QUILLEN COLLEGE of MEDICINE

EAST TENNESSEE STATE UNIVERSITY

Departments of Biomedical Sciences and Medical Education

December 2025

Newsletter

Message from the Chair

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

Department of Biomedical Sciences

Highlights

Colleagues,

As we close another remarkable year, I want to express my heartfelt gratitude for your dedication and hard work. Your contributions have made a real impact. Together, we welcomed new colleagues, secured new funding, published impactful research, advanced education, and served our community.

This year, we welcomed two new faculty members: Dr. Tatiana Viena, a neurophysiologist from Florida International University, who joined us on July 1, 2025, and Dr. Bryan Mackowiak, an addiction scientist from the National Institute on Alcohol Abuse and Alcoholism (NIAAA), who joined us on September 8, 2025. In addition, we welcomed several new staff members to our team.

Congratulations to our faculty for securing over $4.5M in new funding since June! Highlights include NIH awards to Drs. Brooke Schmeichel (R01 and R16), Tatiana Viena (R00), Aaron Polichnowski (R21), and Bryan Mackowiak (R00), as well as a Quillen Research Enhancement Award to Dr. Alex Hopke. Beyond funding, we published 40 articles and delivered 34 scientific presentations. We also appreciate the service contributions of all faculty and staff to the department, college, university, and the broader scientific community.

We celebrate our faculty's outstanding achievements: Dr. Aaron Polichnowski received the QCOM Dean's Distinguished Research Award and the ETSU Distinguished Faculty Research Award, and served as keynote speaker at the Celebration of Research; Dr. Brooke Schmeichel received the Early Career Scholar Award; and Dr. Chad Frasier earned tenure and promotion.

We proudly support QCOM's educational mission by teaching and mentoring medical and graduate students, and celebrating the achievements of our trainees. Jared Casteel (Dr. Valentin Yakubenko's lab) received a two-year American Heart Association Predoctoral Fellowship. Bailey Adams and Britta Schwartz (Dr. Justin Gass's lab), and Leah Jamerson (Dr. Patrick Bradshaw's lab) successfully defended their Ph.D. dissertations. Cristal Ahmed (Dr. Gass's lab) and Canah McNeal (Dr. Chad Frasier's lab) were finalists in the 2025 3MT® competition. Additionally, Cristal Ahmed, Anthony Cuozzo (Dr. Brooke Schmeichel's lab), and Joshua Bullen (Dr. Cuihong Jia's lab) received travel awards to attend scientific conferences.

Wishing you a joyful holiday season and a happy New Year!

Krishna Singh

Departments of Biomedical Sciences and Medical Education Newsletter

December 2025

Message from the Chair

Dr. Russ Hayman
Department of Medical Education

As we close out the Fall semester and a remarkable year, I want to take the time celebrate our successes in teachings, research, and service to our college and university. Our medical students are reaching the end of a hard-fought semester and are ready for a break. It's hard to believe, but our fourth-year medical students are beginning the final stretch of their medical school journey and will be the first graduating class of the TRAILs curriculum in just six months! Their dedication and resilience over these past four years are truly commendable, and we look forward to celebrating their accomplishments in the Spring. Our second-year students are nearing the completion of the pre-clinical curriculum and are transitioning toward dedicated study time for the Step-1 examination. This is always a pivotal period in medical education, and we are proud of the focus, discipline, and mutual support they demonstrate as they prepare for this milestone. Faculty and staff continue to provide guidance, resources, and encouragement to ensure they feel equipped and confident. First-year students are deep into final exam preparation and pushing through the intensity of their first full semester in medical school. Their hard work and adaptability have been evident throughout the fall, and they are eagerly anticipating a well-earned break to recharge before returning for the Spring semester.

Across the graduate programs, there is also tremendous momentum. This Fall, four senior graduate students have successfully completed and defended their dissertations—an outstanding achievement reflecting years of rigorous research and scholarly effort. More students are working diligently to finalize experiments, complete manuscripts, and position themselves for spring graduation. Meanwhile, our newest graduate cohorts are wrapping up final exams in the BMS core curriculum and the advanced courses. It is an inspiring and busy time in education, and we are proud of the achievements and dedication of all our learners.

The College's mission remains firmly at the center of everything we do. This mission is carried forward every day through the extraordinary dedication of our faculty and staff. Their hard work ensures that our learners receive the highest quality educational programming in both the classroom and clinical settings. Through teaching, service, and innovation, our faculty and staff help the college and the university continue to grow and excel.

