduate students throughout his career.

His research efforts focused on electrophysiology and membrane ion channel function, which was supported by grants from the National Institutes of Health and the Kroc Foundation. Throughout his research career he also received support from the American Heart Association, the National Institute on Alcohol Abuse and Alcoholism, and various private companies and foundations. He received the ETSU Foundation Research Award in 1992. He has numerous journal publications to his credit; he has presented talks and seminars at many colleges and universities throughout the country and Europe; and he has had many research collaborations with colleagues at ETSU, throughout the United States and abroad.

Rob served on numerous COM and ETSU committees. He also participated in several external activities. He was a member of the American Journal of Physiology Editorial Board. He was editorial reviewer for several scientific journals, participated in grant review panels for the American Heart Association-Tennessee Affiliate, Austrian Science Fund (FWD), Vienna, Austria, Wellcome Trust, London, England.

Rob’s future goal is to relax, travel, and spend more quality time with family. His presence and his 38 years of expertise will be greatly missed here at the Quillen College of Medicine. Our best wishes for a wonderful retirement go with him.
JOURNAL PUBLICATIONS


JOURNALS PUBLICATIONS


Journal Exposure Update


Dr. Richard M. Kostrzewa was recently notified by RESEARCH GATE of his achieving the milestone of 3,500 citations for his publications. [“Research Gate is a professional network where scientists and researchers can share and access scientific output, knowledge, and expertise.”] See link: [https://explore.researchgate.net/display/support/Signing+up+for+ResearchGate](https://explore.researchgate.net/display/support/Signing+up+for+ResearchGate)
Dr. Alok Agrawal, Professor, served on the NIH “Innate Immunity and Inflammation” Grant Review Study Section Review Committee, held in Arlington, VA, February 16-17, 2017.

Dr. Alok Agrawal, Professor, served on the NIH “Special Emphasis Panel ZRG1 IMM-F-03” Review Committee, held in Arlington, VA, February 17, 2017.

Dr. Patrick Bradshaw, Assistant Professor, served on the NIH Grant Review Study Section for the “Neural Oxidative Stress, Mitochondria, and Cell Death (NOMD)”, held in New Orleans, LA, February 16-17, 2017.

Dr. Gregory Ordway, Professor, reviewed applications for funding of research related to reducing the incidence of suicide. Established in 1987, the American Foundation for Suicide Prevention (AFSP) is a voluntary health organization that gives those affected by suicide a nationwide community empowered by research, education and advocacy to take action against this leading cause of death. AFSP provided $15.5 million dollars to research in the last 5 years. Held in New York, NY, on April 24-25, 2017.

Dr. Aaron J. Polichnowski, Assistant Professor, chaired 3 sessions as follows at the Experimental Biology meeting held in Chicago, IL, April 22-26, 2017.

1) “Data Diuresis” – sponsored by the Water and Electrolyte Homeostasis section of the American Physiological Society – consists of oral presentations from authors of high scoring abstracts.

2) “Advances in Renal Physiology II” – sponsored by the Renal section of the American Physiological Society – consists of oral presentations from authors of high scoring abstracts.

(3) “New Insights into the Regulation of Renal Blood Flow in Health and Disease” – Symposium sponsored by the Renal section of the American Physiological Society.

The photo below was taken during the Opening Ceremony of the 2nd Central European Biomedical Congress in Krakow Poland (2016). It shows Emeritus Professor Jerzy Vetulani of the Institute of Pharmacology/Polish National Academy of Sciences; Professor Maria Trinidad Herrero Ezquerro of the University of Murcia School of Medicine, Murcia, SPAIN (current President of the Neurotoxicity Society); Professor Elaine Del-Bel of the University of Sao Paulo in Brazil; and Richard M. Kostrzewa (ETSU-COM). Drs. Ezquerro and Del-Bel were speakers in the symposium “Processes and Mechanisms Associated with Parkinson’s Disease,” organized by RM Kostrzewa.

