CHAIR’S MESSAGE
THEO HAGG, MD, PhD, PROFESSOR
DEPARTMENT OF BIOMEDICAL SCIENCES

Dear Colleagues,

Congratulations and thank you! We had another great half year since the last newsletter. We continue to provide excellent and essential teaching to the students, thus fulfilling our prime mission. The students’ performance, e.g., on the NBME exams, as well as the Caduceus and Dean’s nominations and awards for many of our faculty confirm that this is true. We also continue to do well in our research, resulting in many impactful findings, as judged by our publications, and have achieved a very good momentum in obtaining more external funding. New extramural grant awards were obtained by Dr. Krishna Singh and Dr. Russ Brown as highlighted elsewhere in this newsletter.

In January, we welcomed Assistant Professors James Sheffey, in collaboration with the Department of Surgery, and Tyrone Genade. They have already made good contributions to the Anatomy courses. We also are in the midst of recruiting new tenure-track faculty members and I am grateful for the hard work of the search committee, as well as everyone else who helped to leave them impressed about our team and place.

We wish Deborah “Debbie” Lee, Research Assistant, the best as she begins retirement on July 1. We thank Debbie for being a devoted and integral component to the College of Medicine and Department for the past 39-1/2 years.

I wish everyone a pleasant summer and am looking forward to again working with you in the new academic year to ensure that we continue to deliver that which we already excel at and to take advantage of opportunities for growth.

Dr. Theo Hagg
**Principal Investigator:** Krishna Singh, PhD  
**Co-investigators:** Drs Mahipal Singh, Valentin Yakubenko, Chuanfu Li, John Kalbfleisch  
**Funding Agency:** Department of Veterans Affairs  
**Type:** Merit Review  
**Funding Dates:** 04/01/2019 – 3/31/2023  
**Annual Direct Cost:** $263,194.00  
**Total Direct Cost:** $1,052,776.00

**Title:** Investigation of therapeutic potential of exogenous ubiquitin following myocardial ischemia/reperfusion injury.

**Narrative:** Heart attack, a leading cause of death among veterans, causes damage to the heart and compromises heart function. Therapies aimed to preserve heart function have been somewhat effective, however, development of new therapeutic approaches is needed to improve the outcome of patients suffering from heart attack. Using a mouse model, this project explores the therapeutic potential of ubiquitin (a naturally occurring small molecular weight protein; found in all eukaryotic cells) following heart attack, which may lead to the development of new and cost effective strategies for the treatment of heart attack.

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**Principal Investigator:** Russ Brown, PhD  
**Funding Agency:** NIH  
**Type:** R15  
**Funding Dates:** 04/01/2019—03/31/2022  
**Total Direct Cost:** $300,000  
**Total with Indirect Cost:** $435,008

**Title:** The role of adenosine A(2A) receptor activation on the behavioral and plasticity response to nicotine in a rodent model of schizophrenia.

**Narrative:** The grant is focused on analyzing the role of the adenosine A(2A) receptor in reducing the rewarding aspects of nicotine and in alleviating behavioral deficits related to symptoms of schizophrenia using a rodent model. The focus of the grant is to discover a novel pharmacological target for the treatment of nicotine abuse in schizophrenia and psychosis, which is prevalent in this population, as well as a target for the treatment of psychosis.

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**Dr. Krishna Singh,** Member, attended NIH NHLBI, ZRG1 CVRS-K (80) meeting held in Washington, DC, March 27-28, 2019.

**Dr. Gregory Ordway** served on the Research Grants Committee for the American Foundation for Suicide Prevention, held in NYC, April 15-16, 2019.

**Dr. Valentin Yakubenko** served on the “Surgical Sciences, Biomedical Imaging and Bioengineering” Study Section Review Committee, NIH, held in Bethesda, MD, May 2019.


**SCIENTIFIC MEETINGS**

**Dr. Kostrzewa** attended the International BMAA Conference and served as one of two judges for posters to determine the student winner of the E. Arthur Bell Prize, Salt Lake City, April 2019.

**Dr. Kostrzewa** is scheduled to make the presentation “Dopamine D2R Supersensitivity: Relevance to Psychiatric Disorders” as an invited speaker in the XX Polish Pharmacological Congress, Lublin Poland, June 4-7, 2019.

Ninth Biannual Meeting of the Chlamydia Basic Science Research Society:


Association for Chemoreception Sciences (AChemS) Meeting, Bonita Springs, Florida, April 14th-17th, 2019.

