

APS/Users Operations Monthly Meeting

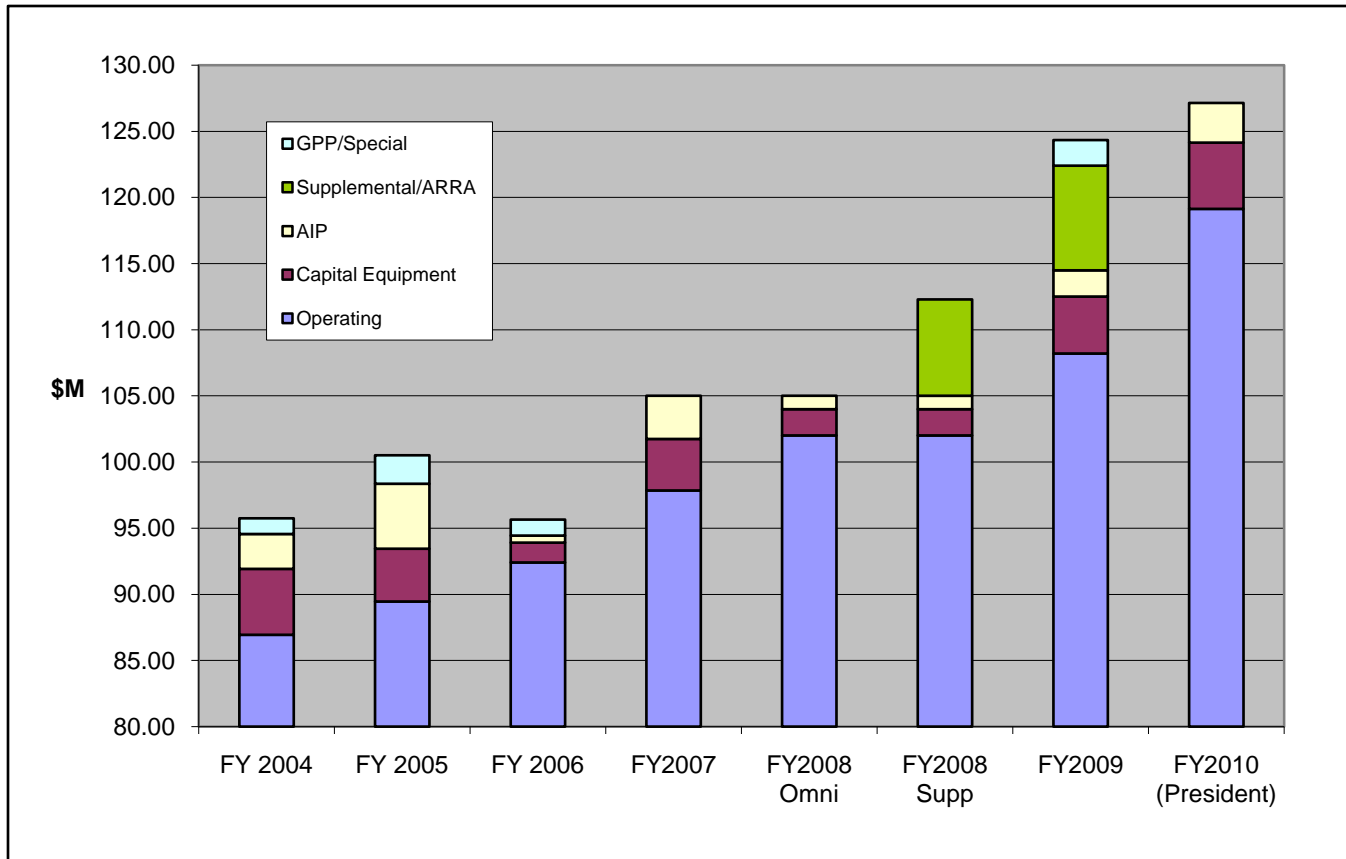
J. Murray Gibson
September 23, 2009

Agenda

- 2:30 p.m. Refreshments
- 2:45 p.m. APS Update – Murray Gibson
- 3:05 p.m. Status of Beamline Projects for the APS Renewal – Dean Haeffner
- 3:25 p.m. Update on Redevelopment at 8-BM – Lydia Finney
- 3:45 p.m. Adjourn