2016 SERVICE AWARDS

35-Year Award
Cindy Canter
Brian Rowe

25-Year
Tonya Ward

20 Year
Dennis Defoe
Antonio Rusinol
Douglas Thewke

15-Year
Yue Zou

5-Year
Caroline Abercrombie
(Adjunct Faculty)
Dr. Aaron Polichnowski, Assistant Professor, received the prestigious and substantial Dean Franklin Young Investigator Award. It is for young investigators who are leaders in developing technology for physiology, which in his case includes measuring renal blood flow in awake rats. He was presented with the award at the American Physiological Society Experimental Biology Meeting held in Chicago, April 22-26, 2017.

“The Dean Franklin Young Investigator Award was established by Data Sciences International (DSI) in recognition of Franklin’s role in the development of instrumentation to monitor physiological function in conscious research animals and humans. Concepts originally formulated by Dean Franklin continue to serve as the inspiration behind many of DSI’s most technologically advanced physiological monitoring systems developed for today’s nonclinical research. The intent of the award is to recognize a post-doctoral scientist or junior faculty member who is pursuing in vivo physiology research and is in the process of establishing an independent laboratory. The award recipient receives a travel award of $1,500 to attend the annual Experimental Biology meeting to present their work and a DSI instrumentation starter kit (approximate value: $20,000). A certificate is presented to the award recipient at the APS Business Meeting held at the Experimental Biology meeting.” [Source: https://www.datasci.com/about-dsi/dsi-supports-research/dsi-award-recipients]. Further information can be accessed at http://www.the-aps.org/mm/hp/Audiences/Public-Press/Archive/2011/30.html

We also acknowledge and congratulate Dr. Aaron Polichnowski, Assistant Professor, who was awarded a Carl W. Gottschalk Research Scholar Grant from the American Society of Nephrology (ASN) and the ASN Foundation for Kidney Research. The grant, which includes $200,000 over two years (7/1/2017—6/30/2019), will investigate mechanisms contributing to impaired recovery from acute kidney injury (AKI) in settings of pre-existing chronic kidney disease (CKD). Over the past 15 years, there have been numerous clinical studies demonstrating that patients with pre-existing CKD have a much greater risk of kidney failure after an episode of AKI as compared to patients without CKD who experience AKI. However, there is a paucity of experimental models that successfully recapitulate these clinical findings. Dr. Polichnowski and his colleagues have recently developed and described an experimental model of AKI superimposed on CKD that mimics the rapid progression to kidney failure observed in clinical populations. His studies show that impaired recovery from AKI in the setting of pre-existing CKD is contributing to the increased risk of kidney failure. The investigations will focus on the role of dysregulated immune and hemodynamic responses in contributing to impaired recovery following AKI.
Congratulations to Dr. Aaron Polichnowski, Assistant Professor, upon receiving a new grant award from the American Heart Association (AHA) to study how acute and chronic kidney disease affects a novel cell type within the kidney. The AHA award includes $154,000 over two years (7/1/2017—6/30/2019) to conduct the research.

Dr. Polichnowski, and his collaborator, Dr. Don Hoover, Professor, will investigate how cells within the kidney that synthesize a well-known neurotransmitter, called acetylcholine, are affected during acute and chronic kidney disease. The novel aspect about these cells is that they are acetylcholine-synthesizing kidney cells, not neurons. We know acetylcholine produced from non-neuronal pathways in the spleen can have anti-inflammatory effects and promote healing in various diseases. However, we know very little about the cells in the kidney that make acetylcholine. It is possible these cells or specific receptors that acetylcholine stimulates could be targeted to improve recovery following acute kidney injury in patients with chronic kidney disease. Over 600,000 people in the US have kidney failure, for which the only available treatments are dialysis or a kidney transplant.

