Description of document:	Department of Energy (DOE) Advanced Light Source (ALS) Thrusts Science Council meeting minutes 2017 to 2022
Requested date:	2022
Release date:	19-April-2022
Posted date:	08-August-2022
Source of document:	FOIA Request NNSA-OGC FOIA Office PO Box 5400 Albuquerque, NM 87185 Fax: (505) 284-7512 Email: foiofficer@nnsa.doe.gov NNSA FOIA Request Form

Department of Energy
Office of Science
Berkeley Site Office
Lawrence Berkeley National Laboratory
1 Cyclotron Road, MS 90-1023
Berkeley, CA 94720

April 19, 2022

Via E-mail

Subject: Freedom of Information Act (FOIA) Request No. #CH-2022-00641-F

I am the authorizing official responsible for making the determination required by Section 1004.5(b) of the U.S. Department of Energy (DOE) regulations found at 10 CFR Part 1004, implementing the federal FOIA, 5 U.S.C. 552. This letter is in final response to your subject FOIA request, which you submitted to DOE NNSA and which was transferred by DOE NNSA to FOIA Officer Miriam Bartos at the DOE Office of Science – Consolidated Service Center (SC-CSC) Chicago/Lemont FOIA location for records potentially created at Lawrence Berkeley National Laboratory (LBNL).

In your request, you indicated the following as the description of records you are seeking:

"An electronic copy of the meeting minutes of each meeting of the ALS Thrusts & Science Council between January 1, 2017 and the present. The meeting minutes are maintained at LBL."

In your email dated April 13, 2022, you narrowed your request to exclude material that is incorporated by reference via links within the responsive documents.

In your email dated April 18, 2022, you further narrowed your request to exclude the following 5 types of information from the responsive documents: 1) a Zoom link, 2) Individual's fellowship stipend costs/amounts, 3) Individual post-doc/doc salary information, 4) Speaker pay, 5) Unsuccessful candidate names.

For your request, based on the most likely location for responsive records, we asked the University of California (UC) (the DOE contractor that operates LBNL), to conduct a search of LBNL for responsive records.

As a result of the LBNL search, UC responded stating that it located 199 pages of potentially responsive documents. After a review of the documents, we noted that certain material contained in the documents is not responsive to your original request, i.e., agendas and other extraneous material that are not meeting minutes. However, since that material is inextricably intertwined with the responsive meeting minutes, we are providing the entire 199 pages to you in response to your request. Also, pursuant to your two emails narrowing your request, we are only redacting the information you narrowed your request to exclude, i.e., linked records and the five types of information you excluded in your second narrowing (1) a Zoom link, 2) Individual's fellowship stipend costs/amounts, 3) Individual post-doc/doc salary information, 4) Speaker pay, 5) Unsuccessful candidate names.

Because the 199 pages of documents are the only responsive records UC located in its search, and because we are providing all 199 pages to you with redactions only for the information you previously narrowed your request to exclude, this response represents our full and final release of records responsive to your request.

Our final step in our disclosure analysis is conducted pursuant to the FOIA Improvement Act of 2016 and the related Attorney General's Memo dated March 15, 2022, which prescribe that DOE assess whether there is foreseeable harm when considering disclosure of records to the public, regardless of whether a FOIA exemption applies. In our foreseeable harm analysis for your subject FOIA request, we have determined that we are releasing all information to you where there is no foreseeable harm in release.

The adequacy of the search related to your FOIA request may be appealed within 90 calendar days from your receipt of this letter pursuant to 10 C.F.R. § 1004.8. Appeals should be addressed to Director, Office of Hearings and Appeals, HG-1, L'Enfant Plaza, U.S. Department of Energy, 1000 Independence Avenue, S.W., Washington, D.C. 20585-1615. The written appeal, including the envelope, must clearly indicate that a FOIA appeal is being made. You may also submit your appeal to OHA.filings@hq.doe.gov, including the phrase "Freedom of Information Appeal" in the subject line. The appeal must contain all of the elements required by 10 C.F.R. § 1004.8, including a copy of the determination letter. Thereafter, judicial review will be available to you in the Federal District Court either: 1) in the district where you reside; 2) where you have your principal place of business; 3) where DOE's records are situated; or 4) in the District of Columbia.

You may contact DOE's FOIA Public Liaison, Peter Siebach via email at peter.siebach@science.doe.gov , for any further assistance and to discuss any aspect of your request. Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services they offer. The contact information for OGIS is as follows: Office of Government

Information Services, National Archives and Records Administration, 8601 Adelphi Road-OGIS, College Park, Maryland 20740-6001, e-mail at ogis@nara.gov; telephone at 202-741-5770; toll free at 1-877-684-6448; or facsimile at 202-741-5769.

In accordance with Office of Management and Budget guidelines, you have been categorized as an "Other" category requester subject to fee assessment for search time and duplication, with a free 2 hours search time and 100 pages of duplication. Search time for your request was 1.5 hours falling within the 2 hours free search time, and there was no duplication since all responsive records are electronic. Therefore, there are no fees associated with your request.

If you have any questions in the meantime, please contact DOE FOIA Officer Miriam Bartos at via e-mail at miriam.bartos@science.doe.gov. Thank you.

Sincerely,

RONALD SHIMKOWSKI Digitally signed by RONALD SHIMKOWSKI Date: 2022.04.19 07:15:20 -07'00' / For

Paul Golan
Site Office Manager

Enclosures: As Stated

Agenda

12:30 pm	PS-D planning
12:35 pm	Science case and need for QSTXM development and BL4.0.2 upgrade
13:00 pm	Science case and need for momentum microscope development and BL4.0.3 upgrade
13:25 pm	Science case and need for BL9.3.2 upgrade
13:45 pm	Other BL projects, conclusion

- **Discussion and vote on the charter**
- **SAC breakouts**
- **Launching science thrusts**
- **Please suggest other topics**

Science Council Special Discussion: Flexon Endstations 05.04.2020

1. 2 min. Moore EPIQS call
    a. QMRD will hold a discussion / downselect meeting at 11:30 on 5-5-2020 [redacted]
2. Flexon 2nd branchline.
    a. Discussion of proposal materials, please refer to
        i. Email to SC by ER on 2020-04-28 and links therein (see below)
        ii. Discussion of Flexon situation at the previous SC 4-29
        iii. Community size / editorial comments by ER file
    b. Committee Charge Questions
        i. Is the case for an ultra-high resolving power (100,000) for RIXS/ quasielastic spectroscopy strong enough to commit to this aim in beamline design and program?
        ii. Provide comments on the scientific potential of a moderate resolving power beamline under the various scenarios presented.
            1. "angstroARPES"
            2. X-ray microscopy
    c. Proposed process.
        i. SC members provide written comments/recommendations to the charge questions, collected by A. Taylor by Wednesday AM
        ii. ER will write a brief summary report with the individual comments attached. Turn in to management by Thursday.

TOPIC ONE
-Moore Call for EPIQS
-QMRD Zoom meeting tomorrow

TOPIC TWO
Drive link for today's discussion:
-Main issue: whether we should proceed to orient the Flexon 2 branch toward ultra high energy resolution or not / high res vs high flux

Question: meetings such as these needed for TENDER beamline? SC has yet to receive a charge for their input there.

- Consensus that these discussions could be useful, but not for another couple of months.
- Science case has been made
- Per Andreas, have many months to decide what goes into the endstation.

Actions
-Committee to respond to charge questions
-Eli will record a summary document of the committee's feedback, and wants to send those to management by the end of the week.

11.17.20 Science Council notes

1) Review postdocs whose appts are expiring soon

a) Yong Zhong - host Sung-Kwan Mo

- Extension request is from Feb 1 - July 31
- SC has voted to extend

b) Joseph Nichols - host Alastair MacDowell

- Requesting 1 year extension to 12/31/21 with the caveat that if his status for funding from the Univ of Utah changes, we be informed
- Unanimous vote to extend

2) Welcome new members to the SC - All

Stephanie Gilbert Corder, QMRD
Gregory Su, CMI
Wanli Yang, CT
Sirine Fakra, EES
Roland Koch, ICT
BioTA - new TA - chairs: Marc Allaire, Greg Hura
First task: write a description of the TA for the **ALS WEB SITE**
-where is the blurb?

3) Discussion and up-or-down vote on changes to the charter - All

a) link to calendar

-Discussed the most recently member-edited charter and member voting.
-Specifically addressed adding ESA representatives as well as ad-hoc members. Mike advised that if you want to bring in an ad-hoc rep, to advise Eli ahead of time.
-Members agreed to approve the new charter - Andrea will send out and upload new version on internet and in our folders

Commented [1]: @altaylor@lbl.gov
Assigned to Andrea Taylor

4) Hydrogen Plan Report is Out:

a) link to files
b) significant needs in materials and process R&D

-Members: ensure you see the report - these documents always lead for new funding opportunities

5) LDRD first thoughts-Eli

a) Labwide LDRD 2022- "Zero Emission Technology", led by EESA
- Jeff wants to see something other than MOFs

-TAs need to have kickoff for starting up the LDRD process. Need collective mechanism for rallying people. Dec 15 for kickoff?
-Alpha: less constrained for slides that are for the LDRD proposals themselves, as those provided for the area meeting are different

-For the first round, we should let all ideas come onto the table, and then winnow from there.

b) ESA: "Likely to be focussed all or in part, on charter hill subjects"
-Reminder to please attend Charter Hill workshops
-Ethan, Andreas are both good contacts for insight into Charter Hill efforts

c) Improvements to the process for this year?
- open ended discussion, will continue in December
- link to last year's calendar

Subject:	Science Council Monthly Meeting		
Meeting Date & Time:	02/062020 9am - 10:30am	Meeting Location	Building 6 Room 2202
Participants:	Andreas Scholl, Alpha N'Diaye, Eli Rotenberg, Kenneth Goldberg, Alpha N'Diaye Andrea Taylor (minutes)		

Agenda:
TA leaders will summarize their LDRDs. Discussion of readiness and ways to improve proposals through merging / combining with other divisions. Non-TA members of SC strongly encouraged to attend and provide feedback.

Refer to the LDRD proposal summary captured here.

This meeting has been tabled and Andrea is rescheduling for the week of the 10th, emphasizing the importance of attendance.

Requests to TA Leads:
Please come having reviewed the LDRD proposals assigned to you. "Look a little more deeply into these slides and think about issues to raise. If you have no objections, fine. These are not in your field but you may have ideas on how to strengthen them."

Please be familiar with those to which you're assigned and bring them with you to this SC Discussion. You're encouraged to discuss any points with the PIs directly.

If any revisions are agreed upon, please override whatever you've submitted in the B folder.

Business item to next meeting: changing the time and day or reoccuring SC meetings

TA LDRD Assignments:

Alpha: *Slavo, Moni, Wanli*
Aaron: *Hendrik, Jinghua, David*
Cheng Wang: *Sujoy, Alpha (Molec), Stephanie*
David Shapiro: *Padraic, Slavo, Moni*
Ethan: *Wanli, David, Alpha (AI)*
Jinghua: *Moni, Chenhui, Hendrik*

Hans: *Chenhui, Padraic, Hendrik*
Martin: *Alpha (see sheet), Sujoy, David*
Ken: *Alpha (AI), Stephanie, Jinghua*
Alex: *Alpha (AI), Wanli, Chenhui*

Subject:	Science Council Monthly Meeting		
Meeting Date & Time:	03/05/2020 9am - 10:30am	Meeting Location	Building 6 Room 2202
Participants:	Andreas Scholl, Alpha N'Diaye, Chenhui Zhu, Eli Rotenberg, Hans Bechtel, Heidi Clark, Jeremy Coyne, Ken Goldberg, Mike Martin, Steve Kevan, Aaron Bostwick Andrea Taylor (minutes) Absent: Alex Hexemer, David Shapiro, Howard Padmore, Ethan Crumlin, Jinghua Guo, Martin Kunz, Cheng Wang		

2020_03_05 Agenda

0. SC Meeting Broader Schedule 5:00

1. FOA Update-Eli 10:00
    a) Sloan Call

2. Status of Proposals 10:00
    a) Quantum Center Proposal
    b) Solar to Fuels
    c) Around the table

3. Expiring Postdoc Fellows 10:00

Affiliate Name	Affiliate Type	Start Date	Expiration Date	Cost to ALS	Host
Ro-Ya Liu	Collab Postdoc Fellowship	4/3/19	4/2/20	[redacted]	Alexei Federov
Henrique Martins	Guest Postdoc	4/29/19	4/17/20	[redacted]	Slavo Nemsak
Qiyang Lu	Collab Postdoc Fellowship	5/10/19	5/9/20	[redacted]	Slavo Nemsak
Jinpeng Wu	Collab Postdoc Fellowship	6/3/19	5/31/20	[redacted]	Wanli Yang
Li Cheng Kao	Collab Postdoc Fellowship	6/28/19	6/27/20	[redacted]	JInghua Guo

4. Fellowship Program Changes 60:00

MEETING MINUTES

TOPIC

0. SC Meeting Broader Schedule

-Updates to the SC Calendar to help keep us on track for *regular business*. Urgent business to be addressed as it comes up.

Postdoctoral and Doctoral Fellowships, Strategic Planning, Project Planning - calendar change

- Fellowship Communication: Broader announcement in ALS news, broadcast email, audience outside of PIs
- Strategic Planning - on calendar
- Project Planning - needs to occur with greater frequency. Want to be ready for funding of all sorts, not just our budget.
- STA elections - September - need to come up with staggered format for the non-October candidates
- Highlights meetings - Steve: important! Highlights are important, BES really cares about them.

-Structure on meetings:

- Begin SC discussions going forward with FOAs, proposals that have come out
- Allow time for discussion/updates on what people are doing; attending workshops, etc

TOPIC

1. FOA Update-Eli

a) Sloan Call:

Sloan Foundation Call

"looking for inspired ideas to either start a new area of science or to make an important advance in an existing area of the physical and/or life sciences (biomedical research excluded)"

"We're asking researchers to sit down, dream about what might be possible for a program funded at up to $5-10M/yr for about a decade, and to then sketch-out that vision for us. Here 'program' refers to support for a community of investigators working on complementary aspects of a scientific problem."

15% indirect cost gap

Deadlines:

ASAP. Title and list of PIs → Steve

Wednesday March 11, Noon. Budget and 1 page whitepaper → Steve

The lab will choose three ideas to send to Sloan.

This was sent to Director Witherell, calling for a new kind of science. Very broad, w/emphasis on biology and biological imaging, but broad re: earth science, physics, etc. LBL is going to organize an internal white paper call for budget and 1 page whitepaper. Need to get to Steve by noon Wed 11. V short turnaround.

Steve - unclear about the funding; read is $5-10 mil is actually for the decade, more like 500k per year...it was confusing how it was written.

Andreas - First call is really for the big ideas, big project vision. Second step is how that funding rolls out. “Present a vision for advancing an area of science…$5-10$ over a year per decade…” they want both the big vision at first, and something more concrete after that. They don’t want to supplement something already in the LBL wheelhouse; they want something more confined. Instrumentation could be part of it if it’s not clearly within our current scope. But that’s speculation at this point.

Steve - XLab, bioimaging...these could grow into large projects across the Lab. We need to plug into things happening around the Lab

Hans - Bioimaging collaboration - apparently a group on campus leading this…Paul Adams shot this down...

Steve - we need to talk to Paul Adams about the feasibility of working with them.

Chenhui - something that goes deeper or complementary to IR?

Steve - we have tools that make us attractive, but we can't go along, need to have other people involved, certainly MBIB at least

Eli - we want to be ready for these calls. Look at BRNs and roundtable reports as they come out. Want to devote more meeting time to this so as to prepare in advance.

Steve - FOA usually starts in a core research division. Suggest having a BRN or roundtable discussion. Then goes to BES, who talks to BSAC, if they support it will have a BRN or roundtable. In the past we have not been a part of that discussion, but we really want to be involved in that earlier discussion. Jeff is looking to improve this, as well as new DDs who want to collaborate w/the ALS. BRNs list priority research opportunities and that’s what you write proposals about. Sometimes it leads to FOA, but even if they don’t, it can lead to the churn of BES, but unsolicited proposals don’t work very well at BES. We have to get in early, and we haven’t been allowed to do that; it’s changing but slowly. We need to talk to people, build relationships...need to participate more actively in proposal writing...we still have a long way to go to be included in a regular way. Good reason to keep pushing early career proposals, important to include them in these early discussions. Need to bring MSD ESD Peter Fischer, ? Gilbert - talking to them is really important to help build relationships. One of the reasons I've suggested to include staff from around the site in your STAs.

TOPIC
2. Status of Proposals 10:00

a) Quantum Center Proposal
b) Solar to Fuels
c) Around the table

Do we have any presence in the polymer upcycling?
Per Ethan - yes - both he and Cheng are involved. No direct relationship in the JCAP 3 (Solar to Fuels) renewable.

Alpha - on an EFRC - writing the proposal, with UNL, organic ferroelectrics, another with Oklahoma State

Eli - Texas A&M, MAESTRO and cross cutting thrust with instrumentation

Ethan - a lot of vocal interest from Foundry in working with the ALS - increasing engagement, further the scientific endeavors, contact points to these types of resources.

TOPIC
4. Fellowship Program Changes - slide deck

Putting flexibility in program size and funding pp. Consolidate into the programs that work and make them stronger.

ALS Doctoral

- Main change - 1x/yr to 2x/yr. Can't start grad students just any time, want them to come in as a cohort, have them come in as a unit and have activities specific to them.
    - Chenhui - what about when we have shutdowns? First few months are critical for us to train them. Ones in start in Fall will do better than those who start in Spring
        - Eli - part of the 30% when they're focusing on sample prep
        - Alpha - be considerate of when you encourage people to apply
        - Andreas - the difference between October and April is not that bad...There will always be shutdowns and we have to deal w/them. Be thoughtful about setting aside time for students and postdocs. Preferred way is a user proposal. BL scientist time is one way, DD time is another way.
        - Ethan -make it clear that [Andreas' points about DD time] is a pathway
    - Targeting 15 awards w/a [redacted] stipend. Will be the program to send ppl who have not just normal student funding but also other fellowships (e.g. travel fellowships from China). Funnel those into this program. Before ppl with partial support would ask for different amts of funding. That was difficult to maintain. Won't now change the formula, will expand the program to be larger and give all who qualify the same stipend amount.

- Want this to be a commitment of 70% working onsite understanding its a flexible expectation.
    - Steve - flexibility is nice but really must be in residence as opposed to beamtime
- Research summary refers to something that shows work of benefit performed. Also something for us to refer to and help us leverage the program.
- Ethan:Can they allow their [redacted] over 2 yrs? Bc they just want time?
    - Andreas - they can put [redacted] inthe bank and then be here a year unpaid...we don't care how they spend it
    - Jeremy - would be transferred to a no-cost affiliate, who is processed by the User Office

Postdoctoral

- Institutional letter of support to have accountability that they have the salary they need and can be stationed here."
- New: tri-annual process. Need more applicants + more at a time. We haven't actually had this program recently. We have 4 postdocs expiring in April and May. We are right in the middle of what would be the first cohort
- Slides are wrong - March, July, November.
- March for new applicants? Andreas - work in parallel in getting web pages done and doing a call as we've done previously as quickly as we can. Shorter period for ppl to submit their proposals. Use the previous method, will target those asking for renewal but don't exclude new ones if they are ready.
- Fixed # of [redacted]. Don't care what their other support level is.
    - Jeremy - the way it works if someone is an employee of another institution they get this $ as an employee. Affiliate postdocs are covered under postdoc union, we are required to give them health ins. HR facilitates
    - Request forms will be set up to flesh this out. Don't want ppl to be here w/o some coverage. But most ppl come w/their own healthcare
- Research summary required at the end

GSRAs

- Program is ending. We are going to continue the GSRAs til June but encourage those expiring soon (Sayed, Hwang, Zhong) to apply to doctoral and extend them
    - Need to apply for June application date so they can start in October
    - Next step is to have the host to communicate this so we can connect them to apply OR they're not interested in applying

No-Cost

- User Office
- BUT if we are requesting they get requested on the Smartsheet so they get approved by Mike and Howard so they can be on the floor…we let them know how they are processed
    - We have to give the UO info that they need so the correct WPC is in place
    - Affiliate w/an LDAP

    - All should be on WPC...and need an LDAP to get in
    - Differs if they have to go through the FVA
    - They will get the ALPO org code vs the ALUR1 org code
    - Why we will have the Smartsheet for this
- HOWEVER no cost postdocs do need to show that they have insurance, bc if it's a postdoc, we are required healthcare (this is why we need to confirm they have their own healthcare)
- Timescale for this Smartsheet? We're doing them now...send candidates to Andrea
    - Use the one we have now, Jason working on the other one
- Mike Martin - Criteria for approval - that we want [an ALS host] - is it worth your time and energy to host this person?
- Space - if they're here less than 6 months we will not assign space. Right now we are too constrained.

Long Term Travel

- Reimbursement
- Shrinking for a smaller class of people
- Will be reviewed by leadership
- Will require them here for 70% of the time
- If there is a deliverable that is clear, can we use this for a student?
    - Jeremy - need to look at case-by-case. Lab looks at our program as "why is not labor? Is this work that a normal employee would do at the Lab?" We have to be careful when we bring a student: 1.why are they not on a fellowship? 2. Why are we not hiring them?
    - LAMP case as a recent example where this is a good use case
    - All cases will need to be reviewed - send to Jeremy. Need to clarify use cases of what's a clear example. Also consider timing. Short durations could work as well. LTT is more or less about 30 days. Is this a good program for 1 or 2 months? Again Jeremy needs to review.
- Long Term Travel Policy

-Heidi sending out call for postdocs following this meeting

- This is the final call with the former policy
- The next call will be revised to include all the things they have to include

Subject:	Science Council Monthly Meeting		
Meeting Date & Time:	04/08/2020 1pm - 2:30pm	Meeting Location	Zoom

Agenda: Strategic Planning Process input from SC members

Topic: ALS Strategic Plan
See Eli's slides here. Notes are taken from slides.
-Needed input into what is emerging: what projects should be prioritized. In the past this has been dominated by ALS-U.
-Emergent Ideas in the STAs (slide 2). Want to spread vision into these goals. The black ones are not goals, but missions.

See Andreas slides here. Notes are taken from slides.
-Table of content for 2020 Strategic Plan. There are several sections that have some relevance to the SC and beamline staff.
-2.1. Of the Strategic Plan: STAs - long term goals of each of the thrusts. Thought we would have the TA reviewing and updating those sections every 1-2 yrs. Don't expect they're rewritten, but that the ST and ST leads should review and ensure that content is updated with vision for future, and growth opportunities. Wants input from STAs.
-3.2 of the Strategic Plan. Update ~1 year.
-4 of the STrategic Plan. Initiatives, need STA input for SC review and advice. Update ~1 year.

Strategic Plan Cycle. 2 purposes of plan: 1) to communicate to stakeholders 2) list of projects we eventually launch

- Step 1 - communicate SP.
- Step 2 - based upon input from stakeholders (BES, users, beamline staff, etc), develop ideas.
- Step 3 - update SP

Every yr we want to go through the SP, not necessarily to rewrite it but to ensure we prioritize.
Prioritization criteria:

1. Will user research enabled by the project likely have high impact and lead to transformational scientific discoveries?
2. Does the project serve a strong community of users in the area of basic energy sciences?
3. Will the project significantly enhance the technical capabilities of beamlines or the accelerator in support of user research?
4. Is the solution cost effective, appropriate, and technically advanced?

-These bullets are not specific to the SC, goal is to communicate more broadly with stakeholders.

-We need to communicate this SP more and implement it more effectively

Large Project Planning - Timeline
-SC comes in when recommending proposals to advance to Initiative Stages. Management receives initiatives and then chooses to recommend for the Strategic Plan.
-Once an initiative, we can start doing some R&D, flesh out the science plan.

Eli - more important for the SC to recommend and rank, or give pros and cons?
Andreas: input on these criteria is, esp the first two, is what is needed. We don't necessarily need a ranked list, but want the answers (to the above criteria) discussed and recorded by each of the members on what they think the scientific impact would be, how well it fits into BES priorities and the SP. This is where the SC can help.

Timeline
Want to rollout in Oct (new FY) for SP updates
-In June/July: the latest point for SC gathering input for new initiatives and projects. Need be done by Sept for SAC mtg and Oct for rollout

Discussion
Ethan - this is modeled after SP from last year. The SP should be rewritten. Last year was so rushed, didn't come together in a successful way. Afraid about lowering the bar, e.g. refreshing vs rewriting.

Eli - 2 areas I'm suggesting: 1) we make these goals more forward looking 2) each section should probably address ALS-U in some way.

Andreas - the ST and STA chairs have full ownership of those sections. If they want to rewrite, they can. I don't expect each ST to do that, especially every year, unless they are not satisfied with what is in there. But try to be uniform.

Ethan - this is the problem - making it all the same. I really want to invest in creating a structure of how we uniformly make this large update. We need some form of expectation.

Chenhui: agrees. Need guidance from management to focus time and energy, to match structural expectations. How we agree on what kind of content/format we should have in the final document.

Eli - I can play a role here. Propose a framework mutually as a group.

Jinghua - a yr ago we ran into the same problem. Can we prepare better for next year? There was a big discussion in the beginning but then it died off.

Ethan - want to emphasize what Jinghua is saying. We ran out of time last year and conceded in just delivering something.

Eli - specifically on the TA written section: suggestions?

Ethan - I want to support thinking of this in a holistic way; acknowledge that what we submitted should not be our baseline or expectation, because it's low. Last yr we supplied something just because we had to, not because we had developed our thinking or thought process. We pick off the pieces we want to focus on now and start to develop them, but don't want last year's to be the bar. If we do want an overall, we need to have more meetings so we can discuss and converge.

Cheng - reminds me of the LDRD process. Having prioritization is a good way forward. But 2 different issues here. NOt sure we can change rapidly what is currently on the list. Whatever format the SP is, the content is most important. The format can be unified in one way or another.

Hans - agree last yr the process was rushed. But I don't think everything requires a radical rewrite, just a continual update. Coming up with a process for figuring out how to prioritize projects is a great idea going forward.

Aaron - wasn't here last year. Narrative in section 2.1 by STAs, and then the project list. The only one we have control over is the initiatives list. Is there a process for getting on Initiatives list?

Eli - We have a pipeline we do control, e.g. the fellowship process and the LDRD process. What we're talking about is how are we going to make recommendations that go back the LDRD stage to being on this list. There are knowledge gathering things we can do, like holding workshops.

Martin - imo, would like to spend time thinking about and working on the project list.

Eli - we could provide better context on how decisions are made. Call to arms is to spend more time thinking on this.

Andreas - if we have a situation where there is a call from DOE or the federal government, these lists are the lists we look at first. These lists are quite important. It is a good use of time for the SC to have a first look at these items and to help us set priorities. They're not just lists where things are sitting.

Ken - no objects on the process, but this is a good flowchart. Interested on hearing what Ethan suggests as a revision to the process.

Topic: Eli - SC roles in strategic planning
-Ultimately Steve and Andreas's job in getting these to DOE
-But still have opportunity to shape these targets, through: postdocs, doctoral fellowships, LDRD, outreach, DOE highlights, workshops, reviews, review panels.
-Strongly recommend inviting more outside people into the TAs to get their input

Ethan - difficult to leverage this and make use of the other people; it's been difficult to think of how to recruit then for the TAs so that it's a good use of their time

Steve K - having core research people from other divisions will help move this along, and this can be the hook, this is how they get some control over our budget; having them see the benefit of participating

Ethan - stronger framework - specifically, remember last year being dissatisfied with the process we went through and its meaningfulness; it felt like we were just doing it to do it. Don't want to continue with the idea that we proceed with a document that is for show and not action. If this list is going to be real, then let's make it real. Last yr we could not figure this out, but we shouldn't repeat that, or that the current version is a good one representative of what we think or our strategic vision.

