

APRIL 27, 2022

PSC ALL-HANDS MEETING

LAURENT C. CHAPON

Associate Laboratory Director for Photon Sciences

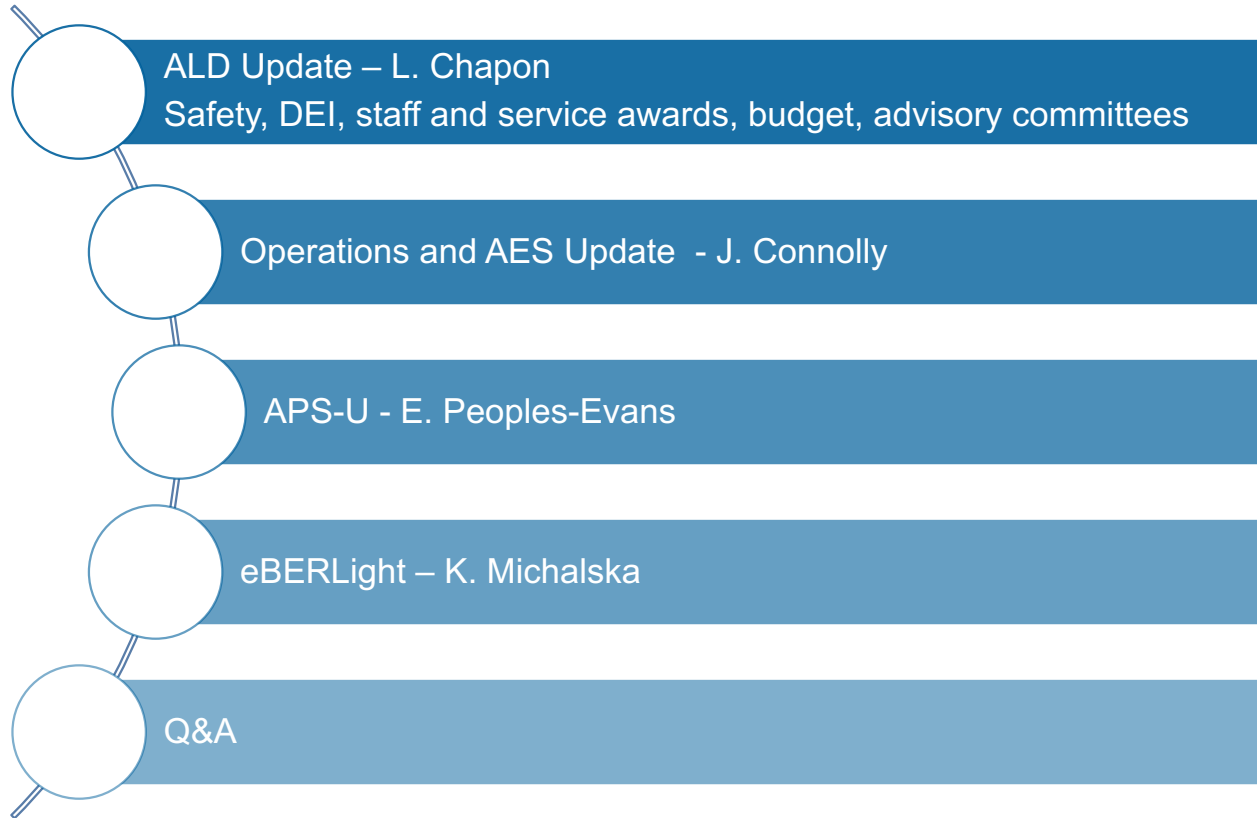
APS Director



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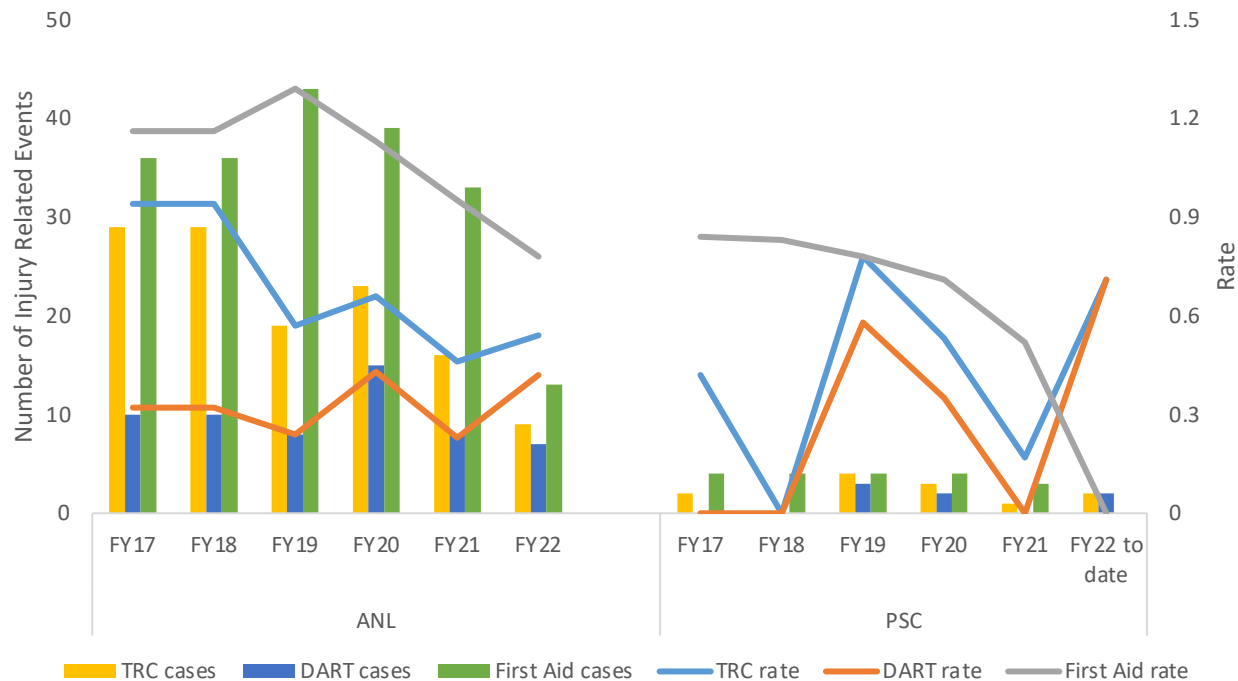
OUTLINE



SAFETY

Photon Sciences safety record is excellent for FY22

5-year injury events w/COVID



SAFETY

- **APS Confined-Fire Event**

- Foam added to catch-tank to muffle sound
- Foam tested at ARL facilities with >100 shots prior to this experiment



- **DOE Assessment of Work Planning and Control**

- Office of Enterprise Assessments concluding WPC Assessment
 - Expecting draft report mid-May

DEI

- Many thanks to Fanny Rodolakis (DEI Council Chair) and Becky Sikes (co-Chair) for their work.
- National GEM (Graduate Education for Minorities) Consortium
 - PSC is doubling the number of GEM students in 2022 (5 have accepted, 1 pending).
- Doing some research on double-blind reviews
- Bringing DEI discussion to the APS/CNM Users Meeting
- Working with APSUO to have a more diverse representation in the user organization and democratize access to newcomers
- DEI initiative across the 5 light sources as part of the 5-way meeting.

