



QUILLEN
COLLEGE of MEDICINE

EAST TENNESSEE STATE UNIVERSITY

Departments of Biomedical
Sciences and Medical Education

June 2025

Newsletter

Message from the Chair

Dr. Krishna Singh, Ph.D.,
FAHA, FAPS, QDRF

*Department of Biomedical
Sciences*

Colleagues,



I would like to extend my heartfelt appreciation to everyone who participated in the faculty recruitment process. Your invaluable support and feedback enabled us to welcome two new faculty members to our department: Dr. Tatiana Viena, a neurophysiologist from Florida International University, who will join us on July 01, 2025, and Dr. Bryan Mackowiak, an addiction scientist from National Institutes of Health (NIAAA), who will join us on September 08, 2025.

Congratulations to faculty members who have secured new funding since our last update in December 2024. Drs. Mike Kruppa, Jenny Hall and Michelle Chandley received ETSU RFP awards. Additionally, our NIH S10 instrument grant for the purchase of an ultrasound system for animal research has been funded. Several faculty members, both within and outside our department, contributed their research projects for this award, with Dr. Xiaohui Wang serving as the PI.

We recognize the faculty members who were nominated for or honored with the 2025 Caduceus and Scarlet Sash awards, as well as those recognized as String of Pearls Speakers. In the BMS Graduate Program, several faculty members were honored for their exceptional contributions, receiving awards for Professor of the Year, Course Director of the Year, Outstanding Teaching, and Faculty Mentor.

We commend the accomplishments of our graduate students. Dr. Jessa Aldridge received the Outstanding Dissertation Award. Tyler Zarin completed his graduation requirements and accepted a position at LabConnect in Johnson City, TN. Bailey Adams, Cristal Ahmed, Morgan Callaghan, Anthony Cuozzo, Tasha Phillips and Britta Schwartz were recipients of the 2025 Boland Research Day Awards. Tasha Phillips and Anthony Cuozzo received 2025 ETSU Graduate School Small Grants, and Tasha Phillips and Jared Casteel received 2025 BMS Graduate Program Core Facility Funding Awards.

We celebrate Dr. Rob Schoborg's well-deserved retirement and extend our gratitude for his many years of dedicated service. We are pleased to welcome Dr. Russ Hayman as the new Chair of Department of Medical Education.

Thank you all for everything you do!

Krishna Singh

Highlights

- Welcomes
- Grant Awards
- Publications & Presentations
- Seminars & Awards

Message from the Chair

Dr. Robert Schoborg
Department of Medical Education



As some of you may know, I am a history buff. One of the most interesting characters in US history (to me anyway) is Teddy Roosevelt (TR). Like many of us, our 26th president was a study in contrasts. TR was a progressive in many ways but was also an ardent supporter of the Monroe Doctrine. He was raised in a wealthy family but opposed powerful industrial monopolies. Roosevelt was a voracious hunter who also established 5 national parks and is known as the “conservation president”. His writings and interviews highlight these contrasts, as well as revealing a keen mind and a deft turn of phrase. One of my favorite TR quotes is “Far and away the best prize that the world offers is the chance to work hard at work worth doing.”

My 31 year career at Quillen has not always been easy, enjoyable, or stress free. However, I can say - without any irony and with some degree of pride - that I have worked hard at work worth doing. In fact, we have ALL worked hard at work worth doing. In my time here, the QCOM community has helped over 2000 medical, graduate, and undergraduate students achieve their dreams. Perhaps more importantly, many of these students were from medically or educationally disadvantaged environments, with a good number being first time college attenders. But this is, after all, mission number one at QCOM – to serve the underserved.

Over the last 5 years, we have also labored together to create the Department of Medical Education, one of only two new departments created at QCOM in the past thirty years (the other is the DBMS). At the same time, we planned and executed the most complete transformation of the pre-clinical medical curriculum since QCOM was founded. In Fall 2025, we will admit the 4th TRAILS class and one year from now, the first TRAILS cohort of students will be hooded and called “doctor” for the first time. Hard work worth doing indeed!

