

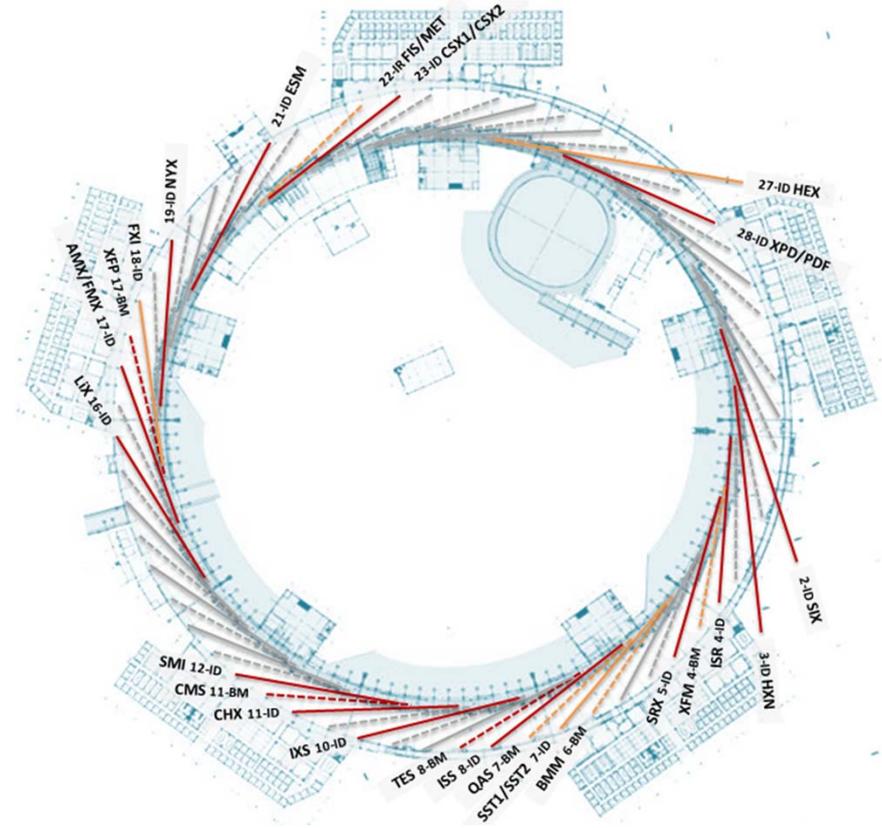
NSLS-II Beamlines Triennial Review Plan

*Qun Shen, Deputy Director for Science, NSLS-II
NSLS-II SAC Fall Meeting
September 19-20, 2017*



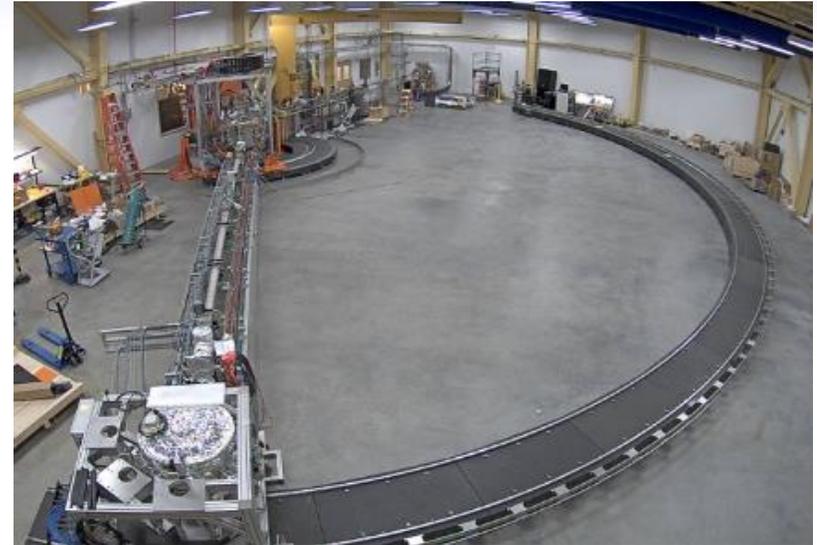
SAC Triennial Review of NSLS-II Beamlines

