

USQCD Governance & NP-HEP Cooperation

Robert Edwards
Jefferson Lab

USQCD - federation of science collaborations

- Charter of USQCD - <https://www.usqcd.org/documents/charter.pdf>
 - USQCD is a consortium of collaborations and individuals in the US using lattice field theory techniques to solve fundamental problems in high energy and nuclear physics....
- Represents almost all of the lattice gauge theorists in the US; ~ 160 people.
 - ~ 100 participating in physics proposals in a typical year.
- Physics calculations are done by smaller component collaborations within USQCD:
 - Fermilab Lattice, HotQCD, HPQCD, HadSpec, LHPC, LSD, MILC, NPLQCD, RBC, ...
 - These are the core entities of the US lattice community.

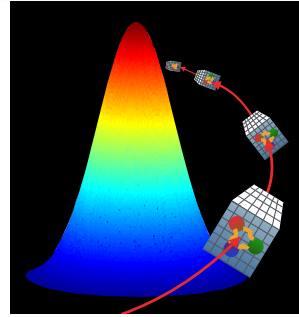
USQCD responsibilities

- LQCD-ext. II Project and Nuclear Physics Initiative
- Hardware and Software development grants
 - *Scientific Discovery through Advanced Computing* [SciDAC]/DOE
 - *Exascale Computing Project* [ECP]/DOE
 - In cooperation with *Advanced Scientific Computing Research* (ASCR)/DOE
- Computing time requests
 - *Innovative and Novel Computational Impact on Theory and Expt.* [INCITE]/DOE
 - Early Science Time/DOE
 - Blue Waters (U. Illinois)/NSF

Leadership facilities & USQCD facilities

Leadership resources - *capability*

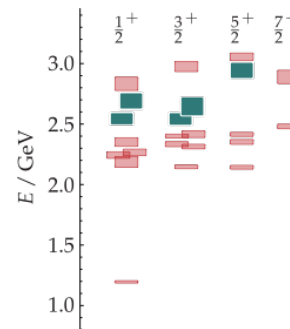
- Argonne (ALCF)
- Oak Ridge (OLCF)
- LBNL (NERSC)



USQCD resources - *capacity*

Essential to carry out science program

Physics

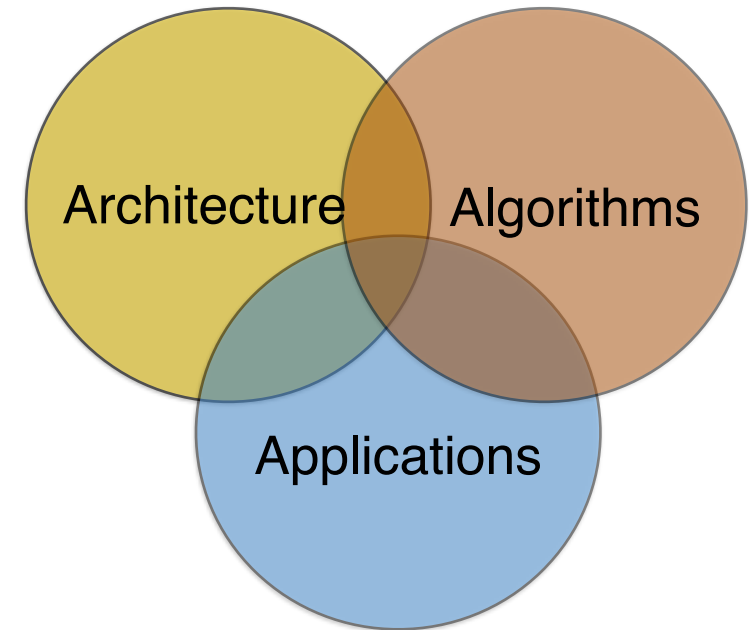


Synergistic:

- Fosters powerful collaborations amongst HEP/NP/Applied-Math/Comp.Sci.
- Software & algorithm development
- Training next generation workforce

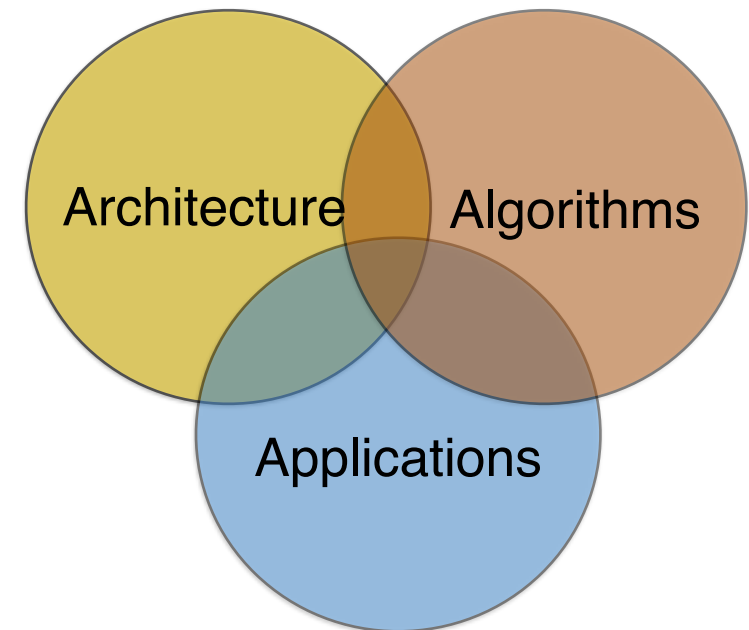
USQCD & Lattice QCD software development

Software efforts: efficiently utilize national resources leveraged with local/commodity resources



USQCD & Lattice QCD software development

Software efforts: efficiently utilize national resources leveraged with local/commodity resources



DOE Office of Science - software development grants:

Partners: ASCR: Advanced Scientific Computing Research | HEP: High Energy Physics | NP: Nuclear Physics

2001 - 2012: ASCR/HEP/NP: Scientific Discovery through Advance Computing: 1 & 2

2013 - 2017: HEP + ASCR SciDAC-3

2013 - 2017: NP + ASCR SciDAC-3

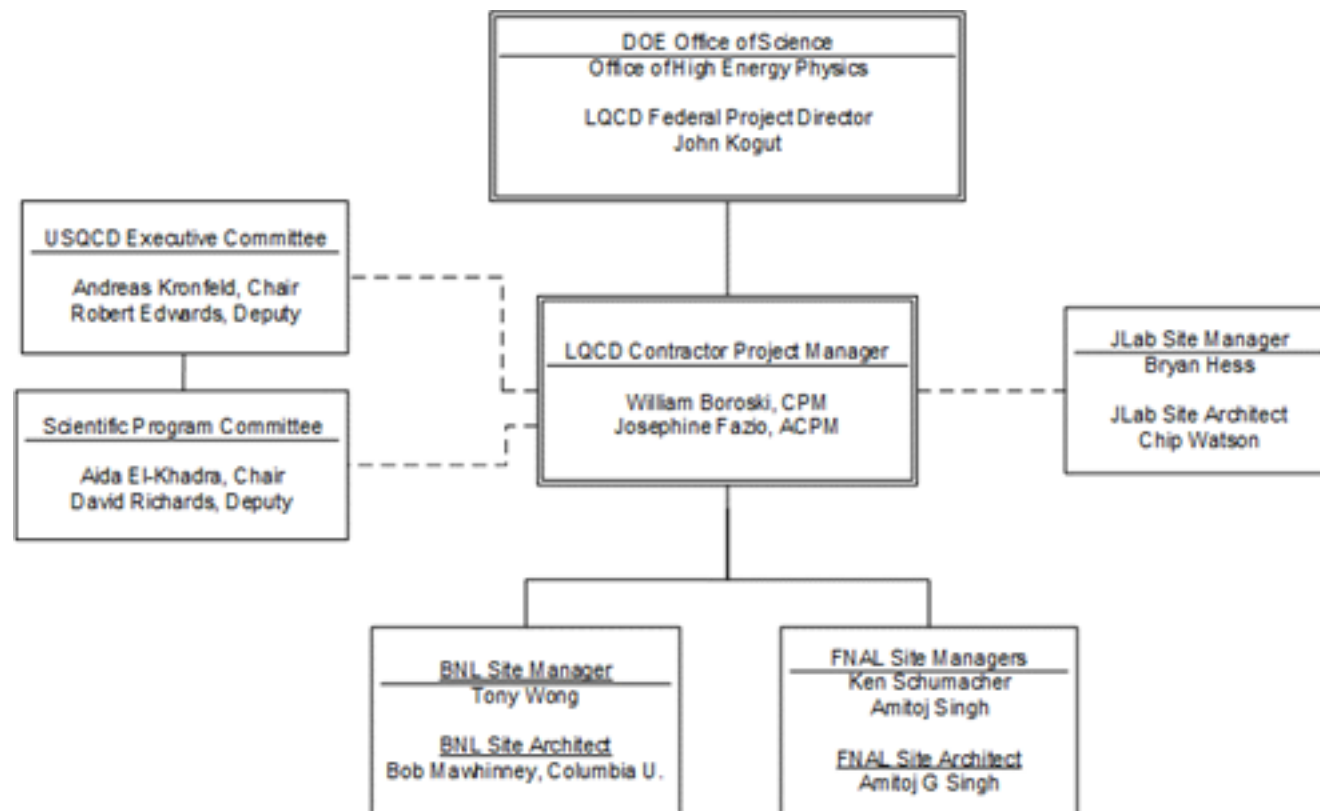
2016 - 2023: Exascale Computing Project (ECP)