Our faculty's scholarly accomplishments also reflect this commitment to excellence. This year, we have continued to share our successes in both basic science and medical education research through peer-reviewed publications, student-mentored research projects, and presentations at regional, national, and international conferences. These achievements not only elevate our academic reputation but

also enhance the learning experience for our students, who benefit from working alongside active and accomplished scholars.

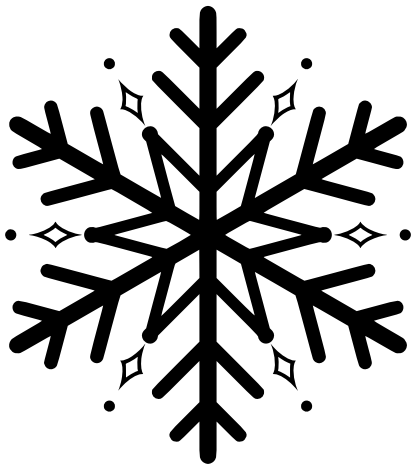
We are proud to extend special recognition to Dr. Kwasigroch, whose induction into the Tennessee Health Care Hall of Fame honors a career of remarkable service and leadership. Additional congratulations are due to Drs. Polichnowski, Rusinol, Schoborg, Ecay, and Amadio, who received Caduceus Teaching Awards this past Spring for their outstanding contributions to student learning. These honors highlight the exceptional talent and dedication found within our college and remind us how deeply our faculty influence the next generation of physicians and scientists.

Looking ahead, the Department of Medical Education remains committed to continual improvement. Efforts will focus on expanding and formalizing peer teaching review programs to strengthen instructional quality across the curriculum. We will also continue to support and recognize the wide range of educational and basic science scholarship produced within the college. Together, these initiatives will help ensure that our mission endures and that our students remain well prepared to serve the communities that need them most.

In closing, I want to extend my sincere gratitude to everyone for their hard work, professionalism, and unwavering commitment to making our departments and QCOM a truly wonderful place to work and learn. Our success as a college is built on the collective efforts of faculty, staff, students, and trainees who support one another and uphold our mission every day. As we enter the holiday season, I encourage each of you to take a moment to express your appreciation to colleagues who have made a difference in your work and in our community.

Please also take time over the winter break to rest, recharge, and rejuvenate. The months ahead will be full of new opportunities and continued progress, and your well-being is essential to the important work we do. Thank you again for all that you do for our departments and QCOM and for the students and communities we serve!

Russ Hayman



Departments of Biomedical Sciences
and Medical Education Newsletter

December 2025

Faculty Welcome

Dr. Tatiana Viena, Assistant Professor, Department of Biomedical Sciences

Dr. Tatiana Viena is an Assistant Professor in the Department of Biomedical Sciences at the Quillen College of Medicine at ETSU. She leads the Viena Neuro Lab, which focuses on how brain regions like the prefrontal cortex, hippocampus, and thalamus coordinate to support complex behaviors such as memory, attention, and problem-solving. She earned her Ph.D. in Complex Systems and Brain Sciences from Florida Atlantic University, followed by a Distinguished Postdoctoral Fellowship at Florida International University. She also has a strong background in psychology with a Master's in Experimental Psychology from Nova Southeastern University.

Dr. Bryan Mackowiak, Assistant Professor, Department of Biomedical Sciences

Dr. Bryan Mackowiak joins ETSU, Quillen College of Medicine, Department of Biomedical Sciences from the National Institute on Alcohol Abuse and Alcoholism in Bethesda, Maryland. His research journey includes many different aspects of drug transport, metabolism, development, liver disease, and alcohol use disorder.

Departments of Biomedical Sciences
and Medical Education Newsletter

December 2025

Staff Welcome

Chandni Bhat, Research Technician, Department of Biomedical Sciences

Hello everyone! My name is Chandni Bhat, and I'm a Research Technician in Dr. Chad Frasier's lab. I graduated from the University of Alabama with a bachelor's degree in chemistry and mathematics, and I'm currently applying to PhD programs in chemistry. In my spare time, I enjoy dancing, pickleball, and tennis.

