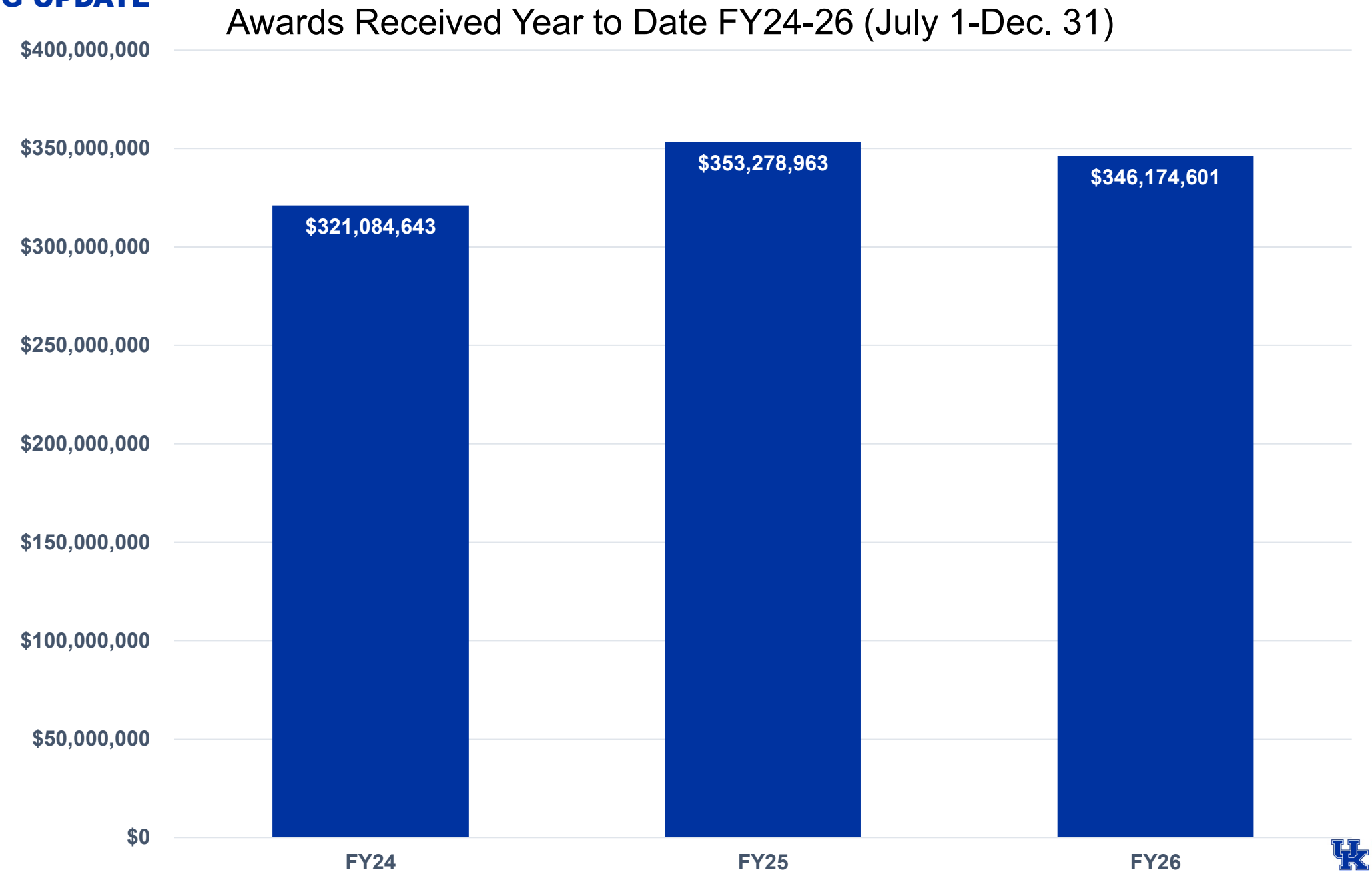
UNIVERSITY OF KENTUCKY BOARD OF TRUSTEES

