



Lam Research Corporation

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Lam Research has a long history of supporting higher education and providing gifts to universities around the world in support of research on emerging technologies of interest to the semiconductor industry. The Unlock Ideas program, sponsored by the Office of the CTO, promotes innovation and collaboration with global university partners. Since 2015, the annual program has funded more than 161 proposals relevant to Lam's hardware, software and controls, systems, materials and processes.

We are announcing this year's call for proposals will be open for submission on March 21 – April 29, 2022. We encourage members of Lam's global technical community to submit research proposals in collaboration with university professors. Lam employees may be reaching out to ask questions about your interest and willingness to participate.

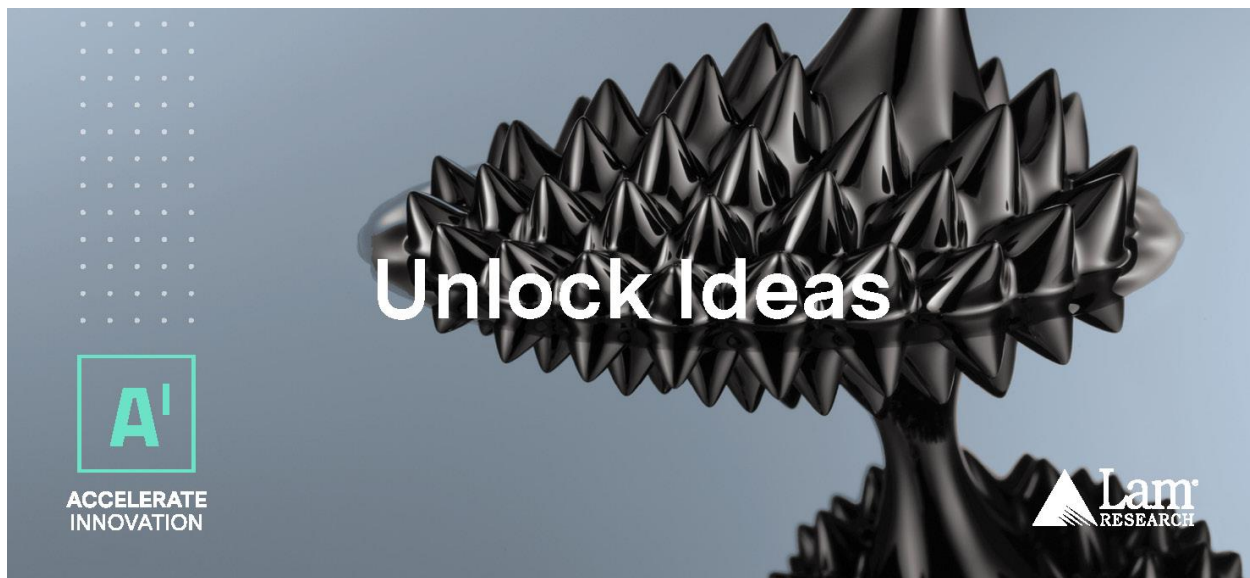
The goals of the program are to test feasibility of novel or disruptive approaches for industry challenges and to support fundamental research on emerging technologies related to semiconductor fabrication and manufacturing equipment, and to strengthen our collaborations with university faculty worldwide. The awards provide a monetary donation to the faculty collaborator in the amount of US\$50,000.

This guide provides an overview of the program, some guidelines we've shared with employees, and basic information we will need from you to participate. Thank you for your support and don't hesitate to reach out with any questions or suggestions.

Sincerely,

A handwritten signature in blue ink that reads "Nerissa Draeger".

Nerissa Draeger
Director of Global University Engagements
Lam Research Corp.
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2022 Guide for Professors

Unlock Ideas provides university donations to test feasibility of new concepts

The Lam global technical community plays an integral role in driving innovation in the semiconductor fabrication. We believe that collaboration is key to addressing industry challenges, which is why we build and maintain strong relationships with academic researchers. This year's Unlock Ideas call for proposals will be open March 21 – April 29, 2022. If your collaborative proposal is selected, you could be awarded a monetary donation of US\$50,000 to test the idea.

Unlock Ideas program overview

- In the annual campaign, Lam employees are invited to submit research proposals to be conducted in collaboration with university faculty. The Lam employee is responsible for submitting the proposal, with your participation.
- As part of the proposal, the Lam employee must submit a 2-3 page abstract that describes the research idea, how it will be tested, and its relevance to Lam's technology pipeline. You will be asked for your input in drafting this document.
- These proposals should involve non-proprietary research and will have no restrictions to publications or intellectual property. No overhead fees will be included in the donation.
- If the proposal is selected for an award, Lam employees are expected to interact with you and your research group on a monthly basis to learn of progress. You will be asked to provide a final report at the end of the research project. The Lam

employees are also expected to summarize the research results in a poster/presentation to be shared with the Lam community.

Guidelines for submitting a winning proposal

The Unlock Ideas campaign is designed to spur innovation, provide insights on emerging technologies, and advance scientific understanding needed to overcome industry challenges.

Proposals should:

- Include novel research ideas that Lam is unable to test quickly or internally.
- Relate to your current research directions and existing test capabilities.
- Describe how your expertise is relevant and can be applied to this research.
- Be on non-proprietary topics and suitable for conducting without any restrictions to publication or intellectual property.
- Align with Lam’s enabling technologies, as listed below for the categories of subsystems, software and controls, automation and robotics, process and materials, and sustainability and productivity.

Subsystems	Software & controls	Automation & robotics	Process & materials	Sustainability & productivity
<ul style="list-style-type: none"> • RF power delivery and control • Chamber materials • Heat flow and control • Fluid delivery and pressure control 	<ul style="list-style-type: none"> • Computing and networking • Data management, analytics and algorithms • Sensors and metrology • Modeling and simulation 	<ul style="list-style-type: none"> • Automation and robotics • Manufacturability • Reliability and self-aware systems • Serviceability and intelligent maintenance • Ease of use and autonomous systems 	<ul style="list-style-type: none"> • Process chemistry and materials • Process interactions and interfaces • Novel processing technologies 	<ul style="list-style-type: none"> • Energy and water use reduction • Process chemistry recovery/recycling • Alternative process or tool materials • Manufacturing waste reduction • Speed to solution

Unlock Ideas submission and award process

Lam employees must submit complete proposals by April 29, 2022. A Lam selection committee will review all proposals and announce awards in the summer. The professors participating with the winning proposals will receive a monetary gift of US\$50,000 in the fall.

Information required from participating professors

- Your contact details (name, phone, email).
- Initial non-confidential discussion with Lam Research employee on your willingness and interest to participate, and on the capabilities of your group and/or facilities to conduct the research.

- Collaboration on a 2-3 page abstract describing the research.
- If awarded, agreement to interact with the Lam employee on a monthly basis to share research progress and to provide a final report summarizing the results.
- If awarded, details on how to provide a gift towards your research:
 - Contact names, phone numbers and emails for the university financial administrator or foundation manager.
 - Name or entity that we make the donation to.
 - Banking information for an ACH transfer of the donation amount.
 - Verification of the university's taxpayer identification number (e.g., W-9 or W-8BEN-E)
 - Any additional documentation to ensure that the gift flows to you as the principal investigator.
- During the collaboration, we kindly request your referrals for students who may be interested in an internship or full-time position at Lam.

Thank you for your interest in participating in Lam's Unlock Ideas campaign. If you have questions, please discuss them with the Lam Research employee who contacted you. For additional information about Unlock Ideas and other university engagements you may contact Nerissa Draeger at Nerissa.Draeger@lamresearch.com.