Oddly enough, I was recently reminded of the Roosevelt quote above when Michelle and I were watching the last season of the TV series “Parks and Recreation”. In last episode of the series, the protagonist, Leslie Knope, was finishing her second term as governor of Indiana. During a commencement address at the University of Indiana, she mentions the Roosevelt quote with an interesting addition. She stated that “the best prize that the world offers is the chance to work hard at work worth doing - with people you love”. Though delivered by a fictional character in a lighted hearted sitcom, this quote far more accurately communicates my QCOM experience than does Roosevelt’s original statement. The QCOM family gave me the opportunity to work hard for 31 years doing impactful work with people that I love. Thank you for everything you have given of yourself to QCOM, your colleagues, and our students over the last 31 years. Thank you also for welcoming me into the QCOM family, showing your kindness on a daily basis, and working with me to make our corner of the world a better place.

Rob

Welcome

Chloe Garbe, Department of Biomedical Sciences, Research Assistant



Chloe grew up in Elizabethton, where she attended Elizabethton High School. She attended Belmont University in Nashville, where she participated in the Belmont Honors program, conducted psychological and neuropsychological research, and performed with the Belmont University Dance Company. She graduated from Belmont in 2019 with a B.S. in neuroscience and a minor in dance. Since then, she has been a laboratory research technician in the labs of Dr. Donald Hoover and Dr. Brooke Schmeichel, conducted wastewater quality assessment at BAE in Kingsport, and taught ballet at Johnson City Arts Center. She is excited to join the Biomedical Department as a research assistant, and looks forward to working with staff and faculty on a variety of projects.

Grant Funding



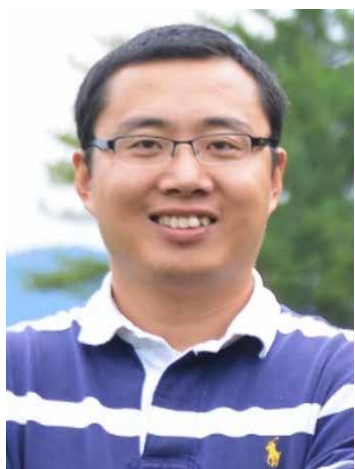
Principal Investigator: Dr. Tyrone Genade

Award: George Maier Fund

Date: January 28, 2025

Amount: \$4,340.00

Title: DNA phylogenetic analysis of five putative new *Rivulus* species from Columbia and Panama and the establishing of a DNA resource lab for killifish collectors. for vagal nerve stimulation.



Principal Investigator: Dr. Xiaohui Wang

Co-Investigators: Drs. Krishna Singh, Chuanfu Li, David Williams, Eric Beaumont, Amy Gravitte, Suman Dalal, Aaron Polichnowski, Qian Xie, Shunbin Ning, Cerrone Foster

Agency: NIH/Unique Federal Award

Funding Period: April 30, 2025

Amount: \$481,800

Title: Request for the Acquisition of a Vevo F2 Ultrasound Imaging System.

Grant Funding (cont.)



Principal Investigator: Dr. Michael Kruppa

Co-Investigator: Dr. Jennifer Hall

Agency: ETSU Research Funding Program grant

Funding Period: July 1, 2025 - September 30, 2026

Amount: \$20,000

Title: Initial development of a collection of “wild” Candida and Chlamydial species for use in translational applications for microbiological study.



Principal Investigator: Dr. Jennifer Hall

Co-Investigator: Dr. Regenia Campbell & Dr. Brooke Schmeichel

Agency: ETSU Research Funding Program grant

Amount: \$20,000

Funding Period: July 1, 2025 - September 30, 2026

Title: Investigating the neuroimmune pathways responsible for Chlamydia-induced pelvic pain.



Principal Investigator: Dr. Michelle Chandley

Agency: ETSU Research Funding Program grant

Funding Period: July 1, 2025 - September 30, 2026

Amount: \$15,000

Title: Development of a Stress-Induced Hypertensive Animal Model Using Borderline Hypertensive Rats.

Grant Funding (cont.)



Principal Investigator: Dr. Regenia Campbell

Agency: ETSU Presidential Grant-in-Aid

Funding Period: 2025

Amount: \$1,359.00

Title: Medical Education Foundations course offered by the IAMSE.