**Rudy Chapman** presented a poster. The title of his presentation was Methimazole-Induced Injury Alters Levels of Expression of Engulfment Proteins. Rudy T. Chapman, Diego J. Rodriguez-Gil.

**Dr. Rodriguez-Gil** presented a poster. The title of his presentation was Olfactory Sensory Neuron Maturation in the Young Adult. Teresa Liberia, Diego J. Rodriguez-Gil, Charles A. Greer.
SCIENTIFIC MEETINGS (Cont’d)

1st Southeastern Brain Tumor Research Meeting, University of Alabama at Birmingham, May 9-10, 2019:

Dr. Xie and Anna Musket, Graduate Student, participated in both the oral presentations and the poster session. In Session II, “Cell Signaling in Glioma,” Dr. Xie presented an overview of the molecular mechanisms of HGF/MET signaling in glioma invasion. In Session II, Anna Musket, presented the on-going project showing that overexpressing HGF/MET axis led to glioma initation in mice.

Invited Mentor/Trainee Oral Presentation:

Qian Xie: HGF/MET Signaling and Therapeutics in Glioblastoma.
Anna Musket: HGF-Autocrine Activation of MET Receptor Tyrosine Kinase Induces de novo Glioma Formation in Mice.

Graduate Student and Postdoctoral Fellow Poster Presentation:

Anna Musket: HGF-Autocrine Activation of MET Receptor Tyrosine Kinase Induces de novo Glioma Formation in Mice.

Dr. Xie further served as a judge for the poster sessions.

Book Chapters

Book

Colin Yarid, an Honors-In-Discipline student working in the laboratory of Dr. Rodriguez-Gil presented his Thesis on April 11th, 2019. The title was “Maturation and synapse formation of olfactory sensory neurons after injury.”

2019 Medical Student Summer Research Program
Dr. Aaron Polichnowski—Coordinator

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<th>Student</th>
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<td>Prince Boakye</td>
<td>Dr. Jennifer Hall</td>
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<td>Abigail Holt</td>
<td>Dr. Russ Hayman</td>
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<td>Britton Huskey</td>
<td>Dr. Jennifer Hall</td>
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<td>Mayuri Jagadish</td>
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<td>Connor Ryon</td>
<td>Dr. Aaron Polichnowski</td>
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<td>Haley Scarbrough</td>
<td>Dr. Valentin Yakubenko</td>
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“Please join me in congratulating several of our DBMS faculty and adjunct faculty who achieved major milestones in their career. This is a testimony to how much we, as their colleagues, value them.”

— Dr. Theo Hagg

**Dr. Eric Beaumont**, received promotion to Professor with Tenure

**Dr. Valentin Yakubenko**, received promotion to Associate Professor with Tenure

**Dr. Michelle Duffourc** received promotion to Professor

**Dr. Russ Hayman** received promotion to Professor

**Dr. Victoria Palau & Dr. Brooks Pond** (Pharmaceutical Sciences) were promoted to Professor.

**Dr. Caroline Abercrombie** (Associate Dean Academic Affairs) was Promoted to Associate Professor.

**CONGRATULATIONS TO DEBBIE LEE, RESEARCH ASSISTANT, ON HER RETIREMENT AFTER 39-1/2 YEARS OF SERVICE**

Debbie’s career began in 1980 by supporting the research efforts of Dr. Ronald Cowden, Associate Dean for Basic Sciences, and later when he became Chairman for the Department of Biophysics. Upon Dr. Cowden’s retirement, she began working with Dr. Ellen Rasch, who assumed chairmanship of Biophysics. When the Biophysics department merged with the Anatomy department, she continued working with Dr. Rasch until basic sciences moved into Stanton-Gerber Hall in 2002. At this time she began working with Dr. Richard Skalko, then Chairman of Anatomy, in the zebrafish lab along with Dr. Mark Airhart and Dr. Barney Miller. After the unfortunate passing of Drs. Airhart and Miller, and subsequent retirement of Dr. Skalko, Debbie began collaborations with Dr. Paul Monaco, who has been Principal Investigator on the zebrafish project for the past 9 years. We wish Debbie all the best and know that she will enjoy retirement to the fullest extent.

**DR. GREG ORDWAY** was inducted into the PHS Academic Hall of Fame, Paulding High School, Paulding, Ohio (Class of 1974)

Dr. Ordway gave a short speech at the commencement exercises held on May 26th, 2019. (Picture from the Progressive Newspaper)


Congratulations are extended to Dr. Ordway on receiving this honor.
Our daily thoughts and prayers are being lifted for Mary Lou Hawk.

