



Wake Forest University School of Medicine

Center for Experiential and Applied Learning



Annual Report

January 1 – December 31, 2024

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Welcome to the Center for Experiential and Applied Learning (CEAL)

In 2024, the Center for Experiential and Applied Learning (CEAL) experienced significant developments as the inclusive Enterprise continued to evolve. Kelley Sava, Associate Vice President of Simulation, Enterprise, began her leadership role in January and came to Winston-Salem February 13-14, 2024, to spend time with CEAL teammates and faculty. In doing so, she toured spaces across two campuses and observed learning events taking place during that time. Kelley engaged with each area within CEAL, allowing teammates to describe their roles and gather for lunch to learn about the future of Enterprise Simulation as well as ask questions and get to know each other.

Throughout the following months, Enterprise Simulation teammates in the Midwest and Southeast regions connected virtually to foster relationships and collaboration. A few working groups have formed from the collective to partner on projects emerging during the virtual times together. Two additional Enterprise Simulation alliances meeting on a regular basis are the Integration and Leadership teams.

A major milestone was achieved with the approval and installation of new technology components in the Patient Simulation Lab in June. The existing equipment had been in place for at least 25 years. The entire system required an upgrade to be fully operational without unexpected downtime and to align with regional simulation labs.

As construction of the new Care Tower advanced, Ian Saunders and Vernon Williams worked closely with Facilities Planning to ensure that CEAL's new Mock OR Surgical Suite space requirements are met for the anticipated second quarter 2025 occupancy. Additionally, the team prepared for the shutdown of the Mock OR area in Janeway Tower by December 31, 2024.

We hope you enjoy reading and getting to know the true essence of CEAL as depicted in this report.

Our Best Regards,

Louise Nixon
Administrative Manager

Ian Saunders
Experiential Learning Manager

Our Vision

To Train One, Train Many. To Help One, Help Many.

Mission

The Center for Experiential and Applied Learning (CEAL) exists to serve Wake Forest University School of Medicine, Atrium Health Wake Forest Baptist, and the healthcare community by **promoting and sustaining the delivery of superior patient care**, using experiential and applied learning that is grounded in educational theory and scientific discovery.

Values

We seek to advance the delivery of health care by providing hands-on immersive learning for current and future clinical professionals. We are guided by a responsibility to the patients who will be treated by the health care practitioners we support. For that reason, our primary mission is to improve the care and safety of the patients who will fall under the care of the students we train.



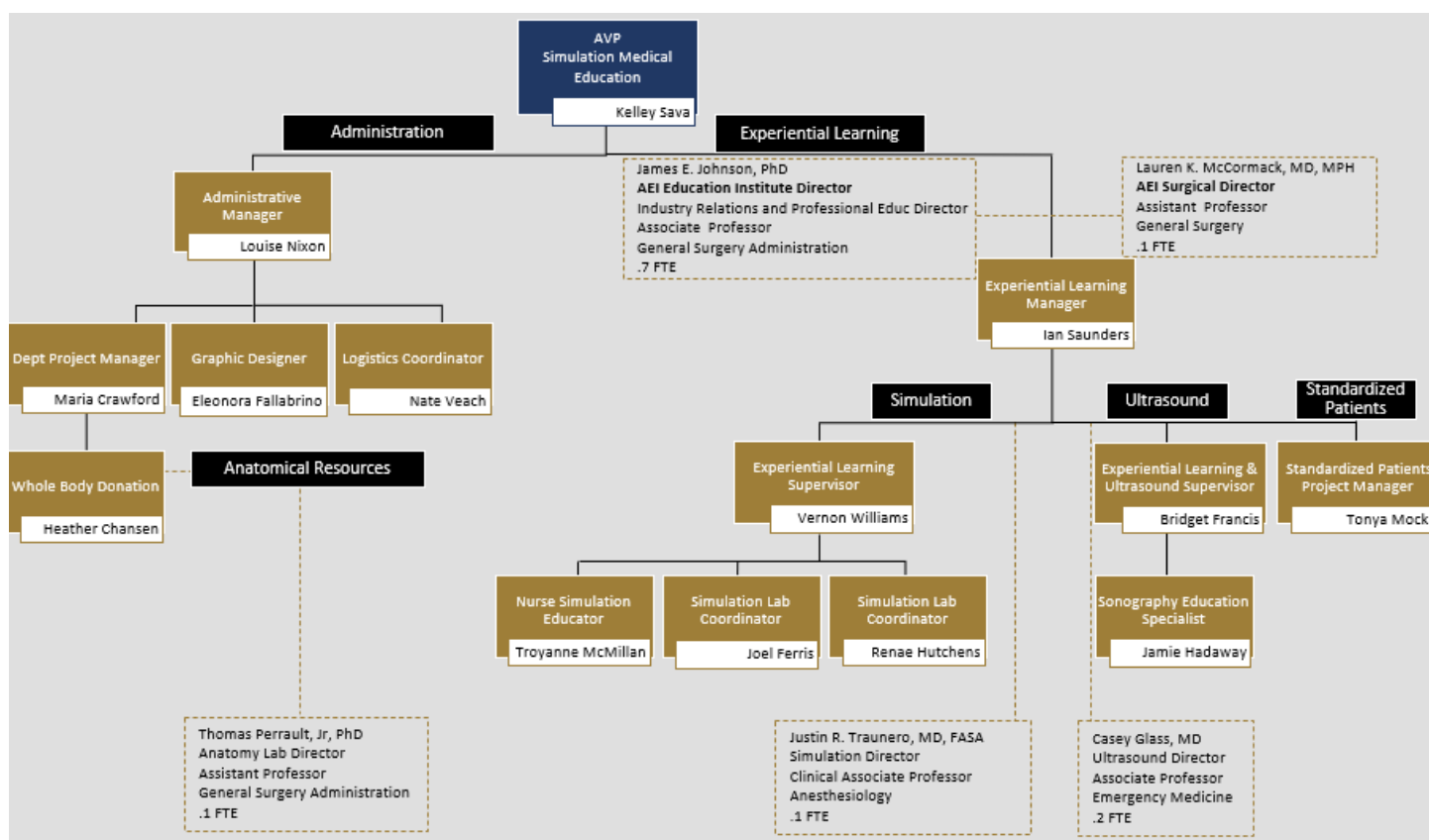
Our Team



Wake Forest University School of Medicine

Center for Experiential and Applied Learning

Organizational Chart – Functional Areas and Faculty



CEAL Team/Faculty Leadership

The faculty leadership serve as clinical and content experts and have CEAL associated job descriptions. Current CEAL team and faculty leadership is shown below.

- Casey Glass, MD – Director of Ultrasound
- Jim Johnson, PhD – Director of Industry Relations and Professional Education
- Lauren McCormack, MD - Director of Surgical Education and Innovation
- Louise Nixon – Administrative Manager
- Tom Perrault, PhD – Director of Human Tissue Services/Human Body Donation Program
- Ian Saunders – Experiential Learning Manager
- Justin Traunero, MD – Director of Simulation – Hawthorne Hill campus



Steering Committee

Martin Avery - Surgery Trauma

Scott Carter - GME/Radiology

Nildris Cruz-Diaz - Surgery-Hypertension

Heath Earley - Nursing

Richie Flowers - CRNA/DNP

Casey Glass - Emergency Medicine, CEAL
Director of Ultrasound

Robin Hack - Nursing

Jason Halvorson - Orthopedic Surgery

Daryl Henshaw - Anesthesiology

Toni Jackson - PA Studies

Rima Jarrah - Anesthesiology

Jim Johnson - CEAL Director of Professional
Education & Industry Relations

Megan Lee - Radiology

Michael Lischke - CME/AHEC

Anika Lyerly - Nursing/Clinical Education

Buddy Marterre - General Surgery/Internal
Medicine/Surgical Palliative Care

David Masneri - Emergency Medicine

Lauren McCormack - Surgery, CEAL Director
of Surgical Education

Stephen S. McNatt - Minimally Invasive
Surgery

Matt Miles - Pulmonary Critical Care

Luke Neff - Surgery/Pediatrics

Kathy Nelson - Nursing

Bret Nicks - Emergency Medicine, Lexington

Josh Nitsche - OBGYN

Louise Nixon - CEAL/ Administration

Tom Perrault - CEAL Director of Human Tissue
Services

Reese Randle - Surgery

Jennifer Roper - Family Medicine

Greg Ross - Anesthesiology

Ian Saunders - CEAL/Simulation

Kelley Sava - Associate Vice President,
Simulation, Enterprise Medical Education,
Advocate Health

Elizabeth Shilling - Surgery Trauma/ Addiction
Research & Clinical Health (ARCH)

Alton Sutter - Colorectal Surgery

Heath Thornton - Family Medicine

Justin Traunero - Anesthesiology, CEAL Director
of Simulation

Franklin Watkins - MD Program; Gerontology

Terri Yates - Vice Chief Academic Officer -
Health Professions for Advocate Health

Josh Zavitz - Emergency Medicine

CEAL Team Updates



Introducing Kelley Sava: CEAL's Visionary New Leader

Kelley Sava, MS, APN, CPNP-PC, was named the Associate Vice President for Simulation at Advocate Health in January 2024. Prior to this role, Kelley served as the Director of System Simulation for Advocate Health, Midwest Region (AHMR), where she successfully created and implemented an integrated, patient safety-focused simulation program. During her tenure, 12 simulation centers were opened, and a robust in situ program was developed to serve team members and physicians across the organization.



In 2020, Kelley assumed leadership of the Resuscitation Quality Improvement (RQI) Program for life support training within AHMR. Under her guidance, the RQI program expanded to support nearly 30,000 teammates requiring BLS, ACLS, and PALS certification. In her new role, Kelley will continue to oversee the Life Support Training program in the Midwest Region while driving simulation innovation across Advocate Health.

Kelley earned her bachelor's degree in nursing from Rockford University and her master's degree in nursing from the University of Illinois Chicago. She lives in the Chicago suburbs with her husband and three daughters.

We are thrilled to welcome Kelley to her new role and look forward to her continued contributions to excellence in simulation and patient safety. Welcome to the team, Kelley!



Celebrating the Remarkable Career of Troyanne McMillan, RN, CHSOS, CHSE

As 2024 came to an end, we said farewell to a cherished member of our team, Troyanne McMillan, who retired after many years of dedicated service.

Troyanne's journey with us began in May 2017 when she took on a temporary role to cover the Whole Body Donation Program. Her adaptability and dedication quickly became evident, leading her to various roles, which led to the position of Simulation Lab Coordinator for CEAL. Since August 2021, she has served as Nurse Simulation Educator, a role in which she has truly shined.



As a registered nurse, Troyanne brought a wealth of experience from her work in ICU, ophthalmology, surgery, and hospice care. She has supported our academic and clinical enterprises with her expertise in operating a variety of simulation technologies, ranging from anatomic models and task trainers to full-body patient simulators.

Troyanne's commitment to excellence is highlighted by her achievement as the first person at Wake Forest University School of Medicine to earn both Certified Healthcare Simulation Operations Specialist (CHSOS) and Certified Healthcare Simulation Educator (CHSE) designations from the Society for Simulation in Healthcare (SSH). She has also been an instrumental simulationist for the American Heart Failure Advanced Life Support (AHFALS) course and a key facilitator for the American College of Obstetricians and Gynecologists (ACOG) Emergencies in Clinical Obstetrics (ECO) course, training over 850 multidisciplinary learners.