Brianna Elam, Research Technician, Department of Biomedical Sciences

My name is Brianna Elam, I recently joined the Department of Biomedical Sciences as a Research Assistant! I am a graduate of ETSU with a degree in Microbiology. When I am not in the lab, you can find me at the gym lifting weights, playing with my dogs, or working on one of my cars. I am so excited to be a part of the team and to contribute to ongoing projects.

Jennifer Johnson, Research Technician, Department of Biomedical Sciences

Jennifer Johnson is an East Tennessee native and is thrilled to be part of the ETSU community once again. A proud two-time ETSU alumna with both a Bachelor's and Master's in Biology, Jennifer's passion for science has taken her from studying honey bee behavior in graduate school to managing international clinical trials in oncology and rare disease research. After several years in the biopharma industry, Jennifer is excited to return to her research roots. When she's not in the lab, you can often find Jennifer exploring local events, spending time with friends, or caring for her four-legged family.

Staff Welcome (cont.)

Christopher Joseph, Research Technician, Department of Biomedical Sciences

My name is Chris Joseph, and I recently joined the Department of Biomedical Sciences as a lab technician. I graduate in December from East Tennessee State University with a degree in Biomedical Health Sciences and a minor in culture and health. In this role, I'll be supporting faculty and students in Dr. Polichnowski' s lab. Outside of work, I enjoy running, cooking, and hiking.

Ben Payne, Research Technician, Department of Biomedical Sciences

I am a recent graduate from the University of Tennessee with a B.S. in food science and technology. I have strong interests in bioactive compounds, immunology, nutrition, and functional medicine. Eventually, I plan to further my education to study immune response and/or bioactive compounds in food with the ultimate goal of working in the biotech or supplement industries.

Louisa Simpson, Research Technician, Department of Biomedical Sciences

I was raised in Kingsport, TN, and attended college at Wake Forest University in Winston-Salem, NC. I worked in laboratories in both Psychology and Biology departments at Wake, in addition to conducting research as a student research assistant with the Medical University of South Carolina. Graduated from Wake Forest in 2025 with a B.A. in psychology. Additionally, is interested in neuroscience and biology. I am thrilled to join Dr. Schmeichel's lab here at ETSU, as a research technician.

Staff Welcome (cont.)

Jialing Wang, Research Technician, Department of Biomedical Sciences

My name is Wang Jialing, and I graduated with a master's degree in biology from Nanjing Normal University. I have already published two articles in SCI. Now I am working in Dr. Xiaohui Wang's laboratory. I hope there are new opportunities for learning and growth here.

Grant Funding

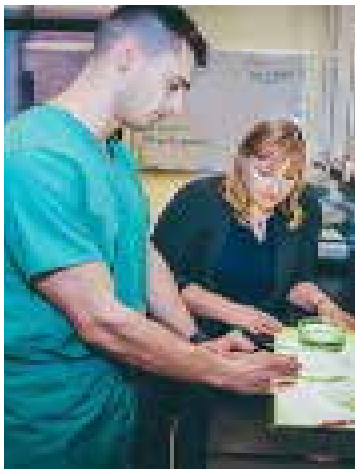
Dr. Tatiana Viena

Principal Investigator: Dr. Tatiana Viena
Agency: NINDS R00, NS128718
Title: Nucleus reuniens of the thalamus as a target for driving network-wide memory states
Amount: $747,000
Funding Period: 07/01/2025 - 06/30/28
Narrative: The nucleus reuniens (RE) of the midline thalamus is believed to coordinate coherent neural activity between the medial prefrontal cortex and hippocampus during both wakefulness and sleep. However, this hypothesis has yet to be directly tested. Our lab aims to determine how the 'activating' neurons within the nucleus reuniens can influence the synchronized activity of the prefrontal-hippocampal circuit during theta- and delta-driven rhythms in sleep (REM and NREM). By uncovering how the RE modulates these interactions, we seek to reveal fundamental mechanisms through which the thalamus supports memory and behavior. This research will provide new insights into how prefrontal-hippocampal communication is shaped by the midline thalamus and advance our understanding of how disruptions in this system may contribute to memory and sleep disturbances seen in many psychiatric and neurological disorders.