- As part of SAC Charter, SAC provides advice on:
 - Scientific output and utilization of NSLS-II facilities
 - Long-term scientific directions
 - Planning, development, and operation of NSLS-II facilities
 - Policies and procedures relevant to user access and utilization of scientific facilities
- As NSLS-II continues to ramp-up and mature user operations, we will start triennial SAC reviews of NSLS-II beamlines to allow SAC to provide advice on these topics



Review Scope and Schedule

- Given diverse levels of beamline maturity at present, we plan to start the initial SAC reviews when a beamline is currently in, or already completed, its 3rd year of general user operations
- Later in steady state, each triennial review may include a group of (4-6) beamlines according to commonalities in cross-cutting science or programmatic themes to allow better efficiency of such reviews
- We envision two such SAC reviews each year, scheduled in conjunction with each of the SAC meetings (more details later)

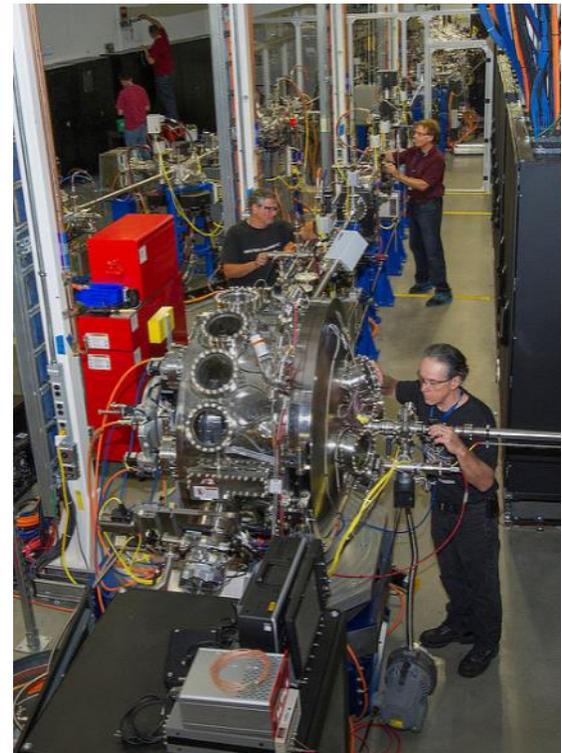


Topics to Be Covered in the Review

- Beamline capabilities and performance
- Science programs and communities
- Productivity and impact
- Quality of user support including support labs
- Partner users and partner-operated beamlines
- Future improvement plans

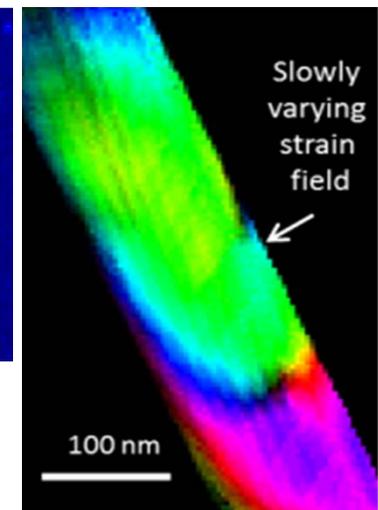
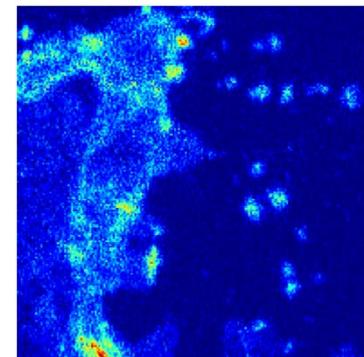
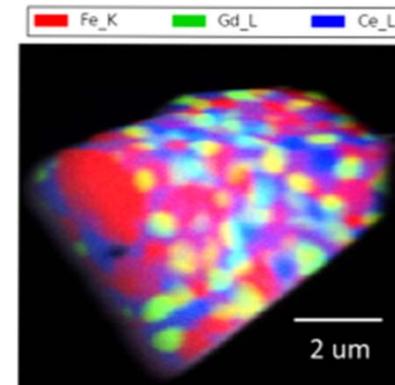
Possible Detailed Topics & Charge Questions

- Beamline Capabilities and Performance:
 - Are the beamline capabilities (incl. controls and DAMA) completed as planned, and well developed given the current state of beamline operations?
 - Do these capabilities meet the research needs of the scientific communities?
 - Are these capabilities well aligned with NSLS-II strengths and strategic directions?
 - Have there been significant improvements to beamline, and have these led to enhanced productivity and impact?
 - Are there opportunities to significantly enhance the existing, or pursue new, capabilities/instrumentation and analysis?



