

**DOR/PROVOST FACULTY RESEARCH INVIGORATION PROGRAMS
HIGH PRIORITY AREA RESEARCH SEED GRANTS
2019-2020 GUIDELINES**

Overview

The Provost and the Vice President for Research are continuing a program to invigorate the University’s research enterprise through targeted investment of seed research funds in high priority areas (see the examples in Figure 1). The purpose of this program is to invigorate research labs and groups with funds that would permit submission of competitive research proposals. The seed funding grant program is closely tied to the four institutional thrusts that the Vice President for Research and the Provost developed in consultation with the college deans, and which the Chancellor has endorsed: (1) physical and cyber security, (2) drug discovery and development, (3) sustainable communities and infrastructure, and (4) accessible healthcare. Each of the thrusts is described in Figure 1, which provides the general area of emphasis and some examples. Formation of interdisciplinary research teams is encouraged to build capabilities to address these complex issues.

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

	 Cyber-Physical Security	 Drug Development/-Discovery	 Sustainable Communities, Infrastructure	 Accessible Healthcare
 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
 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
 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
 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

Funding Level

For this fiscal year, we anticipate making six to eight 18-month awards at a maximum of \$70,000.

Reporting Requirements

1. An external grant proposal must be submitted in one of the high priority research areas in Year 1 of the project period. If the applicant intends to apply for a competition that does not fit this timeline, an exception should be noted in the proposed timeline. An exception can be granted by petition provided this extension delays the grant submission for no more than 3 months.
2. A resubmission is expected in the next submission cycle following the receipt of reviewer comments until funding is secured or a new application can be submitted while awaiting the outcome of the previous submission. In Year 2, the PI is expected to submit either a second proposal or resubmit the proposal from Year 1.
3. A final report that captures the research output and funding garnered by using this award will be due at the end of the Year 2.
4. Should any reporting or submission requirements fail to be met, the DoR reserves the right to terminate funding and the college Dean and department chair will be notified.

Eligibility Criteria

Full-time University of Houston faculty members (tenured, tenure-track, or research faculty) are eligible to apply. Other investigators employed by UH may be listed as co-PIs. ***A faculty member may serve as PI on only one application and as co-PI on one application. Applicants who received a research seed grant in the most recent competition may not apply.***

Proposal Preparation and Submission

The application to this program must be prepared following the requirements outlined below and submitted as a single PDF file to the DoR using the online link by the PI's affiliated pre-award research administrator in their college or in the DoR. Each submission requires approval by all involved department chairs and college deans via online authentication (see below).

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. 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 Documents

I. Cover Page

The cover page will be generated by entering required data into the online portal. Emails to you, your department chair (or equivalent), your associate dean for research and your dean will be sent after you submit the proposal in lieu of the previously required signature.

NOTE: All proposal documents must be submitted as a (1) single PDF and include titles listed below.

- II. Abstract/Summary
An abstract of no more than 200 words and single-spaced.

- III. Proposal Narrative (Up to 6 pages, includes graphics, tables, equations, and formulas)
 - a. The proposal narrative should not exceed six pages with exactly 1.5 line spacing, and the font size of Arial should be 11 pt. with 1-inch margins. The following sections should be included:
 - (1) Objectives and Specific Aims
 - (2) Significance and Impact
 - (3) Preliminary Results and Expertise
 - (4) Research Methods
 - (5) Timeline and Plans for Grant Submissions: Include specific grant mechanisms and an estimate of the budget of the grant that will be pursued.
 - b. References Cited are in addition to the 6-page Proposal Narrative and should be single spaced.

- IV. Biosketch(es) (2 pages per investigator)
Provide a two-page biosketch for each PI and co-PI. NSF style is preferred, but not required. The NIH narrative style is inappropriate for this type of submission.

- V. Current & Pending Support
Provide a list of current and pending support for each PI and co-PI, including a clear description of any overlap with the seed grant proposal. If the proposal is related a project supported by start-up funding, indicate the overlap. Proposals seeking to improve a prior submitted external proposal that received a high ranking but was not funded should provide the external proposal reviews and describe the specific steps that will be taken to address the deficiencies stated in the reviews.

- VI. Budget (1 page)
The budget must be constructed and presented by 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. Funding requests may be up to \$70,000 depending upon the type and scope of research. A budget justification is required.
 - a. Budgets will be critically reviewed. All budget items should have written justifications, and the budget should include fringe benefits for salary requests. The intent of this program is to foster research, and, as such, food and alcohol are not allowable expenses. There is no page limit for the budget justification, but applicants are encouraged to be succinct.
 - b. Support for faculty salaries is limited to \$10,000 per grant, including fringe benefits.
 - c. Support for instructional development activities will **not** be considered for this program.

