



Dear Friends,

The University of Louisville experience extends beyond our classrooms and our campuses. Fueled by the incredible talent among our faculty, staff and students as well as a strong network of connections to our industry partners, UofL continues to showcase itself as a valuable resource for our community and state.

UofL's investment in student success is also an investment in a thriving society – one that understands the power of collaboration in a world that offers many ideas on how to learn and grow. In our efforts to meet the ever-changing needs of higher education and the challenges of the world, we constantly look for new and exciting ways to discover and connect.

Our audacity to dream big results in groundbreaking and fascinating research. Thanks to a multidisciplinary team from the School of Medicine and J.B. Speed School of Engineering, University of Louisville research could help spur new medicines by extending the usable life of test heart tissue. A research team at the University of Louisville and the UofL Health – Brown Cancer Center has developed a structural model allowing study of longer genetic sequences that will aid in the discovery of potential anti-cancer drugs.

We have held many ribbon cutting ceremonies this semester, most recently with the grand opening of UofL's new Center for Engaged Learning. The center will be a first stop for students and community partners who want to make the most of UofL's many engaged learning opportunities such as internships, research projects and community service initiatives.

While we always keep a keen eye on the future, we celebrate and preserve our past. The Louisville Courier Journal – winner of 11 Pulitzer Prizes throughout its 154-year history – and its parent company Gannett have transferred its library of photographs and negatives to UofL Archives and Special Collections.

Of course many thanks go to the amazing individuals and organizations that helped us "Raise Some L" this year through their financial stewardship.

Here's to strong ties that bind our students, faculty, staff and community in a positive and productive University of Louisville experience.



Lori Stewart Gonzalez  
Interim President,  
University of Louisville

*Lori Stewart Gonzalez*

## UofL researchers discover e-cigarettes cause cardiac arrhythmias

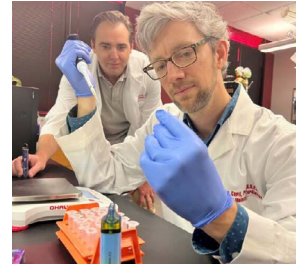
A new study from University of Louisville researchers in the Christina Lee Brown Envirome Institute has found that exposure to e-cigarette aerosols can cause heart arrhythmias in animal models – both in the form of premature and skipped heart beats. The study findings, published Oct. 25 in Nature Communications, suggest exposure to specific chemicals within e-cigarette liquids (e-liquids) promote arrhythmias and cardiac electrical dysfunction.

Alex Carll, assistant professor in the UofL Department of Physiology who led the study, said the research findings suggest that e-cigarette use involving certain flavors or solvent vehicles may disrupt the heart's electrical conduction and provoke arrhythmias. These effects could increase the risk for atrial or ventricular fibrillation and sudden cardiac arrest.

Conducted in collaboration with Daniel Conklin and Aruni Bhatnagar, professors in the UofL Division of Environmental Medicine, this work adds to a growing body of research on the potential toxicity and health impacts of e-cigarettes reported by the American Heart Association Tobacco Regulation and Addiction Center, for which UofL serves as the flagship institute.

"The findings of this study are important because they provide fresh evidence that the use of e-cigarettes could interfere with normal heart rhythms – something we did not know before," Bhatnagar said. "This is highly concerning given the rapid growth of e-cigarette use, particularly among young people."

Additional research by Carll and Matthew Nystoriak, an associate professor of medicine at UofL, to determine the effects of vape flavorings on the heart recently received \$3.6 million in research funding from the National Institutes of Health.



## UofL research extending usable life of heart tissue could help speed medical innovation



University of Louisville research could help spur new medicines by extending the usable life of test heart tissue from one day to 12.

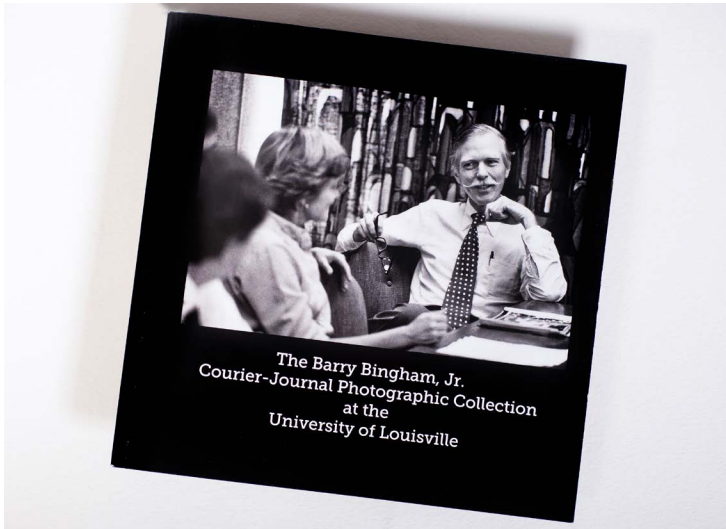
Biomedical researchers use slices of heart tissue to test the effectiveness and toxicity of new drugs, drug candidates and gene therapies. Until recently, the limited, 24 hour usable life of those slices created a major barrier to drug discovery. Because of the short shelf life of human heart tissue, many drug candidates today are tested in ways that don't perfectly emulate living heart tissue. This leads to some drug candidates failing Phase 1 of clinical trials.