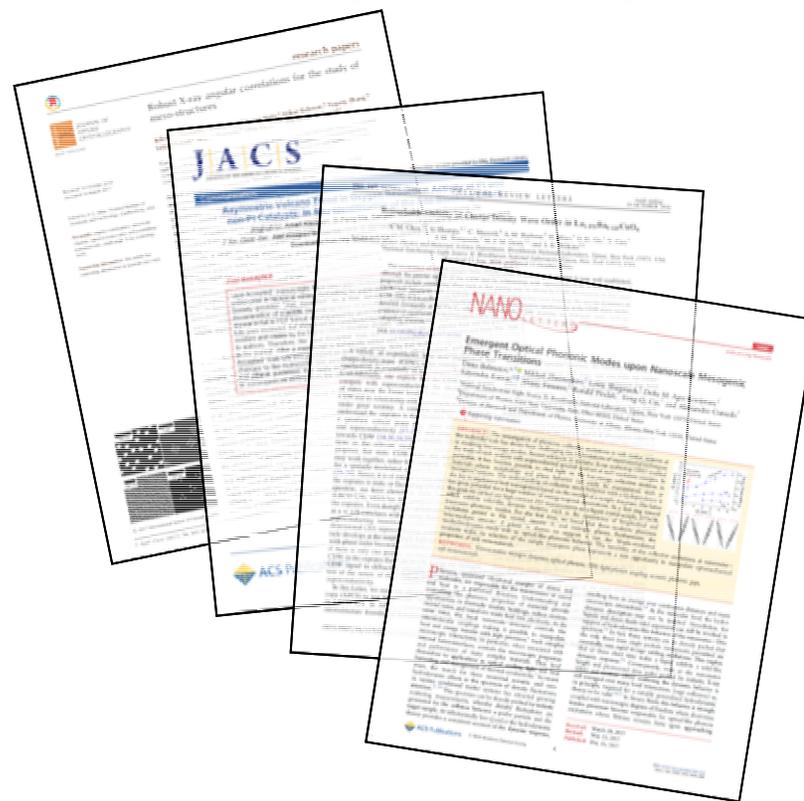
Possible Detailed Topics & Charge Questions

- Science programs:
 - Is the current science program mix appropriate for the beamline?
 - Are there opportunities for adjustments of the science programs, either by adding new science areas or by reducing certain areas?
 - Are beamline scientists actively pursuing research and development? Are these research activities well integrated into the beamline science?



Possible Detailed Topics & Charge Questions

- Productivity and impact:
 - Is each science program productive and making sufficient impact on the scientific field, given the current state of the beamline?
 - Are there potential efficiencies to be gained through adjustment in scheduling, programmatic balance, or other measures to further enhance productivity and impact?



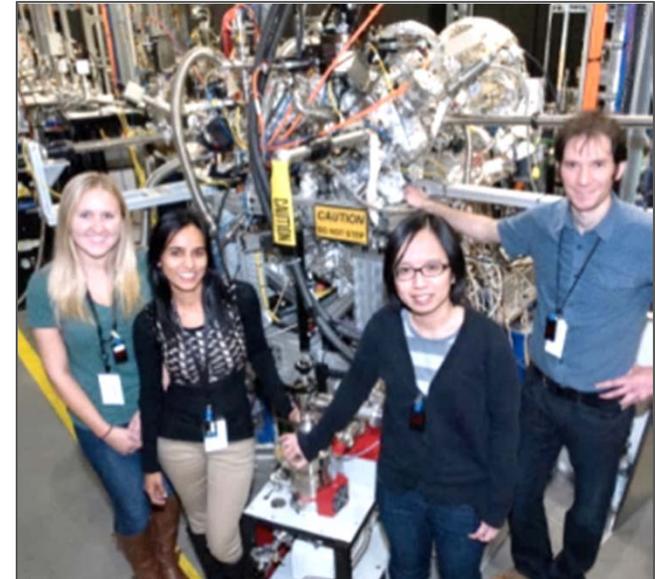
Possible Detailed Topics & Charge Questions