Beyond her professional accomplishments, Troyanne is known for her kindness, hard work, and dependability. Her positive attitude and genuine care for her colleagues have made her an invaluable part of our team. Whether she was lending a listening ear, offering encouragement, or sharing her knowledge, Troyanne's presence has made a lasting impact on all of us.



The birthing simulation was so incredibly cool. Troy did an EXCELLENT job explaining common obstetrics emergencies.

Summer Immersion Participant

Celebrating Troyanne McMillan - Continued

Her retirement is well-earned, and while we miss her presence with us daily, we are excited for her as she looks forward to spending more time with her family and pursuing her personal passions.

Troyanne, thank you for your years of service, your dedication, and your friendship. Your legacy will continue to inspire us long after you leave. Congratulations on your retirement!



Recognizing Growth and New Talent: 2024 CEAL Promotions and New Hire

Departmental Promotions

We are delighted to announce the well-deserved promotions of two outstanding team members in 2024:

Tonya Mock was promoted from Program Coordinator II to Project Manager I in February. This promotion recognizes Tonya's exceptional leadership and success in managing several Standardized Patient (SP) projects, as well as her ability to oversee a growing community of over 90 individuals. Tonya has continuously demonstrated her dedication to supporting high-quality learning experiences, and we are excited to celebrate her achievements.



Heather Chansen was promoted from Program Coordinator I to Program Coordinator II, effective October, reflecting a well-earned recognition of her growing responsibilities in the Whole Body Donation Program. Heather has demonstrated extraordinary coordination and management skills in ensuring the steady availability of tissue, and her ability to meet the ever-evolving needs of the program has been essential to its success. We are proud to acknowledge Heather's hard work and dedication.



New Hire

With the retirement of Troyanne McMillan in December, **Thomas Woodham** was hired as Simulation Laboratory Coordinator, effective November 18th. Tom joins us from the Pediatric Emergency Department at Atrium Health Levine Children's in Charlotte, where he developed a strong foundation in healthcare operations.

Before his work in the pediatric emergency department, Tom built an impressive career as a Firefighter, Paramedic, and EMT Technician. His experience in emergency medical

services has honed his skills in critical thinking, quick decision-making, and high-pressure situations – skills that have seamlessly translated into his new role with CEAL.

We are thrilled to have Tom's wealth of expertise and unique perspective on the team!



Team Day at the Speedway



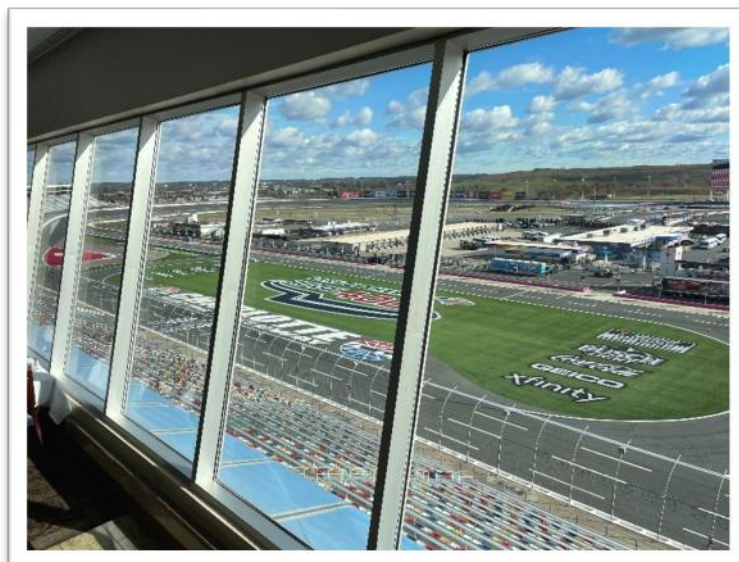
The CEAL and CSC teams came together for an exciting day at Lowe's Motor Speedway in Charlotte in late November, enjoying a "Feel the Thrill Speedway Tour." Guided by knowledgeable hosts, the teams explored the history of the Speedway, visited the NASCAR Cup Series garage, and toured the various tracks on the property, including two infield racetracks.

A stop at the Winner's Circle provided a perfect photo opportunity before the group headed to the Speedway Club for a lunch. Running laps around the superspeedway and experiencing the full-tilt force of the 24-degree banking was an undeniable highlight.

Atrium Health plays a critical role in supporting the Speedway's events, operating a full-service medical facility in the infield. On race days, a team of 7-10 doctors are on-site, ensuring the safety of drivers and attendees, responding to emergencies, and providing immediate care as needed.



Team Day at the Speedway - Continued



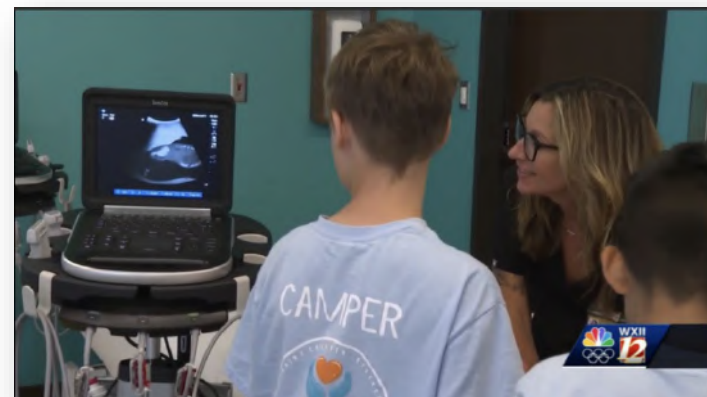
Atrium Health Wake Forest Partners with Imprints Cares for Kids to Get Hands-on Knowledge in Anesthesiology

Joshua Davis, Multimedia Journalist, WXII – There's nothing quite like hands-on learning to inspire kids to pursue something. Atrium Health Wake Forest Baptist has given almost 200 kids a look into the day-to-day life of an anesthesiologist.

For the last three summers, the medical system has partnered with Imprints Cares to introduce kindergarten through sixth graders to the critical role anesthesiologists play in modern medicine, from clinics to the intensive care unit.

From anatomy to how to perform CPR, students are getting hands-on knowledge that they can use inside and outside careers in health care.

Dr. Heather Columbano said the doctors, nurses, and medical students leading the lessons are happy to give back and have a passion for medicine ignited in many of the students they've had.



Columbano is an assistant professor in the Department of Anesthesiology and Pain Medicine.

"It kind of brings us back to that point, when we started to dream about what we wanted to be when we grew up," she said.

Hospital leaders and educators said it's fulfilling to be a part of mentoring future generations of doctors.

“

I wanted to send a quick note of gratitude to all of you who volunteered your time to help make this year's Imprints Cares event a big success! Over 40 K-6th grade students attended our event, introducing young minds to medical careers and, hopefully, encouraging them to pursue a career in the medical field. The event would not have been as dynamic without every one of you! Thank you for donating your time and effort.

Martina Downard, MD, Clinical Associate Professor, Anesthesiology

CEAL Team Abstracts/Publications

Abstracts

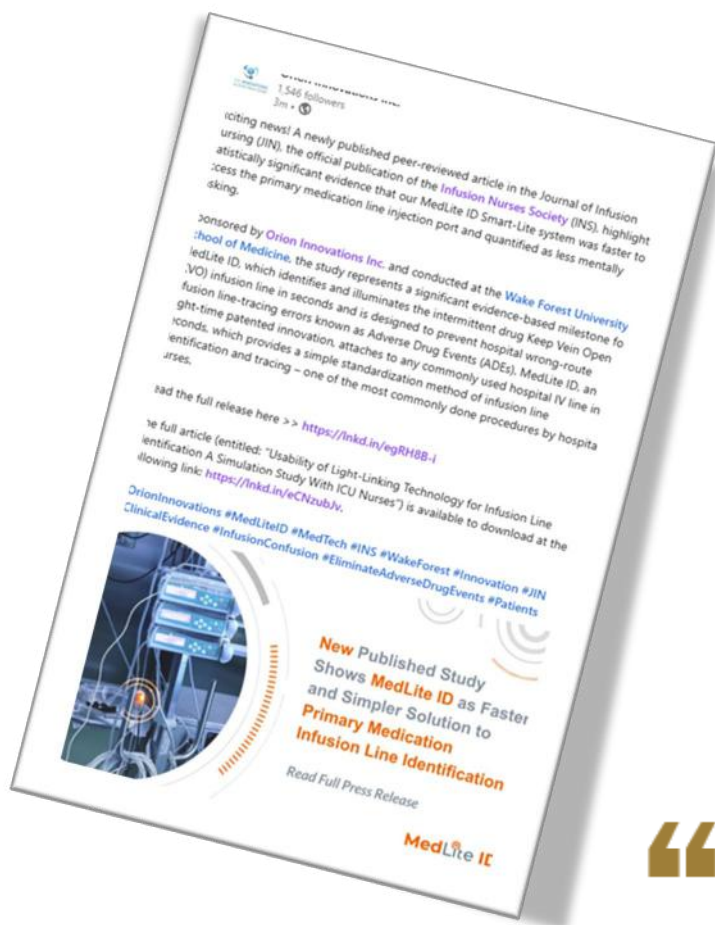
Huffman C, Butcher W, Gonzales C, Hampton K, Munn L, **Saunders I, Williams V, McMillan T, Ferris J**, Russell G. Using Simulation to Compare Standard Labeling Practice and MedLite Device in the Administration of Intravenous Pharmacological Agent. International Meeting on Simulation in Healthcare (IMSH). Oral Presentation. January 2024.

Publications

Sarwal, A., Morris, N., Crumpler, J., Gordon, T., **Saunders, I., Johnson, J.**, Carter, J. (2024) Pragmatic Approach to In Situ Simulation to Identify Latest Safety Threats Before Moving to Newly Built ICU. Society of Critical Care Medicine and Wolters Kluwer Health, Inc. <https://ccmjjournal.org>. Volume 52(7):e351-e364, July 2024.

Oscherwitz, M., Kelly, C., **Francis, B., Glass, C.**, Edminister, J., Feldman, S., Strowd, L. Outcomes in an educational skin-model session on point-of-care ultrasound for diagnosing calciphylaxis. Skin Health and Disease Open Access. Research Letter. <https://doi.org/10.1002/ski2.467>. October 28, 2024.

Huffman, C., Butcher, W., Gonzales, C., Hampton, K., Munn, L., **Saunders, I.**, Russell, G. Usability of Light-Linking Technology for Infusion Line Identification. A Simulation Study With ICU Nurses. Journal of Infusion Nursing 47(6):p 377-387, November/December 2024.



I absolutely loved every aspect of this experience! I learned so much and loved the instructors!

Summer Immersion Participant

Administration



CEAL Attends Administrative Professionals Conference

The CEAL Admin team attended the annual Administrative Professionals Conference at Legacy Stables and Events on April 25th, 2024. The theme of the conference this year was “Professionals Supporting Professionals,” and the purpose was to provide an opportunity for area administrative professionals to come together and learn from one another while also listening to inspiring guest speakers, Merikay Hunt, Peter Agiovlassitis, and retired NFL player, David Holloway. The day also included door prizes, vendors, great food, and goodie bags for all who attended.

The event was sponsored by Atrium Health Wake Forest Baptist, Forsyth Technical Community College, Novant Health, Wake Forest University, and Winston-Salem State University. Once again, event hosts partnered with the Second Harvest Food Bank of Northwest North Carolina by asking participants to bring non-perishable food items to support those in our community who are food insecure. Conference attendees donated over one thousand pounds of food.

The CEAL team enjoyed our time together at the conference and found the sessions to be incredibly insightful and inspiring. The theme of 'Professionals Supporting Professionals' resonated deeply with us, and we look forward to applying what we've learned to our work moving forward.