Over 600,000 people in the US have kidney failure, for which the only available treatments are dialysis or a kidney transplant. Thus, current efforts are being directed at preventing kidney failure. Clinical studies indicate that interactions between acute and chronic kidney disease significantly contribute to kidney failure. Acute kidney disease, defined as a decrease in kidney function over a period of hours to weeks, affects approximately 2-5% of the population and commonly occurs in hospitalized settings. Chronic kidney disease on the other hand, affects about 14% of the populations and is defined as a chronic decrease in kidney function over a period of months to years. By themselves, both acute and chronic kidney disease increase the risk of kidney failure; however, when acute kidney disease occurs in the presence of chronic kidney disease, the risk of failure is about 5 times higher. Impaired recovery following acute kidney injury in pre-existing chronic kidney disease states is thought to be a major factor for the increased risk of kidney failure in this population.
FUNDING—CONGRATULATIONS!

Congratulations to Dr. Qian Xie, Assistant Professor, who has been awarded an RDC Major Grant for FY2018, in the amount of $10,000. Project Title: Developing MET-targeted immunotherapy. Reviewer comment, “The project proposes to design and test a new therapeutic method that targets glioblastoma multiforme (GBM), a particularly devastating brain cancer.”

We welcome the following M2 medical students to the department who have been awarded a Summer Research Fellowship Grant for Summer 2017. This grant is funded through the American Heart Association (AHA).

Iulia Basaraba — Dr. Rodriguez-Gil Lab
Nathan Bolton — Dr. Wright Lab
Hannah Bowers — Dr. Hall Lab
Hunter Bratton — Dr. Beaumont Lab
Vijay Guntupalli — Dr. Singh’s Lab
Kelsey King-Hook — Dr. Hall Lab
Derek Lance — Dr. Kruppa Lab
Brandon Miller — Dr. Polichnowski Lab
Ben Reeves — Dr. Hagg Lab
Wyatt Whicker — Dr. Brown Lab
Jacob Zalewski — Dr. Polichnowski Lab

Objective of the AHA Fellowship: “To provide mentored support for medical/graduate students who seek experience working in an academic research lab. The goal is to encourage them to pursue research careers, focus their research interests, and provide a background for future training and career development programs once they have completed their medical/graduate training. This is an institutional award, made to qualified research institutions within the affiliate's geographic boundaries that can offer a meaningful research experience to medical and health science students.” [Source: https://professional.heart.org/professional/ResearchPrograms/ApplicationInformation/UCM_431626_MedicalGraduate

Joe Oliver, undergraduate student, is the recipient of a Summer Fellowship Award from the Honors College, Office of Undergraduate Research & Creative Activities, in the amount of $3,000. He will complete his project in the laboratory of Dr. Theo Hagg with a project completion date of September 1, 2017. Joe is a Junior at ETSU with a major in microbiology.

Kate Burgess works in the laboratory of Dr. Russ Brown as a temporary Lab Technician. She helps to oversee the technical and administrative functions of the lab. Her strong and dynamic organizational skills help ensure that the lab is operating and running smoothly. Normally, she is the first “Go To” person. Kate initially worked with Dr. Brown as a student before he came to the department of Biomedical Sciences.
Dr. Valentin Yakubenko Receives Plaque from the American Heart Association ATVB Council

Dr. Valentine Yakubenko received his long-awaited plaque from the American Heart Association. The plaque commemorates his “Outstanding Research By An Early Career Investigator Award.” This prestigious award was presented by the AHA Atherosclerosis, Thrombosis and Vascular Biology (ATVB) Council for the highest scoring abstract submitted to the 2016 AHA Scientific Sessions. Abstract scoring is based upon scientific merit and relevance to the ATVB Council mission. This award also recognizes that the project has potential for future development.

Once again, congratulations are extended to Dr. Yakubenko on his receiving this prestigious award.

Welcome… Natalie Jones

Natalie joined the Department of Biomedical Sciences on January 2, 2017, as our Business Manager. Natalie filled the position formerly occupied by Keith Davenport.

Natalie is from Pennington Gap, VA but currently living in Blountville, TN. She received her undergraduate degree from UVA Wise with a double major in Psychology and Criminal Justice. She completed her graduate degree at ETSU in the Fall of 2016, where she earned an MBA degree. She has ten years of experience working in public service in both the private and government sectors. She also works part time as a real estate agent in Virginia and is currently working towards obtaining her Tennessee license.