APS Budget



~\$10M increment very important to APS
House and Senate have to conference FY2010 bill
May happen this month but a short CR is anticipated

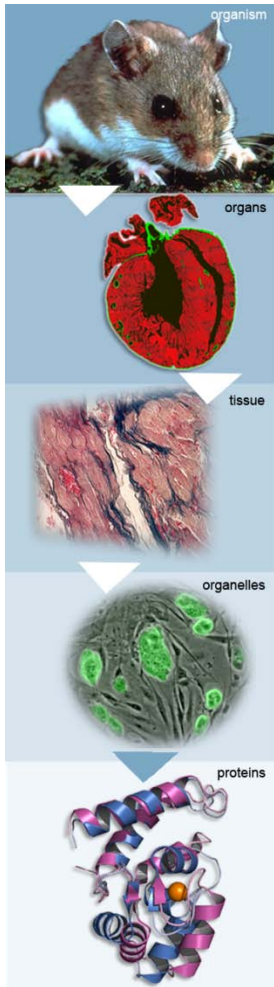


Update on APS Renewal

- CD-0 proposal reviews received
 - Generally very positive with strong support for moving forward
 - DOE is requesting more information to support Mission Need evaluation (due by October)
 - Hope to obtain CD-0 (Mission Need Statement) by November time frame, and begin preparation of Conceptual Design report (CDR) in preparation for CD-1
- SAC Meeting October 8-9 is a key milestone to begin the preparation for the CDR
 - Bill Stirling, former Director of ESRF, to take over chairmanship of SAC beginning with this meeting

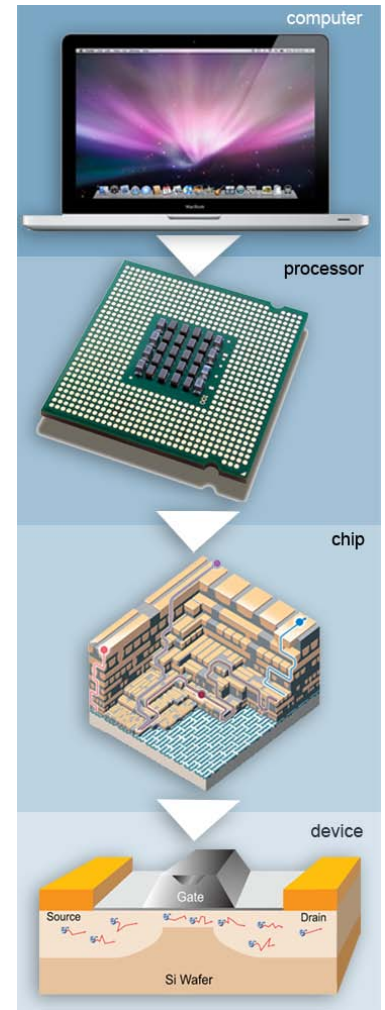


SCIENCE DRIVER: Mastering hierarchical structures through imaging



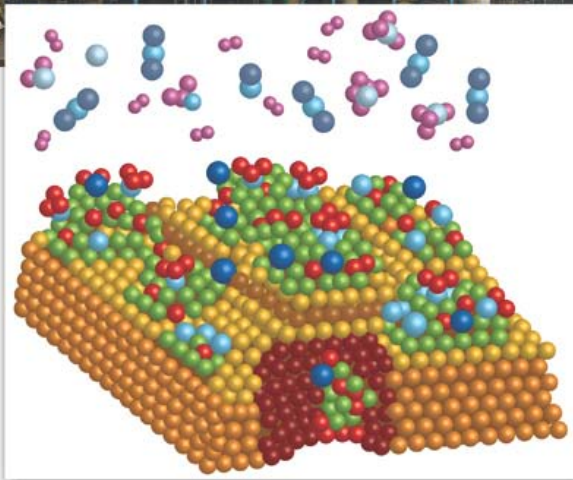
“Imaging specific molecules and their interactions in space and time will be essential to understand how genomes create cells, how cells constitute organisms and how errant cells cause disease. Molecular imaging must be extended and applied from nanometre to metre scales...”, Roger Tsien