Eli - need clarify: what ideas make to recommendations, and then how those decisions are made (e.g. more than 5 mins of discussion)

Aaron - how do ideas get to the Initiative List? What is the process?

Eli - LDRD should be more than year round. I expect TAs to bring these ideas.

Martin - good to have a formalized, official portal to capture these ideas.

Eli - right now, only have what LDRDs have been submitted. If we want a more dynamic SP, we can do that.

Ethan - what if we created a higher-level structure, a way of capturing and fostering these LDRDs, systematically so they align with pre-LDRDs. Structure for bringing in ideas, submitting content, having content reviewed and feedback provided. Process for all strategic science thinking for ALS, some regular structured way in which one of the times aligns with the formal

LDRD process. A way of making this more open and easy for people to contribute ideas. Great way for STAs to work with other Lab partners. The SC organizes (in same way as LDRDs).

Cheng - doesn't have to be decoupled with LDRD idea; LDRD could be a result of coming out of this pool. The SC provides a platform to incubate and promote these ideas.

[*bad internet connection, missed some discussion*]

Ethan - need strategies on how to manage this. We have to be aware of ranking and provide guidance.

Chenhui - then will need standard set of criterias to help avoid bias

Ethan - the LDRDs was reasonable and helpful [process].

6.4.2020 Agenda & Minutes

Attendees:
Eli Rotenberg, Alpha N'Diaye, Martin Kunz, Hans Bechtel, Aaron Bostwick, Chenhui Zhu, Cheng Wang, Ethan Crumlin, Ken Goldberg, Mike Martin, Jinghua Guo, Alex Hexemer, Andreas Scholl

Absent: Howard Padmore, Steve Kevan

Topics:
1-reports from each TA on planning for Innovation Forums

2-reports on Moore proposals
- Hans: Cryosins 5:00
- Eli: momentum microscope 5:00
- Alpha: Q-STXM and Sujoy's proposal 10:00
- Aaron: FC ARPES 5:00

TOPIC:
Reports from each TA on planning for Innovation Forums

Hans: Bioimaging forum. July 24 1-5p. Speakers include Dula, D. Shapiro, others; 10 speakers w/10 min talks. Open registration w/internal & campus focus.

Alpha: QMRD: still discussing. Thinking 1-2 afternoons of 2-3hr sessions. Focusing on innovation and innovative techniques, mostly projects they've already begun to discuss. Have not identified date or time. Eli determined the 3rd week of July.

Anyone in the TA interested in leading this? (Group agrees Sujoy or Padraic). Eli wants a commitment from either to do this.

Chenhui: CMI - 2 ideas: (1) David leading quantitative correlative (?) x ray microscopy materials. (2) Cheng suggested in the area of (additive?) manufacturing. Dates: probably better to do in the fall instead of July/Aug timeframe. David is compiling a list of potential speakers. Cheng: Main target is to plan for the Old Town / Charter Hill development. Wants a small work group to start developing ideas.

Alex & Ken for ITA: 2 ideas: (1) sample sample holders & environment robotics forum. Cheng, Ethan, D. Shapiro. Cryogenics, robotics, etc. Overlaps w/David S. suggestions. Robotics = automatic sample changers. (2) Machine learning: currently Alex, would love others to join the effort. Thinking Aug 11, 1-5p including breakout sessions. Anticipate a good deal of interest from ALS staff. Topics: machine learning for science @ ALS. Materials projects, NERSC, CAMERA, MF, UCB Robotics Lab. Challenge is to keep it small. #1 topic: Autonomous data collection. Edge computing might be something. APS. Integrate computer vision & robotics into

beamlines. Google and General Applied Science interested in machine learning. Training in machine learning, might punt to ALS User Meeting (next year).

- Breakouts for autonomous data collection, the integration of computer vision and robotics, machine learning and chemistry,

Ethan: broader instrumentation appeal across the hill is increasing significantly. Future capabilities and buildings will have esp as it relates to ALS. Mid- to long- term, think about scope and scale. Mini pilots for charter hill? Solving short term problems? Aim for long term projects w/yrs of development? Need to leverage momentum and interest of other partners. All these divisions (MSD, CSD, MF) see the importance and value of ALS.

Eli: timescale for this?
Ethan: end of June, Charter Hill ESA forum. Potential to spawn other working groups/planning over building up the structure. Sensible to leverage that momentum possibly in early fall. Still treat as seeding future aspects while still working on immediate things we can do today (e.g. LDRD).

Jinghua: trying to get STA members, Wanli and Moni, in charge this time for event organization. Thinking short forum (2 hrs). Week of July 20. "Interfaces of Catalytic Systems and Related Materials." Detailed scope is under planning. Target is 10 speakers, 6-7 external (LBL & UCB faculty scientists) and a few from ALS. 10 mins each speaker w/20 min discussion.

TOPIC:
Reports on Moore proposals

- Hans: Cryosins 5:00
- Eli: momentum microscope 5:00
- Alpha: Q-STXM and Sujoy's proposal 10:00
- Aaron: FC ARPES 5:00

Eli: momentum microscope. Submitted by Alexei. Focus of proposal on 2 electron photo-emission.

Aaron: Flexon 2 proposal to Moore was more groundbreaking. Fully coherent photo emission/ARPES. New capability for studying fundamental physics that go into quantum computing. Eli PI w/Aaron and Chris.

Alpha: Q-STXM. Focus on quantum materials, low temps & ultra high vacuum. Padraic, Hendrik, Alpha for ALS. UCB. Ramesh & (?). Submitted by Padraic.

Sujoy's proposal. Sujoy has yet to provide a final version.

Hans: Cryosins

Call was specific to US researchers

TOPIC: Flexon 2 endstation update:
Eli: Flexon 2 update on branchline - meeting between Eli, Howard, Andreas, Steve - anticlimactic; not do high energy branchline due to cost, risk, QERLIN focused on now. No decision made on what would be on this branchline. Steve asked for 1 yr process to decide what should go there. Left on table: nano-ARPES project & microscopy projects (Sujoy) that may or may not use coherence. Diffraction, darkfield based imaging; Steve looking @ innovation forum as a way to get other division members interested & get their input. Suggest 1 hr discussion put aside on one of those afternoons to discuss the concept.

Andreas: this [the endstation] needs to lead into our strategic planning process. Probably for next year's strategic plan. Urgency = takes time to design an endstation but need to choose wisely to stay on a constricted timeline. Important to hear from our users and understand their needs in the context of quantum materials, etc (target of Flexon beamline). Cannot rush this.

Science Council Meeting Agenda - July 2, 2020

Agenda item:

1) All: roundtable on IF status

Attendees:
Eli Rotenberg, Martin Kunz, Hans Bechtel, Chenhui Zhu, Cheng Wang, Ethan Crumlin, Andreas Scholl, Alpha N'Diaye, Aaron Bsotwick, Mike Martin, Jinghua Guo, Andrea Taylor (notes)

Topic: IF Status
Eli - get your IF dates to Andrea TODAY. Pushing to August risks conflicting with the strategic plan being put together

Topic: Strategic Plan

Currently talked about:

9.x.x SXR AP XPS
11.0.2 Tenderish APXPS
4.0.3 Momentum Microscope
10.0.2 Fully Coherent NanoARPES
LT-SINS
4.0.2 Q STXM
10.0.2 Reflection Microscope?

Table 7. Emerging beamline and endstation development opportunities (not in any order of priority).

Source point	Project title	Scope and notes
9.3.2 or 9.1.1	APXPS	Bending-magnet beamline optimized for soft x-ray ambient-pressure photoemission spectroscopy
11.0.2	MESB-U	Upgraded beamline for operando RIXS and APXPS combined with nano-focusing and coherent scattering
Endstation	High-res. ARPES	Low-temperature, high-resolution ARPES and momentum microscopy instrument
Endstation	Low-T SINS	Low temperature and nanometer-resolved infrared spectroscopy setup for quantum materials research
Endstation	Q-STXM	STXM endstation optimized for high-field, low-temperature magnetic microscopy
Endstations	Instrumentation for high-brightness beamlines	Nano-focus scattering and coherent scattering endstations

Prioritization is needed given these conservative scenarios:
1-funding / engineering limitations; are LDRD needed?
2-locations: 4.0.3, 4.0.2 could each accommodate one endstation, 10.0 (Flexon) could accommodate two, but these should be justified on need for full-length fully coherent ID
3-staffing level constant. Who will lead the project? What is the staff preference for the instrument?

Prioritization is needed given these conservative scenarios

1. Funding / engineering limitations - are LDRD needed?
2. Locations: 4.0.3, 4.0.2, could each accommodate one endstation, 10.0 (Flexon(could accommodate two, but these should be justified on need for full-length fully coherent ID
3. Staffing level constant - who will lead the project? WHat is the staff preference for the instrument?

Andreas - The structure of the strategic plan will not change much this year. If you have ideas on how to change the layout, it needs to be discussed. Recommendation is to stick with existing structure.

Andreas - Regarding the table Eli has showed - when we are talking about projects, things happen in 2 stages:

1) Initiative/Proposal - small group of people think about it, engage w/user community
2) Getting into the strategic plan (gray portion of table) - the SC has decided they have merit. BUT they are not prioritized yet (assigned funding). Prioritization is the next step - which projects we've committed to, building a funding profile and timeline. Atm, those are projects that are advanced or projects we've started (4.0.3 beamline) where scope is clear

Andreas' advice: when populating this list: think big, think about the science, come up with an ambitious instrumentation plan. Don't worry about funding - yet. Want to come up with a recommendation to pair a strong science case w/the right type of instrumentation that's needed. Don't cripple good ideas by worrying abt funding.

Next step will be to have a discussion on how to advance it in steps, even if incrementally, and to advance a project to be funded.

Ultimately, advancing from this gray list to the earlier list is something that will require input from many parties, despite being owned by the division. Includes input from the SC.

Ethan - if we try to prioritize, what are our uniform types of criteria? How do we want to get to our prioritization?

Eli - think of prioritization as "high, higher, highest." Consider it more by thrust area. The thrust areas are designed to go after funding opportunities and should be organized around the main themes through which funding is attracted. What does each TA see as their future, and who do they see as who is going to do it? Every idea needs a champion of who will lead it.

Ethan - nuts & bolts of next steps? What mechanism do we want to use to make this prioritization?

Eli - starts w/getting these ideas on paper. Will be informed by IFs - anything coming up that we haven't thought of?

Ethan - Andrea to help make a checklist of what you want to achieve - so we know there is a product that feeds into this specifically. These forums are coming up quickly, this messaging needs to be collated and guided.

Cheng - re: structure - going w.STA is a good idea. Could each STA come up w a good idea and prioritize high, higher, highest?

Ethan - framing into action items - use the next 1-2 mos in our TAs populate a list of projects and ideas that our TA has, then bin them in to "high, higher, highest" categories, and amongst the SC assess where we strategically prioritize resources

Andrea - QMRD's manner of tracking, would that help? - per Alpha, this is only one way that they feed into the strategic plan

Eli - part of these IF is for the TA leaders to find ways to make these things viable and possible

Alpha - ideas for chemical observatory and how that fits into the strategic plan?

Ethan - don't see a connection that ALS needs to worry about...from the Charter Hill effort, this is part of the Lab's strategic plan. This is longer lead and outside vision and scope of ALS strategic plan specifically.

Andreas - agreed. Our strategic plan was not very helpful for the discussion of these buildings. We want to work with the broad community. We have users from the whole ESA and outside basic ESA. Down the road, when these visions become real projects, the ALS needs to think w our partners how we can develop beamlines that point into these buildings. But that's probably 10yrs from now.

Actions:
-Get your dates and session details to Andrea

CMI - Jul 20th, 10-12:30
Bioimaging - July 24, 1-5pm

Subject:	Science Council Monthly Meeting		
Meeting Date & Time:	01/09/2020 3pm - 4:30pm	Meeting Location	Building 2 Room 100F
Participants:	Eli Rotenberg, Steve Kevan, Alpha N'Diaye, Ethan Crumlin, Jinghua Guo, Mike Martin, Martin Kunz, Aaron Bostwick, Mike Martin, David Shapiro, Alex Hexemer, Cheng Wang Andrea Taylor (minutes)		

AGENDA

-LDRD Schedule

- Eli's slide deck on this topic is here

Tabling to next meeting

We will revisit the Fellowship Program discussion in the next discussion

TOPIC: LDRD Schedule

1. Please refer to the schedule emailed out by Heidi Clark
2. Please talk to Eli, Andreas, and Steve ASAP if this is of interest for you
3. DO not assume that the ECD proposals are selected from the regular submitted LDRDs but a significant effort up front is needed to make a credible ECD proposal
4. Read the call for area priorities and see about collaborating with them
    a. Biosciences, CS, Earth and Environmental Sciences, Energy Sciences,Energy Technologies, Physical Sciences
    b. Energy Sciences
        i. Novel routes to use the brightness and coherence of the upgraded ALS, and emerging capabilities at the MF, particularly to probe chemical reaction mechanisms and kinetics, novel electronic materials, and the properties of complex, soft, environmental, and biological systems
        ii. Predictive chemical synthesis and accelerated materials discovery; dynamic measurements beyond pump-probe for chemical transformations, responsive and reconfigurable materials, and quantum molecular and materials systems
        iii. Artificial intelligence and machine learning in chemistry and materials
            1. There is overlap here within BES
5. Steve advises next year we will address lack of LDRD funding will be a sore point for the Triennial Review. Steve believes 4-5 LDRDs for next year.

6. Eli would like a TA leadership level meeting to ensure the PIs who are interested can deliver something
    a. Andrea will confirm Eli's date preferences/share his slide
    b. SC Meeting for future consolidations and synergies with other divisions

Discussion: what PIs should provide: 3 slides + cover page

- Cover page + slides - delivery date = Feb 3-4
    - Due on the 21st
- Provide a cover page + slide rubric
    - Eli will provide and work with Ethan
- Move your STAs so that you can cover this topic
- Shooting for 10 well thought out proposals going through
- SC meeting before it's submitted? On 2/21? Or practice talk day on the 25th? On a volunteer basis, or an office hour block? Office hour block on the 21st for a cross-TA?

All SC Agrees: 21st is 3 pagers due, practice session on the 24th

TAs on common calendar - Andrea will share that info/create calendaring

--Onus is on the STA leaders to communicate out

- ACTION is to schedule the 21st for TA leads meeting w/Eli
    - Eli will send out the schedule to the TAs
    - COmmunicate out that slides need to be sent with

--Add a new meeting 2/4 for SC discussion on LDRDs - for sure - the SC

- Possibility - The 6th will be selection for LDRDs?
    - Ask Eli tomorrow

-24th: LDRD practice talks

- Heidi wants slides on the 21st
- Slides and presentations will already be turned in
- ONLY TA leads

Subject:	Monthly Science Council		
Meeting Date & Time:	12/19/19 9am - 10am	Meeting Location	06-2202
Participants:	Eli, David, Andreas, Cheng, Ken, Ethan, Aaron, Mike, Alpha, Martin, Jinghua, Fernando		

Eli -
Agenda items:

1. Changes to the Fellowships

- We have been using the same pot of money for fellowships as we do for stipends and incidentals. This makes the program vulnerable
- Even short term should be on a schedule
- Load on the administrative staff

Andreas -

There are opportunities [in changing our fellowship program), especially for our doctoral program, which is very successful and we should use more. It is well structured. We should try to include some of the fellowships that are in GSRA/Other

Shortcomings - 12 mo cycle of Doctoral, harder to include requests coming in the middle of the year; therefore we are thinking of increasing frequency to use the same review processes for more students. Place more GSRA in doctoral, and take care of concerns re: defending system w/in the Lab. We have to explain the purpose for why we are spending, and we have approved programs in the Postdoctoral and Doctoral are approved, and the SC selects candidates. GSRA/Others not an approved program; traditionally approved by group leads but not an approved program, just a different way of onboarding folks.

Long term travel - mostly for more senior folks coming here, sabbatical etc, not for training.

<u>Student assistants</u>
-E.g. Undergrads. Cannot run them through fellowships. Have to be employees. They're not very expensive bc hourly wages are low. We can still do this if anyone wants to hire them

Mike - key thing is they need to be enrolled in school

Proposed changes of current program

-Go bi-annual application process

- Applications are accepted and reviewed in June and Dec
- Programs will begin Oct 1 and April 1
- Balance demand, anticipate more in Oct

-Discontinue GSRA, add more to Doctoral

- Most of the GSRA could move into this program
- There would be a transition period due to 6mo cycle, the next start will be in October

Mike - some that go away will be those that needed less than [redacted]; do we round it up now?

Andreas - question is how efficiently we want to manage our fellowships. How do we decide how to stretch out funds a little longer? That they need [redacted] vs [redacted]? And stipends can be costly.

Ethan - It's a matter of different purposes. Like for some of the GSRAs are coming for 2 yrs and need a stipend over 2 yrs. There is a need for a different model or one [like GSRA/Other] that is flexible to accommodate those situations

Eli - we are not a university, why are we in the business of hiring students? We are not their PhD advisors. We are not taking that role; I don't see why we should have to pay those [students]?

Ethan - if they are coming to do work our benefit is just as large. That pipeline gets turned off

Andreas - but anyone can apply to the Doctoral

Cheng - it matters what the #s are for postdocs

Ethan - e.g. Chinese fellowships are 2 yrs in length. We just need enough for them to last 2 yrs. With GSRA we have been able to keep that

Martin - e.g. Marshall Plan fellowship for 3mos. GSRA would have been a great way to augment his salary.

Mike - that is "other fellows"

Andreas - part of this proposal is we make the long term travel more flexible. That's our mechanism for ppl who are here for a short duration and need a little extra money. Currently it's used for senior folks, in the future it can be used for everyone, but limited duration, like 6mos.

Cheng - can they renew Doctoral for another year?

Andreas - yes. Possibility of renewal with science council review.

Cheng - in favor of reducing the stipend amount of fellowship and increase # of recipients

Mike - [redacted] came about bc trying to be half of a US grad student cost. That's where we started; this amount is flexible.

Eli - it would help if the [outside] institution made a clear statement of how much they are able to offer [the affiliate]. It's hard to know when looking at cases what their exact situation is. Do admins review this? Who decides [if they have enough outside financial support]?

Cheng - this should be on top of what they are actually paid.

Andreas - we don't pay salaries when supporting postdoc. This is augmentation of what they receive.

Alpha - it would be helpful if we state there is an expectation of how much the host contributes to their finances. Right now we do not have an expectation of how much the host should pay. W/my current grad student, they wanted guidance on expected contribution.

Andreas - think the language is we pay roughly 50% of a typical postdoc stipend. Which means they have to have their own support.

Cheng - doctoral fellowship is clear - a graduate student of that university. For collaborative fellowship the complaint was how much control we actually have. In reality, we want them to benefit ALS as well as home institution. So 50% we gain more ownership.

Andreas - this works well for our fellows in residence - we know they are here - do the same for the collaborative post docs as well. The limiting factor is how many fellows we support; there is a cap on that.

Cheng - we should increase amount of fellowships

Andreas - there are other factors than just the amount of money. We can reduce the amount of what we support and increase the amount of people we do, but we don't have the space or onboarding support; we can't do this at an infinite level.

Cheng - so if we make it [redacted], is there a potential increase [of the amount of affiliates]?

Andreas - we continue to have other paths. Let's go through the slides

Eli - on webpage, for the doctoral fellowship, somewhat ambiguous, it does say will be compensated with [redacted], maybe should say "up to [redacted]" but doesn't reference how much the

home institution supports them. Maybe we should clarify they have to be compensated up to 51% [by the home institution]

Jinghua - hard for graduate students to know how to calculate, they have to pay tuition too. If we say [redacted], that's not covering tuition. And their income can be cut by the university.

Andreas - some still get their full salary, for others it is cut back, my preference is that they receive their full grant from their home institution. We just want to get them here and help them live here.

Ethan - we can make a range between [redacted], and have that based on what the home institution can pay

[*AT THIS POINT ANDREA'S LAPTOP DIED FOR 3 MINUTES*]

Alpha - treating everyone equally, we want to ensure everyone goes home with a certain amount of pay

Cheng- we only provide a fixed amount, and their home institution has to prove what they are providing. We are only trying to offset living costs.

Ethan - we have two strategies, we have to pick one of the two. We should talk about the other ones we have less agreement on.

Andreas - on optimally managing program: flexibility is nice, but we need a process of how we decide what the right amount is. If we provide a fixed amount then applicants know exactly what they get, otherwise it is on us to decide that amount, and that is complicated.

Cheng - unless we keep the GSRA

Ethan - agreed

Andreas:
<u>Postdoctoral program changes</u>
-Proposed changes - not to change everything, but go through the same cycle as doctoral. Make postdocs feel like the ALS is more their home. Do more onboarding events, etc. Right now it's hard to integrate postdocs because they come on a different cycle. If we start them on a similar cycle, can host them with the doctorals. Doesn't mean no flexibility on start date, but getting them on the same revenue cycle. Total amount is unchanged, there is a budget cap.

Cheng - 6mos cycle is a good idea.

Andreas - April and October; same cycle as Doctorals. We could think long term about the process and opening up to external applicants

Ethan - my concern re: postdoc is regards to how funding comes in. 6mos can be a long time to wait when the funding is actually there. Funding for grad student is diff bc it's continuous. But postdocs funding come in in different waves. They could be without a job. They will be in purgatory. I don't think I would remove that cycle, unless there is an escape door where if it does come up, we do it as an "as needed" basis when they're stuck w/a 6mos wait

Eli - maybe should be more flexible because we understand they don't want to leave $ on the table. But we should be more strict on when appt ends. Don't extend for another 3mos. 4x/yr is too much. 3x/yr? We don't have enough to choose from

Jinghua - if we change to 6mos it doesn't change the amount of applicants

Andreas - if we want to do a prioritization, it's hard to do if there's only 2-3 to choose from

Jinghua- we may miss the good candidates because they move on to other things in 6 mos time

Andreas - typically a postdoc stays for 2 yrs at one institution. They have time to consider other opportunities. 6mos cycle still allows the postdoc to have a year here.

Ethan - how much can the program sustain?

Andreas - current cap is $350k. Depends on what we allocate. At the moment we don't have space. That's [redacted]

Ethan - that's less than 2 every yr. We can't have many who are here 2+n, but if we're already in a situation with 2 coming and 2 going, that's sustainable. Then we can prioritize

Andreas - we certainly need to advertise this program more for more [qualified] applications. I prefer 6mos so that we can improve onboarding and count doctorals and postdoctorals the same way

Eli - 3mos is too short a duration

Andreas- start date can be flexible but not $. This council should NOT have to review ad hoc bc they're all good applicants.

Ethan - then what is the problem?

Mike - part of the problem is collaborative postdocs it's clear what they're doing. We should have something where we match the program, a postdoc for this program and this professor…

Cheng - we do review based on the postdoc individual, approve the collaboration, and get the money turned on

Eli - what stage is this? Do they apply beforehand for outside money?

Mike - we have to accept those who already have the support from their outside institution

Eli - the Prof needs to write the statement for collaboration

Andreas - we have done this in the past and can do it in the future

David - approved programs still don't go through this process.

Andreas - I don't support that. They should go through the approved process.

Eli - I don't want to support approved programs in this way if we can help it

Andreas - it does not preclude working with our approved programs.

Cheng - approved programs should have to provide something else

Eli - is this change of accepting more postdcos with 6mos cycle agreed? [*mixed reaction, no consensus*]

Ethan - we don't know when programs are funded and the timing. 6 mos is too long.

Eli - I want to move to try 4mos. Is 4mos acceptable?

Jinghua - better than 6mos

Andreas - advantage of one doesn't review doctorals and postodcs the same time. We will have to find a good way of onboarding and including everyone.

Eli - if they don't have a home institution we fit them into the collaborative postdoc program.

Ethan - pre-approvals for prestigious fellowships? THis is why GSRA and other are important mechanisms

Eli - but there is a gradient. Between honorific and meaningful and some groups trying to mooch off the ALS. I want to encourage more of the former.

Ethan - but we need a mechanism to play in pre-approval in how to make that easier, for contributing to attracting these talents

Eli - knowing their advisor has skin in the game ahead of time is very helpful. How we have a meaningful role in developing their career…

Ethan - but we should do more in informing and training...from a peer standpoint, we should have more collaborative authorship in publications...we should already be a part of this...we should filter out as best we can [not strong candidates] and improve how our staff has a voice in the process

Eli - we need a way of finding consensus on what the criteria is for saying yes. Being an adjunct professor, a corresponding author...we don't have that definition ahead of time.

Ethan - that's where we as a committee make that expectation clear. Having flexibility is necessary to support those kinds of relationships. That's what we want to foster (those relationships)

Eli - we could have a subcommittee gather in early Jan, update the slides, talk about this more.

Eli: Brief Discussion on LDRD
The process has been something like 11 weeks to when announced to final proposals polished and locked in. Want more polish so STAs have more time to deliberate. Goal is fewer proposals to management, but they're stronger bc of more deliberation, collaboration. We should have mini cycles in this time period. In the past, 5 week window where ppl just talk, I want to structure and make that like a 6 week process where STAs internally decide priorities and then go back and develop more, finally discussing with SC. This is a voluntary process. Want to aim for 10 proposals, 2 from each STA. We typically have about 15 at the end, and are not all strategic enough. Hoping to do this.

The opportunity is good this year. 3 LDRD that are expiring, but the Lab is not creating new initiatives, only existing initiatives. Think we could get 5 or 6 this year. Andreas and Steve made draft statement for ALS priorities, very generic. This year consider it wide open, let's really go for it.

Andreas - typically call is early Jan. Selection meeting typically end of Feb. So that's the SC meeting where we rate the LDRD proposals that then go to Energy Sciences Area. So about a month to write, submit, and STA to work on them.

Eli - will share draft of timeline. Wants 6 weeks of this STA churn, for 10 polished proposals.

Alpha - 2 proposals from each STA is just a guideline?

Eli - correct. But let's be realistic. Don't want to encourage too many, want to encourage worthy proposals.

Agenda (Eli) for Open Discussion 5.20.20:

From Eli:

This SC meeting will focus on a discussion of the TA-run Innovation Forums.
In particular, I would like the TAs to provide outlines of their plans for this summer's Innovation Forums. We don't have a long meeting slot (one hour) so it is important that people come with ideas ready to put on the table.

At the very least I would like to know whether you plan to hold one (I hope the plan is 100% participation), and that by the end of the meeting we have agreed on dates and topics in principle (whether broadly within a TAs mission, or tightly focused, or perhaps cross-TA). I would like these to take place around the end of June, and I would like coordination so that people can attend multiple forums.

I gave a briefing on these forums and their purpose to Ashley, she said the ESA would be very enthused to support these and she would expect broad interest on the hill (beyond ESA). She suggests that we are likely to want to limit attendance to invitation-only. So it would be good to start formulating a list of who should attend for the most impact. I suggest thinking about the range of attendees you are comfortable with, I would invite and confirm acceptance to ensure the minimal number of attendees is met, and leave room for others to sign up who would like to attend, but if you'd like to do it otherwise, that's fine. I would recommend identifying someone from each relevant LBNL division, and you should consider inviting key players on campus as well.

If anyone wants to talk ahead of the meeting for questions, brainstorming ideas, I encourage you to contact me, feel free to propose a discussion on my calendar.

DISCUSSION:

Open discussion regarding innovation forums: their timing and format

Eli - wants to ensure that there is focus for ALS input and outcomes. Per Ashley, these should be invitation only, be only up to 25 slots, as there will be great demand. Should be advertised as those interested in participating to contact the relevant TA leader. This isn't just ESA only, even outside or campus folks could be considered.

Hans: Organizing a Bioimaging Forum, tentatively scheduled for July 24. Shooting for a ½ day discussion, from methods/techniques and computational areas. One forum in July, nothing in June. Will also have a user meeting workshop on this topic. Being organized by Hans, Mike Martin, Corey Ralston, Chenhui, Peter Z, Danny Uzima (sp?). Focus will be on user facility aspects, there will be some MF input as well.

