

Equipment Grants

Proposal Submission Deadline

Monday, December 6, 2021, before 5:00 p.m.

- Combine all files of the completed proposal into a single PDF, name the file LAST_FIRST_2022 where the LAST is your last name and the FIRST is your first name, and attach it to the cover page using the application link on the Division of Research (DOR) webpage:
<https://uh.edu/research/funding-opportunities/internal-awards/equipment-grants/>

LATE PROPOSALS WILL NOT BE CONSIDERED

Overview

The vice president for research and provost have initiated a program to invigorate the University's research enterprise by offering Equipment Grants. The purpose of the program is to support research labs and groups with modern equipment considered necessary for preparing competitive external research proposals. About 70% of the awards will be allocated for proposals in the five high priority areas (see the examples in Figure 1.). Another 30% will be for any relevant area selected by an investigator. Proposals will be considered in two categories: *small equipment grants* can range up to \$50,000; *large equipment grants* can range from \$50,000 to \$250,000.

The five institutional thrusts that the vice president for research and provost have developed in consultation with college deans, and which the chancellor has endorsed, are described in Figure 1. to provide the general area of emphasis and some examples.

- (1) Cyber and Physical Security
- (2) Drug Discovery and Development
- (3) Sustainable Communities and Infrastructure
- (4) Accessible Health Care
- (5) Energy Security and Transition

Figure 1. Five Institutional Thrusts and Technology Enablers that Support this Research

	Cyber and Physical Security	Drug Discovery and Development	Sustainable Communities and Infrastructure	Accessible Health Care	Energy Security and Transition
DATA	Communications data, screening, mining, image matching, filtering, intrusion detection, non-physical sensing, UVA/UUV/Lidar detection, institutional and regulatory environments	Biodata processing, massive virtual physiological modeling/simulation, genomic sequencing, molecular and evolutionary modeling, target identification, validation and pharmacodynamics, animal model generation/testing, pre-clinical testing, genomic analysis, protein structure and proteomics, pharmacokinetics	Utility, transportation data modeling, real-time data mining and decisions, energy monitoring and adaptation data, institutional and regulatory environments	Personalized health and population data interpretation and correlation, analysis and action on health disparities, institutional and regulatory environments	Optimize performance, productivity and efficiency; Grid reliability and stability; Multi-scale modeling: from quantum to macroscale; Real-time artificial intelligence and machine learning with virtual and augmented reality to advance decision-making
IMAGING	Surveillance technology, biometric analysis, behavioral analytics, institutional and regulatory environments	Real-time drug screening, dual photon-confocal imaging, protein analysis, proteomics, treatment efficacy, advanced light microscopy, multi-photon, super-resolution imaging, automated drug screening in vitro, in vivo imaging in animal models, flow cytometry, force microscopy, structural analysis	Atmospheric, oceanographic, and surface imaging, coastal mapping, severe weather analysis, corrosion bacterial biomarking, institutional and regulatory environments	High throughput imaging, infectious disease control, management of epidemic diseases, institutional and regulatory environments	Subsurface imaging; advanced material characterization including force, electron and x-ray microscopy
AUTOMATION	UVA/UUV, Lidar applications, automated border control devices	Automated screening and sampling (sample handling) and automated sequencing; miniaturized sample handling and transport	Energy integration, self-regulating utility networks, construction management and maintenance robotics, automated E-W-F nexus, energy efficiency	Automated diagnostics, remote diagnostics and intervention, autonomous medical devices, remote immunization	Automation and robotics for hazardous environments; integration of VR and AR
MATERIALS	Stable data storage, energy storage, flexible electronics, shape recognition, super-conductive	Nano- and bio-materials, stem cells, polymers, viral vectors, enhance bioavailability and targeting, organic synthesis, polymers, synthesis of bioactive agents, genetic engineering of cells, non-drug therapeutics	Energy harvesting and storage materials, biodegradable materials in construction, retrofitting materials, sustainable composites, functional polymers	Fabric-based devices, wearable diagnostic devices, transdermal drug delivery materials, non-pharmacological therapies	Smart materials; Energy storage materials; Electrochemical systems; Catalysis; Sustainable materials; Bio-derived and compostable; Alternate fuels; Low carbon materials
ADVANCED MANUFACTURING	Securing the supply chain	Reduce time to manufacturing of vaccines	Zero environmental impact manufacturing	3D manufacturing of medical devices in remote locations	Carbon capture, carbon utilization; Modularization; Process intensification; Clean energy technologies; Supply chain security

