

# IIT BOMBAY-OHIO STATE FRONTIER CENTER SCHOLAR GRANTS

REQUEST FOR PROPOSALS, 2021

## KEY DATES

<b>Dec. 3, 2020</b>	Request for Proposals (RFP) released
<b>Mid-January</b>	RFP information sessions hosted by IIT Bombay and Ohio State Hosted event details will be provided on <a href="#">the Frontier Center website</a>
<b>Feb. 24, 2021</b>	<b>Deadline for Proposals</b>
<b>Mar. 24, 2021</b>	Awards announcement
<b>Apr. 23, 2021</b>	Contract initiation target

## POINTS OF CONTACT

Submit the completed Proposal **and** draft Statement of Work via email to **both** [frontier-center@osu.edu](mailto:frontier-center@osu.edu) and [pic.osu@iitb.ac.in](mailto:pic.osu@iitb.ac.in).

Submit Frontier Center Questions to [Prof. Ardeshir Contractor](#) (Ohio State), [Prof. Steven Ringel](#) (Ohio State), [Prof. Saurabh Lodha](#) (IIT Bombay), or [Prof. Raghavan Sunoj](#) (IIT Bombay).

Submit administrative RFP-related questions to [Joanna Gardner](#).

## FRONTIER CENTER

The IIT Bombay-Ohio State Frontier Science and Engineering Research Center is dedicated to creating a global community of researchers, students and industry. This collaboration between the Indian Institute of Technology Bombay and The Ohio State University builds on both institutions' research strengths to advance the creation and translation of knowledge, educate students for the global economy, and improve the well-being of our world.

The Frontier Center will act as a catalyst to develop and advance collaborative, industry- and government-funded projects. The Center will host joint workshops and webinars, facilitate courtesy and visiting faculty appointments in strategic areas of interests, and provide seed funding to researchers. The Frontier Center Scholars program is one of the core kernels of our efforts, combining seed funding and collaboration facilitation.

## SCOPE OF THE FRONTIER CENTER SCHOLAR PROGRAM

The Frontier Center Scholars program supports collaborative research between a doctoral graduate student—the Frontier Center Scholar—from either university, a principal investigator (PI) at IIT Bombay, and a PI at Ohio State. The Scholar will be co-supervised on their doctoral research by their “home PI” (graduate advisor) and a “host PI.” The Scholar will complete at least one semester of research at the host university. This initial collaboration will act as a catalyst for a sustained, extramurally funded, collaboration between the co-PIs.

The Scholar will receive travel support, accommodations, and living expenses for their stay at the host university for one semester (4-6 months). The Scholar will receive stipend and tuition support for one semester while they perform this research. The Scholar will receive a budget for research-related materials, supplies, or facility user fees. The Scholar will receive research support from the host PI throughout their doctoral research.

The co-PIs will both receive travel support for one visit to the partner university for the purpose of project planning, project support, and collaboration planning. The proposed project *can* be related to an existing, funded project, including projects supported by industry or the Frontier Center. Cost sharing (matching funds) that increases the collaboration’s impact is highly encouraged. The proposed project must extend the scope of any funded project, have a clear objective for the hosted research that can be completed within the proposed research period, and increase the likelihood of extending and expanding the collaboration through extramural support (government agencies, industry, commercial ventures, or foundations).

The Frontier Center will support the co-PIs and Scholar in planning for extending the collaboration, including in identifying funding sources. The Frontier Center will support the Scholar in preparing for their visit and during their time at the host university.

## FRONTIER CENTER RESEARCH FOCUS AREAS

The proposed research collaboration must relate to one of these Frontier Center focus areas (but are not limited to the specific examples identified):

1. Renewable Energy (power electronics, energy storage, photovoltaics, microgrids, energy efficient electronics)
2. Advanced Manufacturing (additive manufacturing, data science-enabled processing)
3. Electronics (high speed devices, devices for sensing, communications devices, defect-based quantum systems)
4. Photonics (photonic devices/circuits, sensing and imaging, lasers, single photon source)
5. Emergent Materials (quantum materials, 2D materials, spin/magnetic phenomena)

## PROPOSAL SUBMISSION PROCESS

### PROGRAM INFORMATION AND PARTNERING SUPPORT

The Frontier Center is hosting the following activities to support prospective PIs:

- Online informational sessions, available live and recorded, about the Center and the Scholars program
- Webinars with research presentations by potential partner researchers in select focus areas
- Un-partnered faculty interested in teaming can search the [Frontier Researcher Directory](#) for overlapping interests. You can be added to this directory by submitting your information to [frontier-center@osu.edu](mailto:frontier-center@osu.edu)

Details on the above resources can be found at: [the Frontier Center website](#).