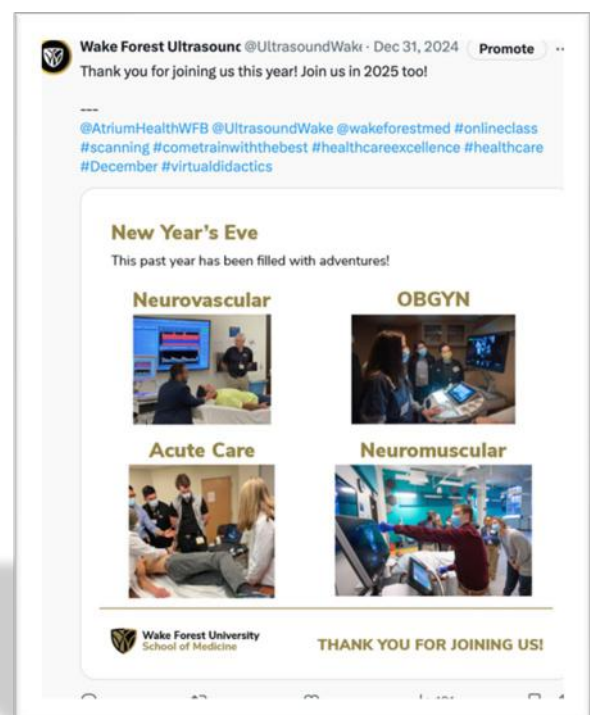


CEAL's Expanding Digital Footprint in Social Media and Communication

The Center for Experiential and Applied Learning (CEAL) continues to grow its presence across digital platforms, reflecting its mission to deliver firsthand, innovative learning experiences. CEAL's Graphic & Digital Designer, Eleonora Fallabrino, has embraced a strategic approach to connecting with diverse audiences, including students, faculty, and alumni, through targeted messaging and engaging content.

One of CEAL's significant achievements in 2024 was the growth of its Twitter presence. Thoughtful curation and engaging design resulted in posts that connected with the CEAL community, showcasing upcoming events, valuable resources, and inspiring stories of students engaged in experiential learning. Custom graphics, infographics, and audience-focused content helped CEAL grow its following and boost engagement, turning the platform into a dynamic hub for conversation and connection.

A focus on inclusivity and clarity ensured that CEAL's messaging reached and engaged all community members, from first-year students discovering our services for the first time to alumni looking to stay connected. By fostering these meaningful connections, CEAL has solidified its role as a leader in experiential education.

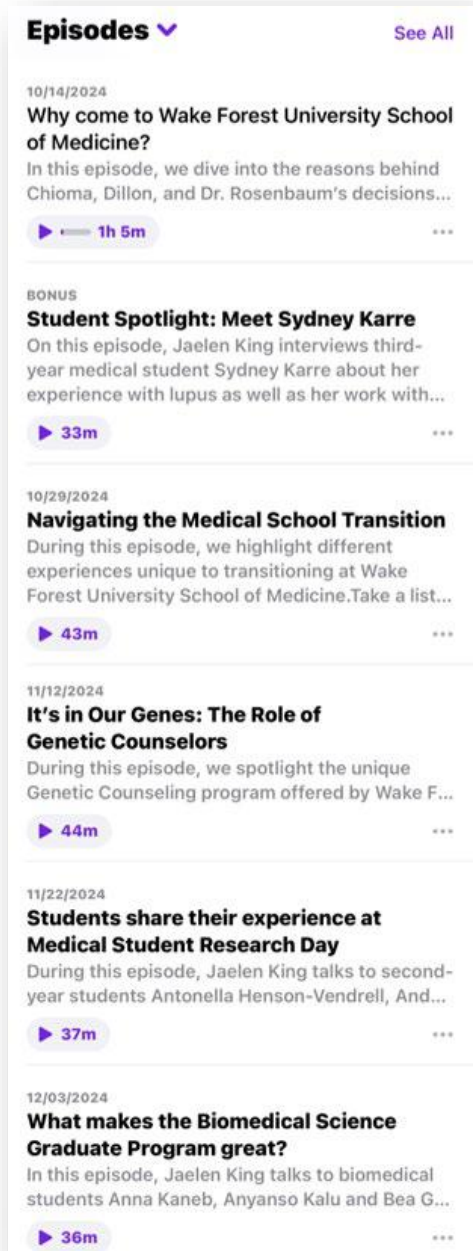


Showcasing Learning Through Media: CEAL's Creative Contributions

In 2024, CEAL elevated its ability to share the transformative learning experiences it provides through video production and podcasting. Eleonora Fallabrino, CEAL's Graphic & Digital Designer, produced high-quality video content capturing instructional moments, student testimonials, and events. These videos offer a window into CEAL's programs, serving as valuable tools for current and prospective students alike.

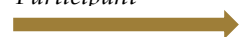
One of the year's standout achievements was the development of the Deacon Dialogues podcast. With episodes featuring faculty, students, and alumni, the podcast provided an in-depth look at experiential learning and professional development. This initiative extended CEAL's reach, offering insights into the medical field and fostering a sense of connection among the School of Medicine's broader community.

Whether producing videos or crafting engaging podcast episodes, consistent, professional aesthetic that reflects the School of Medicine's values was maintained. These creative efforts not only support CEAL's mission but also enhance its reputation as a hub of educational innovation.



Today was my favorite part of the week. I learned the most!

*Summer Immersion
Participant*



Seen on Social



Wake Forest University School of Medicine

2d · 🌐

We are proud to honor International Day of Women and Girls in Science. Thanks to our researchers, educators, students... See more



👍❤️ Wes-Renae Hutchens and 3 others



Jeff Hinshaw is with Wes-Renae Hutchens and Chris Davis.

2d · 🌐

Joint trauma-emergency medicine simulation this morning. Nice to see our hospital teams coming together to train on these low frequency/high stakes events. Good questions and interactions from the teams.

North Carolina Athletic Trainers Association



👍❤️ 135

9 comments

👍 Like 💬 Comment 🔗 Copy ➦ Share



WXII 12 NEWS

1d · ⚙️

From anatomy to how to perform CPR, students are getting hands-on knowledge that they can use inside and outside careers in health care.



wxii12.com

Atrium Health Wake Forest partners with Imprints Cares for kids to get hands-on kno...

👍❤️ 25

10 shares

👍 Like 💬 Comment 💬 Send ➦ Share

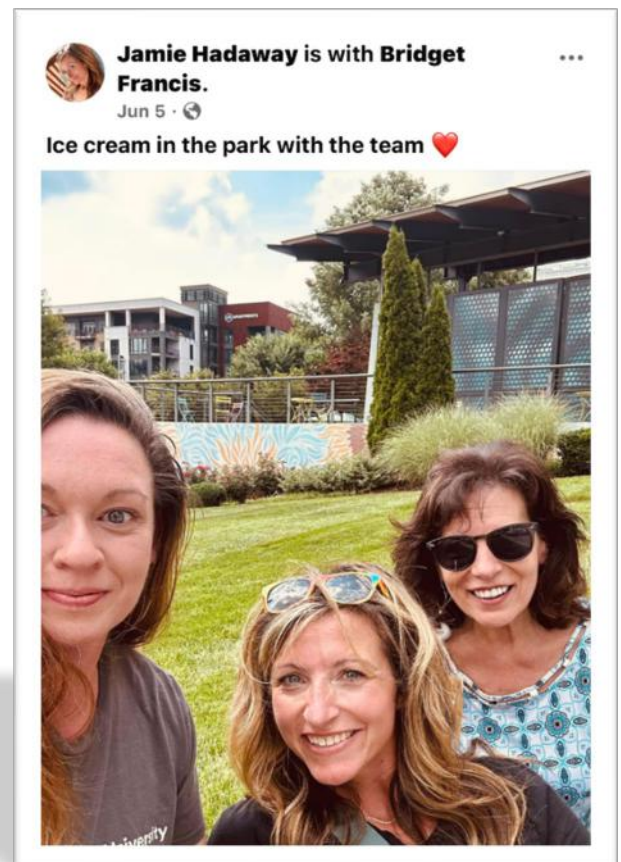
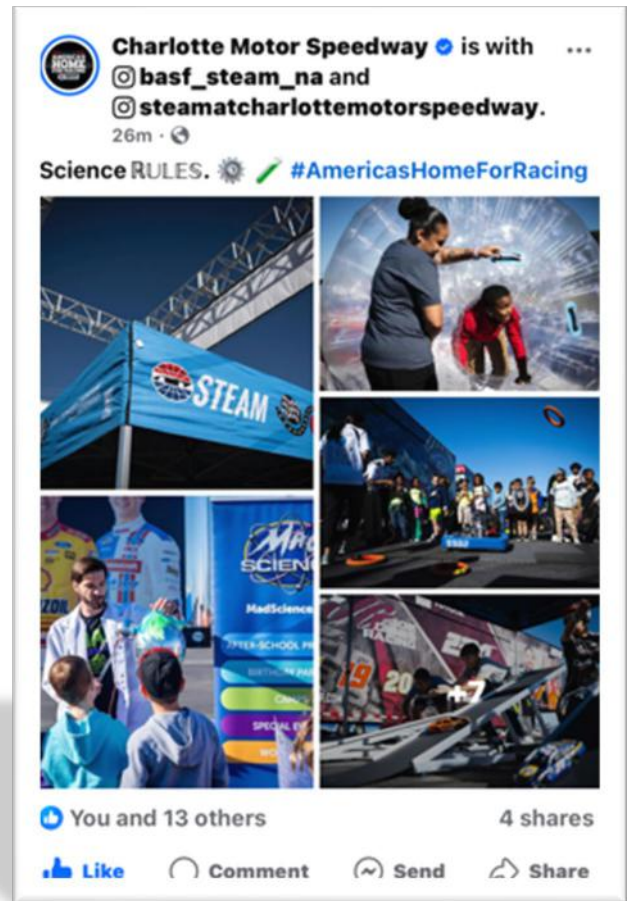


Thoroughly enjoyed sim to prepare and feel more comfortable with emergent scenarios

Simulation Event Participant



Seen on Social



“ All the facilitators were very excited and passionate, and I had a great time. Thank you so much!

Event Participant

Simulation



Reflections on Ian Saunders' Impactful Career in Simulation and Anesthesia Education

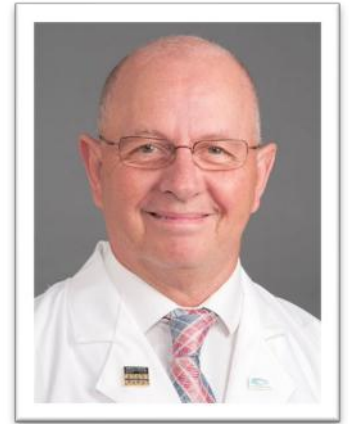
Justin R. Traunero, MD, FASA

The year is 2005, and a nervous third year medical student reports to the Patient Simulation Laboratory. He struggles to find this unknown place down on an unfamiliar nondescript white hallway next to the maze that is radiology, but he finally makes his way into the room. Inside, the student finds a manakin on an OR table in front of an anesthesia machine and a large pane of one-way glass. The medical student was nervous simply because of the unknown – he was told that he needed to report to the simulation lab with some fellow third year students to participate in a patient simulation as part of their one-week anesthesiology clerkship.