2017 - 2022: NP + ASCR SciDAC-4

Computing organization

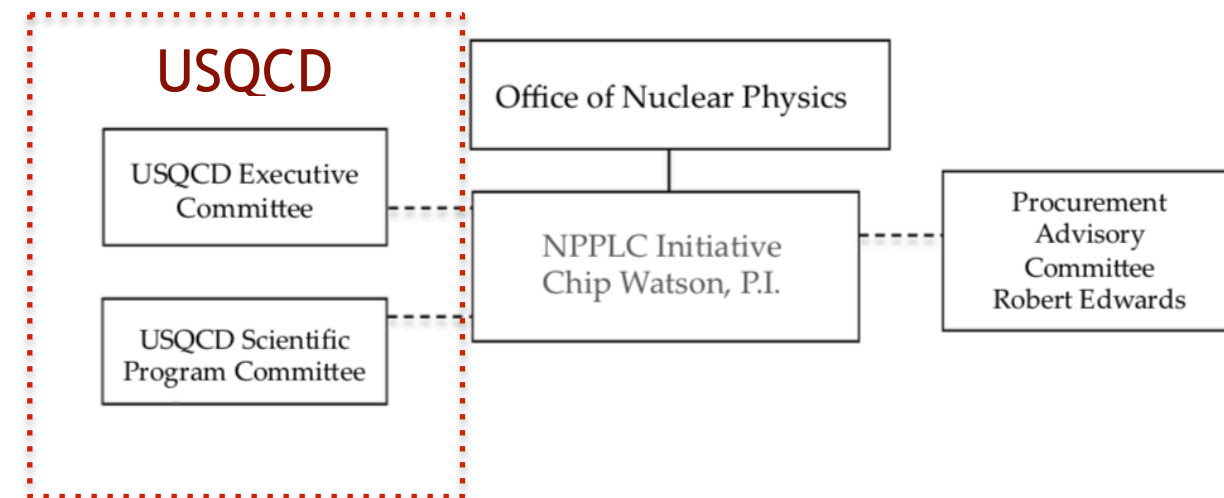
USQCD interacts with two projects

LQCD ext. II since Jan. 2018



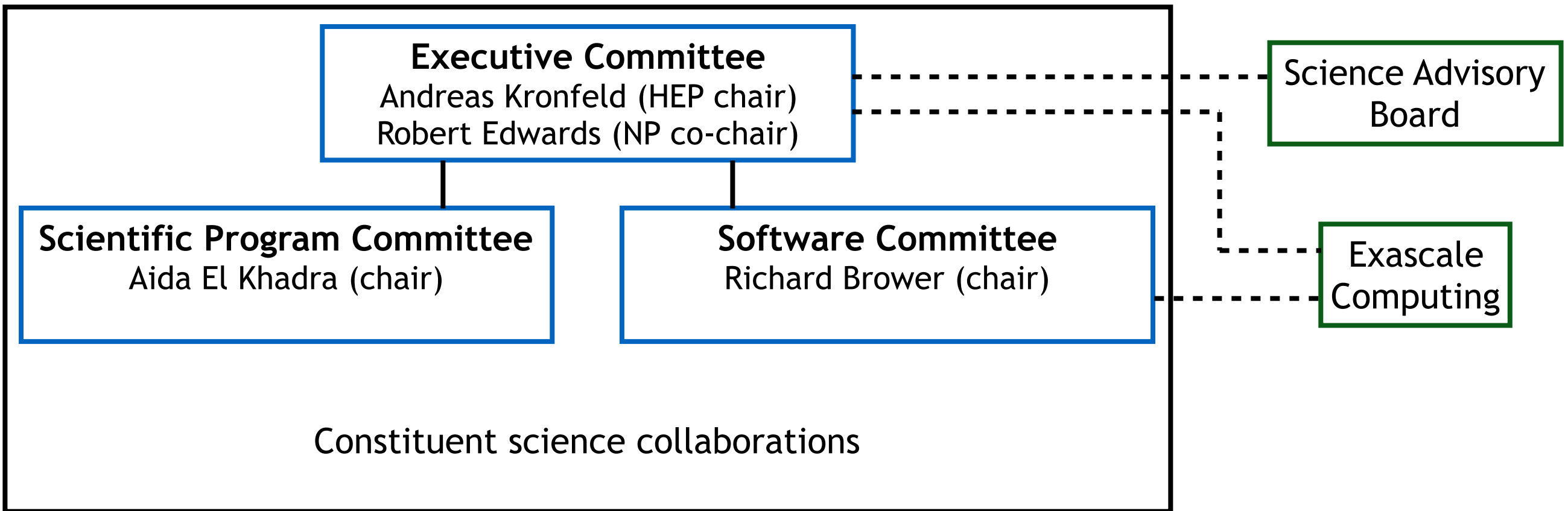
Discussed by Bill Boroski

NP structure since Jan. 2018



Not part of this review

USQCD organization



USQCD is funded through SciDAC, the Exascale Computing Project, the LQCD project(s), and through base HEP and NP funds at BNL, Fermilab, and JLab.