In her leisure time Natalie enjoys cooking, gardening, and biking. She has a cat, and she says that he chose her. His name is Mr. Wiggles.

Natalie comments that “she is excited to begin her new career here in higher education.”

Dr. Hui Wang-Heaton has joined the laboratory of Dr. Gregory Ordway as Research Associate effective January 12, 2017. Previously a Graduate Student in the laboratory of Dr. Yue Zou, she completed the requirement for her PhD in Biomedical Sciences in October 2016.
We welcome Lylyan F. Pimentel, (pictured right) Visiting Scholar. Lylyan Pimentel is a Bachelor Biology graduated in 2013 at the Federal University of Pernambuco, Recife/PE, Brazil. She is currently working on her PhD in Neuroscience focusing on Primary Brain Calcification, a rare neurodegenerative disorder with characteristic calcium deposits in the basal ganglia and other brain areas visualized on neuroimaging. With the aim of improving her work and deepening her knowledge, Lylyan joined Dr. Hagg’s group to perform a short internship during summer and fall/2017. She describes this experience as one of the most important and changeling moments of her PhD, giving her the chance to consolidate strong pillars that will build up her scientific career. Lylyan comments that she is happy to have the opportunity to work here in the Department of Biomedical Sciences and the laboratory of Dr. Hagg.

COMMUNITY SERVICE
LEARNING CAN BE FUN—HOW DOES THE BRAIN WORK?

Dr. Russ Brown, Professor, (pictured right) volunteered to do a 45-minute presentation to the 5th grade class of Lisa Raper out at Indian Trail Middle School on Monday, May 9th. His talk was about “How the Brain Works,” along with demonstration of models which he has borrowed from the gross anatomy lab.

Russ admits he was a little nervous at first. As it turned out, he had an awesome time teaching these young future scientists about how the brain works. “Oh yeah, it was great! All kinds of crazy questions. I showed them a rat brain, and they all wanted to touch it (I told them to wash their hands afterwards, obviously).”

Weirdest question: What do cats not like water?
Funniest Question: What is the weirdest brain you have ever seen?
Best Question: What happens in the brain when we learn things?

Russ also had another teaching engagement at the 4th Grade at Cherokee Elementary School.

Future Scientists of Tennessee pictured below...
DEAN’S AWARDS FOR 2016-2017

Dr. Tom Kwasigroh, Professor
“Dean’s Distinguished Award for Medical Student Teaching”

Dr. Alok Agarwal, Professor
“Dean’s Distinguished Award for Research”

Dr. Krishna Singh, Professor
“Dean’s Distinguished Award for Graduate Student Teaching”

Dr. Antonio Rusinol, Professor,
“The Jack E. Mobley MD Memorial Award”
BIOMEDICAL SCIENCES STUDENT AWARDS FOR 2016-2017

Dr. Alok Agrawal, Professor
“Professor of the Year” Award

Dr. Antonio Rusinol, Professor
“Course Director of the Year” Award

Dr. Gregory Ordway, Professor
“Special Award for Excellence in Graduate Education”
CADUCEUS AWARDS FOR 2016-2017

Dr. Paul Monaco, Professor
“M1 Outstanding Professor of the Year “

Dr. Rob Schoborg, Professor
“M2 Outstanding Professor of the Year “

“M1 Outstanding Course of the Year “
Cell & Tissue Biology
Dr. Paul Monaco, Professor, Course Director

“M2 Outstanding Course of the Year”
Microbiology
Dr. Russ Hayman, Professor, Course Director
CADUCEUS AWARDS FOR 2016-2017

Rob Becker
“M1/M2 "Outstanding Staff Award “

Kelly Smith, M.D., Adjunct Faculty
“M4 Clinical Teaching Recognition”

SPECIAL HONORS

Dr. Tom Kwasigroch, was one of two COM faculty to assist in the hooding portion of the Graduation Commencement Ceremony on May 5th for the Class of 2017. This is a distinct honor, one which Dr. Kwasigroch has received more than 10 times before.