## PROPOSAL SUBMISSION

To propose, the co-PIs must submit a 2 to 3-page Proposal **and** a draft Statement of Work that address all of the requirements below. The Frontier Center has provided Proposal and Statement of Work templates (Microsoft DOCX format) that PIs are encouraged to use. The Proposal and Statement of Work must be submitted in PDF or Microsoft DOCX format via email. The submission must include:

**1) Proposal ([download a DOCX template here](#)):**

- a) Project title
- b) Project summary
- c) Project Graphic: A graphical element (diagram, chart, or table) summarizing the proposed collaboration
- d) Frontier Center Focus Area(s): Indicate all that apply
- e) Researchers: Names and contact information for the co-PIs and the Scholar
- f) Scholar Project Description: A description of the project to be performed by the Scholar, including its relationship to their doctoral research and a project timeline.
- g) Scientific and Technological Goals of the Collaboration: The goals of the ongoing collaboration and how the project supports these; for example, what is the expected scientific or technological impact of the collaboration.
- h) Targets for External Support/Follow-On Funding: The targeted means of supporting an ongoing collaboration. As specifically as possible, given the nature of the proposed research, identify the potential for (i) Industrial or commercial entities with interest in the research or applications of it; (ii) Government or other nonprofit research funding agencies and how the proposal matches their interests/mission.
- i) Evidence in Support of Proposed Collaboration: For example, active funding that will provide matching support, citations to relevant publications, citations to joint publications, and/or documentation related to targeted funding opportunities.
- j) Budget and Justification: Detail for Variable Expenses only – Materials, Supplies and User Fees. See Budget Table below for explanation.

**2) Statement of Work ([download a DOCX template here](#)):** Once you've completed the Proposal Template, use that information to assist in filling out the Statement of Work. The Statement of Work will be used to define the project scope if the project is selected for award.

**Budget Table.**

	Expense Category	IIT Bombay Scholar Hosted at Ohio State		Ohio State Scholar Hosted at IIT Bombay	
		Home Budget	Host Budget	Home Budget	Host Budget
<b>Fixed Expense Categories</b>	Scholar Stipend, Tuition, and Fees	Covered for one semester	-	Covered for one semester	-
	Scholar Travel	One round trip (airfare, visa, insurance); INR 150K	-	One round trip (airfare, visa); \$2,000	-
	Scholar Living Expenses	-	Lodging, living expenses, and medical insurance during research visit; \$10,000	-	Lodging at IIT Bombay International Students' Hostel, living expenses, and medical insurance during research visit; INR 800K
	Home PI Travel	One round trip, up to two weeks (airfare, visa, insurance, hotel, per diem); INR 400K	-	One round trip, up to two weeks; \$2,000	Lodging at IIT Bombay Guest House
	Host PI Travel	Lodging at IIT Bombay Guest House	One round trip, up to two weeks; \$2,000	-	One round trip, up to two weeks (airfare, visa, insurance, hotel, per diem); INR 400K
	Materials, Supplies, and User Fees	-	<b>To be proposed; No more than \$6,000</b>	-	<b>To be proposed; No more than INR 800K</b>
<b>Variable Expense</b>					

**EVALUATION PROCESS AND CRITERIA**

Proposals will be considered twice per year. The selection of awards will be made by the Frontier Center leadership team. The proposals will be evaluated based on the following criteria:

1. Intellectual Merit (originality and potential impact in Frontier Center focus areas)
2. Benefit to the Scholar
3. Potential for Successful Collaboration (extramural funding and project partnerships)
4. Cost share through existing, funded projects

## TERMS AND CONDITIONS

Full terms and conditions will be specified and agreed to at the time of the award. Each university will adhere to its standard policies and procedures in specifying these terms and conditions. These terms and conditions will include:

- DELIVERABLE 1: The co-PIs and Scholar shall prepare and deliver a project status presentation for the Frontier Center leadership. This presentation will discuss progress on, and outcomes of, the Scholar's research and progress made towards an ongoing collaboration. The presentation will include a one-slide Research Summary approved for public disclosure. The presentation will include a one-slide summary of expenditures. The presentation will be delivered at least annually until project completion.
- DELIVERABLE 2: The co-PIs shall notify the Frontier Center of any publications, presentations, intellectual property, or extramural grants and contracts awarded as a result of the Scholar Grant.
- DELIVERABLE 3: A PI or the Scholar shall present at a Frontier Center sponsored event within six months of project completion. [The Frontier Center website](#) will list sponsored events with presentation opportunities.
- Funds from IIT Bombay or Ohio State shall only be used to support (1) Scholars' stipend, tuition, fees, travel expenses, and hosted research expenses (materials, supplies, and user fees); and (2) the PI's travel expenses in support of this grant.
- Grant funds from Ohio State or IIT Bombay *shall not* be used to support faculty, staff, or post-doctoral researcher salaries; equipment or computer purchases, refurbishments, or maintenance; or facilities and administration (overhead) fees.
- If a Scholar withdraws from participation, for any reason, before the project is completed, the co-PIs shall inform the Frontier Center within 14 days and either propose an alternative Scholar or agree to return all unused funds. The Frontier Center leadership must approve a change to the proposed Scholar before the expenditure of further funds.
- The co-PIs shall agree to a Frontier Center negotiated Intellectual Property (IP) agreement that abides by the governing policies of The Ohio State University and IIT Bombay.
- The Scholars shall be involved in the process of filing invention disclosures and patent applications in which they are a named inventor.
- At the end of each project, the Scholars will be provided a program evaluation questionnaire to complete, helping assess the program strengths and weaknesses