Ilhem Messaoudi, Acting Vice President for Research

University of Kentucky

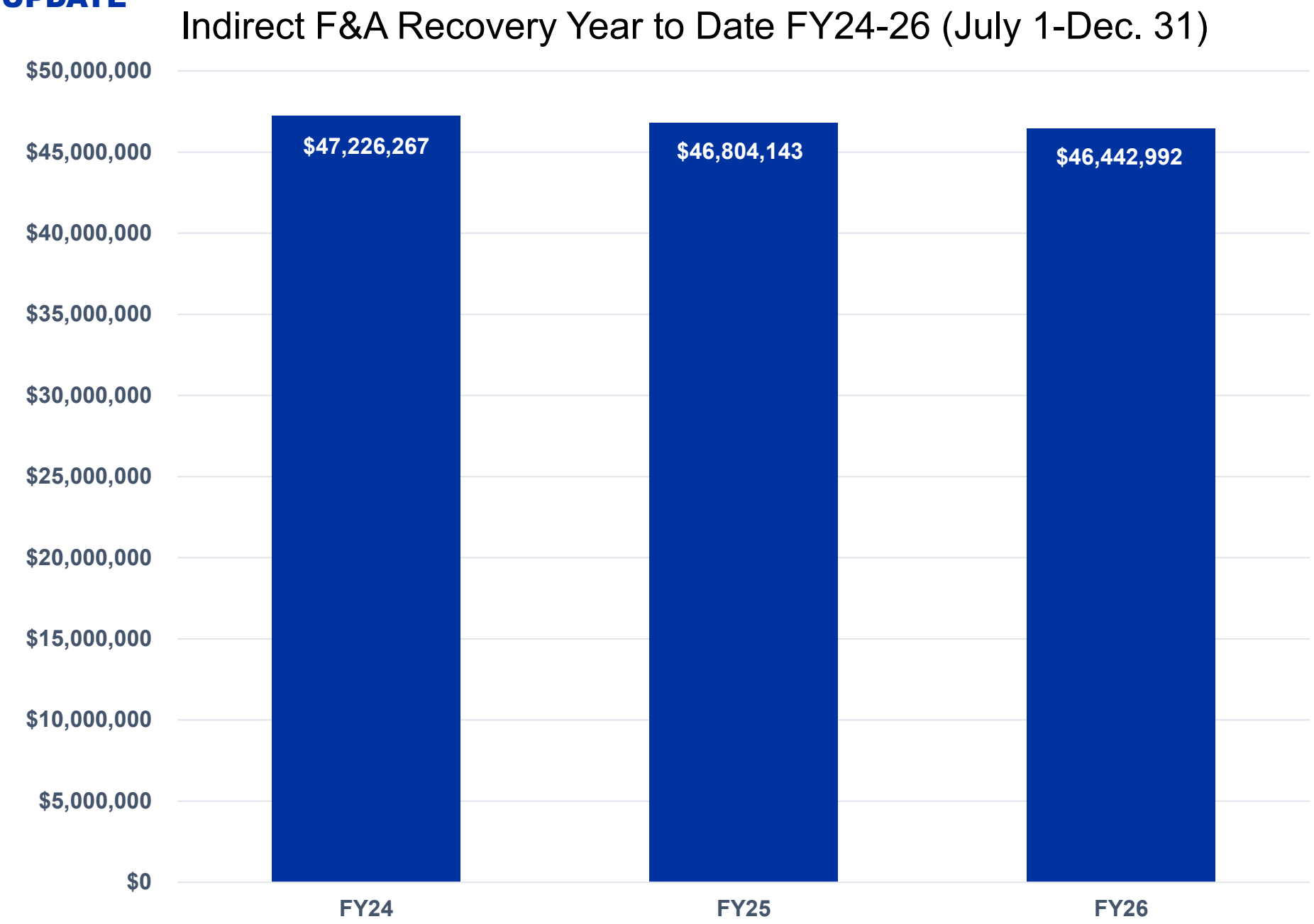
FUNDING UPDATE

FUNDING UPDATE



University of Kentucky

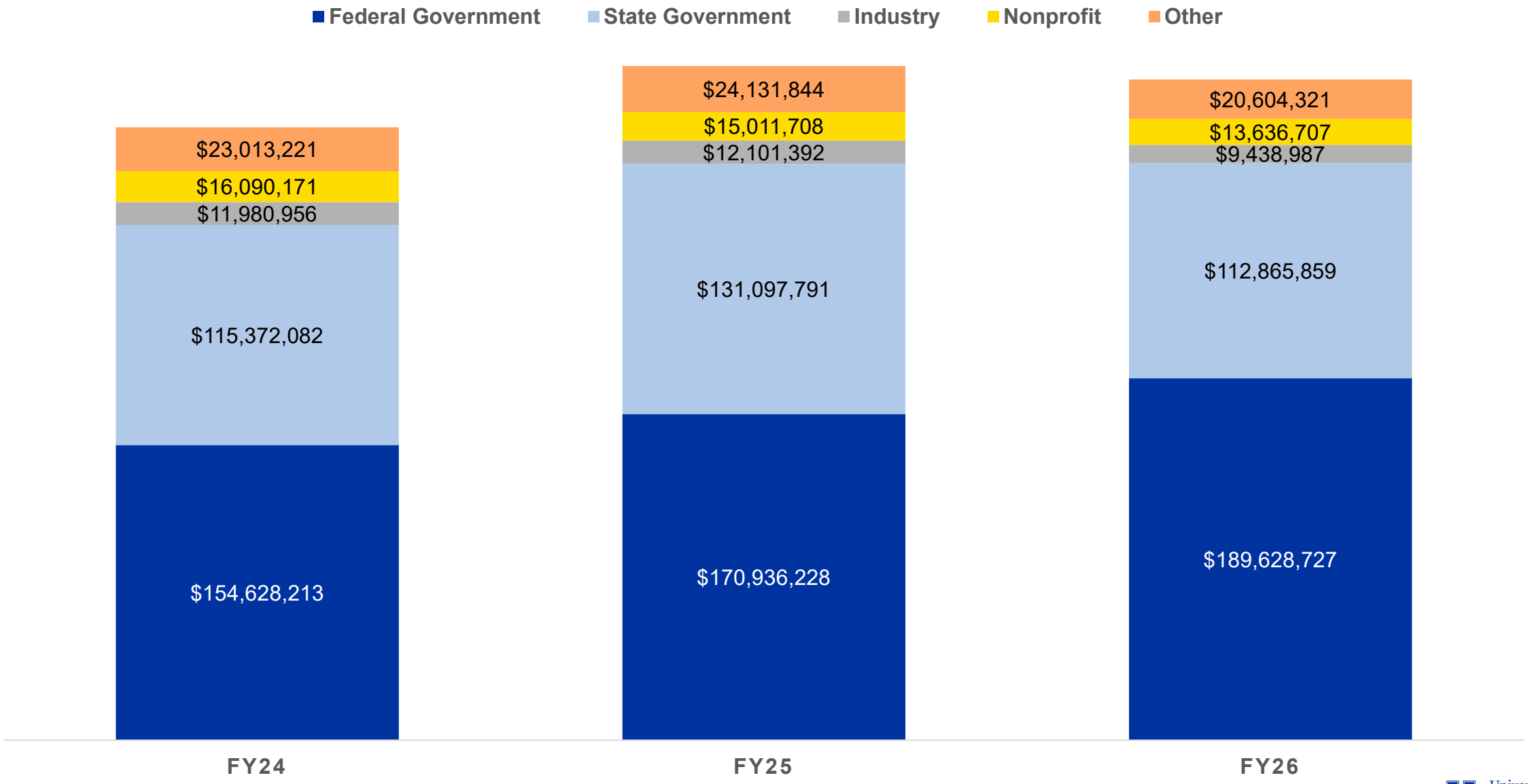
FUNDING UPDATE



University of Kentucky

FUNDING UPDATE

Funding by Source Year to Date FY24-26 (July 1–Dec. 31)



University of Kentucky

RESEARCH ACROSS DISCIPLINES

Bridging Humanities and AI

Brent Seales (Stanley and Karen Pigman College of Engineering) was selected to lead the AI & Advanced Computing Institute at Schmidt Sciences. Founded in 2024, the organization brings together science-focused efforts to create a healthy, resilient, secure world. With his background in using AI technology to read the Herculaneum scrolls, Seales will be at the helm of the Humanities and AI Virtual Institute (HAVI), with the goal of advancing humanities scholarship using AI-based technology.