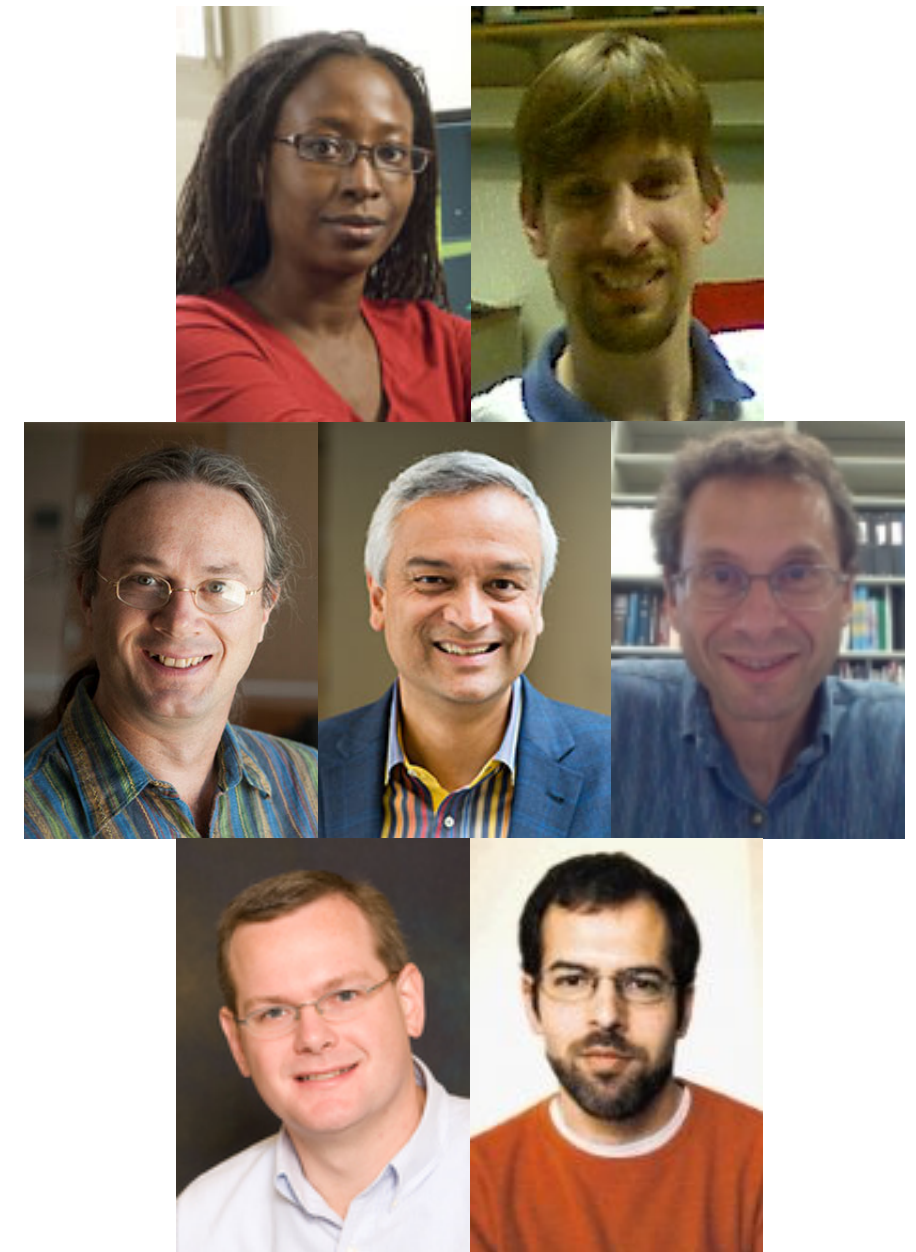
USQCD web page: <http://www.usqcd.org>

Organization

- In 2003 when USQCD hardware funding began, Peter Rosen (head of HEP & NP) expected the hardware operated as a **national facility**
 - Individual science collaborations request time
- By design, Executive Committee (EC) balances interests of HEP & NP, interests of participating labs and large science collaborations, physics areas (e.g., Flavor-physics, BSM, Cold and Thermo-NP) carried out by smaller groups
- By design, Scientific Program Committee (SPC) balances scientific interests, large collabs, smaller collabs
 - SPC has good track record of supporting proposals of small collabs & junior PIs
 - Many researchers established their reputation with projects on LQCD computers
- Science Advisory Board provides feedback on white-papers and proposals

USQCD Scientific Advisory Board

- Current members:
 - Ayana Arce (Duke, ATLAS)
 - Daniel Cebra (UC Davis, STAR)
 - Lawrence Gibbons (Cornell, mu2e)
 - Krishna Rajagopal (MIT, theory)
 - Alan Schwartz (Cincinnati, Belle 2)
 - Matthew Shepherd (Indiana, GlueX, BES III)
 - Jure Zupan (Cincinnati, theory)



- Advising USQCD on the WPs' content and organization.

Governance

- Current EC members:
 - Richard Brower, Norman Christ, Carleton Detar, Robert Edwards, Will Detmold, Anna Hasenfratz, Andreas Kronfeld, **Christoph Lehner**, Swagato Mukherjee, Kostas Orginos, Aida El Khadra (SPC ex-officio) **[new members]**
 - **Rotations off (2018) - Paul Mackenzie (chair), Frithjof Karsch, Martin Savage**
- Recent changes in governance:
 - Andreas Kronfeld (chair/HEP), Robert Edwards (deputy/NP)
 - Terms are 3 years: chair/NP + new-deputy/HEP in next cycle
 - Charter will be amended
- New junior EC members (2 year rotations):
 - Christoph Lehner (elected 1 year ago)
 - Anticipate new elections next year

Candidates for the 2018 Election to the EC



● Jack Laiho
Syracuse University



● Christoph Lehner
Brookhaven, High Energy Theory

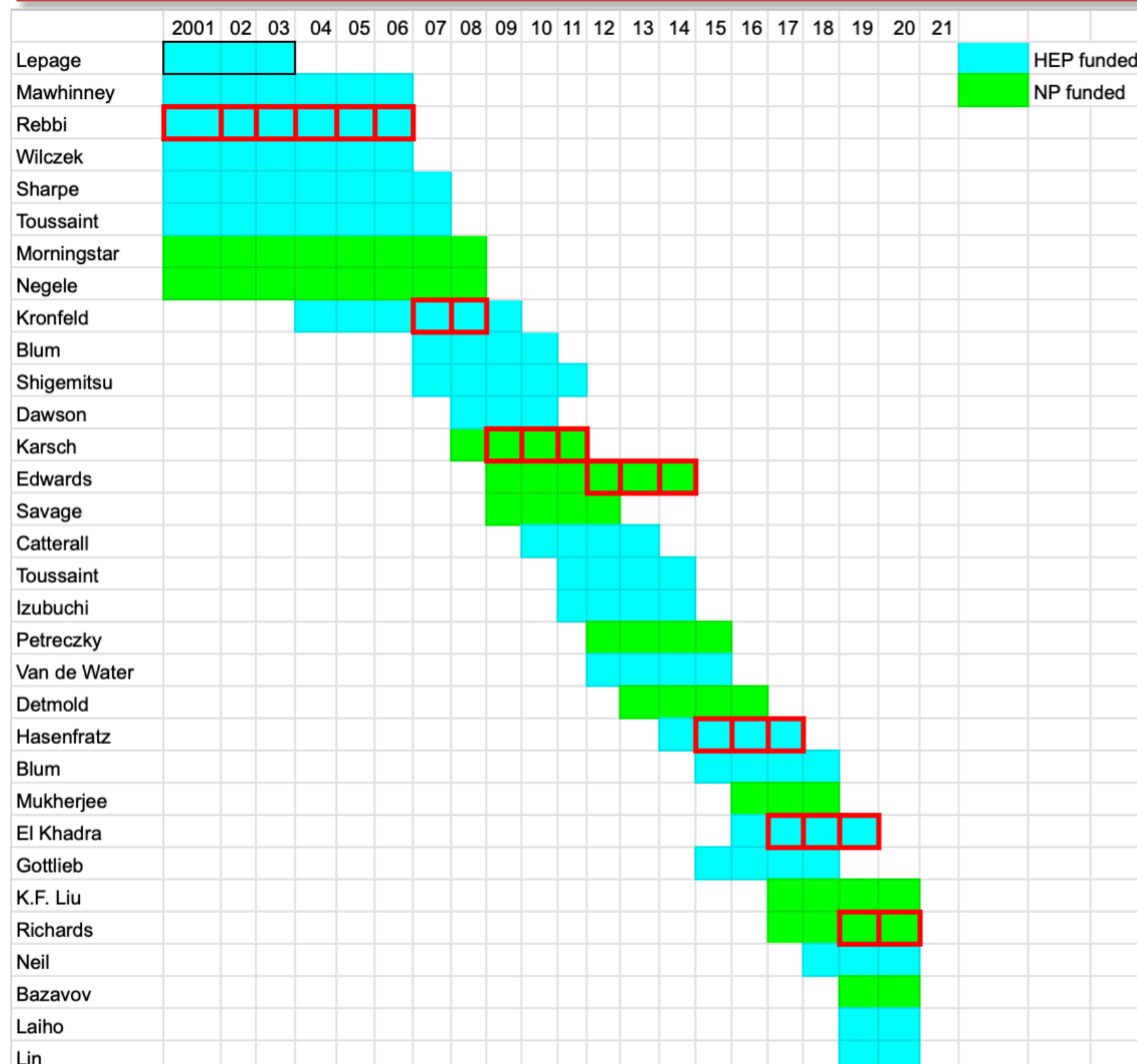


● Huey-Wen Lin
Michigan State University



● Meifeng Lin
Brookhaven, Computational Science
Initiative

Scientific Program Comm. (SPC) members



Past and current members:
serve about 3 - 4 years

Chairs:

Richards, El Khadra, Hasenfratz,
Edwards, Karsch, Kronfeld,
Rebbi

HEP & NP
funded
members

Scientific Program Comm. (SPC) members

- Alexei Bazavov (Michigan State University)
replaced Swagato Mukherjee
- Aida El-Khadra, chair (University of Illinois)
- Jack Laiho (Syracuse University)
replaced Steve Gottlieb
- Meifeng Lin (Brookhaven)
replaced Tom Blum
- Keh-Fei Liu (University of Kentucky)
- Ethan Neil (University of Colorado)
- David Richards, co-chair (Jefferson Lab)

HEP & NP
funded
members

SPC allocation process

- After approval from the EC, the SPC issues the Call-for-Proposals
- The SPC collects and reviews the proposals. Further information is often requested from the proposers.
- After deliberation, SPC arrives at an allocation through an internal vote
 - About 80 hours total is spent
- Recommendations for allocation are submitted to the EC for approval. The facility managers are also consulted
- The SPC notifies the PI-s and gives a written report
- Hosts annual All-Hands Meeting for discussions
- Last year, to encourage smooth use of resources, we instituted system of quarterly allocation reductions for projects that are late in beginning running (like at NERSC).

SPC allocation process, cont.