Publications

Johnson A, Williams A, **Abercrombie C**, Cross B. Planning Facilitation That Engages Interprofessional Students in Collaborative Learning. Invited Webinar Workshop. NEXUS Summit 2024 Seminar Showcase. National Center for Interprofessional Practice and Education. April 2025.

Wills LJ, Schwartz B, McGuffin B, **Gass JT** (2025). **Combined stress and alcohol exposure**: Synergistic effects on alcohol-seeking behaviors and neuroinflammation. *J. Pharmacol. Exp. Ther.* 392, 103386.

Wilcox DA, **Genade T.** (2025). Draft genomes of *Parafrankia* sp. strains FMc2 and FMc6, isolated from root nodules of *Morella cordifolia*. *Microbiology Resource Announcements*, e01270-24.

Ausel E, Mckell D, Naik A, Brenneman A, Ely S, Garwood S, Gathu C, **Hernandez MJ**, Ikonne U, Ly K, Rowe R, Taylor T, Thesen T. (2025). Tailored Education: Helping Every Student Across the Finish Line. *Medical Science Educator*.

Hernandez MJ. (2025). AI Modalities in Health Sciences Education Survey Questions. Advancing AI Resource Collection. Advancing AI Resource Collection, Association of American Medical Colleges (AAMC).

Mckell D, Naik A, Ausel E, Brenneman A, Ely S, Garwood S, Gathu C, **Hernandez MJ**, Ikonne U, Ly K, Rowe R, Taylor T, Thesen T. (2025). WAS 2024 Fall Series Push and Pull: Navigating Strains in Health Education. *Medical Science Educator*, 5.

Kintner J, Callaghan M, Bulawa L, Chu A, Ma Z, Williams DL, **Schoborg RV, Kruppa MD, Hall JV.** Dectin-1 stimulating β -glucans inhibit *Chlamydia* infections both in vitro and in vivo. *Pathog Dis.* 2025 Jan 30;83:ftaf002. doi: 10.1093/femspd/ftaf002. PMID: 39886876; PMCID: PMC11840957

Sakuma M, Viens A, **Hopke A**, Floyd DJ, Ghebremichael M, Mansour MK, Irimia D. Neutrophil Extracellular Traps Capture the human pathogen, *Candida albicans*, in blood and Delay Hyphal Transformation, *Journal of Leukocyte Biology*, 2025, Apr 23;117(4):qiaf002.

Morrissey S, Kirkland LG, Phillips TK, Levit RD, **Hopke A**, Jensen BC. Multifaceted roles of neutrophils in cardiac disease, *Journal of Leukocyte Biology*, 2025, Apr 23;117(4):qiaf017.

Wright G, Tatum G, de Jesus S, **Karpa K.** Qualitative Thematic Analysis of Interprofessional Students Following Virtual Care Conference Discussions of Neurology Patients. *Neurology Education*, 2025;4(1):e200193.

Brown C, Latimer E, de Jesus S, **Karpa K.** Mixed methods outcomes of an online, interprofessional stroke simulation, *J Allied Health*, accepted.

Babey AM, Koenig J, Cunningham M, Shield A, Restini C, Djouma E, Mraiche F, Mifsud J, Kelly JP, Nicolazzo J, **Karpa KJ**, Volbrecht K, Santiago MJ, Hawes M, Aljofan M, Kelly-Laubscher R, Tucker SJ, Hinton T, Liang W, Guilding C, White PJ. Evaluating student understanding of core pharmacokinetic concepts. *European Journal of Pharmacology*. 2025;990:177256.

Kelly-Laubscher R, Koenig J, Cunningham M, Aljofan M, Babey A-M, Hawes M, Hinton T, **Karpa K**, Karunaratne N, Liang W, Mraiche F, Restini C, Santiago M, Volbrecht K, Guilding C, White PJ. Evaluating student understanding of pharmacodynamic core concepts. *European Journal of Pharmacology*. 2025;990:177257.

Publications (cont.)

Click I, Lewis N, **Karpa K**. Assessment of individual disciplines before and after a shift to an active-learning and integrated curriculum, (**invited submission for an assessment-themed issued**). Accepted *Brit J Clin Pharm*.