Congratulations to Crystal Maupin who completed the requirements for a Bachelor's Degree in Accounting from ETSU in May 2019. This is her second Bachelor's Degree from ETSU.

We welcome Anna Musket to the Department. Anna is a Biomedical Sciences Doctoral Candidate and is completing her first year as a Research Assistant in the laboratory of Dr. Qian Xie. Anna entered the program with a BS in Biology and BS in Chemistry from ETSU. She lives in Blountville with her husband and a menagerie of pets. During her free time, she enjoys reading, spending time in her hammock and learning to play different musical instruments.

Congratulations to Tonya Ward "Mimi" who became a proud first-time grandmother to a precious beautiful baby girl February 17, 2019. Ellen Elizabeth Adkins came into the world at 6:51 a.m., weighed 6 lbs. 9 oz., and 20” long. The family is doing well.

Congratulations are extended to Debbie Lee on the birth of her granddaughter, Kennedy Brooke Lee. Kennedy was born on May 23rd @ 1:40 a.m., and weighed 7 lbs. 1 oz. and was 20 3/4 inches long. This cute little "Georgia Peach" lives in Atlanta with very happy parents, Josh and Elizabeth Lee.

Celebration of Service 2019 Awards

40 Years of Service
Donald B. Hoover
David A. Johnson
Jerry Lee Keplinger
Richard M. Kostrzewa
Paul J. Monaco

35 Years of Service
Rhesa J. Dykes

20 Years of Service
Michelle D. Duffourc

15 Years of Service
Cheryl Garby Moore

10 Years of Service
Jennifer Leann Hall
Michael Douglas Kruppa
Lady Angela Thompson

5 Years of Service
Robert Michael Becker
Crystal Dawn Maupin

Congratulations are extended to Debbie Lee on the birth of her granddaughter, Kennedy Brooke Lee. Kennedy was born on May 23rd @ 1:40 a.m., and weighed 7 lbs. 1 oz. and was 20 3/4 inches long. This cute little "Georgia Peach" lives in Atlanta with very happy parents, Josh and Elizabeth Lee.
To my colleagues,

Hello everyone!

It is the end of May and most of our courses for the 2018-2019 academic year are now over! Before you launch into preparing for the next group of students, make sure to take a deep breath, relax, and pause a moment to reflect on a job well done. Also, please take the time to personally thank the DBMS and BMS graduate program staff who support our teaching mission from “behind the scenes” and who rarely get the recognition from the students that they so richly deserve.

Rob Becker, Cindy Canter, Lana Cook, Sarah Gilham, Kim Johnson, Natalie Jones, Jerry Keplinger, Deborah Lee, Crystal Maupin, TJ Neal, Rebecca Steele, Angela Thompson, Diana Toler, Tonya Ward.

I would also like to remind everyone that the DBMS annual teaching retreat will be held in the large auditorium in Stanton-Gerber Hall (Bldg. 178) on Thursday, June 6 from 9AM to 3:30PM. In the morning, Dr. Antonio Rusiñol will lead a team-based learning workshop. This will be followed by a Cajun shrimp boil for lunch. In the afternoon, activities will include a faculty panel discussion on building a teaching portfolio for promotion and tenure, as well as a multiple choice question writing workshop. You do not have to attend the retreat to attend the lunch – but if you are planning to attend the lunch, please RSVP to schoborg@etsu.edu by May 31.

As some of you may know, the Cell and Molecular Medicine and Clinical Neurosciences courses underwent leadership changes this year. I would like to thank Drs. Mitch Robinson and Eric Beaumont for their hard work as course directors and their immense dedication to the education and well-being of our medical students. I would also like to extend my deepest appreciation to Drs. Antonio Rusiñol and Diego Rodriguez-Gill for volunteering to take on the challenging task of directing these medical courses.

Finally, our faculty and staff have earned many teaching honors and awards over the past academic year, some of which are listed below. Congratulations and thank you all for your contributions to the DBMS and QCOM teaching mission.