- The Call-For-Proposals & White Papers outline the scientific goals of USQCD
- Members of the collaboration submit proposals to the SPC requesting resources for scientific computations, and address how they will achieve the goals of USQCD
- While the SPC has suggested calculations that are of importance, it does not issue top-down requests
- Rather, the SPC evaluates the proposals and recommends allocations based on the proposal's technical and scientific merit, and the relevance and importance to meet the scientific goals of USQCD

2019-2020 LQCD-hardware project portfolio

M-Sky	Field	Title
2	BSM	Phases of a Higgs Yukawa Theory and Symmetric Mass Generation
4	BSM	Walking, the dilaton, the light σ -particle, and the sextet BSM model
5	BSM	Investigation of near-conformal anomalous dimensions using gradient-flow RG
3	BSM	StepScaling
6	BSM	Composite Higgs model with four light and six heavy flavors
10	ColdNP	Contribution of Theta, chromo EDM and Weinberg operators to nEDM
7	ColdNP	quasi-GPDs from lattice QCD
18	ColdNP	Nuclear Physics from the Standard Model
45	ColdNP	Meson Resonances and their Couplings from Anisotropic Clover Lattices
5	ColdNP	Nucleon Quark-Gluon Structure with Clover-Wilson Fermions
12	IFNP	Nucleon Matrix Elements with 2+1 flavor clover fermions
11	IFNP	Neutrinoless double beta decay from di-pion to di-baryon system
3	NP	Computing Pion Parton Distribution Function on Fine Lattice
5	IFNP	The Nucleon Axial-Vector Form Factor at the Physical Point with the HISQ Ensembles
3	NP	Kaon electromagnetic form factor at large Q^2
12	IFNP	Lattice calculation of nucleon form factors and EDM using overlap fermions
9	NP	Bjorken-x Dependence of Gluon Parton Distribution Functions on the Lattice
7	IFNP	Neutrino Nucleon Scattering and Hadronic Tensor
6	IFNP	Nucleon Physics with Distillation for Neutrino Oscillations and CKM Matrix Elements
2	IFNP	Nuclear Matrix Elements for Neutrinoless Double Beta Decay from Lattice QCD
24	NP	Parton Distribution Functions and Amplitudes of Pseudoscalar Mesons and Nucleon from Lattice QCD
7	IFNP	(Continuation) Calculation of nucleon axial form factors, proton decay amplitudes, and nucleon EDMs induced
14	Thermo	The total chiral susceptibility at finite chemical potential
12	Flavor	$K \rightarrow \pi\pi$ decay calculations at the physical point
9	Flavor	Semileptonic B- and D- meson form factors with high precision
7	Flavor	Determination of V_{cb} from Semi-leptonic Decays $B2D(\text{star})$ using the Oktay-Kronfeld Action
7	Flavor	QCD + QED $^\infty$ studies
2	Flavor	Measurements of $m_{\eta'}$ and zero modes on $a^{-1} = 1$ GeV 2+1 flavor DWF ensembles
4	Flavor	Semi-leptonic B-decays with physical light quarks
2	Flavor	Non-perturbative matching of three/four-flavor Wilson coefficients with a position-space procedure
11	Flavor	Muon g-2 Hadronic Vacuum Polarization from four flavors of sea quarks using the HISQ action

BSM

Mixture of large flagship projects

Cold NP
overlaps with Flavor

Smaller/development projects critical to long-term health of US lattice QCD

IFNP
Flavor-physics/NP overlap

Some projects benefit multiple scientific areas

- PDF-s
- EDM-s
- axial FF-s

Thermo

Flavor physics
includes μ g-2

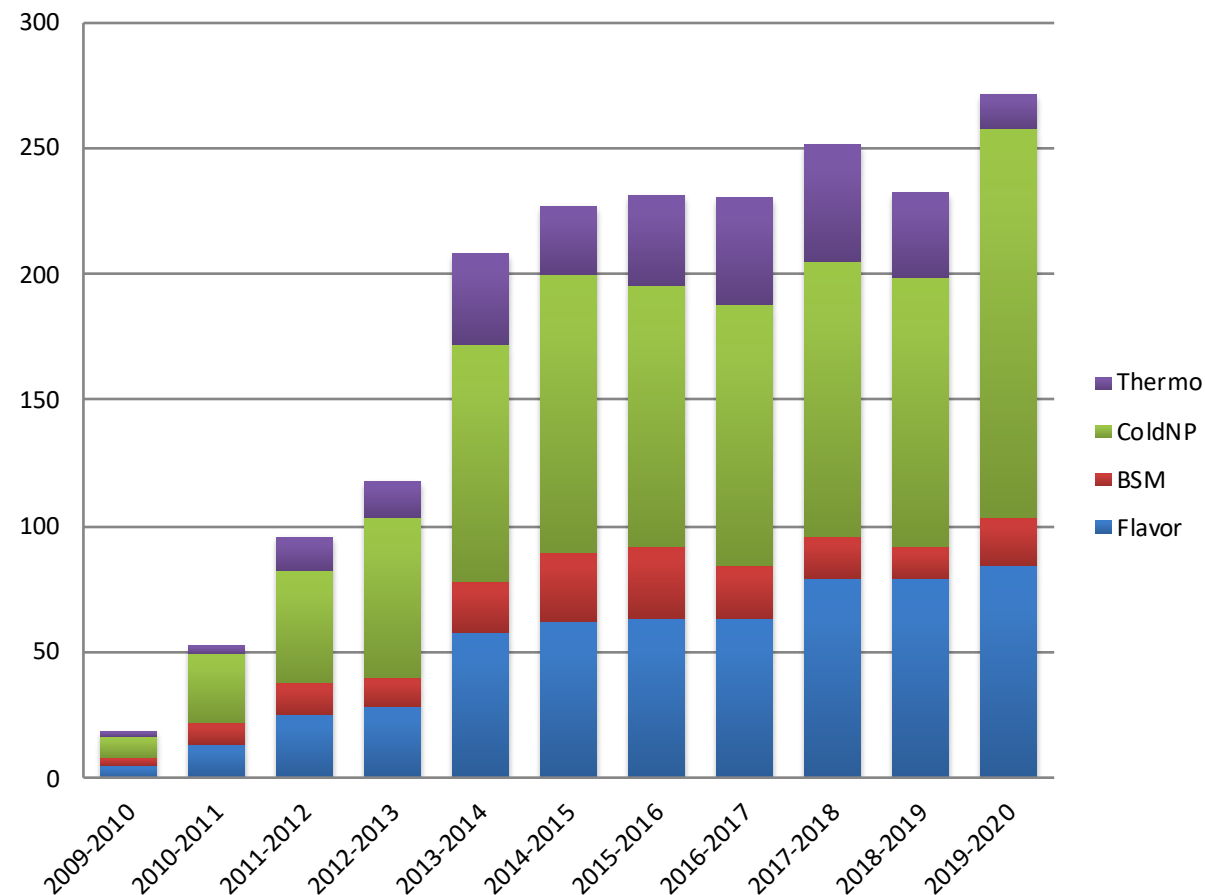
SPC considers how all projects benefit USQCD interests for HEP+NP

Allocations

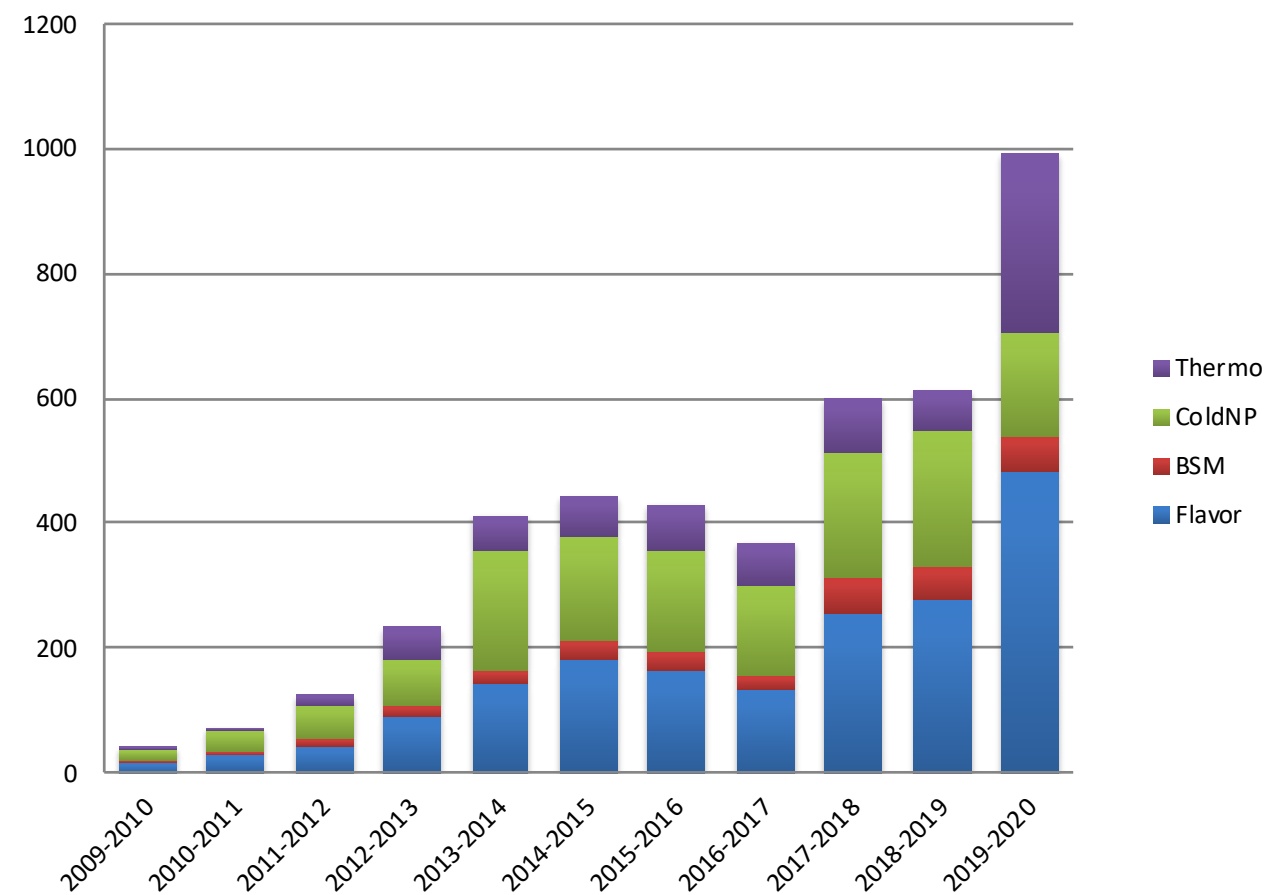
Total by Field (in units of equiv. “M-Skylake”-core-hours)