SCARLET SASH SOCIETY AWARD—2016-2017

The following faculty were selected to receive the Scarlet Sash Society award by the graduating class of 2017. This student-based award is presented by the 4th-Year medical class to those faculty they deem as outstanding educators in their field of study, as well as their mentorship qualities:

Dr. Michelle Duffourc
Dr. Paul Monaco
Dr. Antonio Rusinol
Dr. Rob Schoborg

DBMS “STRING OF PEARLS” SPEAKERS—2016-2017:

Dr. Thomas Kwasigroch
Dr. Michelle Duffourc
Dr. J. Kelly Smith
Dr. Richard Feiit
Dr. Robert Schoborg
**MEETINGS/PRESENTATIONS**


M. Kruppa, J. Jacobs, RV. Schoborg, and J V. Hall. *Poster Title: “Chlamydial elementary bodies bind to surface structures on the opportunistic fungal pathogen Candida albicans.”* 8th Biennial Meeting of the Chlamydia Basic Research Society, Charlotte, NC, Apr 2017.

D A. Stuffle, R A. Howard, and M Kruppa. *Poster Title: “Virulence characteristics of Candida albicans mutants identified as filamentous in the presence of bacteria.”* ASM Microbe June 1-5 2017, New Orleans, LA.


*Dr. Richard Kostrzewa*, Professor, will serve as Chair of the symposium, “Dopamine D₂ Receptor Supersensitivity as a Spectrum of Neurotoxicity and Status in Psychiatric Disorders” for the Federation of European Neuroscience (FENS) Meeting in Pecs, Hungary. Title of his talk in the symposium is “Induction of lifelong D₂R supersensitivity: relevance to psychiatric disorders”, September 20-23, 2017.

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**Dr. Qian Xie** (pictured right) attended the American Association for Cancer Research (AACR) Annual Meeting held in Washington, DC, April 1-5, 2017. Poster presentation, Abstract Control Number: 437. *Poster Title: “Near Infrared Fluorescent Imaging of Brain Tumor with IR780 Dye Incorporated Phospholipid Nanoparticles.”*
The laboratory of Dr. Singh attended the APS Experimental Biology meeting held in Chicago. (Dr. Krishna Singh, Dr. Mahipal Singh, Dr. Suman Dalal, Stephanie Scofield, Patsy Thrasher, Kristina Lim, and Dr. Cerrone Foster).

Dr. Suman Dalal (pictured above) presented her poster at EB. Title: “Involvement of NF-2 Signaling Pathway in β-Adrenergic Receptor-Stimulated Cardiac Apoptosis.”

Dr. Gary Wright and Yin Li * (Graduate Student) attended the Experimental Biology meeting in Chicago. Ying Li (pictured right), gave 2 poster presentations:

1. Title: Remodeling of Glucose Metabolism by HIF-1α in Hypoxic Heart. Ying Li, Penghui Lin, Jonathan M Peterson, Gary L Wright;

2. Title: The effects of CTRP3 on lipid oxidation in adult mouse primary hepatocytes. Ying Li, Gary L Wright, Jonathan M Peterson.

Dr. Aaron J. Polichnowski attended the Experimental Biology meeting held in Chicago and gave two oral presentations:

1. Title: “Pathogenesis of Impaired Recovery and Progression of Kidney Disease Following AKI in Pre Existing CKD States” – invitation from Water and Electrolyte Homeostasis Section of the American Physiological Society.

2. Title: “Susceptibility to Pressure-induced Renal Injury in DOCA-salt vs. Angiotensin II Hypertensive Rats” – invitation from the Renal Section of the American Physiological Society.
APPALACHIAN STUDENT RESEARCH FORUM—APRIL 11-12, 2017

POSTER PRESENTATIONS

Medical Students—Group A and B

Fungal-Bacterial Interactions: How Does Candida Influence The Disease-Causing Potential Of Two Sexually Transmitted Bacteria? Jeremy Jacobs, Dr. Michael Kruppa and Dr. Jennifer Hall (Sponsors). 1st Place Award Winner Group A.