- Hierarchical structures are key to life, machines and complex nanostructured materials
- High-energy x-rays offer a unique tool to probe all relevant length scales and understand their interconnection

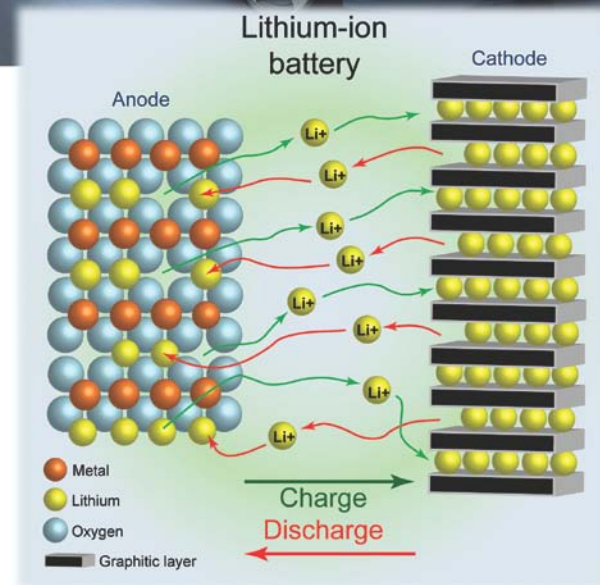


SCIENCE DRIVER: Real materials under real conditions in real time

Catalysis



Batteries

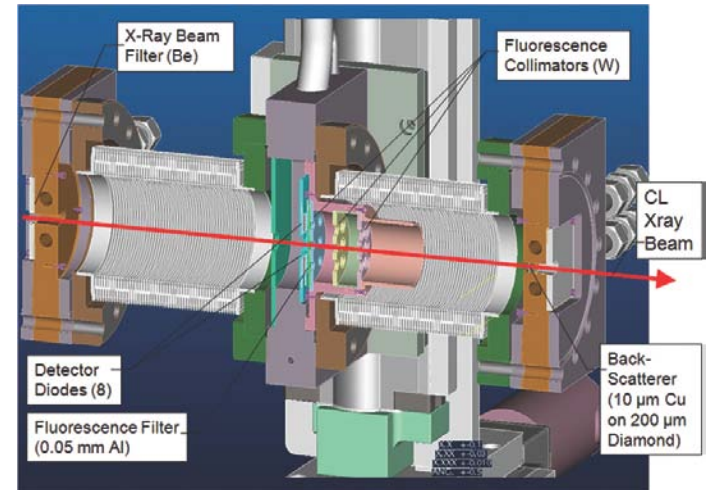
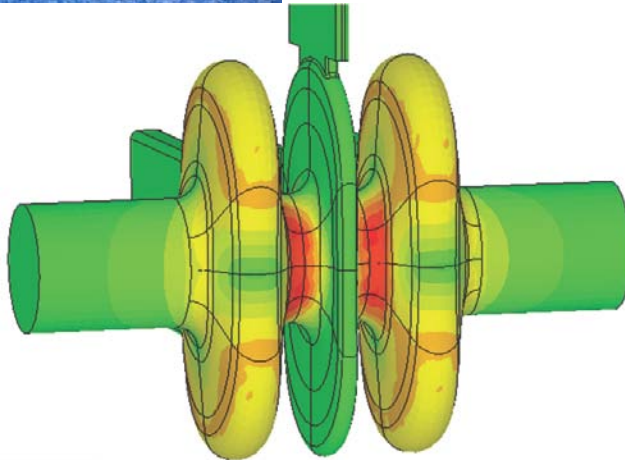


Accelerator WBS Elements

Longer straight sections



SPX "crab" cavities[★]



X-ray beam position monitors

Superconducting undulators[★]

