



Report of the Scientific Program Committee

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USQCD All hands meeting,
MIT,
4/21–2, 2022

Scientific Program Committee

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- Ethan Neil (Colorado) → George Fleming (Yale) george.fleming@yale.edu
- David Richards (JLab) → Martha Constantinou (Temple) marthac@temple.edu

USQCD Resources for 2022–3

No new hardware: computational resources for Type A:

- 71M Skylake core-hours (15.7M BNL, 55.3M FNAL)
- 192.6M KNL core-hours (14.08M BNL, 178.6M JLab)
- 1.12M K80 gpu-hours (BNL)
- 1.66M RTX2080 gpu-hours (JLab)
- 0.41M MI100 gpu-hours (JLab)

Short-term storage at BNL/FNAL/JLAB

- 0.8/0.6/1 PBbyte disk + 1.2/1/1 PByte tape

Long-term storage at BNL/FNAL/JLAB

- 2.88/2/1 PBbyte

2022–3 USQCD CfP

- Timeline delayed because of resource uncertainty:
 - But, allocations still to be announced 31st May 2022
- Significant points:
 - Continued with google forms interface → google sheets.
 - Maintained “shortened” option for continuation proposals.
 - Junior investigators called out to apply
 - Proposal review criteria described
- New this year! Long-term storage
 - Intended to stay through migration to new media
 - In the same CfP and with the same timeline as the computing call
 - Previous allocations extended with short proposals
 - Initial proposal needs detailed justification of value to USQCD
 - Need renewal every year with short statements

Proposals for 2022–3

- 26 Class-A Proposals
 - 30 in 2021–2, 30 in 2020–1, 31 in 2019–20
 - 21 continuation proposals, 5 new ones
 - Junior member PIs only among the continuations
 - More hardship calls this year (only 12 by deadline!)
- 5 Class-B Proposal in 2021–2 (Suggested maximum 500K Skylake core-hours/25K K80-RTX gpu-hours. 6-month duration).
 - 5 in 2020–1, 1 in 2019–20, 3 in 2018–9
- Class C (maximum 20K Skylake core-hours/2K K80 gpu-hours).
 - BNL: Peter Boyle (pboyle@bnl.gov)
 - FNAL: Jim Simone (simone@fnal.gov)
 - JLab: Robert Edwards (edwards@jlab.org)

Distribution of class A by area (class B mainly HEP)

- HEP/NP – 17
 - 3 nEDM
 - 3 NME, FF
 - 9 Structure: TMD, PDF, GFF ($\frac{2}{3}$ NP, $\frac{1}{3}$ HEP)
 - 2 Lattice scale, gradient flow (more HEP)
- Energy Frontier (EF) – 1½
 - BSM: composite Higgs, dilatons
- Intensity Frontier (IF) – 4½
 - 1 QCD+QED
 - 3 ½ flavor physics, α_s etc.
- Cold NP – 1
 - 1 Resonances
- Hot QCD – 2

Distribution of Class A: By Resource

- Skylake: Request 133.656 M, Available: 71 M, Ratio: 1.88
- KNL: Request 393.08 M, Available: 192.6 M, Ratio: 2.04
- K80: Request 1.1894 M, Available: 1.12 M, Ratio: 1.06
- RTX: Request 2.147 M, Available: 1.66 M, Ratio: 1.29
- MI100: Request 0.438 M, Available: 0.41 M, Ratio: 1.07

GPUs less in demand than CPUs and KNLs.

Some proposals can make use of multiple resources: write in when responding to questions (or separately) if you haven't mentioned GPUs as a preference, but can shift to it without much loss of efficiency..

Next Steps

- Thank you all for responding to the questions in time (due end-April)!
- Recommend allocations based on discussions covering:
 - scientific merit and impact on experimental programs
 - alignment with USQCD goals, and those of US HEP/NP programs
 - efficient use of resources
 - avoiding duplication of effort and redundancy
 - balance between HEP and NP
 - sustainability of project if cut
- Storage allocations are based on
 - broad need within USQCD
 - storage/compute costs and expected reuse valency
 - possibility of loss of data if allocations not made

Other Duties of the SPC

- Agenda of AHM
- Work with Site Managers and EC:
 - Efficient assigning of projects to resources
 - Jeopardy policies and implementation.
 - Respond to new/changes in resources throughout the allocation year.
- Work with EC on broader USQCD program
 - e.g. Snowmass, Whitepapers, reviews.
- Fulfill role of Nominating Committee for elected member of Executive Committee.

For this meeting

- Please upload your talk into Indico if you are a speaker
- If you wish to ask question, or contribute to discussion:
 - Use chat - to everyone
 - In general, not necessary to pose question in chat, just say you want to contribute
 - Chairman should call on you
- Please remember to “unmute” before speaking, and “mute” afterwards
- May need to turn off video if bandwidth becomes a problem