Programs under the DOR/Provost Faculty Research Invigoration Program must have (i) clear focus on the institutional thrusts (70%), (ii) heightened accountability during the two-year project budget period (in terms of brief reports on progress), and (iii) impact during and after the project in a final report. Programs representing the 30% open submission will be subject to the same restrictions and must also have high scientific merit and be focused on an area of need. DOR reserves the right to fund only those proposals that are clearly meritorious and to shift the 70/30 ratio depending on merit.

Funding Level

An allocation of \$1,000,000 is available in the current fiscal year for one round of competition. The total allocation is intended to fund 4 to 8 large equipment awards at \$50,000 – \$250,000 each and up to 10 small equipment awards at up to \$50,000 each.

Requests are anticipated to exceed available funds. Successful Equipment Grant proposals must demonstrate that the new instrument will fill a significant need and improve the chances of obtaining external funding.

Eligibility and Restrictions

Equipment Grant proposals are eligible for funding when they:

- Request a critical piece of equipment to facilitate grant submission.
- Are located on a University of Houston (UH) campus and run by faculty or staff employed by the University.

Full-time UH faculty members who are tenured, tenure-track, or clinical/research faculty may apply as the Principal Investigator (PI) or Co-PI to this program. Each faculty member may submit one proposal per fiscal year as the PI. Each proposal should have one PI. One Co-PI from each additional laboratory is permitted, but no person may be PI or Co-PI on more than two applications. Instructional faculty are not eligible for equipment awards. A faculty member currently holding an equipment award for which funds have not been fully expended may not apply, including awards that were extended.

Criteria for Award

Each proposal must supply convincing evidence that the following criteria have been met or will be met:

- The equipment purchase must lead to high-quality research of significant benefit to the University and society.
- A grant must be submitted in the identified research area during Year 1 of the project period.

Formatting Requirements

All documents must be prepared on the US Letter size paper (8.5"x11") with 1-inch margins on all sides, Arial font size 11 pt. or greater. The proposal narrative must have exactly 1.5 line spacing; all other documents may be single-spaced. An Arial font size of no less than 8 pt. should be used for the captions to graphics and tables and may be single-spaced. The text in the captions must be legible. Applications that fail to follow the formatting requirements will not be reviewed.

Proposal Preparation and Submission

The application **MUST** be prepared using the guidelines below and submitted by the PI or the PI's affiliated pre-award research administrator. Combine all files of the completed proposal into a single PDF, name the file LAST_FIRST_2022 where the LAST is your last name and the FIRST is your first name, and attach it to the cover page using the application link on the DOR webpage: <https://uh.edu/research/funding-opportunities/internal-awards/equipment-grants/>

No prior approval from chairs and deans is required unless the application requires a commitment of space or other resources, in which case a letter of commitment should be included. Emails to you, your department chair (or equivalent), and your associate dean for research will be sent after you submit the proposal in lieu of the previously required signatures.

Organize the proposal using the following sections with these headings:

Abstract/Summary

A 200-word single-spaced abstract must be submitted with the proposal.

Proposal Narrative (Up to 3 pages, includes graphics, tables, equations, and formulas)

The proposal narrative must not exceed three pages with exactly 1.5 line spacing and the font size of Arial should be no smaller than 11 pt. with 1-inch margins. The rationale for the proposed equipment should be described and must contain:

- a. An overview of the strategic research area and how the investment will enhance the applicant's ability to submit competitive proposals in the selected area. If the application is intended for one of the four priority areas, the applicant should outline how the thrust area(s) is addressed.
- b. A brief history of the applicant's expertise in the selected research area.
- c. The availability on the UH campus of such instrumentation/services of similar function/use and capabilities. If such instrumentation/service is already available for shared use, why is the new instrumentation/service needed?
- d. The potential research outcomes (e.g., funding, publications, faculty hiring) of having this instrumentation/service. Identify any obstacles.
- e. Brief plans for its management and maintenance, including what type of continued investment might be required to maintain the instrument and its productivity.
- f. Plan and timeline for grant submission in the selected area. Include specific grant mechanisms and an estimate of the budget of the grant that will be pursued.
- g. References Cited are in addition to the 3-page Proposal Narrative.

