User Program

Lisa Miller
User Services, Communications, Education & Outreach Manager
NSLS-II SAC Meeting
Sept 19-20, 2017

Outline

- The new User Services, Communications, Education, & Outreach (USCEO) office
- User statistics
- Proposal types, process, and statistics
- Publications
- User Feedback

SAC Questions:

- Ramping up new users vs. productivity of repeat users
- Update on BAGs and expansion to other beamlines
- End-of-Run Form improvements

User Services, Communications, Education, and Outreach (USCEO) Office

Gretchen Cisco

Nancye Wright

Mercy Baez

Gladys McKenzie

Ricarda Laasch

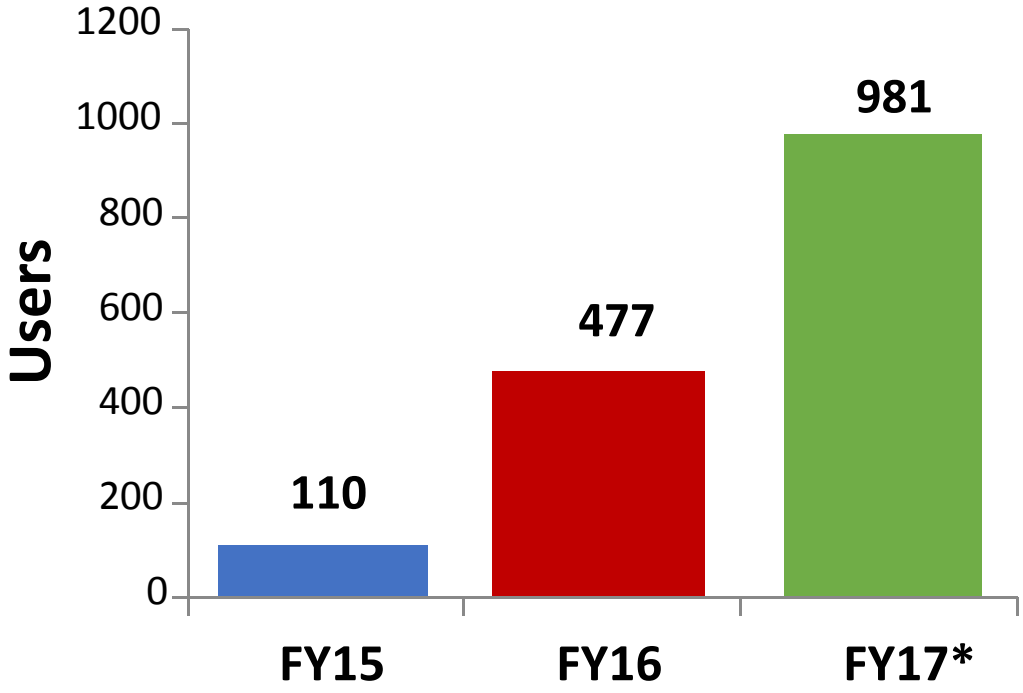
Eileen Morello

Jun Wang

- Internal/external communications: website, newsletters, science highlights, etc.
- User Administration: badging, training, floor/lab access, TLDs, amenities
- Proposal system and Safety Approval Forms
- Coordination of conferences, workshops, seminars
- Publications: staff and user publication management and reporting
- Education and outreach: short courses, summer interns, tours, outreach activities
- Statistic and reporting: users, beam time, proposals, publications, etc.
- Industrial program: all scientific and business aspects