APS UPGRADE PROJECT MANAGEMENT

- **Jim Kerby** has been appointed APS-U project director
- **Elmie Peoples-Evans** has been appointed APS-U project manager



Jim Kerby



Elmie Peoples-Evans

ARGONNE IMPACT AWARD WINNERS

Extraordinary Effort

- Randy Brown, Jessie Morales, Valerie Rivas, Ryan Roberts,
- Grace Lynch, Yiying Ge, Sue Benda, Jade Thomas, Jeff Toeller
- Mike Bracken, Daniel Burke, Debra Curry, John Dench, Robert Furst, Noel Gonzales, Nicholas Kubinski, Brian Poncin, Taino Winfrey
- Zou Finfrock, Steve Heald, Hwang Inhui, Debora Motta Meira, Mike Pape, Aleks Mikhail, Chengjun Sun, Erik Sarnello
- Frank Skrzecz, Stan Wiedmeyer, Jeremy Carvelli, Greg Fystro
- Ibrahim Kesgin
- Bill Guszczko, Joseph Vanis, Thomas Meier, Robert Vargas
- Colleen Trattner
- Ralph Bechtold
- Joe Budz
- Curt Forth, Aleksander Marcetic, Chris Sawatski

25+ YEARS SERVICE AWARDS

25 years: Frederick Carter, Jessica Skwarek

30 years: Joseph Gagliano, Patricia Cameli, David Meyer, Douglas Horan, Anthony Puttkammer, Martin Smith, Gian Trento

35 years: Ralph Bechtold

40 years: Mary Westbrook

AWARDS & RECOGNITIONS

Kamlesh Suthar (AES) was selected for the Strategic Program for Innovation at National Laboratories

Suresh Narayanan (XSD) is the winner of the 2022 APSUO Gopal K. Shenoy Excellence in Beamline Science Award

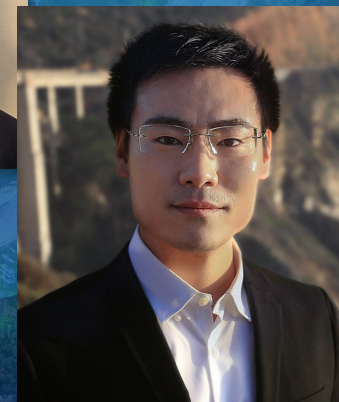
Qilin Guo (University of Wisconsin-Madison) is the 2022 APSUO Rosalind Franklin Young Investigator Award winner



Kamlesh Suthar



Suresh Narayanan



Qilin Guo

XSD & ASD HIGHLIGHTS



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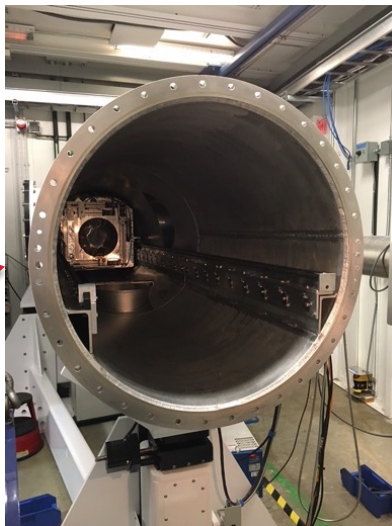
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XSD: DETECTOR UPGRADE AT @ 12-ID-B

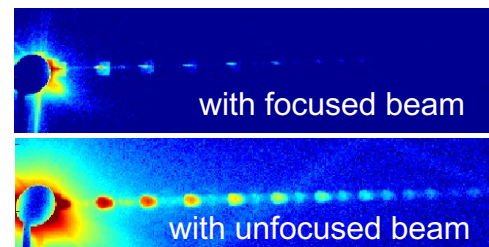


Detector bench test Dec 21

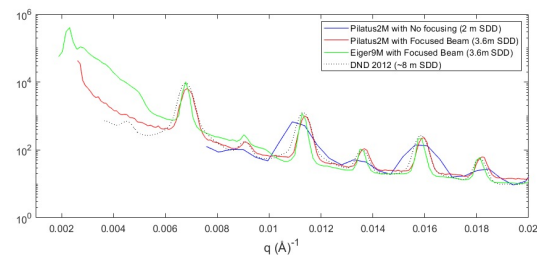
Sensitive area $233 \times 245 \text{ mm}^2$ ($75 \times 75 \mu\text{m}^2$)
Dynamic range: 20bits
Frame rate: 40Hz (S version >25% cheaper)
Count rate: $1\text{E}7/\text{pixel}$
QE @12keV: 86%
Operation pressure: $<1\text{E}-2 \text{ mbar}$



