



GRADINSIGHTS



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GRADPULSE Newsletter Evolves into GRADINSIGHTS for Its Second Edition

The University of Maryland Eastern Shore's School of Graduate Studies is thrilled to unveil the next chapter in its graduate communications. The GRADPULSE newsletter is now GRADINSIGHTS!

Launched in November 2025, the GRADPULSE newsletter celebrated its inaugural edition with a vibrant mix of graduate student highlights, research breakthroughs, community engagement stories, and faculty achievements, all designed to inform and inspire the UMES graduate community.

To avoid confusion with the School of Pharmacy's newsletter, The Pulse, the publication has been renamed GRADINSIGHTS. While the name has changed, the mission remains the same: to share meaningful stories, timely updates, and thoughtful perspectives that reflect the excellence and impact of graduate education at UMES.

Whether you are a current student, alumnus, faculty member, or supporter of graduate excellence, GRADINSIGHTS will continue to keep you connected to the milestones and momentum of graduate life at UMES.



UMES Graduate School Celebrates Class of Fall 2025

by Dr. Wele Elangwe, Uchenna Nwonye & Chinenye Oluoba
UMES School of Graduate Studies

The UMES School of Graduate Studies proudly celebrated the remarkable achievements of its Fall 2025 graduating class on December 13, 2025 in the William P. Hytche Athletic Center.

13 doctoral scholars donned Gold Medals, and 68 master's graduates received Silver Medals, distinguished honors awarded by the Graduate School in recognition of the completion of their respective degrees. As they crossed the stage, they beamed with pride at the culmination of years of scholarship, sacrifice and relentless dedication.

The graduates represented an impressive breadth of disciplines, embodying excellence in STEM, health professions, education, and public service. These are not ordinary graduates. They are researchers, clinicians, educators, and leaders who chose to go further, to pushing beyond the bachelor's degree to invest deeply in their fields and communities. Many balanced rigorous coursework with full-time careers, families, and personal challenges, all while producing scholarship that matters.

Doctor of Philosophy

Food & Agricultural Sciences

Dr. Brian Goodwyn, Chester, VA

Dr. Tahirah Johnson, White Plains, MD

Marine Estuarine Environmental Sciences

Dr. Haoran Liu, Princess Anne, MD

Organizational Leadership

Dr. Kerry Gregory, Milton, DE

Dr. Justin Malecki, Greensboro, MD

Doctor of Education

Education Leadership (Ed.D)

Dr. Niya Brown, Delmar, DE

Dr. Stephen Brown, Chesapeake, VA

Dr. Rictor Craig, Brandywine, MD

Dr. Amy Effler, Easton, MD

Dr. Nashandra Ellis, Bowie, MD

Dr. DeAira Johnson, Baltimore, MD

Dr. Samuel Perry, Princess Anne, MD

Dr. Lydia Rosa, Salisbury, MD

Together, these graduates exemplify academic excellence, resilience, innovation, and leadership. The Graduate School proudly applauds the Class of Fall 2025 and celebrates these scholars and changemakers poised to shape communities and industries for generations to come.



Master of Arts

Teaching (MA)

Wendell S. Hitch, Delmar, MD

Master of Education

Career and Technology Education

Christina Gorsuch, Hurlock, MD

Counselor Education (M.Ed.)

Shelita Shawntay Allen, Salisbury, MD

Camilla Ra'Chelle Flagg, Mardela Springs, MD

Shelby N. Gardiner, Hebron, MD

Roxanne S. Long, Fruitland, MD

Bobby O. Rice, Salisbury, MD

Byron E. Smith, Baltimore, MD

Jenna Wright, Salisbury, MD

Special Education (M.Ed.)