The student knew nothing about anesthesiology except that the field existed so that patients could be asleep for surgery. He had no idea what to expect. As a third-year medical student, he had already had numerous simulation sessions with standardized patients as part of his education in physical exam techniques, but this sounded like it was going to be different - some sort of “high fidelity” patient simulation related to anesthesiology. Whatever *that* meant....

The third-year medical student in this scenario was me. I vividly remember this first day of participating in high fidelity simulation related to the field of anesthesiology. At this point in time, my nervous younger self who was starting my first day of my third-year rotation in anesthesiology had no idea what medicine specialty I was going to pursue for my career. I did not yet know that I was going to fall in love with the field of anesthesiology. I also didn't know that one of the reasons I was going to fall in love with anesthesiology was because of the simulations that I was about to experience and because of the person I was about to meet: Ian Saunders.

It wasn't until several years later that I learned that Ian wasn't **JUST** the guy who ran our sim labs. Ian is one of the few people in the country who were at the forefront of the development of high-fidelity simulation as we currently know it. He, alongside with Dr. Mike Olympio, created and ran our Patient Simulation Laboratory - one of the early pioneering simulation labs of its kind. Ian has been at Wake Forest since November 1991. Over the 30+ years since, the mission and reach of our patient simulation programs have grown exponentially under his leadership. Ian has also positively influenced the lives of countless medical students, anesthesiology resident physicians, resident physicians in other disciplines, nurses, nurse anesthetists, student nurse anesthetists, faculty, practicing physicians in private practice, and pre-college and allied health students.



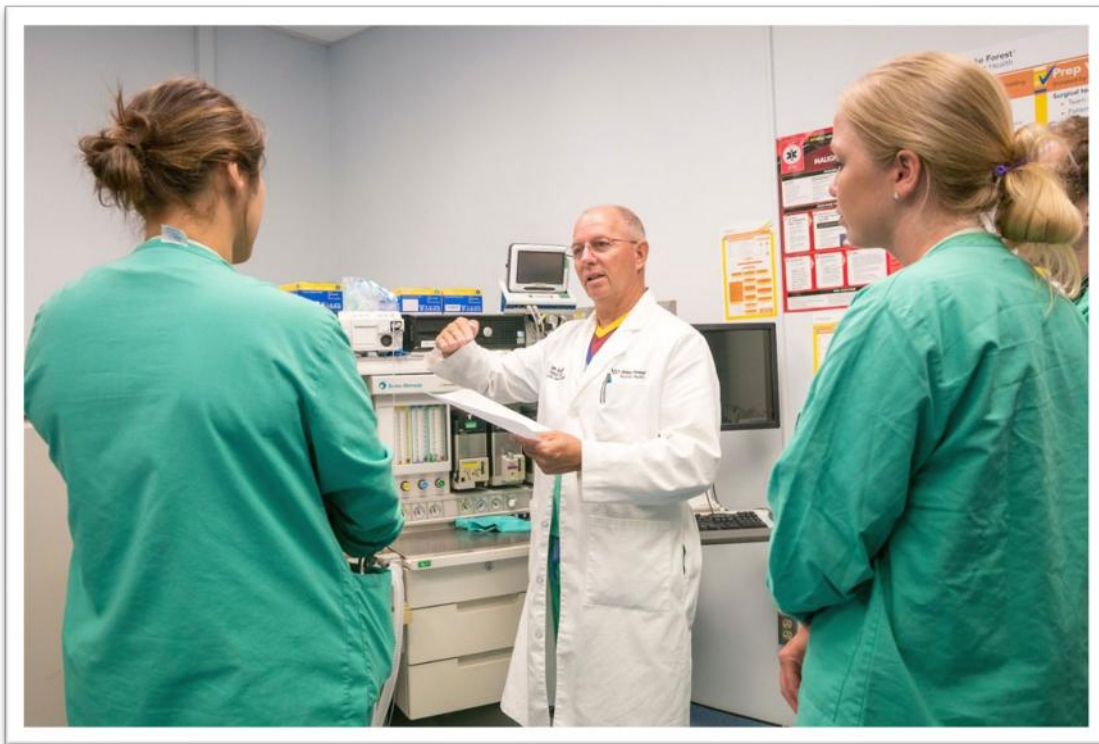
Reflections on Ian Saunders' Impactful Career - Continued



Although Ian's contributions over the past thirty-plus years extend far beyond his work with the anesthesiology department, I would like to take a moment to highlight the significant connection he has built with anesthesiology and the impact he has made. While Ian is not an anesthesiologist or even a physician, he possesses an immense wealth of knowledge of everything related to anesthesiology. For decades, our department has both trusted, and depended on, Ian to not only teach our rotating medical students about anesthesiology, but also our resident physicians. His depth of understanding and expertise in our field reaches far beyond what anyone in his position would be expected to possess. His years of experience and excitement for teaching the nuances of the choreography of the induction of anesthesia, anesthesia room setup, the ins and outs of the anesthesia machine and ventilators, patient monitoring systems, intubation techniques and tools, and ACLS have positively influenced generations of medical students to consider anesthesiology as a career. And this same expertise and passion has been instrumental in providing generations of Wake Forest-trained board-certified anesthesiologists the foundational knowledge and skills that they literally utilize every single day and with every patient for whom they care. Additionally, attending national simulation-based meetings with Ian is always a fun adventure. His long career and extensive experience, dating back to the early days of high-fidelity medical simulation, have made him a well-known figure—he seems to know everyone, and everyone knows him.

Reflections on Ian Saunders' Impactful Career - Continued

I know that the personal impact that Ian has had on me and my career is immense. Since those anxious first days in simulation as a third year medical student, he has taught me how to properly resuscitate patients as a 4th year medical student, he taught me much of my formative skills as an early anesthesiology resident, he took me under his wing during my fellowship and as a brand new attending when I started getting involved in MOCA Part IV simulation, he taught me how to design and debrief simulation scenarios, he has worked with me to run the Crisis Resource Management (CRM) program, he was always willing to help me out with simulation-related needs during my time as residency program director, and he has introduced me to numerous other well-known individuals in simulation at national meetings. Most importantly, he has been a wonderful colleague and friend. Ian has been a constant positive presence in my career.



Ian's upcoming retirement is extremely well-deserved after a career of hard work and dedication to this institution. In many ways, he is irreplaceable. However, over the course of Ian's career here at Wake, he has built an incredible legacy in simulation that will live on and continue to grow and serve our learners and institution. I am incredibly grateful for everything that Ian has worked so hard to achieve in simulation, and I am especially thankful for everything he has done for me over the past 20 years. I will be sad that Ian will no longer be part of my days here at Wake, but I am excited for him as he embarks on his next adventure in retirement!

Enhancing Surgical Education: CEAL's Role in Transformative Surgical Training Programs at Atrium Health Wake Forest Baptist

Since 2018 Surgical Services and CEAL have collaborated on the development of a comprehensive simulation curriculum. The required clinical competency of surgical trainees continues to expand, and clinical education has evolved to utilize simulation in the education of surgical residents. The CEAL simulation team has played an integral role in supporting the surgical simulation curriculum.

The Joint Trauma Simulation Training curriculum is a multi-disciplinary collaborative training program held by Dr. Martin Avery, Dr. Cedric Lefebvre, and Dr. Chris Davis every other month for both surgical and emergency medicine trainees. Complex trauma scenarios, based on real life events, are used to train nurses and house staff to perform trauma assessments and procedures in real time. The scenarios utilize live actors, mannequins, as well as cadavers for these scenarios and the participants train high yield scenarios with immediate opportunities for feedback and areas for improvement. The curriculum continues to expand and is an essential part of the surgical training program.



Trauma Sim: Sports Injury

With the success of the trauma simulations, Dr Martin Avery and the CEAL team have expanded the simulation curriculum to the ICU. With the help of Wendy Butcher, BSN and Samantha Marshal, BSN, the surgical ICU began a bi-monthly critical care simulation curriculum for PGY1-2 surgical residents and nursing staff. The CEAL team continues to support these efforts, and we have collaborated with the School of the Arts utilizing live actors and make up to add fidelity to the scenarios.



I absolutely loved the team here and the amazing energy that they brought! They made my day!

Event Participant

Enhancing Surgical Education: CEAL's Role in Transformative Surgical Training Programs - Continued

In addition to the simulation training events, the CEAL team supports the technical skills training of the surgical services with surgical equipment labs and operative skills labs. Dr. Martin Avery and Dr. James Johnson utilize the first month of the academic year devoted to the Science of Series for the PGY 1-2 surgical residents and Surgical skills Cadaver labs for the PGY 3-5 residents. The goal of the Science of Series is to familiarize junior residents with the tools and equipment they will use in the operating room before they begin working there. Their curriculum includes surgical energy, staplers, wound closure, and hemostatic agents. Each year, numerous reports highlight the value of introducing these tools to house staff, who quickly apply the skills and techniques they have learned to patient care.



*School of the Arts:
Simulated Surgical Incision*



This [vascular exposure lab] is the best thing we do in resident basic sciences.

Resident, General Surgery



Got very good feedback on handling difficult conversations. Learned multiple things about stroke and seizure care that will be more memorable because I forgot them in simulation.

PGY1 Resident, Neurology



CEAL and CSC Simulation Teams Engage Students at Lowes Motor Speedway STEAM Expo

In October, the Simulation teams from CEAL and CSC showcased their cutting-edge expertise during an exciting, hands-on STEAM (Science, Technology, Engineering, Art, and Mathematics) event at Charlotte Motor Speedway. Organized in collaboration with the North Carolina Motorsports Association, the event provided over 2,000 middle school students with an unforgettable experience where education meets excitement.

This unique event brought the principles of science and engineering to life as students explored topics such as force, motion, and energy while navigating interactive stations. The CEAL and CSC teams offered live demonstrations in medical simulation, including airway management, fundamentals of laparoscopic surgery, and an introduction to our high-fidelity adult and newborn mannikins, sparking curiosity about careers in the healthcare field.

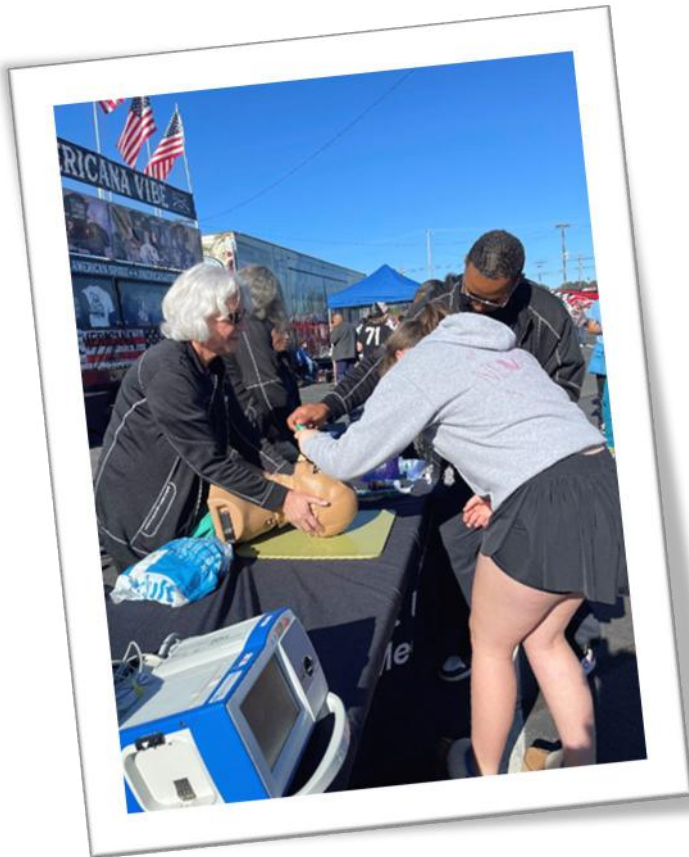
Students were able to step into Lug Nut's Laboratory and participate in an interactive scavenger hunt designed to combine fun with STEAM learning, reinforcing core principles in a memorable way. Alongside race car drivers and cutting-edge racing simulators, the event gave students the chance to immerse themselves in pit stop challenges and hands-on activities, making abstract scientific principles tangible and engaging.