- d. Travel is only allowed if it is directly related to the completion of the research proposal, such as fieldwork, training on new equipment, or related examples clearly justified in the budget request.

VII. Budget Justification and Fiscal Accountability (1 page)

Each budget should justify all aspects of the requested budget, including faculty salaries. Faculty salaries should be specified as academic or summer months.

VIII. Commitments

Cost sharing or matching from non-DOR sources is allowed by this program. 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.

IX. Space and Other Resources

Space availability and requirements should be identified.

- a. Location of the laboratory unit.
- b. What facilities, renovations, and technology needs are anticipated? No funds from this program will be used for renovations. Identify any other linked resources.

Review Process

All applications will initially be checked against the eligibility criteria outlined above. If eligibility is not fulfilled, applications will be returned without additional review with an appropriate explanation by DoR staff. After the initial screening, applications will be submitted to the Research and Scholarship Committee (RSC) of the Faculty Senate to be evaluated. Each accepted proposal will be competitively reviewed and acted upon by a subcommittee of the RSC that will 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 to ask for clarifications from potential awardees. Reviewers will be internal to UH and may not be disciplinary experts. For example, an application from the College of Pharmacy might be reviewed by a colleague from the College of Arts or the College of Education. It is important to ensure that the proposal narrative can be understood by reviewers who are not technical experts in the field of inquiry. Avoid jargon, unexplained abbreviations, and narratives that are highly technical with no explanation.

Congruency Review

Congruency review by the Office of Research Integrity 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.

Criteria for Award

The proposals should be clear, concise, and explicit about the benefits of the activities to be undertaken. Proposals should be written to be understandable to reviewers who are from a range of disciplinary fields. Reviewers will be internal to UH and some might not be disciplinary experts.

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 and innovation
 - b. Plan for external grant submission, including a timeline
 - c. Quality of the Research Methods
 - d. Investigator expertise, track record or potential
 - e. Long-term prospects for substantive contributions to the selected research area

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](#) at 713-743-9155.

Deliverables, Reporting, and Acknowledgment

The PI is expected to complete the following activities and reporting during the 2 years following the award. An online link to submit reports will be created prior to the due date on the internal awards page. An external grant proposal in the selected high priority research area must be submitted during the first year of the award. If the applicant intends to apply for a competition that does not fit this timeframe, an exception should be noted in the proposed timeline. An exception can be granted by petition, provided it does not delay the grant proposal submission by more than 3 months. A resubmission is expected in the next submission cycle following the receipt of reviewer comments until funding is secured, or a new application can be submitted while awaiting the outcome of the previous submission. In year 2, the PI is expected to either submit a second proposal or resubmit the proposal from year 1. At the end of the funding period, the PI must prepare a final report that captures the research output and funding garnered by using this grant. Investigators who fail to submit timely progress reports or show adequate progress will have their funding terminated. It is the responsibility of each award recipient to provide information to the DoR concerning all external grant applications that are submitted or awards received as a result of this funding. Such information should include the date of submission, the title of the project, inclusive dates, agency, total amount requested, and the status of each application. Failure to comply with this reporting requirement will disqualify the individual from future consideration in all internal funding programs sponsored by the DoR.

Notice must be given to the DoR of all publications or presentations resulting from this award. The grantee must acknowledge University support in all publications or presentations resulting from the award and must provide one copy of each publication to the DoR.

Proposal Preparation and Submission

The application to this program must be prepared following the requirements outlined below and submitted as a single PDF file via email to the Division of Research using the online form and submitted by the PI's affiliated pre-award research administrator in their College or in DoR. The proposal must be submitted before 5 PM, March 2, 2020.

No late applications will be accepted.

Effective Date Awards

The Vice President for Research and the Provost will make decisions on each proposal based on the recommendations of the RSC review subcommittee. All applicants will be notified of the review outcome by May 15, 2020. Awards will be effective May 1, 2020, for 24 months (18 months of funding).

Program Dates

- Application deadline: March 2, 2020
- Initial Review Completed: April 17, 2020
- Announcement of successful applications: April 24, 2020
- Effective Date of Award: May 1, 2020 to April 30, 2022
- Funds expiration: October 31, 2021

- **Progress reports due dates:**
 - November 1, 2020
 - May 1, 2021
 - November 1, 2021;
 - *Final Report*- April 30, 2022

Extensions

Extensions are strongly discouraged and will be granted only for circumstances that would extend the tenure clock. There may be factors related to a grant request that could lead to an extension request for funding, but this will only be for 6 months to the date of the final report. Recipients of these funds should understand that they are designed for short-term impact as reflected in grant submissions.

Assistance

All questions related to this program should be submitted to Jack Fletcher, Associate Vice President for Research Administration, at jackfletcher@uh.edu. Please do not call or email regarding the review results because the dates depend on the Research and Scholarship Committee review capacity and are approximate.