Amber M. Elliott, Marion, MD

D'nasia Moriah Jones, Pocomoke, MD

Master of Medical Science

Physician Assistant Studies

Maya Sylvia Armstrong, Hempstead, NY

Danielle Antoinette Bailey, Chicago, IL

Christopher Jordan Baptiste, Middleburg, FL

Naomi Abigail Beneyam, Silver Spring, MD

Summer Mae Black, Laurel, DE

Christian Andreas Brown, Rockledge, FL

Jada Monet Byrd, Greenwood, IN

Deonte C. Campbell-Sims, Benton Harbor, MI

Yasmeen Faine, Miramar, FL

Sylvia Fang, Gaithersburg, MD

Aden Farouk, Guilderland, NY

Salonie Gadkari, Columbus, NJ

Laura Nadia Hassan, Newark, DE

Briana A. Henderson, Lansing, MI

Christopher Aaron Jones, Waldorf, MD

Dominique Jones, Salisbury, MD

Shaakirah Keith, Orange, NJ

Alexis Layton, Delmar, DE

Ginikachukwu Agatha Mgbenka, Bowie, MD

Magda Angelica Miguel, Stuart, FL

Corliss Allegra Joy Sloane Mitchell, Charleston, SC

Mikaela Ashley Natale, Salisbury, MD

Neil Vipul Patel, Smyrna, TN

Julia Reed, Centreville, MD

Paige Victoria Richardson, Denton, MD

Shekina Rousseau, Bellerose, NY

Ryan Schwarz, Ocean View, DE

Karyn Natalyn Yates, Cheverly, MD

Master of Science

Applied Computer Science

Aboelgassim Khalid Mohamed, Fruitland, MD

Shaza Ugool, Princess Anne, MD

Chemistry

Husham A. Joda, Princess Anne, MD

Cybersecurity Engineering Technology

Adekansola Adewami, Landover Hills, MD

Aaron Constantine Cork, Fruitland, MD

Caleb M. Goslee, Salisbury, MD

Antonio Chester Johnson, Towson, MD

Food & Agricultural Sciences

Shuvonkar Kangsha Bonik, Princess Anne, MD

Victoria Inez Hanzer-Diaz, Georgetown, DE

Tseganesh Sete, Princess Anne, MD

Human Ecology

Aaliyah Nicole Douglas, Princess Anne, MD

Danielle Nicole-Ann Dyson, Pikesville, MD

Kiburi Monea Harvey, White Plains, MD

Elizabeth Ann Heslen, Glenwood, MD

Kennedy Jayla Holder, Germantown, MD

Michelle Lake McCorkle, Bowie, MD

Sonya Michele Odum, Hanover, MD

Wanda Denise Roland, Baltimore, MD

Teresha Ann Sutton, Edgewood, MD

Venus K. Thomas, Baltimore, MD

Rehabilitation Counseling

Derionah Abner, Orlando, FL

Alejandra Amezcua, Imperial, CA

David Ntungwo Atabong, Upper Marlboro, MD

Angel N. Cooper, Salisbury, MD

Chaniqwa Rena Gilliam, Chesapeake, VA

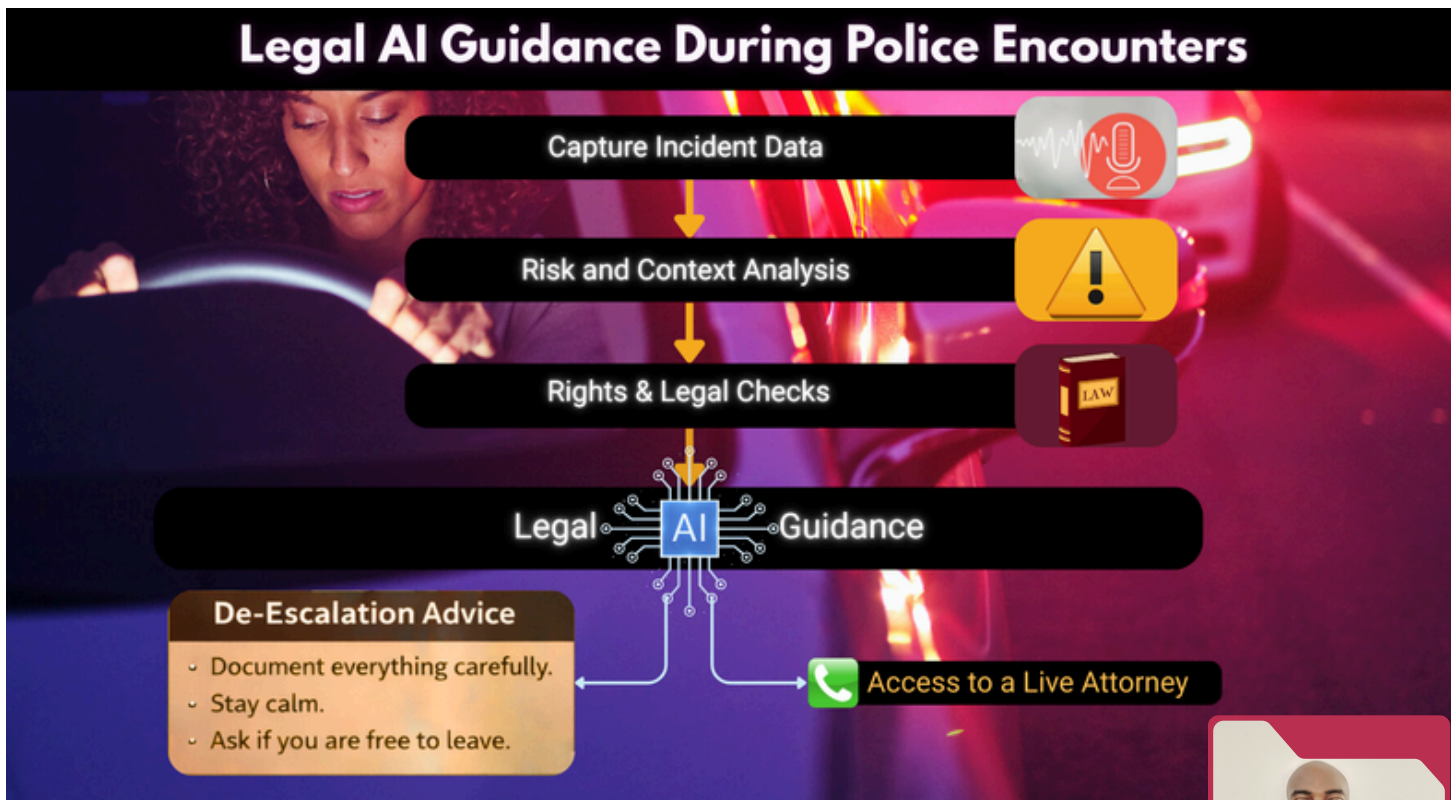
Juliet Okeke, Princess Anne, MD

Olamide A. Olorunghobunmi, Upper Marlboro, MD

Carmen M. Ramos, Rockville, MD

Saffiatu Sankoh, Hyattsville, MD





Can AI De-Escalate a Traffic Stop?

by Chibunkem Asuzu
Ph.D., Applied Computing and Engineering



The Just-Us AI-driven legal guidance prototype was developed by me to assist individuals during one of the most common and consequential legal experiences: traffic-police encounters. The initiative is being advanced through the Just-Us start-up in collaboration with the Maryland Small Business Development Center (SBDC) and the USM Launch Fund Nexus.

Traffic stops are among the most frequent interactions between civilians and law enforcement. While many are routine, they can quickly become confusing or escalate due to misunderstandings about rights and responsibilities.

The goal of the Just-Us application is to provide individuals with clear, accessible guidance during these

moments by helping them understand what is legally required, what is optional, and how to respond calmly and respectfully. If a situation escalates beyond informational guidance, the platform is designed to connect users with a live attorney for immediate professional support.

Consider a driver pulled over for a minor traffic violation. During the stop, the officer begins asking unrelated questions and requests to search the vehicle. The driver may feel pressured or unsure of their rights. The Just-Us application provides real-time, easy-to-understand explanations about consent, lawful requests, and how to assert rights without escalating the encounter. If the interaction