With over 65 STEAM vendors participating, the event underscored the critical importance of exposing young minds to diverse career paths early on. "Events like these not only show the connection between racing and STEAM disciplines but also ignite a passion for learning that could inspire the next generation of engineers, doctors, and innovators," said Vernon Williams, CEAL Experiential Learning Supervisor.

The CEAL and CSC teams left the event inspired, looking forward to continuing their efforts in sparking curiosity and passion for STEAM careers among students throughout North Carolina.



Lowes Motor Speedway STEAM Expo - Continued



Critical Care Transport Shares Appreciation for Troyanne McMillan's Impact on OB Education

For years, Troyanne McMillan, RN, CHSOS, CHSE, has been at the forefront of training EMTs, RNs, and other transport professionals in managing critical obstetric emergencies. Her expert instruction has empowered teams on the ground and in the air to manage high-stakes situations with skill and confidence.

Known for her engaging and supportive teaching style, Troyanne's classes have been some of the most valued learning experiences in the program. Through realistic simulations and personalized guidance, she has ensured that her students are prepared for the complexities of their roles. Below, some of her former students share their reflections on her impact:



"Troy was great! Very knowledgeable and fun to work with!"


"This is one of the best courses offered. Well designed and executed."

"Troy went above and beyond to ensure everyone understood the course information."

"Loved the simulation and is very key to staying calm and learning how to correctly troubleshoot problems before an emergency."

"Troy did an amazing job teaching this class and keeping it educational but fun and easy to follow along."

"By far the best course we are required to regularly take. The instructors and sim lab technicians are amazing and make this class stress free, fun, and very informative. All staff has been great and helpful."



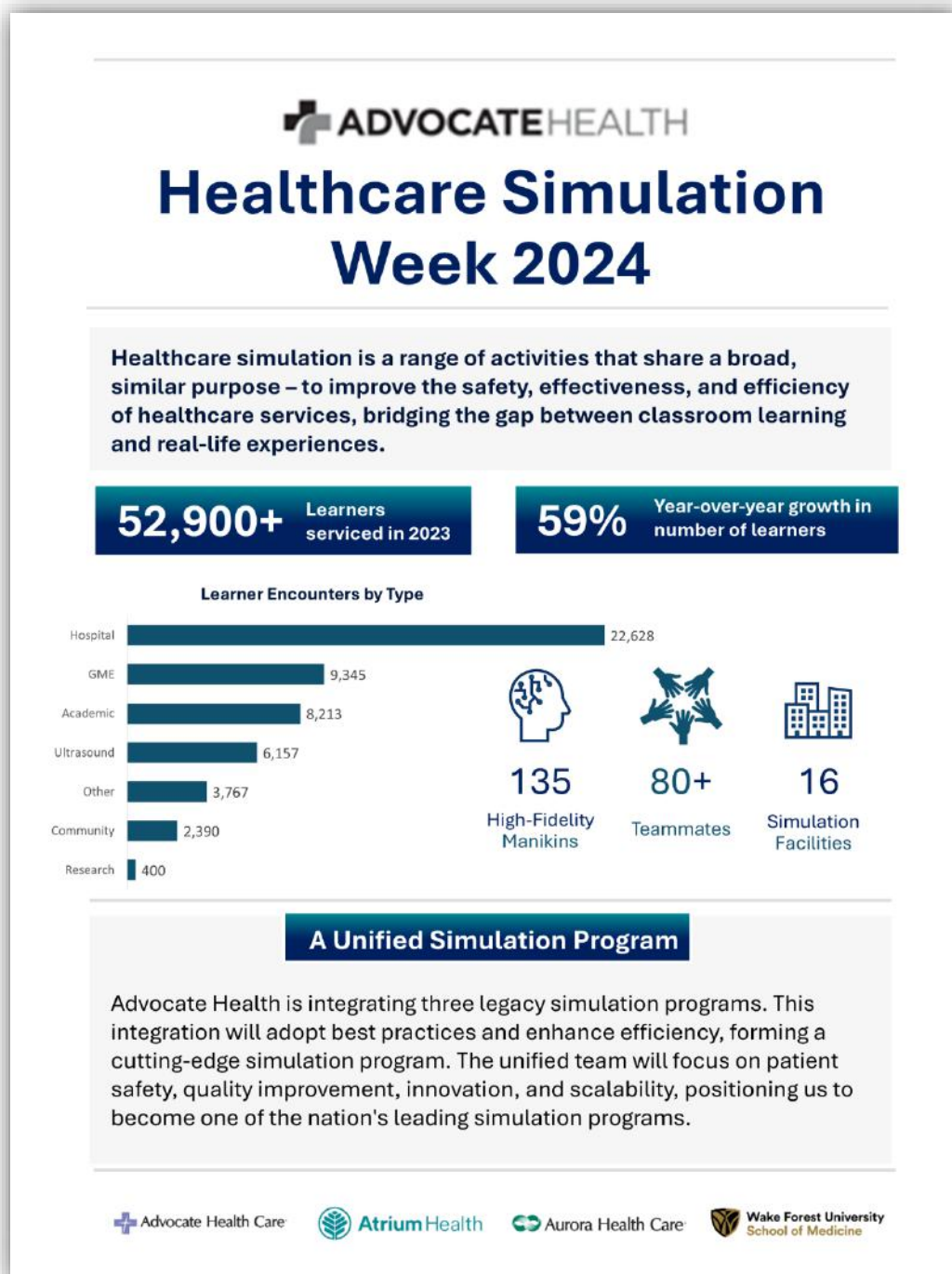
Troyanne's legacy in obstetric emergency education will resonate in the skills, confidence, and calm her students bring to their roles. As she moves into retirement, her colleagues and students alike extend their deepest gratitude for her dedication, professionalism, and kindness. Her impact on patient care and team readiness will be felt for years to come.



Enterprise Simulation Celebrates SIM Week

Healthcare Simulation Week, September 16–20, 2024, is a time to recognize simulation’s role in advancing patient care, sharpening clinical skills, and creating a safer healthcare environment.

This year, the Enterprise Simulation team collaborated to create a quick reference guide for stakeholders, highlighting the value of simulation in healthcare and their collective impact on learners. Throughout the week, teammates from the Midwest and Southeast regions connected on Microsoft Teams to exchange ideas, share best practices, and celebrate each other’s contributions through daily discussions on various topics.



Spotlight on Jeff Hinshaw, PA-C

We are delighted to highlight the remarkable contributions of Jeff Hinshaw, senior Physician Assistant (PA) in the emergency department, and a pivotal member of the Atrium Health team at both Winston-Salem and Wilkes campuses. With 30 years of experience, Jeff has become a cornerstone of our institution, demonstrating unwavering dedication and exceptional expertise.



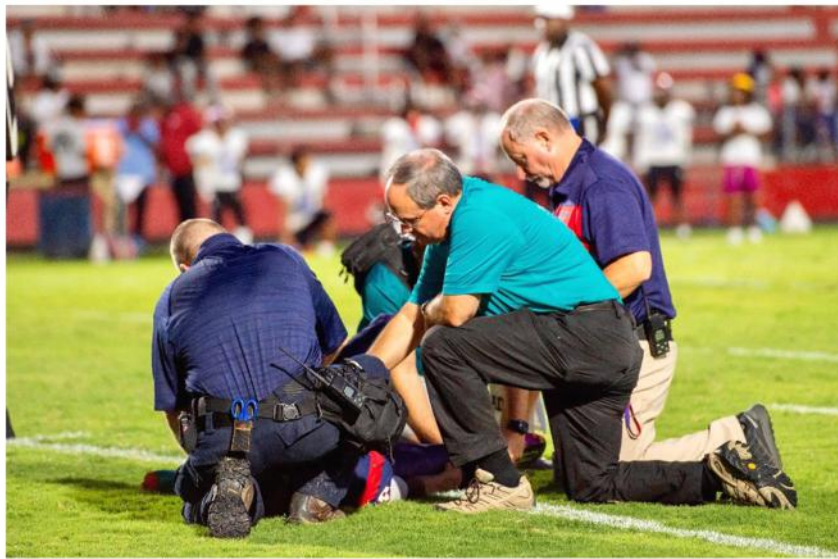
Professional Accomplishments

As the PA student clerkship director, Hinshaw has received numerous teaching awards, a testament to his commitment to education and mentorship. He also serves on the institution's Advanced Practice Providers (APP) Leadership Council and various APP-related committees. His role extends beyond the emergency department, branching out into several significant extramural duties.

Since 2007, Hinshaw has been part of the medical staff for Wake Forest Athletics, serving as the emergency care liaison. He is the education program coordinator for the EMS Division of the NC State Highway Patrol, where he coordinates medical training for hundreds of troopers and other state law enforcement agencies, including SBI, ALE, Wildlife, and Marine Patrol. Additionally, Hinshaw participates in the EMS Fellowship and Wilderness Medicine Fellowship within our academic department and serves as the assistant medical director for Wilkes County EMS, where he has helped establish one of the state's first prehospital whole blood administration programs. Recently, he was reappointed to a role with Forsyth County EMS for special events and technical rescue operations.

Passion Projects

Sports medicine and prehospital technical rescue and medical care are Hinshaw's two primary passions. He developed an educational video through the Childress Institute for Pediatric Trauma, "Player Down," which addresses the management of spine-injured athletes. This video has gained national and international recognition, being utilized in EMS and athletic training programs worldwide. His efforts in updating and creating treatment plans and



policies for integrating athletic training and EMS professions have earned him the "Presidential Service Award" from the state athletic trainer's association.

Spotlight on Jeff Hinshaw, PA-C - Continued



CEAL Events and Community Engagement

Hinshaw's involvement with CEAL events is extensive and invaluable. He has been instrumental in our EM resident procedure labs and plays a crucial role in the law enforcement labs, particularly in training with the NCSHP medical unit EMTs and Paramedics. His contributions also extend to local EMS agencies and community college paramedic programs, the summer immersion program, and joint trauma simulations between EM and trauma teams.

Our Appreciation

We deeply appreciate Jeff's partnership and involvement with various CEAL events. His dedication, expertise, and passion make him an invaluable extended member of our team, and we are grateful for his continued contributions to CEAL, our community, and beyond.



These simulations were both fun and a blast to do. There were highly informative, and we all had the opportunity to apply the demonstrated material ourselves and have a go. All of the instructors were terrific.

Summer Immersion Participant



Building the Future: Preparing for CEAL's New Surgical Training Center

As 2024 came to a close, the simulation team worked diligently to clear out the mock OR, debrief room, classrooms, and skills labs in preparation for the upcoming move to new spaces in the Care Tower, currently under construction.

This cleanup was a true all-hands-on-deck effort, with the team purging and donating supplies to other departments in need. By the end of 2024, all CEAL spaces in the Janeway Tower had been completely vacated.

The new CEAL Surgical Center is expected to open in July 2025. This state-of-the-art facility will integrate cutting-edge technology, modern design, and expanded space to create an enriched training environment. In the interim, all surgical training events at the medical center are being relocated to the Patient Simulation Lab (PSL), now equipped with upgraded technology. This transition presented a logistical challenge, requiring updates to scheduling for all ongoing events and coordination to meet the needs of multiple stakeholders, all while maintaining the PSL's regular activities.