- Quality of User Support and Support Labs:
 - Is the user support at the beamline of high quality and sufficient to enable, and sustain, high productivity and high impact?
 - Are there opportunities to further optimize support?
 - Are the support labs available and sufficiently equipped to enable the type of research at the beamline?



Possible Detailed Topics & Charge Questions

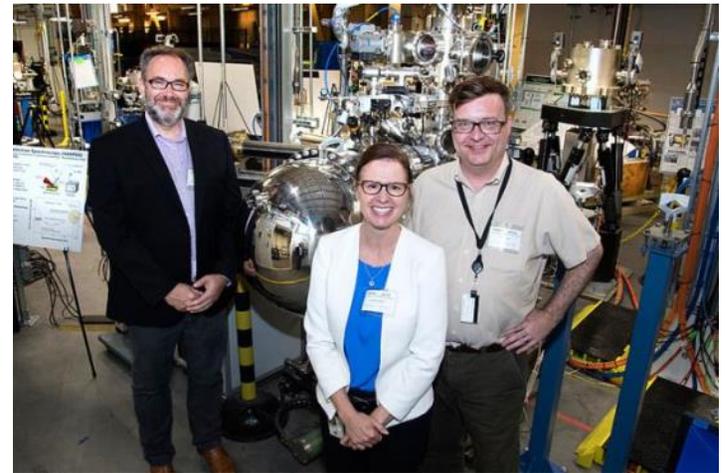
- Partner users:
 - Are the partner users at the beamline productive and making sufficiently high impact on the beamline science programs?
 - Are the partner users contributing as planned, fulfilling their responsibilities.
 - Are the partners satisfied with the partnership?
 - Are there potential improvements to the existing partnership, or potentially new partnerships that could be pursued, that would enhance beamline operations and/or productivity?



Possible Detailed Topics & Charge Questions

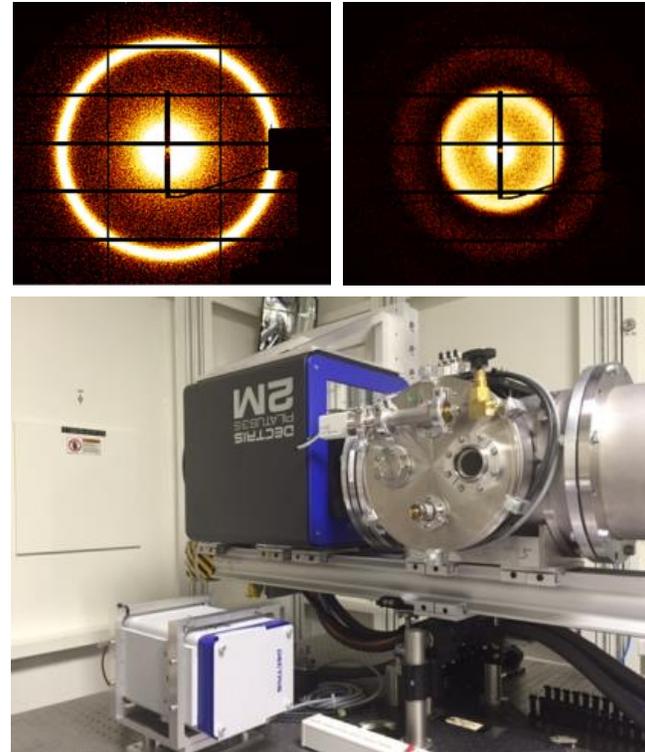
- Additional Questions for Partner Operated Beamlines:

- Has the partner beam time been allocated and utilized according to the procedure as stated in the partner user agreement? Are there potential improvements to be implemented?
- Is the partner staffing and user support at the appropriate level to enable high productivity and high impact?
- Is the partner operated beamline well integrated into the NSLS-II facility, including in the areas of data acquisition, management, and analysis?
- Has there been sufficient level of beamline maintenance and upgrades by the partner to allow the beamline to maintain at state-of-the-art?