intensifies, such as the threat of arrest or detention, the system can initiate contact with a licensed attorney, ensuring the user has professional representation when it matters most.

The AI itself does not replace legal counsel. Instead, it serves as an accessible first layer of guidance, translating complex legal principles into practical, context-aware information based on the user's situation. This layered approach of pairing AI-driven insight with direct access to human legal support aims to promote informed decision-making, de-escalation, and safer outcomes during everyday police encounters.

From Food Science to Rehabilitation Counseling: An Unexpected Path

by Chinenye Oluoba
M.S. Rehabilitation Counseling

My path to rehabilitation counseling has been unconventional. With an undergraduate degree in Food Science and Technology, I never imagined that I'd end up in rehabilitation counseling. However, as I progressed through my master's program, one critical gap became impossible to ignore. Rehabilitation counselors are rarely trained to recognize or assess malnutrition in clients with disabilities, despite its profound impact on recovery, mental health, and overall well-being. This realization completely reshaped my understanding of disability client care and what it truly means to support successful rehabilitation.



This intersection of nutrition and disability also shaped my research. I examined how women with physical disabilities access counseling services, particularly through tele-counseling, before and after COVID 19. These women often experience layered barriers, including mobility limitations, nutritional vulnerability, and restricted access to integrated healthcare services. Nutrition is frequently overlooked in disability support, yet it directly affects energy levels, emotional regulation, and the capacity to fully engage in counseling and rehabilitation. Last spring, this work earned first place in the 14th Annual Research Symposium's Three Minute Thesis (3MT) competition and reinforced a core belief: Accessibility isn't just about physical spaces or digital platforms, it's about access to knowledge, holistic care, and services that are understandable and reachable to everyone.

During my internship, I now work with clients in substance use recovery and mental health treatment, many of whom also live with disabilities or chronic health conditions. I see daily how nutrition influences healing, executive functioning, emotional stability, and resilience. For individuals recovering from addiction, malnutrition can intensify cravings, impair decision making, and increase the risk of relapse, while adequate nutrition can support sustained recovery and engagement in treatment. Yet most counselors aren't trained to spot malnutrition or address it as part of treatment. My goal is to advocate for nutritional assessment to become standard practice in rehabilitation counseling.

Beyond clinical practice, this year has been marked by growth in leadership and advocacy. Serving as Secretary of the Graduate Student Government has reinforced the importance of advancing systemic change that improves access and equity for entire communities, not just individual clients. I represented my department at the ACES Conference in Philadelphia, connected with counselors advancing inclusive and interdisciplinary practices nationwide, and was inducted into Chi Sigma Iota, the counseling honor society. Looking back, my background in food science was not a detour. It was preparation. It equipped me to approach rehabilitation through a holistic and disability centered lens, recognizing that true healing occurs when we care for the whole person.

