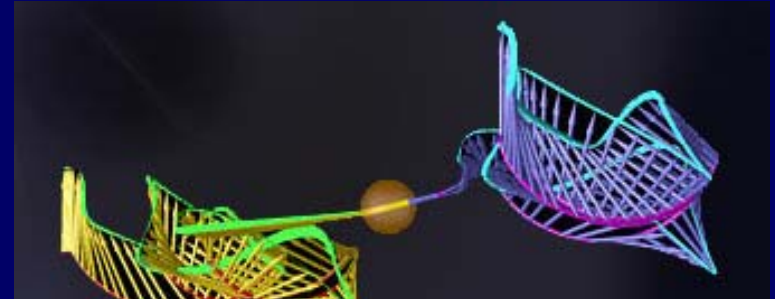


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*Report from the  
Project Manager*



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Bill Boroski

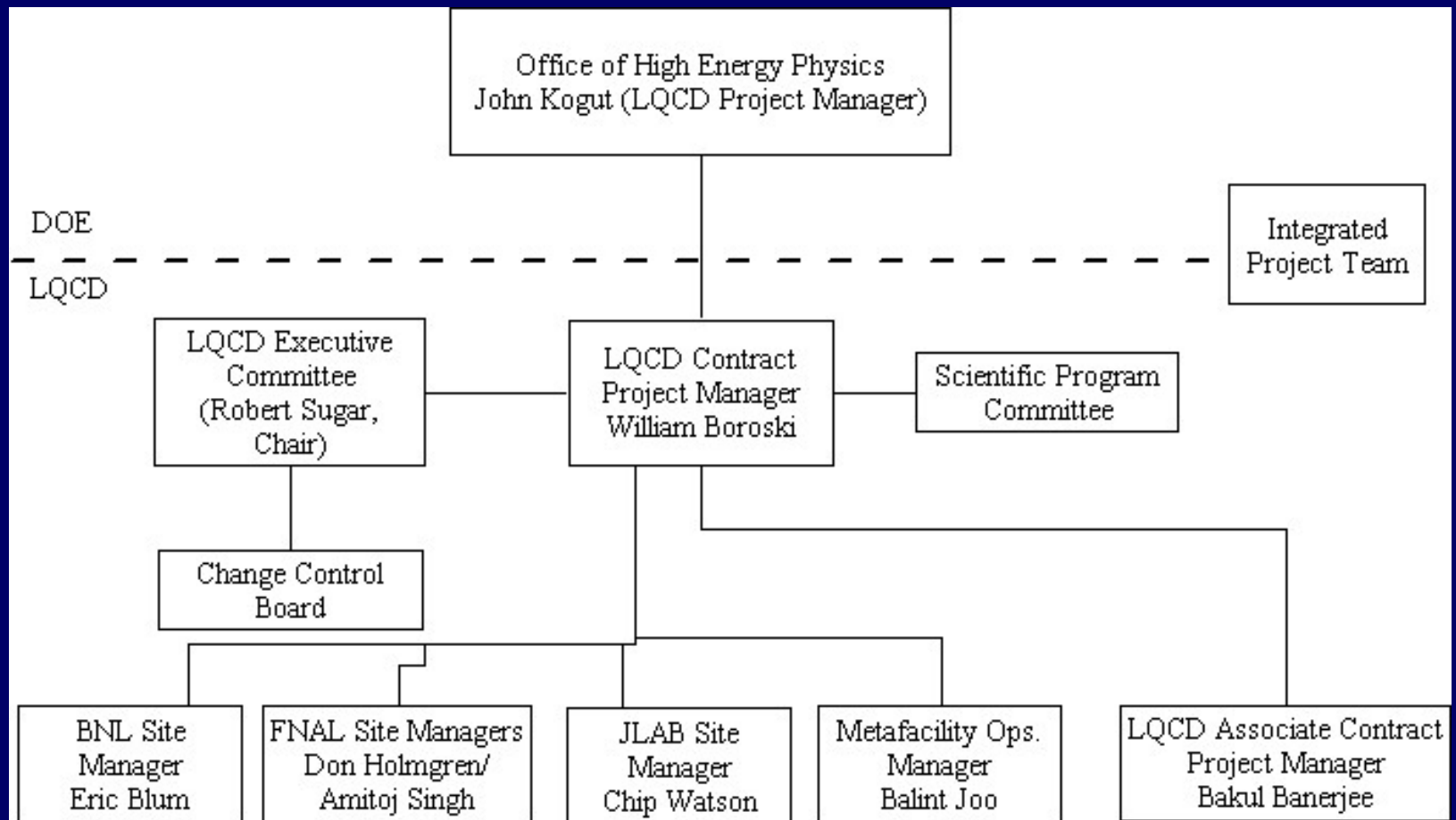
USQCD All-Hands Meeting  
Brookhaven National Laboratory  
March 22, 2007