Cheng: transformative manufacturing, would like to team up with other TAs for a forum on this topic. Also, communication with David Shapiro on multi modality technique based cross Lab forum and its integration with Old Town demolition

Aaron: have not had time to think about it.
Eli - would be good to get some of the MSD people involved and start new conversations with.

Ethan & Jingua: plan a forum in July or latest beginning of August before User Meeting. Targeting ESA, ETA, other PIs familiar with our tools. Storage materials, chemistry related to EEBS, topics tbd but do have planning. Will target some PIs and try not to go over 20 people. Forum will an institution and division connection to make personal connections. Want to ensure focus is narrow so can contain amount of people and do a 2-3hr event

Martin: decide they will focus on bioimaging.

Alex/Ken: Instrumentation: machine learning definitely has to be one of the topics. Ken & Alex are meeting on Friday to discuss.

Ethan: agrees there's definitely a need for IFs re: instrumentation. Old Town being rebranded as Charter Hill. The concepts re: Chemical Observatory and it's inclusion will evolve over next several months, hopefully will be a town hall to update everyone on CH developments and thinking, and then hopefully soon after workshops. Good opportunity for ALS to host one of these workshops on Instrumentation. Advanced Materials building is being targeted first; has robotics/AI bent to it right now. Having something involving robotics at a Lab level would be a good approach.

Re: timing and resources:

- Mid-July as timescale. Dates are not yet committed but most folks agree mid-July in general. Next council mtg, have list of invitees to share. Set the dates asap. Next council mtg will be beginning of June.
- Get an iPad for annotating to be ready for these IFs - start brainstorming on how to make these forums as innovative and collaborative as possible

ALS Science Council Agenda 9.10.21

1. Reminder: this is your meeting - share agenda items in advance if you have them!
2. Strategic Plan Review - Ethan
    a. ICTA and BIOTA we need confirmation/updates
3. Socializing the Science Council with the ALS community - Alpha, Ethan
    a. What does transparency look like?
    b. Sharing SC agenda/minutes?
    c. Responsibilities of TA co-chairs and SC Chair?
4. Integration of SC into PSO meetings - Andrea, Ethan
    a. Maybe have a monthly update?
    b. Include STA updates periodically dispersed?
5. Science/Science Council 'Climate' Survey? - Ethan
6. Status of TA elections - QMRD, EESTA
7. Science Highlight selection - Ethan
8. Changing the Colloquium Series organization - Andrea, if time
    a. Proposed changes/existing pain points outlined here

Commented [1]: did not have time for these agenda items

Attending:
Eli Rotenberg, Ethan Crumlin, Martin Kunz, Sirine Fakra, Chenhui Zhu, Andreas Scholl, Moni Blum, Alpha N'Diaye, Wanli Yang, Greg Su, Juliane Reinhardt, Ashley White, Stephanie Gilbert Corder, Greg Hura, Antoine Wojdyla

Not attending:
Fernando Sannibale, Howard Padmore, Mike Martin, Steve Kevan, Marc Allaire

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Meeting Minutes

Topic - Agenda items

- Andrea/Ethan will send a call week in advance for agenda items. Please bring your ideas/items!

Topic - Strategic Plan

- BioTA update forthcoming, per Greg Hura
- Strategic plan - advocacy tool and reference point for each TA
- Expectation for publication: provide at the beginning of the fiscal year (BES expectation). SP is a living document; iterative across time.
    - Should discuss most recent TA split
    - Shoot for Oct as deadline for final publication / TA shoots for end of Sept (Andrea will send out reminder)
- Strategic Plan updates - current format, does it work? Can it be improved? Any ideas?
    - Alpha: existing format is clear and manageable, however SP does not help us answer the question on who we want to be as a facility, which would help guide our development
        - E.g. relationship between hard xray and soft xray science - whether we want to move to imaging, spectromicroscopy techniques - bigger questions like this - SP doesn't address nor facilitate a discussion.
        - Space for general course/future guidance/vertical vision? (use to make decisions off of?)
    - Chenhui: to some, unclear what the official process is for a project to show up in the SP; where should ideas not mature enough to include in SP go?
        - E.g. moving SAX/WAX to diff location - been a longstanding discussion - where does that go in the SP? What is the process to get this moved onto management's list of project/priorities?
    - Eli: supports this sentiment ^. Historically projects dominated by money, now BLs take up most of our space. Currently involves stakeholders who we were not beholden to in the past. (sunrise/sunset beamlines, have a strategic plan for this) Good exercise to develop criteria.
    - Ethan: need clarification of SP v "nuts and bolts" - tactical plan v high level SP -
        - Eli: BL/operational issues shouldn't be in SP. Recommendations like Chenhui's should be recommendations provided to management.
    - Wanli: agree w/sentiment of Chenhui - competing effort w/in STA on BL 11 - managing internal conflict, esp w/colleagues. Communicated w Andreas what we can do, navigating conflict in moving endstations. Decisions on the former made by Andreas/Steve - onus is on management (we should make this clear in the document that it is their decision). 2 parts to SP - 1. STA input is scientific motivation as reference for management; 2. Infrastructure development of ALS = management decision making
    - Alpha: we should have the input on where we can reprioritize/develop strategy, but hesitant to rank items of importance in case they go away. Wish for a culture where we can discuss the relative importance of projects/needs/programs.
    - Eli: re: internally competing ideas, same experience w Flexon; multiple ideas floating around. Steve had Eli convene a review, get input, wrote a report and prioritization followed.
        - Ethan: ^ process created for feedback, discussion, and decisionmaking

Topic - Socializing the Science Council with the ALS community - Alpha, Ethan

Commented [2]: @altaylor@lbl.gov
Assigned to Andrea Taylor

Alpha: in QMRD - discussed connection of TA w/SC. Majority of TA members stated SC is "like a black box," not transparent, unsure of outcome of inputs they provide. What can we do to strengthen those not on the SC to discussion w/in TAs? What content to make available (e.g. l ke SP discussion)?

- Publish agenda/have TA leads share in advance of each SC meeting?

Ethan: how are people receiving info (i.e. is email sufficient form of communicating out what SC does?)
Alpha: ppl do feel connected to QMRD; regular meetings, emails.
Stephanie: what is the info beyond what's communicated, e.g. sharing agenda
Moni: ^ agreed, sharing agenda in advance as well as having a uniform way of communicating to TA members. What of those not in a TA or in multiple TAs? Post-SC meeting summary to send out?
Eli: in his role as SC chair, emphasized going after FOAs, cross collaborating w other divisions, bias towards technique development as a strategic path. Clarity needed for different communities technique vs operational. Scientific climate survey to get input - why are you not coming to TAs/does the TA structure work for you?
Chenhui: agrees survey would be useful. Additionally: some staff don't think they're getting anything out of the TA meetings - feel like TAs/SCs don't make big enough decisions to impact their lives. Feel what the SC does is too limited (in impact) e.g. success rate of FOAs is really low.
Ethan: what are members' expectations/needs? This can inform the directions these STAs can go in. We can use our STAs to provide scientific motivation...think about how to motivate around this. Thought and discussion toward what TA meetings can be/how used in service/support.
Wanli: echo Chenhui re - motivation in TA; we do have operational groups like PSO. Resources SC can provide to motivate/promote TA activities and scientific collaboration?
Martin: re TA motivation: there was enthusiasm in the beginning and it has since ebbed. Suspect part of the reason is bc most of what's happening in Earth Science is not aligned with DOE...as TAs, align with non-DOE priorities? When EESTA started doing this, got more response.
Ethan: leverage TAs to elevate these opportunities to management - this is a huge opportunity
Andrea: do TA co-chairs understand baseline expectations/roles/responsibilities? Feel supported?
Antoine: structure of TAs & SC - unclear how to socialize at the TA level/encourage new ppl to come w/new ideas. Re: co-chair responsibilities - no clear guidance on how to meet, etc. Receiving guidance on how to conduct meetings (from Andrea) was helpful. Are there best practices to share to develop the co-chair role?
Ethan: assumption that this passdown would occur from being in an STA/from previous co-chairs...this has not been sufficiently occurring. STAs should be functional enough to facilitate that.
Juliane: given ICTA is relatively new - getting basic info like shared drives, etc is helpful. Possible to have TA members to have a 1-2 pager of greatest achievements of different TAs and how these were accomplished? Legacy shared drives have so much content, it's difficult to judge.
Ethan: we should document successes - create historical record of achievements.

Commented [3]: @altaylor@lbl.gov @ejcrumlin@lbl.gov follow up on this

Alpha: suggestion: first step is to send an email to STAs w/SC agenda previous to a given SC meeting

Commented [4]: @altaylor@lbl.gov
Assigned to Andrea Taylor

Topic: Integration of SC into PS Group meetings

Ethan: this ^ can be a mechanism for socializing SC/STAs. PS meeting before a SC meeting is where we can intro an agenda, propose agenda items, and review past agenda. This review can be the external share
Alpha: agrees w suggestion - esp bc it will include an email for those who can not attend the PS meeting.
Moni: suggest one in the middle between SC meetings for review and brainstorm topics. Dependant on our ability to come up with an agenda timely
Andrea: fear TAs are not replenishing themselves. Have updates from SC chair and respective TAs? Safety & Business Mo meeting?
Eli: SC is v much on the strategic side - speculates ppl may not be participating bc of fear of change - ALS-U as example, not all programs benefit from this project. We want to motivate ppl to think about the SC as an agent focusing on the longer term
Greg Hura: if ppl don't see a future they don't participate in the TAs.
Ethan: think of strategy as something is a concern/challenge/risk on the horizon - leverage that to turn into an opportunity (e.g. challenge of upcoming dark time). Look for the opportunity, esp when we have foresight.
Antoine: Can the US Compete in Basic Energy Sciences? (BESAC international benchmarking report)...link here...are these reports good to socialize w/in STAs?
Ethan: looking @ other reports like NSF, BRNs, to inform perspective.

Re: TA updates on behalf of SC: we will begin a plan to allow for this periodic 20 min update - 1 - 2x/yr. Guidance will be developed to support this.

Commented [5]: @altaylor@lbl.gov
@ejcrumlin@lbl.gov

Topic - STA elections

EESTA - Nobu Tamura clear winner, will replace Martin Kunz. Andrea to announce later today.
QMRD - process will start soon (end of Sept) to replace Alpha N'Diaye.

Ethan: reminder that while we cycle through, you're welcome to come back in the role

Topic: Fellowships will be restarting soon - call is targeted to go out in October, SC review in November, selected fellows notified in Dec w/a start date of Apr 2022

- 5 postdocs
- 3 doctorals

ALS Science Council Meeting

2019-04-04. Notes by Ken Goldberg

Please go ahead and edit any mistakes I made.

Attendance:

Martin Kunz (MK), Michael Martin (MM), Andreas Scholl (AS), Steve Kevan (SK), Fernando Sanibale (FS), Ethan Crumlin (EC), Kenneth Goldberg (KG), David Shapiro (DS), Chenhui Zhu (CZ), Marie Butson (MS)

Science Thrust Membership discussion (MK, et al.)

Science Thrust Area (STA) chairs: Confusion over group membership. Who is in what group? We have no simple way to know who is in each group, yet it's our responsibility. Some people indicated they wanted to wait to decide after things got started.

KG: Suggest a simple two-question survey to ask people.

Q1: what is your primary group (choose one)

Q2: what are your affiliate groups (choose as many as you like)

Discussion of why we vote within the STAs

SK: The SAC suggested a computing group. KG suggested that this could fit within IIG.
Action Item: KG has to reach out to computing team.

Colloquium (discussion led by CZ)

→ Link to Chenhui's slides

ALS Colloquium will have cookies and coffee
High profile broad audience
4 cycle per year
6 talks per cycle
Speaker nominations: STAs, UEC, IIG, coordinated by the chairs.
Diversity
Locations 15-253 or 6-2202
Time: 3 pm on Wednesdays
Speaker travel/lodging support

There is an ALS Colloquium team.
Slides were shown describing logistics
We're almost good for the rest of the year. There are some spaces.
KG: Please hold a space for IIG. We're still getting off the ground.
UEC gets a vote on the colloquium speakers.

SK, many of them are not here.

EC they are focused on speakers for the ALS UM.

EC we should consider having Communications recommend speakers.

They could get science communication speakers.

Next cycle is April 17 to May 22.

Some speakers were confirmed based on previous communications.

A diverse group

Following Cycle has openings.

Requirements:

Minimum 4 hour agenda (Organized by Host/STA). Here's an example:

- 1-1:30 meet with the STA
- 1:30 to 2:30 ALS tour
- 2:30 to 3 meet the staff, seminar prep. Refreshments
- 3-4 seminar
- 4-5 individual meetings with the speaker (postdocs, fellows, etc.)

Note: *Need ≥ 10% non-LBNL participants are required for us to have refreshments.*

EC: Even for people who are well known or part of ALS, a tour is a good opportunity to meet young scientists. We should ask people to make posters.

We pay [redacted] for West Coast. [redacted] for international speakers. Or coordinate with their beamtime.

Potential open spots: July 17, Aug 21, Aug 28, Oct 16

Strategic Plan (AS)

Andreas sent around a first compiled version.

Each STA and IIG has a subchapter there. What is there at the moment is copy/paste from the past.

Each thrust is requested to submit a half-page to one-page list.

There's also a list of instrumentation/science priorities.

Goal is to have the full Strategic Plan ready in a draft version 2 weeks from now. (April 18, 2019)

SK: BES wants an update. So we're technically late. Discussion.

AS describes the structure of the Strategic Plan

Separate chapter talks about target dates and such.

Wording is similar to the previous plan.

SK: There should be a section for IDE (inclusion, diversity, etc.)

EC: How are we progressing with the ALS Strategic Planning? Our scientific plan is dependent on the outcome of that. They are coupled.

AS: The science goals are broad. They are long term targets. The instrumentation plans regarding beamlines, *is what we do to reach those goals.*

Discussion of how the future of some programs are strongly affected by the Strategic Planning for the facility.

AS: ALS-U beamlines, and their science, is part of the plan.

At this point, it's good to be broad.
KG: the only risk is that the Strategic Plan promotes some project that the facility ultimately decides is NOT our priority and a program will be cancelled.
SK: We have to have our best guesses in there, and we have to have higher acuity as we go forward. This is what BES expects.
SK: By the next SAC meeting, we've promised to show the BL-by-BL, strategic plan for every program.
MM: 6-month-ish timescale.
SK: it isn't just instruments, it's people. Every group wants more people. We'll have to set priorities.

Activities and Resources (AS)

Someone is organizing an Energy Event. Is there anything else like this?
EC: We should really do Quantum Information Science (QIS)
CZ: Someone is doing GECO (Genetically-Encoded COmposites) LBNL initiative.
KG: Do it during the ALS Users' Meeting (ALS UM) because the infrastructure is all there.... Guidance I gave the IIG was that if we're going to do a ALS UM workshop to make sure that there are external people involved at the planning level, and that they could commit to being there and bringing people from their network. If we're going to do an internal meeting, let's do it independent of the ALS UM.
AS: Yes, but there's competition for people's attention.
EC: Think about your goal. He wants to bring people from LBNL together. As far as infrastructure goes, it's not that much additional overhead.
UEC is changing how they do things. Trying to *reducel* the number of parallel workshops. They want to limit it to 8 in the future. If there are many good ideas, they may try to reduce overlap. They could prioritize over multiple years.

Agenda:

10:00 am F Yang (Jinghua)
10:10 am J. Wu (Wanli)
10:20 am L. Melo (David)
10:30 am Discussion
10:40 am Updating the ALS Strategic Plan (Andreas)
11:00 am Adjourn

On team drive:

Science Council criticism of proposed beamline and endstation projects of significant scale

Science Council - Now that you have reviewed all 4 projects, please rank each project by selecting one ranking per project. Comments are optional. Results will be shared once all members have completed this task. Please respond by Friday, December 7. Thank you.

Some evaluation criteria (use comment section to respond):

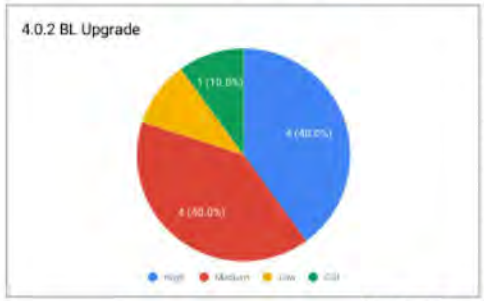
A) Will research enabled by this project have high impact, lead to transformational science?

B) Does this project serve a strong or growing ALS community?

C) Is this project necessary to maintain and significantly enhance the technical capabilities offered by an ALS program?

D) If there are alternate ways to reach all or some of the goals of a project, should the ALS choose the most cost-effective solution or the most technically advanced solution?

4.0.2 BL Upgrade	High	Medium	Low	COI
# of votes	4	4	1	1

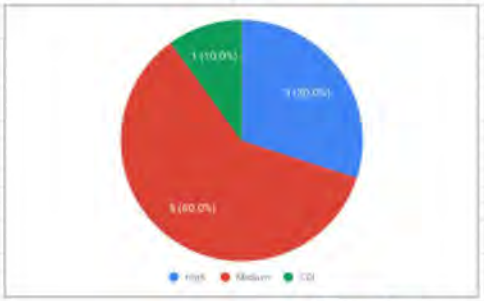


Combined Score

2.3

Scores (1-3, highest is best)

4.0.3 BL Upgrade	High	Medium	Low	COI
# of votes	3	6	0	1



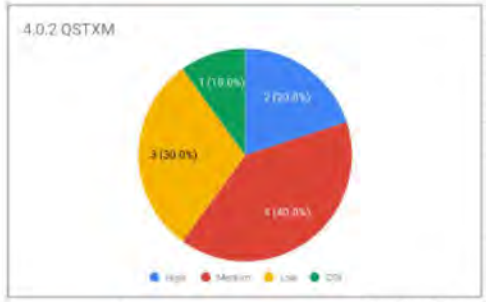
Combined Score

2.3

Scores (1-3, highest is best)

Priority
High = score 3
Medium = score 2
Low = score 1

4.0.2 QSTXM	High	Medium	Low	COI
# of votes	2	4	3	1



Combined Score

1.9

Scores (1-3, highest is best)

9.3.2 BL Upgrade	High	Medium	Low	COI
# of votes	7	0	2	1

Combined Score

2.6

Scores (1-3, highest is best)

Next few pages: Table of contents of strategic plans for

- ALS
- NSLS-II
- APS
- TMF

Structure of current ALS SP (1 or 5 y perspective):

1. Executive summary (1-5y)
2. Science intro (1-5y)
3. Instrumentation project summary (BL, Acc, etc) (1y)
4. Tools by area (5y intro, 1y update)
5. Ancillary capabilities (1y)

Structure of TMF SP

1. Executive summary and introduction (5y)
2. Research themes (5y, from general to specific)
3. High priority instrumentation projects. (1-5y, still fairly general)

Structure of NSLS-II SP

1. Introduction (5y some 1y)
2. Science priority areas (5y goals then status updates current projects 1y)
3. Beamline tables (1y)
4. Enabling technology/support (some 5y, mostly 1y)
5. Project table (1y)
6. Initiatives (1y)

Proposal for ALS plan update

1. Introduction (mostly 5y, about what we are and want to be, like TMF, NSLS-II) (Andreas, Ashley)
2. Science Thrust Area plans and Instrumentation goals(5y, like TMF, description and 5y goals including ALS-U goals) (STA chairs, IIG chair, 1-2 pages)
3. Current projects (1y, like now but minus 5y perspective)
    a. Accelerator (Fernando)
    b. Beamlines (Andreas with input from Mike, Howard, Ken, Alastair)
    c. Computing, User office, Instrumentation, etc. (Group/Program leads)
    d. Tables (Andreas)
4. Initiatives and 5y outlook (like NSLS-II, Andreas with input from STAs)

When? In time for SAC meeting, so draft by February 28.

Some areas to touch (in addition to broad goals, not trying to list all here):
Mat Discovery: MAESTRO, FLEXON, QIS, Beyond Moore's Law
Multiscale Structure: COSMIC, TENDER, Solid State Energy Storage
Chemical Transformation: TENDER, Water-Energy Nexus
EEo&Bio: TENDER, Genetically-Encoded COmposites

ALS Photon Science Projects

Development Commissioning

Source point	Project Title	Target commissioning	Partners & Funding	Scope and Notes
9.3.1	Tender energy spectroscopy	Started	JCAP, JCESR, ALS EQU	Upgrade vacuum crystal monochromator & optics; tender energy ambient pressure XPS at the solid/solid and solid/liquid interface
7.3.1	Soft x-ray spectroscopy	Started	JCAP, ALS EQU	Update monochromator; increase capacity for in situ/operando SXR spectroscopy; complements undulatorbased capacity on 8.0.1 and AMBER
7.0.1.1	Coherent scattering - XPCS	Started	DOE midscale, ALS EQU	Half-length undulator and SXR beamline for XPCS studies of spontaneous fluctuations in spin, quantum, and topological materials
6.0.1	AMBER	Summer 2019	PNNL, JCAP, JCESR, ALS EQU	Repurpose undulator; multimodal SXR in situ/ operando spectroscopy studies of catalysis, earth & environment, and energy conversion
6.0.1	*AMBER-2*	*TBD*	*ALS EQU*	*2nd branch for high-throughput spectroscopy*
2.0	GEMINI	Summer 2019	HHMI, LBNL, LBNL/MBIB	In-vacuum undulator monochromator; microfocus optics for macromolecular crystallography; advanced detectors; robotic sample handling
6.0.2	QERLIN	BL Fall 2019 ES 2020	Moore Foundation, ALS EQU	Repurpose undulator; soft x-ray RIXS beamline & double dispersion design for high throughput & resolution; spin & quantum materials

ALS Strategic Plan 2018–2022

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Science Council 9.10.20
Participants: Eli Rotenberg, Steve Kevan, Andreas Scholl, Alpha N'Diaye, Ethan Crumlin, Chenhui Zhu, Hans Bechtel, Jinghua Guo, Mike Martin, Martin Kunz, Aaron Bostwick, Alex Hexemer, Cheng Wang, Roland Koch, Andrea Taylor (notes)
Absent: Fernando Sannibale, Howard Padmore, David Shapiro

Agenda

1. Eli go over draft ta k for SAC & solicit feedback
2. Expectations for TA breakouts with SAC
3. Evolving TA structures
    a. Martin + Hans to discuss splitting the EEBTA into an EETA (Earth, Environmental TA) and a BTA (Biological TA)?
4. Reminder - update your rosters in advance of SAC
    a. QMRD, CMI, CT, ITA, EEBS = good to go
    b. Revisit elections status

Commented [1]: @altaylor@lbl.gov
Assigned to Andrea Taylor

TOPIC
Eli go over draft talk for SAC & solicit feedback

TOPIC
Eli - Expectations for TA breakouts with SAC

- Did not have time to prepare a slide template but provided bullets to focus on:
    - Regular business
    - Strategic Plan
    - Participation in DOE-LAB proposals
    - LDRD Process
    - Innovation Forums
    - Evolving TA structures
    - Responses to SAC comments?
        - Remember - if you say something, it's bc you want their opinion. If you don't want their opinion on something, don't ta k about it

TOPIC
Evolving TA structures

- Martin + Hans to discuss splitting the EEBTA into an EETA (Earth, Environmental TA) and a BTA (Biological TA)?

-TA is comprised of scientific areas that are vastly apart. The scientific differences are too far apart. This is the doc arguing for this
Steve K - reflect back on the operations part vs the science part. A lot of same challenges re getting professional development. Talk a lot abt the operational part but less abt the science part (Bio).
Cheng - part of SC is to start new ideas and get LDRDs. Q: re: biology beamlines, don't recall biological LDRDs going through ALS. Is this the case?

Eli - historically may have been some LDRDs...

Steve K- gets to the fact the LDRD process remains broken. Hard to get a LDRD that is purely shared bc one division has to choose to count it against their quota. Hate to see this get hung up on a dysfunctional process.

Mike - what is the possibility of the Biosciences Council formally becoming one of our TAs?

Steve K - that's ok, but there's a real operational bent to their meetings, less science. Would want to drive towards the science. Right now mostly a discussion between Andreas & Steve K.

Chenhui - if there is anything the bio folks want to achieve via the ALS SC, we can create a box, but will they participate?

TOPIC
David Pendergast [or anyone external] joining the Science Council?

- To lead a "Theory" TA *or* to be part of Management Members *or* invited on an ad hoc basis?
- Response to SAC comments that they want this [SC] to be a more diverse structure
- Steve K defers to SC advice

Alpha fears inviting people will erode the legitimacy of the SC. Another option is to invite a member of UC as a rep writ large

Eli - charter can be finessed - we don't want ppl with competing interests to be on thrusts

Ethan - step back. Asking how are we retooling or reshaping the SC. Holistically - what are our goals? How do we want to staff it? Paul Adams & David Pendergast can join TAs - fundamental structural question being posed here. What are the new strategic relationships and partnerships w how we want to shape the council? E.g. Ashley White is now working with ESA; she could be a bridge w/ESA; esp w/Charter Hill and other strategic partnerships

- Eli - do see value of adding a Theory Thrust & adding Ashley as a management member

Andreas
-The Foundry when they have LDRD discussions, form a red team including other ppl from other divisions to get broad input. This is a good thing to include expertise from other divisions. This doesn't mean they need to be part of the SC. Better that the SC is dominated by the TAs - the place where the input is wanted from other divisions, e.g. Pendergast. Solution is not to just put him in the SC.

Jinghua
-Not necessarily just David but to make a close connection between ALS & the Foundry would be a good direction for synergy and ties

- Eli - we cross cut but having little subgroups, like NAWI discussion a week ago. Cross cut ppl should show in multiple TAs if they prefer. Encourage TAs to make connections with those divisions, especially with the Innovation Forums
- Alpha agrees and encourages Foundry members to come to meetings when they are interested

Alex
-Reiterate what Andreas said - we can always invite ppl to the SC we feel we need guidance from. Not a fan of permanent ppl who are not ALS on the SC. Think it will bias our discussions if we have ppl from the Foundry. Invite when we have a good discussion point but not a fan of outside ppl on the ALS SC.

- Eli - agree but it's coming if we split Biology TA

Chenhui
-Agree w Andreas and Alex. Feels inappropriate to have non-ALS members to sit on ALS Council permanently. If we need to work w/David, then TAs can organize w/him. Re: the EEBTA - impression is existing TA is that Bio group doesn't come to TA

- Steve K - we do meet with the Bioscience Council regularly - tend to be purely operational vs science...that structure needs to persist - need to bring them into our operation fold, but still leaves a hole in operational thinking.

Cheng
-Anyone with an ALS science interest in their mind should be considered internal...the ppl strongly engaged w/ALS science should be open to coming. Also, MF & ALS are facilities, supposed to be science neutral, in that regard we are a lot more closely connected. Don't agree w Alex re: on conflict of interest. Key metric should be whether person is aligned with ALS mission, specifically around photon science

Eli - personally the way to get involved is to do so via the TAs as the primary way. Rather change the charter that if we want ppl of a certain category, we can elect them

SC Agenda 02.01.22

Topics

1. Fellowships (Ethan and Andrea)
    a. orientation in April - please plan on being present
    b. update on the next round of fellowships and dates - in discussion
2. Quick update on Colloquiums + encourage IC, AP, CMI to add to their respective pick list + reminder that every field is necessary for me to schedule (Andrea)
3. Crossing of LDRD proposals with STAs (Ethan)
4. SC Subcommittee updates (Ethan)
5. PS Group - rolling out TA updates (incorporating Science Council doc here) (Ethan)
6. Discussion regarding ALS beamline science priorities for operation and those for partnerships (Ethan)

AnW: Would it be possible to give an approximate duration for each topic (to make sure we reach the bottom of the agenda)? Fellowships are interesting, but other topics can be engaging too!