Representing UMES at the Farm Foundation Round Table Meeting

by Freweyni Abrha

Ph.D., Food and Agricultural Sciences

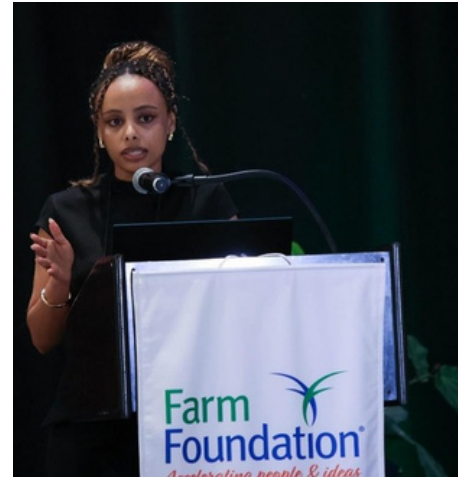
I had the privilege of participating in the invitation-only Farm Foundation Roundtable as a cultivator, representing the University of Maryland Eastern Shore in El Paso, Texas, in January 2026. I am grateful to my supervisor, Dr. Simon Zebelo, for his recommendation and support, which made this opportunity possible.

Our section was part of the Next Gen Program, which develops future leaders in agriculture by connecting students with innovative farms, industry mentors, and peers nationwide, emphasizing hands-on learning, professional development, and community engagement.

During the program, I presented both a poster and an oral presentation, sharing my research with a diverse audience of industry professionals, students, and mentors. I contributed to discussions on the future Farm Bill, innovation, and sustainable agriculture practices.

Among the farm tours, visiting a commercial hemp farm was particularly exciting for me, as it connected directly to my own research on hemp.

These experiences enhanced my understanding of current trends in agriculture and inspired me to continue contributing to research, innovation, and community engagement in the field.



Freweyni Abrha, Poster Presentation



Farm Foundation Round Table Meeting Group Photo



AFS members and Wicomico Middle 6th grade teachers teamed up to provide activities for students that focused on the fish anatomy and identification, food web dynamics, and invasive species in the Chesapeake Bay.

In the first activity, students dissected inshore lizardfish to explore fish anatomy and learn about how physical characteristics can inform scientists about what and how a fish eats.

The second activity required students to work in groups to complete “Minute to Win It” challenges while identifying Maryland native fish species with dichotomous keys, examining food webs to learn how trophic dynamics affect ecosystems, and analyzing real spatial data to better understand how actions in the Chesapeake Bay watershed affect conservation efforts in the bay.

Students, teachers, and AFS members thoroughly enjoyed spending the day learning from each other. Hopefully, this outreach opportunity taught students about the variety of opportunities available to them in marine and estuary sciences here at UMES and beyond.

The UMES American Fisheries Society Student Subunit

By Kayland Huckabee

M.S. Marine Estuarine Environmental Sciences

The American Fisheries Society (AFS) student subunit at the University of Maryland Eastern Shore is a professional organization designed to provide community engagement, volunteer opportunities, professional development, and comradery for graduate and undergraduate students that are interested in fisheries sciences. In November 2025, AFS members went back to middle school to provide enrichment activities for the Wicomico Middle School 6th grade students.



STRONGER TOGETHER: WELLNESS AND COMMUNITY AT UMES GRADUATE SCHOOL

by Dr. Wele Elangwe, Albert Ofosu & Tamunoene Bamson
Ph.D. Toxicology & M.S. Electrical & Mechatronics Engineering

What began as a few graduate students crossing paths at the campus gym has grown into something far more meaningful. Representing different levels and degree programs: Chemistry, Electrical and Mechatronics Engineering, Pharmaceutical Sciences and Toxicology, these students first connected over early morning workouts and training sessions. Between sets and miles on the treadmill, conversations shifted from fitness goals to coursework, research deadlines, thesis and dissertation chapters, and comprehensive exams.



Soon, the gym became a gathering place not just for exercise, but for encouragement. Birthdays and other milestones are celebrated together with cheers, dinner dates and group photos, while sick days and other challenging times are met with compassion, check-in messages, and unwavering support. In moments of stress, there is encouragement and empathy. In moments of success, there is applause and shared pride.

For these students, physical strength and academic endurance have become intertwined. Sweating through a tough workout mirrors pushing through research or writer's block. Spotting each other under a heavy barbell reflects the support they offer through challenging times.

In graduate school, a season of life often defined by pressure and isolation, this “workout” community has chosen exercise, friendship, and collective resilience. Together, they are proving that wellness in graduate school is not just about balance. It is about building a tribe that lifts as it climbs.



FROM RESEARCH TO REMEDIES: PHD STUDENT WILLIAM BURKS IV LEADS HERBAL WORKSHOP

by Dr. Wele Elangwe
Director of Graduate Student Services



This past November, UMES Extension hosted a hands-on workshop, “Making Herbal Salves and Herbal Tinctures,” at the UMES Research, Extension, and Teaching Farm in Princess Anne.