Dr. Brooke Schmeichel

Principle Investigator: Dr. Brooke Schmeichel
Agency: NIH R01, DA062961
Title: Modulating the pharmacodynamics of methamphetamine and fentanyl co-use via hypocretin pathways
Amount: $1,954,448
Funding Period: 08/01/2025 - 04/30/2030
Narrative: Stimulant and opioid dependence are major public health problems and the number of people illicitly using drugs of abuse in combination is rising, perpetuating addiction and the current devastating overdose crisis. The hypocretin neuropeptide system has been widely implicated in mechanisms of drug addiction, yet the role of hypocretin signaling in combined stimulant and opioid use remains to be examined. The current proposal consists of preclinical studies that aim to elucidate the pharmacodynamics of methamphetamine with fentanyl co-use and define the hypocretin-related neurocircuitry underlying polysubstance self-administration and stress-induced reinstatement of drug-seeking, ultimately to ascertain a novel therapeutic target for polysubstance use disorders.

Grant Funding (cont.)



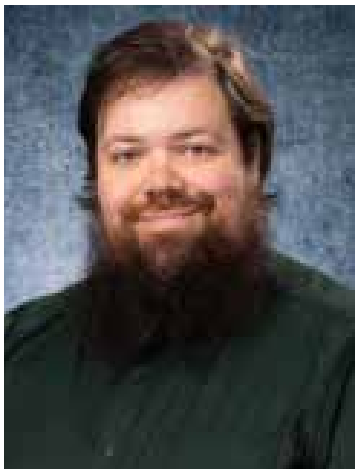
Dr. Brooke Schmeichel

Principal Investigator: Dr. Brooke Schmeichel
Agency: NIH R16, GM159685
Title: Investigating Anti-neuroinflammatory therapeutics for polysubstance use disorders
Amount: $564,411
Funding Period: 09/01/2025 - 08/31/29
Narrative: Despite the increasing prevalence of combined methamphetamine and fentanyl use, current research largely focuses on single-drug models, limiting understanding and treatment options for polysubstance use disorders. Methamphetamine and fentanyl both induce neuroinflammation and increases in the neuropeptide hypocretin, but the combined effects of these co-used drugs, or polysubstance, on neuroimmune mechanisms and related behaviors remain unexplored. The current proposal consists of preclinical studies that aim to elucidate the influence of hypocretin signaling on polysubstance-induced neuroinflammation, ultimately to ascertain a novel therapeutic target for substance use disorders.

Dr. Aaron Polichnowski

Principal Investigator: Dr. Aaron Polichnowski
Co-Investigators: Dr. George Youngberg and Ms. Rachel Grindstaff
Agency: NIH, National Institute of Environmental Health Sciences
Title: PFAS, Renal Hemodynamics, and Kidney Disease
Amount: $416,750
Funding Period: 9/23/2025 - 9/22/2027
Narrative: Per- and polyfluoroalkyl substances (PFAS), often called “forever chemicals,” are a group of man-made compounds that build up in the environment and in people. Exposure to PFAS is associated with high blood pressure and kidney disease; however, the underlying mechanisms remain poorly understood. This grant aims to uncover how PFAS directly damage the kidneys and why some individuals are more at risk of PFAS-induced hypertension and kidney disease. The findings will provide critical insight to guide future efforts to better protect communities from the harmful effects of PFAS.

Grant Funding (cont.)



Dr. Alex Hopke

Principal Investigator: Dr. Alex Hopke
Agency: Quillen Research Enhancement Award
Title: The characterization of neutrophil swarming responses to fungal pathogens in diabetes.
Amount: $25,000,
Funding Period: 07/01/2025 - 6/30/2026.
Narrative: In this proposal, we will test the hypothesis that fungal hyphae are uniquely susceptible to neutrophil swarming and that defects in swarming responses in diabetic patients contribute to their susceptibility to fungal infections, like those that cause mucormycosis. Invasive infections caused by fungi are a serious public health threat in immune-compromised patients, including those with diabetes. By characterizing the immune responses necessary to control fungi and how they are compromised during diseases like diabetes, we expect to highlight targets for the development of novel therapies to protect these and possibly other at-risk patient populations.