Suggested topics:

- (AnW) Knowledge Transfer and Documentation at the ALS
- (AnW) Efficient internal communication at the ALS (guidelines)
- (AnW) People leaving (Director, head of PS Dev) - can the SC provide guidance, what's the hiring process? How can we encourage a diverse pool of applicants?
- (AnW) There's a Major Item of Equipment in the pipes, should we talk about it? Is it too early?

Commented [1]: we did not get to these items

Minutes

Participants: Sirine Fakra, Ethan Crumlin, Moni Blum, Antoine Wojdyla, Greg Su, Juliane Reinhardt, Chenhui Zhu, Simon Leemann, Hendrik Ohldag, Nobu Tamura, Stephanie Gilbert Corder, Ashley White, Marc Allaire, Andreas Scholl, Greg Hura, Eli Rotenberg, Wanli Yang, Mike Martin

Topic

Fellowships:

-doing an onboarding during the beginning once they get onsite, and then an orientation a few weeks later. Will want hosts as well as SC there to join. More to come. (orientation scheduled 4/7, will likely move)

Fellowship cycles - more discussion coming

Topic
Quick update on Colloquiums + encourage IC, AP, CMI to add to their respective pick list + reminder that every field is necessary for me to schedule (Andrea) - reminder to build out your speaker lists so that we can use them to inform our colloquium schedule
-Andrea will better update on responses from potential speakers

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Topic
Crossing of LDRD proposals with STAs
-Presently the process is organic. Any feedback/comments/perspective on formalizing?

- Antoine - Agenda on STA meetings for possible alignment? (no - each TA is run differently)
- Marc - perspective is this should happen naturally, as it already is
- Sirine - for newer staff, guidance is lacking - could be more effective to provide more guidance

-Are people (in your STAs) requesting this [feedback]? *Doesn't appear to be the case*

- Stephanie - QMRD has had 1 mtg this year - could be it's just not been yet discussed
- Sirine - emphasizing formalization - timeline that expresses process and when feedback is provided - specifically from other staff who are thinking about potential collaborators who could help strengthen the scientific case
- Greg H - could be a mechanism for ALS staff to better collaborate with the full LDRD process - for leadership to emphasize potential science/instrumentation collaborations
- Andrea - reminder to use that tools that are being provided in this season's development schedule
- Ethan - possibly adding to the feedback form; "Do you think this could benefit from discussing with [X STA]/Are there STAs that would benefit from collaborating"?
- Emphasize that good for SC to participate in these mechanisms

-Re the downselect process:

- Chenhui - emphasizing transparency, need to better clarify how many LDRDs we are downselecting to
- Ethan - goal of SC: to develop, strengthen, and share goals - this should be the focus from beginning to end
- Eli - in the end, there are always more proposals worth doing than funding
- Andreas - difficult to say what the right # of proposals to advance to the ESA selection process. Ultimately the goal is this group should be given some choice, but also w/in context of some level of prioritization. In some areas, clearer guidance (e.g. early career). Historically around division track, ~4 proposals running. Giving the committee some choice, ~8 is a good #. But needs a degree of flexibility, and conscious of how many we are able to discuss at the ESA selection process. Ultimately v important we

develop these ideas early, bc they will mature and (ideally) get support through LDRD or other means. Not a waste of time to invest in this process.
    - Important early in to look at the long term strategic possibilities
- Andrea - reminder on next deadlines on the development schedule (Feb 7 & 10)

Topic
SC Subcommittee updates - Beamtime Allocation
-Outreach subcommittee is paused, for now

-Making progress on framing/thinking beamtime allocation

-partnerships and management group: thinking about how to pursue partnerships in parallel to what actual management is doing

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Topic
PS Group - rolling out TA updates
-we're getting back into incorporating SC updates at PS Group
-question to group: having STA presentations at these meetings?
-PS Group scheduling is open to being flexible for STA updates/engagement, whatever form that takes - this is a potential opportunity to socialize your STA w./in the broader ALS community
-For now - STAs will present if and when they want - we will not plan a formal schedule

Topic
Discussion regarding ALS beamline science priorities for operation and those for partnerships

-What are the types of BLs we have now that are well suited for partners, at some or full level? We're not deciding anything, this is to provide perspective

-Discussing now: what does the SC perspective look l ke at this point. Do we have any opinions as SC on beamlines for partnerships?
-beyond our scope to survey the ALS at large
-Eli - Complicated issue, esp as it relates to deficits in staff time/work life balance. To fund extra 1500 hrs we're having difficulty with, who is better at getting funding, us [SC] or someone else?
-Ethan - what are some of the metrics that we could we use in this evaluation
-Hendrik - tension of how long we know funding is available from outside partners
-Eli: we're not having any new greenfield beamlines at the ALS, all straight sections are occupied.
Eli: Partnerships have different flavors. In bio anyone can use a beamline, for other fields you need a consortium

SC Agenda 12.7.21

1. Fellowship applicant review (All)
    a. Review and update ALS Fellowship Program Review 2021 - 2022 in advance

2. LDRD updates/discussions (Ethan)
    a. Are there any known cross divisional or area ideas being generated?

3. FOA + FOA form (Ethan)

4. Discuss MSD Retreat

5. Subcommittee Updates (Ethan)
    a. Outreach
        i. Just starting
        ii. EPSCOR announced
        iii. MSI language provided
    b. Beamtime
        i. Just starting

6. Begin discussion on the future of strategic beamline science portfolio (Ethan)

Meeting minutes 12.07.21

Attendees: Ethan Crumlin, Stephanie Gi bert Corder, Antoine Woidyla, Hendrik Ohldag, Nobu Tamura, Sirine Fakra, Chenhui Zhu, Mike Martin, Greg Su, Simon Leemann, Andreas Scholl, Marc Allaire, Andrea Taylor, Ashley White, Eli Rotenberg, Moni Blum

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TOPIC: Fellowship applicant review (All) - Reviewing ALS Fellowship Program Review 2021 - 2022

Ethan - potential for flexibility, but the funding (pot of money) is not changing. Per Janice K, funding is: "5 doctoral & 3 postdoctoral is [redacted] (currently planned)"

April 1, 2022 is the targeted start date for both cohorts. Postdoctoral candidates must have degree before coming onsite.

Andreas - this is not the last call - if anything prohibits their joining this cohort, they can apply for the next cycle.

Ethan: Regarding application process: perhaps updating applicant language on the website to state something to the effect of ensuring their application is easy enough to understand for a broad scientific audience

Having alternates: in case funding is uncertain. Think of this review as opportunities for community building.

Postdoctoral Review: Prioritizing top 3 - Archit Dhingra, Aidan Coffey, Matthew Landsman. Moritz Lukas Weber: alternate in case first one does not receive funding?

- Aiming to alert successful candidates before shutdown. Archit pending decision will need to be made by January.

Commented [1]: note: ins itutional funding is unclear.

Successful candidates:
Archit Dhingra
Aidan Coffey
Matthew Landsman
[redacted]*
*poss ble alternate

Unsuccessful candidates:
[redacted]

Doctoral Review:

Successful candidates:
Christopher Perez
Chamini Shammi Pathiraja
Abraham Levitan
Michelle Devoe
Cissy (Tin Hung) Suen
[redacted]*
[redacted]*
*poss ble alternate

Unsuccessful candidates:
[redacted]

[redacted]

-Note: goal is to have 3 postdoctoral calls a cycle and 2 doctoral calls a cycle.

-Regarding feedback: unsuccessful applicants do not presently get feedback. This should be updated for future processes.

-Re: discussion on column B - thinking through populating info to highlight diverse/urm candidates - haven't come to consensus on metrics/evaluation criteria. Possibility of self-identification going forward, via a cover sheet? This would require appropriate HR vetting. Per Ashley - new cross-LS group looking at this issue via gathering questions from all Labs on how to ask these groups to self-identify. Could use this for future rounds.

[Action for next round]: cover page so applicants can optionally identify and/or express hardships or extraordinary circumstances. Random addition: The cover sheet could also include expected defense date/graduation date

Commented [2]: @altaylor@lbl.gov capture in Task Log
Assigned to Andrea Taylor

TOPIC: LDRD updates/discussions (Ethan)

Lightning talk (12/21): open to all from ALS, ESA office/leadership. People give short presentations of their ideas/connection points. Meant to be a teaser of upcoming LDRD proposals as well as access to other divisions for possible collaboration.

Ashley update: Lab increased focus on multi-area proposals, possible financial incentive for matching funds from Directorate. Still TBD.

Are there any known cross divisional or area ideas being generated?
-Chenhui: CAMERA; CMI TA is discussing amongst themselves on possible LDRD concept collab w/CSD + CAMERA.

-Marc Allaire: BioTA LDRD discussion is beginning 12/10.

-Ethan: if there are other possible divisions/connections, let us know so we can invite them.

TOPIC: FOA + FOA form (Ethan)

Please provide feedback

TOPIC: Discuss MSD Retreat (Ethan)

Need for more of an ALS footprint in MSD. Retreat is 12/8 - 12/10. **Encourage each STA to attend all of the talks relevant to their STA.** After this retreat, creating a way to provide engagement/feedback back to MSD; "call and response" format; where do we think our scientists can make an impact and what required - people, resources, etc? Aiming to have workshop between their retreat and their strategic planning event (tentatively scheduled for January).

MSD Retreat agenda link

If you don't have STA coverage, please let Ethan know asap. Ethan will resend email reminding folks about this.

TOPIC: Subcommittee Updates (Ethan)

a. Outreach
   i. Just starting
   ii. EPSCOR announced
   iii. MSI language provided
b. Beamtime
   i. Just starting

Not too much to report outside of noting these subcommittees have started.

FOA MSI language

- New this year: "applications are encouraged from multi-PI and multi-institutional teams that include the participation of MSIs that are underrepresented in the BES portfolio as well as researchers from groups historically underrepresented in STEM."

EPSCoR Announced

U.S. DEPARTMENT OF ENERGY | Office of Science

Department of Energy Announces $24 Million to Support Energy-Relevant Research in EPSCoR Jurisdictions

Research focused on fundamental, early-stage energy research in collaboration with the DOE national laboratories

Today, the **U.S. Department of Energy (DOE)** announced a funding opportunity for up to $24 million for new grants under the Established Program to Stimulate Competitive Research (DOE EPSCoR). The grants, to be awarded competitively on the basis of peer review, are aimed to help institutions in EPSCoR-eligible states to conduct research while building capabilities to enable these regions to compete more successfully for other federal

Thinking about strategies to build up relationships for FOA MSI and EPSCoR proposals

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TOPIC - Begin discussion on the future of strategic beamline science portfolio (Ethan)

This discussion will begin in January.

Steve K would like SC to begin discussing a strategic beamline science portfolio - creating partners, collaborators - what are some of the BLs that are primed for 100%? Fractionally? 100% ALS resource focused? What are the categories needed around these? Scientific motivations? What is the SC feedback on this from a strategic POV?

Shorter term, focus is resources we have in hand.

ALS Science Council Agenda 10.5.21

Attending: Eli Rotenberg, Andrea Taylor, Wanli Yang, Ethan Crumlin, Antoine Wojdyla, Marc Allaire, Sirine Fakra, Nobu Tamura, Ashley White, Andreas Scholl, M ke Martin, Stephanie Gilbert Corder, Greg Su, Hendrik Ohldag, Moni Blum, Juliane Reinhardt, Chenhui Zhu, Greg Hura

Welcome new members - Hendrik, Nobu, Simon (replacing Fernando)

SAC Updates - Andreas, Ethan

Fellowship Update - Andrea

Changing the Colloquium Series organization - Andrea

a. Comment from Slavo, previous organizer
b. Proposed changes/existing pain points outlined here

DOE outreach/funding opportunities - Ethan

c. SCGSR
d. EPSCOR State collaborators

NSF opportunities - Ethan

e. MRI
f. Mid-Scale Instrumentation
g. NSF Conference

ALS strategic Plan Updates - Ethan

Postpone to future meetings (tentatively)

- Brain storming across TAs for LDRD proposals - Juliane
  - We have a process, and maybe in our next meeting in November will go over this as it will be a little closer to kick off. However, LDRD (and idea/proposal thinking) is a continuous process so greatly encourages thinking and doing activities on this within STA's any time :)

- Writing white papers/ shovel ready projects - Antoine
  - Lets postpone to future meetings. I think its best we first start off with opportunities in hand, and grow towards something like this in the future and/or if we are given more specific direction in the short term.

- Leveraging the increase in federal funding to improve diversity at the ALS - Antoine
  - Lets start off with initiative in 6b and grow from there. Lets keep in the list for future opportunities and elevate when something specific comes up.

Commented [1]: From Slavo: "One comment I have is to talk to Chenhui and Hendrik, both are on SC now and both organized colloquia just before Sirine and I took over. They were the last ppl to organize it in "normal" pre-covid times, when colloquium was some hing pres igious and unique. For me the biggest problem with the current format is the online-only character seminar style - all that distinguishes colloquium from a regular ALS seminar is gone...That caused a dramatic drop in the speaker and audience interests, and made it very hard for Sirine and me to convince people both to give talks and to listen to them."

- Science Highlight selection - Ethan
- Science/Science Council 'Climate' Survey? - Ethan

Meeting Minutes

TOPIC - SAC Updates - Andreas Scholl

(SAC was 9.29 + 9.30.21)
SAC reports to M. Witherell - gives strategic advice. First day was dedicated to program reviews: Bioscience PRTs & Diffraction + Imaging. Advice to improve communication on ALS-U, schedules, concerns on beamline staffing & respective opportunities.

Second day was deep dive on budget; budgets are currently tight, ALS has lost a significant fraction on funding, esp as it relates to inflation + increase in expenses. Can't innovate as quickly, projects go more slowly. Intentionally a more private meeting bc we needed frank feedback on issues w funding agency, BES, asking Lab for help.

Andreas - ok to share slides from first day

Mike - SAC is pleased w the new structure of our beamline reviews. Dula was instrumental to that review structure success

Ethan - on our strategic plan - we have nice contributions from all the STAs - thank you!

Chenhui - budget on BL consumables?

TOPIC - Fellowship Update - Andrea

Website language has been updated:
Postdoctoral Program
https://als.bl.gov/about/career-opportunities/als-collaborative-postdoctoral-fellowship-program/
Doctoral Program
https://als.bl.gov/about/career-opportunities/als-doctoral-fellowship-in-residence/

Email is going out this week, either Weds or Thurs

TOPIC - Changing the Colloquium Series organization - Andrea

First: comment from Slavo - diminished value of colloquium being done virtually?

Antoine: doesn't feel value is diminished and that they are successful.

Hendrik: always a risk for virtual format for reduced attendance. We also lose the ability to get people here physically and show them around. Also, opportunities for speakers who do things unrelated to what we do, e.g. Higgs Boson (sp?) Maybe time to go outside the synchrotron world. In a virtual world, improved chances of getting high profile speakers. Widen the range of speakers to whom we reach out? "Getting outside of our bubble."

Eli: how widely is this advertised? Is it getting on calendars of management and others who set an example

Moni - the virtual format means we lose opportunities for 1x1s w/speakers. We have new tech - even going forward we should do this hybrid (15 zoom room)

Antoine - record colloquiums and post later? Per Ashley, ok to ask speakers if we can record

Greg H - if it's too general, ppl won't show up bc it's not in their field. Better to have a more unifying topic, synchrotron related. Attendance will also vary depending on if there is light in the ring.

Hendrik - perspective is that a given topic can be broken down reasonably enough at a level anyone (undergrad+) can understand

Mike - re: virtual vs non-virtual: the latter has a lot of draw for the social aspect; we want to return to this when possible. Virtual experiences can be good re not having to physically travel - if we make these series good and well advertised we can attract folks who don't usually join us. But we should return to hybrid when poss ble. Take advantage of the virtual format

Andreas - re speakers and their backgrounds: don't think we need exclusively synchrotron science, however should have some connection to what we are doing. The danger is these are interesting colloquia but not necessarily "consequential" (i.e. connected to our mission) - need to have some connection to our mission.

Ethan - good to review the value of this. This discussion supports the value of colloquiums - we're ok to continue virtually, w/an eye to the hybrid. We should record when possible. Interesting to have intersectionality on the different topics/speakers/opportunities available. To make it inviting and accessible to everyone, we can support the colloquium efforts. Let's be more free in our creativity

Commented [2]: @altaylor reminder to follow up with speakers on recording

Hendrik: Instrumentation, data analysis, data handling - topics that intersect w/ALS

This document describes current process & proposed overhaul

Andreas: I think the initial outreach to the speaker to get their interest would best come from the thrust chairs or their delegates - more likely to get them to come if they're being contacted by who they know. Then the admin team takes over to figure out logistics.

Ashley: develop two template emails? One to invite speaker to speak & one as a template follow up that loops in the admin team

Ethan: propose hybrid decision-tree: if it is the person w/a personal connection, follow the path that Ashley outlined. If not, Andrea/admin to send out email on their behalf

Antoine: warn against personal connections if this interferes with our ability to encourage diversity.

Sirine: staff interaction w/speaker is missing

Reminder to still socialize this list within your respective TAs

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TOPIC - DOE outreach/funding opportunities - Ethan

-SCGSR

- ALS has been successful on this in the past. 100% funded by DOE.
- Great way to build collaborations, take on new scientific challenges. Take advantage. This happens twice a year.

Eli - has a student coming for 9 mos next year but having difficulty finding beamtime shifts. Asking for contributions in beamtime shifts - Ethan - be using these times to think abt allocations

Andreas - any beamtime needs a corresponding proposal. Rapid-access is a little faster, more flexible, to give access to students w/o a general user proposal. Recommend writing a general user proposal first and if this does not get timed, then use a combination of BL scientist tie and rapid-access. Something to think about when SC reviews the proposal - does this person have access to beamtime?

Ethan - open to other processes and modalities? (Andreas - we have a process - expressed above - needs to understand how current process does not serve this community)

Nobu - expectation is having a substantial amount of time for beamtime. Need more than just a few shifts. Don't have a process to address this. As a host, you make a commitment to provide sufficient beamtime. Different from ALS Fellowship.

Ethan - clarifying: not unfettered access. The commitment should be mutually beneficial; collaborative & aligns w/what can be sourced appropriately.

Chenhui - assume every BL has 5% of dd and relatively flexible rapid-access time + scientist time. Would be nice to increase director's discretion (DD) or rapid access for relevant BLs. Also, there was discussion on setting some BL time aside for STAs + collaboration. Also, benefit of student station, they can potentially using beamtime if there are experiments that finish early.

Hendrik - these % of time are not set in stone; can be modified as needed. Don't think we need a new approach but better make use of the programs and time we currently have.

Eli - gets approached for SCGCR at least 1x/year and even if it's great, don't have the beamtime bc of other commitments. Guidance on how to turn down if this is the case?

Group collectively demonstrated interest in revisiting current approaches to reviewing beamtime allocation. -

Commented [3]: @ejcrumlin@lbl.gov will create actions around his
Assigned to Ethan Crumlin

-EPSCOR State collaborators

- Specific calls coming out that link to national labs specifically. Familiarize yourself
- Think about potential users, collaborators, colleagues who would be interested in collaborating
- Create list of the above ^ to target outreach
- We want to facilitate in advance outreach campaigns and activities so we can better articulate the resources we can provide them

Ethan - point is to find collaborators who may not know these opportunities are available. Isn't a lot of $ - has to go to the state, doesn't go to ALS bc we're not in an EPSCOR state

TOPIC - NSF opportunities - Ethan

MRI -

- Smaller scales, requires cost-share
- Could fund, for example, end stations
- Recommends we should target, on ALS-U endstations.
- Find partners that may be inspired by this future work; develop partnership.
- Cost share: we can't use federal funds, have to use specially designated funding - ideally we find several who are invested in this cost-share while the instrument is in situ here

Mid-Scale Instrumentation

- Larger scale, upwards $20mil

NSF Conference

- Looking to facilitate calls for potential proposals for conferences to vet out these potential future funding opportunities
- Way to engage w/the community and program managers

- Unclear if we can apply directly, but we can have partners and help facilitate. Will need to go through a university
- Leverage bio partners re: NIH, other universities for DoD - progress towards opportunities that are becoming available

Chenhui - possible for non-federal $ available @ the Lab? Per Ethan, probably for 1, but v limited. Per Andreas, cannot use operations $ for this, ALS doesn't have other sources of suitable funding. Lab has Lab Foundation that can support + some additional funding from UCB, but otherwise v limited. If there is a cost-share we need to know early, first discuss in ESA, and then the Lab to determine availability. Need to be strategic abt which request to pursue.

If you're interested - let Ethan know! Need to key up support systems to make this successful. Let's try to get this kicked off.

TOPIC: ALS strategic Plan Updates - Ethan

Final ask from this group on the strategic plan: Ethan will send an email w/the table from strategic plan table 3.1.2 table 4. Section 4 is where we can put our list of major initiatives, funding sources, things we would like to have and find funding for. Ethan will detail the ask in his email and ask this be updated within a week's time w/the high-level, big items you see as priorities. Will modify to break down according to STAs.

Per Andreas: it is >$1M, so not small projects. Maybe next meeting we can remind folks what our process is to populate this. SC has an important role in recommending projects for this list. Where we advertise where our larger scale instrumentation projects are. SC/STAs are the panels that suggest these lists. Discussion w/in STAs → discussion in SC → discussion by ALS management
(noted that 7.3.3 should be on this list on the timescale of ALS-U)

Meeting adjourned

ALS Science Council Agenda November 2, 2021

1. Reminder - want to get Colloquiums scheduled for next cycle - have your TAs be suggesting speakers in this document. Andrea will reach out to respective speakers and cc TA co-chairs from respective nominating TA - Andrea

2. Fellowship Update - Andrea, Ethan
    a. We need to agree on a set of criteria by which we are evaluating potential candidates - *refer to this and this for previous process*
        i. 2021 version currently being edited
    b. Andrea will provide packages of candidates in advance of Dec meeting for review
    c. Use this document for scoring

3. Getting ready to kick off LDRDs - Ethan [this addresses prior agenda item suggested by Juliane 10/2021]

4. FOA season is coming
    a. Recap/Debrief on FOA training (11.1.21)
        i. Copy of slides from this training
        ii. Internal ESA website w/process details, timelines, etc: https://sites.google.com/lbl.gov/esa-limited-submission-funding
    b. I would like to start getting list of our scientists/engineers interested in participating and/or leading FOAs together
    c. Let's start creating EPSCOR lists [partially addresses prior agenda item suggested by Antoine 10/2021]
        i. Would like to create a subcommittee to try and do some database work, comparing our user lists to various school lists.
    d. Would like to create a goal for our STAs for participating in FOAs
        i. Is anything needed to help reach these goals
        ii. Let's stay open to what requests (PI support, consumables/etc) we make as well as what we can provide (beamtime)

5. Beamtime Allocation Discussion
    a. Initial brainstorming regarding thoughts on beamtime
    b. Formation of subcommittee

Commented [1]: sign up for DOE notifications: https://public.govdelivery.com/accounts/USDOEOS/subscriber/new

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MEETING MINUTES

Attendees: Ethan Crumlin, Eli Rotenberg, Nobu Tamura, Hendrik Ohldag, Greg Hura, Simon Leemann, Moni Blum, Sirine Fakra, Chenhui Zhu, Juliane Reinhardt, Antoine Wojdyla, Mike Martin, Marc Allaire, Wanli Yang, Greg Su, Andreas Scholl, Ashley White, Steve Kevan

TOPIC - SC Meeting frequency - does current frequency meet need?

- To revisit at end of meeting

TOPIC - Colloquiums for 2022 are coming

- Please be socializing this document in your TAs so that we can get speaker recommendations - this is a living document that should be constantly updated
    - Andrea will reach out to whomever has made the suggestion - give them a template to use to invite speaker - will organize scheduling
    - Expectation is that whichever STA is hosting will both introduce the speaker and monitor the Q&A at the colloquium itself
- Marc suggestion - have seminars listed on ALS front page/landing page day of so that Zoom is easier to access

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TOPIC - Fellowship Update

- Program links:
    - https://als.lbl.gov/about/career-opportunities/als-collaborative-postdoctoral-fellowship-program/
    - https://als.lbl.gov/about/career-opportunities/als-doctoral-fellowship-in-residence/
- Current spreadsheet for tracking applicants and criteria

Re - legal eligibility - per Andreas, will need to apply for visa via IRSO - this usually happens after fellowship approval

Note - the ALS Fellowship Programs are for external applicants only

Frequency of calls we're aiming for - postdocs = 3x/yr, doctorals 2x/yr. Fellows can be eligible for renewal. We'll update on how many calls/when as budget is confirmed.

- Refer to this deck for more details

Hendrik - given the work that differs case by case, we should be considerate of the 70% threshold for onsite presence in fellowship.

Chenhui - having applicants/ALS host have a plan for beamtime allocation to meet this criteria.

Chat from Andreas: "These conversations need to happen early, ensure that postdocs have enough access through user proposals or BLS or DD time, ideally not just at one BL, can make samples at the foundry or together with other lab collaborators or have the resources to travel to their home lab for preparation."

Nobu - should fellows be doing user support?

- Per Ethan - this is not what they are hired for, but can certainly be engaged in user training, engagement, and mentorship.
- Andreas - postdocs should be participating in as many beamtimes as possible if they want to. Recommend noting these discussions in an FAQ document to address these questions, since they recur annually. All beamtime that is scheduled has to be based on a user proposal of some kind, which takes preparation and is not part of the fellowship process. When here, we can use that proposal to ensure fellow gets their allocation.
- Ethan - there's an opportunity to see how we can couple these two processes together

Commented [2]: @altaylor@lbl.gov @ejcrumlin@lbl.gov _Assigned to Andrea Taylor_

Ethan - Criteria document for 2021 is here. How to inform our criteria with IDEA input?

- We want to have this updated before our December meeting (when we review applicants)
- Be thinking of criteria as it relates to IDEA & increasing the diversity of the fellowship population

Antoine - SLAC as example - takes diversity + personal background into consideration in hiring process. Engage w/other facilities on how they approach this?

Moni - difficult to do for postdoctoral bc the hire happens before they apply. Onus is education of group to ensure hiring of diverse backgrounds. Easier to engage diversity criteria for doctoral fellows.

Ethan - there are restrictions for us to make decisions based on race, gender, etc. Useful to explore w/HR what can and cannot be considered. We can work to diversify our applicants to yield a more diverse pool.

Hendrik - given we are giving out stipends, are we bound to these constraints? Important to confirm w/HR.

- Steve - confirming these are affiliates & not hires. Important to get a broad applicant pool. If we have a broad pool, this diminishes the issue of diversity - having the bare minimum of applicants apply is the broader issue.

Ethan - we need to rethink beamtime. Need to start thinking about how we can connect beamtime to fellowships. Make this evaluation a goal for the next cycle. We can also add an IDEA statement for applicants in the future.

Moni - ensure that HR approves the recommendation of an IDEA statement - refer to ESA hiring guide.

Chat from Wanli: "Agree with Moni and I feel this is more on "us" when we choose our collaborators/candidates and when we vote. For statement requests from candidates, we also need to educate our candidate what IDEA is…"

Ethan - if you have more insight on the rubric we're using for evaluation, please let Ethan know. We'll also send a link for implicit bias training in advance of Dec meeting.

TOPIC - Getting ready to kick off LDRDs

Ethan - typically LDRD schedule is announced end of Dec. FY'22 Google folder link for reference. Screenshot from Ethan's slide of typical LDRD development schedule:

Ethan - Let's modify the process; proposed modification is to:

- Lead with the SCIENCE as opposed to the tool/endstation/BL
- Use the STAs to vet proposals - TA co-chairs should be thinking about more touchpoints w their respective TAs
- Every proposal should answer:

- What other science division/area can this work with synergistically?
- Who from other divisions (esp ESA) would you want to partner with to help advocate for this proposal?
- Is there an idea that's so important to an ESA/LBL division that they'd want to pitch it

- Instrumentation - has a play in LDRDs - making sure we're science-forward and connecting w/others in our area
  - Antoine - difficult for ICT to participate in the LDRD process bc it's not science-first; need to leverage ideas of cross-collaboration
- Steve - has made progress w/Jeff Neaton on the nuance of science-first w/o leaving the techniques behind.