Preparation of SAXS tube for detector installation Jan 22



Comparison of data taken with previous (top) and new detector (bottom)

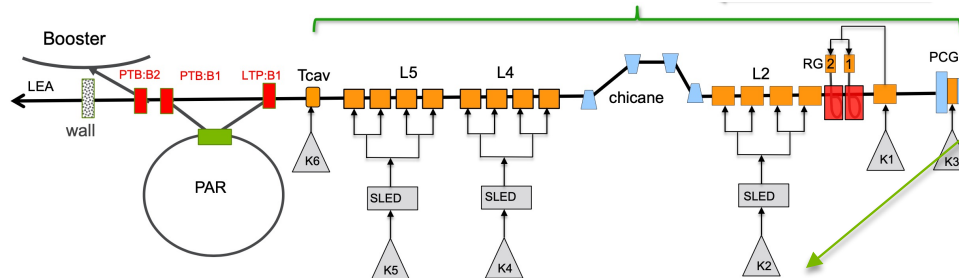
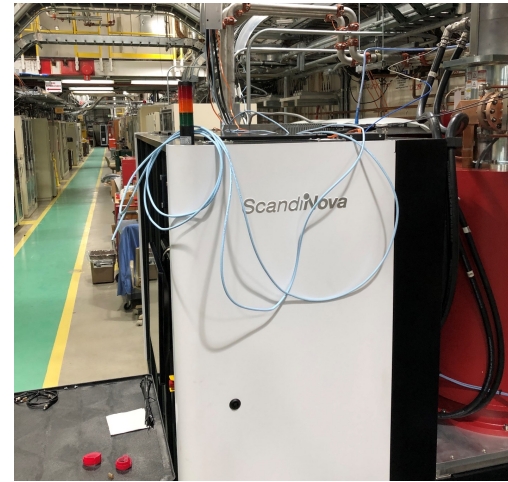


Xiaobing Zuo, Chuck Kurtz, Soenke Seifert, Alexis Quental, Byeongdu Lee, Kevin Peterson, Antonino Micelli

ASD: APS LINAC REFURBISHMENT: FIRST NEW MODULATOR/KLYSTRON BEING INSTALLED IN K2

Address obsolescence issues in the APS linac to support APS-U operation

Perfect fit!