Biosketch(es) (2 pages per investigator)

Provide a two-page biosketch for each PI and Co-PI. NSF/NEH style is preferred, but not required. The narrative format of an NIH Biosketch is not acceptable.

Your résumé should provide the following:

- Current and Past Positions.
- Education: List degrees and dates awarded.
- Awards and Honors: Include dates.
- Other Relevant Professional Activities and Accomplishments.
- Publications: Include full citations for selected publications and presentations.

Current and Pending Support, including overlap with current funding, pending proposals, and start-up funding.

- Provide a list of current and pending support for each PI and Co-PI. Include a clear description of overlap of the equipment request with current awards or pending proposals.
- If the proposal is related to a project supported by start-up funding, indicate the overlap.
- Proposals seeking to conduct research to improve a prior submitted external proposal that has received high but not-funded ranking must provide the external proposal reviews and describe the specific steps that will be taken to address the deficiencies stated in the reviews.

Budget

The budget **MUST** be constructed and presented using the standard UH budget template <http://www.uh.edu/research/resources/dor-forms/proposal-processing-forms/>. Please work with your affiliated pre-award personnel to generate the budget. This person must sign the budget template indicating that they prepared and approved the budget.

The project period is 18 months but prepare a single-year budget. The equipment must be purchased in the first 12 months after the cost center is established, and the DOR strongly recommends it to be purchased in the first 6 months.

- Allowable costs include equipment and related accessories, set-up/installation costs, service agreements.
- Unallowable costs include personnel, travel, computer hardware not connected to the proposed equipment, lab renovation, and other items ancillary to the specific equipment.

Budgets will be critically reviewed. Vendor quotes are required for the submission and must be made available to the reviewing committee. When awarded, the purchase must follow the University policies and guidelines.

Budget Justification and Fiscal Accountability

The budget justification should address the following topics:

- a. Describe the impact of funding on the improvement of resources or services within the unit.
- b. Describe how funds will contribute to the success and sustainability of the unit.
- c. Describe how these funds will benefit internal users within the unit.
- d. Will the equipment be available to other laboratories to maximize the use of the equipment between projects?
- e. Is there a plan for covering long-term maintenance costs?
- f. If the PI leaves or the equipment is under-utilized, is there a plan to reallocate the equipment to another laboratory unit or core facility?

Commitments

This program allows cost sharing or matching from non-DOR sources. Any financial or tangible commitments must be formally documented. Written commitments signed by the sponsoring unit authorities (i.e., dean, center director, and/or department chair) must be submitted when cost sharing or matching is proposed. Startup funds are not eligible for cost sharing because it bypasses the need for a discussion with the department chair/dean.

Space

Space availability and requirements must be identified.

- a. Location of the unit.
- b. What facilities, renovations, and technology needs are anticipated?

It is the investigators' responsibility to prepare the facility for installation and housing of the product. No funds from this program will be used for renovations.

User Group (Up to 2 pages)

Provide a list of the users, including the PI and Co-PI(s), and include their departmental and institutional (if not UH) affiliation.

- a. Who are the primary expected users of the facility, including the PI and Co-PI(s), whose research program will benefit?
- b. What is the anticipated usage time?

- c. How will users gain access to the facility/instrumentation/services?

Review Process

These proposals will be competitively reviewed and acted upon by subcommittees of the Research and Scholarship Committee (RSC) of the Faculty Senate. Winning proposals will be determined based on program criteria, merit, and available funds. Preference will be given to bold new ideas showing clear evidence of high likelihood of producing high quality, high impact products in the short term and viability as a research program in the long-term. Investigators with current funding must clearly state any overlaps between this and their current project portfolio.