Qin A, Musket A, Hilton B, Preiszner J, Krenciute G, Berens ME, Ying M, Musich PR, **Xie Q**. Efficacy of MET-targeting CAR T Cells against Glioblastoma Patient-derived Xenograft Models. *Journal of Translational Medicine*, 2025 in press.

Murrell DE, Kennard BC, Cluck DB, Moorman JP, Brown SD, Wang K, **Duffourc MM**, Harirforoosh S. An Exploratory Pharmacogenetic Study of Two Reverse Transcriptase Inhibitors, Tenofovir Alafenamide Fumarate and Tenofovir Disoproxil Fumarate. Accepted, *Drugs in R&D (DRDA)*.

Presentations

Wolf E, Lewis D, **Abercrombie C**. Quality Improvement through Targeted, Evidence-based Skills Training. Poster. Alliance for Continuing Education in the Health Professions Annual Conference. January 2025.

Abercrombie C, Williams A, Cross B. Harnessing Technology, Logistics, and Facilitation Planning to Integrate Longitudinal SP Encounters in IPE. Oral Presentation. Association of SP Educators Annual Convention. June 2025.

Phillips TK, Owen K, Ozment TR, Scherer A, **Hopke A**. Unleashing a Swarm: Characterizing the Mechanisms by which Neutrophil Swarming Restricts Fungal Hyphae. Poster Presentation. ETSU Dr. Jay Boland Research Day. April 2025.

Dinnes BE, **Singh K**, Dalal S. Ataxia telangiectasia-mutated kinase deficiency induces cardiac dysfunction with increased myocyte apoptosis, hypertrophy, and fibrosis with age. Poster at the Capitol, Nashville, TN, March 2025.

Laughlin A, **Singh K**, Dalal S. Cardiac myocyte-specific deletion of ataxia telangiectasia-mutated kinase (ATM) induces left ventricular dilation and systolic dysfunction. Poster at the Capitol, Nashville, TN, March 2025.

Laughlin A, **Singh K**, Dalal S. Cardiac myocyte-specific deletion of ataxia telangiectasia-mutated kinase (ATM) induces left ventricular dilation and systolic dysfunction. ETSU Dr. Jay Boland Research Day, Johnson City, TN, April 16, 2025.

Cox D, Rose MD, Taylor-Cox K, **Rodriguez-Gil D**, **Brown R**, **Jia C**, 2025, Chronic olfactory inflammation: its impact on the olfactory epithelium, olfactory bulb and brain cognitive function. The Association of Chemoreception Sciences 47th annual meeting, Bonita Springs, FL, April 23-26.

Hall, J, **Campbell, R**, Callaghan, M, Biofilm formation of skin-resident microbes in a sebaceous. ETSU Dr. Jay Boland Research Day, Johnson City, TN, April 16, 2025.

Dalal, S, **Hernandez, MJ**, **Ecay, TW**. Enhancing Conceptual Understanding With Matchy-Matchy: ATeam-

Presentations (cont.)

Based Learning Activity for Premedical and Medical Students. IAMSE 2025, Calgary, Canada. June 17, 2025.

Hernandez, MJ. The Federation of American Societies for Experimental Biology (FASEB) Gen AI Taskforce Recommendations. IAMSE 2025, Calgary, Canada. June 17, 2025.

Eldeeb K, **Hernandez M**, Dretchen K, Wilborn T, Ochs S, Updating the Autonomic Nervous System Receptor Table for the Pharmacology Knowledge Objectives. ASPET 2025, Portland, OR. April 6, 2025.

Hernandez MJ, Ecay TW. Emerging Technologies for Teaching and Learning: Digital Demonstrations Virtual Conference, "Matchy-Matchy: An Approach to Highly Kinetic Team-Building Learning Activity. AAMC. February 5, 2025.

Syed J, **Beaumont E** (Mentor). Vagus Nerve Stimulation Alleviates Cardiac Dysfunction and Inflammatory Markers During Heart Failure in Rats. 74th Annual Scientific Session of the American College of Cardiology, March 29-31, 2025.

Internal Seminars

Dr. Rachel Grindstaff, Department of Biomedical Sciences, ETSU: Impacts of PFOA, a Legacy PFAS, on Normotensive and Hypertensive-susceptible Rats. March 11, 2025.

