

PAC50 will be held during the week of July 11, 2022 and will continue the call for new nuclear physics proposals. The PAC will judge the technical and scientific aspects of submitted proposals and provide recommendations to Laboratory management. New proposals will be recommended for approval only if they represent high quality physics within the range of scientific importance represented by the previously approved 12 GeV proposals. ***The deadline for submission of proposals and updates is 8:00 a.m. EDT (Eastern Daylight Time) on Monday May 16<sup>th</sup>, 2022.***

***Proposals and updates for PAC50 should be submitted electronically using the instructions at [http://www.jlab.org/exp\\_prog/PACpage/instructions.html](http://www.jlab.org/exp_prog/PACpage/instructions.html)***

**Please note:** There are requirements in the submission process which, if not completed, can result in your submission being considered ineligible for review at the PAC meeting.

**Completion of coversheets is a mandatory requirement.** You will be prompted to complete each entry in the coversheet. **All sections must be filled in.** In some cases, you may answer N/A (not applicable), and this data will be reflected in your final proposal submission. There will be no follow-up queries from the Laboratory. If N/A is not appropriate for the proposal, it could result in the proposal being rejected for insufficient information. Also note that proposals which require new experimental equipment **must** include additional information.

All proposals must include an Executive Summary which is no longer than one page as the first page, detailing the following:

- Main physics goals (please be specific)
- The proposed measurements / observables
- Specific requirements on detectors, targets and beam
- Resubmissions/Conditionals should clearly state what changed in the document compared with the previous one submitted to the PAC (please list previous PR and LOI numbers)

See [http://www.jlab.org/exp\\_prog/PACpage/guidelines.html](http://www.jlab.org/exp_prog/PACpage/guidelines.html) for more details.

## **New Proposals**

Detailed information on the process for proposal submission is available at [http://www.jlab.org/exp\\_prog/PACpage/guidelines.html](http://www.jlab.org/exp_prog/PACpage/guidelines.html). New proposals will be granted a 20 minute presentation in a public session at the PAC meeting. Following the public presentation session the PAC will continue its discussions in closed session, and at least one spokesperson should be available either in person or by phone for 24 hours after the public session to answer questions as the PAC's discussion progresses. Proposals will, if approved, be given a scientific rating and a beamtime allocation. Newly approved stage II (i.e., those using existing and/or funded equipment) proposals will also be considered for "High Impact" status for scheduling priority, as per PAC41.

New run group proposals (i.e., those requesting new beamtime) are defined as collections of proposed experiments that use common beam time and experimental equipment. Proposals for complete run groups should be submitted at one PAC meeting, where all of the anticipated physics associated with the proposed run group will be considered. Each run group can submit up to 4 individual proposals (up to 3 physics topics plus 1 summary of additional topics) and will be granted a maximum of 4 presentations corresponding to these proposals. The PAC may

consider each of these for grading, but will attempt to provide a common assessment of the whole run group.

### **Additions to Previously Approved Run Groups**

New experimental proposals that do not require additional experimental equipment and that run (even partially) in parallel with previously approved run groups should be considered internally by the proposing collaboration. Run group additions that require changes or additional equipment need to be submitted as full stand-alone proposals. Exceptions that require only minor changes or additions to the experimental equipment need to be discussed with the Associate Director for Experimental Nuclear Physics before submission to the PAC as run group additions. It is also requested that documentation (e.g., proposal and report) from the internal collaboration review be submitted to the PAC for their information. A collaboration representative will have the opportunity to report on these additional parallel running proposals to the PAC, and the PAC will then provide comments on them in its report.

### **Conditionally Approved Proposals**

The PAC may conditionally approve proposals when additional requirements must be fulfilled before full approval is granted. There are two categories of conditional approval:

- C2 - must return to the PAC to address concerns or issues to obtain approval,
- C1 - must meet designated technical requirements to obtain approval from laboratory management - a further PAC review is not required.

The rule for newly C2 conditionally approved 12 GeV proposals is that they must return for approval at one of the next 2 consecutive PAC meetings following the PAC at which they received the conditional approval status.

Proposals with previous conditional approval (C2) that wish to be considered for approval at PAC50 should submit an updated proposal and will be granted presentation time at the PAC meeting. Following the public presentation session the PAC will continue its discussions in closed session, and at least one spokesperson should be available either in person or by phone for 24 hours after the public session to answer questions as the PAC's discussion progresses. If approved, the proposals will be considered for rating along with the other approved proposals in the grading session.

### **Jeopardy**

Instructions for those affected by jeopardy will be sent directly to the contact persons under separate cover.

### **PAC Results**

The results of the PAC's deliberations will become public as follows: the list of scientific ratings and beam time allocations will be provided to the Hall Leaders at the PAC closeout and then posted on the PAC50 website within 24 hours. The final written PAC report will be posted on the PAC50 website and the user community notified by email as usual.

### **Appendix: Scientific Categories for Nuclear Physics Proposals**

1. **Hadron spectra as probes of QCD**  
(GlueX and heavy baryon and meson spectroscopy)

2. **Transverse structure of the hadrons**  
(Elastic and transition Form Factors)
3. **Longitudinal structure of the hadrons**  
(Unpolarized and polarized parton distribution functions)
4. **3D structure of the hadrons**  
(Generalized Parton Distributions and Transverse Momentum Distributions)
5. **Hadrons and cold nuclear matter**  
(Medium modification of the nucleons, quark hadronization, N-N correlations, hypernuclear spectroscopy, few-body experiments)
6. **Low-energy tests of the Standard Model and Fundamental Symmetries**  
(MOLLER, PVDIS, PRIMEX, ...)