Jared Casteel (student)

Dr. Valentin Yakubenko (mentor)

Principal Investigator: Jared Casteel
Mentor: Dr. Valentin Yakubenko
Agency: American Heart Association; Predoctoral Fellowship
Title: Exploring the Molecular Mechanism of Integrin αDβ2 Function in Macrophage Retention During Chronic Inflammation
Amount: $70,676
Funding Period: 01/01/2026 - 12/31/2028.
Narrative: Previous work from Yakubenko's laboratory has shown that extracellular matrix proteins become modified by (CEP) during inflammation, creating neo-epitopes that are specifically recognized by integrin αDβ2. This interaction promotes robust macrophage adhesion, leading to macrophage retention at sites of chronic inflammation and contributing to disease progression. The goal of Jared's project is to identify the CEP-binding site within the αD I-domain using structural analysis, protein engineering, and quantitative binding assays. He will then evaluate how targeted mutations within this site affect macrophage adhesion and migration using CRISPR-edited HoxB8 monocyte progenitors—an innovative model that allows controlled differentiation into macrophages. By defining how αDβ2 recognizes CEP-modified proteins and how this interaction regulates macrophage retention, this work may help establish the foundation for therapeutic strategies that selectively modulate chronic inflammation without impairing essential acute immune responses.

Publications

Shook PL, Wang-Heaton H, Casteel JL, Dalal S, **Singh M, Yakubenko V, Singh K**. Exogenous ubiquitin differentially modulates the phenotype and function of M1 and M2 macrophages. Cells. 2025;14(12):879. doi: 10.3390/cells14120879. PMID: 40558506

Educate to Medicate: Advancing Prescribing Skills for Tomorrow's Clinician – **Themed Issue Article**. Guilding C, Kelly-Laubscher R, Netere A, Babey A-M, Restini C, Cunningham M, Kelly JP, Koenig J, **Karpa K**, Hawes M, Tucker S, Angelo TA, White PJ. Developing an international concept-based curriculum for pharmacology education: core concepts and concept inventories. Brit J Clin Pharmacol. 2025;91(8):2142-2150

Hopke, A. The Journal of Leukocyte Biology. Title" Caging Giants: Characterizing the molecular mechanisms of neutrophil swarming against Candida albicans hyphae." *https://academic.oup.com/jleukbio/article/117/7/qiaf082/8157622*

Cox D, Wang B, Oliver J, Pyburn J, **Rodriguez-Gil DJ, Hagg T, Jia C**. 2025, Stem cell CNTF promotes olfactory epithelial neuroregeneration and functional recovery following injury. Stem Cells, PMID 40401926

Evans LC, Dayton A, Kurth T, Anidu BS, **Polichnowski AJ**, Cowley AW. Null mutation of the p67phox subunit of NOX2 permits compensatory changes in renal blood flow during the development of salt sensitive hypertension in SS rats. Am J Physiol Renal Physiol. 2025 Oct 20. doi: 10.1152/ajprenal.00293.2025. Online ahead of print. PMID: 41115068

Agrawal A, Ngwa DN, Simons JP, **Singh SK**. Protection against prolonged Streptococcus pneumoniae infection involves conformational changes in C-reactive protein and subsequent binding to both phosphocholine and amyloids on the pneumococcal surface. Front Immunol. 16:1631409, 2025

Li T, Adams J, Zhu P, Zhang T, Tu F, Gravitte A, Zhang X, Liu L, Casteel J, **Yakubenko Y**, Williams DL, Li C, **Wang X**. The role of heme in sepsis induced Kupffer cell PANoptosis and senescence. *Cell Death Dis.* 2025 Apr 13;16(1):284

Adams J, Li T, Zhu P, Garbe C, Tu F, Casteel J, **Yakubenko V,** Williams DL, Li C, **Wang X**. β-Glucan Protects Against Sepsis-Induced Kupffer Cell Loss by Inhibiting Pyroptosis and Promoting Self-Renewal. *Immunology.* 2025 Oct 2. doi: 10.1111/imm.70043

Wills LJ, Adams B, Schwartz B, **Beaumont E, Gass JT**. Optogenetic Stimulation of the Infralimbic Cortex Prior to Fear Extinction Learning Rescues Deficits in a Preclinical Model of Comorbid PTSD and AUD. Psychopharmacology 2025. PMID: 41203979

Li T, Zhu P, Adams J, Tu F, Wang J, Garbe C, Dalal S, **Singh K**, Zhang X, Liu L, Williams DL, Li C, **Wang X**. HSPA12B protects against age-related endothelial cell senescence by regulating STING degradation. Aging Cell. 2025 Oct 8:e70260. doi: 10.1111/acel.70260. PMID: 41063400

Presentations

Cuihong, Jia, Stem cell FAK-CNTF signaling promotes olfactory epithelial neuroregeneration and functional recovery following injury. Invited speaker at 2nd international conference on Stem Cell & Regenerative Medicine, November 17-19,2025, Milan, Italy.

