

# Call for Proposals: Material Science at LANSCE 2020 Run-Cycle

**Proposal Submission Deadline:** Monday, March 2, 2020, 5:00 pm (MDT).

## **Proposal Submission and Scope:**

The Lujan Neutron Scattering Center invites proposals addressing science of NNSA and LANL programmatic interest for the June 29 – December 21, 2020 run cycle. The Lujan Center beam production operations are fully covered by NNSA programmatic sponsors. Approximately 10-20% of the beam time at Lujan Center is available for compelling scientific proposals from institutions with no programmatic sponsor. LANSCE being a NSUF partner facility, DOE/NE-related work may request beam time which will be contingent on a successful NSUF funding proposal. Proposals that involve proprietary work or SPP (Strategic Partnership Project) will be considered using a full cost recovery model. The deadline for proposal submission is 5 p.m. (MDT) Monday, March 2nd, 2020. Successful proposals will be scheduled between June 29, 2020 and December 21, 2020. Proposals for Nuclear Science research (on Flight Paths 12 and 14) are covered in the Nuclear Science Proposal call.

Lujan Center capabilities available for this call are: SMARTS and HIPPO diffractometers, Flight Path 5 for neutron radiography, as well as the Asterix neutron reflectometer and phase contrast imaging capability. Proposals are encouraged for the Neutron Powder Diffractometer (NPDF) which will be made available if there is sufficient interest and funding. More information about these capabilities can be found at <https://lansce.lanl.gov/facilities/lujan/index.php>.

For any questions, contact Don Brown ([dbrown@lanl.gov](mailto:dbrown@lanl.gov) or 505-667-7904) or the instrument scientist listed below.

**Asterix:** Neutron reflectometry and phase contrast imaging: Erik Watkins, [ebw@lanl.gov](mailto:ebw@lanl.gov), 505-667-4037

**ERNI (Flight Path 5):** Neutron imaging/tomography: Alex Long, [alexlong@lanl.gov](mailto:alexlong@lanl.gov), 505-667-3600

**HIPPO:** Neutron time-of-flight powder diffractometer: Sven Vogel, [sven@lanl.gov](mailto:sven@lanl.gov), 505-667-7016

**NPDF:** Neutron powder diffractometer: Julian Chen, [chen\\_j@lanl.gov](mailto:chen_j@lanl.gov), 505-664-0181

**SMARTS:** Materials research of deformation under stress and temperature, Bjorn Clausen, [clausen@lanl.gov](mailto:clausen@lanl.gov), 505-667-2944

Lujan Center areas of research include the following:

- Microstructural evolution, including texture, phase composition, and dislocations, at ambient and non-ambient conditions (load, temperature, pressure etc.)
- Residual and induced stress, phase transformations
- In-situ phase transformations under P, T, H
- Surface and interfacial structure of materials
- Oxidation and hydriding phenomena at interfaces
- Neutron radiography and tomography, including energy-resolved neutron tomography for isotope mapping and phase contrast imaging
- All materials relevant to NNSA and DOE/NE work can be handled at the Lujan Center, including but not limited to actinides (uranium, Pu etc.), high explosives, and radioactive materials

## **Proposal Selection:**

Submitted proposals will be ranked on:

1. Programmatic relevance and impact
2. Quality of the science being proposed
3. Quality of experiment conception, feasibility with stated resources and requested time
4. Existence of the physical foundations for the proposed research.

Proposers are encouraged to contact Lujan scientists. The proposal text should not exceed two pages. Technical and safety risks specific to the proposed experiment must be identified in the proposal. Proposals must provide a description of the ancillary equipment and justification for the beam time requested. Users are typically responsible for providing samples. All proposals that cover work that is continuing or an extension of work being done during FY19 should note this continuation, i.e. if the work is relevant to deliverables or milestones.

**Unclassified Proposal Submission:**

Unclassified proposals must be submitted using the new LANSCE Experiment Management System: <https://lems.lanl.gov/login>. Users need to create an account first. If you have an account in the old LANSCE proposal portal please use the "[Forgot your Password?](#)" to reset your password and access your account in the new system.

While there is not a strict template for research proposals they should contain the following elements:

1. Research Goals including background needed to place your proposal in the proper context, and the significance of the proposed work
2. Experimental details sufficient for the PAC to determine the feasibility of your experiment: what you want to measure, estimates of signal and background, justification for time request
3. If you require special help in the form of specialized equipment or personnel expertise discuss these needs

While we do not enforce a strict page limit proposals should be no more than 4 pages in length.

Please, contact the User Program Office, [lansce-user-office@lanl.gov](mailto:lansce-user-office@lanl.gov), or 505-665-9967 for assistance or if you have questions regarding the proposal process or requirements should you receive beam time. For any U.S. Government funded submitters, including LANL staff, the proposal must be reviewed by the appropriate classification authority and be appropriately marked prior to submittal.

**Note:** The Department of Energy (DOE) requires users of any LANSCE Facility to have a User Agreement (UA) in place between Los Alamos National Laboratory and the user's home institution. The description and list of existing UA can be found at <https://lansce.lanl.gov/users/become-a-user/user-agreements.php>. If your institution does not have a valid UA in place, please contact the User Office at [lansce-user-office@lanl.gov](mailto:lansce-user-office@lanl.gov) to start the process as early as possible.

**Important:**

- DOE requires that all personnel associated with each experiment (including citizenship) are listed in the proposal.
- All visiting US citizen users need to register the visit three weeks before the scheduled experiment. Non-US citizens must register 60 days before their visit.
- DOE requires additional information to grant non-US citizens access to Los Alamos National Laboratory (LANL). Foreign national visitors must have an approved visit request, present a valid passport and documentation of US legal status and work authorizations. (<https://www.lanl.gov/community/visitors/badging/index.php>).

**Classified Proposals Submission:**

Unclassified versions of classified proposals must be submitted using the new LANSCE Experiment Management System: <https://lems.lanl.gov/login>. Classified versions or attachments of such proposals must be sent to Liz Melton either electronically on the secure network ([ejm@lanl.gov](mailto:ejm@lanl.gov)) or via appropriate classified mail transmission channels. If the latter is chosen, you must contact Liz Melton first to ensure that proper mailing protocols are followed. All classified proposals are required to have classification levels appropriately determined and all submitted documents should be appropriately marked. Please contact Don Brown at [dbrown@lanl.gov](mailto:dbrown@lanl.gov) should you have the need to submit Sigma 15 or 20 material.

**Technical Questions:**

It is strongly encouraged that users work with the scattering science team when developing their proposals. For technical questions regarding details involved in fielding experiments, please contact Don Brown ([dbrown@lanl.gov](mailto:dbrown@lanl.gov)) or the instrument scientists listed in this call. Other questions may be directed to the LANSCE User Office ([lansce-user-office@lanl.gov](mailto:lansce-user-office@lanl.gov)).

**Program Advisory Committee:**

All experiments will be reviewed by the Materials Proposal Advisory Committee (MPAC). The MPAC is an advisory committee to the LANSCE User Facility Director and not a funding committee. The MPAC ranking may be folded into programmatic sponsor's decision-making processes.

We look forward to your submissions,

Lujan Center User Program  
[lansce-user-office@lanl.gov](mailto:lansce-user-office@lanl.gov)