Participants learned how to transform dried herbs into oils, waxes, salves, and lip balms, while also gaining insight into regulations surrounding herbal product sales and value-added agriculture.

Among the instructors was William Burks IV, a PhD student in Food & Agricultural Sciences, whose leadership reflects the Graduate School's commitment to experiential learning and community engagement. By blending academic knowledge with practical application, Burks helped equip local growers and aspiring entrepreneurs with skills that extend beyond the classroom.

The workshop highlights how UMES graduate students are contributing meaningful expertise to support innovation and small business development in the community.



UMES Alumnus: A Journey from Systems to the Skies

by Harry Godwin

M.S. Computer Science

Second Flight Officer, Air Peace Limited, Nigeria



Earning my graduate degree in Applied Computer Science at the University of Maryland Eastern Shore (UMES) equipped me with the analytical discipline and technical expertise to make meaningful contributions beyond the classroom—both in public service and in aviation.

Following my graduation from UMES, I returned to my home country Nigeria and fulfilled Nigeria's mandatory National Youth Service Corps (NYSC) program, serving with the Nigeria Civil Aviation Authority (NCAA), the nation's aviation regulatory authority and equivalent of the Federal Aviation Administration (FAA) in the United States.

Coupled with my master's degree in Computer Science and an undergraduate foundation in Aviation Science from UMES, I served as a Compliance and Records Analyst within the Directorate of Operations Licensing and Training Standards (DOLTS) office at NCAA. My responsibilities included data entry, validation, and cleaning of aviation personnel records, maintaining daily aviation logs, and ensuring the accuracy and integrity of licensing documentation. Through this role, I witnessed firsthand how strong data systems directly support regulatory compliance, operational efficiency, and most importantly, aviation safety.



At the end of 2025, I transitioned from regulatory service to commercial aviation, beginning my professional career with Air Peace, Nigeria's leading airline as a pilot (second officer) flying the Embraer E-190.

While my aviation training prepared me for the technical demands of flight operations, the problem-solving mindset, precision, and structured thinking developed during my graduate studies continue to guide my decision-making in the cockpit.

UMES did more than grant me a degree—it strengthened my capacity for service, sharpened my analytical approach, and positioned me to contribute meaningfully to both aviation regulation and commercial flight operations. From NCAA to the Embraer 190, the foundation built at UMES remains central to my journey.



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**THEME: EXAMINING THE IMPACTS OF GENERATIVE AI
ON EDUCATION, RESEARCH, AND SOCIETY**

Join us for a day of research, scholarship, and networking

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8AM - 4PM
LOCATION: SSC



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UMES 15th ANNUAL

RESEARCH SYMPOSIUM 2026

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UNIVERSITY OF MARYLAND
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SIGN UP TO BE A
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April 16, 2026



8:00 AM - 4:00 PM



UMES SSC



REGISTRATION DEADLINE: March 13, 2026

<https://forms.gle/xtb1mgunuRRRok8c6>

Necessity is the Mother of Invention

by John Mwangi Ithiru

PhD. Food and Agricultural Sciences

Many people would agree that quinoa isn't a common word. Like me, who only discovered it when I joined UMES in May 2023, you might be hearing this story for the first time. I didn't realize that this crop would influence my graduate studies and help me understand its role in promoting food security. In 2013, the Food and Agriculture Organization called it the “International Year of Quinoa” because of its ability to reduce hunger and malnutrition in food-insecure countries.

Although this superfood has been cultivated in the Andean region for over 7,000 years, its spread to other continents only started in 1970, due to its nutritional value. Today, it is grown in more than 200 countries. Bolivia and Peru produce nearly 84% of the world's quinoa, while the U.S. is the largest importer and consumer, bringing in over 80% of its needs. Quinoa is valued not only for its health benefits but also for its ability to adapt to various climates.

With that knowledge, I believed it would be straightforward to introduce quinoa farming on the Eastern Shore. I conducted experiments in both the field and greenhouse to assess its growth, and the first surprise came when I saw the plants growing vigorously and healthily in the field, yet they produced no yield. The same seeds had been planted the previous year with good results. I questioned what went wrong, but necessity drives invention. Through reviewing other scientists' work, I found a common theme: heat stress is the main obstacle to flower formation and seed development. We experienced temperatures above 90 degrees during the critical stage. That was the limiting factor; my sleepless nights led to the answer. This realization redirected my research focus toward developing strategies for successful quinoa cultivation in low-altitude, heat-stressed areas of Maryland's Eastern Shore. I identified well-performing quinoa varieties, conducted a heat-stress gene-expression analysis to find candidate genes for crop improvement, and started a tissue culture regeneration protocol as a biotechnology-based pathway for enhancement.

Hopefully, soon we will see quinoa cultivated successfully in the USA, especially in the Eastern shore region.



“Heat stress is the main obstacle to flower formation and seed development.”