APS linac

IMPACT, BUDGET, AND ADVISORY COMMITTEES

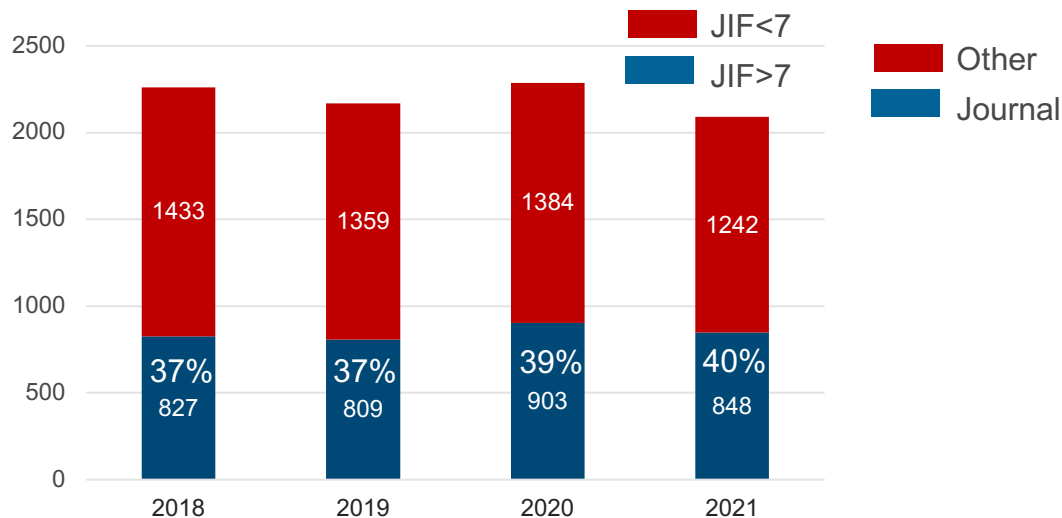


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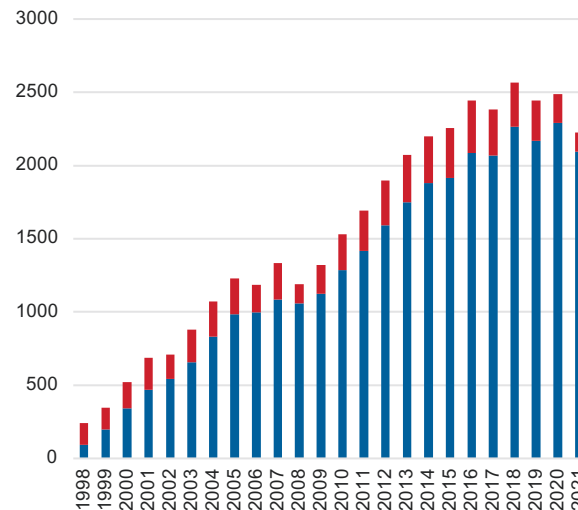
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APS PUBLICATIONS DATA



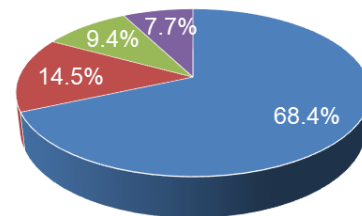
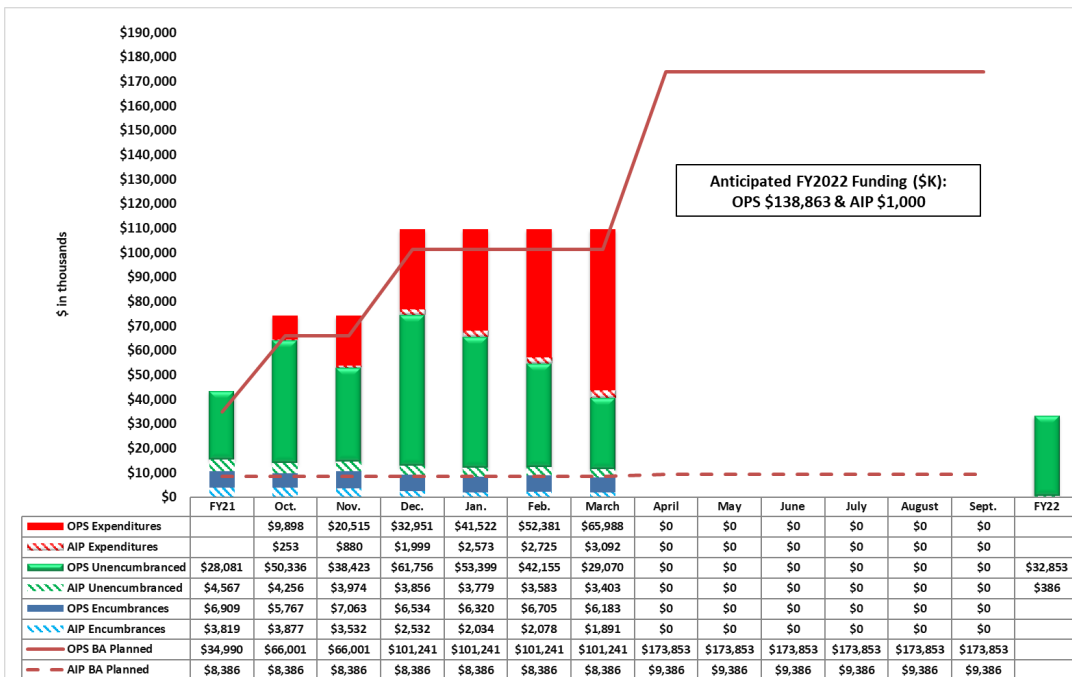
Peer-reviewed APS journal articles JIF>7, JIF<7, CY2018-CY2021