NSLS-II Facility Users by Fiscal Year

*(*as of September 11, 2017)*



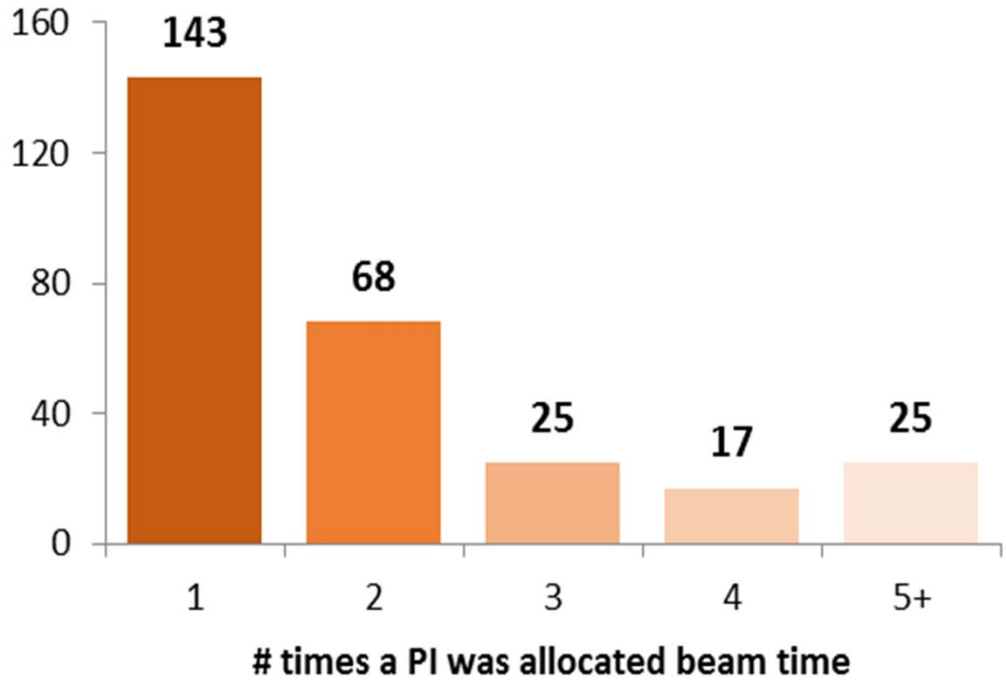
FY16:

- unique users: **477**
- 80% were first-time users

FY17*

- unique users: **981**
- 69% were first-time users

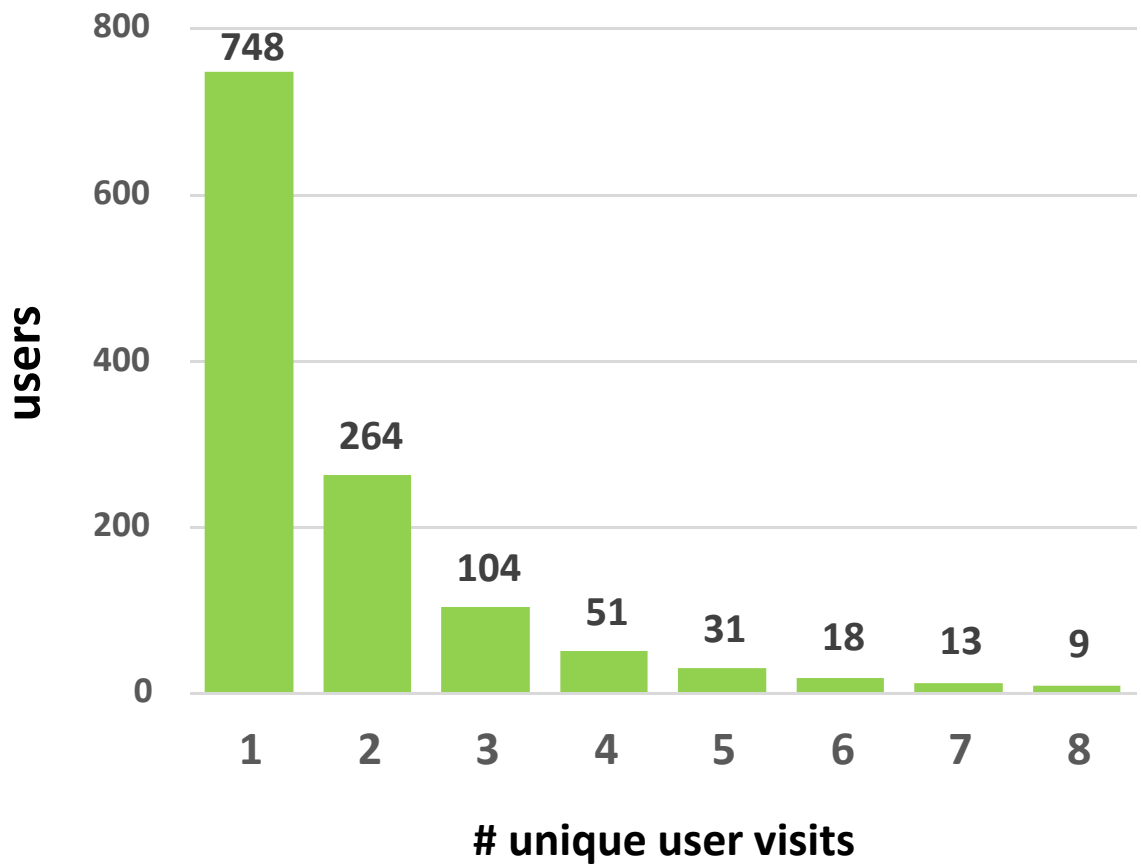
How many times has a PI run?