A New Definition of the “Fountain of Youth”

by Amrit Neupane

M.S. Pharmaceutical Sciences



The human body possesses an extraordinary ability to regenerate. From healing wounds to repairing damaged tissues, our cells are constantly working to restore balance. When I began my master's in Pharmaceutical Sciences at the University of Maryland Eastern Shore and joined the Dr. Fan Lab as a Graduate Research Assistant, the concept of stem cells transformed from a distant scientific term into a living, breathing focus of my research.

Stem cells are unique because they can both self-renew and differentiate into specialized cell types. They are classified by potency: totipotent cells can form an entire organism; pluripotent cells can develop into nearly any cell type; and multipotent cells generate specific lineages. A major breakthrough came in 2006 when Japanese scientist Shinya Yamanaka developed induced pluripotent stem cells (iPSCs), reprogramming adult skin cells to behave like embryonic stem cells.

This discovery opened new doors for regenerative medicine while reducing ethical concerns associated with embryonic stem cells.

Aging is an inevitable biological process marked by the gradual decline of cellular function. Every day, billions of cells are lost and replaced, yet over time, the body's regenerative potential weakens. Stem cells lie at the heart of this regenerative system. Modern research focuses not simply on extending lifespan, but on increasing health span adding healthy, functional years to life.



Current studies explore stem cell applications in neurodegenerative diseases such as Parkinson's and Alzheimer's, tissue engineering, and immune modulation. Mesenchymal stem cells, for example, show promise in reducing inflammation and promoting tissue repair. While challenges remain—including ethical considerations, immune rejection, and tumor risk—scientists continue refining safe and effective therapies.

The legendary “Fountain of Youth” has appeared throughout history and mythology, symbolizing humanity's desire for longevity. Today, stem cell research may represent a scientific reimagining of that quest. Rather than promising immortality, it offers something more meaningful: the possibility of healthier aging through regeneration, innovation, and hope.

A Robot in the Field: Plant Detection and the Future of Crop Monitoring

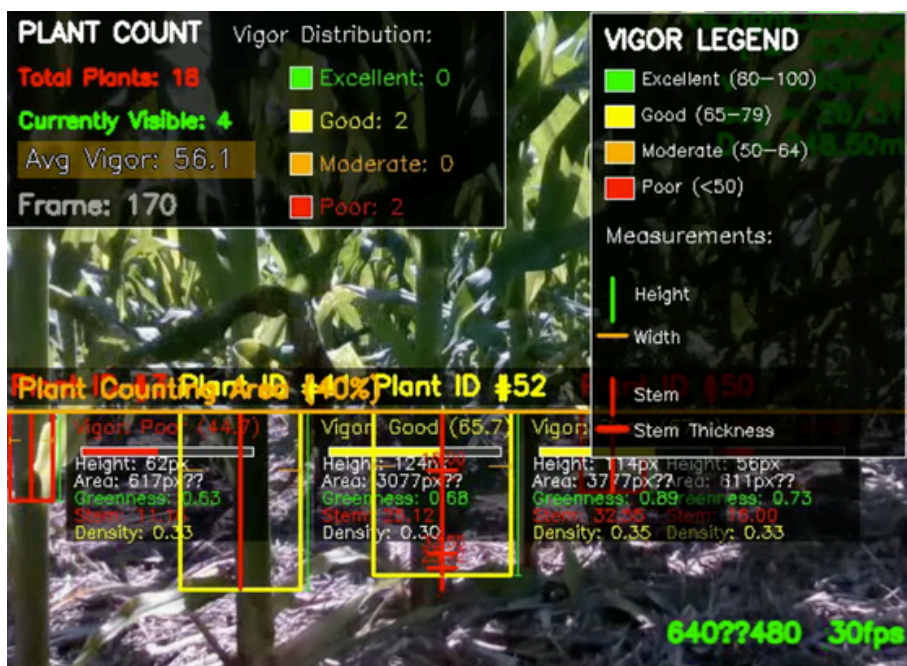
by Suseel Yerramsetti
Ph.D. Food and Agricultural
Sciences



A ground robot rolls through research plots at UMES, its camera capturing row after row of crops. Back at the dashboard, a plant detection system processes that video, detecting plants, counting them, and assessing their health. Together, they form the core of Suseel Yerramsetti's research.

Suseel Yerramsetti, a graduate student in the Department of Agriculture, Food and Resource Sciences, is running field trials with a mobile robot that drives through fields under remote or autonomous control. A plant detection system analyzes the robot's video feed to identify individual plants and evaluate their vigor.

The robot collects the footage, the detection system turns it into usable data like plant counts,



health scores and growth insights, without setting foot in the field.

"We're trying to give farmers a way to monitor their crops without walking every row"
Suseel explains.

"The robot does the driving. The detection system does the counting and health assessment. It's all about making field monitoring faster and more consistent."