UofL methods, developed by a multidisciplinary team from the School of Medicine and J.B. Speed School of Engineering, extended the tissue's usable life by mimicking the conditions experienced by a living heart.

We've created a complete cardiac cycle within the chamber, so the heart tissue stays pumping and viable for longer, said Tamer M. A. Mohamed, an associate professor of medicine who led the research.

*Jessica Miller, a UofL graduate student researcher, works on methods and cultures that could extend the shelf life of tissue for cardiotoxicity testing of new drug candidates. (UofL Photo).*

## Courier Journal, Bingham family create and support photo collection at University of Louisville



The Barry Bingham Jr. Courier-Journal Photo Collection is now housed at UofL's Special Collections and Archives.

The current and former ownership of one of America's most respected newspapers has made it possible for an estimated 3 million images to be preserved for all time at the University of Louisville.

The Courier Journal, winner of 11 Pulitzer Prizes throughout its 154-year history, and its parent company, Gannett, have transferred its library of photographs and negatives to UofL Archives and Special Collections.

Members of Louisville's Bingham family have made a separate donation to support the collection, including preserving it, preparing it for use by the public, and developing programming to enable the public to engage with it.

"It is important for us to preserve and share our work with others so our community can learn about the history of Louisville," said Courier Journal Editor Mary Irby-Jones.

The collection doubles the size of UofL's photo holdings, which already contains 2-3 million historical, documentary and fine art images dating back to the 19th century.

We are incredibly grateful to the Courier Journal, Gannett, Emily Bingham, Molly Bingham and the rest of the Bingham family for making this historic gift possible. Generations of readers saw these photos in their daily newspaper each morning, and now, future generations will continue to be able to study and appreciate the insight they provide into the history of our city, state, nation and world.

## UofL's Center for Engaged Learning invests in student success beyond the classroom

New facilities, innovative programs as well as exciting and strategic goals for our future all point to a university that is thriving.

The University of Louisville celebrated its strong ties to the community Oct. 18, with the opening of the Center for Engaged Learning (CEL). Located on the bottom floor of the new Belknap Village South residence hall, the CEL serves as a first stop for students who want to learn about the many internships, study abroad programs, research opportunities, community service projects and other employment opportunities available throughout the university and the community.

The CEL will facilitate students' access to existing opportunities through the university career centers, international center and office of community engagement as well as grow available undergraduate research opportunities and engaged learning activities incorporated in coursework.

Not just a resource for students, the CEL will also accommodate community and industry partners who often ask UofL for guidance on the best types of students (majors, talents, etc.) for their internship positions and what are best practices for a meaningful engaged learning experience for both the student and the business. To capitalize on this, the CEL will assemble an advisory board composed of local community organizations, economic development representatives, industry partners and nonprofits.

Our students need hands-on, real-world experience to be fully ready for life after college, and employers expect us to have this type of experiential learning before they make job offers to new graduates.

Congratulations to all who helped create our new Center for Engaged Learning.



UofL celebrated the opening of its new Center for Engaged Learning October 18, 2022.



## Raising Some L

A \$450,000 pledge to support academics and engaged learning will bolster the University of Louisville's K-12 engineering and STEM+H pipeline with Central High School and other West Louisville schools.

The gift comes from former J.B. Speed School of Engineering alumni fellow Scott McReynolds '86 and his wife Jennifer '84, who kicked off this year's Raise Some L, UofL's annual day of giving, which took place Oct. 18 and 19.

Running for 1,798 minutes in honor of UofL's founding year, the 30-hour drive was a chance for the Cardinal Community to support students, research and campus initiatives that help build a better world.

The opportunities created by the gift help underprivileged youth gain critical skills to tackle the world's problems. The \$450,000 donation provides scholarships, tutoring and bridge programming, Robotics Research Fellowships within the Louisville Automation and Robotics Research Institute (LARRI), summer research experiences for Central High School students at LARRI and an immersive learning experience trip to Boston, Mass., the hub of robotics research and innovation.

Gifts like these are inspiring and life changing. This generous support and other funds raised during our annual day of giving will help fuel the success of our students, advance our research and innovation initiatives and improve our community.

Thanks to everyone who helped us Raise Some L this year! We raised a total of \$3,264,250 from 2,132 supporters.