And higher operating current

[★]
R&D needed

Beamline Renewal Working Groups

<u>Category</u>	<u>APS Leader</u>	<u>Outside Co-Leader(s)</u>
Imaging/Coherence	Barry Lai	C. Jacobsen & Mark Sutton
Extreme Conditions	Malcolm Guthrie*	Mark Rivers
Ultrafast Dynamics	Eric Dufresne	Paul Evans
Interfaces	Paul Zschack	John Budai & Dillon Fong
Spectroscopy	Steve Heald	Clem Burns
Proteins to Organisms	Stefan Vogt	J. Penner-Hahn & Malcolm Capel
Other (AA)	Dean Haeffner	

Each group leader will give a public presentation of their summary to the SAC, and solicit user input in the next two weeks (details from Dean)



Working Agenda
APS SCIENTIFIC ADVISORY COMMITTEE MEETING
October 8-9, 2009
Advanced Photon Source, Argonne National Laboratory
Building 401, Room A5000

Thursday, October 8, 2009

8:30 a.m. **Welcome, Overview of the Meeting, APS Update**
M. Gibson

9:15 **Imaging/Coherence Beamlines**
B. Lai, C. Jacobsen, and M. Sutton—Co-leaders

10:00 **Break**

10:30 **Extreme Conditions Beamlines**
M. Guthrie and M. Rivers—Co-leaders

11:15 **Ultrafast Dynamics Beamlines**
E. Dufresne and P. Evans—Co-leaders

12:00 noon **Working Lunch with Presenters**

1:00 **Interfaces Beamlines**
P. Zschack, J. Budai, and D. Fong—Co-leaders

1:45 **Spectroscopy Beamlines**
S. Heald and C. Burns—Co-leaders

2:30 **Proteins to Organisms Beamlines**
S. Vogt, J. Penner-Hahn, and M. Capel—Co-leaders

3:15 **Break**

3:30 **Beamline Summary**
D. Haeffner

4:15 **Accelerator Plans**
M. Borland

5:00 **Discussion**

6:00 **Adjourn**

Presentations reviewed with users
in advance, available on the web after meeting

Meeting itself closed – primary topic is the process
to reach decisions for the CDR



The APS Renewal (Upgrade) Project (after CD-0)

- Renewal project will be pulled off as a separate box under Photon Sciences
 - J. Murray Gibson – Project Director (reports to Eric Isaacs)
 - Geoff Pile – Project Manager
 - Ed Temple – Senior Project Advisor

 - *(unconfirmed) Ron Lutha – Federal Project Director*
 - *Harriet Kung – Federal Acquisition Executive*
 - *John Tapia – program manager in Pedro's office*

 - *Rod Gerig will become Deputy APS Director for Operations during project*



Other announcements

- Linda Young takes over as XSD Division Director January 1st 2010
 - Thanks to Mark Beno and George Srajer for interim leadership
 - Both will continue as part of XSD management team



- We are approaching the 10,000th published paper from APS Science
 - Cause to publicize and celebrate (ideas?)



Pacesetter: Anita Alamillo (ASD)

Extraordinary effort in creating and assembling the Argonne Accelerator Historical Collection.



The Argonne Accelerator History Document Collection

[General Documents](#) relating to past accelerator work at Argonne

[ZGS - Zero Gradient Synchrotron](#) (operation: 1963 - 1979)

[Chemistry Division Electron Linac](#) (operation: 1969 - ongoing)

[ASPUN: Argonne Super Intense Pulsed Neutron Source](#) (design, 1983)

[ATLAS Superconducting Linac](#) (operation: 1978 - ongoing)

[POPAE - Protons On Protons And Electrons](#) (conceptual design report and proposal - 1976)

[HEARTHFIRE – Inertial Confinement Fusion](#) (1974 – 1980 at ANL)

[Proton Radiography](#) (operation: 1979)

[IPNS – Intense Pulsed Neutron Source](#) (operation: 1982 - 2008)

[GEM – GeV Electron Microtron](#) (design report 1982)

[AWA – Argonne Wakefield Accelerator Facility](#) (operation: 1987-ongoing)

[CWDD - Continuous Wave Deuterium Demonstrator](#) (operation: 1987-1993)

[APS – Advanced Photon Source](#) (operation: 1996 - ongoing)

[LEUTL: Low Energy Undulator Test Line](#) (operation: 1997-2002)

[SNS – Spallation Neutron Source at Oak Ridge](#) (design work)



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