Ethan - Proposed changes:

ALS Pre-Kick Off

-Have STA's initiate Brainstorming
-STA goals?
-at least 2 (or more) ideas/STA?
-Share templates, Goals, and rough timeline of events
-Plan to have 2-3 STA meetings per month for the next 2 months
-reachout to other divisions

-Start earlier - in Dec - gets us started w/ideas, formulas, and manners in which we can collaborate w/others. This should happen w/in the first 2 weeks of Dec
-STAs should be having 2-3 meetings mo to take advantage of LDRD + FOA pipelines.

Then - have an ALS LDRD Slam for quick, rapid feedback from other ESA leadership for feedback and partnership

This ^ all happens pre-holiday break.

Post holiday break:
-Checking in w/ESA/LBL leadership to get feedback from the slam.

-Want us to always ask: "can any of our ideas actually get strong enough support to go through another division?"

*Presently unsure about ESA/CH LDRD track for this year. Per Ashley: "LDRD will almost certainly be interested in supporting efforts towards Charter Hill, but we haven't decided if this will be spelled out in a separate "track" per se."

At some point we will need to consider a downselect process, if we get #s that are greater than 15. Feb timeline is when this will need to be considered.

TOPIC (briefly) - FOA season is coming

-If there are any potential topics/discussion topics not covered in yesterday's training - do we need more specialized training internal to ALS? If there are topics you'd like more discussion on, let Ethan know.

-Please be gearing up with your TAs on these topics.

SC Agenda 1.15.21

Agenda:

1) announcements - Eli

BLS participation in external (pre-)proposals.
20 staff members since April 2020

15 DOE proposals
4 NSF proposals
1 Chan-Zuckerberg

2) All TA leads will discuss the ideas put forth by their members.

- Link to spreadsheet

SC Agenda 03.01.22

Tentative topics:

1. LDRD final presentations tomorrow (go over scoring sheet, what to expect, etc) - Ethan + Andrea
2. SC Beamtime Subcommittee Discussion - Ethan
3. MIE - Steve

AWo: A word on COMPETES event?

Minutes

Participants: Sirine Fakra, Ethan Crumlin, Moni Blum, Antoine Wojdyla, Greg Su, Juliane Reinhardt, Chenhui Zhu, Simon Leemann, Hendrik Ohldag, Nobu Tamura, Stephanie Gilbert Corder, Ashley White, Marc Allaire, Andreas Scholl, Greg Hura, Eli Rotenberg, Wanli Yang, Mike Martin

Topic

LDRD Final Presentations

We will be going over the scoring sheet and what to expect.

Topic

Discussion regarding ALS beamline science priorities for operation and those for partnerships

For LDRD incorporate a feedback for the final proposals - here we will lets streamline for the future as well.

Eli will take notes - and also someone from the admin team if available.

Meeting notes for meeting minutes

Ashley Reviewed what happened with the VIP tour on Friday

LDRD final presentations tomorrow (go over scoring sheet, what to expect, etc) - Ethan + Andrea

Yesterday they had the practice rounds for LDRD. Almost all the slots have been filled which allowed people to give feedback and practice.
there will be slots on the calendar for review timing
They will look at the continuous proposals

second year and third year as well
Everybody can vote for about 6 of them. And so this we're hoping we'll actually start to create a distribution of proposals that have some you know kind of percolate to the top with regards to how we might think of our prioritization.

At the end we'll tabulate these results we'll look at how they stack up with the sentiment of the Science Council, and the kind of the vip members that are able to show up and participate and we'll kind of use that to formulate our prioritization and recommendations for our for management to consider for the next steps.

Previous version for the scoring sheet. The first block will be continuations and all in the order they will be shown tomorrow.
1. Continuous has not restrictions

Voting will be a Thumbs up or Thumbs down.

2.More important for ESA to enter their comments then send it to the Pi after the comments have been added. Ethan will pass the feedback back to them as a suggestion.

MIE (Steve)
Major Item of Equipment - Funding opportunities and used to purchase new equipment.
Ethan - Steve will be joining at the end to discuss the input or roll of the MIE.

Steve - How they are thinking about implementing this for the ALS.
1. Benchmark Study for the Eng. of sci. boosts support Enhance Opp for staff scientist, better integrate energy sciences research across a full spectrum.

2. Helps staff build collaborations,

3. Beamlines and partnerships which can help to stabilize the budget.

Plan for budget. - Comminson beamlines that are under construction and get some help from BES for for those items that are not being prioritized

How can BES help.
1 . Taking on the small projects, this can free up cash.

High priority
These would start in fy 24
They have not had the conversations for the larger projects.
Such as building endstations for ALSU

Opportunity to build the future of the ALS
We need to get the budget sorted so we can get more funding

Future strategy for managing the budget
- partnerships
- MIE
- Rebased lining.

Sub committees
Beam time sub commit activities.

they had meetings for strat on how change things and move forward
1. detailing out issue and concerns.

Dula made a doc to list out the areas of concern.
work life balance
Oversight, who makes decisions and control
Partnerships, range of partnerships and motivations.
Uniformity, and flexibility . strong estimate of beamlines not being staffed.
Ethics and Conflict. oversight how do we deal with conflict.

Is there anything missing?
Everyone seemed to agree with this proposed baseline.

2019-08

The SC met to discuss one postdoctoral fellowship case. The case was approved.

Agenda 2019_09

1) Ashley: highlights selection and web presence
   A) TA Mission Statements need to be finalized by date: 9/18/2019 in time for SAC meeting / web upload.
      a) Currently tacked onto the end of the draft charter
      b) Permanent home for the statements TBD.
   B) TA Rosters should be updated as soon as possible.
      a) Use this google sheet in the SC team drive

2) Eli: Plans for SC and TA participation in SAC meeting 9/26 and 9/27
   A) SAC Breakouts shall be attended by TA members and discussions led by TA leaders.
      a) 60 minutes, morning of 9/27, exact time TBD
      b) Can talk in detail about science priorities or other issues
   B) Plenary session 9/26
      a) 30 minutes set-aside for SC on 9/26 - TA leaders please attend
         i) ER to give summary
         ii) TA leaders please send ≤3 slides summary of TA and priorities (update of what we showed at the SAC breakout last spring). Do TA leaders want to give the slides, or should ER do it?
      b) 15 minutes follow up for SAC questions / discussion

3) Final discussion (as needed) of the SC charter, and (hopefully) a vote upon it. If we don't have a quorum (9 non-Eli votes) then we'll follow up missing attendees with an email vote.

4) Please confirm TA leadership plans (elect new TA leaders if necessary) before SAC meeting.

5) (if time) Discussion of TA mission statements

Agenda 2019-11-07

1) collaborative postdoc fellowships. Candidates:
    a) One new (Ahmad/Kunz) - Withdrawn
    b) renewal (Chen/Bostwick)
    c) second renewal (Shao/Chuang asking for 6 month extension for 2.5 years total).

Please review the cases at the shared drive in advance of the meeting, at
https://drive.google.com/drive/folders/1NWuWZwMOtE_R_ImUwLIbrNgQwkaF8awg

2) Discussion of SAC report's comments on SC.The relevant section of the SAC report is attached to the email. I'd like to discuss strategies to address the issues raised.
    a) "The composition of the science council (SC) should be broader given their functions, and embrace more scientific domains, job classifications, views, and demographics. We strongly recommend addressing this issue immediately, by including gender and racial diversity."
    b) The SC is also not broad enough in terms of expertise. The ALS management is composed of mainly photoemission condensed matter physicists, and so is the SC. This is, therefore, not a broad and inclusive decision-making team. As part of improving the diversity of the SC, the SAC also recommends inclusion of expert users as part of the Science Council to enhance the scientific discussions and improve access to funding opportunities.
    c) As such, the SC provides information to the Science Thrust Areas (STAs) about funding opportunities, but this is done by forwarding e-mail messages, usually too close to deadlines, and with no specific and constructive guidance on how to match personal skills, beamlines, and funding opportunities. The latter could be a main task of the SC. We heard from several STAs that this would be a wonderful addition to the SC's scope.

Science Council Meeting Minutes 4.13.21

Present: Eli Rotenberg, Roland Koch, Chenhui Zhu, Alex Hexemer, Ethan Crumlin, Mike Martin, Gregory Su, Sirine Fakra, Stephanie Gilbert Corder, Alpha N'Diaye, Martin Kunz, Ashley White, Alex Hexemer, Fernando Sannibale, Wanli Yang

Agenda here.

TOPIC: 1) Restarting the ALS Seminar series

A. Seminars at 3pm via Zoom
B. Cycle: half a year term for organizers, then rotate to new organizers.
    a. 2 speakers per TA? Aim for every week? Or 6-8 every 6 mos? 3 mini series: 8 weeks on, 3 weeks off; look for natural breaks l ke the summer
    b. Nominating speakers: nominated by the TAs with contributions from ALS-U + Accelerator Physics
    c. Working with UEC (who has their own seminar series)
C. Organizers - typically 2 people - right now is Sirine and Slavo were last organizers
    a. Folder for Google Sheets to track Seminar Speakers - this happens at the TA level
        i. Drawing speakers from user base and much more broad
    b. Tracking speakers based on demographics? Asking them to self-identify?
        i. Hit something based on an ALS value as opposed to identification? We should establish what we mean by those values; we would need to identify this w/intentionality.
        ii. Discussion on how we document this, metrics? Guidelines from the SC to the TAs and ask them to converge on 2-3 a cycle? Have the TAs rank based on shared criteria?
        iii. Having a diversity-specific talk 1x/2x a year?
    c. *Consensus*: not identifying speakers based on demographics but trying to pursue guidance around diversity and values in discussion. Guidance/guidelines should be clarified by the SC and criteria developed to provide to the TAs. Ask "why are you inviting this person?" that gets to the topic beyond just the science subject - give examples of what this means. Encourage speakers to integrate our core values into their talks.
D. Cycle in topics on Charter Hill
E. 1x1 meetings via Zoom - organized w/administrative support - sign up sheet of ppl who want to talk w/speaker
    a. In the past, TA who invited speaker leads this effort
    b. Consider these 1x1s the day/days *after* - both to mitigate Zoom fatigue and to have next level conversations based on the talk that has already happened.

*Andrea will put together guidance document and ask Council members to review and provide feedback

Commented [1]: Andrea will put together guidance document and ask Council members to review and provide feedback @altaylor@lbl.gov
Assigned to Andrea Taylor

TOPIC: 2) Response to FOAs

A. Upon whom is the onus in responding to these? Do we track them? TA leads, SC Chair (Eli)? Issue is urgency, e.g. white paper can be due a few days out from the call. Collective ALS response at all? Website where they're tracked/posted?
B. How do these tie into the Innovation Forums w/respect to their purpose (enhancing collaborations, aligning with BRNs?
C. What planning can we do before the FOA comes out? Work with ESA when they do know of BRNs and connect w/the Lab representative to have them debrief our facility? Can ESA do more to advise in advance of an upcoming BRN?
D. Start with a meeting based on who shows up - the pool of people who may want to lead on this?
E. SC role - encourage and support staff to participate in these - the actual *engagement* should be done by the staff, i.e. "teaching how to fish;" how do we prepare our scientists to feel confident and comfortable doing this on their own?
F. Consider attending BESAC meetings when they occur - input into ALS Calendar

Commented [2]: @altaylor@lbl.gov
Assigned to Andrea Taylor

TOPIC: 3) Start thinking about 2021 ALS-Innovation Forums

A. These should connect to cross-divisional collaboration and tie into our strategic plan
B. Please start thinking about these and involve Andrea in your planning

SC meeting notes 8.6.20
Attendees - Eli Rotenberg, Chenhui Zhu, Ethan Crumlin, M ke Martin, Jinghua Guo, Aaron Bostwick, Andreas Scholl, Martin Kunz, Cheng Wang, Ken Goldberg, Martin Kunz, Slavo Nemsak, Alex Hexemer, Andrea Taylor (notes)

TOPIC
Draft schedule for SAC 9.24 - 9.25.20
Eli -

- What does SC want to do for its 11 - 11:30 portion?
- Reserve short time for each TA; 3-4 mins reflective for each TA and 1 minute on the future
    - STA leaders will need templates to provide their points
    - Pre-SAC meeting w/TA leaders to go over the message
- Don't try to cover everything, rather the most important areas you want to touch

Commented [1]: @altaylor@lbl.gov remind Eli in 2 wks
Assigned to Andrea Taylor

Andreas - 2 breakout sessions; one for the IDEA committee and 1 for the TAs.

Ethan idea - 45 mins breakout sessions in series (as opposed to parallel)?

Andreas - important IDEA committee have larger discussion w/SAC members. Doing the series breakout sessions requires us to look at the schedule and see if this is doable. Might take some time away from the executive session.

Action - Andreas look at the overall schedule and make it work w/two 45 min breakout sessions. 1st breakout 1st day, 2nd breakout 2nd day. one for IDEA, one for SC.

- SC session at 11am, 30 mins for presentations, discussion for 15 mins, then 45 min breakout to follow. Then break for SAC starts at 12:30. Everything shifts back by 30 mins for the 1st day.

TOPIC
Strategic plan - refer to this

-Targeting August 17 for written contribution

-Discussion on the emerging beamline and endstation opportunities (refer to this)
-Purpose of this table is to explore the funding opportunities we are taking seriously in the coming year

Ethan's updates re: 11.0.2 upgrade - see the slides here

All - agreed to post the Strategic Plan as a collaborative Google doc and work on together

Andrea - will find the strategic plan docs from last year

Agenda 2012-12-01: **LDRD Time is nigh**

a) **Labwide LDRD 2022-** "Zero Emission Technology", led by EESA

S. K.: "Jeff wants to see something other than MOFs"

b) **ESA**: (blue=draft wording as per A. W., pending Horst Simon's approval)

• Proof-of-concept studies, driven by scientific opportunities in chemistry and materials, that motivate long-term research and capabilities at the envisioned Charter Hill campus.

• Especially encouraged are proposals that develop and demonstrate "lab of the future" concepts. These may include approaches to outstanding challenges in basic energy sciences that closely couple theory, computation, synthesis and fabrication, and characterization, and that leverage data, artificial intelligence, machine learning, and/or robotics — for example, to enable automated and accelerated synthesis or understanding and control of materials phenomena and chemical transformations across multiple length and time scales.

E.R.: not a do-over of the just-expired LDRD. It should be proposed in the context of the past work (e.g. complementary to it, or building upon it).

• Concepts that have the potential to leverage the brightness and coherence of the upgraded ALS and emerging capabilities at the Molecular Foundry are also of particular interest. Multi-PI, cross-divisional and cross-area teams are encouraged.

E. R.: We can expect fewer LDRDs "double-sized" to encourage the development of strategic, multi-PI, and inter-divisional LDRDs.

c) **How many can ALS expect this year?**

- Last year, we had ~11 going into ALS ranking, sent 8 to the ESA and got 3 starts (plus 1 EC-LDRD)
- This year, we could expect between 0 and 1 new ALS-led "regular-sized LDRD " starts
- Does ALS have any priorities on "regular-sized LDRDs"?
- We can hope to participate in the lab-wide and ESA-wide priority topics

d) **Review last year's calendar**.

- Re: covid impacts on what we're asking for:
  - Re LDRD that has already been funded and if additional funding is needed - Andreas is not aware of special policies re COVID extensions. The ALS has supported those extensions by operations money. It should not play a role in the next cycle, but continuations *are* a high priority, so they continue for another year if they need to.

e) **This year: changes to the process?**

- adding the kickoff meeting Dec 15th
- guiding the topics
- limiting the number coming out of ALS:
    - suggestion: ≤ 2 per TA going into ALS ranking?

-Horst will provide additional information via a town hall the week of the 14th, we will know more on $ and #s by then

-May need to reschedule

f) **EC-LDRD (early career)**
- Expanded Pool: PhD's granted back to 2013 are eligible to apply
- ALS should have a separate track for these?
- All LDRDs from eligible staff should go this route?

g) **Agenda for 12/15 all-scientific-hands meeting**

I can give a presentation on points a-f above and then take questions.
At that time, a calendar with dates and completed guidance documents should be available.

RE - postdoctoral and doctoral calls -

- Postdoc - Announce to staff in Feb that we are going to have the call and having proposals reviewed in March
    - Will be 2x a year
- Doctoral - announcement in May and cycle begins in June

Science Council Meeting

2019-05-02, *Notes by Ken Goldberg (KG)*

See adjoining file for agenda.

Eli Rotenberg (ER) has been announced this week as the Chair of the Science Council.
Send Agenda items to ER.
ER is going to organize the meetings, notes, etc.

Strategic Plan
Andreas Scholl (AS) got feedback from 3, but is missing 2.
There's still a window of a very few days for updates.
Q: Will the draft be discussed in the Council meeting?
Writing: Andreas was hoping the writing of the individual thrusts would be done by those thrusts.
KG: Are we going to do a self-consistency review?
AS: Lengths will be OK. Style… it'll go through Ashley's hands in the end. She'll make sure it'll look formally good.
We'll be done with writing soon.

Fellowship Applications
We expect Candidate to provide {CV, publication list, statement of research}
BL Scientist provides a letter of recommendation that provides context: *How it ties to the strategic plan. What's different from the ordinary postdoc that comes to our beamline? Why are we supporting this one, and how does it tie to the mission need.*
While there is a template for the slides. Not everyone used it.
There's one case without a BL Scientist letter. That's a continuation one.
COI (Conflict of Interest) discussion. Today's candidates are few (three) and corresponds to the expected number of slots available. But in the future we may be voting on the priority, so do please disclose if you feel you have a COI.
There needs to be a **collaboration aspect**. Not just a user.
Diversity: This is a key area where we should focus because it's the pipeline: we see this as a BL scientist pool of the future. Going forward, we need to tell the BL scientists and collaborating PIs that they'll have a better chance of success if they consider this.
Voting: If there's ~8+ applications, we might need a more elaborate voting system. Today there's only 3 candidates.

There's some discussion about the budget.
- Lower boundary is [redacted]/year. (This is an internal rule, just guidance).
- Not more than 50% from ALS. (Not a hard rule for us. Might be a rule for the sponsoring agency in order to provide benefits.)
- Benefits to be paid by the collaborating institution.

David Shapiro (DS) remarks that he always pushes for salaries to be on par with ALS.
Discussion of this point. AS: They are hired not by us, but by their home institution. We don't need to make them equal to ALS postdocs.

Ethan Crumlin (EC): We should have our best efforts to have a sufficient salary to be on the ballpark.
Some discussion of how we make sure they are paid enough.
These rules seem to constrain us. If we're not allowed to pay > 50%.
KG: We should have clarity on this point by the next meeting.
DS: Every postdoc we've had has been paid the ALS amount, and we get there by getting the institution to pay more.
(We need an action item to resolve this.)

Science council 10/11/18

Written from memory by AS

Attended:

- Andreas Scholl
- Elke Arenholz
- Howard Padmore
- Jinghua Guo
- Michael Martin
- Martin Kunz
- Valeriy Yashchuk
- Eli Rotenberg

Agenda:

- Discussion of SAC meeting outbrief: in particular about "Communication", "Resources", "Strategy"
- Science thrusts
- Charter
- Any other agenda items?

(slides in SC_10092018_AS.pptx)

Schedule/Time of meetings:

- Poll when members are all elected, trying to avoid lunch
- Nov meeting is scheduled for fellow selection
- Dec meeting intended for project discussions (will ask Steve to attend so that he hears SC's advice)

SAC feedback discussion:

- Guide about common processes and with answers to frequently asked questions (how to request fellowships, etc.)
- Regular all hands meeting needed to explain new leaderships vision to staff
- BL scientist Brown Bag meeting should now be part of regular PS seminar
- No additional meetings between programs and leadership seen as needed at the moment

Science thrusts, IIG, charter:

- EE/Bio request change to membershift rules to create more interest for the non-ALS community to join the thrust
- Discussed possible new rules, possible solution may be to remove the affiliate status but leave the restriction that only ALS staff can be members of the Council since the Council participates in the prioritization of ALS resources.
- Andreas will propose an update to the charter and a vote will happen afterwards (probably by email or google form).
- Thrusts need help to onboard members and communicate with the lab community (e.g. ALS- level 1 and associates list, Andreas will talk to communications group how they can help)
- Votes don't need to be repeated if groups already determined their 2-year leadership
- Discussed whether a IIG is a good idea, Andreas will come to a PSDev group meeting

(most instrumentation scientists are in this group) to discuss the proposed charge for the IIG.

Science Council Agenda 01.05.22

1. Fellowship application process feedback (Ethan/All)
    a. This is an evolving process, it will be good to discuss items to potentially improve in the next cycle.

2. Subcommittee Updates (Ethan)
    a. Temporarily paused but restart this month!

3. MSD Retreat Follow up (Ethan)

4. Funding opportunities
    a. EPSCoR
    b. EFRCs
    c. Hubs (Hydrogen?, JCESR 3.0?)

5. LDRD next steps (Ethan/All)
    a. Feedback on LDRD Lightning Talks and process?
    b. Proposed LDRD schedule for this year
    c. FY23 LDRD Call for Proposals and ESA FY23 LDRD Partnering Tool
    d. ESA LDRD Town Hall 1/11 - add to calendar

6. Continue discussion on the future of strategic beamline science portfolio (Ethan)

Commented [1]: Did not have time for his item

Meeting Minutes 1/5/22

Attending: Sirine Fakra, Andrea Taylor, Eli Rotenberg, Moni Blum, Ashley White, M ke Martin, Nobu Tamura, Juliane Reinhardt, Ethan Crumlin, Stephanie Gi bert Corder, Simon Leemann, Wanli Yang, Greg Su, Hendrik Ohldag, Antoine Wojdyla, Chenhui Zhu, Andreas Scholl

TOPIC

Fellowship application process feedback (Ethan/All)

- This is an evolving process, it will be good to discuss items to potentially improve in the next cycle.

Ideas for improvement/feedback -

Andrea: providing applicants feedback on why their application was not successful

Greg: diversity of science backgrounds means in future, make it clear to applicants the importance of communicating to a diverse audience

Eli: reminder to staff this is collaborative; staff writing support letters should describe how this is collaborative

Ethan: 1) we don't ask for a statement from ALS staff/host for the doctoral candidates - should update this requirement. 2) use Google form for SC ratings for each potential applicant 3) in application, something for applicants to self-declare re - diversity, however we identify that

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TOPIC

Subcommittee Updates (Ethan)

- Temporarily paused but restart this month!

Will get these scheduled over the next ~2 weeks

TOPIC

MSD Retreat Follow up (Ethan)

Ethan in discussion w Mark on how to follow up on this event. There's opportunity for inclusion of ALS staff w/in MSD activities. Possible convergence in identifying opportunities for ALS staff to respond w/how we can be included/make an impact in those programs/initiatives w an emphasis on the future. "Call and response"

Hendrik: agrees sounds like an innovation forum. Could do a dedicated IF between ALS/MSD. Potentially find 3-4x over 3-4 weeks for 2hr slots?

Chenhui: 1 meeting for all MSD or smaller, more targeted subset meetings?

Ethan: need to move quickly bc of MSD timeline. Short event, I ke LDRD mtg, half-day (?) but focused. Would need to do w/in next few weeks. Their "brainstorming" is prep/documentation for triennial review for division activities + in anticipation of a request from DOE to update their strategic plan. MSD Jan retreat = vision for future of their programs.

Format for potential event on ALS-side: 10 min presentations on technique/area of focus, 5 for how you can make an impact on respective MSD program

Andreas + Eli: support idea - ALS collaboration as well as presenting on technique/capabilities

Ethan: will try to get this going w/in next ~2 weeks

Antoine: ideas on what specifically we want to showcase?

Ethan: each individual who's interested has opportunity to share whatever their speciality is - MSD presentations are shared - we review those, screenshot from those slides (e.g.) and respond w/how you can respond to that w/in next ~5yrs. They need to see how this is not a user program

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TOPIC

Funding opportunities

1. EPSCoR
2. EFRCs
3. Hubs (Hydrogen?, JCESR 3.0?)

EPSCoR call has gone out - any feedback?
-no financial resources, but students. Good way to diversify portfolio/funding streams + workforce + collaboration

<u>EFRC call has come out</u>
- town hall Jan 7 at 9am. Pre-app due Jan 21, Lab can submit 2 more as planning to renew quantum

- there should be some activity at the Lab + other institutions across the country. At LBL:
  - Clean energy tech (Adam Weber)
  - Advanced Manufacturing (Brett Helms, Joel Ager)

-Encourage STAs to be assertive of any outside of LBL to be a co-PI/collaborator on proposals (Can't lead more than one)

<u>Hubs (Hydrogen?, JCESR 3.0?)</u>

Hydrogen regional hubs: LBL possible participant rather than leader
Energy storage hub: prepping for anticipated opportunity to renew JCESR in partnership with ANL and PNNL

Updates forthcoming

TOPIC

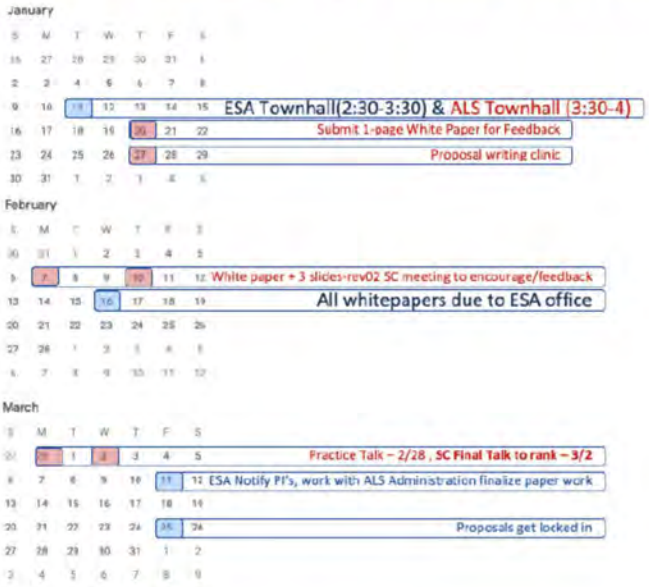
LDRDs

LDRD next steps (Ethan/All)

- Feedback on LDRD Lightning Talks and process?
- Proposed LDRD schedule for this year

- FY23 LDRD Call for Proposals and ESA FY23 LDRD Partnering Tool
- ESA LDRD Town Hall 1/11 - add to calendar

Proposed ALS LDRD 2023 Schedule



Commented [2]: -Updated to have white paper + 3 slides due on the 7th and have an additional SC meeting on he 10th Feb to collate feedback, discuss discourage/encourage. Google form will be provided for SC to provide feedback by morning of the 10th

Review above for proposed schedule

Ashley: new white paper template for this year - will get to more strategic components involved to help guide proposals

Ethan: will extend offer for ESA rep to attend ALS proposal writing clinic

Hendrik: important to have honest feedback re: potential of proposal advancing.

Re: discouraging proposals - possible need for discouraging prior to the ranking/rating process midrange in the process (before sending initial drafts to ESA).