- 548 beam time records since 2015-2
- 278 unique PIs
- 143 PIs only ran once
- 135 ran more than once

Proposals with beam time records from May 2015 through August 2017

User Visits to NSLS-II



- 1190 unique user visits since 2015-2
- 748 users have come only once

Number of times each unique user visited from May 2015 through August 2017

Update on Modes of User Access

Traditional

- Technical Commissioning
- General User
- Rapid Access
- Partner User
- Proprietary
- Beamline Discretionary Time

New Modes Planned

- Mail-in
- Remote-access
- Multiple-beamline proposals
- NSLS-II / SNS (neutron PDF) proposals

New Modes Implemented

- Block Allocation Groups (BAGs)
  - Groups of users that want to share a small block of beam time in order to permit greater flexibility in beam time allocation and scheduling.
  - motivated by shared scientific interest, geographical location, affiliation, or other synergistic reasons
  - Current beamlines: FMX, AMX, LiX
- Joint Facility Proposals

  SAXS – SANS Proposals
  - Proposals submitted to 16-ID (LiX) or BIO-SANS (HFIR at ORNL)
  - Reviewed and allocated by joint PRP
  - To date: 5 proposals allocated 15 shifts each of SANS and SAXS time

  NSLS-II / CFN Proposals
  - Partner beam time on CSX-2, ESM, CMS, and SMI
  - Reviewed and allocated by both CFN and NSLS-II PRP
  - To date:
    - CSX-2: began 2016-3, 15 proposals
    - ESM (LEEM): began 2017-1, 10 proposals
    - CMS: began 2017-2, 7 proposals
    - SMI: will begin 2018-1

Block Allocation Groups (BAGs)

- groups of researchers that want to combine their beam time requests into a single proposal in order to permit greater flexibility in beam time allocation and scheduling.
- motivated by shared scientific interest, geographical location, affiliation, or other synergistic reasons
- 2 year lifetime with mid-term report of productivity
- Reviewed and allocated by PRP
- Current beamlines: FMX, AMX, LiX
- 19 proposals approved, 12 BAG proposals are active to date
- Most proposals have BTRs for SAXS and MX; many groups are doing both SAXS and MX on same project