Dr. Joseph Adams, Department of Biomedical Sciences, ETSU: Immunomodulatory Strategies in Sepsis: a Focus on Kupffer Cells. March 25, 2025.

Dr. Jared Casteel, Department of Biomedical Sciences, ETSU: The Critical Role of Leukocyte Integrin $\alpha\text{M}\beta\text{2}$ In The Development of Cholinergic Anti-Inflammatory Response. April 1, 2025.

Dr. Anthony Cuozzo, Department of Biomedical Sciences, ETSU: Evaluating Substance Use Comorbidity and Therapeutic Mechanisms Targeting Sensorimotor Gating Deficits in a Heritable Model of Psychosis. April 15, 2025.

Dr. Canah McNeal, Department of Biomedical Sciences, ETSU: Finding the Link Between Epilepsy and Mitochondria. April 29, 2025.

External Seminars

Dr. Zhibing Zhang, Professor, Department of Physiology & Obstetrics/Gynecology, Wayne State University - Sperm Flagella Proteins-Far More Than Just Motility: From Embryogenesis to Drug Development. January 23, 2025.

Dr. Kent Vrana, Elliot S. Vesell, Professor of Pharmacology, Penn State College of Medicine – Title: Medical Cannabis and Emerging Concerns with Unregulated Cannabinoids. February 24, 2025.

Service

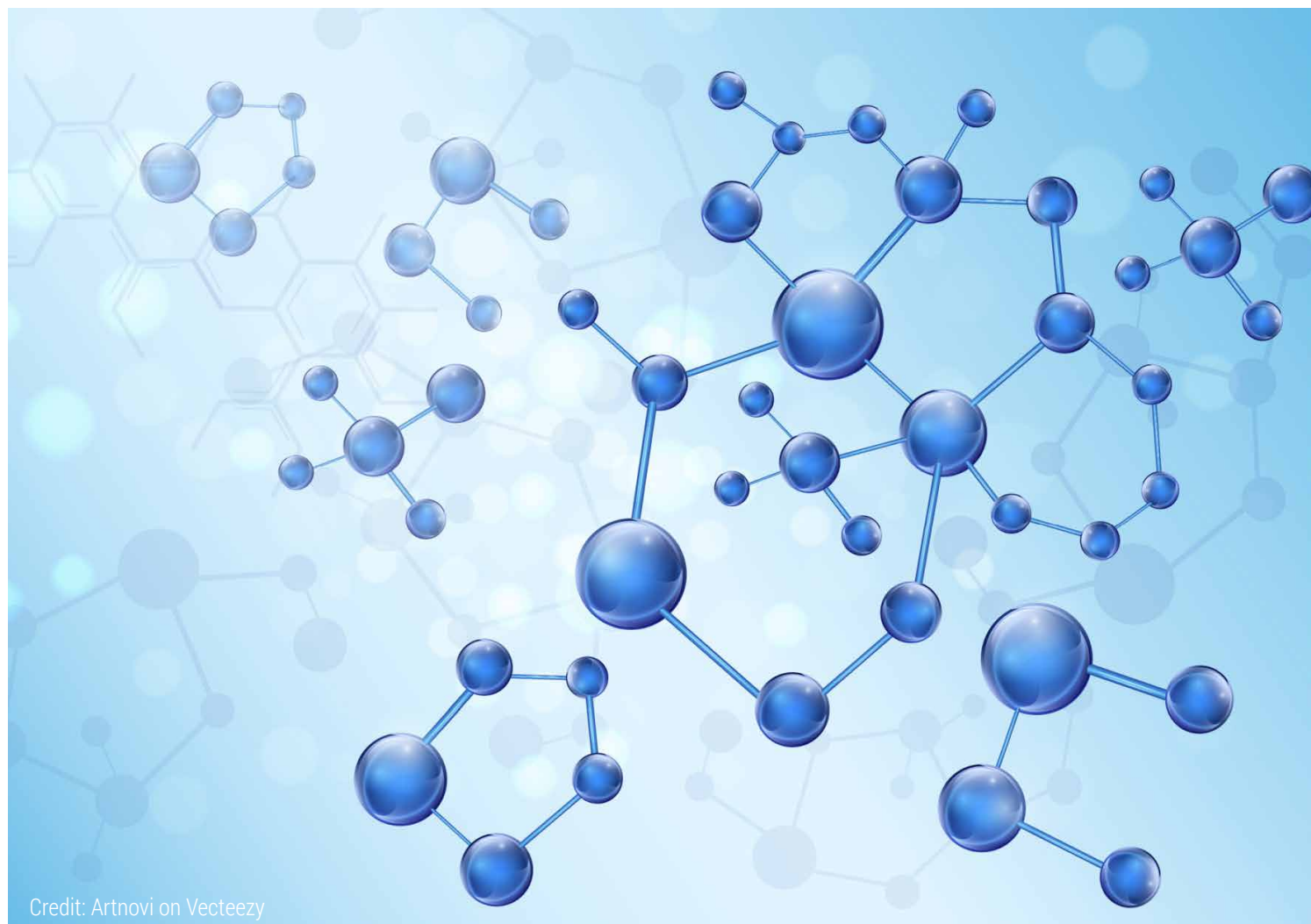
Dr. Jennifer Hall served as a grant reviewer for the NIH Bacterial and Host Interactions study section, April 10-11, 2025.