Digital Knitting Meets Thermal Protection

Jennifer Meakins (College of Design) uses a digital knitting machine to develop complex weaved materials that can be formed into shapes and woven with conductive fibers. Unlike traditional textile production, digital knitting allows for both creative exploration and technical precision. In January, she received a $35,000 research infrastructure development grant from NASA Kentucky EPSCoR to explore knitting multilayer textiles for thermal protection applications.

Maple Syrup Could be Sweet for State

Kentucky's forests, traditionally valued for their timber and recreation, could soon become a source of sweet economic opportunity, according to a new study conducted by Martin-Gatton College of Agriculture, Food and Environment (CAFE) researchers. The study was supported by the Natural Resources Conservation Service and published in April in Forest Policy and Economics. Statewide maple syrup production has the capacity to circulate up to $25 million each year, create 1,300 jobs and contribute $1.6 million in taxes.

Horses Ignore Genetic “Stop Sign”

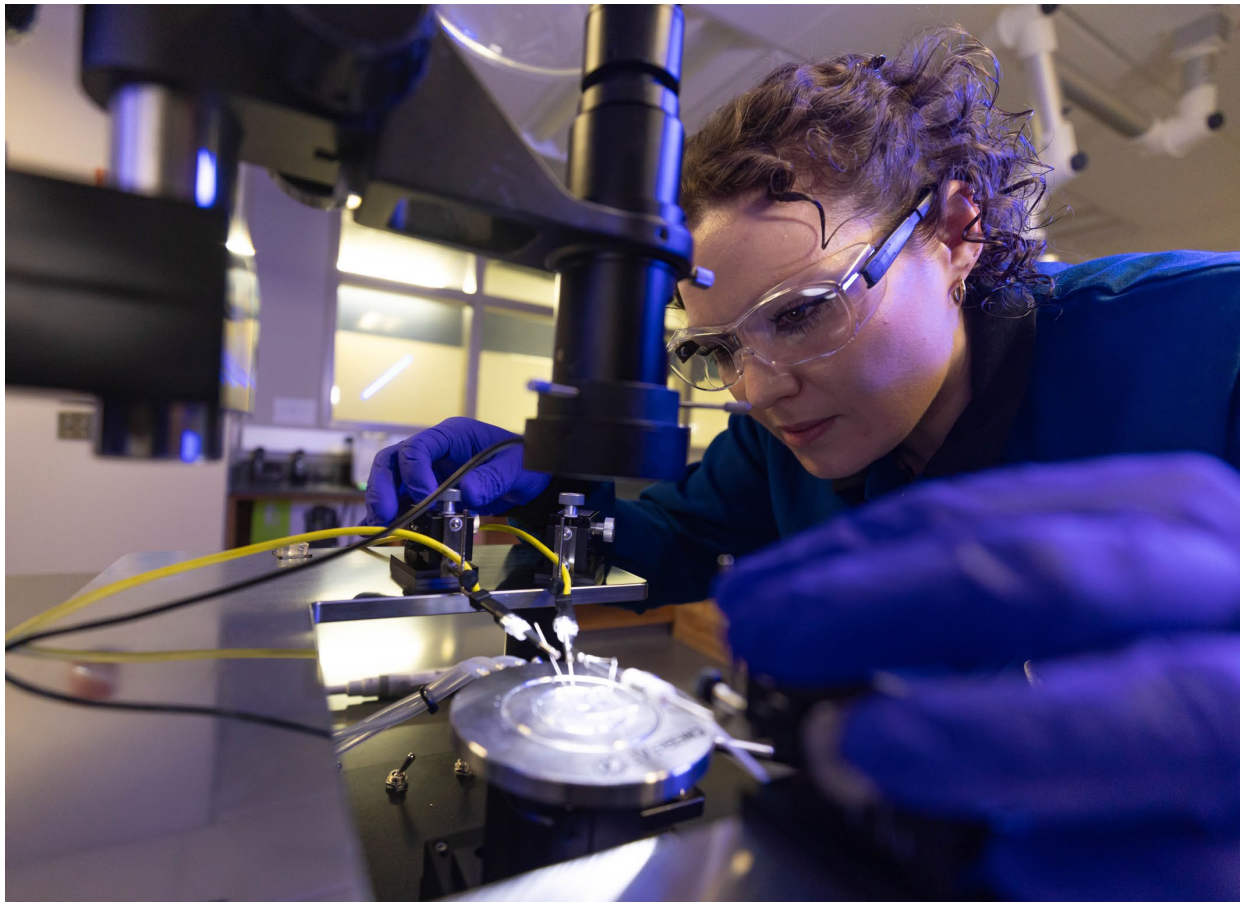
Martin-Gatton College of Agriculture, Food and Environment researchers revealed a surprising genetic twist that may explain why horses are among the most powerful endurance athletes. A tiny “stop sign” in a key gene gets bypassed, boosting their ability to generate energy and protect their muscles from damage during intense exercise. This “stop sign” might open doors to new therapies for conditions in which controlling harmful stress byproducts or boosting energy production is critical — both in veterinary and human medicine. The study, published in March in Science, involved researchers from Vanderbilt, Johns Hopkins and the University of Pennsylvania.