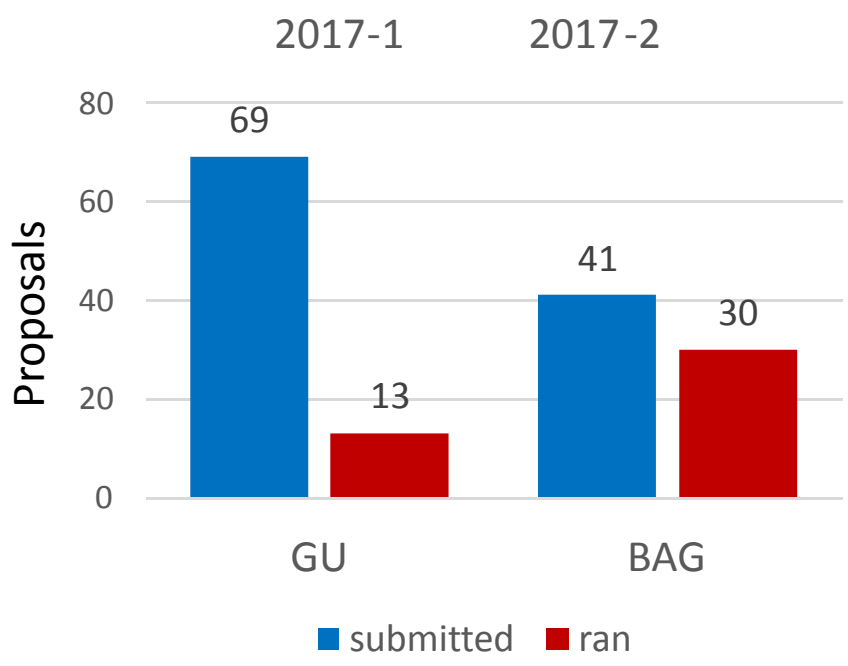
Active BAGs

- Dartmouth Protein Structure Consortium
- Structural Biology at Stony Brook University
- BNL Structural Biology
- The Rockefeller University BAG
- X-ray Crystallography Beamtime Access through Case Center for Synchrotron Biosciences
- Structural Studies of 3D Assemblies (NYU)
- Albert Einstein College of Medicine Consortia for Macromolecular Biophysics
- Johns Hopkins/VCU Macromolecular Crystallography Consortium
- Mid-Atlantic Membrane Protein Group
- Structural architecture and dynamics of complex macromolecular assemblies by X-ray crystallography and small angle X-ray scattering (Univ Toronto)
- Structural Biology at Mount Sinai

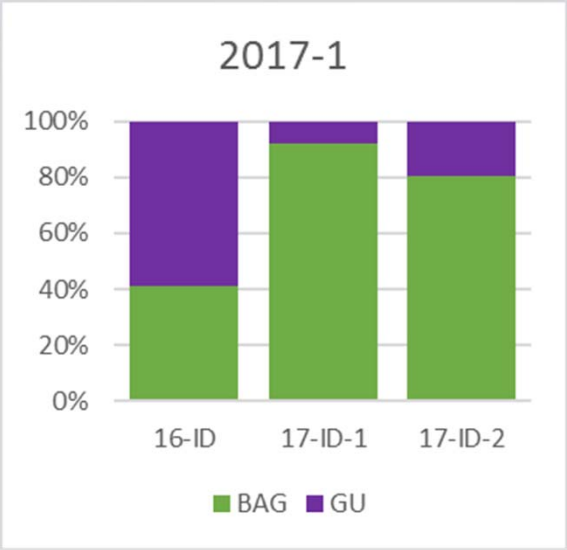
BAG Beam Time Update

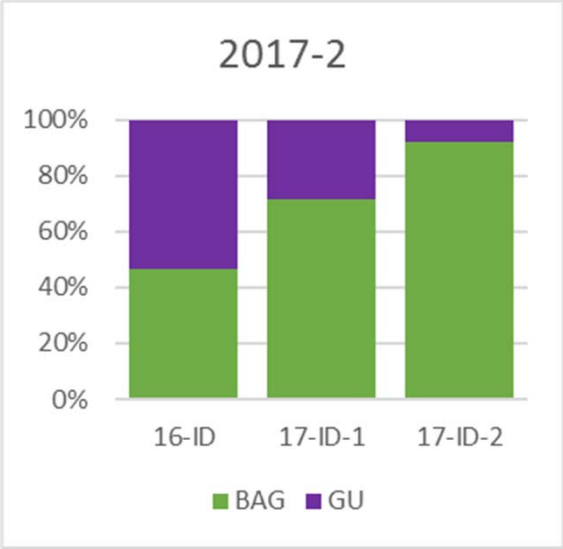
For MX:

- GU fraction that run: ~20%
- BAG fraction that run: ~75%

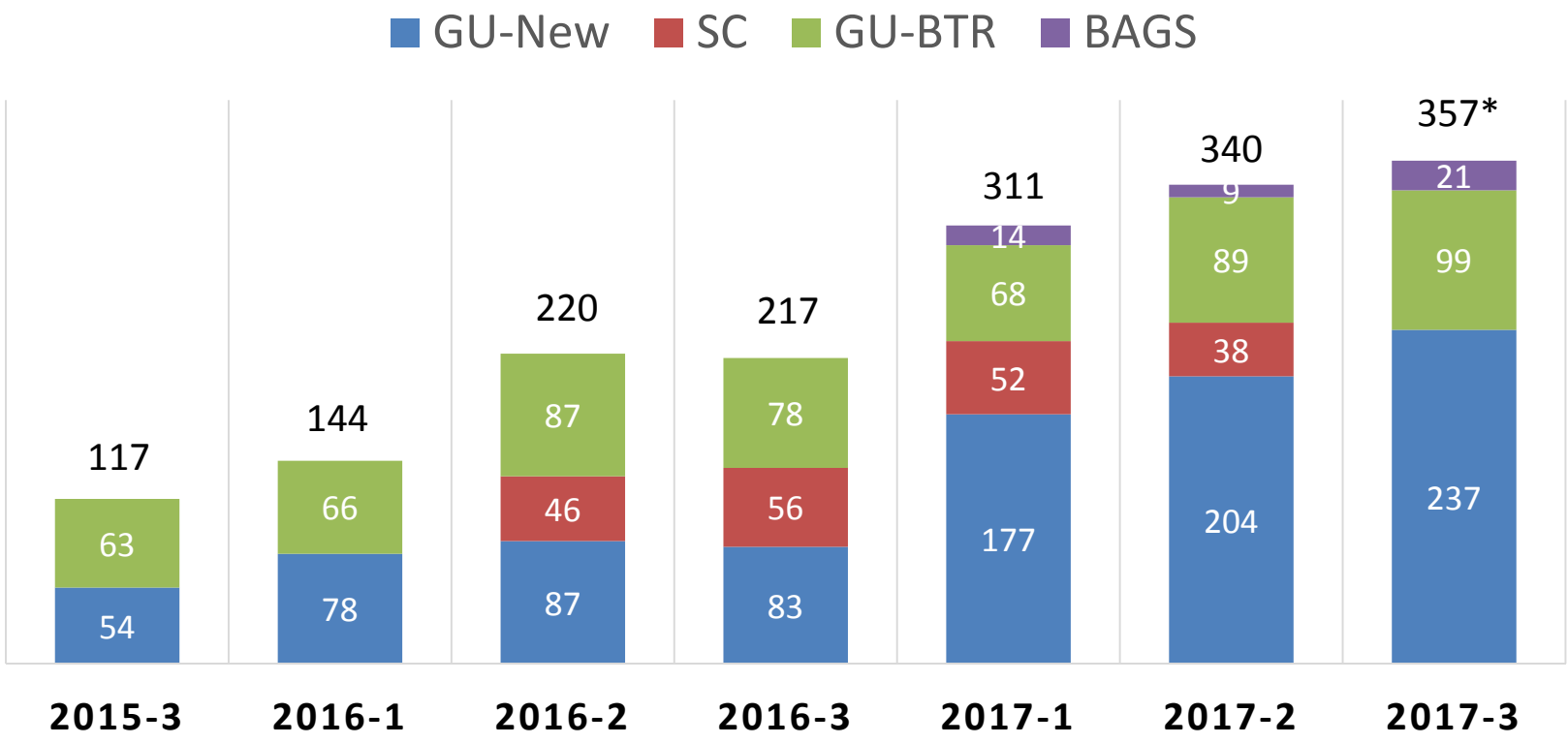


Allocation Percentages





Beam Time Proposals

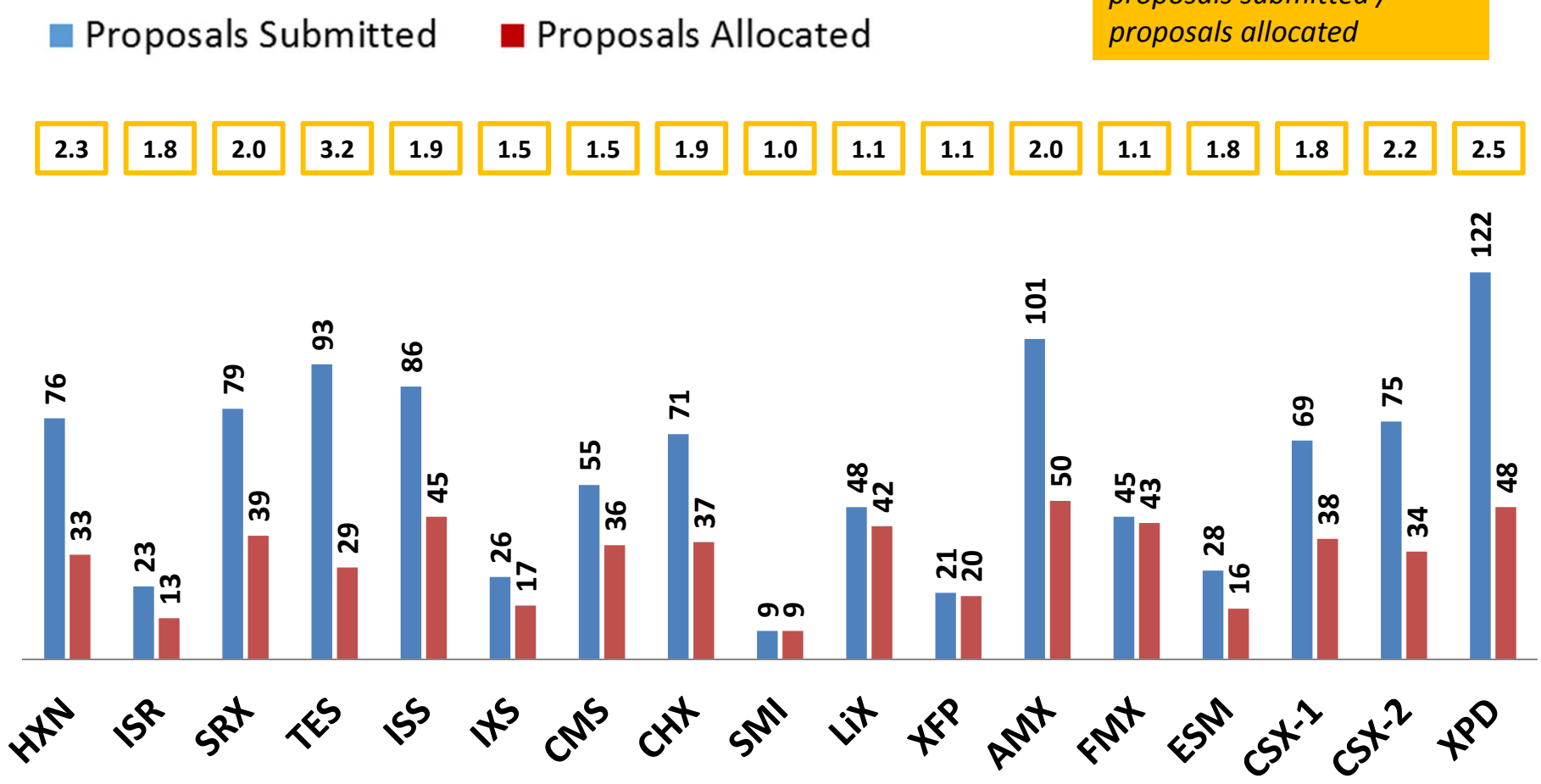


BTR: Beam Time Request (against existing proposal)
GU = General User
SC = Science Commissioning