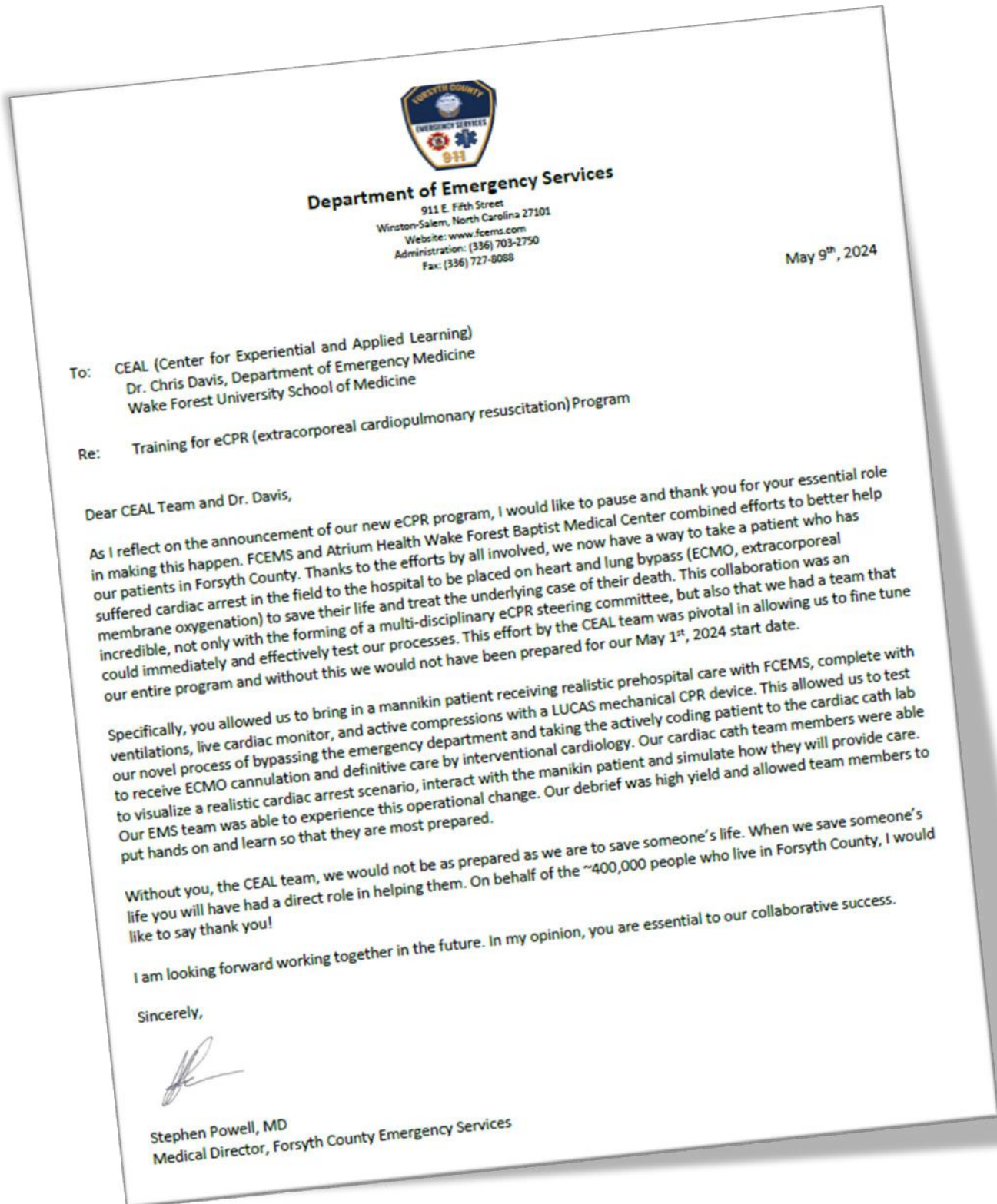
Ian Saunders, Experiential Learning Manager, and Vernon Williams, Experiential Learning Supervisor, played key roles on the planning committee, collaborating closely with facilities planning and the Care Tower project team to ensure the new space meets CEAL's specific needs. Their efforts focused on the seamless integration of advanced equipment and flexible training spaces to support diverse educational needs.

When the new CEAL Surgical Training Center opens, it will set a new standard for experiential learning, combining innovative tools and thoughtfully designed spaces to elevate the training experience.

“Amazing instructor especially for explaining to beginners.
I learned about how deep chest compression need to be.

Summer Immersion Participant

Department of Emergency Service Shows Appreciation for Training Event



Your commitment to quality education impacts the skills of these state public safety professionals and the care they provide to their coworkers and the citizens they serve.

*Jeff Hinshaw, MS, PA-C, Senior Physician
Assistant, Emergency Medicine*

Standardized Patients



2024 Standardized Patient Year-in-Review

2024 was an exceptional year for the Standardized Patient (SP) program, filled with achievements and collaborations that highlight the dedication and growth of our team.

Collaborations and New Opportunities

This year, we partnered with the UME team, led by Richard O'Neal, to enhance proctoring opportunities for SPs during testing events for first- through third-year medical students. SPs interested in proctoring underwent mandatory training with Kim McDonough to ensure compliance with UME regulations.

Additionally, we expanded our collaboration with the PA Program in Winston-Salem to include the Boone Campus. As part of this initiative, all Boone-based SPs will participate in virtual training covering policies, procedures, and the Humanity scheduling system.

SP Appreciation and Recognition

In recognition of our SPs' hard work and dedication, we launched an SP Appreciation initiative, providing each SP with a \$25 gift. This effort, supported by the CEAL department, was a small token of our gratitude for their invaluable contributions.

SP Onboarding and Demographics

This year, we welcomed 16 new SPs—6 females and 10 males—spanning a wide range of ages. These additions bring the total number of SPs in the Winston-Salem region to 90. Many of our Advanced Track SPs are mentoring new recruits, ensuring a strong foundation for future events.



2024 Standardized Patient - Continued

Total Hours Worked

Collectively, our SPs contributed an impressive 9,281 hours to support our stakeholders in 2024 — a testament to their dedication and hard work.

Annual SP Training Event

Our annual SP training event, held in November, featured a compelling presentation by Andrew Roblyer of Houston, TX, titled "Portraying Lived Experience of Marginalized Populations."

Andrew, who transitioned from a theater background to SP and simulation education in 2012, brought a wealth of knowledge to the session. Attended by 46 SPs, the event received enthusiastic feedback and was recorded to support future training efforts. Special thanks to Tim Peters and Richard O'Neal for suggesting and securing this impactful speaker.



3rd Annual SP Christmas Party

The 3rd Annual SP Christmas Party was a delightful way to close out the year, featuring festive snacks, a Dirty Santa gift exchange, and warm camaraderie. This beloved tradition continues to grow, and we eagerly anticipate next year's celebration!

Looking Ahead

Thank you to everyone for your unwavering support and collaboration throughout 2024. Your commitment has made this year remarkable, and we look forward to an exciting and successful 2025!



Ultrasound



Dermatology Holds Inaugural Resident Ultrasound Training Workshop

Dr. Lindsay Strowd, with the assistance of Drs. Chris Kelly and Casey Glass, conducted a dermatology ultrasound training workshop for twelve dermatology residents. The aim of this training was to introduce point-of-care ultrasound (POCUS) to the dermatology specialty, particularly for use in the inpatient setting on patients with dermatologic issues.

Drs. Chris Kelly, Casey Glass, and Lindsay Strowd developed a calciphylaxis training model over the past two years and now have a successful prototype. Drs. Kelly and Glass were instrumental in helping Dr. Strowd bring this collaborative training session to fruition, along with CEAL sonographer, Bridget Francis.



Dr. Strowd highlighted the significance of this workshop, noting that it is likely the first of its kind in the country for dermatology. She mentioned that one of the student researchers would be presenting the workshop at the upcoming national conference. Dr. Strowd expressed hope that this initiative would pave the way for incorporating ultrasound into dermatology practice, leading to numerous opportunities for further research and collaboration.



Thank you to our leaders for having such awesome faculty and resources for us to partner with.

Lindsay Strowd, MD

Bringing Ultrasound Education to Rome: CEAL's Partnership with Atrium Health Floyd

In April 2024, CEAL Ultrasound had the privilege of visiting Atrium Health Floyd in Rome, Georgia, for the first time with Dr. Kinchit Shah, an Internal Medicine Hospitalist at Atrium Health Wake Forest Baptist, who had been coordinating an ultrasound training session at Atrium Health Floyd. Dr. Shah requested the presence of a CEAL sonographer to assist him in response to a request from Dr. Dan Valancius, Medical Director Hospitalist at Atrium Health Floyd, who sought a comprehensive curriculum for the internal medicine residents in point-of-care ultrasound.

In response, Dr. Kinchit Shah, and Jamie Hadaway, RDMS, RVT, traveled to Rome, equipped with training materials and ultrasound devices, to deliver a hands-on evening workshop to launch the ultrasound initiative. The hospitalists appreciated the small group scanning sessions with Dr. Shah and Jamie, and CEAL will continue to support the development of their ultrasound program for the residency training.



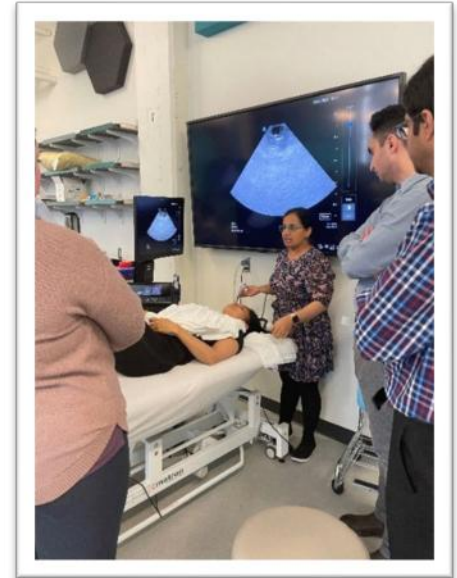
I am blown away with the beautiful campus and kind instructors. The Wake Forest medical students did a great job showing their skills and what they have learned so far. Jamie also did a great job at including the kids and had a great personality.

Summer Immersion Participant

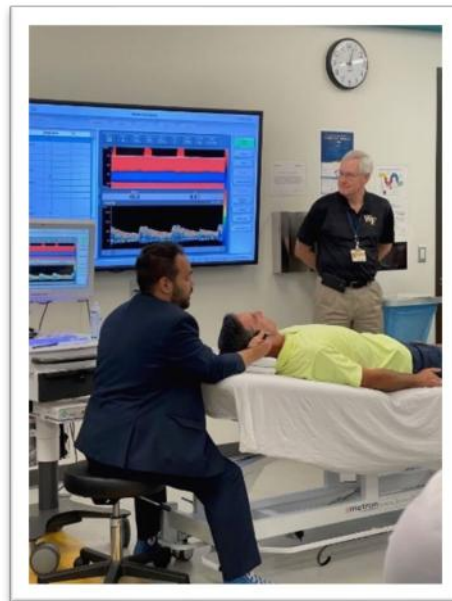


Neuro Ultrasound Courses Draw Record Numbers with Diverse Participation

The CEAL CME courses, including Neurovascular Ultrasound, Neuromuscular Ultrasound, and Neurovascular Ultrasound Interpretation, saw record participation in the 2023/2024 academic year. Participants hailed from 40+ U.S. states, 3 Canadian provinces, as well as multiple physicians from England, India, Poland, Saudi Arabia, Singapore, Switzerland, and Thailand. Attendance for several courses exceeded 60 participants.



