

**Request for Proposals:
Equipment Needing the Sensitive Instrument Facility at Ames Laboratory**

Ames Laboratory is soliciting proposals for installing current, new or proposed experimental equipment in the unfinished space in our new Sensitive Instrument Facility (SIF).

Located just south of Iowa State University's Applied Sciences Complex (off Ontario Street in Ames, Iowa), the SIF was designed for instruments requiring very low acoustical and mechanical vibrations and small electromagnetic background fields.

The SIF has one large unfinished instrument room (~ 22' x 40') and an adjoining unfinished control room (~ 9' x 40') (Fig. 1).

Capacity also is available to install air-handling systems for precise control on temperature and humidity and HEPA filters to reduce airborne particulates.



Figure 1. Floor plan for the SIF indicating the unfinished experimental and control rooms.

To best utilize this space, we will evaluate the proposed instruments on the following criteria:

1. Capability to strengthen the core science mission of the Laboratory
2. Ability to take advantage of the SIF design and inability to perform at its ultimate/best resolution anywhere else on campus,
3. Lack of interference with existing electron microscopes, and
4. Breadth of user base and/or high utilization within one or more projects.

In addition, we are considering co-locating more than one instrument to best utilize the space. Special consideration may be given to instruments that meet the above criteria and can be operated remotely or in an automated mode concurrently with other instruments. Splitting the space into smaller rooms or partitions is an option, depending on available funding and ease of co-locating equipment.

Complete a submission form ([download here](#)) and send with all required attachments to SIF@ameslab.gov.

Direct all questions to SIF Program Coordinator, Sarah Wiley, SIF@ameslab.gov.

Submissions will be accepted through **Monday, March 7, 2016**.

**Request for Proposal:
Equipment Needing the Sensitive Instrument Facility at Ames Laboratory
Submission Form**

Basic Information			
Title of Proposal			Date
Submitter Name	Affiliation	E-mail Address	Work Address

All Associated PIs			
Name	Affiliation	E-mail Address	Work Address
Name	Affiliation	E-mail Address	Work Address
Name	Affiliation	E-mail Address	Work Address
Name	Affiliation	E-mail Address	Work Address
Name	Affiliation	E-mail Address	Work Address
Name	Affiliation	E-mail Address	Work Address

Science Justification and Broader Utilization

Describe the instrument, or suite of instruments, and broader context of the science disciplines that use it. (1000 words)

In addition to PIs, list which research group(s) currently is or will use the instrument.

Explain how critical the instrument is to the existing programs portfolio. *(500 words)*

Why is moving the instrument to the SIF necessary? Would the instrument have broader utilization across the laboratory if located at the SIF? *(500 words)*

What are the opportunities for expanding this line of research or branching into new areas with the relocated instrument? How does this enhanced capability compare to existing instruments at other DOE Laboratories or other universities in the US and abroad? *(300 words)*

SIF Justification and Siting Constraints

Describe the ideal environmental parameters necessary for optimal operations the instrument. *(600 words)*

What attempts have been made to alleviate any environmental constraints in the current location? Have those mitigation methods been successful? Why or why not? (300 words)

Clearly indicate upper bounds for acoustical and mechanical vibrations and background values for stray electromagnetic fields if known. Describe the temperature or humidity controls needed, if any. List all utilities requirements including power (single or 3-phase, voltages, and amperage), cooling, vacuum pumps (include types), need for cryogenics (liquid He and/or N₂), etc. (400 words)

How much floor space is needed for the installation including ancillary equipment such as power supplies, pumps and water chillers? *NOTE: The minimum distance for walking around parts 36".* (250 words)

Does the instrument itself or its ancillary equipment have high stray electromagnetic fields (> 10 gauss at 1 meter), high ambient noise (> 55 db), or high heat loads which may be of concern? (250 words)

Describe the known hazards associated with operation of the instrument and handling and preparation of related samples. (300 words)

Would it be possible to co-locate the instrument with other equipment? For co-locating equipment, indicate if it can be operated remotely or for long run times in an automated mode and indicate typical run times. (250 words)

Attachments (check all that are applicable and attached in e-mail)

All installation manuals

A floor plan sketch of the installation including ancillary equipment

For existing equipment, include images of the existing installation

For proposed instruments, attach proposal

Once completed, send form with all required attachments to SIF@ameslab.gov.

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