BAGs = Block Allocation Groups

** does not include rapid access until cycle is complete*

2017 Subscription Rates

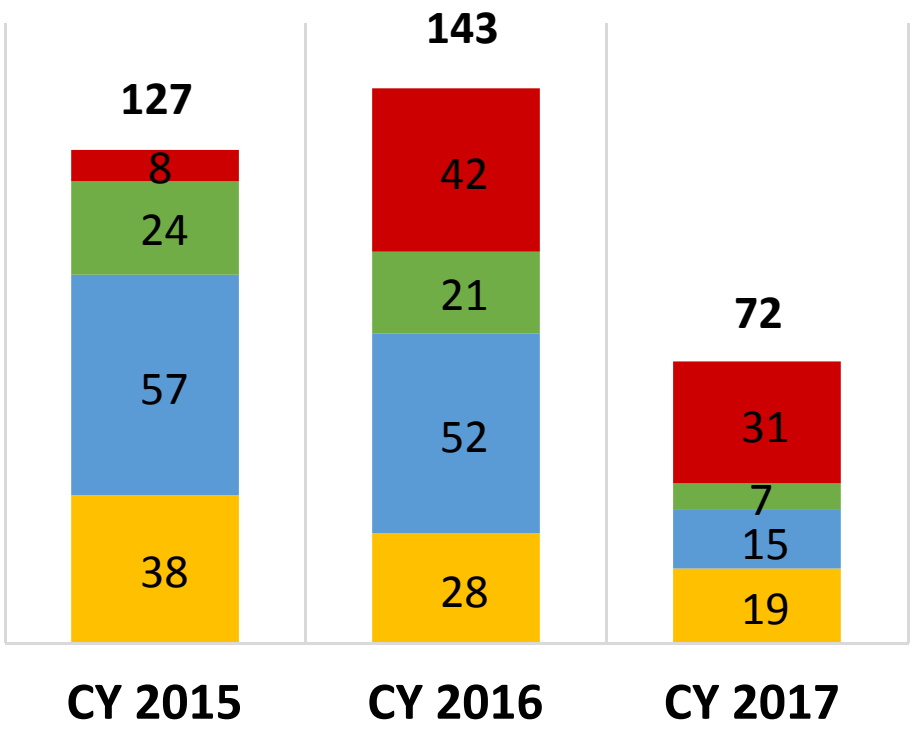
Proposal subscription rate = proposals submitted / proposals allocated



includes cycles 2017-1, 2017-2, 2017-3

Publications

(as of September 13, 2017)