Dr. Mitch Robinson received the Jack E. Mobley, MD Memorial Award for Excellence in Innovation for his efforts in converting the Cell and Molecular Medicine (CMM) course from a primarily lecture modality to a flipped-classroom/team based learning intensive course.
2019 QCOM Deans Distinguished Teaching Award
Dr. Jennifer Hall

2019 String of Pearls Awardees
Dr. Richard Feit
Dr. Tom Kwasigroch
Dr. Paul Monaco
Dr. Rob Schoborg

2019 Scarlet Sash Awardees
Dr. Richard Feit
Dr. Tom Kwasigroch
Dr. Paul Monaco
Dr. Antonio Rusiñol
Dr. Rob Schoborg

2019 Caduceus Club Nominees and Award Recipients*

M1 Outstanding Course of the Year
Cell and Tissue Biology (Paul Monaco, Jia Cuihong, Antonio Rusiñol, Deborah Lee, and Tonya Ward)

Cellular and Molecular Medicine* (Antonio Rusiñol, Mitch Robinson, Doug Thewke, David Johnson, Kim Johnson, Tonya Ward, and Angela Thompson)

Medical Human Gross Anatomy and Embryology (Tom Kwasigroch, Caroline Abercrombie, James Denham, Jia Cuihong, Matt Keasey, Rob Becker, Cindy Canter, Rebecca Steel, and Tonya Ward)

Medical Physiology (Tom Ecay, Krishna Singh, Aaron Polichnowski, Brian Rowe, Richard Feit, Valentín Yakubenko, Rob Schoborg, Tonya Ward, and Kim Johnson)

M1 Professor of the Year
Dr. Thomas Ecay
Dr. David Johnson
Dr. Thomas Kwasigroch
Dr. Paul Monaco
Dr. Aaron Polichnowski
Dr. Mitchell Robinson
Dr. Brian Rowe

Dr. Antonio Rusiñol*
Dr. Krishna Singh
Dr. Doug Thewke

From the Desk of...
Dr. Rob Schoborg, Professor and Vice Chair for Education
On behalf of the DBMS Course Directors
M2 Outstanding Course of the Year
Medical Microbiology & Immunology (Russ Hayman, Mike Kruppa, Jennifer Hall, Jerry Keplinger, Rob Schoborg, and Kim Johnson)
Medical Pharmacology (Rich Kostrezwa, Michelle Duffourc, Don Hoover, Ken Ferslew, and Kim Johnson)

M2 Professor of the Year
Dr. Eric Beaumont
Dr. Michelle Duffourc*
Dr. Russ Hayman
Dr. Rob Schoborg

M1/M2 Outstanding College of Medicine Staff
Rob Becker*
Jerry Keplinger
Kim Johnson
Rebecca Steele

2019 Faculty AOA Inductees
Rob Schoborg

2019 DBMS Graduate Program Faculty Awards:
Outstanding Teaching Awards in Advanced Courses
Dr. Patrick Bradshaw
Dr. Diego Rodriguez-Gil
Dr. Robert Schoborg

Outstanding Faculty Mentorship Awards
Dr. Alok Agrawal
Dr. Antonio Rusiñol

Outstanding Student Mentorship Awards
Michael Cartwright
Rudy Chapman

1st year Professor of the Year
Dr. Alok Agrawal
1st year Course Director of the Year
Dr. Antonio Rusiñol

*Dr. Michelle Duffourc was selected for membership on the ASPET National Executive Committee for the Division of Pharmacology Education, and was invited to present 3 invited seminars at the 2019 Experimental Biology meeting on Pharmacology education and teaching career development and mentoring.
APPALACHIAN STUDENT RESEARCH FORUM

JUDGES

Dr. Eric Beaumont       Dr. Yong Jiang
Dr. Patrick Bradshaw    Dr. Diego Rodriguez-Gil
Dr. Russ Brown          Dr. Sanjay Singh
Dr. Suman Dalal         Dr. Doug Thewke
Dr. Chad Frasier        Dr. Valentin Yakubenko
Dr. Jennifer Hall       Dr. Qian Xie
Dr. Cuihong Jia

AWARD WINNERS

Mary Wingard
First Place, Graduate Student-Doctoral Biological Sciences, Poster Presentation.
Dr. Krishna Singh—Sponsor

Hannah Malone
Second Place, Graduate Student-Doctoral, Medicine/ Diseases. Oral Presentation.
Dr. Theo Hagg—Sponsor

Caytlin James
Second Place, Undergraduate Student Biological Sciences, Poster Presentation. Dr. Krishna Singh—Sponsor

PRESENTATIONS—POSTERS

Graduate Student—Doctoral
Cui Kui (Dr. Yakubenko)
Mary Wingard (Dr. Singh)