Andreas: impractical to have more than ~6 advance to discussion w/ESA leadership…(supports discouraging "dead on arrival" proposals for this reason)

Ethan: propose red/yellow/green light review, any in "red light" get discouraged, others receive active feedback

Feedback from LDRD 12/21 Lightning Talks:
(feedback content here - internal to SC - do not share, Andrea + Ethan will share with presenters)

Any feedback from the event?
-Seeing that some could be merged in the early stage = very useful.
-Interesting to see polished vs unpolished proposals
-Wanted more time for questions, less for presentation
-Not many (16) used response form

Science Council Agenda + Minutes 8/3/21

Attending: Ethan Crumlin, Sirine Fakra, Martin Kunz, Eli Rotenberg, Wanli Yang, Chenhui Zhu, Greg Su, Moni Blum, Ashley White, Greg Hura, Alex Hexemer, Alpha N'Diaye
Absent: Andreas Scholl, Fernando Sannibale, Stephanie Gilbert Corder, Steve Kevan, Mike Martin, Marc Allaire

Agenda

- Welcoming Ethan as new SC chair
- Introducing new CT co-chair Moni Blum
- Updated strategic plan sections
- Colloquium series
    - Need BioTA & QMRD TA chairs to either select members to organize next Colloquium series or do it themselves
        - Update: Sophie Morley for QMRD
- Discussing Triennial Review outcomes (Eli and Ethan)
- Short update on restarting fellowships (Ethan/Andrea) - focus on call for Postdoctoral fellows - charting out timeline
- Elections for TA leads - need to happen by September so that new person can start Oct 2021
- Innovation Forums Review
    - Review upcoming forums through Dec 2021
- Open brainstorm session for SC Future Goals, activities, etc.

Meeting Minutes

TOPIC: TA Lead Elections

-We have a process right now that we are looking to make more robust - work with Andrea to run your elections.

-September: we will revisit this topic in Sept. We can name interim leads if needed. Process in Sept w/transition point as Oct.

-EEBSTA is soliciting replacements for Martin Kunz

-Terms coming to an end: Martin Kunz, Chenhui Zhu, Alex Hexemer, Roland Koch, Alpha N'Diaye

-Co-chairs have to be full time ALS staff

TOPIC: Strategic Plan document updates

-Needs to be wrapped up by September. Andreas has final say on this.

-Document for updates - 2022 Strategic Plan Sections 2.1.x

- Once Andreas has final, ALS Comms edits the final version and posts to website

-**Action: Soft deadline: Monday the 9th** for TAs to input final edits. Ensure that efforts are focused on your section of the STA.

-Suggestion: cut off editing after 9th deadline. Direct us to latest version of updates if you are working on a separate version.

TOPIC: Colloquium Series

-Colloquium organizers for the next series coming from QMRD and BioTA. We have Sophie Morley (QMRD), Michal Hammel (BioTA). Andrea will reach out to organizers to get the process started.

-Cycle: 8 speakers and we have 6 TAs. Goal is 1 speaker per each TA. Colloquium materials:

- Colloquium Series Scheduled Speakers & Dates
- Colloquium Speaker Pick Lists
- ALS Colloquium Series - Guidance Document for Organizers

TOPIC: Restarting Fellowships

-Update for now: discussion is ongoing. Focusing on hopefully postdoctoral program restart. Is on the radar of Andreas who is fleshing out the viability of this restart from a fiscal and operational perspective.

-Goal: clarity by our next meeting on both Postdoc and Doctoral. Hope is to start process in Fall for bringing people in during the spring.

-**Action:** if you have candidates in mind for either program: Discuss within your STA to see if people are interested and have been inquiring. Advise Ethan.

-Possible for an April 1 start? For students.

-Misc: update website to switch Eli's name to Ethan's for SC chair.

TOPIC: Innovation Forums

-Chenhui's group is hosting one soon - website here

-Greg H, BioTA: may have one post UM? Format is flexible, but should structure around ALS Goals/Resources/Strategies/Future Opportunities. Greg f/u with Ethan and Andrea.

-Draft document on Innovation Forums - Andrea and Ethan to revise/update

-Alex: BES upcoming call for scientific/computing infrastructure - $10mil. IF around this? Everything from physics to MSD. Andrea/Ethan will follow up with Alex (organizing with CRD)

- Target Nov 2021

-Goal (Ethan): think through our processing on IFs - make them more strategic. Discussion through SC to vet strategy/discussion on IFs. Do we need an approval process for something we brand as an IF?

-Agenda item for Sept meeting: rough outline on IF speakers/framing/etc

---

TOPIC: Open brainstorm session for SC Future Goals, activities, etc.

-Proposal training/writing session - limited access of ALS successful proposals. ESA has wider array/exposure for successful whitepapers. Inviting people with many years of proposal writing behind them would be useful. Panel of PIs to discuss experience?

-How we strategically work with others, e.g. as co-PIs. Work w/Andreas, Steve, Jeff for facilitating these discussions and having an integrated approach/plan.

-Ethan to work with Ashley in ESA for internal planning and long term engagement

---

TOPIC: Triennial Review as it relates to SC (Eli)

-Review committee was very curious about what the SC does. Eli's perspective was we don't lead anything but discussions and give advice (e.g. on fellowships). TAs have an important role to originate LDRD ideas for SC to coalesce and promote upwards. Votes w/management in some areas like LDRDs. Management members who don't uniformly come to meetings nor vote on projects (role of SC). Response from committee was positive; Noted not all staff understood what SC is/does. Per Eli per triennial reviewers, SC is a novel concept.

-Eli idea: possible survey on SC w/respect to development, feedback, feasibility, strategies, etc

-Succession plans: strategically orienting in SC for future development - be thinking about this as it relates to distribution of short, mid, and long term planning. Some users can participate in this w/respect to looking ahead; leverage those relationships.

Commented [1]: @ejcrumlin@lbl.gov @altaylor@lbl gov _Assigned to Andrea Taylor_

Commented [2]: @ejcrumlin@lbl.gov @altaylor@lbl gov _Assigned to Andrea Taylor_

-Voice of SC: involvement in strategy (Ethan) without sacrificing innovation (Alex). Persistent, innovative, adaptive.

Science Council Agenda 10.6.20

1-Proposal to restart postdoc fellowship program

- What changes are needed in the covid era?
    - i.e. do we need to narrow the eligibility?

Proposal: each application should have a "Covid plan" co-signed by BLS and candidate > Feb 1 startup; time for getting started before beam returns

- √ existing badged local or near-local postdocs
- ? long-distance training
- ? training with respirators
- ? 14 day quarantine on arrival
- ? work exclusively on-line
- no foreign travel; foreigners will be considered depending on conditions during the application process

2-Finalization of Biology TA ("BIOTA"?)

bi·o·ta | bīˈōdə |

noun *Ecology*

the animal and plant life of a particular region, habitat, or geological period: *the biota of the river*.

ORIGIN

early 20th century: modern Latin, from Greek ***biotē*** 'life'.

3-Discussion of changes to the SC charter

- Addition of "ad hoc" members, and clarification of their duties and voting rights. e.g. we have invited non-SC members at the LDRD ranking meeting.
- Should the management members of the SC have voting rights? Andreas has raised this issue because they also have a direct line to ALS directorate decision making.
- Are any changes needed to "who can be a TA lead" esp. in light of the new BIOTA.
- Feel free to bring changes for discussion or as soon as possible, put the changes in the google doc in "suggest" mode.

TOPIC - Restarting postdoc fellowship program

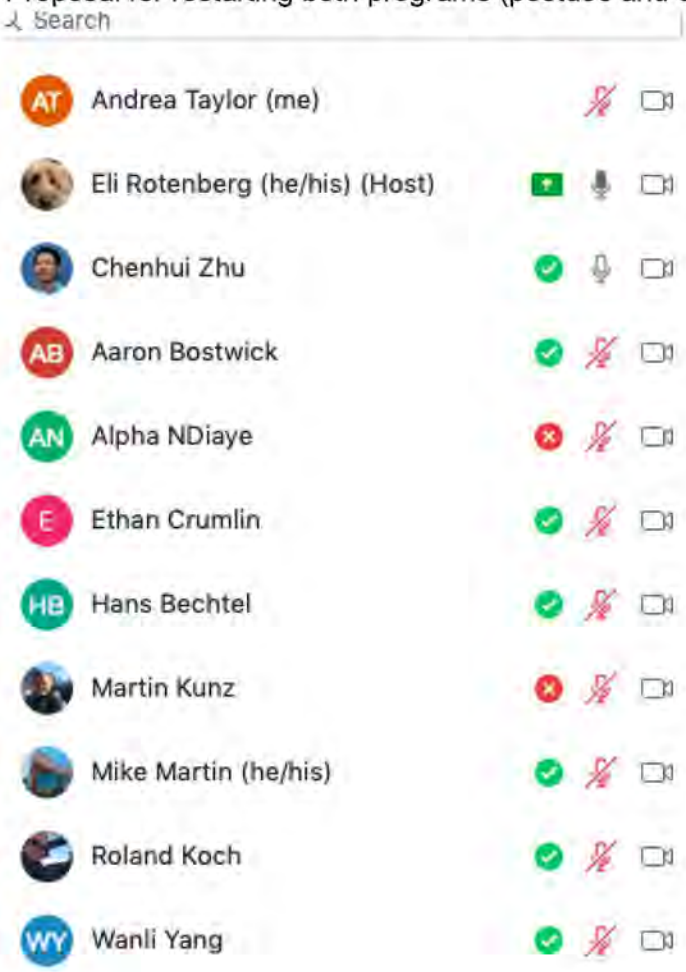
Propose a February start. Clear plan for engaging in program (Covid plan, remote options, training with respirators, etc). International applicants status unclear re rules in entering the

country. Lab process quite onerous. Need clear wording re: foreign appointments due to foreign travel restrictions. “Any foreign traveler welcome to apply understanding current constraints...delay fellowship to the next cycle?” Language should be clear yet supportive.

Martin - we had some positive experience with a Marshall Fellow doing experiments remotely. So for certain projects that are mainly focused on taking data (as opposed to develop instruments), a remote mode might be thinkable.

Doctoral program restart? Eli will f/u on this - call in Nov? Continue but higher bar? Generally discussion is less enthused re: restarting doctoral program. Call for both programs?

Vote:
Proposal for restarting both programs (postdoc and doctoral) - vote result:



TOPIC - Splitting EEBSTA - TA votes yes. SC votes unanimous yes.

Interim person to lead the TA - Eli nominates Hans.

Advertise existence of new TA - Biology TA - "Biota"

- Hold first mtg, invite anyone interested in being a member/affiliate, in mtg first thing is to pick leadership/write charter/define purpose of TA - aim for end of Oct
- How does it work relative to Biosciences Council? Eli - talk to Paul Adams. Bio TA leaders will need to define what they are and what they are not. Clear delineation between operational needs and these respective groups.

TOPIC - SC Charter revisions
-Management voting rights,etc

-Andrea/Eli will put together list of proposed changes via this doc - send out for comment period on proposed changes - then vote on whether to proceed. Vote on approving the Charter revisions via Google poll, aim for end of this month

-Change ITA to ICTA

Part II, C, re "ad hoc" attendees - framing as strategic partnerships adding to our portfolio. Control by who gets to vote and what they get to vote on. Hard stop @ external to LBL membership.
Ethan - adding Ashley is a source of strength/conduit to ESA leadership
Alpha - how to connect to the rest of TA members? SC vs TA, general or management perspective yet ownership of ALS process?

Voting and ranking - should management members/SC chair abstain? Or does it depend on the topic, e.g. LDRD rankings (where strategic input from PRTs is useful)? But not voting on programs etc, because they would essentially vote twice. Boundary line = where large projects start. SC Chair continues voting privilege (unanimous agreement).

Science Council Meeting Notes - 06.01.2021

Attending: Andrea Taylor (minutes), Alpha N'Diaye, Chenhui Zhu, Eli Rotenberg, Ethan Crumlin, Gregory Su, Mike Martin, Martin Kunz, Roland Koch, Sirine Fakra, Wanli Yang, Alex Hexemer, Greg Hura
Absent: Ashley White (out of office), Howard Padmore, Stephanie Gilbert Corder (out of office), Andreas Scholl, Marc Allaire

Agenda
1+2) Innovation Forum Planning and Strategic Plan Call for Input

*See ER's slides here for the topics on #1 & #2 below.

TOPIC - 1. Strategic Plan Call for Input

Action Item: TA leads should provide final versions of Strategic Plan sections 2.1.x by COB Aug 2. Please edit the document at this link, Reference the 2021 document at this link.

Audience: DOE program managers, scientific user facilities management, ALS users, ALS staff.

Important to examine this Strategic Plan document every year to ensure that we're aligned with strategic priorities. Focus on the science and don't talk about funding opportunities if they don't actually exist. Talk about capabilities you want and what would be needed.

Please have this done by August 2.

TOPIC - 2. Innovation Forum (IF) Planning

Action item: start planning

Why? Internal looking: focusing on partnerships to respond to FOAs such as DOE LAB-FOAs, Charter Hill, etc. Idea is to get these partnerships in place BEFORE funding opportunities are announced.

Who? Whomever you think will participate in FOAs. Can include external partners to LBL (e.g. UC, etc)

Note - these are complementary to the User Meeting workshops, which are typically less focused on funding new opportunities and more on exploiting science areas.

Note - the IFs are a tool to help TAs build partnerships for projects at all scales.

- They should focus on new ideas, long term thinking, expected funding opportunities. Goal should be less on how to explain your new techniques.
- If you can generate a written report in favor of new ideas, this can be useful to help elevate from idea to funded project.

Timeline? Plan them within Fall if possible…there is no set timeline, this is to get us started thinking about these forums.

Suggestion: Follow up after IFs? (Chenhui)
How to capture the ideas and dynamic changes generated in the Innovation Forums, beyond just publishing a post-IF report? Ideas: a working group that meets to review the post-forum outputs and follows up on them.

Suggestion: Charter Hill cross-TA Innovation Forum (Alpha)

TOPIC - 3. Upcoming Triennial Review

Action Item (Eli): To provide templates for talks. Pending word from DOE that they are happy with the agenda.

Action Items (TA Leads): identify science topics for presentation. The format is not settled; we are considering A) zoom poster session, or B) zoom lightning talks session. The focus is on staff-led science.

The triennial review agenda is currently being reviewed and pending DOE approval. Think about what science topics you'd like to present. After DOE clarifies the format (lightning talks vs posters) we will confirm and send out templates for either, depending.

- Suggestion: presentations before discussion
- Suggestion: keeping the Zoom meeting open for people to continue discussion and having something like "SpatialChat" for coffee hour

When: July 26-29 over Zoom

Preliminary schedule - pending DOE approval

Jul 26: (8A-12:30)
Director's talk (Kevan)
Accelerator talk (Sannibale)
User Program (Scholl)
Data/Computing (Hexemer/Parkinson)
IDEA (Bechtel, White)

Jul 27: (8A-1:00)

EH&S
Communications (White)
Projects (Rossi)
Business/Financial (Krueger)
Breakout Session #1 -- most likely business/ops oriented
Meet with UEC

Jul 28: 8A-1:00
PS Ops (Martin)
PS Dev (Padmore)
- **Science Thrusts and S. Council (Rotenberg) (15+5m)**
- **Breakouts #2: most likely staff-oriented research organized by TA (45m)**

Future Vision (Scholl)

Jul 29: Closed Session

Science Council Meeting Notes 2019-07-12

EliR
EtanC
Chenhui
AndreasS
DaveS
AaronB
KenG
AlphaN
FernandoS
JinghuaG

We are discussing fellowships. There were about 17 candidates. We were asked to vote for 11.

Do we like the process?
Guidance: All we have is what's written on the website.
There's some concern about local people, but that's not a rule.
Renewals: We don't have a rule saying that renewals are diminished.
KG: Is there a limit to the number of renewals?
We should do the work this time, but then also consider the rules.
AB: Could be 2 year guidance.

EC: This is a way to bring in new people.
We should make guidelines about the renewal.
ER: We could state that Renewals are an exceptional case.
EC: This is an achievement. An award. Then we should make it exceptional.
The concern is that if we make renewals harder, then we free up funds for new people.
With a cutoff score of 6, there are 12 above threshold, and a clear break below.
With a cutoff score of 7, there are 10 above threshold (the correct amount) and less of a clear break, with some candidates getting 6,7,8
More discussion of how to treat the renewals.
Discussion of the outreach effectiveness of the award.

AS: Our job here is to pick 10
EC: And identify alternates.
The people who got score of 6s are alternates.
Q: Do we allow non-ALS staff to be propose these people.

Discussion of the process.
AS: Once tried to write down selection criteria.
KG: On the application, add a field: "If this is a renewal, please justify why it should be renewed. What would this allow?"
AS: We could assign people to look at the science.
ER: Is it a beamtime proposal that they have cut/paste, or is it a real proposal that needs to be done here.
EC: Publish a version of the criteria. "5 points that need to be hit."
AN: Maybe a criteria could have a few categories with different scores.
ER, et al.: (Binary makes it easy.) Everyone has their own criteria.
How do we rank the BL development aspect.

Q: Does anyone feel that we should not have local candidates? It has been raised as an issue.
ER: If it's a good science case, then we want to do it.

AS: We need a review of whether these fellowships worked well. (Did the people come here and do good work?) It would be useful to review.
KG: An exit interview.
DS: One person got the check, and there was no more process than the beamtime.
BL Scientists should address this specifically in the renewals.
EC: We should have a mid-term evaluation. Some could be terminated.
AS: Then we need a mechanism and a policy.
ER: An ALS Staff member should be on it.
AS: We give their full stipend. We're not going to divide it and rate it unless we change our policy.
Maybe a feedback, survey mechanism that goes to the (ALS) sponsors and the applicants.
KG: We should make a survey (AS: involve ashley) and we should give them anonymity so they could be more honest about their experiences.
Goals: Community building and outreach, encouraging difficult science, to do something exceptional. Workforce development, pipeline, etc.
AS: There's a page in our report about how we explain why we have fellowships.

Qualifications: They need to be here for a year. Their professor is willing to send them here to be alone. We might think of the wording there. The criteria that *you've taken your qualifying exam* is not uniform across universities.

SC Agenda 2.5.21

-EPSCoR
-ALS Colloquia Series
-Review and discuss the proposals submitted and in this folder
- See the Proposal Submitted sheet here

Meeting Notes

Eli:
TOPIC
EPSCoR - NSF Funding - potential joint projects/collaboration
- Link for more info

TOPIC
ALS Colloquia Series
- Why not restart via Zoom?
- Admin staff participation - setting up Special Seminars is not too onerous for admins (Andrea)
    - Colloquium - having people interacting on a platform, I ke Accelevnts?
    - Sirine and Slavo - organizing the colloquium but haven't been able to spend much time on it so far
- Possibile organization - each TA have a sheet of a list by which they track names/invitees & topics to pursue - and each list will show who is organizing the next set of colloquia
    - Ensure that postdocs are on the distribution in this communication
- Timing - being cognizant of timing constraints for those in other time zones
    - 9am and 4pm for 2 time slots

Chenhui has been hosting Special Seminars recently and has had success in attendance & is advocating the continuation of hosting colloquia in this fashion bc of the ease of attending virtual seminars.

Regarding getting postdocs to attend - twist their arms? How to encourage attendance? What a strategies to create a better community for the postdocs?
- Building content for the postdocs that are catered to their time and availability - to increase the chances they are willing and able to attend
- Having postdocs nominate and introduce the speakers?
- Have the TAs foster these connections and relationships

UEC online Lecture Series?
- Potential science of ALS-U
- Incorporating what the UEC wants and incorporating speakers who are ALS-U?

- Combine forces w the UEC in the Colloquia effort - both suggesting speakers and advertising with their network
- Eli will follow up with the UEC to see what they were thinking and to pursue potential collaboration

Commented [1]: Eli will follow up with the UEC to see what they were thinking and to pursue potential collabora ion @erotenberg@lbl.gov
Assigned to Eli Rotenberg

TOPIC
LDRD Proposals submitted on the 2.4.21 deadline

Main questions to consider when looking at LDRDs:
-Is the ask clear?
-Is there any compelling reason to discourage?
-Are the connections between other divisions in ESA clear?

Feedback from today will be sent to the PIs

- Eli - do we want to use these templates for encouraging/discouraging? (*Andrea will update*)

Commented [2]: @erotenberg@lbl.gov
Assigned to Eli Rotenberg

Per Andreas: the latest is that ESA won't allow submissions along two paths, one has to choose

Commented [3]: A lead PI may develop concepts for both the standard division and Charter Hill sub-tracks. However, he proposals must be distinct in scope and fit the opportunity. A comparison of the two sub-tracks is outlined in the slides from the December ESA LDRD town hall (see slide 21). (This is the exact wording conveyed to lead PIs on Charter Hill statements of intent)

Commented [4]: we discussed this point, In Alpha's he decided to stick with the CH track.

Proposals for today's review:

Macroscopic Arrays of Molecules for Quantum Information Science - PI - Alpha N'Diaye

- Alpha will focus on the CH track for this proposal. SC tabling this for FY'22

X-ray micro-/nano- tomography under extreme conditions: a powerful three-dimensional imaging probe - PI Bora Kalkan

- Suggestions: emphasize the diffraction tomography portion more, describe the pressures and temperatures you want to achieve
- Improve the last slide w/giving a clear connection to DOE and ESA priorities, the present vision is too generic. It would be good to add an example application on the last slide that appeals to MSD or other ESA division. (One idea is interface structure; Peter Fischer at MSD would be good to talk to. Amplifying CO2 sequestration could also work).
- Clarify whether the DAC that is suggested to be developed is new and/or requires R&D. Current illustration suggests that it already exists.
- image captions could be more focussed on the underlying processes: e.g. 'instead of density of...' you could go for language like 'precipitation/or melting of ...' instead of 'density of glasses' you could write 'compression of glasses'
- 2nd bullet could be shortened: impact on.. Model systems for carbon capture ... to reduce CO2 emissions.

Dynamic Spin Flow – Controlling spin-information channels for neuromorphic computing - PI Padraic Shafer

- Feels like this is trying to do a lot of different things w/ different skill sets. Either steps are so small why not just do now w/current available resources? What does the focus of an LDRD hope to accomplish?
- First slide - the ask is not there, the bullets are technique and not results oriented; unclear what the goal is at all. Title is a little goal oriented but does not indicate the desired outcome of an LDRD.
- Looks too unfocused - too CH, needs to be more ALS
- Slides are crowded; good info is there the point trying to get across is not coming across. Higher level goals need to be in the slides.

Fast X-ray Absorption Spectroscopy in Transmission (FAST) for materials discovery in energy and chemical science - PI Jinghua Guo

- Note: CH found this proposal to ALS-specific.
- Generally the slides are well put together; the first bullet is kind of odd because it's specific to one sample. Revise to be more specific on how this is revolutionary.
- Estimation of the way you'd calculate radiation damage? Unclear. Include more technical argument under radiation damage.
- Technical discussion should be moved to the write up rather than on the slides;
- re: space in presentation given for concept on looking at energy dispersion - give this more space
- The technologies on which they're built are well understood; stress that it takes someone new to create out of this as a new set up, not on existing endstation
- Consider mentioning applications to magnetism. MCD with time and spatial resolution is a poss ble impactful application.

Fast coherent soft X-ray vector laminography for ALS-U - PI Young Sang Su

- On the first slide, the gap you are trying to fill is not clear - what would it bring that you don't get from other 3D techniques? What is the new science area(s) to be opened up? Also the definition of laminography was not clear.
- On the second slide you showed images for "computed tomography" vs "computed laminography". It is not clear what the difference between these because they are the same object apparently from two different views.
- Slide #3: the purpose of the images on the right side are not clear. The upper row is old stxm/ptychography data, why are you showing it. Could the samples shown be better tailored to the project?
- Can you make connections to DOE/ESA priorities, or BRN documents?
- Revisit the examples on slide 3 - do they really illustrate what you're trying to do? Make explicit the role of ptychography or laminography
-

Renewal - Development of an Ambient Pressure Resonant Inelastic X-ray Scattering (APRIXS) Capability for the Observation of Fast Chemical Processes in a Liquid Environment -PI Moni

- Skipped discussion due to this being a renewal
- The SC will continue its encouragement

ALS Science Council
June 6, 2019
Meeting Minutes

Attendees:
Eli Rotenberg, Aaron Bostwick, Andreas Scholl, Cheng Wang, Michael Martin, Ken Goldberg, Alpha N'Diaye, Hans Bectel, Ashley White, Jinghua Guo, Jason Templer

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Eli began a lengthy review of the Science Council charter:

- Reviewed various suggestions from ALS staff and modifications to the charter document resulting from past meetings

- Lengthy discussion re: membership rules and definitions for TA / STA / ITA

- Voting rights for affiliate membership vs. full membership discussed

- Eli asked Andreas if there should be an ITA breakout at the SAC meeting
  Per Andreas – there are 2 SAC meetings per year and one of them is more appropriate as it will deal with science/thrust areas more specifically than the other SAC meeting.

Charter/Section D:

- Elections discussed/term length discussed
- There was concern about all elections occurring simultaneously
- Eli – in a past meeting staggering term length/elections was proposed
- Everyone agreed this is a good idea and staggered terms/elections should be instituted

Charter/Section E:

- Awards Council/Nomination – suggestion by Alpha discussed
- Per Hans, the 'Recognition Task Force' which is currently being formed will address these needs, all recognition needs should fall into that task force's duty

CLOSING:

- Eli asked all attendees to review the charter document online and make any final suggestions for modifications soon.

ACTION ITEMS/NEXT MEETING:
All STA Group Names/Group Statements should be ready to discuss at the next SC meeting.

Nov. 6 - Science Council meeting

Agenda:

- Science thrusts and IIG – community interaction (Ashley) - 20 min
- Fellowship (60min):
  - Yu-Cheng Shao (Yi-De Chuang) - 10 min
  - Xiaoqian Chen (Sujoy Roy) - 10 min
  - Cheng Chen (Aaron Bostwick) - 10 min
  - Abhishek Parija (Slavomir Nemsak) - 10 min
  - Science Council Discussion - 20 min
- Charter
- STA-IIG launch
- Calendar
- ESA meeting update - 10 min (Andreas)

03/03/2021 Minute EETA meeting notes

Martin, Sirine, Paulo, Chenhui, Hang, Nobu, Matt, Yusio

. Welcome 3 new members: Paulo, Yusio, Hang Deng

. Discussed the Charter Hill LDRD instrumentation lab proposal and why it didn't go through

. Bora gave an update on his LDRD, got good feedback from the committee

. Cement LDRD Yasuo: Create renewable $CaCO_3$, reduce CO_2 emission by 140%, discussed further the biogenic nanoparticles.

. Hang Deng, narrow down to soil amendments, understand the weathering process, Hang used 12.3.2 in the past. Use of the XRD beamline 12.2.2 and the microprobe 10.3.2 would work well in situ or on samples taken at specific times.

. ARPA- E, march 23rd to submit a proposal, contact Heng or Peter Nico. It's a new route of proposal for the ESD division, they haven't much experience with this. Link to industry is welcome but not required, they want to have a fast transfer. Range is 1 to 2 million dollars for 2 years.

. Chenhui briefly introduced the Tender scattering workshop

Complex Materials & Interfaces Thrust Area Meeting
10 June 2021

Agenda Items:

1. ALS needs Science Council input to update the Strategic Plan for each Thrust Area
    a. Slides from SC Meeting
    b. We need to start by revising section 2.1.x. A copy of the template is here: Copy of 2022 SP Sections 2.1.x
    c. ALS FY2021 Strategic Plan is here as a reference
2. New Funding opportunities
    a. Semiconductor Research Corporation Funding Opportunities: https://www.src.org/compete/
        i. Nanomanufacturing Materials and Processes 2021 Call for Research
    b. DOE announces plans for the first Energy Earthshot - Hydrogen Shot
        i. Hydrogen and Fuel Cell Technologies Office Funding Opportunities
        ii. RFI_Hydrogen Energy Earthshot.pdf

Notes

Funding opportunities

Hydrogen Shot

- DOE goals for electrolyzers and fuel cells going on now
- Includes fundamental research
- We will have an LBNL coordinated response to the RFI (led by Adam Weber) - think about number 9 on the RFI Call
    - "Please provide input on any fundamental science, basic or applied research, and innovation needs and challenges that may be required for, or be informed by, the demonstration projects. In addition, please identify scientific user facilities or computational tools that would provide the required innovations or resolve the remaining challenges."
- Connect state to DOE? CEC?