Sky ~ 6.4 GFlops/sec

LQCD hardware



LQCD+leadership



NP and HEP are approximately equal by agreement

LQCD about half to third of total amount

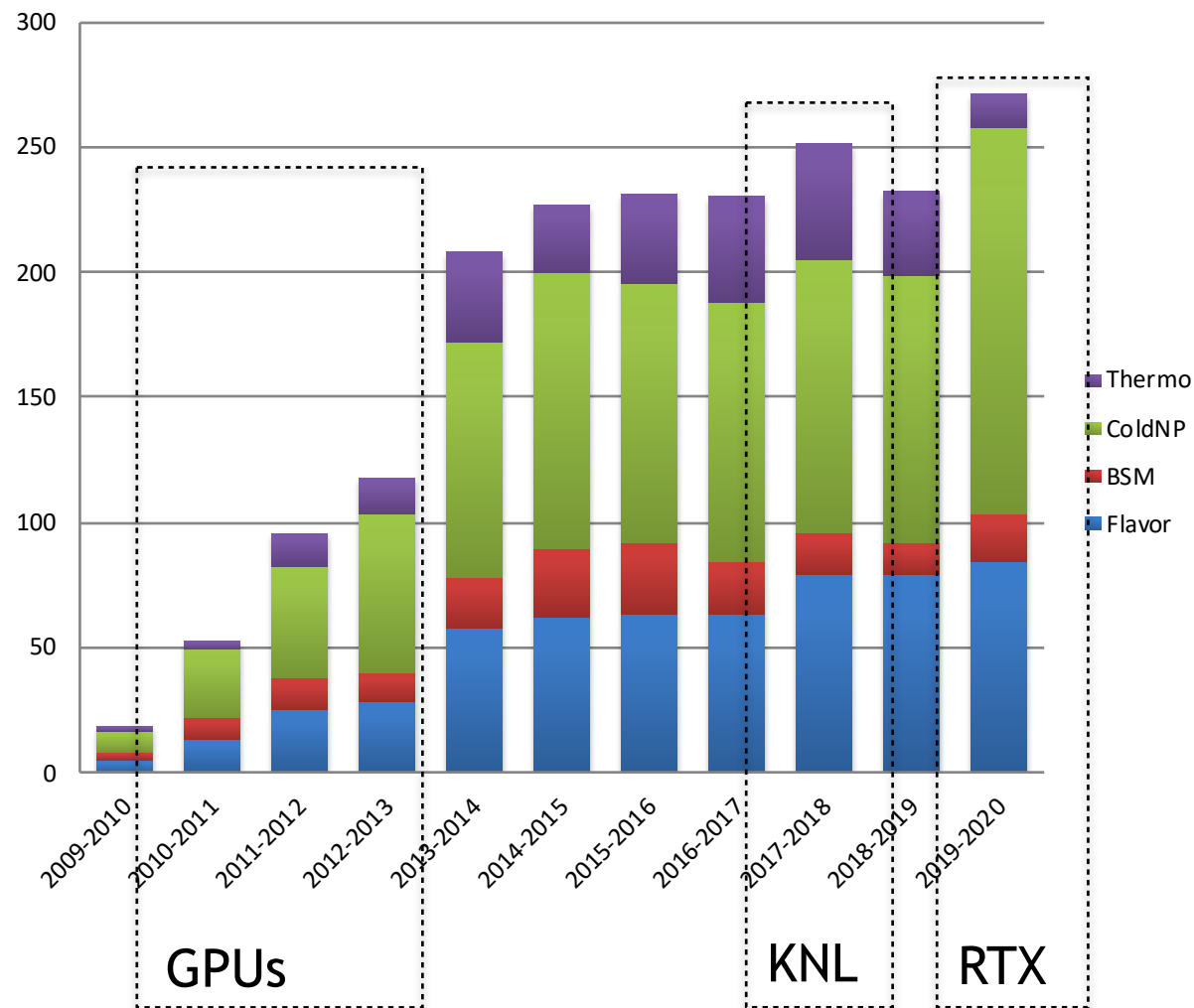
LQCD essential leverage of leadership resources → greater productivity

Allocations

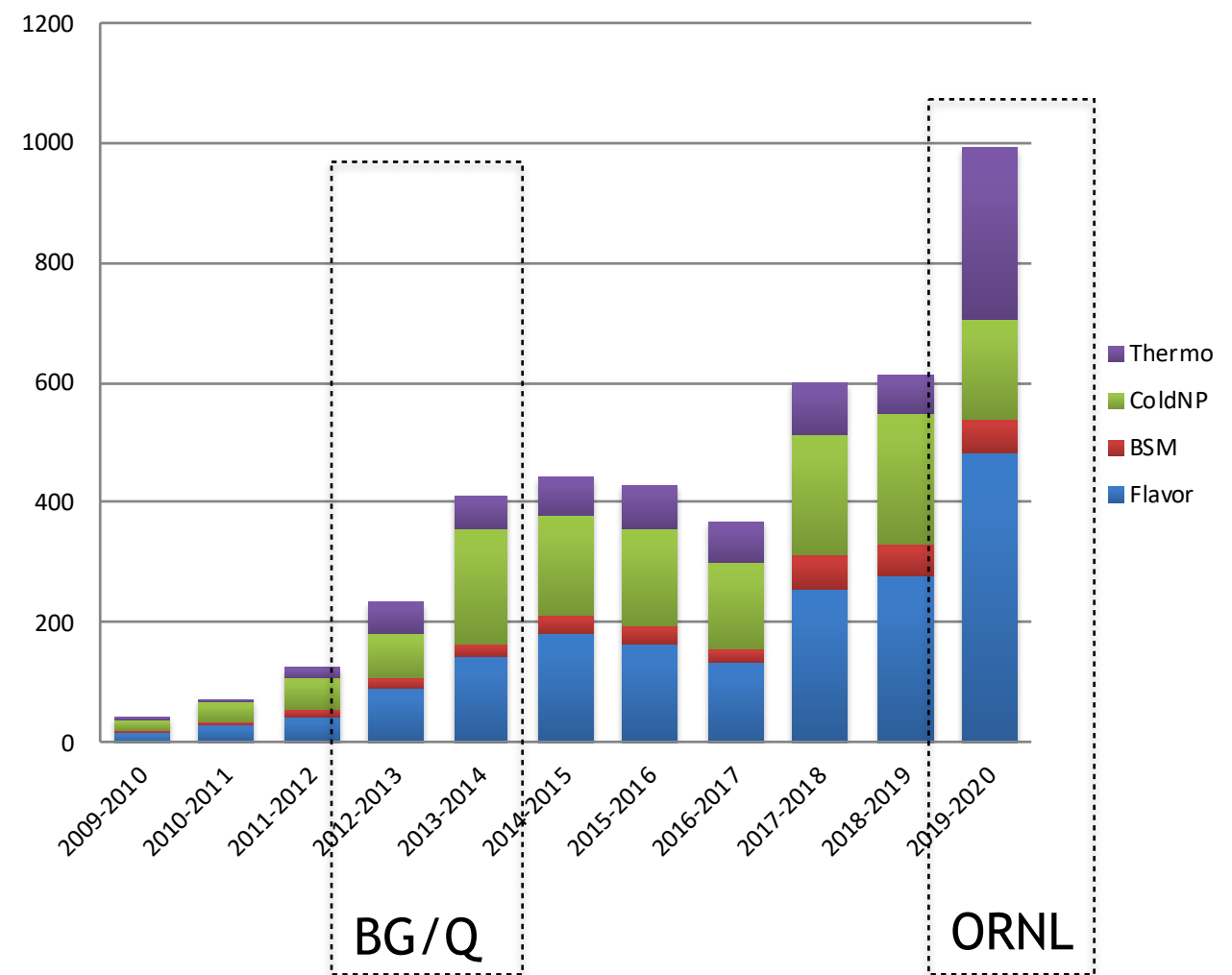
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Sky ~ 6.4 GFlops/sec