These courses continue to be in high demand, thanks to the positive word-of-mouth from past attendees. The comprehensive curriculum, which includes both virtual sessions and hands-on scanning workshops, has proven particularly effective. Physicians appreciate the opportunity to gain practical experience alongside theoretical knowledge, contributing to the courses' growing popularity and diverse enrollment.



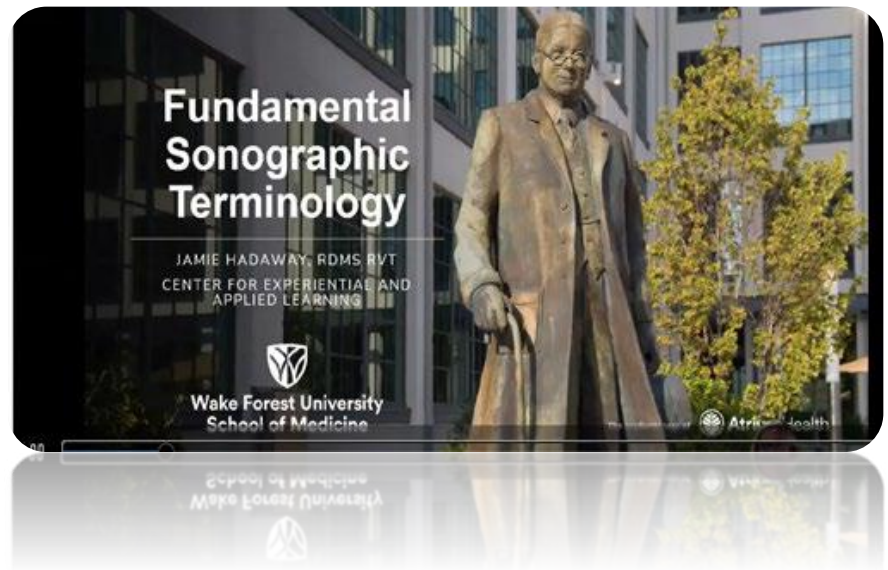
“ I am writing to express my gratitude for the ultrasound course. I have truly learned a lot and enjoyed it very much. Your passion and expertise are truly appreciated. Because of this course, I will be registering for the RPN exam and will implement the principles that were discussed and build up our lab here. I will also try to send my colleagues/fellows as well next year.

Nancy Gadallah, DO

CEAL Sonographers Lecture on Ultrasound

Each fall, Wake Forest University School of Medicine hosts its annual OB/GYN Ultrasound Course, welcoming medical professionals seeking specialized training in ultrasound pathology and scanning techniques. The week-long event combines a series of expert-led lectures with two days of hands-on ultrasound practice. Expectant mothers are recruited to provide participants with valuable opportunities to refine their sonographic skills in realistic clinical scenarios. CEAL sonographers Bridget Francis and Jamie Hadaway have been key contributors to this event, guiding participants during the scanning sessions each year.

This year, Bridget and Jamie expanded their roles by joining the course's panel of lecturers. Jamie presented on basic sonographic principles and common pitfalls, tailored to participants new to ultrasound. Her lecture simplified complex topics, including machine functions, physics calibrations, and user adjustments to enhance image quality.



Bridget's lecture focused on interpreting ultrasound images once acquired. She employed a live demonstration to illustrate the correlation between patient anatomy and ultrasound imaging. Her use of three-dimensional models to clarify ultrasound's two-dimensional views provided the audience with a deeper understanding and proved to be a highlight of the presentation.

The addition of Bridget and Jamie's lectures enriched the course, further showcasing CEAL's commitment to advancing ultrasound education and supporting medical professionals in delivering exceptional patient care.

What in the Contraption!!!

HEAR ME OUT

- Ilan E. Timor-Tritsch, M.D.
- Late 1970s
- Rambam Hospital
- Small Thin High Frequency Peds Probe
- Theorized inserting a probe into the vaginal canal would yield high-resolution images of female anatomy
- Attached 2 Wooden Tongue Depressors to the probe with Surgical Tape and inserted it into a surgical rubber glove.

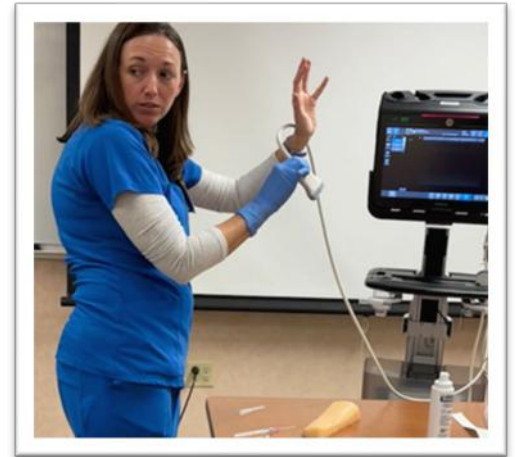


“ I greatly enjoyed this course and cannot say enough about how helpful the sonographers were. They all clearly loved what they did and had a passion for teaching.

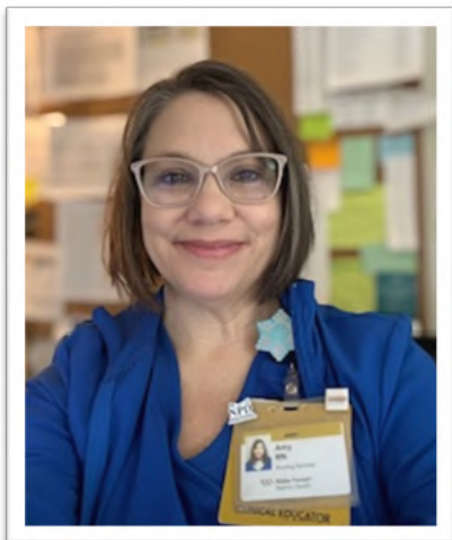
OB/GYN Ultrasound
Course Participant

Empowering Nurses with Ultrasound: CEAL's Nurse 2.0 Trainer Class

In late 2023, CEAL ultrasound specialists developed and launched the Nurse 2.0 trainer class, specifically designed to enhance nurses' expertise in ultrasound-guided intravenous (USGIV) placement. This pilot class marked an important milestone, with a focus on advanced machine functions, techniques for teaching other learners USGIV placement, and the associated educational workflow. The learning process, however, extended beyond the initial training session. Nurses who completed the pilot class were expected to observe and receive feedback on themselves from CEAL educators, as well as actively participate in teaching sessions, which fostered a collaborative approach to skill-building and instruction.



By the end of 2024, three nurses successfully met the pilot's requirements and began assisting with subsequent training sessions. Their involvement was pivotal in addressing the growing demand for ultrasound guided IV training across the facility and other hospitals across our system. This initiative not only expanded the availability of training but also contributed to enhancing the nurses' skill sets, enabling them to offer advanced, specialized care. By incorporating this advanced technology into their practice, nurses are positioned to improve patient outcomes, reduce complications, and streamline care processes, ultimately leading to greater operational efficiency and professional development within the healthcare team.



*Amy Gage, MSN, RN,
CMSRN
Clinical Educator,
Day Hospital*



*Jennifer Mitchell, MSN, RN,
OCN, BMTN
Nursing Educator,
Hematology/Oncology*



*Suzanne Hunter, BSN, RN,
CEN, NREMT-P
Clinical Educator,
Nursing Education*

CEAL Ultrasound Joins Radiology's Ultrascan Week

CEAL sonographers Bridget Francis and Jamie Hadaway had a unique and exciting opportunity to collaborate with their former department, Abdominal Ultrasound, as part of Radiology's Ultrascan Week at Atrium Health Wake Forest Baptist. Radiology Department Chair, Dr. David Childs, who had previously collaborated with both sonographers, was enthusiastic about enlisting their expertise to help train radiology residents in basic ultrasound techniques.

The CEAL team designed a specialized workshop to provide residents with an immersive training experience. The workshop included valuable tips, hands-on practice, and guidance to prepare them for their upcoming clinical residency. Residents also had the chance to refine their skills using CEAL's VIMEDIX ultrasound simulator. This innovative tool allowed them to encounter examples of sonographic pathology in a controlled environment before encountering similar cases in the clinical setting.

The goal of the workshop was to establish a strong foundation of knowledge and confidence among the residents. After their training with CEAL, the residents spent the remainder of the week applying their newly learned skills in various clinical areas, scanning real patients under the guidance of sonographers.

This partnership exemplifies the value of collaboration between departments and sets the stage for continued success in future residency programs. CEAL looks forward to contributing to the education of radiology residents in the years to come.



This was a wonderful course with amazing instructors! Thank you so much!

The instructors were great and made the learning environment comfortable and nonjudgemental.

Very educational class! The instructors made sure we felt confident and made things fun to learn.

Both instructors were very thorough and helpful with hands on learning. Highly recommend this course.

The best class I've ever taken!

Instructors were extremely helpful and very knowledgeable!

The instructors were awesome and enhanced my learning.

Very helpful course and I feel ready to go into clinical and attempt.

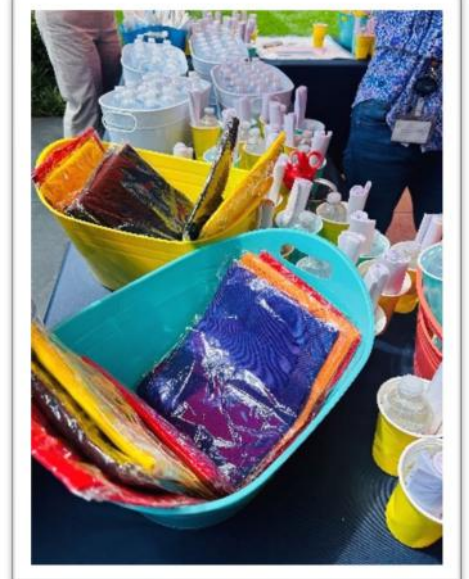
The instructors I had were absolutely wonderful. All were so encouraging, thorough, and made learning fun. By far my favorite training I have ever participated in. I'm happy to know other nurses, doctors, paramedics are offered such an informative class, too.

Ultrasound Guided IV Course Participants



Ultrasound Team Participates in Paint in the Park Event

To commemorate Mental Health Awareness Month, the Ultrasound team decided to take a well-deserved break from their busy schedule one day in May and participate in a Paint in the Park event, sponsored by Innovation Quarter at Bailey Park. Jamie Hadaway and Bridget Francis showcased their artistic prowess with a stunning display of vibrant and imaginative artwork. The event not only allowed the team to unwind and express their creativity but also reinforced the importance of mental well-being through community and art.



Bringing Point-of-Care Ultrasound to Cabarrus Family Medicine Residents

In the summer of 2024, a new collaboration was launched between the Cabarrus Family Medicine Residency Program and the Center for Experiential and Applied Learning's (CEAL) Ultrasound program. Clinical Assistant Professor of Family Medicine Education, Dr. Emily Peacock, spearheaded the initiative by creating a POCUS (Point-of-Care Ultrasound) elective for residents interested in focused ultrasound training. To bring this vision to life, she partnered with CEAL for educator support.

Dr. Peacock and CEAL Supervisor Bridget Francis collaborated to design a schedule that maximized training opportunities while accommodating the demands of the residency program. CEAL sonographers began training family medicine residents in pairs each month. Residents alternated between traveling to Winston-Salem for hands-on sessions with the VIMEDIX simulator and ultrasound phantom trainers or staying in Concord to practice on standardized patients.