Dr. Hernandez served on the committee for the first report, Recommendation for Generative AI in the Biological and Biomedical Sciences, a public-facing document that lays out actions different stakeholders could take to ensure that Generative AI advances health and well-being without harming individuals and while upholding research integrity, published on Jan 2025.

Dr. Hernandez served on the committee for updating the AAMC/AACOM/ACGME, jointly released a set of "Foundational Competencies for Undergraduate Medical Education" which was published on December 2024.

Dr. Hernandez served as moderator for two of IAMSE webinar series this past spring and was lead planner for the IAMSE fall webinar series.

Dr. Kelly Karpa served as QCOM's voting delegate to the United States Pharmacopeial Convention, Bethesda, MD, May 5 - 8, 2025.



Awards

Biomedical Science Graduate Program Awards



Dr. Sanjay Singh
Professor of the Year



Dr. Qian Xie
Course Director of the Year



Dr. Russ Brown
Outstanding Teaching Award & Outstanding Faculty Mentor



Dr. Justin Gass
Outstanding Faculty Mentor

Awards (cont.)



Outstanding Faculty Award
(Cardiovascular Pulmonary Renal course)

Dr. Aaron Polichnowski - Awardee



Outstanding Faculty Award
(Foundations of Medical Knowledge course)

Nominees:

Dr. Tom Kwasigroch

Dr. Jennifer Hall

Dr. Antonio Rusiñol - Awardee



Outstanding Faculty Award
(Immunology/Hematology course)

Nominees:

Dr. Jennifer Hall

Dr. Russ Hayman

Dr. Robert Schoborg - Awardee

Awards (cont.)



Outstanding Faculty Award
(Brain Body and Behavior course)

Nominees:

Dr. Diego Rodríguez-Gil

Dr. Jameson Hirsch

Dr. Tanzid Shams - Awardee



Outstanding Faculty Award
(Endocrine and Reproduction course)

Nominees:

Dr. Jennifer Hall

Dr. Russ Hayman

Dr. Tom Ecay - Awardee



Outstanding Faculty Award
(Doctoring TRAILS 2 course)

Nominees: Dr. Ed Mobley

Dr. Patty Amadio - Awardee

Nominee:

Outstanding Faculty Award
(Doctoring TRAILS 1 course)

Awards (cont.)

2025 String of Pearls Speakers

String of Pearls is the last official in-class activity that our M4 students participate in before graduation. In this session, the M4 students invite 6-8 faculty to convey last minute “pearls” of wisdom to the class. It is a high honor from the graduating medical class to be chosen to do so. The following faculty members were chosen to be “String of Pearls” speakers by the QCOM graduating class of 2025:

Dr. Tom Kwasigroch

Dr. Robert Schoborg

Many thanks to Dr. James Denham, who directs the Keystone Course and keeps the “Pearls” tradition alive at QCOM!

