

Contact: Andrea Anania

**UNIVERSITY OF IOWA EQUIPMENT PURCHASE**

**Action Requested:** Approve the purchase of a Raith USA, Incorporated RAITH150-TWO Scanning Electron Microscope with Direct-Write Lithography for \$1,780,400 (Raith SEMDWL)

**Executive Summary:** Equipment purchases at the Regent institutions costing more than \$1 million are required by Board policy to be approved by the Board of Regents.

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**Description of the Equipment**

The RAITH150-TWO SEMDWL enables ultra-high resolution imaging and patterning on a range of materials for the fabrication of micro and nano devices in the nanotechnology research field.

**Justification of the Need for the Equipment**

The College of Engineering's Department of Optical Science and Technology Center Micro Fabrication Laboratory reports that the RAITH150-TWO SEMDWL will:

- ▶ Offer cutting edge technology by combining advanced technologies for imaging and patterning at the nano-scale on a wide range of materials;
- ▶ Provide a highly intuitive and user-friendly interface for training and operation. The unique design provides ultra-high resolution patterning in combination with the highest level of automation for complex applications;
- ▶ Replace an instrument damaged in the 2008 flood. At present, there is no equipment on campus that offers the technology to pattern and image structures on the nano-scale with a high level of pattern placement accuracy. As a result, campus researchers do not have the benefit of fabricating devices for a wide range of scientific and technological applications;
- ▶ Encourage multidisciplinary research collaboration and education within campus; and
- ▶ Be utilized by the optics, nanoelectronics, biomedical, genomics, nanomedicine, chemistry, photovoltaic and micro and nano fluidics departments.

**Any Known Alternatives to the Equipment Proposed**

A Request for Proposal was issued and one proposal was received. The evaluation committee determined that the proposal was responsive and the value provided was in the best interest of the University.

**Estimated Cost and Source of Funding**

The cost of the RAITH150-TWO SEMDWL is \$1,780,400. The source of funds is a combination of flood recovery resources, including flood insurance proceeds, federal grant funding (FEMA), and state and University flood recovery resources.

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**Background:** Chapter 7.06B(12) of the Regents Policy Manual requires that:

- ▶ Equipment costing more than \$1,000,000 must be submitted to the Board for approval; and
- ▶ Requests submitted to the Board Office for approval must include the following information:
  - ◆ Description of the equipment;
  - ◆ Justification of the need for the equipment;
  - ◆ Any known alternatives to the equipment proposed; and
  - ◆ Estimated cost and source of funding.