Cuihong, Jia, Knockout of vitronectin increased EAE lesion pathology without affecting demyelination and motor deficits. Joshua Bullen, the 2025 SFN conference, November 15-19, 2025, San Diego, CA.

Yakubenko, Valentin, Jared Casteel, participated in the Phagocytes Gordon Research Conference (Waterville Valley, New Hampshire) in June 2025, where Jared presented the poster of his study: Integrin αMβ2 as a Key Regulator of the Anti-Inflammatory Cholinergic Response in Macrophages and Neutrophils. Jared L. Casteel, Tasha Phillips, Alex Hopke, Valentin Pavlov, Valentin P. Yakubenko

Nickol D, Mangrulkar RS, **Karpa K**. Weaving AI into Interprofessional Practice and Education: Perspectives from Big Ten Institutions and a Call to Collaborate. Collaborating Across Borders IX. Omaha, NE. (Poster)

Karpa K. Designing Interprofessional Pathway Programs to Foster Authentic Patient Partnerships and Health System Navigation. Collaborating Across Borders IX, Omaha, NE (Pecha Kucha)

Karpa K, SA Williams. Bridging the Gap Between Education and Practice: An Innovative Approach to Implementing Team-Based Exercises in a Family Medicine Clerkship. NEXUS Summit – Lightning Talk, September 17, 2025.

Morgan Callaghan: Presented at American Society for Microbiology KY/TN Branch Meeting (Nashville, TN), (Hall/Campbell lab)

Internal Seminars

Dr. Tianhu Sun, Assistant Professor, Department of Biology, ETSU: “Plant Synthetic Biology for Better Nutrition and Molecular Pharming”; September 9, 2025.

Dr. Rich Kostrzewa, Professor, Department of Biomedical Sciences, ETSU: “The Phenomenon of Dopamine D-2 Receptor Supersensitivity”; September 23, 2025.

Dr. Devan Gomez, Postdoctoral Fellow, Department of Pharmacology, Vanderbilt University: “Biological Sex and Subcircuit-Specific Neurobehavioral Effects of Protracted Opioid Withdrawal”; September 30, 2025.

Dr. Morteza Rasoulianboroujeni, Assistant Professor, Department of Pharmacology, ETSU: “Computationally Guided Design of Next-Generation Nanomedicines”; October 21, 2025.

Dr. Alex Hopke, Assistant Professor, Department of Biomedical Sciences, ETSU: “Caging Giants: Characterizing the Molecular Mechanisms of Neutrophil Swarming Against Fungal Hyphae”; November 4, 2025.

Dr. Yang, Department of Surgery, ETSU: “The Heart’s Sweet Secret: Lactate Drives Cardiac Fibrosis through Protein Lactylation after Myocardial Infarction”; November 25, 2025.

Internal Seminars (cont.)

Dr. Misty Owens, Department of Biomedical Sciences, ETSU: "Temporal patterning of vagus nerve stimulation as a determinant of NTS neural response profiles in control and heart failure models"; December 2, 2025.

Dr. Matt Zahner, Department of Biomedical Health Sciences, ETSU: "The spice that's not so nice, central mechanisms in the cardiogenic sympathetic afferent reflex"; December 10, 2025.

External Seminars

Dr. Ivy Xiong- Department of Integrative Biology & Physiology Institute for Quantitative & Computational Biosciences, University of California Los Angeles; "Male-female differences in renal autoregulation of flow"; September 8, 2025.

Dr. Brent Myers- Department of Biomedical Sciences, Colorado State University; "Prefrontal Projections to the hindbrain meditate sex-specific responses to stress"; October 20, 2025.

Dr. Andrea Zsombok- Department of Physiology, Tulane University School of Medicine, "Organization and plasticity of brain circuits regulating the liver"; October 27, 2025.

Guest Lecture

Dr. Qian Xie was invited as a guest speaker on Mock Study Session for NIH grand application, September 16, 2025.

Service

Karpa K and Mead T. AIHC New Member Welcome and Open House. American Interprofessional Health Collaborative (AIHC) Membership Committee, 1 hour. – live online session recorded for the AIHC website

Karpa, K. The Journey to Group Power Facilitation Skills Workshop. Journey of Collaboration, October 9-10, 2025 (15 hours). This two-day workshop led by Steve Davis and Darin Harris focused on teaching leaders strategies to improve meeting facilitation and included more than a dozen Liberating Structures.