Possible Detailed Topics & Charge Questions

- Future Improvements Plans:
 - Is there an appropriate level of future planning at the current state of beamline operations?
 - Does the future plan include both improvements that could be made as part of regular operations as well as a more significant longer-term vision?
 - Are the future plans for the beamline realistic and sufficiently developed to enable beamline to stay productive and/or at the cutting-edge?
 - Are there additional improvements that the beamline should pursue in the future that have not been identified?



Review Panel and Review Documents

- Review Panel:
 - Includes a SAC member
 - Chair appointed by facility in consultation with the SAC member
 - Consists of 3-4 additional panel members:
 - 1-2 users (may include proposal review panel member, former BAT member)
 - 1-2 external experts from other facilities
- Review Documents prepared by beamline:
 - Beamline Triennial Report will be prepared by beamline staff to provide relevant materials that address the charge questions
 - Report will follow a common template, and include beamline usage statistics provided by the NSLS-II user administration
 - This report will be made available to the Review Panel approximately two weeks before the review
 - Report will include a complete list of users who have used the beamline during the most recent three run-cycles; Panel members may contact any on the list for information that may be needed to answer the charge questions

Review Format

- Review Format: Review starts on the day before SAC meeting

Day 1:

- Oral presentations by beamline scientist(s) on overview of scientific capabilities and programs, statistics of user community, productivity, ...
- Presentation by 1-2 users and partner users to highlight science at beamline
- Beamline tour/demo (potentially with possibility of actual data collection by panel)
- Discussion of written reports provided by beamline
- Panel preliminary report writing

Day 2: = Day 1 of SAC meeting

- Non-SAC panel members complete report writing and prepare a short presentation
- Panel Chair reports to full SAC in afternoon
- Full SAC submits final report to NSLS-II Director, as part of SAC report
- Report should include brief summary of findings and a list of recommendations

Possible Review Timeline

Beamline	1st light date	Date Approved for GU ops	time to GU ops (months)	Date "Available" (on website)	15 min SAC review	Triennial SAC review	SAC member
CSX-1	10/23/2014	7/24/2015	9	2015-1	Sep-16	Sep-18	Kevan
CSX-2	2/2/2015	11/10/2015	9	2015-1	Sep-16	Sep-18	Gates
XPD	11/5/2014	8/7/2015	9	2015-2	Sep-16	Sep-18	Reichert
HXN	11/14/2014	11/9/2015	12	2015-2	Sep-16	Sep-18	Pickering
SRX	11/14/2014	11/9/2015	12	2015-2	Sep-16	Mar-19	
IXS	11/24/2014	7/12/2016	20	2015-3	Mar-17	Mar-19	
CHX	11/18/2014	10/14/2016	23	2016-1	Mar-17	Mar-19	
LIX	11/16/2015	10/26/2016	11	2016-2	Mar-17	Sep-19	
AMX	3/8/2016	2/17/2017	11	2016-2	Sep-17	Sep-19	
FMX	3/8/2016	2/17/2017	11	2016-2	Sep-17	Sep-19	
XFP	7/10/2016	5/23/2017	11	2015-2	Sep-17	Sep-19	
ISS	4/5/2016	2/23/2017	10	2016-2	Mar-17	Mar-20	
CMS	8/26/2016	7/16/2017	11	2017-2	Sep-17	Mar-20	
ISR	7/11/2016	7/14/2017	12	2017-2		Mar-20	
TES	8/14/2016					Sep-20	
ESM	7/25/2016					Sep-20	
SMI	11/7/2016					Sep-20	
NYX	11/26/2016						
SIX	2/21/2017						
BMM	7/25/2017						

Summary

- We plan to conduct triennial SAC reviews of NSLS-II beamlines
- We have presented our thoughts on the scope, charge, and the format of such reviews
- We would start the first of such reviews in Sep 2018
- Any comments, advice, and suggestions are welcome and appreciated!