LQCD hardware



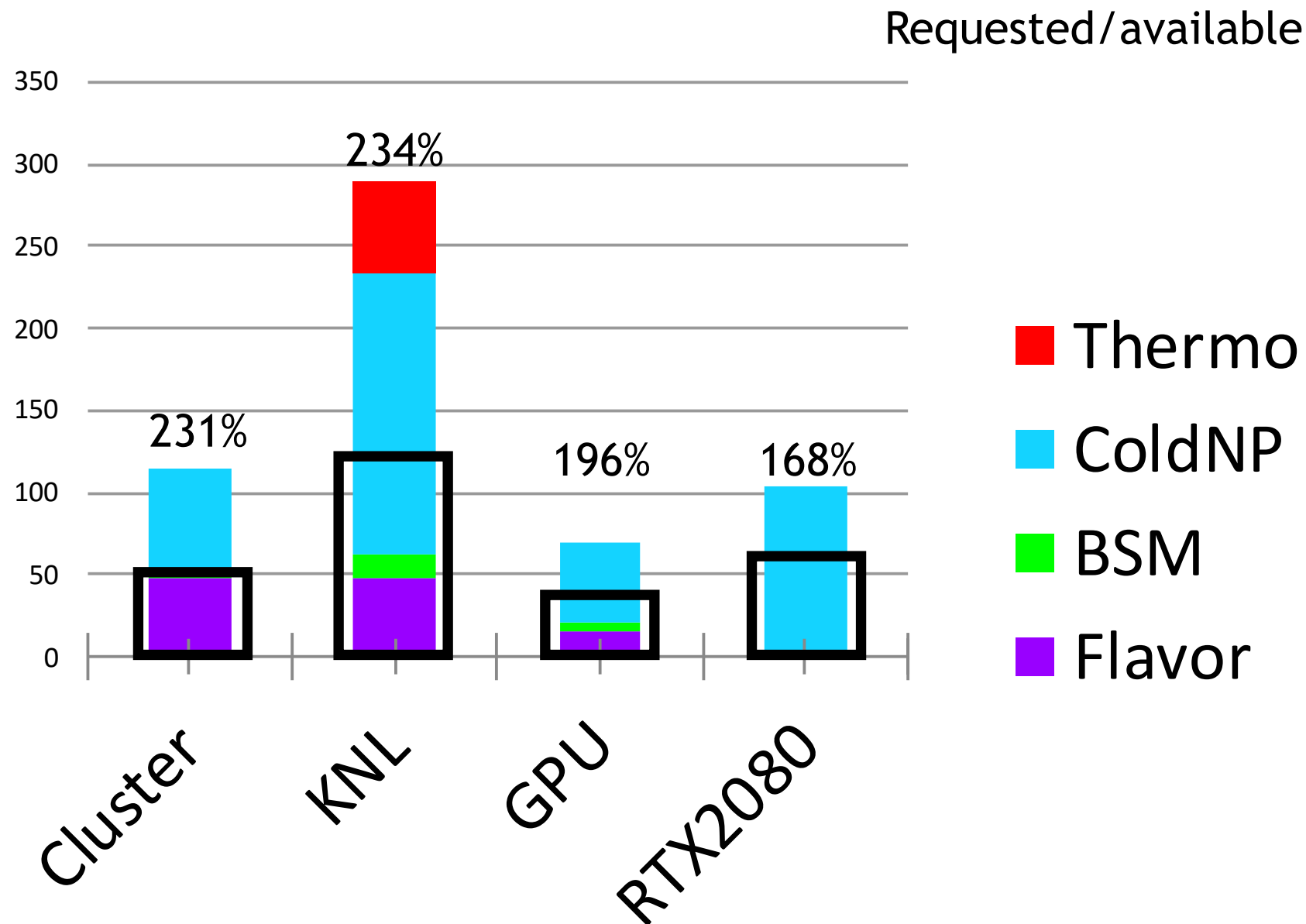
LQCD+leadership



LQCD early adopters/innovators → maximize leadership resources

2019-2020 proposal requests

31 Type A (large) proposals



- Requests vary according to physics needs & years
- SPC/USQCD & facility initiatives work together to optimize science program

Data Management plan

- USQCD is working with the facilities to develop a DM
 - ultimately, data is user's responsibility, but can be layered on a USQCD DM.
 - envision USQCD can provide a DM defining/suggesting important data, paths, etc.
 - USQCD DM layered on a lab DM. Model might be expts. at labs.
- Changes of computing models at labs requires negotiation regarding near-term and long-term storage

Career development

- Postdocs & students are encouraged to submit proposals to USQCD
 - often start with smaller (type B) proposals
- More than 120 current/completed PhD-s since 2000
 - 90 since 2008
- Career progress tracked (list since 2008 in backup slides)
- Combination of hardware/scientific infrastructure → productivity

Junior faculty and staff job creation

Name	Year	Research institution, HEP	Research institution, NP	Computational scientist	Teaching college	Industry	Foreign
Chris Monahan	2019		William&Mary/JLab				
David Schaich	2019						Liverpool
Peter Boyle	2019	BNL					
td	2019	Fermilab					
Christoph Lehner	2018						Regensburg
Evan Weinberg	2018					NVIDIA	
Phiala Shanahan †	2018		MIT				
Yibo Yang	2018						ITP/CAS
Luchang Jin ¶	2017	Connecticut/RBRC					
Phiala Shanahan §	2017		William&Mary/JLab †				
Prasad Hegde	2017						Indian Inst Sci
Raúl Briceño ‡,§	2017		Old Dominion/JLab				
Xu Feng	2017						Peking
Zohreh Davoudi	2017		Maryland/RBRC				
Alexei Bazavov	2016		MSU				
Andrea Schindler	2016		MSU				
Boram Yoon	2016			LANL			
Chris Bouchard	2016						Glasgow
Huey-Wen Lin	2016		MSU				
Jozef Dudek §	2016		William&Mary/JLab				
Martha Constantinou	2016		Temple				
Sergei Syritsyn	2016		Stony Brook/RBRC				
Andre Walker-Loud ‡	2015		LBNL				
Anyi Li	2015					IBM	
Ethan Neil ¶	2015	Colorado/RBRC					
Mathias Wagner	2015					NVIDIA	
Mridupawan Deka	2015						Dubna
Christoph Lehner ‡	2014	BNL †					
Hiroshi Ohno	2014						Tsukuba
Mei-Feng Lin	2014			BNL			
Stefan Meinel ¶	2014	Arizona/RBRC					
Andre Walker-Loud §	2013		William&Mary/JLab †				
Christopher Thomas	2013						Cambridge
Frank Winter	2013			JLab			
Heng-Tong Ding	2013						CCNU
Jack Laiho	2013	Syracuse					
Silas Beane	2013		Washington				
Ruth Van de Water	2012	Fermilab					
Will Detmold ‡	2012		MIT				
Andrei Alexandru †	2011		GWU				
Brian Tiburzi ¶	2011		CUNY/RBRC				
Elvira Gamiz	2011						Granada
Kate Clark	2011					NVIDIA	
Ron Babich	2011					NVIDIA	
Ruth Van de Water	2011	BNL †					
Changhoan Kim	2010					IBM	
Christopher Aubin	2010				Fordham		
Swagato Mukherjee	2010		BNL				
Enno Scholz	2009						Regensburg
Jack Laiho	2009						Glasgow †
James Osborn	2008			Argonne			
Taku Izubuchi	2008	BNL					
Will Detmold	2008		William&Mary/JLab †				
Chris Dawson	2007	Virginia → Google					
Joel Giedt	2007	RPI					
Nilmani Mathur	2007						Tata Institute
Balint Joo	2006			JLab			
Jimmy Juge	2006				U. Pacific		
Jozef Dudek ‡,§	2006		Old Dominion/JLab †				
Kieran Holland	2006				U. Pacific		
Matthew Wingate	2006						Cambridge
Peter Petreczky	2006		BNL				
George Fleming	2005			Yale			
Kostas Orginos ‡,§	2005		William&Mary/JLab				
Silas Beane †	2003		New Hampshire †				
Tom Blum ‡,¶	2003	Connecticut/RBRC					
Total		13+2	23+5	6	3	6	15