For some residents, the goal was to achieve POCUS certification, while others aimed to enhance their bedside scanning skills to better serve their patients. Regardless of their goals, this initiative fostered a dynamic learning environment. It was a privilege to support such a dedicated team in advancing their ultrasound expertise.

Whole Body Donation / Anatomical Resources



2024 Whole Body Donation Program Report

In 2024, the Whole Body Donation (WBD) Program met the demand for tissue and provided resources for all requested learning events. This stability also allowed us to stay ahead of schedule with embalming for the static curriculum at the medical school, significantly enhancing resources available to students.

Building on prior efforts to streamline processes, 2024 provided the opportunity to focus on refining outreach. We updated our donor marketing brochure to reflect industry changes while strategically reducing printing and postage costs, demonstrating our ability to balance innovation with fiscal responsibility.

A key challenge in recent years has been raising awareness of our program and educating the public about body donation as a meaningful end-of-life option. In 2024, this challenge evolved as national, for-profit body donation programs became more active in North Carolina. To address this, we revised all program communications to emphasize the unique value of donating to an accredited, in-state program dedicated to academic medical education. These updates highlight the ethical distinction between our mission and the revenue-driven objectives of commercial organizations.

To reinforce this message, we integrated this language into scripted training materials and procedures shared with partner facilities. These resources help ensure consistent awareness and understanding among facility staff despite high turnover rates. The development of cost-effective outreach materials this year supports ongoing education and maintains our program's visibility.

CEAL's culture of excellence makes these conversations more impactful. The unwavering commitment of team members to improve education and patient care provides a strong foundation for promoting our program. This dedication inspires confidence in our mission and enhances our ability to achieve meaningful outcomes.

From an operational perspective, WBD successfully navigated a significant equipment challenge when a decades-old hydraulic lift in the Gray prep room failed. With substantial support, we swiftly replaced the lift, ensuring minimal disruption to program operations.

As 2024 concludes, the Whole Body Donation Program is well-positioned to support CEAL's mission of teaching and learning for better patient outcomes in the year ahead.



Dear Heather, Thank you so much for all of your help with our Whole Body Donation journey. Your expertise, kindness, and compassion are greatly appreciated.

Donor Family



Anatomical Resources: Advancing Education, Research, and Clinical Training

Anatomical Resources continues to fulfill its vital mission of ensuring that cadaveric materials are readily available to support our educational and research endeavors. The demand for these invaluable resources has reached unprecedented levels this year, and requests continue to grow steadily, reflecting the expanding scope of our programs and partnerships.

In 2024, we received and managed donations to meet the needs of our diverse educational programs. These anatomical preparations are instrumental in supporting the academic goals of our **School of Medicine**, including its **MD program**, **Physician Assistant (PA) program**, and **Graduate Programs**.

Educational Contributions

Our team plays a pivotal role in delivering the **Clinical Anatomy and Physiology Course** on the Winston-Salem campus. This dissection-based course, a cornerstone of the **Wake Ready Curriculum**, serves **146 first-year medical students** during the first four months of their 18-month curriculum. By providing an in-depth, hands-on exploration of the human body, this course establishes the foundational knowledge required for the rest of their medical training. Furthermore, we supplement their learning during the **Neuroscience course**, offering these same students access to a wide range of neuroanatomical specimens, expertly prepared by our facility.



The Physician Assistant program benefits from a specialized **one-month crash course in Anatomy and Physiology**, conducted during their **Fundamentals in Basic Science course** in June. Given the condensed nature of the PA curriculum, all cadavers are pre-dissected by our team to maximize the learning experience for the 90 participating PA students.

Additionally, we provide instruction to **post-baccalaureate students** enrolled in a master's program designed to prepare them for medical school. Similar to the PA program, this course utilizes pre-dissected specimens to teach up to **30 students annually**. In collaboration with **Winston-Salem State University**, we also deliver a **human dissection course** for their future **Physical Therapy Doctoral students**, broadening the scope of our educational outreach.

“As a teacher, this [Rolling Bones] event was exactly what I was hoping the experience would be for my students. It was level appropriate, engaging, and gives the students an opportunity to SEE what we talk about in class. Thank you so much!

Teacher, Wheatmore High School, Randolph County

Anatomical Resources: Advancing Education, Research, and Clinical Training - Continued

Clinical Training Programs

Beyond education, the remaining donors are dedicated to supporting critical clinical residency training programs across various specialties, including **General Surgery, Neurosurgery, Obstetrics and Gynecology, Anesthesia, ENT, Plastic Surgery, Cardiology, Podiatry, Orthopedics, and Emergency Medicine**. These programs rely heavily on the facilities we maintain and the tissues we prepare to meet their unique curricular needs.

Most of these clinical training sessions occur **bimonthly**, accommodating **10 to 20 learners per session**. To minimize disruptions to clinical responsibilities, many of these events are conducted after hours, allowing residents and practitioners to balance their professional commitments while honing their skills in a hands-on environment.

External Training and Community Outreach

We also extend our services to external users who benefit from short courses offered at our facility. For instance, **Operational Medicine**, a division of **Wake Forest Innovations**, provides advanced medical training to elite medics and operators from the **U.S. Armed Forces**, allied military forces, and other government agencies worldwide.

Local **Emergency Medical Services** personnel, including paramedics, firefighters, and members of the **North Carolina Highway Patrol**, also train at our facility. These courses focus on life-saving techniques using human tissue models. Procedures taught include, but are not limited to, **needle decompression, thoracotomy, intubation, cricothyrotomy, emergency amputation, escharotomy, intraosseous line placement, and lateral canthotomy**. These hands-on sessions equip first responders with the skills necessary to perform critical interventions in emergency scenarios.

Research and Innovation

Anatomical Resources also plays an integral role in advancing the research mission of our institution. Our human tissue supports **IRB-approved, grant-funded research projects**, many of which are

currently underway. Over the years, research conducted in our facility has resulted in numerous **publications** and the development of **patented clinical devices**, highlighting the transformative impact of our work on the medical field.



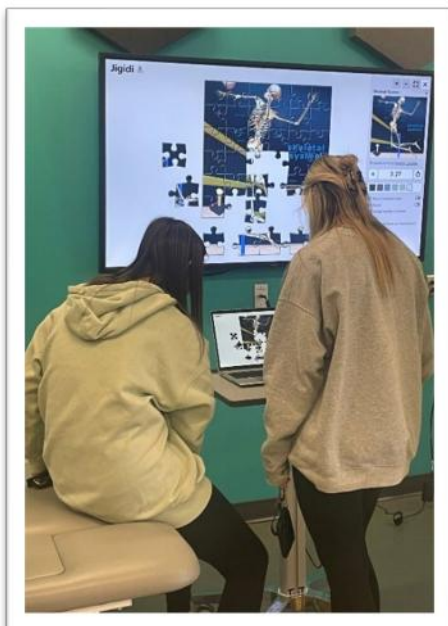
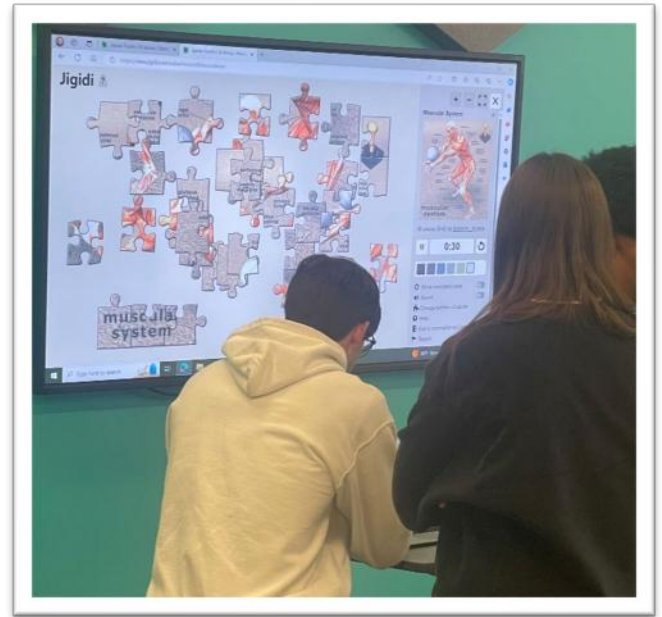
The Anatomical Resources Team continues their Halloween tradition of teaching in costume, bringing a fun, lighthearted touch to an otherwise serious course for first-year MD students (left to right): Chris York, Tom Perrault, PhD, Ken Long.

CEAL Delivers Anatomy Lab Experience for Catawba College Students

On March 19 and 26, 2024, Catawba College students had the unique opportunity to visit Wake Forest School of Medicine for an immersive Anatomy Lab experience. Approximately 30 students participated on each date, making the most of this educational excursion.

The students were divided into two groups of 15. While one group delved into the intricacies of human anatomy in the lab, the other group engaged in a series of interactive games designed to reinforce their anatomical knowledge. These activities included Hedbanz, Pictionary, and electronic puzzles, all tailored to the subject of anatomy. Additionally, students explored detailed anatomical models of the ear, gastrointestinal system, knee joint, and heart.

This hands-on experience not only enhanced the students' understanding of human anatomy but also provided a fun and engaging way to learn. The combination of lab work and interactive games ensured that the students could apply their theoretical knowledge in practical settings, making the visit both educational and enjoyable.



The Anatomy Lab experience at Wake Forest School of Medicine was a memorable event for the Catawba College students, sparking further interest in the medical field and providing a glimpse into the world of medical education.



Thank you so much for hosting us and taking the time to offer this wonderful experience for our students! They are still talking about it! We look forward to next year!!

Erin Witalison, Ph.D., Assistant Professor, Biology, Catawba College

Honoring the Ultimate Gift of Learning: First-Year Medical Students Pay Tribute to Donors

At the end of their first semester, Wake Forest University School of Medicine's first-year medical students gather for one of the most profound moments of their educational journey: the body commemoration ceremony.

Guided throughout the semester by the expertise of Dr. Tom Perrault, Chris York, and Ken Long, students gain a deep understanding of human anatomy and the invaluable contributions of the donors to their education. The ceremony, however, is entirely student-led, reflecting their personal gratitude and growth. Through heartfelt poetry, letters, music, and other tributes, students honor the donors who made their learning experience possible.

An excerpt from a poem written by a former student encapsulates the emotional impact of the experience:

*"Looking inside of you helped me to see myself in a new way.
I learned from you, and it's a debt I cannot repay.
You taught me more than structures and the names of each feature.
They say you're my first patient, but I prefer to call you teacher."*

This solemn occasion reminds students that their education extends far beyond technical knowledge; it's about embracing the humanity of their future profession.



A Pie-Filled Tradition for a Good Cause: Medical Students Raise Funds with Fun and Fervor

Every fall, first-year medical students at Wake Forest University School of Medicine participate in a cherished and entertaining tradition: the “Pie the Professor” fundraiser. This lighthearted event offers students the opportunity to have fun and build camaraderie while raising funds to support student activities.

Under the guidance of their anatomy professors, students take part in the messy and memorable event. With cheers and laughter from their classmates, pies are thrown, creating a playful atmosphere that temporarily lightens the intensity of medical school.

The fundraiser not only brings joy to students and faculty but also highlights the sense of community and shared purpose at the heart of the Wake Forest experience. It’s a reminder that even amidst rigorous studies, there’s always room for connection and a little fun.