Making Submarines Easier to Hide

John Young (Stanley and Karen Pigman College of Engineering) has U.S. Navy funding for ongoing work finding better ways to cloak submarines' electromagnetic signatures. The project, with UK's Computational Electromagnetics Group (UK-CEMG) and the University of Colorado-Denver's Magnetic Material's Library, will provide Naval engineers with an effective tool to estimate a submarine's magnetic signature and improve the design of systems to reduce this signature.

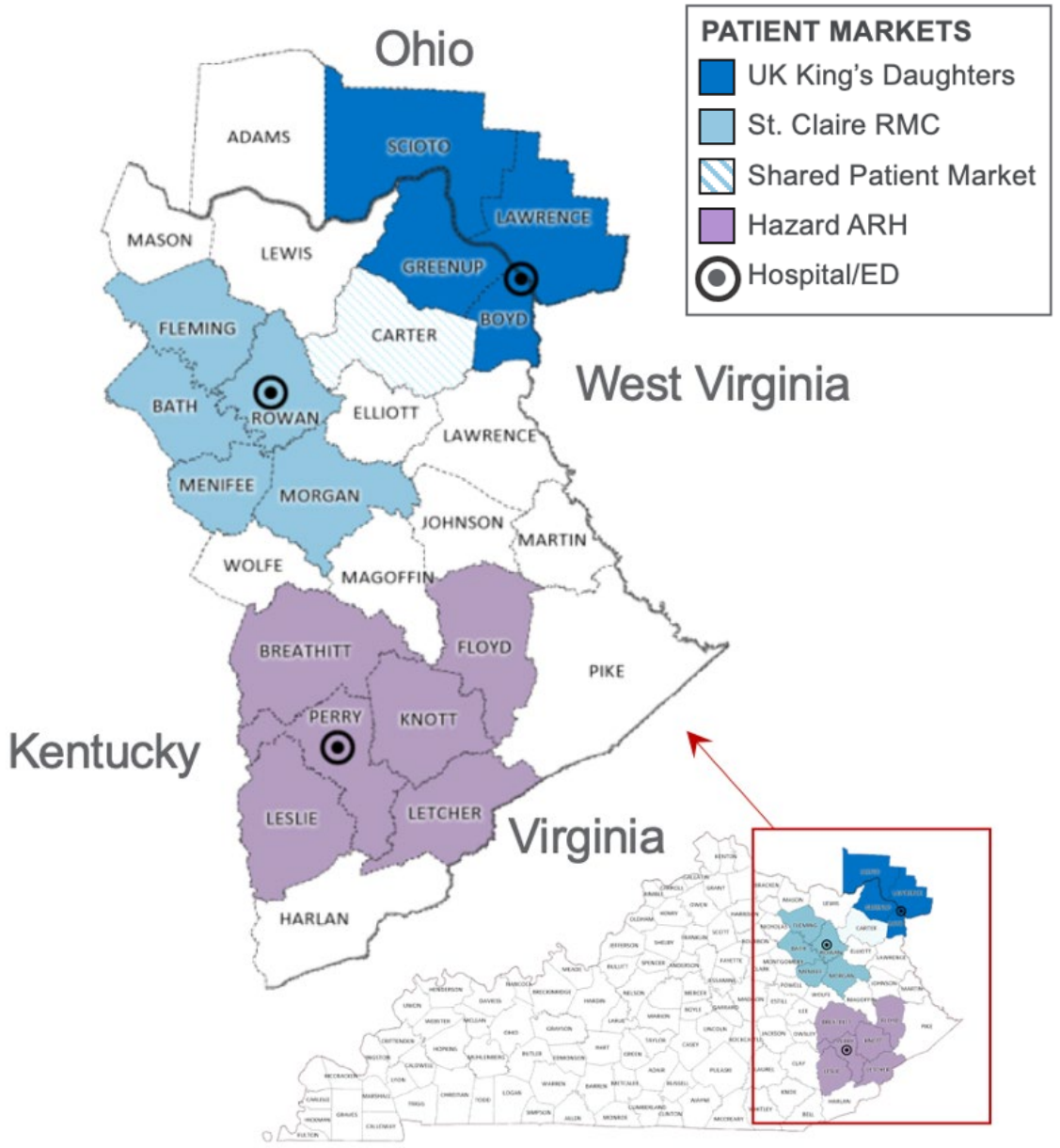
Advancing Underwater Sensors

Zan Paterson (Stanley and Karen Pigman College of Engineering) is developing a new kind of sensor to convert noise pollution into electricity using advanced organic materials. Earning a Young Faculty Award from the Defense Advanced Research Projects Agency, this work could improve ocean mapping, support search and rescue operations, enable underwater communication networks and benefit industries like shipping and offshore construction.



Eradicating Hepatitis C

The UK research team developed a screening model — Comprehensive Hepatitis C Eradication and Care in Kentucky Emergency Departments (CHECKED) — in Emergency Departments across three rural sites in Kentucky: St. Claire HealthCare, Hazard Appalachian Regional Healthcare and King's Daughters. By focusing on screening and linking patients to follow-up care, UK is targeting this viral infection that can lead to liver cancer.



Treating Post-heart Attack Inflammation

With a two-year, $1 million grant from the National Heart, Lung, and Blood Institute that began in March, Vincent Venditto and Dave Feola (College of Pharmacy) are developing a new therapy for post-heart attack inflammation. After a heart attack, the body launches an intense immune response to clear damaged tissue. Too much can cause further harm. The team uses azithromycin, a well-known antibiotic, packaged in tiny, bubble-like structures to deliver the drug directly to the heart. This method can help calm the immune system, reduce harmful inflammation and support healthy recovery.