Merit Criteria

All applications will initially be checked against the eligibility criteria outlined above. If eligibility is not fulfilled, applications will be returned without additional review alongside an appropriate explanation by DOR staff. After the initial screening, applications will be submitted to the RSC. Each accepted proposal will be competitively reviewed and acted upon by a subcommittee of the RSC that may include non-RSC members from the campus. The RSC will make recommendations to the VC/VP for research, who will be responsible for awarding and administering the grant. The DOR reserves the right to review and change budgets and ask for clarifications from potential awardees. Reviewers will be internal to UH and may not be disciplinary experts. For instance, a colleague from the College of Arts or the College of Education might review an application from the College of Pharmacy. It is important to ensure that reviewers who are not technical experts in the field of inquiry can understand the proposal narrative. Avoid jargon, unexplained abbreviations, and narratives that are highly technical.

Each proposal must supply convincing evidence that the following criteria have been met or will be met:

1. The proposed activities must represent high-quality research of significant benefit to the University and society.
2. A grant must be submitted in the identified research area during Year 1 of the project period.
3. The PI must demonstrate the potential to compete in the designated area by virtue of publication record and prior funding or the potential to be competitive by virtue of other completed research.
4. The review committee will rank each proposal in five domains on a 1 (highest) to 5 (lowest) scale:
 - a. Impact of proposed equipment request
 - b. Plan for external grant submission, including the timeline
 - c. Need for the equipment and plan for maintenance
 - d. Investigator expertise, track record, or potential
 - e. Long-term prospects for substantive contributions to the selected research area

Congruency Review

Congruency review by the Research Integrity and Oversight (RIO) Office is required for all research submitted to this program. The review must be conducted within three months of the award announcement or the funds will be forfeited. Congruency review includes human subjects, animal

usage, biological materials (rDNA, human samples, microorganisms, etc.), and radiation (radioactive materials, lasers, and x-rays).

All projects involving human subjects must be reviewed and approved by the Institutional Review Board (IRB) before the grant cost center will be established.

All projects involving the use of animals in research must be reviewed and approved by the Institutional Animal Care and Use Committee (IACUC) before the grant cost center will be established.

All projects involving biological materials must be reviewed and approved by the Biological Safety Manager and the Institutional Biosafety Committee (IBC) before the grant cost center will be established.

All projects involving radiation must be reviewed and approved by the Radiation Safety Officer (RSO) & Laser Safety Officer (LSO) and authorized by the Radiation Safety Committee (RSC) before the grant cost center will be established.

Intellectual Property

In accordance with University policy, faculty members and the University share in net income generated from intellectual property. For additional information, refer to the [Faculty Handbook](#) or contact the [Office of Technology Transfer and Innovation \(OTTI\)](#) at 713-743-9294.

Schedule

Program Announcement	October 4, 2021
Application Deadline	December 6, 2021
Initial Review Completed	February 18, 2022
Announcement of Awards	March 14, 2022
Effective Date of Award for 18 Months	April 1, 2022-October 2, 2023
Interim Report 1	September 30, 2022
Interim Report 2	April 1, 2023
Final Report and Product Submission	October 2, 2023

Extensions

The equipment must be purchased in the first 12 months after the cost center is established, and the DOR strongly recommends it to be purchased in the first 6 months. Failure to purchase the equipment in a timely manner may result in loss of funding. Extensions of up to 6 months will be granted only for circumstances that would extend the tenure clock.

Reporting and Acknowledgement

Use the Progress Report Form on the DOR Internal Awards webpage. Progress reports are due on the established dates regardless of progress through the congruency review. Interim reports are required at 6-month intervals. These reports should be narrative summaries of progress not to exceed one page. The final report should identify how the equipment was utilized and identify

specific grant applications applied for and received as a result of the equipment grant. The final product should be submitted with an up to 3-page narrative. Failure to comply with this reporting requirement will disqualify an individual for future consideration in all internal funding programs.

Notice must be given of publications, presentations, exhibitions, or performances resulting from the award. The grantee must acknowledge DOR support in all products and publications resulting from the award and provide one copy of the publication to the DOR.

Assistance

All questions related to this program should be submitted to Dr. Ezemenari Obasi, Associate Vice President for Research Administration, emobasi@uh.edu

Please do not call or email regarding the review results because the dates depend on the RSC review capacity and are approximate.