

****REQUIRED PROCESS FOR SUBMITTING NIH HEI S10 PROPOSALS****

This is a limited submission initiative. Please review the Internal Proposal and review criteria listed below as well as the information about Northwestern's Limited Submissions process and review committee at:

<http://www.research.northwestern.edu/ord/funding/limited-submissions/>

Information about the High-End Instrumentation Grant Program can be found by browsing to:

<http://grants.nih.gov/grants/guide/pa-files/PAR-11-228.html>

PROGRAM SYNOPSIS

With advances in technological development, biomedical scientists require ever more powerful tools for their research. To meet the demands of the community, the NCRP initiated the HEI program in FY 2002 to support expensive, high-end instruments. This program is designed to support the acquisition of instruments with a minimum request at \$750,000, and maximum at \$2,000,000.

Examples of key instruments in this category include, but are not limited to:

- **Biomedical Imagers:** Cutting-edge medical imaging technologies and novel data processing algorithms have allowed the visualization of structures and metabolic/molecular activities on intact biological systems including humans. Examples of imagers may include MRI, CT, PET, SPECT as well as co-modalities.
- **Ultrahigh-Field Nuclear Magnetic Resonance Spectrometers:** There is a significant demand for ultrahigh-field NMR spectrometers for enhanced sensitivity and increased resolution to determine three-dimensional structures of large proteins and protein complexes in extremely small samples. This need is magnified by the extended run time for data collection at lower fields, which limits access to these instruments.
- **Mass Spectrometers:** Instruments that combine electrospray ionization with Fourier transform ion cyclotron resonance (FTICR) mass spectrometry are now available. The FTICR methods provide very high resolution and accurate molecular weight measurement to study large biopolymers and their interactions. Matrix-assisted laser desorption/ionization mass spectrometric imaging (MALDI-MSI) has allowed label-free molecular imaging of biological tissue sections.
- **Electron Microscopes:** The frontier of cell biology now focuses on elucidating the nature and function of cell organelles and the role of complex protein machines. Such studies require intermediate voltage electron microscopes with field emission illumination for high resolution imaging of single molecules. Such microscopes are also needed to perform computer reconstruction at the subnanometer scale for macromolecular assemblies that are too large and complex to study by x-ray crystallography and NMR spectroscopy.
- **Supercomputers:** Computational biologists require high performance computers or clusters of computers for large-scale data processing, storage and transfer. Applications for general use computer networks will not be accepted.

Applications for synchrotron equipment, with the exception of detectors, are not appropriate for this FOA. The HEI program will not support requests for:

- the development of new instrumentation;
- general purpose equipment or purely instructional equipment;
- instruments used for clinical (billable) care;
- an instrument with a base cost of less than \$750,000;
- multiple instruments bundled together to meet the \$750,000 minimum;

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- a series of complementary related instruments which share a common research focus;
- an assortment of instruments to furnish a research facility;
- software unless it is integral to the operation of a piece of equipment;
- institutional administrative management systems, clinical management systems;
- equipment for routine sustaining infrastructure: standard computer networks, autoclaves, hoods and equipment to upgrade animal facilities.

IMPORTANT DATES

- July 15, 2011: Letters of intent due
- August 01, 2011: Approval notifications sent
- September 19, 2011: Full proposal upload into grants.gov

Faculty interested in submitting a proposal to NIH should refer to instructions below for generating an internal letter of intent. It should be uploaded to

https://depot.northwestern.edu/xythoswfs/webui/xy-10235566_1-t_4MvHetsw

Letters of intent are due by midnight on July 15, 2011.

LETTERS OF INTENT

Internal letters of intent (LOI) should provide, minimally, the information requested below.

LOIs are requested to (1) to ensure that investigators are not requesting something already in a core facility, (2) to prevent duplicate applications, (3) to encourage placement of instruments in core facilities (if appropriate), and (4) to help PIs navigate the application process including obtaining a letter of support from the VPR.

LOIs will be reviewed by the Office for Research according to the four criteria in the preceding paragraph. Submission of an LOI to ORD does not provide an investigator with the permission to submit an S10 application. Only a written notification from the Office for Research will allow an investigator to gain institutional endorsement of his/her application.

Investigators should produce a document in 11 pt. Arial font, providing the following information:

1. Principal Investigator Name
2. Is the instrument requested to be used for imaging?
3. What is the model number of the instrument requested, if applicable?
4. What is the brand name of the instrument requested?
5. Description of the instrument requested (e.g., confocal microscope)
6. Brief description of the intended use of the instrument
7. What is the approximate cost of the instrument?
8. Are there similar instruments already available to Northwestern faculty? If so, provide justification of why this instrument has to be duplicated.

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9. Will the instrument be housed in a core/shared facility?

10. If the response to #9 is yes, provide the name and location of the core/shared facility, as well as an expressed agreement by the named core facility to manage the instrument.

IMAGING PROPOSALS

If the HEI application involves a request for imaging equipment, then a pre-proposal will be required and reviewed by the NU Imaging Advisory Committee in cooperation with the Office for Research. More information about the pre-proposal process can be found at the following website:

http://www.research.northwestern.edu/facilities/pdf/inst_grant_loi_guide091214.pdf

VOUCHER PROGRAM

The Office for Research initiated a voucher program in January 2010 for PIs of instrumentation grants. Each voucher is equivalent to \$10,000 for use of equipment or services in a university-sponsored core facility. The following conditions describe how you can earn a voucher.

1. A voucher can be earned by any faculty member who writes a successful instrumentation grant worth \$100,000 or more AND places the instrument in a university-sponsored core facility.
2. The voucher applies only to the faculty member who is the Principal Investigator (PI) on the grant.
3. A voucher will be applied to use of the new instrument.
4. The faculty member (PI of the instrumentation grant) must obtain prior approval of the core director*.
5. The voucher will be made out to the facility for use in the PI's name.
6. The PI will also receive priority sign-up on the new instrument.

* To determine if an instrument aligns with the operation of a core, the PI and the core director must jointly agree to a management plan that shows how the OVERALL core budget, space, and expertise can accommodate the long-term (at least 3 yrs) maintenance of the instrument. This includes projected revenues, service contracts (if applicable) and salary.

CONTACT INFORMATION

- Rachael Andel Basnett, ORD Research Administrator, rachael@northwestern.edu 847-467-0373
- Philip Hockberger, OR Director of Core Facilities, p-hockberger@northwestern.edu, 847-467-1509 or 312-503-5625
- Teng-Leong Chew, OR Director of University Imaging Resources, t-chew@northwestern.edu, 312-503-2841