AMO Workshop for Transformative Manufacturing

Strategic Plan revising

- Is the scope of our Thrust Area too broad?

10/18/2021 Minute EETA meeting notes

Attending: Sirine Fakra (co-chair), Martin Kunz, Hans Bechtel, David Shapiro, Chenhui Zhu, Yasuo Yoshikuni, Harry Lisabeth, Mike Whittaker, Bora Kalkan, Kat Armstrong, Nobumichi Tamura (co-chair)

- Welcome 3 new members: Nobumichi Tamura, Harry Lisabeth, Yasuo Yoshikuni, Michael Whittaker
- Quick introduction of EETA beamlines: IR/COSMIC/PEEM/12.2.2/9.3.2/10.3.2/STXM/12.3.2
    - Chenhui: 7.3.3 (SAXS/WAXS) can also be used for EETA-related projects.
- Discussion around NSF MRI (Major Research Instrumentation Program) proposals
    - How to find the right University PI (presumably smaller lesser known universities would have a better chance to get funded as the number of proposals is limited to one per institution) ?
    - Is there any example of recent successful MRI-funded proposals?
    - Chenhui: thinking of submitting a proposal for SAXS/WAXS for January 2023 (next cycle)
    - Other possibilities: Tender x-ray imaging and COSMIC upgrade (David)

David: Report from Tender nanoprobe working group will be sent to TA members for comments when ready.

- ALS doctoral and postdoctoral fellowships have been reinstated and accepting applications.
    - David: ALS fellowships do not work for lab interdivision collaborations. There is a need for bridge programs to share costs for students/postdocs between two divisions inside the lab.
    - Action item: Sirine and Nobu will bring this up to the next science council.

- Preparation for FY 2022 LDRD call.

- Colloquium Series. Feel free to nominate speakers for the Spring cycle!

Discussion topics

1. LDRD
    a. ESA
        i. • Proof-of-concept studies, driven by scientific opportunities in chemistry and materials, that motivate long-term research and capabilities at the envisioned Charter Hill campus.

        ii. • Especially encouraged are proposals that develop and demonstrate "lab of the future" concepts. These may include approaches to outstanding challenges in basic energy sciences that closely couple theory, computation, synthesis and fabrication, and characterization, and that leverage data, artificial intelligence, machine learning, and/or robotics — for example, to enable automated and accelerated synthesis or understanding and control of materials phenomena and chemical transformations across multiple length and time scales.

        iii. • Concepts that have the potential to leverage the brightness and coherence of the upgraded ALS and emerging capabilities at the Molecular Foundry are also of particular interest. Multi-PI, cross-divisional and cross-area teams are encouraged.

        iv.

        v. E. R.: We can expect fewer LDRDs "double-sized" to encourage the development of strategic, multi-PI, and inter-divisional LDRDs.

        vi.

    - This year, we could expect between 0 and 1 new ALS-led "regular-sized LDRD " starts

    limiting the number coming out of ALS:
        - suggestion: ≤ 2 per TA going into ALS ranking?

EC-LDRD (early career)

- Expanded Pool: PhD's granted back to 2013 are eligible to apply
- ALS should have a separate track for these?
- All LDRDs from eligible staff should consider this route (1-2 per division will be sent)- Clarify: if 1-2 /TA includes the existing LDRDs.

2. ALS Doctoral and Postdoc Fellowship
    a. Doc fellow applications open in June of 2021
    b. Postdoc fellow applications open in February of 2021

Topics

1. Timeline for area LDRDs (one page white paper due on Jan. 14, draft package - 3 slides due by Feb. 4th (may need to limit to 1 or 2 per TA); science council down selection on Mar. 4th; final proposal submitted by Mar. 22)
2. Labwide and Charter Hill track, plz follow their schedules. Charter Hills due Jan. 19th.

Notes:

1. Charter Hill Partner
2. Slavo - Heath early career track. Experiments at 11.0.2. Xpcs. Early career. Need talk to Andreas Scholl. Good to talk to other division leads besides ALS management.
3. Any LDRD needs to develop for ALS-U.
4. Comment: Automation. Is it suitable for LDRDs or is it more operation related?
5. Tender related proposals?
6. Radiation effect
7. Machine learning. Using image recognition to understand what makes an interesting spectrum.
8. Molecular electronics.
9.

Agenda items:

1. ALS SP CMI section
2. Upcoming workshops
    a. Scattering workshop at ALS UM
    b. Tender scattering science workshop
3. Innovation forum topics for 2021-2?
4. ALS colloquium speakers
5. CMI TA meetings speakers
6. Combine some figures from recent highlights. Replace that in the SP DOC
7.

07806CMI TA meeting agenda:

ALS SAC will meet on Mar. 25-26, 2021, just in a couple of weeks. Andreas Scholl has asked Greg and I to present to SAC a 10" overview of CMI activities and goals. In addition, we are also asked to lead a discussion related to the following charge questions for the SAC. This will happen on 25th.

On Mar. 26, there will be a breakout session of CMI TA with SAC (a couple SAC members likely), when CMI TA members can bring up concerns, comments, suggestions.

Proposed agenda for today:

1. CMI Thrust (Activities, Goals)- 10"
    a. Activity highlights
        i. Overview (composition of TA members, a few ALS staff, many from other lbnl divisions)
        ii. Science highlights
        iii. Instrumentation highlights - new capabilities developments, in situ sample env. For complex materials.
        iv. Innovation forum, workshops at ALS UM, charter hill workshops- focus on the, tender scattering workshop, seminars, LDRDs (including EC, Charter Hill, division),
        v. Tender beamline (nanoprobe and scattering endstations).
        vi. Each beamline choose one highlight,
        vii. Statistic num of pubs/DOE high impact papers.
    b. Goals
        i. Limited beam time, so high throughput capabilities
        ii. Modular sample env. Reduce overhead time to switch amongs setups.

Re topics: The CMI Thrust talk should introduce the topical area, discuss science priorities, explain where this research is taking place at the ALS, discuss current activities, participation in FOAs, LDRDs, lab and ESA-wide activities, e.g. Charter Hill.

2. Given budgetary constraints, are**CMI priorities and the current instrumentation plans** optimized for scientific impact?
    a.
3. Please provide an opinion about the CMI's approach to community inclusion.
    a. How to optimize the operations to support science that requires multiple probes, beamlines, etc.?
4. SAC meeting topics (Mar. 26 11:10-11:40AM)

a. There is no resource flow from the science thrust area.... Not efficient. Redundant discussion with those in PSO. SC only as an advisory body. Up to $500k. There is no budget for STAs.

on **March 25**:

10:50 Complex Materials and Interfaces Focus (45')

- 10:50 CMI Thrust (Activities, Goals) Chenhui Zhu, Greg Su
- 11:05 Microscopy Program Priorities David Shapiro
- 11:15 ALS-U Tender Nanoprobe Endstation Sirine Fakra
- 11:25 ALS-U Tender Scattering Endstation Chenhui Zhu

11:35 Discussion (25') led by Chenhui Zhu, Greg Su

- Given budgetary constraints, are CMI priorities and the current instrumentation plans optimized for scientific impact?
- Please provide an opinion about the CMI's approach to community inclusion.

2.1.2 Complex Materials and Interfaces

This TA focuses on how function emerges from the properties of intrinsically heterogeneous materials. Whether bottom-up grown, top-down engineered, or naturally heterogeneous, materials such as fuel cells, batteries, and solar cells are of critical importance to our energy future. In such hierarchical systems, function at the atomic and molecular scale relies on the chemical composition and crystal structure, while at the mesoscale, functions depend upon the transport of electrons, spins, and ions through the material and across interfaces. Composite materials such as concrete or many naturally occurring mineral complexes are also heterogeneous over a range of length scales, determining their response to external forces and ultimately their utility. The ALS provides a range of microscopy, scattering, and imaging tools that allow researchers to determine the electronic, chemical, magnetic, and physical structure of such hierarchical systems. Scanning transmission x-ray microscopy (STXM) can, for instance, quantify nanoscale ion currents in a model system of a lithium-ion battery (Fig. 2, top left) and spin currents in nanostructured magnetic materials. Scattering techniques offer exquisite statistical sensitivity to the morphology and chemical states of multiphase systems, such as an organic solar cell, across a wide range of length scales from nanometers to microns. Element and chemical specificity of the near-edge absorption fine structure allows scientists to differentiate between different chemical components as well as different molecular orientations, which together provide key information about the relationship of structure and function (Fig. 2, top right). At longer length scales, computed tomography visualizes micron-scale and larger functional components and is an excellent tool for both academic and industry users to study the 3D morphology of composite materials, metallic or ceramic compounds, and biological systems (Fig. 2, bottom).

The Complex Materials and Interfaces Thrust Area seeks to advance our understanding of functional, heterogeneous materials by quantifying their properties across a wide range of length and time scales using scattering, spectroscopic x-ray probes, and various imaging techniques.

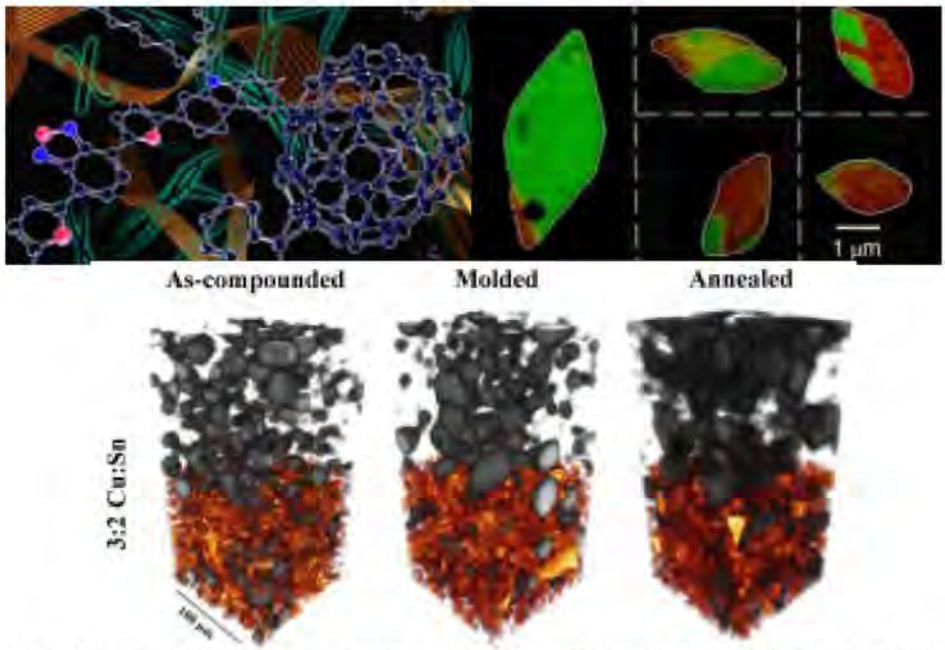


Fig. 2. Top left: STXM images of the lithium distribution in Li_xFePO_4 battery particles at different electrolyte exposures [Y. Li et al., *Nat. Mater.* 17, 915 (2018)]. Top right: Artistic interpretation of an organic solar-cell mixture containing a blend of polymers and fullerenes, which was studied by resonant x-ray scattering [L. Ye et al., *Nat. Mater.* 17, 253 (2018)]. Bottom: Microtomography experiments at the ALS show the distribution of copper (red) and tin (gray) as a function of different processing conditions in conductive plastics. [Q. Yang et al., *J. Appl. Polym. Sci.* 134, 43 (2017)].

High-priority goals are the development of instrumentation for the following:

- **Spectromicroscopic and tomographic measurements** of functional, heterogeneous materials from the nanometer to millimeter length scales under operando conditions with chemical, magnetic, and morphological sensitivity.
- **Microscopy and resonant scattering** methods that utilize the **tender x-ray energy range** to study biological, geological, and energy materials containing elements such as Na, Mg, Al, Si, P, S, Ca, and Fe, among many others.
- **Resonant and coherent resonant scattering** (such as XPCS) studies of chemical and physical heterogeneity and dynamic processes in soft and hard matter, solid/liquid interphase systems, and membranes, using resonant scattering probes in the soft to tender x-ray range and small and wide-angle x-ray scattering (SAXS/WAXS) in the hard x-ray range.

The high brightness of the ALS is crucial to reaching nanometer-scale resolution using techniques such as ptychography and to reaching milli- and eventually micro- and nanosecond time resolution using

XPCS. The higher brightness (by up to two orders of magnitude) of insertion-device beamlines following the ALS upgrade will dramatically increase the performance of coherent scattering and diffraction imaging techniques, promising near-diffraction-limited resolution in 3D. This TA relies on high-throughput data acquisition, data compression, data visualization, and data analysis techniques and strategies, which the ALS develops together with our partners, including the Center for Advanced Mathematics for Energy Research Applications (CAMERA), the National Energy Research Scientific Computing Center (NERSC), and the LBNL Information Technology Division.

CMI TA 2021.11.11
Agenda:
Attendance: David Shapiro, Cheng Wang, Greg Su, Chenhui, David Kilcoyne

1. ALS colloquium speakers (whoever recommend a speaker should be prepared to host/moderate the event)
2. ALS fellowship update. 3 postdoc + 5 doctoral fellows. Expected call frequency 2-3 times a year (fellows are required to spend >70% time at the ALS)
    a. David shapiro, asked about how ALS may support joint postdocs in collaborations with local LBNL PIs
    b. ?? comment: The fellowship program seems to be exclusively designed for PIs who have proposals at multiple beamlines.
    c. Proposal: to consider increasing the % of BLS time, from 5 to 10%
    d. Proposal: to increase the % of AP time. Re-examine the AP decision process (AP decision, from PRP to PRP review + science director/council recommendation).
3. LDRD planning.
    a. CW. correlated analysis
    b. CZ. scattering-based autonomous experimentation.
    c. ALS-U related proposals.
4. LDRD process,
    a. Comment: It would be beneficial to receive feedback after the LDRD process, i.e. feedback from the ESA.
    b.
5. Set up a meeting in the last week of Nov.

1. NSF MRI proposal for the Tender scattering endstation
2. Doc fellow, postdoc fellow application open
3. LDRD proposals prep
4. scattering chamber form UoC

Agenda:

1. ALS doc fellow/ postdoc fellow call
2. ALS innovation forum proposals
3. ALS colloquium speaker nominations
4. ALS User meeting/workshop feedback
5. Tender workshop feedback

Discussion:

- Funding call, in advance notice, congressional language,
- Follow-up is important.
-

ICTA Meeting Minutes

2021-08-20
A Wojdyla, J Reinhardt

Google Team Drive: **ALS Instrument and computing thrust area**
https://drive.google.com/drive/u/1/folders/0ADwaCsDYkq47Uk9PVA

Agenda:

1. New co-chairs (5 min)
2. Things learned at the Triennial review (10 min)
3. Instrumentation activities in other labs (20min)
4. Potential instrumentation needs/novel instrumentation (15 min)
5. AOB

Present: Alex Hexemer (AH), Ian Lacey(IL), Dula Parkinson (DP), Andrew Doran (AD), Ken Goldberg (KG), Padraic Shafer (PS), Eli Rotenberg(ER), Jonathan Slack (JS), David Kilcoyne (DK), Hari Krishnan (HK), Anders Glans (AG), Antoine Wojdyla(AW), Juliane Reinhardt(JR)

Things learned at the Triennial review

Nothing in the science council about the report:

- DP reported on remote access:
  Our efforts in a few different ways. Questions about user control access (very procedural conversation)
  5LS report / use ICTA as an home base
  AD: Are we leveraging efforts from other light sources?
    Dula: Forum series (organized by us), subgroups on different topics (robot exchange, slack, zoom integration etc.)
    "Do the low hanging fruit" .. no specific funding allocated
    New access portal on Guacamole
- AH reported on computing
  Questions about data storage
  Control systems: they don't believe our systems will be able to handle ALS-U.
  Coordinating with other facilities. They see our challenges with the budget
  Data pilot / "task force" in the pipes (Eliane Lessner.) More forward looking
  Starting to analyze how much it would cost to transition beamlines
  Q: "how many times did you meet with ALS-U people": only once, years ago.
    KG: there are people in ALS-U working on these topics / Brown bags

AH: Elaine DiMasi is proactive. It would be good to have a list of "connections"

Eli: One issue to communicate about the plans for planning.
DK: suggests to **invite Eliane to our ICTA meetings** → she can decide based on the agenda
DP: ALS-U brown bags lack interactivity -- **WE should come up with an agenda**. She could send one of her people to the ICTA meeting.
IL: might we schedule next month's ICT meeting shortly before the ALS-U brown bag

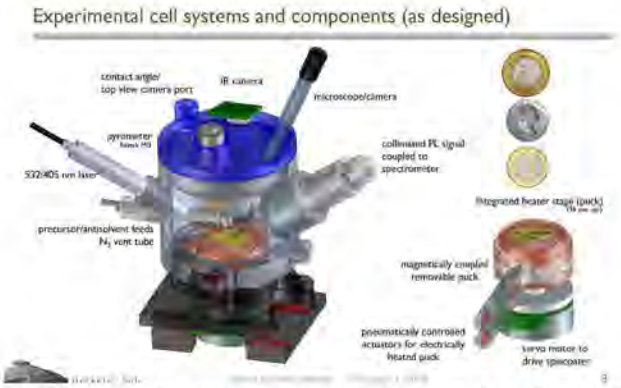
AD: Diagnostics -- we need to coordinate with them. Annoyed by the concept of Brown bags (if it's actually regular work effort).
Full integration of diagnostics is important / tuning beamlines. **Invite lead engineers to ICTA**. The engineers can tell you about the interfaces.

PS: **Create a counterpart list of ALS/ALS-U people**. There seems to be a strong adherence to the chain of command
E.g. : Simon/Henry, beamline layout, mechanics.
EPU / same guy
Endstations

→ let's collect ALS-U coordination relevant topics here: Coordination ICTA with ALS-U then speak to Elaine and get the ball rolling

Ideas on Instrumentation from other labs

JS: I had the idea to create instrumentation of the kind of perovskite research. Now working on the 4th generation.
Started with a doctoral fellow (S Pratap.) Preliminary approval to put some time on it.
Demonstrated it would be novel and valuable: 12.3.2_JonathanSlack_ShambhaviPratap_05-01-20.pptx
Worked very hard for six week to fit in the schedule. Funded out of BL12.3.2.



F1: Schematic of the multimodal spin-coater (JS)

AD: In my experience, a lot of things worked ad hoc. How can this group support these efforts?
AW: we could do a survey of the existing instrumentation and learn about the oral history to learn how they came to be.

AW: we should make sure we are aware of the interesting projects at the lab.
KG: adaptive optics would be one

AD: abstract sent by Jamie (from MEDSI.) Intriguing title on how to design instrumentation:
A New Procurement Strategy To Challenge The Supplier Constraints Created When Using A Fully Developed Reference Design

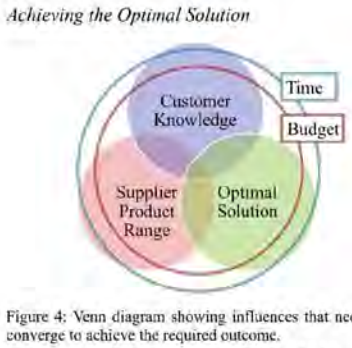


Figure 4: Venn diagram showing influences that need to converge to achieve the required outcome.

F2: excerpt from the MEDSI paper

ER: How to get such a project funded? Perovskite: sounds a lot like LDRD type,
The goal of this group is to think about what would be the FOIAs *later on.* (basic research needs are know in advance)
Regarding AXO. Innovation forum on adaptive optics needs for next generation light source.

PS: Reports here: https://science.osti.gov/bes/Community-Resources/Reports

AH comments on JS: Joe Strzalka at APS built a wonderful spin-coater -- you should coordinate with him.
Many people use repurposed hard drives
Spin-Cast Bulk Heterojunction Solar Cells: A Dynamical Investigation
https://onlinelibrary.wiley.com/doi/epdf/10.1002/adma.201203440

Novel Ideas for Instrumentation

JS: develop piezo collimator (developed by Simon Morton) - reconfigured in 4 arm piezo collimators that can be easily serviced. AH: BL7.3.3 could really make use of it
Piezo collimator white paper

F3: Piezo collimator

AD: "Detectors I've found to be both more specialized, and also hard to move around, especially for soft x-ray beamlines. The sample holder thing is all about making it easy for users to go from endstation to endstation most efficiently. multi-modal is a hot buzzword"

ER: ideas for LDRD: cryogenic environment to micro-XPS to correlate the behavior of strain cells

AW: coherence engineering for coherent beamlines (high speed shaker to bust coherence or change angle of incidence)

Appendix

Info about Multimodal spin coater v4 (from JS)

The V4 will be able to heat while spinning (V2 could only heat after spinning) and has the following capabilities:

- **Low wobble** >> heater puck/substrate stage suspension is entirely redesigned from V2. Chenhui has asked for wobble to be limited to < 0.01 degree. Best I can do in the time/budget allocated is to have wobble defined by the planar fidelity of a 52 mm ABEC 7/P4 bearing - haven't yet calculated what this should be, but the V3 iteration had close-to-acceptable wobble even with a less-than-ideal kinematic (for quick heater/substrate stage swaps) mount and a lower quality bearing. The improved kinematic mount holds the most promise (vs. the higher precision bearing) for reducing wobble from the V3 iteration.
- **300 degree C heater capability** >> previously only could reach 120 degrees C. V4 minimum goal is 300 C. Aiming for 400 C.
- **6000 RPM** >> with ability to heat at all speeds.
- **Closed loop PID heater control** >> User will, however, have to do calibration runs to associate heater puck temperature with substrate surface temperature, including observation of time delays.

    - If users' substrates are similar to prior users, and similar ramp-to-temperature times are sought, prior correlation matrix could be used (these correlations do not yet exist - we have to do them with the new V4 system, which I'm currently building)
- **Photoluminescence** >> capable of real time photoluminescence measurement, although this iteration of V4 work at 7.3.3 and 12.3.2 likely will not integrate the PL capability into a user-friendly Labview interface.
- **IR imaging** >> Lepton IR camera support, although this iteration of V4 work at 7.3.3 and 12.3.2 likely will not integrate the IR imaging capability into a user-friendly Labview interface.
- **Remote precursor/antisolvent/fluid-of-choice delivery** >> This functionality tends to be very user-specific (e.g. fluid viscosity dictates delivery angles/systems) and is low on the priority list for Labview integration.
- **Visual imaging** >> ability to observe all processes remotely, capture still and video images.

ICTA Meeting Minutes

2021-09-17
A Wojdyla, J Reinhardt

Google Team Drive: **ALS Instrument and computing thrust area**
https://drive.google.com/drive/u/1/folders/0ADwaCsDYkq47Uk9PVA

Notes from the previous meeting
ICTA Meeting Minutes 2021-08-20

Agenda

1. Quick note on information sharing
2. Discussion around the ALS 2022 Strategic Plan 2.1.6 ICTA section (10 min)
3. Interaction with ALS-U / brownbags / Agenda for next ALS-U meeting (10 min)
4. Diagnostics: what works, what is missing, what needs integration (20 min)
5. Review of instrument controls (AW, 10 min)
6. Potential DLSR Instrumentation workshop (10 min)

Present: Dula Parkinson (DP), Andrew Doran (AD), Ken Goldberg (KG), Padraic Shafer (PS), Eli Rotenberg(ER), Jonathan Slack (JS), Hari Krishnan (HK), Anders Glans (AG), Antoine Wojdyla(AW), Juliane Reinhardt(JR), Valeriy Yashchuk(VY), Wanli Yang (WY)

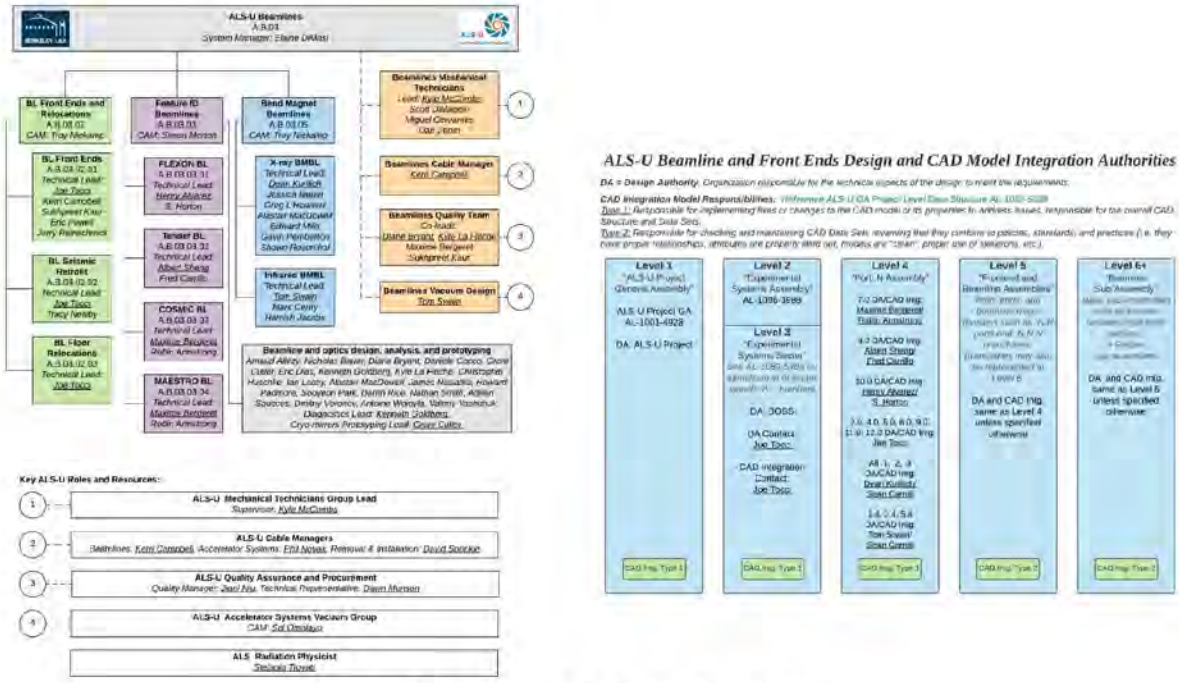
Quick note on information sharing

If you **share information within ICTA and it is confidential, please say so on your slides** (or say out loud.) We will potentially take screenshots and add them to the minutes/notes. We want a smooth flow of information, but we don't want to threaten a free flow of ideas.

General on Brownbag and Controls:

ALS-U doesn not have a control group and will be using the current ALS
Knowing when the good time to plan is good information.
We sent an agenda for the brownbag meeting in advance, it was well received and structured the conversation. Next BBB will actually be a PS meeting (Oct 14.) AW tried to make the meeting more formal (outside lunch time), no traction yet.

All ALS-U Optical systems engineers are listed here:
https://commons.lbl.gov/display/ALSU/BOSS+Communication



ALS-U roles as of September 2021

Beamline controls

(off-agenda conversation digressing from a discussion on ALS/ALS-U instrument control strategy)

- Regarding controls: There's been a group discussing that (Andreas Scholl, Ron Pandolfi, Roland Koch etc)
    - No meetings since April
    - There've been many groups, but never got the feeling that it was strong enough, everybody believed in and agreed with.
    - It would be nice if ICTA found out what was the current process, and make sure it's a more inclusive thing.
    - We need another delegate now that Roland is gone (Antoine and Juliane could both be on to have ALS-U/Computing)
    - AD: let's have the scientific directors of facilities explain what's going on at a broader level
    - ER: getting a diagram of beamlines to think about refactoring control (It would be great to start from the components of a beamline -- then go into more depth.)
    - AW: the scope depends on who you ask. Let's talk about what we would need. Let's make a white paper, let's make specification requirements
    - Valeriy: We need to talk about standardization of components in the beamlines. This would also help with metrology of optics
    - Juliane Reinhardt**reach out to Andreas and Ron etc. to get a status update**

- Dula: maybe someone else should lead than Andreas, simply as a matter of time and workload
- ALS needs a CIO/CTO focusing on data/information.

