A grand experiment

UL Research Institutes opens global $7M grant program

An opportunity for significant grant funding across a range of research areas is now available from UL Research Institutes (ULRI), a non-profit arm of Underwriters Laboratories dedicated to advancing public safety through scientific discovery. ULRI has opened its **Discoveries in Safety Grants Program** to applicants from non-profits, for-profits, and institutes of higher education.

Based on a three-year grant cycle in which recipients would receive up to $600,000 over the lifespan of the award, funding is provided on a cost-reimbursement basis. The competitive grants program will promote research that comports with ULRI's six institutes and addresses its three grand challenges: building resilience for a sustainable future; advancing individual and societal health in the 21st Century; and promoting safety at the human-digital interface. Funded research projects are set to launch in Q4 2024.

Envisioned as a way to find novel veins of research that ULRI has yet to mine within its focus areas, notice of the Discoveries in Safety Grants Program has been sent to vice presidents and vice chancellors of research at universities and research institutes across the U.S. and Canada. While it remains to be seen what the applicant response will be, the feeling among ULRI leaders is that the call for submissions will generate a healthy response.

While the announcement is being made in the middle of the holiday season for a tight-turnaround February application deadline, aspirants are expected to have plenty of time to respond since most serious researchers already have proposals -- or the information needed to quickly create a proposal -- in their files, and classes don't typically being until mid-January. With $600,000 grants available, it's safe to assume that after the holiday gifts have been opened and the turkey has been consumed, researchers will be digging into their portfolios and piecing together their submittals.

The ULRI grant opportunities, annual award amounts and application deadlines are detailed in **Figure 1** on the next page. Each of the six institutes will make two awards, each one for $600,000 spread evenly over three years. Deadline for the initial submissions is February 16, 2024.

Going global

While ULRI has funded outside research for years, this is the first time it has structured a competitive grant program on a global scale. Awareness of the initiative is being promoted with a massive e-mail campaign, earned media, paid media, social media, message boards and word-of-mouth. Organizers are expecting to receive as many as 50 to 100 submissions in each of the six categories, giving ULRI an opportunity to choose from a large sample, thus increasing the chances that top-tier proposals that tightly align with ULRI's research interests will emerge.

But applicants will initially only be asked to submit a three-page white paper, or letter of intent. Personnel at ULRI will then review the LOIs and inform applicants if they are no longer in the running, or if they need to send in more detailed information and advance to the next level of consideration. By September 2024, according to ULRI, funds will be disbursed and research will begin.

"This is our effort to start learning the things we don't already know," says **Chris Cramer**, ULRI's senior vice president and chief research officer, referencing the wide net ULRI is casting. "If there's research that aligns with what we're interested in, we should fund it, but what if we don't meet that researcher and don't know what they're doing? This

is our effort to begin soliciting for research, to go after the unknown unknowns. We'd like to generate the broadest possible level of awareness so we receive proposals that cover the full spectrum, that we're confident there's not something we're missing that we'd really like to invest in."

Even if the response is a deluge, Cramer says ULRI has the infrastructure to evaluate all the submissions, find what they are looking for, and settle on the proposals that will ultimately compete for the grants. Based on his 30 years in academia, Cramer says he expects the submission breakdown to be about 80% from research institutions, another 15% from non-profits, and the remaining 5% from the for-profit sector. "We'll open all the mail," Cramer says.

By the time the program is fully implemented, ULRI will be administering 12 grants totaling $7.2 million and be in contact with an assortment of institutions and researchers. Even though this large-scale, all-at-once process is new to ULRI, its institutional backbone is tried and true.

"We already fund PIs in various places who are doing work with us," Cramer says. "The mechanisms are already in place in terms of making the awards, receiving progress reports, receiving financial reports, and having that direct touch between the recipient and one of our research institutes."

Searching for discoveries

Looking back to its 2022 progress report, a clear line can be drawn to what's happening now. Last year, ULRI expanded the research scope and physical presence of its Chemical Insights, Electrochemical Safety, and Fire Safety research institutes; established the Digital Safety Research Institute and the Materials Discovery Research Institute; and created the Office of Research Experiences and Education -- the six institutes that comprise the grant program.

With a gush of research about to flow through all of its institutes for at least the next three years, ULRI is poised to see what the brightest minds in their respective fields come up with.

"We are not necessarily looking for deliverables," Cramer says. "Rather, we're looking for discovery and fundamental research, reports about what happened and publication of results. We're very dedicated to open science and open data, and maybe that's all we want. But if it does turn out that the nature of a certain proposal includes the development of IP to some level, we'll have discussions with the organization about how that IP is apportioned in terms of ownership and what the future might look like."

In the event IP is developed, Cramer said ULRI would follow the standard protocol, that the university would outright own the IP unless some of ULRI's work contributed to the actual invention, in which case there would be shared ownership. In that case, Cramer says ULRI would work

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Figure 1: UL Research Institutes Grant Opportunities

-- *Chemical Insights Research Institute (CIRI).*

Focus Areas: Research on understudied environmental health issues and the development of sampling, analytical, or toxicological methodologies to address challenging environmental contaminant/chemical exposure scenarios.

-- *Digital Safety Research Institute (DSRI)*

Focus Areas: Programmatic means to create full-stack digital safety labels for the public and detailed reports on digital safety, e.g. cybersecurity, privacy, human autonomy, and information integrity.

-- *Electrochemical Safety Research Institute (ESRI)*

Focus Areas: Advanced gas sensors to detect early stages of cell venting in lithium-ion multicell modules.

-- *Fire Safety Research Institute (FSRI)*

Focus Areas: Reduction of exposure to the thermal and chemical combustion products of fire to first responders.

-- *Materials Discovery Research Institute (MDRI)*

Focus Areas: Research on eco-remediation and expediting the discovery of innovative and long-duration energy storage solutions.

-- *Office of Research Experiences and Education (OREE)*

Focus Areas: Development of effective strategies that successfully lead to persistence in safety science, and youth-centered, place-based sustainability education for groups with social, economic, and/or geographic disparities.

to license the technology in a way that made it broadly available.

In particular, he says, there's an expectation that "a huge amount of potential IP and design of novel materials" will come out of the Materials Discovery Research Institute, which is focused on the development and deployment of new materials with the potential to address current global safety challenges, specifically as it relates to renewable energy, environmental sustainability, and human health.

At the end of a three-year grant cycle, Cramer says ULRI's hope is that they've driven the funded research forward in a way that results in ground-breaking ideas, which might in turn attract further funding from ULRI or other sources. At the very least, these grants present an opportunity for researchers to create a body of published work through peer-reviewed papers, and at the top end, IP and perhaps even a discovery worthy of commercialization.

For now, however, it's wait and see on who applies and what they have to offer.

"We're doing an experiment," Cramer says. "We're interested in funding the people who will do the best work."

Contact Cramer at partnerships@ul.org. ▶