# Outline

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- Organizational overview and updates
- A little about me
- Brief review of the OMB300 project scope
- Progress against technical goals and milestones
- Budgets and cost performance
- Annual reviews
- Points of contact

# Organization Overview



# A little about me...

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- Current Responsibilities
  - Associate Head, Computing Division, Fermilab
    - Head, Office of Project Management and QA
  - Project Manager, Sloan Digital Sky Survey ([www.sdss.org](http://www.sdss.org))
    - \$100M ground-based astronomy project involving 25 collaborating institutions
    - Using a dedicated telescope to create a 3-dimensional digital map of  $\frac{1}{4}$  of the sky
    - Publicly available imaging catalog contains 215 million objects; spectroscopic catalog contains spectra from 1.05 million objects
    - Information and data available through [skyserver.sdss.org](http://skyserver.sdss.org)
    - Averaging 6 million hits, and processing ~600K SQL queries, per month
  - Contract Project Manager, LQCD OMB300 Project
    - Assumed this position from Don Holmgren, effective January 1, 2007

# OMB300 Project Scope

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- Four-year project funded from Oct 1, 2005 through Sep 30, 2009 to cover operating costs and new hardware procurements
  - Funding provided by DOE OHEP and ONP
- Operations (admin, hardware maintenance, site management)
  - US QCDOC
  - SciDAC Clusters
    - FNAL: QCD, Pion
    - JLab: 2M, 3G, 4G clusters
  - New LQCD Systems
    - FNAL: Kaon
    - JLab: 6N

# *Project Scope (cont'd)*

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- Purchase and deploy new clusters
  - 2006: Kaon cluster at FNAL; 6N cluster at JLab
  - 2007: 7N cluster at JLab
  - 2008/09: New clusters at FNAL
- Project management
  - Modest budget to support project management activities
- Not in project scope
  - Software development
  - Scientific software support

# Technical Goals and Milestones

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- Deployment and cumulative performance milestones defined for each year:
  - “Delivered Tflops–yrs”
    - Defined as available capacity expressed as average of DWF and asqtad inverter performance
    - “1 year” = 8000 hours
  - “Deployed Tflops”
    - Defined as incremental capacity brought on-line, expressed as average of DWF and asqtad inverter performance
- Performance monitored through monthly stakeholder calls, quarterly progress reports, and annual progress reviews
  - External May 14-15 review will review progress-to-date and plans for next year’s deployment

# Milestone Performance (Tflops deployed)

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<u>Year</u>	<u>Tflops Deployed</u>	
	<u>Current Baseline</u>	<u>Actual / Planned</u>
FY2006	2.0 <i>1.8 Tflops at FNAL 0.2 Tflops at Jlab</i>	2.6 <i>(actual)</i> <i>FNAL Kaon: 2.3 JLab 6N: 0.3</i>
FY2007	2.9	2.2 - > 2.9 <i>(planned)</i> <i>JLab 7N procurement in progress</i>
FY2008	4.2	tbd
FY2009	3.0	tbd

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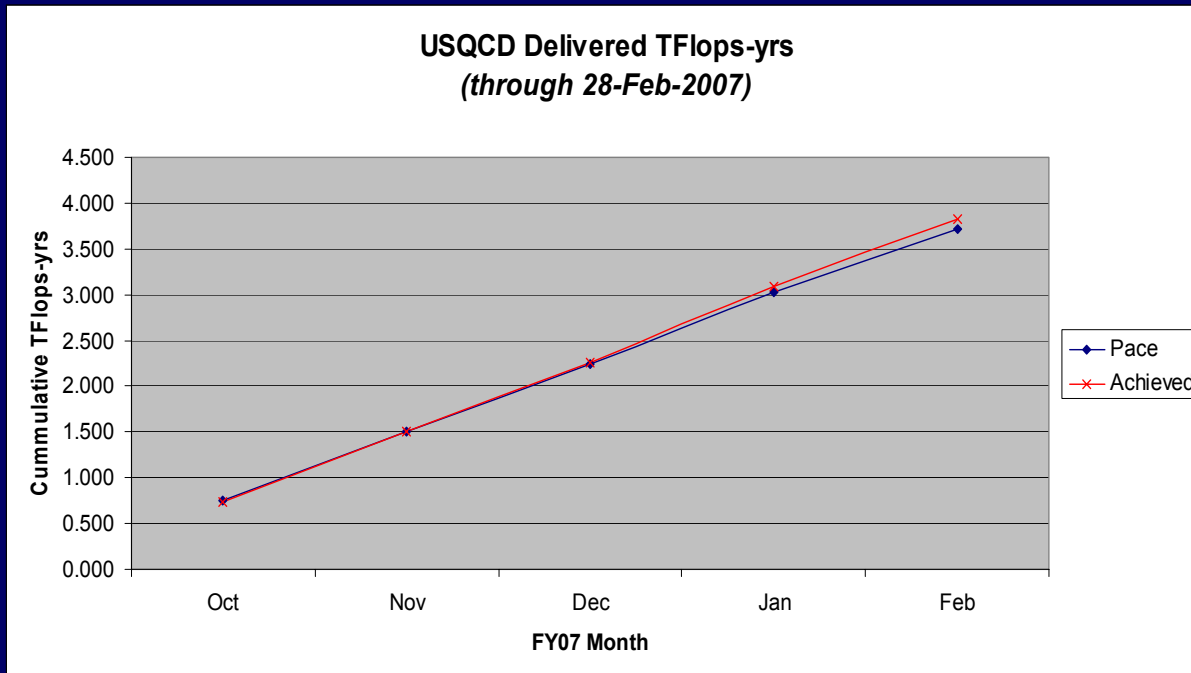
Cumulative FY06/07 milestone = 4.9 Tflops