Evaluating The Effectiveness Of Thiel Embalmed Cadavers For The Identification Of A Positive Lachman Test Among First Year Allopathic Medical Students. Kyle Boden, Kenan Wilhoit, Robert Becker, Summer Jackson, Dr. Thomas Kwagirolch, and Dr. Brian Johnston.

Comparison of Radial Artery Puncture Simulation Modalities: Low Fidelity Simulation Model Vs Novel Thiel-Embalmed Cadaveric Model. Rebecca Proctor, Jason Easterday, Robert Becker, Laura Kelley, Dr. Caroline Abercrombie, Dr. Tiffany Lasky.

Doctoral Candidates and Post-Doctoral Candidates

Inhibition Of Tumor Necrosis Factor Alpha Results In Alleviation Of Prepulse Inhibition Deficits In A Rodent Model Of Schizophrenia. W. Drew Gill, Katherine C. Burgess, Prasad Gabbita, Russell W. Brown (Sponsor). 2nd Place Award Winner.


Graduate Students/Master’s Candidates, Group A and B

Effects Of Acute Sepsis On Renal Structure And Sympathetic Innervation In Mice. Tuqa Alkhateeb, Dr. Tammy R. Ozment, Dr. George A. Youngberg, Mary E. A. Howell, Dr. Charles A. Stuart, Dr. Jennifer B. Price, Dr. Thomas C. Jones, Dr. David L. Williams, Tesha Blair and Dr. Donald B. Hoover (Sponsor). 1st Place Award Winner Group A.

Postnatal Cell Shape Development Of The Corneal Endothelium In Mice. Victor Ojo, Dr. Cecilia McIntosh, Dr. Thomas Ecay, and Dr. Dennis Defoe.


Undergraduates—Biomedical and Health Sciences, Group A, B, and C

Extracellular Ubiquitin Modulates Immune Response Decreasing The Adverse Effects Of Myocardial Ischemia/Reperfusion Injury In Mice. Kristina A. Lim, Stephanie L.C. Scofield, Dr. Suman Dalal, Dr. Mahipal Singh, and Dr. Krishna Singh (Sponsor). 1st Place Award Winner Group B.

Poly ADP-Ribose Protein (PARP) Inhibition Alleviated Behavioral Endophenotypes Due To Stress In A Rodent Double-Hit Model Of Major Depressive Disorder. Caitlynn C. De Preter, Liza J. Hernandez, Katherine C. Burgess, W. Drew Gill, Seth L. Kirby, Russell W. Brown (Sponsor). 2nd Place Award
APPALACHIAN STUDENT RESEARCH FORUM—APRIL 11-12, 2017

POSTER PRESENTATIONS Cont'd)

Undergraduates—(Cont’d)

DNA Repair Enzyme Gene Expression In White Matter Oligodendrocytes From Rats Exposed To Social Defeat And Unpredictable Stress: Modeling The Biology Of Major Depressive Disorder. Westley Ongtengco, Katherine C. Burgess, Liza Hernandez, Dr. Russell Brown, Dr. Michelle Chandley, Dr. Hui Wang-Heaton, and Dr. Gregory Ordway (Sponsor). 2nd Place Award Winner Group C.

GENE Expression of DNA Repair Enzymes In Pyramidal Neurons From Ca1 Hippocampus In Major Depressive Disorder. Jacob R. Coulthard, Dr. Michelle J. Chandley, Dr. Hui Wang-Heaton, and Dr. Gregory A. Ordway.

Pathology Of Insulin Like Growth Factor In The Anterior Cingulate Cortex In Autism. Brooke Beasley, Aubrey Sciara, Jessica Crawford, Tyson Claiborne, Gregory Ordway, and Michelle Chandley.