↑ moved; see further up

† NSF Early Career Award

¶ RIKEN/BNL bridge positions

‡ DoE OJI/Early Career Award

§ JLab joint positions

July 9, 2019

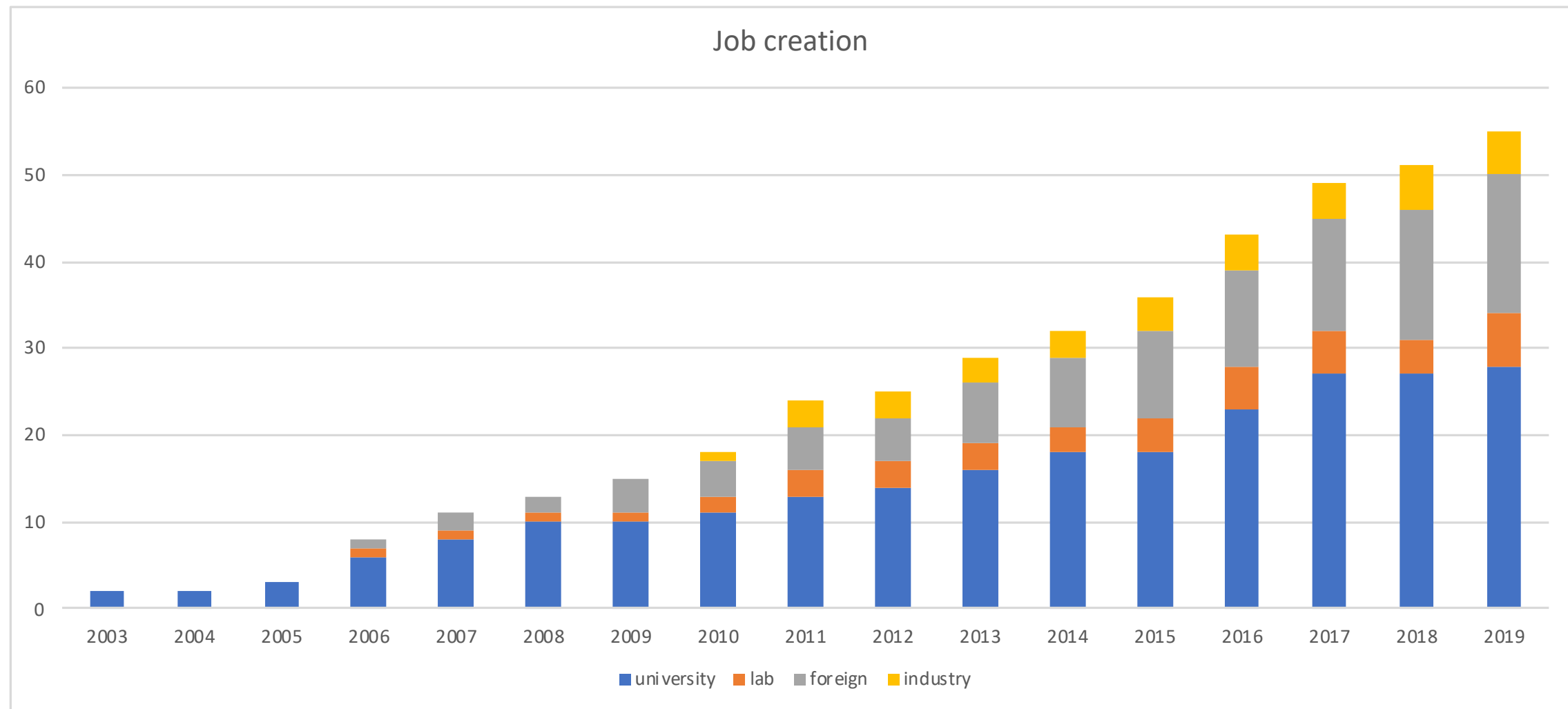
Edwards; LQCD Research Program - USQCD Governance

Good job creation in last few years

Nine new US faculty jobs in last three years

Job drivers - joint/bridge with JLab & RBRC

Junior faculty and staff job creation



Good job creation over the years

10+ DOE/NSF Early Career awards

Nine new US faculty jobs in last three years

Job drivers - joint/bridge with JLab & RBRC

Schedule

Next up are the science talks, then management and facilities

08:30 Executive session (30 min)

09:00 Logistics and Introductions (10 min) – *John Kogut & Bill Boroski*

09:10 Overview of Scientific Program (15 min) – *Andreas Kronfeld*

09:25	USQCD Governance and NP-HEP Cooperation (30 min)– <i>Robert Edwards</i>	Governance
09:55	Science Talk 1: Quark and Lepton Flavor Physics (40 min) – <i>Ruth Van de Water</i>	Scientific achievements
10:35	Break (20 min)	
10:55	Science Talk 2: Neutrino-Nucleus Scattering (40 min) – <i>Andreas Kronfeld</i>	
11:35	Science Talk 3: Fundamental Symmetries (40 min) – <i>Zohreh Davoudi</i>	
12:15	Working Lunch	
1:15	Science Talk 4: Beyond the Standard Model (40 min) – <i>Ethan Neil</i>	LQCD project management and milestones
1:55	LQCD-ext II: 2019 Accomplishments and Performance (40 min) - <i>Bill Boroski</i>	
2:35	LQCD-III: Computational Requirements and Milestones (40 min) – <i>Andreas Kronfeld</i>	
3:15	Break (20 min)	
3:35	LQCD-ext III: Institutional Cluster Computing & Operations Model (40 min) – <i>Bill Boroski</i>	Wrapup
4:15	Summary (15 min) – <i>Andreas Kronfeld</i>	
4:30	Executive Session (60 min)	
5:30	Committee request for additional information – <i>John Kogut / Proposal Leadership</i>	
5:45	Adjourn	

Backup & other stuff

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Job drivers - joint/bridge with JLab & RBRC

† NSF Early Career Award
‡ DoE OJI/Early Career Award

¶ RIKEN/BNL bridge positions
§ JLab joint positions

USQCD PhDs, 2008-present (1)

More than 120 current/completed PhD-s since 2000, and 90 since 2008

Totals by subject area (since 2000):

HEP: 46

Cold NP: 41

BSM: 23

Thermo: 3

HEP, Cold NP: 4

Hashimoto	Koichi	2008	Kanazawa	Izubuchi	FIXSTARS (computer industry)	HEP
Na	Heechang	2008	Indiana University	Gottlieb	Ohio Supercomputer Center	HEP
Li	Shu	2008	Columbia	Christ		HEP
Cheng	Michael	2008	Columbia	Christ		BSM
Sigaev	Dmitry	2008	MIT	Negele	HBK Capital Management	Cold NP
Babich	Ronald	2009	Boston University	Rebbi	NVIDIA Corp	BSM
Chowdhury	Saumitra	2009	UConn	Blum		HEP
Wong	Chik Him	2009	Carnegie Mellon U	Morningstar	Wuppertal U	BSM
Torok	Aaron	2009	U New Hampshire	Beane		HEP
Li	Min	2009	Columbia	Christ		HEP
Bratt	Jonathan	2009	MIT	Negele	Sapling Learning	Cold NP
Billeter	Brian	2010	U Utah	DeTar		HEP
Du	Xining	2010	Washington U St Louis	Bernard	EXA Corp. (software)	HEP
Hegde	Prasad	2010	Stony Brook	Karsch	Indian Institute of Science, Bangalore, India	Thermo
Li	Anyi	2010	University of Kentucky	Liu	IBM	Cold NP
Liu	Liuming	2010	William and Mary	Orginos	Bonn U, HISKP	Cold NP
Engelson	Eric	2010	U Maryland	Wallace		Cold NP
Mankame	Devdatta	2010	University of Kentucky	Draper		Cold NP
Schneible	Joe	2010	Syracuse	Catterall		BSM
Zhou	Ran	2010	UConn	Blum	Xilinx (after postdocs at Indiana and Fermilab)	HEP
Wasem	Joseph	2010	University of Washington	Savage	LLNL	Cold NP
Syritsyn	Sergey	2010	MIT	Negele	Stony Brook (assistant professor)	Cold NP
Bouchard	Chris	2011	UIUC	El-Khadra	University of Glasgow (Lecturer)	HEP
Du	Daping	2011	Iowa	Meurice/Kronfeld	data science (after postdocs at UIUC and Syracuse)	HEP
Freeman	Walter	2011	University of Arizona	Toussaint	Syracuse	HEP
Joseph	Anosh	2011	Syracuse	Catterall	ICTS-TIFR, Bangalore (postdoc)	BSM
Neil	Ethan	2011	Yale	Fleming	CU Boulder (assistant prof)	BSM
Schaich	David	2011	Boston University	Rebbi	U. Bern (postdoc)	BSM
Shi	Zhifeng	2011	William and Mary	Detmold		Cold NP
Lightman	Matthew	2011	Columbia	Christ		HEP
Jin	Xiaoyong	2011	Columbia	Mawhinney	Argonne	BSM
Liu	Qi	2012	Columbia	Christ		HEP
Chen	Chen	2013	Rensselaer Poly. Inst.	Giedt	Siemens PLC	BSM
Liu	Yuzhi	2013	Iowa	Meurice/Kronfeld	Indiana University (postdoc)	HEP, BSM