- Pubs using NSLS-II photons
- Staff pubs doing R&D related to NSLS-II beamlines
- Staff pubs performing accelerator research (no beamline)
- Staff research pubs as PI or co-PI (not on NSLS-II beamlines)

<u>Summary using NSLS-II photons:</u>

- 81 pubs
- 15 DOE high impact
- 49 included staff

NSLS / NSLS-II Transition Beamline Program

In order to accommodate displaced NSLS users, 5 "transition programs" were established at the other DOE synchrotrons and supported by NSLS-II staff

Facility	Beamline(s)	Program End	NSLS-II program	*Unique Users*	*Proposals*	*Pubs*	*Burdened Costs to date*
ALS-Infrared	Beamlines 1.4, 5.4	October 2017	FIS-MET	20	14	3	$111.3k
APS-TXM	Beamline 8-BM	July 2017	FXI	29	44	7	$704.6k
APS-diffraction	Beamline 6-BM-A	October 2017	HEX	53	29	2	$152.7k
SSRL-Spectroscopy	Beamline 2-2	December 2016	ISS, QAS, XFP	60	33	20	$313.5k
SSRL-MX	Beamline 14-1	October 2016	FMX, AMX	191	53	22	$412.8k
TOTAL				**353**	**173**	**54**	**$1,694k**

as of March 2017

User Experience Task Force

Background and Scope

- As an outcome from our strategic planning retreat in July 2016, a user issues task force was established
- Addresses issues with user access modes; all aspects of the user experience such as guest appointments, computer accounts, data access, and user amenities; user communications; and education and outreach
- Deliverable is written report every 6 months that assesses the current status of user issues and provides prioritized list of possible actions

Top Priorities

- *User Access Modes*: initiate mail-in and remote-access; implement multi-beamline and multi-facility proposals
- *User Experience*: one-stop from main gate to beamline; single user login and improved access to data; DONE 24-hour access to food
- *Education and Outreach*: focus on hands-on workshops at beamlines

End-of-Run Form

Current process

- 10 questions mandated by DOE
- Every Monday, an email is sent to all experimenters who visited NSLS-II the previous week, asking them to submit a survey anonymously.
- In FY17*, 117 forms received (12% of forms solicited)
- Forms forwarded to the relevant people to address any concerns and feedback to the user (if identified)

Ideas for future to improve response rate & value added

- Automate email to send when the SAF is de-posted
- Add beamline- or experiment-specific questions
- Require completion before next proposal is submitted
- Consider annual call for DOE questions and shorter, targeted survey for each beam time run
- Offer an incentive for responding, e.g. gift card or item from mini-mart; OK by Lab rules but requires support from the UEC

**as of September 11, 2017*

Top 5 complaints from the user feedback?

1. User amenities: no guest house, no access to food 24/7
   - *Short term: mini-mart in 740 lobby* DONE
   - *Longer term: Discovery Park*
2. Too much training
   - *All users take 4 courses: cyber, GERT, BNL-site, NSLS-II-specific*
   - *Allow GERT reciprocity, re-evaluated NSLS-II specific training*
3. Initially users complained of time lost due to beam dumps and reduced current. Recent users seem to be more satisfied.
   - *"Because this was still the user commissioning phase, we did not expect things to be running flawlessly. "I recognize that these come as part of a newly commissioned beamline; the staff were incredibly diligent in getting them fixed as quickly as possible."*
4. Acquiring and accessing data is a recurring complaint.
   - *"Acquiring data after the experiment is somewhat challenging." "A major issue that our team ran into was access to the data, and this issue needs to be addressed so that future experiments can run efficiently."*
5. User friendliness of beamline controls

Summary

- The user program is growing fast.
  - A range of proposal types to accommodate a variety of user needs
  - BAGs have been very successful for structural biology and may be expanded to spectroscopy and diffraction, especially if multiple beamline access can be included in one BAG
  - Other mechanisms are needed soon (e.g. remote access, mail-in)
- We have challenges:
  - Almost all beamlines are over-subscribed
  - Beamlines are still maturing
  - Need to balance new users, completing projects, and commissioning new capabilities
- We have feedback and communications mechanisms in place and always welcome SAC input to optimize the user experience