



The six user centers in the High Temperature Materials Laboratory (HTML), a DOE User Facility, are dedicated to solving materials problems that limit the efficiency and reliability of systems for power generation and energy conversion, distribution, storage and use. The HTML user program provides researchers from U.S. industries, universities, and federal laboratories with access to expert staff and to sophisticated, often one-of-a-kind instruments for materials characterization.

User Support

Instruments available at the six user centers have extensive capabilities for characterizing the microstructure, microchemistry, and physical and mechanical properties of materials over a wide range of temperatures.

Capabilities

- Diffraction (x-ray and neutron)
- Friction and wear testing, inspection
- Mechanical characterization
- Microstructural analysis
- Residual stress measurements
- Thermography and thermophysical properties determination

Professional Staff

HTML staff provide assistance to users and have the following responsibilities:

- Participate in the planning, performance, and interpretation of research, including co-preparation of technical papers and presentations from nonproprietary research;
- Assist users in the safe and efficient operation of user center research equipment;
- Maintain instruments to maximize their availability for research.

Facility Access

Before research begins, two documents must be in place:

- Standard user agreement between the user organization and UT-Battelle, LLC
- Approved research proposal

Proposals

Both nonproprietary and proprietary research is conducted within the user program. Prospective users must submit a research proposal for review and should consult with the appropriate center's staff concerning specific plans and time schedules for inclusion in proposals. Selection of proposals is based on the compatibility of the proposed research with the missions of both the HTML and DOE.

The proposal form is available for download at <http://html.ornl.gov>.

Nonproprietary

Nonproprietary research at the HTML is usually conducted at no direct cost to the user, although charges are assessed for special services. The HTML Proposal Review Committee meets monthly to evaluate proposals and to make recommendations on their acceptance. It also recommends priorities for use of instruments within HTML user centers, consistent with DOE missions and objectives. Applicants are notified of the committee's decision by e-mail.

Users conducting nonproprietary research must agree to submit research results for publication in the open, refereed literature no more than six months after research is concluded. Papers and presentations must be prepared jointly by users and HTML staff.

Proprietary

All proprietary research costs at the HTML are paid by the user. Fees are based on DOE guidelines for ORNL costs and must be paid prior to the beginning of research. Special care is taken to protect proprietary information.

Contact Information



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User Centers and Representatives



Diffraction User Center

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- Room- and high-temperature x-ray and neutron diffraction
- X14A beamline at National Synchrotron Light Source



Residual Stress User Center

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- X-ray residual stress goniometer
- Neutron residual stress facility



Materials Analysis User Center

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- Remote microscopy
- Scanning auger microprobe
- Hitachi HF-3000 FEG-STEM



Thermography and Thermophysical Properties User Center

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- Thermal transport
- Thermal analysis
- Thermography



Mechanical Characterization and Analysis User Center

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- Tensile test facility
- Flexure test facility
- Nanoindenter



Tribology Research User Center

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- Friction-reducing surface treatments
- Materials for wear-critical uses
- Subsurface defect structure
- Topographic imaging