Enhancing Aviators' Performance

Joshua Winters (College of Health Sciences) will lead a groundbreaking project aimed at enhancing performance monitoring and injury prevention in military aviation personnel. With an Office of Naval Research grant that runs through 2027, he is developing a field-ready system to assess musculoskeletal and neurosensory function in service members. The work is a collaboration with the Naval Medical Center San Diego, Naval Medical Center Portsmouth, University of Montana and JAG Human Performance Consulting.

Corn is Best for Sustainable Aviation Fuel

The Center for Applied Energy Research and the Kentucky Energy and Environment Cabinet completed a risk assessment of fats, oils and grease (FOG) feedstocks that can be used to produce sustainable aviation fuel (SAF) in Kentucky. The project identified corn oil as the safest bet thanks to its low-risk profile. The finding can guide the decision-making of stakeholders looking to investing in SAF-related projects in the Commonwealth. Jet fuel is the fourth most consumed fuel in the Commonwealth and is critical for Kentucky's three air hubs as well as for national defense aviation operations at the Kentucky National Guard, Fort Knox and Fort Campbell.

Graphite Center Receives Federal Funds

The University of Kentucky Graphite Center, a research initiative to advance graphite technology and manufacturing innovation, will receive $2 million in Congressional appropriation to buy equipment for characterization and prototype manufacturing of graphite. The investment will strengthen UK's capacity to conduct advanced materials research and support domestic supply chain development for critical materials. Enhanced capabilities will allow researchers to accelerate creation, improve material performance and support prototype development for emerging technologies.

QUESTIONS

University of Kentucky

AN EQUAL OPPORTUNITY UNIVERSITY