Karpa, K. Leader Track, a 5 week program (7.5 classroom hours) hosted by LCBC, Manheim, PA, with pre-work and application activities due for each session.

Xie, Qian, 2025 Annual Brain Tumor Association Research Networking meeting, September 13-16, 2025.

Workshops

Weber Z, **Karpa K,** Barnett SG, Maxwell B, Keehn M. Strategies in Action: Tailoring a Practical Assessment Plan for Interprofessional Education. Collaborating Across Borders IX, Omaha, NE.

North S, Kanazawa-Lee G, Edwards H, Valentino A, Barnett S, **Karpa K.** Advancing the Learning Continuum Toward Practice: Big 10 Interprofessional Education Initiatives in the Clinical Learning Environment. NEXUS Summit Series, 2025.

North S, Weber Z, Nickol D, Keehn M, **Karpa K,** Maxwell B. From Concept to Curriculum: Guiding Principles for Implementing Interprofessional Education and Lessons Learned from Big 10 Institutions. NEXUS Summit, September, 2025 (Continuing Education).

Karpa K. Koenig J, Szarek J, Zaagar M, Restini C. The Place of Pharmacology in an Integration Curriculum: Challenges and Pitfalls for Pharmacology. IUPHAR-Ed, October 15, 2025, 1.5 hours. More than 240 registrants from 55 countries participated.

Awards

ETSU professor inducted into TN Health Care Hall of Fame

East Tennessee State University's Dr. Tom Kwasigroch, a renowned educator in the Quillen College of Medicine's Department of Medical Education, is a member of the 2025 class of inductees for the Tennessee Health Care Hall of Fame.

With a mission to honor those who have made significant and lasting contributions to the health and health care industries, the Hall of Fame was created in 2015 by Belmont University, the McWhorter Society and the Nashville Health Care Council, a founding partner.

Dr. Kwasigroch is also a 15-time recipient of the Quillen Course of the Year award and a 16-time recipient of the Quillen Professor of the Year award, and he was honored as Hooder by 16 graduating classes. Kwasigroch has also been the college's String of Pearls and Scarlet Sash awards winner each year since their inception in 2003 and 2004, respectively. He served as the assistant dean for curriculum for five years and the associate dean for Student Affairs for 16 years, stepping down from that position to work full time helping with the transition to a systems-based curriculum at the College of Medicine.

"I have been incredibly blessed by having the opportunity to teach amazing students over the years," said Kwasigroch. "I can't thank President Noland, Provost McCorkle and Quillen College of Medicine Dean Bill Block, as well as their predecessors, enough for all the support they have provided for our efforts to help improve health care in our region through our training programs.

Awards (cont.)

Dean's Distinguished Research Award & ETSU Distinguished Faculty Research Award

*Dr. Aaron Polichnowski: Left hand side of the photo.

Early Career Scholar Award

*Dr. Brooke Schmeichel: Right hand side of photo.

Dr. Patricia Amadio

Dean's Distinguished Teaching Award

Penny Wright

Distinguished Staff Award

Tenure and Promotion

Dr. Chad Frasier – Tenure and Promotion to the rank of Associate Professor

Dr. James Sheffey – Promotion to the rank of Associate Professor

Dr. Caroline Abercrombie – Promotion to the rank of Professor

24th Annual Quillen Research Symposium

Director: Dr. Aaron Polichnowski

Associate Director: Dr. Patrick Bradshaw

Assistant Director: Lori Moore

The 24th annual Quillen Research Symposium was held on Friday, October 3rd in Stanton-Gerber Hall. The following medical students were mentored by faculty members in the -

Department of Biomedical Sciences:

Student: Joshua Rogers
Mentor: Dr. Aaron Polichnowski
Project Title: Prolonged renal hypoperfusion and GFR recovery despite early MAP normalization after ischemia-reperfusion injury.

Student: Henry Ross
Mentor: Dr. Aaron Polichnowski
Project Title: Prolonged renal hypoperfusion and GFR recovery despite early MAP normalization after ischemia-reperfusion injury.

24th Annual Quillen Research Symposium (cont.)