Field trials are underway at UMES research farms, with a focus on corn and other row crops. Suseel emphasizes working alongside farmers rather than replacing their judgment.

"Farmers know their land. We're building tools that fit how they already work, something they can use to spot problems early or track stand quality across a season."

Plans include expanding trials to more sites across the Delmarva Peninsula, refining the robot's navigation and data collection routines, and improving the plant detection system's accuracy under varied field conditions.

Suseel also hopes to partner more closely with local farmers to test the systems on working farms and gather feedback.

The goal is to develop practical, farmer-friendly tools for crop monitoring, one field trial at a time.

Automated Single-Cell Analysis for Sickle Cell Disease Diagnosis

by Briggs Pagner and Dr. Yuhao Qiang
Department of Engineering

Sickle cell disease (SCD) affects millions worldwide and remains a high-burden, life-limiting inherited blood disorder marked by wide phenotypic variability and persistent unmet therapeutic needs. Each year, more than 300,000 infants are born with SCD globally, with the greatest burden concentrated in sub-Saharan Africa and other low-resource settings. In the United States, more than 100,000 people live with SCD, and the condition occurs more commonly in African Americans (approximately 1 in 365 births). Early and accurate diagnosis is critical; however, many standard laboratory assays report population-averaged measurements across thousands of cells, obscuring clinically relevant heterogeneity in single-cell behavior. To address this limitation, the assistant professor, Dr. Yuhao Qiang and the undergraduate researcher Mr. Briggs Pagner in the Department of Engineering are developing an automated single-cell analysis platform that integrates advanced microfluidics with artificial intelligence (AI)-enabled analytics.

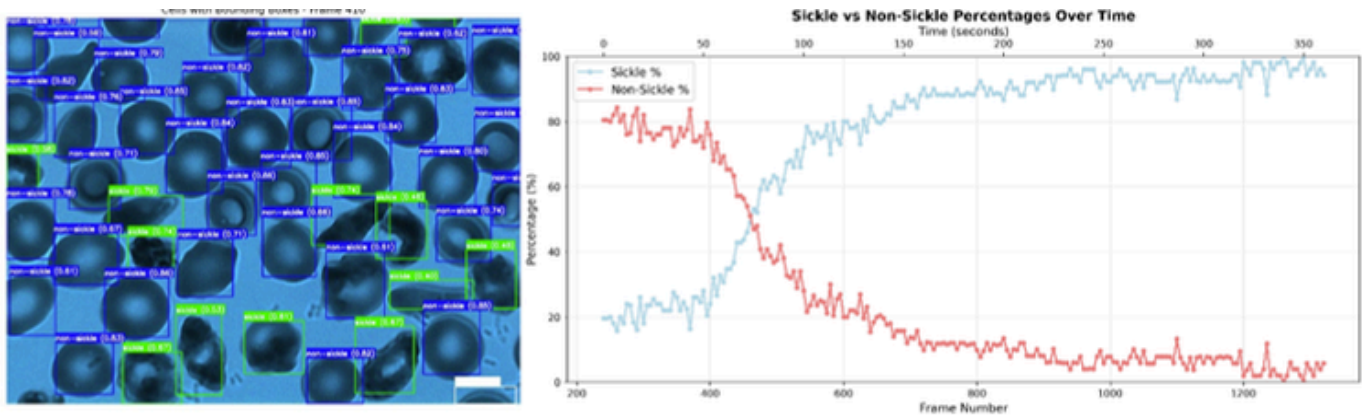


Figure 1. AI-assisted Dynamic Image Analysis of single RBCs from sickle cell patients.

The system uses microfluidic channels to precisely position individual blood cells under a microscope, while a computer-controlled syringe pump regulates flow with micro-level accuracy. Real-time images are analyzed using deep-learning models trained to identify and classify blood cells, including distinguishing red blood cells from white blood cells and identifying sickle cells under low-oxygen conditions (Fig 1). By tracking individual cells over time, the platform captures subtle shape changes and dynamic behaviors that traditional diagnostic methods often miss.

A key innovation of this work is the integration of AI-based imaging with time-resolved functional analysis. Advanced object-detection models achieve high classification accuracy while simultaneously tracking cell shape, motion, and deformation. This enables quantitative measurement of how sickle cells evolve during transient deoxygenation, providing insight into disease progression at the single-cell level.

This research establishes a foundation for future automated diagnostic tools that combine microfluidics, biosensor, and AI-enhanced bioimaging. Beyond sickle cell disease, the platform can be adapted to study other hemolytic disorders, and cellular responses to drug treatments— particularly in cases where rare or short-lived cellular states are clinically significant.

Detection of Bay Scallop Spawning Using Optical Infrared Sensors

by Litzia Galvan

M.S. Marine Estuarine Environmental Sciences and NOAA-LMRCSC II Fellow

Research Mentor: Dr. Stephen Tomasetti

My name is Litzia Galvan. I am a graduate student pursuing a master's degree in Marine Estuarine Environmental Sciences. I am passionate about marine biology and conservation because I believe that protecting our oceans is important to support sustainable seafood, healthy coastal ecosystems, and resilient local communities. This passion motivated me to pursue graduate school, where I can participate in scientific research, learn new technologies to study marine organisms, and network with other marine scientists.