Graduate Student—Masters
Heath Shelton—2nd Year (Dr. Brown)
Rebecca Steele (Dr. Abercrombie)

Undergraduate Student
Hebah Alkateeb (Dr. Ordway)
Brook Beasley (Dr. Ordway)
Jacob Goodlaxson (Dr. Bradshaw)
Caytlin James (Dr. Singh)
Adam Musick (Dr. Yakubenko)
Dylan Peters (Dr. Bradshaw)
Hannah Rauhuff (Dr. Brown)

PRESENTATIONS—ORAL

Graduate Student-Doctoral
Amy Berry (Dr. Hall)
Rudy Chapman (Dr. Rodriguez-Gil)
W. Drew Gill (Dr. Brown)
Hannah Malone (Dr. Hagg)
Heath Shelton (Dr. Brown)

2019 BOLAND UNDERGRADUATE RESEARCH SYMPOSIUM PRESENTERS:

Westley Ongtengco, Senior
Dr. Gregory Ordway—Sponsor

Natania Paul, Senior ACS Chemistry
Dr. Michael Kruppa—Sponsor
INVITED EXTERNAL SEMINAR SPEAKERS

Brooke E. Schmeichel, Ph.D.,
Post-Doctoral Research Training Award Fellow
National Institute on Drug Abuse
Intramural Research Program, Baltimore, MD
Title: A Multifunctional Role for Hypocretin in Addiction
Date: January 7, 2019

Harald Junge, Ph.D.
Assistant Professor
Department of Molecular, Cellular, and Developmental Biology, University of Colorado at Boulder, Boulder, CO
Title: Mechanisms of Norrin/Frizzled4 Signaling in Retinal Angiogenesis and Blood-Retina Barrier Formation
Date: January 10, 2019

Bennett Van Houten, Ph.D., Professor and Associate Director - Aging Institute Coleader—Hillman Cancer Center University of Pittsburgh School of Medicine, Pittsburgh, PA
Title: Watching the confluence of two DNA repair pathways at the single molecule level
Date: April 1, 2019

Ivan Zanoni, Ph.D., Assistant Professor of Pediatrics
Harvard Medical School
Staff Scientist of Immunology & Division of Gastroenterology Boston Children’s Hospital
Title: Innate immune responses against fungal infections
Date: April 26, 2019
In Conjunction with Center of Excellence in Inflammation, Infectious Disease and Immunity.

Bhavya Voleti, Ph.D.
Principal Scientist
Merck Discovery Neuroscience
Title: Enabling Target Identification and Validation for Neurodegenerative Diseases
Date: May 2, 2019
In Conjunction with Graduate Program in Biomedical Sciences.
RECENT INTERNAL SEMINARS

Dr. Yue Zou, Professor. Title: Genome stability, cancer, and premature aging. Date: February 8, 2019.

Dr. Gary Wright, Associate Professor. Title: Remodeling metabolism in the hypoxic heart. Date: February 22, 2019.

Dr. Alok Agrawal, Professor. Title: Defensive role of C-reactive protein in murine models of inflammatory diseases. Date: March 8, 2019.

Dr. Lev Yampolsky, Professor, Department of Biological Sciences. Title: Aging without sex: Daphnia as a new model for the studies of longevity and senescence. Date: March 22, 2019.

Dr. Doug Thewke, Associate Professor. Title: Function of the Type 2 cannabinoid receptor in vascular calcification. Date: March 29, 2019.

D. Spencer Gill, Graduate Student. Title: The impact of trained immunity in sepsis, aging, and the microbiome. Date: April 5, 2019.

Dr. Diego Rodriguez-Gil, Assistant Professor. Title: Characterizing olfactory sensory neuron differentiation. Date: May 3, 2019.

Dr. Valentin Yakubenko, Associate Professor. Title: What is the contribution of macrophages to the sepsis development? The surprising role of integrin αDβ2 in endotoxemia and cecal ligation and puncture models. Date: May 10, 2019.

Upcoming Seminar Schedule—2019
Dr. Brian Rowe—Coordinator

August 16
Dr. Russ Brown

August 30
Dr. Sivarao Digavalli

September 13
Fei Tu

September 27
Amy Berry

October 11
Dr. Ashana Puri

October 25
Ummear Raza

November 8
Dr. Jia Cuihong

November 22
Dr. Greg Ordway

December 6
Dr. Yong Jiang