2025 Graduation Awards and Honors

Every year, the QCOM graduating class also chooses faculty and staff members to honor at their graduation ceremony. The “Scarlet Sash” honor is awarded to those faculty and staff who the students consider to be the most influential mentors during their educational journey at QCOM. This distinction is one of the highest honors that the graduating medical class bestows upon faculty or staff members. The following faculty members were awarded the “Scarlet Sash” honor by the QCOM graduating class of 2025:

Dr. Tom Ecay

Dr. Antonio Rusiñol

Dr. Tom Kwasigroch

Dr. Brock Blankenship

Dr. Robert Schoborg

In most college graduation ceremonies, the mace bearer leads the graduation procession. Although each university mace is designed to represent different aspects of the institution, the mace generally represents education and enlightenment. At QCOM, the mace bearer is selected by the graduating medical class and is an individual who is held in the highest regard by the students. **Dr. Antonio Rusiñol** was chosen to be the mace bearer by the QCOM graduating class of 2025.

Dr. Tom Kwasigroch was also chosen as one of two graduation hooders by the QCOM graduating class of 2025. This is the highest honor bestowed to a faculty member by the graduating class and Dr. Kwasigroch has received this recognition many times in the past.

Other News

Dr. Regenia Campbell, Dr. Jenny Hall, Dr. Michelle Chandley, and Miss Shauna Kindle are recent graduates from the 2025 ETSU Health Professional Leadership Academy.

Miss Shauna Kindle recently completed the ETSU HR Supervisor Development Program.

Dr. Robert Schoborg is retiring as of June 30, 2025 after 31 years of service to Quillen College of Medicine. He was also recently awarded professor and chair emeritus status in the DME.

Other News (cont.)

Dr. Caroline Abercrombie recently reported to MSEC that student performance on the M3 and M4 OSCEs has improved with the TRAILS cohorts of students compared to that in the last few years of the legacy curriculum. This is a significant positive outcome for the new medical curriculum because the OSCE evaluates student performance in tasks that they will use every day during their careers as practicing physicians (including but not limited to communications and physical exams skills, patient interviewing, developing differential diagnoses, and note writing). Thank you, Caroline, for all of your hard work in developing, delivering and grading the M3 and M4 OSCEs!

Dr. Mark Hernandez continues to coordinate the International Association of Medical Science Educators (IAMSE) webinar series offered by the DME. These highly informative seminars are focused on medical student teaching and are offered weekly in the spring and fall. Anyone at QCOM is welcome to attend, so please keep your eye open for upcoming IAMSE seminars. Thank you, Mark, for bringing this important faculty development activity to QCOM!

Students News

2025 Boland Research Day Award Recipients:



Bailey Adams

(Advisor: Dr. Justin Gass)



Cristal Ahmed

(Advisors: Drs. Justin Gass & Russ Brown)

Student News (cont.)



Morgan Callaghan

(Advisor: Dr. Regenia Campbell)



Anthony Cuozzo

(Advisor: Dr. Russ Brown)



Tasha Phillips

(Advisor: Dr. Alex Hopke)



Britta Schwartz

(Advisor: Dr. Justin Gass)

Student News (cont.)

2025 Biomedical Science Graduate Program: White Coat Recipients

Tasha Phillips (advisor: Dr. Alex Hopke)

Alexander Sarant (advisors: Drs. Ashana Puri and Brooke Schmeichel)

2025 Biomedical Science Graduate Program: Fun awards

- **Monologue Maestro Award** – Drs. Russ Brown and Patrick Bradshaw
- **Cryo-Chaos Award** – David Poore (Advisor: Dr. Diego Rodriguez-Gil)
- **Caffeine Wizard Award** – Jared Casteel (Advisor: Dr. Valentin Yakubenko)

2025 ETSU Graduate School Small Grant Awards:

Tasha Phillips (Advisor: Dr. Alex Hopke)

Anthony Cuozzo (Advisor: Dr. Russ Brown)

2025 Biomedical Science Graduate Program Core Facility Funding:

Tasha Phillips (Advisor: Dr. Alex Hopke)

Jared Casteel (Advisor: Dr. Valentin Yakubenko)



Outstanding Dissertation Award

Dr. Jessa Aldridge
(Advisor: Dr. Chad Frasier)



Congratulations to BMS Graduate:

Tyler Zarin

Dissertation Defense

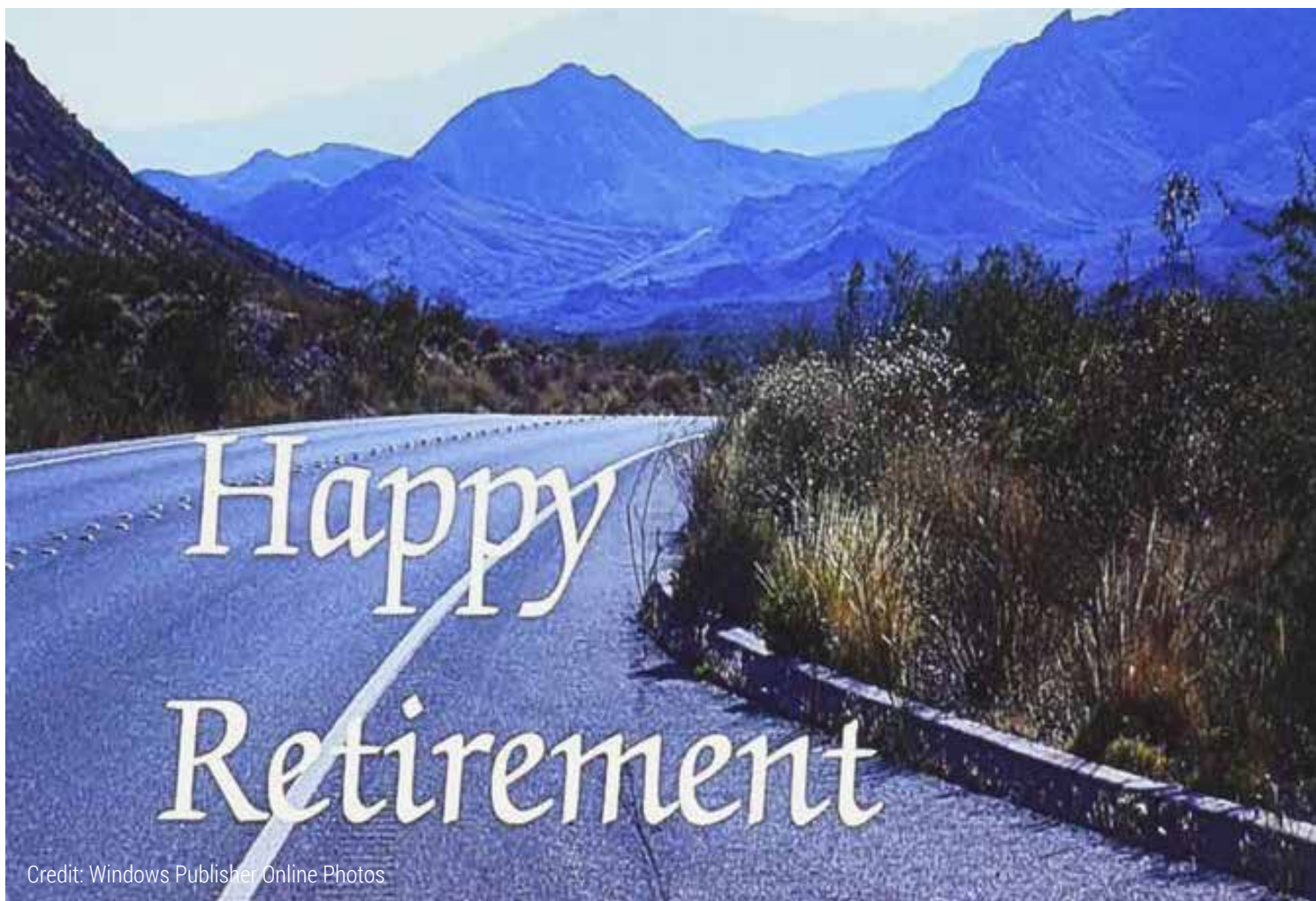
Title: Investigating the Role of the Hypocretin/Orexin System in a Novel Model of Polysubstance Dependence

Advisor: Dr. Brooke Schmeichel

Retirement



Dr. Robert Schoborg is retiring as of June 30, 2025 after 31 years of service to Quillen College of Medicine. He was also recently awarded professor and chair emeritus status in the DME. Congratulations!!



Credit: Windows Publisher Online Photos