Under the guidance of Professor Stephen Tomasetti, I am working on his project titled "Detection of Bay Scallop Spawning Using Optical Infrared Sensors". First of all, bay scallops are ecologically and economically important species because they participate in water filtration and nutrient cycling, and they support local fisheries and provide food for many animals.

For my research project, I will be attaching these optical infrared sensors to monitor their heartbeats. These sensors are useful for recording heartbeat frequencies, and the collected data will be useful to observe heartbeat patterns that could be linked to their spawning events. The main objective of using these optical infrared sensors is to detect the precise timing when bay scallops spawn. This information is important to improve management and conservation strategies that protect the bay scallop population.

To wrap up, I would like to share that my research is made possible by the NOAA Living Marine Resources Cooperative Science Center (LMRCSC), which is funding my graduate studies at UMES.



LITZIA IN THE FIELD



UMES–University of Mpumalanga (UMP) Experiential Learning Farm Visits

by Simala Wright

M.S. Food and Agricultural Sciences



This experiential learning visit to the University of Mpumalanga (UMP) and surrounding agricultural enterprises in Mpumalanga, South Africa, provided an applied understanding of crop and livestock systems, farm management, and sustainability practices across diverse production environments.

The program was designed to bridge academic theory with real-world agricultural practice, aligning with USDA NextGen's mission to develop a diverse and globally aware agricultural workforce. The visit "was designed to bridge classroom theory with real-world agricultural practice" and emphasized observing production systems, analyzing management decisions, and identifying practical solutions for future research and career development.

Students engaged with smallholder and commercial farms producing vegetables, sugar cane, macadamia nuts, and livestock, gaining insight into ownership structures, labor dynamics, and value-chain linkages. Sustainability innovations—such as vetiver grass for erosion control and natural pest management—highlighted context-appropriate climate-smart practices, though gaps remain in soil conservation and resource management.



These farms are managed under [ownership/management structure], producing [cabbage, leeks, peppers, sweet potatoes, squash, tomatoes, and corn].

The visit reinforced the value of experiential learning in developing analytical, observational, and problem-solving skills essential for agricultural research and policy work. Key lessons emphasized the need for climate-smart practices, improved management systems, and stronger institutional support to enhance productivity and resilience.

Overall, the experience advanced the goals of the UMES–UMP program by fostering global awareness, strengthening professional competencies, and deepening understanding of agricultural development pathways relevant to both South Africa and the United States.



Arrival in Cape Town, South Africa



Farm Management Practice

Prepare. Teach. Lead. Grow.

Strengthening the Teacher Pipeline on Maryland's Eastern Shore

by Kirk Howie Sr. and Dr. Richard Warren, UMES Hazel Professor
Ed.D. Education Leadership



The Maryland Eastern Shore Teacher Residency is a research informed Grow Your Own initiative developed through a partnership between the University of Maryland Eastern Shore (UMES) and Caroline County Public Schools (CCPS), with design support from the National Center for Teacher Residencies (NCTR). Aligned to NCTR's Teacher Residency Attributes Project (T-RAP) framework and



Maryland State Department of Education Grow Your Own priorities, the program addresses regional teacher shortages by preparing and retaining community-rooted educators. The residency integrates a year-long, paid clinical experience with aligned university coursework, intensive mentoring, and a gradual assumption of instructional responsibility.

Multiple entry pathways—including undergraduate, graduate, and instructional assistant routes—support workforce diversification while removing financial barriers through salary, benefits, tuition coverage, and certification support. By coherently aligning preparation, induction, and retention, the residency strengthens instructional quality, advances culturally responsive practice, and establishes a sustainable educator pipeline for Maryland's Eastern Shore.

"Prepare. Teach. Lead. Grow. is not a slogan—it is a research-aligned framework for developing educators who remain, lead, and thrive in their communities."



Figure 1



Figure 2

Figure 1. University–district partnership supporting Grow Your Own teacher preparation through clinically rich experiences, structured mentorship, and community-embedded practice.

Figure 2. UMES and Caroline County Public Schools residency leadership collaborate on program design aligned to the National Center for Teacher Residencies' Teacher Residency Attributes Project (T-RAP) framework.

UMES GRADUATE SCHOOL SPRING 2026

GRADUATION DEADLINES

COMMENCEMENT DAY



**Friday,
May 15, 2026**

*GRADUATES
SOAR ABOVE
&
BEYOND
WITH
HAWK PRIDE!*



FEBRUARY 4, 2026

- Add/Drop Ends; No "W" grade
- Last day of Residency Petition

FEBRUARY 6, 2026

- Withdrawal period begins

APRIL 3, 2026

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