Total FY06/07 planned = 4.8 Tflops (dual-core) or 5.5 Tflops (quad-core)



# Milestone Performance (Tflops-yrs delivered)

- Top-level FY07 milestone is for 9.0 Tflops-yrs delivered
- Through 28-Feb-06, we have delivered 3.83 Tflops-yrs (103% of pace)



- If we continue at current pace, extrapolated delivery is ~9.19 Tflops-yrs w/o JLab '07 cluster (~9.93 Tflops-yrs with full quad-core deployment)

# Current Project Budget

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<u>Year</u>	<u>Personnel</u>	<u>Equipment</u>	<u>Total</u>
FY2006	\$ 650K	\$ 1,850K	\$ 2,500K
FY2007	\$ 908K	\$ 1,592K	\$ 2,500K
FY2008	\$ 870K	\$ 1,630K	\$ 2,500K
FY2009	\$ 902K	\$ 798K	\$ 1,700K
Total	<u>\$ 3,330K</u>	<u>\$ 5,870K</u>	<u>\$ 9,200</u>

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# *FY2006 Cost Performance*

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- FY06 Actuals

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	<u>Personnel</u>	<u>Equipment</u>	<u>Total</u>
Budget	\$ 652K	\$ 1,848K	\$ 2,500K
Final Cost	\$ 632K	\$ 1,796K	\$ 2,428K
% of budget	97%	97%	97%

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# *FY2007 Cost Performance to Date*

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- *FY07 Performance (01-Oct-07 through 28-Feb-07)*

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	<u>Personnel</u>	<u>Equipment</u>	<u>Total</u>
Budget	\$ 980K	\$ 1,520K	\$ 2,500K
Final Cost	\$ 450K	\$ 1,200K	\$ 1,650K
% of budget	46%	79%	66%
% of yr complete	42%	42%	42%

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# Annual Progress Reviews

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- 2006 Review Results
  - Held May 25-26 at Fermilab
  - Generally favorable
    - 18 findings, 11 comments, 8 recommendations
  - Key recommendations
    - Consider adding schedule contingency to accommodate deployment delays
    - Document science-based and change-based reasons and requirements for the LQCD metafacility, data environment, and a common computing environment across the three LQCD sites. Develop implementation plan.
    - Request shifting the FY09 procurement funding to FY08 to support a combined FY08/09 procurement
    - Improve system utilization by analyzing usage data and user patterns, and reaching out to other HPC facilities for workload optimization suggestions.
- 2007 Review (scheduled for May 14-15 at JLab)
  - Focus on continued significance and relevance of the project, progress towards scientific and technical milestones, progress against budget and schedule, and status of technical design and proposed scope for FY08/09 procurement

# Contact Information

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- Contract Project Manager: Bill Boroski, FNAL ([boroski@fnal.gov](mailto:boroski@fnal.gov))
- Assoc. Project Mgr: Bakul Banerjee, FNAL ([bakulb@fnal.gov](mailto:bakulb@fnal.gov))
- BNL Site Mgr: Eric Blum ([blum@bnl.gov](mailto:blum@bnl.gov))
- FNAL Site Mgrs: Don Holmgren ([djholm@fnal.gov](mailto:djholm@fnal.gov))  
Amitoj Singh ([amitoj@fnal.gov](mailto:amitoj@fnal.gov))
- JLab Site Mgr: Chip Watson ([watson@jlab.org](mailto:watson@jlab.org))
- Chair, LQCD Exec. Comm: Bob Sugar  
([sugar@savar.physics.ucsb.edu](mailto:sugar@savar.physics.ucsb.edu))