USQCD PhDs, 2008-present (2)

Parikshit	Junnarkar	2013	U New Hampshire	Beane	Mainz	Cold NP
Qiu	Siwei	2013	U Utah	DeTar	NIH	HEP
Briceno	Raul	2013	University of Washington	Savage	JLab (Assist. Prof. ODU/JLab starting Fall 2017)	Cold NP
Green	Jeremy	2013	MIT	Negele	DESY, Berlin	Cold NP, HEP
Davoudi	Zoreh	2014	University of Washington	Savage	MIT (Assist. Prof. at UMD starting Fall 2017)	Cold NP
Cheng	Anqi	2014	CU Boulder	Hasenfratz	Rule14 (data science industry)	BSM
Li	Ruizi	2014	Indiana University	Gottlieb	Indiana University (postdoc)	HEP
Lin	Zhongjie	2014	Columbia	Christ		Thermo
Yu	Jianglie	2014	Columbia	Christ	Google	HEP
Brown	Zachary	2015	William and Mary	Orginos	UnitedHealth Group, ECPI University	Cold NP
Chang	Chia Cheng (Jason)	2015	UIUC	El-Khadra	LBNL	HEP, Cold NP
Galvez	Richard	2015	Syracuse	Catterall	Vanderbilt	BSM
Komijani	Javad	2015	Washington U St Louis	Bernard	TUM, Munich (postdoc) -> Glasgow (postdoc)	HEP
Mastropas	Ekaterina	2015	William and Mary	Richards		Cold NP
Petropoulos	Gregory	2015	CU Boulder	Hasenfratz	SecurityScorecard (data science industry)	BSM
Shultz	Christian	2015	Old Dominion U	Dudek	finance	Cold NP
Veernala	Aarti	2015	Syracuse	Catterall	Fermilab	BSM
Weinberg	Evan	2015	Boston University	Brower	BU Postdoctoral Fellow	BSM
Zhang	Daiqian	2015	Columbia	Christ	Google	HEP
Howarth	Dean	2016	Rensselaer Poly. Inst.	Giedt	Temple U.	Cold NP
Lee	Song-Haeng	2016	U Utah	DeTar	Synopsys Inc, Mountain View, CA (industry)	HEP
Sun	Mingyang	2016	University of Kentucky	Liu	Riverbed	Cold NP
Winterowd	Christopher	2016	U Utah	DeTar	U Kent (postdoc)	HEP
Jin	Luchang	2016	Columbia	Christ	BNL (postdoc), (A. Prof. UConn/RBRC 9/2017)	HEP, Cold NP
Gambhir	Arjun	2017	William and Mary	Orginos	LLNL/UC Berkeley (postdoc)	Cold NP
Meyer	Aaron	2017	Chicago	Hill/Kronfeld	BNL (postdoc)	HEP
Murphy	David	2017	Columbia	Mawhinney		HEP, Cold NP
Sufian	Raza	2017	University of Kentucky	Liu	JLab	Cold NP
Wagman	Michael	2017	University of Washington	Savage	(Pappalardo Fellow at MIT starting 2017)	Cold NP
Gelzer	Zechariah	2017	Iowa	Meurice/Kronfeld	UIUC (postdoc)	HEP
Jay	William	2018	CU Boulder	Neil	Fermilab	BSM
Bassler	Scott	current	Syracuse	Laiho	Syracuse	BSM
Brown	Nathan	current	Washington U St Louis	Bernard	Washington U	HEP
Butt	Nouman	current	Syracuse	Catterall	Syracuse	BSM

USQCD PhDs, 2008-present (3)

Carosso	Andrea	current	CU Boulder	Hasenfratz	CU Boulder	BSM
Cheng	Tu	current	UConn	Blum		HEP
Kusno	Adithia	current	William and Mary	Orginos		Cold NP
Karpie	Joseph	current	William and Mary	Orginos		Cold NP
Grebe	Anthony	current	MIT	Detmold	MIT	Cold NP
Hackett	Daniel	current	CU Boulder	DeGrand	CU Boulder	BSM
Hoying	Daniel	current	UConn	Blum	DOE Grad Student Fellowship at BNL (2017-2018)	HEP
Jha	Raghav	current	Syracuse	Catterall	Syracuse	BSM
Kanwar	Gurtej	current	MIT	Detmold	MIT	Cold NP
Rendon	Gumaro	current	U Arizona	Meinel	U Arizona	HEP
Steinbrecher	Patrick	current	BNL/Bielefeld	Karsch	BNL	Thermo
Wang	Gen	current	University of Kentucky	Liu		Cold NP
Yamamoto	Shuhei	current	U Utah	DeTar	U Utah	HEP
Bai	Ziyuan	current	Columbia	Christ		HEP
Wang	Bigeng	current	Columbia	Christ		HEP
Wang	Tianle	current	Columbia	Christ		HEP
Saenz	Jesus	current	NM State University	Engelhardt		Cold NP
Radhakrishnan	Archana	current	William and Mary	Dudek		Cold NP
Johnson	Christopher	current	William and Mary	Dudek		Cold NP
Lin	Yin	current	Chicago	Kronfeld		HEP
Klco	Natalie	current	University of Washington	Savage		Cold NP

How does SPC avoid COI

- All proposals clearly indicate co-PI-s.
- During SPC discussions, any SPC members that are co-PI-s of a specific proposal are not allowed to participate in discussions of that proposal.
- Votes (actual allocation) are taken from each member.
- During voting of allocations, an unbiased average of non-participating members is taken. Discrepancies are reconciled among the committee. Votes/allocations may be recast.
- Final allocation based on unbiased average
- Anecdotal remark: have never observed significant discrepancy.

What criterion is used to decide full funding for proposals

- Proposals are classified according to the criterion they are to be evaluated: Type A or B.
- Type A: address critical needs of USQCD
 - Large requests we would expect from only long term, mature, well established projects. New projects requesting large amounts of time will receive very significant scrutiny and probably will not receive a large allocation
 - Large proposals are scrutinized significantly to ascertain whether they do address/achieve the goals of USQCD. Does the project have an established track record? Is the project sufficiently prepared to start the new set of calculations? Are publications coming out? What has been the scientific impact?
 - Ultimately, only a fixed amount of time is available. Long term projects requiring more than the available time will not fair well
- Type B: development
 - Upper bound to time (2.5M): threshold much lower. If a reasonable case is made, then full funding is very likely
 - Projects seeking a renewal are scrutinized to determine if progress is being made along with the potential for growth to type A

What feedback is given to PI-s after allocation

- Resources almost invariably over-subscribed
- This is the type of response for strong proposals:
 - ➔ *The study of light pseudoscalar physics, especially the $K \rightarrow \pi\pi$ decay, is important to the goals of the USQCD collaboration. Also, the SPC recognizes that this work, including the scale setting from the Omega mass and the quark mass tunings, is an essential part of your collaboration's physics program. However, the total resources needed by all of the important projects was considerably larger than the available resources, and we therefore cannot grant all of your request. The allocation listed above is the amount available for your project while balancing the needs of the entire collaboration.*
- Based upon complaints received by the SPC that not enough feedback was given to PI-s, the SPC now writes more extensive reports to the PI-s.
- Encouragement for future calculations were suggested: i.e.,
 - ➔ *As noted in our earlier comments, the SPC is very interested in seeing the $\Delta I = 1/2 K \rightarrow \pi\pi$ calculation move forward, although that is not part of the work proposed here.*
 - The SPC received a proposal for this work the next year
- We emphasize that significant critical (but constructive) criticism was given to several proposals (but not displayed here)