Determination Of A Mitochondrial Role For The Caenorhabditis Elegans ATR Homolog ATL-1. Sweta Gupta, Henry M. Gong, Jeddidiah W. Griffin, and Dr. Patrick C. Bradshaw.

ORAL PRESENTATIONS

Post-Doctoral Fellows


Doctoral Candidates—Biomedical and Health Sciences

Alpha-V Beta-5 Integrin Mediates Vitronectin-Induced Pro-Inflammatory Cytokines In The Brain After Stroke. Richard R. Sante, Cuihong Jia, Matthew P. Keasey and Dr. Theo Hagg. (Sponsor) 2nd Place Award Winner.

Cardioprotective Effects Of Exogenous Ubiquitin Involve Decreased Inflammatory And Fibrotic Response In The Heart Following Myocardial Ischemia/Reperfusion Injury. Stephanie L.C. Scofield, Kristina A. Lim, Dr. Suman Dalal, Dr. Mahipal Singh, and Dr. Krishna Singh

Regulation Of Pro-Inflammatory (M1) And Anti-Inflammatory (M2) Macrophage Migration By β2 Integrins During Inflammation. Kui Cui, Moammar Aziz, Christopher Ardell, and Valentin Yakubenko.

The Type-2 Cannabinoid Receptor Modulates Osteoblastic Transdifferentiation Of Vascular Smooth Muscle Cells Involved In Atherosclerotic And Vascular Calcification. Makenzie L. Fulmer and Dr. Douglas Thewke.

Master's Candidates—Natural, Biomedical and Health Sciences, Group A

The Role Of Acetylcholine In Urogenital Chlamydial Infection. Jessica Lockhart, Dr. Jessica Slade, Hallie Sartain, Jennifer Kintner, Matthew Grimm and Dr. Robert Schoborg.
APPALACHIAN STUDENT RESEARCH FORUM—APRIL 11-12, 2017

Richard Sante, 2nd Place Award Winner, Doctoral Candidate

W. Drew Gill, 2nd Place Award Winner, Doctoral Candidate

Dr. Greg Ordway (L) & Jacob Coulthard, Undergraduate

Dr. Greg Ordway (L) & Westley Ontengco (R) 2nd Place Winner, Undergraduate, Group C

Dr. Russ Brown (L) & Caitlynn DePreter—2nd place Winner, Undergraduate, Group B

Stephanie Cunningham (L); Kristina A. Lim (R)—1st Place Winner, Undergraduate Group B
Proteins of the nuclear lamina provide structural support to the nuclear envelope and participate in a variety of cellular functions, such as chromatin organization and transcriptional regulation. One of these proteins, Lamin A (72kDa), is synthesized as a 74 kDa precursor protein, Prelamin A, which undergoes an unusual maturation pathway that requires two farnesylation-dependent endoproteolytic cleavages. The second cleavage is unique to lamin A in higher vertebrates and is specifically carried out by the endoprotease zmpste24. Although most previous studies have focused mainly on the function of mature Lamin A, recent evidence from our laboratory shows important biological functions for Prelamin A as well. Prelamin A concentration in proliferating cells is very low or undetectable. Conversely, during quiescence induced by mitogen withdrawal or contact inhibition, Prelamin A levels increase drastically. These variations are directly regulated by changes in expression and enzymatic activity of zmpste24. The central hypothesis of this dissertation is that full-length farnesylated and carboxymethylated prelamin A (FC-PreA) antagonizes both proliferation and apoptosis, therefore playing a role in cellular quiescence/senescence. To accomplish this goal, we studied the transcriptional regulation of zmpste24 and the interaction of FC-preA with proteins that participate in cell cycle control. 1) We identified and characterized a functional site for the E2F1 transcription factor in the proximal 5’ UTR region of zmpste24. 2) By using proximity-labeling and co-immunoprecipitation-mass spectrometry techniques, we identified a set of proteins that interacts preferentially with L467R-Prelamin A (uncleavable) but not with mature Lamin A. Many of these proteins function to regulate progression through cell cycle.