Student: Clifford Jones
Mentor: Dr. Aaron Polichnowski
Project Title: Distinct patterns of renal autoregulatory impairment in rat models susceptible to hypertensive-renal injury.

Student: Laken Woods
Mentor: Dr. Michael Kruppa and Dr. Jennifer Hall
Project Title: Establishment and characterization of a vaginal microbiome repository.

Student: Andy Johnson
Mentor: Dr. Aaron Polichnowski
Project Title: Effects of carotid and aortic baroreceptor denervation on blood pressure and heart rate variability in borderline hypertensive rats.

Student: ZaKaia Bell
Mentor: Dr. Brooke Schmeichel
Project Title: Effects of insomnia treatment drug, Lemborexant, on sleep disruption in male rats.

Student: Landon Finke
Mentor: Dr. Aaron Polichnowski
Project Title: Borderline hypertensive rats exhibit stage 2 hypertension but minimal BP salt-sensitivity and renal injury.

Student: Cade Oculam
Mentor: Dr. Matthew Zahner and Dr. Michelle Chandley
Project Title: Effects of chronic psychological stress on cardiovascular reflexes in borderline hypertensive rats.

Student: Jacob Thorn
Mentor: Dr. Alex Hopke
Project Title: Neutrophil swarming behavior and function in patients with diabetes mellitus.

Student: Hamza Kouser
Mentor: Dr. Brooke Schmeichel
Project Title: Insomnia treatment drug Lemborexant attenuates sleep disruption-induced reinstatement of methamphetamine-seeking in rodents.

Student: Georgia Moeller
Mentor: Dr. Valentin Yakubenko
Project Title: Establishing a method to differentiate murine HoxB8 hematopoietic progenitors into neutrophils.

Department of Medical Education:

Student: Kinner Flaglor
Mentor: Dr. Paul Monaco, Dr. Mark Hernandez, Dr. Tom Ecay
Project Title: Utilization of AI Tools in Health Sciences Education at ETSU.

24th Annual Quillen Research Symposium (cont.)

Student: Mollie Sterling and Molly Robinette
Mentor: Dr. David Wood, Dr. Mark Hernandez
Project Title: Global Health Experiences Have an Important and Positive Impact on the Values-Formation of Health Profession Students.

Student: Christopher Barksdale and Maivel Boshra
Mentor: Dr. Mark Hernandez and Dr. Paul Monaco
Project Title: Development of a Pattern Recognition System to Evaluate Matching of Clinical Vignettes to its Attributes.

Student: Christopher Barksdale and Maivel Boshra
Mentor: Dr. Mark Hernandez and Dr. Paul Monaco
Project Title: Development of a Pattern Recognition System to Evaluate Matching of Clinical Vignettes to its Attributes.

Student: Olivia Bruno and Christopher Barksdale
Mentor: Dr. Edward Mobley
Project Title: Evaluating the Impact of Residential Rehabilitation on Substance Use Recovery and Recidivism in Non-Violent Drug-Related Convictions.

Thanks to the following faculty who served as judges at the symposium:
Drs. Jennifer Hall, Brooke Schmeichel, Tatiana Viena, Bryan Mackowiak, Cuihong Jia, Amy Gravitte, Patrick Bradshaw, Chad Frasier, Doug Thewke, Mark Hernandez, Nicole Lewis, & Regenia Campbell.

Thanks to the following graduate students who served as judges at the symposium:
Cristal Ahmed, Tasha Phillips, Tony Cuozzo, & Morgan Callaghan.

Graduate Student Travel Awards

Anthony Cuozzo was awarded the Daigneult Pharmacology Graduate Student Travel Award for his travel to attend the 2025 Society for Neuroscience conference.

Cristal Ahmed was awarded a grant from the Society for Neuroscience and an award from the Mary V Jordan Foundation for her travel to attend scientific conferences.

Joshua Bullen received the travel award from the Graduate School for his travel to attend the 2025 Society for Neuroscience Conference.

Departments of Biomedical Sciences
and Medical Education Newsletter

December 2025

2025 3MT® Finalists

Cristal Ahmed

Canah McNeal

Congratulations to Fall 2025 BMS Graduates

Bailey Adams
(Dr. Justin Gass)

Leah Jamerson
(Dr. Patrick Bradshaw)

Britta Schwartz
(Dr. Justin Gass)

Fall Celebrations

DBMS

DME