

The Photonics Center's Equipment Acquisition Guidelines

1. Introduction

The Photonics Center at Boston University is committed to offering cutting-edge infrastructural resources to its members and the broader research community. These resources encompass faculty research laboratories, shared facilities and equipment, and comprehensive support for sponsored research proposals and programs. With respect to equipment, the Center purchases and maintains equipment for several large, shared facilities, provides cost sharing for competitive sponsored program solicitations requesting capital equipment, contributes to shared equipment purchases as part of new faculty start-up, and repairs and maintains large common permanent equipment such as optical tables and laser safety equipment.

This document is intended as a resource for Photonics Center faculty and staff, to describe general guidelines and procedures for acquisition of new equipment.

2. Equipment Acquisition and Maintenance

The Photonics Center actively acquires and maintains a range of equipment for its shared facilities. We engage in cost-sharing for competitive sponsored program solicitations that request capital equipment, contribute to shared equipment purchases for new faculty start-up packages, and ensure the upkeep of large, common permanent equipment such as optical tables and laser safety systems.

3. Shared Instrumentation Grants

The Center prioritizes the acquisition of equipment through federally sponsored programs, specifically the NSF MRI and NIH S10 instrumentation grants, which have been awarded to Center faculty on many occasions. The criteria that are used to justify participation of Photonics Center staff to support applying for these grants (including support for proposal writing, budgeting, space allocation, and technical support) are as follows:

3.1. Collective Need

Photonics Center participation in an instrumentation proposal is primarily determined by the equipment's prospective usage by our diverse community of researchers.

3.2. Scholarly Impact

Photonics Center participation in an instrumentation proposal requires that the equipment can be expected to significantly enhance scholarly activity and output.

3.3. Principal Investigator (PI)

Photonics Center participation in an instrumentation proposal requires that a faculty member of the Photonics Center will serve as the PI for the grant proposal.

The most relevant instrumentation grants for our needs are the NSF MRI and NIH S10, with deadlines in mid-January and early June, respectively. The Center is also supportive of DoD DURIP proposals. For the annual NSF and NIH solicitations, the Technical Director will initiate a

potential grant application process by issuing a call for pre-proposals three months before these deadlines. Faculty interested in applying should submit their pre-proposal via the Center's website, detailing the instrument's significance as a shared resource. Following a review by the Technical Director and Center Director, the selected pre-proposal moves forward with the chosen faculty member acting as PI, supported by our staff in the submission process.

4. Shared Equipment through Center Funds

In addition to acquiring Equipment through shared instrumentation grants, the Center routinely supports acquisition of equipment for its shared facilities, to fulfill its mission of creating and maintaining research infrastructure.

4.1. Annual Review Process

An annual review process is conducted at the start of each academic year by the Technical Director, who evaluates the needs for upgrades or new equipment based on feedback from lab managers and faculty.

4.2. Prioritization Criteria

Given the limited annual budget for equipment purchases and repairs, priority is given to:

- Instruments that are frequently used and require replacement due to age or wear.
- New equipment acquisitions that meet specific criteria: significant research benefit, uniqueness (non-duplicative within the center), and adherence to budget constraints.

Faculty will be invited to submit online pre-proposals for equipment early in the Fall semester of each academic year, which are then reviewed by the Technical Director based on the above criteria and available funding. Selected proposals are presented to the broader faculty for feedback, and if supported by a significant number of members, the acquisition may proceed at the discretion of the Technical Director.

5. Non-Shared Instrumentation

Occasionally, the Photonics Center allocates funds for individual-lab equipment on an ad hoc basis. In general, such support is limited in scale and is reserved for exceptional circumstances.

5.1. Criteria for Funding

Due to limited funding, these proposals must meet stringent criteria:

- Equipment must meet critical research needs or enable significant external funding opportunities.
- equipment must not duplicate resources available within the accessible shared labs at Boston area institutions such as Harvard's CNS, MIT.nano, and the shared labs within BU.
- Proportionate support from the home department and/or college is expected.

5.2. Decision Influence Factors

While not decisive, the following will positively influence funding decisions:

- The applicant's history of productivity and external funding.

- The applicant's history of contribution to shared instrumentation grants
- The applicant's history of contribution to training activities.
- Potential impact on junior faculty research initiatives.

6. Transparency and Equity

To ensure fair and clear processes, the Photonics Center will:

- Maintain and regularly update detailed documentation of all procedures and criteria for equipment acquisition.
- Communicate these policies and procedures through the Center's website, newsletters, and faculty meetings.
- Foster an environment of open dialogue, inviting feedback from faculty on their needs and experiences with the equipment acquisition process.
- Conduct periodic reviews of these guidelines to ensure they continue to be effective, transparent, and equitable.