Currently, Jamie teaches at Walter State Community College and her future plans are to remain in this position.
EXTERNAL SEMINAR SPEAKERS

Date: March 20, 2017
Kristine Y. DeLeon-Pennell, Ph.D.
Instructor
Department of Physiology & Biophysics
University of Mississippi Medical Center Jackson, MS
Title: Chronic Inflammation: Getting to the Heart of the Matter

Date: March 21, 2017
Anil K. Bidani, M.D.
Professor and Division Director – Nephrology & Hypertension
Department of Medicine, Loyola University-Chicago, Maywood, IL
Staff Physician, Renal Division, Edward Hines VA Hospital, Hines, IL
Title: Hypertension, Kidney Disease and CKD Progression

Date: March 27, 2017
Audrey N. Chang, Ph.D.
Assistant Professor
Department of Physiology
University of Texas Southwestern Medical Center, Dallas, TX
Title: Cell Signaling Mechanisms to Cardiac Myosin Phosphorylation

Date: May 16, 2017
Jeffrey L. Platt, M.D.
Professor of Surgery
Professor of Microbiology & Immunology
University of Michigan Medical School
Ann Arbor, MI
Title: Translating Immunity Into Action

Date: May 22, 2017
Upender Manne, M.S., Ph.D.
Professor of Pathology & Surgery Senior Scientist, Comprehensive Cancer Center
Senior Scientist, Minority Health & Health Disparities Research Center
University of Alabama at Birmingham
Birmingham, AL
Title: Cancer Biomarker Development: Future Perspectives
INTERNAL SEMINAR SPEAKERS

Date: January 27, 2017
James R. Stewart, Ph.D.
Adjunct Faculty
Department of Biological Sciences
Title: Embryos, Calcium—and Viviparity

Date: February 10, 2017
Christopher Pritchett, Ph.D.
Assistant Professor
Department of Health Sciences
Title: Pseudomonas aeruginosa alginate regulators—It’s not just for alginate anymore

Date: February 24, 2017
Serena Allen
Graduate Student
Title: Dopamine toxicity following chronic co-exposure to major “bath salt” constituents MDPV,

Date: March 10, 2017
Matt Keasey, Ph.D.
Research Associate
Title: Vitamin D receptor agonist calcitriol suppresses calcification through upregulation of PiT2 but not PiT1 phosphate transporter

Date: March 24, 2017
Rob Schoborg, Ph.D.
Professor
Title: Exploring the Role of Nectin-1 and Focal Adhesion Kinase in Chlamydial Development

Date: April 7, 2017
Stephanie Scofield
Graduate Student
Title: Ubiquitin’s Therapeutic Potential in Myocardial Ischemia/Reperfusion Injury
INTERNAL SEMINAR SPEAKERS

Date: April 21, 2017
Valentin Yakubenko, Ph.D.
Assistant Professor
Title: Integrin αDβ2 regulates the fate of macrophages during chronic inflammation

May 5, 2017
Brian Michael Cartwright
Graduate Student
Title: Ataxia telangiectasia and Rad3-related (ATR): Gaining insight into structure and function

Internal Seminars are held on Friday, 12:00 p.m.-1:00 p.m., VA Campus, Building 1, B-06. For more information contact Dr. Brian Rowe.

Biomedical Sciences Journal Club, Thursday, 12:00 p.m.-1:00 p.m., Building 178, C002
For more information contact Dr. Rodriguez-Gil

2 February 2017 Dr. Antonio Rusinol
16 February 2017 Dr. Regina Phillips Campbell
2 March 2017 Dr. Robert Schoborg
16 March 2017 Patsy Thrasher
30 March 2017 Serena Allen
13 April 2017 Michael Cartwright
27 April 2017 Dr. Hagg’s Lab

THIS IS A REMINDER THAT IT WILL NOT BE LONG BEFORE THE OSHA INSPECTIONS WILL TAKE PLACE.