All APS publications, CY1998-CY2021



APS OPERATIONS – FY22 BUDGET

- Funding some 2.5% above FY21 budget (across light sources)
- OPS will spend ~\$150M in FY22
- Effort spending on track – use correct WBS, confirm project with CAM for APS OPS projects
- If possible, submit purchase requisitions for materials and supplies so funds can be spent in FY22

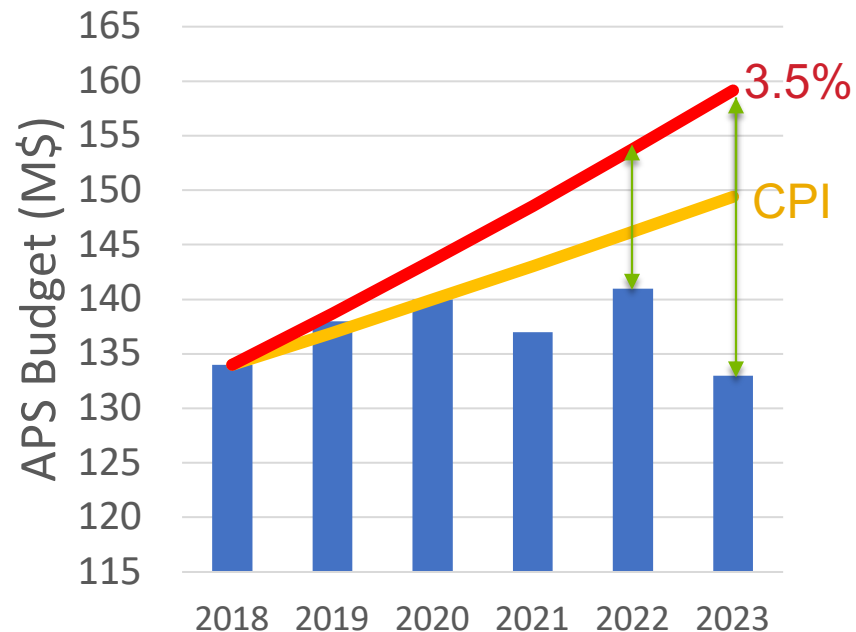


- Effort
- Space & Power
- Recurring Materials & Supplies
- Projects and Non-Recurring

BUDGET UPDATE

- U.S. light sources budget (PBR) down by 5.3% in FY23
- Opportunities to revise before appropriations
- Discussing impact and strategy across light sources and national laboratories

Year	APS budget	DOE light Sources budget
FY18	\$134 M	\$489 M
FY19	\$138 M	\$505 M
FY20	\$140 M	\$519 M
FY21	\$137 M	\$525 M
FY22	\$141 M	\$538 M
FY23	\$133 M	\$509 M (PBR)



ADVISORY COMMITTEE SAC/MAC

SAC held on April 6-7.

- Discussed the staffing level on beamlines, support for operation of XSD beamlines critically low on many instruments.
- Threat to user service, but also innovation and development of a talented workforce.
- Sustained low level will have longstanding impacts.
- Discussed selection of first experiments at APS-U and guidance on commissioning plan.

Restarting the MAC (Bob Hettel)

- Assess whether the APS accelerator program is on a trajectory that will allow success during each phases and the ultimate return to reliable operation at the conclusion of the APS-U project
- It will also assist the APS in making decisions for the refurbishment of key accelerator components and future plans for the facility

Q&A:

Will CMS-CS funding be increased to allow replacement of outdated critical equipment, and provide improved capabilities and efficiency?

The current funding structure for CMS-CS does not provide for replacement of equipment that is no longer supported by OEMs, is well beyond expected service life, or limits the capabilities and efficiency of CMS-CS.

— Paul Amann

Please do not hesitate to reach out
Always welcoming feedback !
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