Strategic Plan

The strategic plan (here's the ICTA section) was prepared by Alex Hexemer and Roland Koch. New co-chairs learned about it ten days ago, and it's almost close to release. We cannot add many modifications.

Next time we should start talking in April for the next one and maybe have an innovation forum

General comments on the strategic plan:
PS: Strategic plan can be seen as ammunition for projects ready to go (shovel ready.)
Each TA can write their section. It won't be edited/reviewed by management. Not a legal document.
ER: SP is an advertisement to outside people, not a prioritization. From experience, it is in actuality a conveyor belt. PS Dev will follow. Ideas should be new science.
KG: not about specifics, but more a statement of our purview. A definition of ICT
DP: too many priorities for the funding we have. A strategic plan more targeted would be useful
We could prioritize 1,2,3. Plus a valuable exercise
KG: unclear how the document is structured.
AD: Use this document to clearly define the priorities and hold mgmt accountable.

Three different understandings of the goal of the strategic plan. We should sort this out next year, but it seems like a charter for ICTA where certain amount of prioritization would be useful, and new ideas proposed (maybe as companion white papers)

Review of the strategic plan:

intro
VY: Need to add development of optical metrology
AD: are priorities of metrology important to be in the ICTA section of the strategic plan, or do they belong in the PSD section?
VY: very important part of the instrumentation in general

Beamline optics and Instrumentation:
JR: maybe too targeted towards ALS-U, too many topics

In-situ and in-operando sample environments:
JR: should be coordinated with Earth and Environmental science and other TAs

AD: It is actually a generic idea. Lots of areas are interested in multimodal techniques. Our group could consider what the different communities have in **common**. Our TA could take the lead in refining the specification requirements (too many chefs, ratatouille)
ER: **the group would shine if we can be the facilitator**. We could take the lead and help with Charter Hill.

Community focused Machine Learning and Artificial Intelligence for ALS:
AW: Standardization of information + unification (VY) should be part of the strategic plan
JR: it affects all of us

Digital Twin:
PS: the notion of digital twin needs clarification
AW: that might be too fuzzy to make its own section
DP: at the intersection of instrumentation and computation. My own experience is to make sure NERSC talks to the experiment (real-time feedback on a model.) Could be embedded to other section
ER: It is a new way of doing experiments, and we are pursuing it aggressively.
(resource shared by PS: https://www.ibm.com/topics/what-is-a-digital-twin *Although simulations and digital twins both utilize digital models to replicate a system's various processes, a digital twin is actually a virtual environment, which makes it considerably richer for study. The difference between digital twin and simulation is largely a matter of scale: While a simulation typically studies one particular process, a digital twin can itself run any number of useful simulations in order to study multiple processes.*)

IT Infrastructure
JR: title of section doesn't necessarily match description. Previous sections could be merged in this way.
HK: Standardization and unification ++ Leveraging technology in the same space
PS: Phrasing it in terms of value added. Baseline of services, configuration

Instrumentation workshop

Many facilities are now dealing with diffraction limited beams. **This could call for ad hoc "basic research needs**," exploring successful instrumentation available elsewhere and identifying opportunities for APS/ALS/LCLS-II. Push DOE to fund instrumentation directly

Is the innovation forum a workshop? Not quite, it's more a branding.
Should we organize a workshop with ICTAs counterparts from other facilities
Interdivisional meetings could be interesting (e.g. NCEM)
ER: Unifying: very charter-hill themed (I'm on the CH committee.)
Having "centers for x", where x-ray capabilities are clearly delineated (like TEM)

Raise an LDRD concept.
PS: Can we pave the way for LDRD (very little funding lately)

ER: **ICT would like to start early and talk with other TAs** (don't let the science TAs have all the funds!)

Meeting adjourned

Next meeting: October 15th, 2021

ICTA Meeting Minutes

2021-10-15
A Wojdyla, J Reinhardt

Google Team Drive: **ALS Instrument and computing thrust area**
https://drive.google.com/drive/u/1/folders/0ADwaCsDYkq47Uk9PVA

Notes from the previous meeting
2021-09-17 - ICTA Meeting Minutes

Agenda:

- Zoom etiquette reminder: raise hands, use chat - be friendly!
- Colloquium Series - Suggesting speakers Colloquium Speaker Pick Lists https://docs.google.com/spreadsheets/d/110nVpmVlETEg0ttleg-QwC-9NlywTWfHaFu0WuQWIA0/edit#gid=813653951
- Pitch for LDRD (20 min)
  [Slide template] [folder]
- White papers / shovel ready projects (10 min)
- Standardization and unification (data and controls) (15 min)
- Connecting with computation group (5 min)

Present: (partial list) Eli Rotenberg, Na Hyun Jo, Padraic Shafer, Alex Hexemer, Chenhui Zhu, Ken Goldberg, Val Yashchuk, Juliane Reinhardt, Antoine Wojdyla

From: X-ray Optics for BES Light Source Facilities Report of the Basic Energy Sciences Workshop on X-ray Optics for BES
(2013))With input from facility managers and DOE Basic Energy Sciences (BES) staff, organize consortia in the various areas of optics and have them submit white papers to BES describing how best to move forward on improved X-ray optics. Specific proposals are needed to define detailed program goals and impacts, develop management plans, and determine funding requirements for a coordinated model for optics development. A forum of technical experts, with input from facility managers and BES staff, would be the appropriate venue for the development and submission of proposals.

Colloquium Series

We need to propose speakers for the colloquium series. Any suggestions?
Add them here: https://docs.google.com/spreadsheets/d/110nVpmVlETEg0ttleg-QwC-9NlywTWfHaFu0WuQWIA0/edit?usp=sharing

We can look at speaker suggestions from former ICT meetings (look up the notes?)

Commented [1]: there were no ICTA notes

On-the-fly suggestions

- Volker Rose has some interesting developments (STM+SXR)

- CSSI beamline Jing Zhang
- Ray Conley (APS) X-ray Optics Coating work (with Howard)

Pitch for LDRD

Cryogenic µDiffraction ER (E Rotenberg, Na Hyun)
Add strain (compression) to environmental control.
BL12.3.2 does diffraction - but ambient condition -- everything is temperature dependent
Structuring the samples

request:
Needs Beryllium windows
Anyone interested in helping with the design (needs experience Be Windows, etc.)
LN2 or LHe is basically the same difficulty

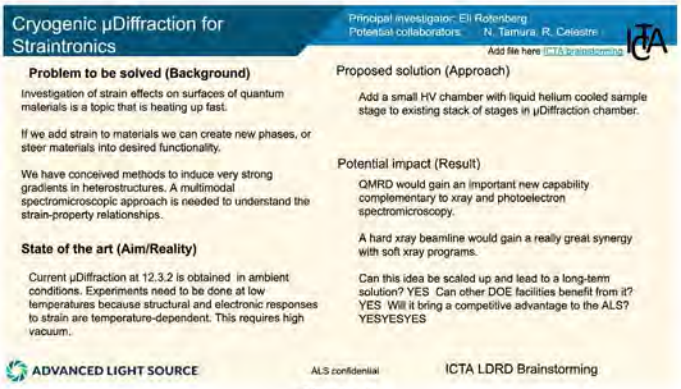


Figure 1.

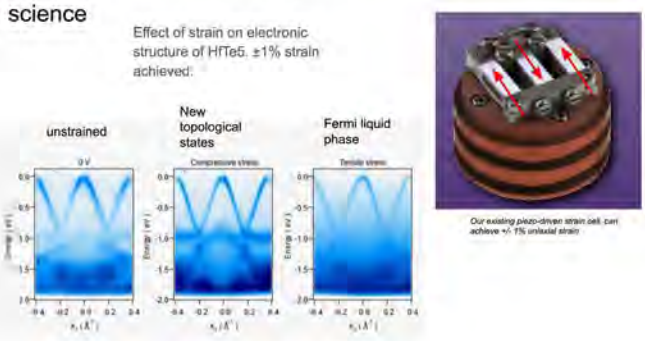


Figure 2.

Coherence engineering for ALS-U (A. Wojdyla)

Designing a controlled v bration mirror to reduce coherence for beamlines that don't benefit from high coherence

feedback:
VY: You could use a rough surfaces
ER: Good for focusing the sample
Optical sectioning / projection imaging
PS: present it in a way to study the partial coherence could work for LDRD
VY: speckle metrology // consider binary pseudo random

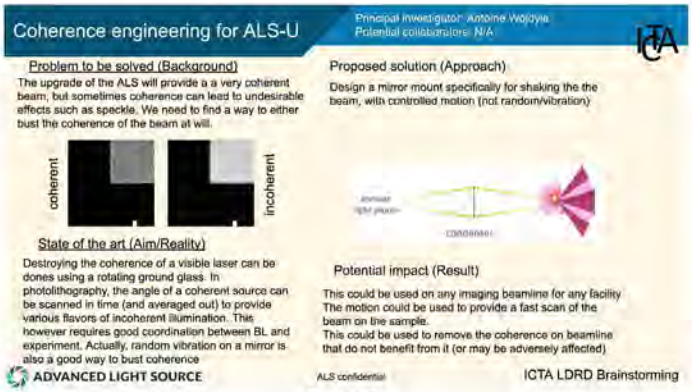


Figure 3.

Other topics mentioned in other ICTA meetings
- *Piezo collimator*
- *Multi-modal spin-coater*

White papers / shovel ready projects

Should write white papers to bring the attention of funding agencies over what we think could be interesting to develop and carve out special funding opportunities

General opinion: DOE tells you when they want a white paper – unsolicited white papers are not worth it
ER: DOE will shut it down
ER: A white paper led to the development of MAESTRO (mid scale infrastructure), but it was solicited

However, white papers could be useful for our management
AH: 5 page max white paper, to the management, they can submit. DOE will ask the director

KG: Shovel ready projects are more for infrastructure (buildings)
We can get things ready in the strategic plan.

EC (10/18/2021):NSF has a Major Research Instrumentation Program (MRI) call.

Chenui Zhu is planning to submit a proposal for Tender endstation
Stephanie Gilbert Corder may be interested for cryo-SINS

Standardization and unification (data and controls)

It would be great to have guidelines for interoperability, and a survey of current bottlenecks.
Topic skipped -- on the agenda for next time.

Connecting with computation group

JR and AW reached out to Andreas Scholl
We'll see the report draft very soon
JR has a survey out Small Projects - Compute Program, please answer!

Meeting adjourned

Next meeting: Friday, November 19th, 2021

ICTA Meeting Minutes

2021-11-19
A Wojdyla, J Reinhardt

Google Team Drive: **ALS Instrument and computing thrust area**
https://drive.google.com/drive/u/1/folders/0ADwaCsDYkq47Uk9PVA

Notes from the previous meeting
2021-10-15 - ICTA Meeting Minutes

Agenda:

1. Update (5 min)
    a. Recap from last time
    b. Computing (consolidation)
    c. ALS-U (FDR coming up)
    d. MSD retreat
    e. Members updates/announcements?
2. More ICTA meetings coming (scheduling twice a month)
3. Attention to: (5min)
    a. FOA - Advanced manufacturing (DOE BRN, FOA resources)
    b. Documentation (LSBL- survey on who uses it; ALS eSpace Document Library)
4. Standardization (Juliane speaking about NX at ALS, 5min)
5. Discussion on LDRD (25min)
    a. Folder: https://drive.google.com/drive/folders/1UenpEBp0MfZN2OaZ7y5WuD2QxugPuRNG?usp=sharing
6. AOB
    a. ALS+U brownbag

Present: Eli Rotenburg, Sujoy Roy, Padraic Shafer, Ken Goldberg, Alex Hexemer, Valeriy Yashchuk, Anders Glans-Suzuki, David Kilcoyne, Juliane Reinhardt, Antoine Wojdyla (plus 2 participants)

Updates

- Please add you suggestions for speakers for the ALS colloquium
- MSD retreat: good occasion to bring ideas for LDRD
- No specific updates from computing group (we've consolidated existing reports)
- ML exchange has a all hands meeting send email to Alex (ahexemer@lbl.gov) to get invited (Dec 7)

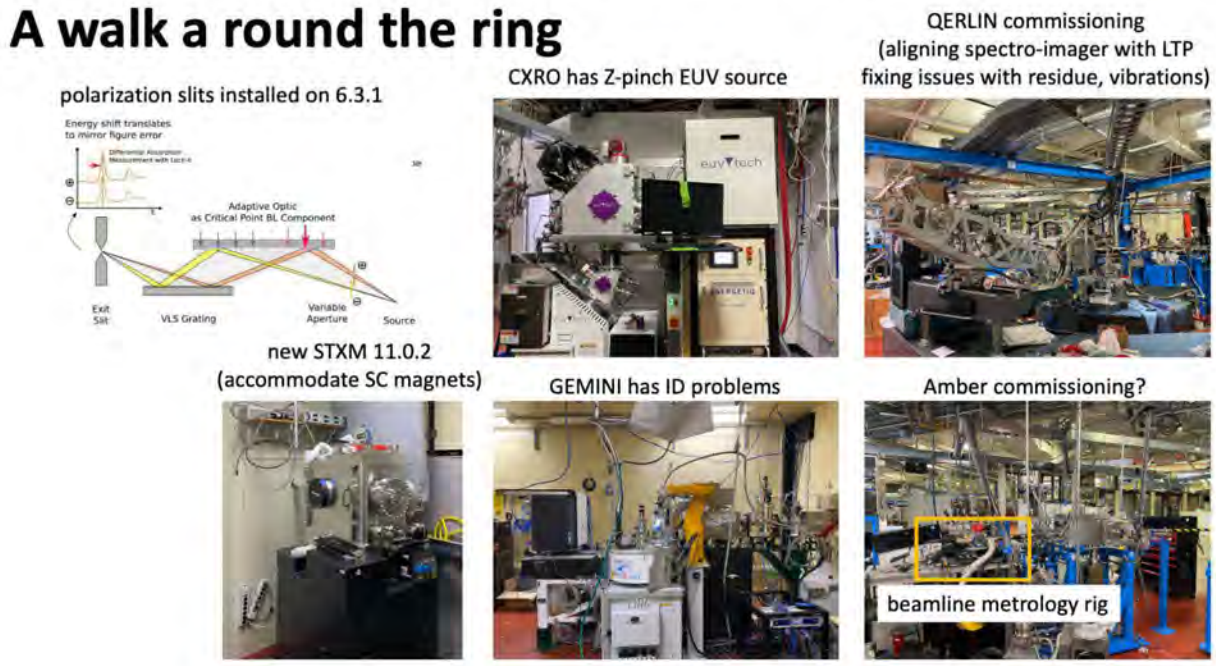
ALS-U Final design review Nov 30-Dec 3

third round of reviews, after CDR, PDR; 3 steps process: Final Design Review (fine-tune), Director's Review (critical evaluation), Independent Project Review (DOE approval))

- ALS-U ID Beamlines Final Design - FLEXON inboard branch
- ALS-U ID Beamlines Final Design - FLEXON outboard branch
- ALS-U ID Beamlines Final Design - Tender inboard branch
- ALS-U ID Beamlines Final Design - Tender outboard branch
- ALS-U ID Beamlines Final Design - COSMIC-U
- ALS-U ID Beamlines Final Design - MAESTRO-U

Walk around the ring update

A few instrumentation-related things happening around the facility (pictures by AW)



Air pressure issues (VY)

VY: Issues with air pressure. No pressure for air bearings (3 systems, 1 down). There were plans to have autonomous air pressure – funding was removed. Need to do 100 nrad, gantry wobbling at 50 microrad (!!) due to uneven air pressure.
Is anyone else impacted to bring the issue together to management? Maybe Bruce Rude is impacted also

Amber commissioning (AG)

AG:Doing pitch scans of the KB to minimize beam spot (5-10um req, 6um) using the beamline metrology rig. Mirrors mounted on site.

VY: Some beamlines have sub-micron KB focusing, but aligned ex-situ.

Advanced Manufacturing

There's a DOE BES Basic Research Need on Transformative Manufacturing:
https://science.osti.gov/-/media/bes/pdf/reports/2020/Manufacturing_BRN_Report_Combined.pdf?la=en&hash=686EF3C6AFC1C3D671E2E03B16BDEA93AD8FBEFF

There is a lab level working group.
Who is the ALS rep? Maybe Ethan

Basic Research Needs for

Transformative Manufacturing

Executive Summary

Manufacturing is central to the nation's prosperity and security—it currently represents about 12% of the gross domestic product, provides nearly 13 million jobs, and accounts for about 25% of energy use. The economy relies heavily on numerous manufacturing subsectors that face common challenges, including how to best take advantage of available process data or inexpensively obtain needed additional data; a lack of physics- and chemistry-based models across length and time scales; a need for more sustainable processes; and supply chain constraints in a global marketplace. Advances in basic science are required to best meet these challenges and transform manufacturing. For example, how could understanding the issues of scaling from molecules to materials lead to the manufacturing of better, more economical batteries with higher capacity or reduce the energy consumption for industrial chemical production? Additionally, entirely new approaches to manufacturing and new products are needed and often arise from basic scientific research.

To identify fundamental scientific opportunities and determine priority research directions (PRDs) that could accelerate innovation to transform manufacturing in the future, the US Department of Energy (DOE) Office of Science, Office of Basic Energy Sciences (BES), held a workshop on Basic Research Needs for Transformative Manufacturing in March 2020. DOE's Advanced Manufacturing Office (AMO) within the Office of Energy Efficiency and Renewable Energy has long worked with industry to advance its mission to catalyze the research, development, and adoption of energy-related advanced manufacturing technologies and practices to drive US economic competitiveness and energy productivity. BES worked with AMO to identify technological barriers and manufacturing issues and to produce a factual document about the current state of manufacturing for discussion by invited workshop participants. (The factual document is posted along with this report at https://science.osti.gov/bes/Community-Resources/Reports.) Along with leading scientists and engineers from academia and national laboratories, industry representatives served as keynote speakers to provide additional perspectives.

This report is the first US government examination of basic energy science needs for manufacturing. The identified PRDs provide a basic science strategy that underpins applied technology research. To transform manufacturing, fundamental advances in synthesis, processing, modeling, operando characterization, and validation are needed. As manufacturing processes become increasingly data driven and fully networked, integration of autonomous sensing and control will enable greater productivity and competitiveness. Finally, co-design will tackle data, control, and design across components, delivering multiple system-level performance criteria simultaneously. Research based on these priorities will lay the scientific foundation to go beyond incremental improvements to create new, transformative technologies for manufacturing that are energy efficient and sustainable.

The workshop was attended by more than 140 leading national and international scientific experts from academia, national laboratories, and industry. In a first for this workshop series, 40% of the participants attended virtually because of the emerging global pandemic. The five topical and one crosscutting panels identified five PRDs that should serve as the foundation for future DOE basic research to transform manufacturing. These PRDs are highlighted in the following paragraphs, along with a summary of the underlying critical opportunities for each one:

Achieve Precise, Scalable Synthesis and Processing of Atomic-Scale Building Blocks for Components and Systems

Innovations that enable precise and scalable synthesis and processing will accelerate the transition from current manufacturing methods to new paradigms for creating unparalleled structures and functions. Application-specific materials with unprecedented performance at manufacturing scale will emerge from targeted synthesis and processing of building blocks, components, and systems that are precisely controlled at the atomic scale.

Integrate Multiscale Models and Tools to Enable Adaptive Control of Manufacturing Processes

Linkages between small-scale physics and chemistry and macro-scale nonequilibrium processes and component performance are not fully understood, limiting the achievable precision and functionality of products. A combination of multiscale modeling, in situ diagnostics, and an online decision-making framework is needed to realize adaptive manufacturing processes and guarantee component qualification.

Unravel the Fundamentals of Manufacturing Processes Through Innovations in Operando Characterization

In 21st century manufacturing, many processes are still practiced as "art" instead of science. Frequently, there is insufficient fundamental understanding to tailor and control materials and processes so that they perform exactly as desired, with minimum energy consumption and maximum efficiency. Operando characterization—direct visualization and characterization under actual manufacturing conditions—will provide the knowledge needed to transform the science of manufacturing.

Direct Atom and Energy Flow to Realize Sustainable Manufacturing

Sustainable manufacturing requires localizing energy delivery and directing atom- and energy-efficient chemical and materials processes. Synergistically using diverse forms of energy (e.g., electrical, thermal, radiative, and mechanical) coupled with understanding phenomena across length scales would enable sustainable, high-efficiency processes. Scientific advances could support the design of circular feedstocks that minimize waste and reduce the use of critical materials in existing and future chemicals and materials, moving toward resiliency.

Co-design Materials, Processes, and Products to Revolutionize Manufacturing

Co-design is a paradigm that provides scientific foundations for the creation of new materials, chemical processes, or systems by addressing the ubiquitous manufacturing challenge of simultaneously satisfying multiple performance objectives. Exciting opportunities exist to meet this challenge with new approaches integrating predictive modeling and experimental data with system resiliency, circularity, and operability. Doing so will enable the navigation of the near-infinite range of possible designs to identify inherently resilient systems.

It seems ALS could shine in 2, 3 or 4 (multi-scale, in-operando characterization, direct energy flow)

Documentation

It would be great to document our clever instrumentation, and make it easily available.

There seems to be no common repository for documentation at the ALS:
There are:

- LSBL repository, but restricted access to PS Dev:
  ALS eSpace Document library (AODocs, previously AlFresco; predates Google Drive)
  https://aodocs.altirnao.com/?locale=en_US&aodocs-domain=lbl.gov#Menu_libraryHome/LibraryId_REmJ27k3h2Top6AssX

- Engineering documentation on Windchill/DCC

Forbidden access to LSBL for most
VY: Non published information, should remain private
VY: essential to log work, if not published
Can be shared outside, with a confidentiality requirement and DOE acknowledgement.

AW: Are most people using random memo structure in random google drive folder
PS: It seems like so...

Is there a need for a better documentation structure?
No poll yet – we will bring back the topic for further discussion

VY: things will get worse when we get closer to ALS-U -- lots of retro-engineering to do

Nexus standard

Postponed to next time (D English couldn't make it)
Slides (JR) are available here:
https://docs.google.com/presentation/d/1Srv9hWgUH2wOlguJ3oee8qMZRqdGvRf5gL7oJ7QA-vg/edit#slide=id.gfbd4d94147_0_331

LDRD

Two presentations of ideas - JR and AW. Please bring your own!
Previous ideas are still in the folder (we are collecting new ideas before merging them)

1./ Juliane Reinhardt, "Enhanced Correlative Analysis"

Enhanced Correlative Analysis

Principal investigator: Juliane Reinhardt
Potential collaborators: TBD

Problem to be solved (Background)

Multi-modal analysis using complementary techniques across instruments and facilities is often key for scientific discovery (e.g. ~ 20% of Users have contributions from TMF and ALS)

- 4D-STEM/TEM + Ptychography
- PEEM + field-free LTEM
- ARPES and STM

Proposed solution (Approach)

- Capture extensive set of metadata of each experiment
- Make the data readily available across the different instruments + connect to existing databases and ML models
- Connect and visualize the laboratory coordinate systems
- Real-time reconstruction and automated near real-time feature extraction
  (see following slides for details and ideas)

State of the art (Aim/Reality)

To date the process of combining results from various techniques is done manually and post-experiment. By tedious manual sample/feature search precious instrument time is wasted and important new insights could be missed.

Potential impact (Result)

Beyond initial scientific use case of e.g. battery research, other complementary techniques across instruments and facilities could be connected.
Software packages, pipelines and infrastructure could be used across facilities with adaption to/of existing workflows.

VY: Do you have resolution calibration?
JR: resolution depends on the sample (not a direct imaging), may not apply here

Ideally I need to pair up with a scientific case, where high-speed, high resolution is essential

2./ Antoine Wojdyla, "Beam induced sample modification"

Beam induced sample modification

Principal investigator: A Wojdyla
Potential collaborators: NT?

Add file here ICTA brainstorming

Problem to be solved (Background)

Manipulating matter at the nano-scale is quite challenging; most approaches are top-down (lithography, fib) and essentially 2 dimensional (layers upon layers or deep trenches.)
ALS as a facility is mostly focused on observing samples (spatial and spectral resolution), not modifying them.

State of the art (Aim/Reality)

Nano-scale
There seems to be a few anecdotal evidences at ALS (C Stan)
Studied at ESRF (17 keV)
History of LIGA at ALS (unfocused, low resolution)
Tomographic printing

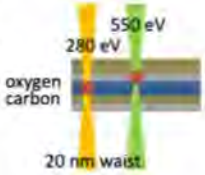
doi.org/10.1126/science.aau7114
doi.org/10.1038/s41598-017-09443-3

Crystal structure changes while measuring diffraction (courtesy C Stan)

Proposed solution (Approach)

We want to build an "inverted STXM" to demonstrate the ability to pattern a sample using the x-ray beam with very high resolution (<20 nm) and elemental sensitivity to demonstrate 2.5D printing of patterns
The pattern could be chemical modifications, or local modification of physical properties (e.g., magnetic properties)

We could also look at multi-modal applications (SEM while x-ray printing, or x-ray imaging with fine visible light focusing/optical tweezers)



Potential impact (Result)

It would also open the possibility to modify the sample in-operando (there might be cc layers)
ALS-U may have enough flux to make it a viable production method for prototyping applications (a fancy x-ray printer)

PR: you can't compete on resolution (e-beam are better), but subsurface/depth modification is key

AH: fast scanning would be interesting (AW: maybe good for another LDRD idea)

ER: Within QMRD There are two renewals, we may ask for a third year because of covid

Meeting adjourned.

Next meeting: TBD (~2w)

ICTA Meeting Minutes

2022-01-21
A Wojdyla, J Reinhardt

Google Team Drive: **ALS Instrument and computing thrust area**
https://drive.google.com/drive/u/1/folders/0ADwaCsDYkq47Uk9PVA

Last meeting
2021-11-19 - ICTA Meeting Minutes

Zoom etiquette reminder: raise hands, use chat - be friendly!

Agenda:

1. Updates (15 min)
    a. Around the ring in 650 nanoseconds
    b. 5.3.1 reboot
    c. Staff leaving
    d. Shutdown (input on what is happening)
    e. ALS-U brown bag agenda topics
    f. ALS colloquium (March 9, Charles Bouman, Purdue)
    g. MIE / updates next month
    h. SBIR call
2. LDRD white papers (15 min)
    a. Supporting ICTA submission
3. Staffing and knowledge transfer (15 min)
    a. Documentation database – what do we do next?
    b. Webpages? guidance
4. Instrument controls – prep for next time
5. Instrumentation elsewhere – what have people heard

Updates

1. ALS seminar coming up on CT for dynamic objects (Charles Bouman, Purdue, March 9)
2. Upcoming retirements – Steve Kevan, Howard Padmore, etc.
3. BL 531 to be converted to EPICS/bluesky for exploring how long that will take, what benefits we get etc
4. Major Items of Equipment - ongoing discussion, we will bring that up in the next meeting
5. SBIR - call for ideas, contact dcocco@lbl.gov if you have any ideas, make sure it fits with DOE and then find companies who'd be interested to collaborate

a. Eli organizing an information session with a company developing ML algorithms and they are looking for applications → details on date will follow

LDRD

1. ICTA is well represented (Eli, Juliane, Chenhui, Anders, Ken, .. 12 ALS submissions total)
2. Try to create enthusiasm about the topics, e.g. presentations, discussions, outreach
3. Eli sharing details about his cryo experiment setup proposal
4. First feedback next Tuesday, Jan 25 is supposed to be an early feedback to be as efficient as possible by merging ideas or going different directions or even dropping if not promising this time

Knowledge sharing

1. How do we proceed if someone (like a lead engineer) retires?
2. Sometimes people leave within 30 days notice? How to ensure training/documentation? Maybe finding someone from TMF who has similar experience?
3. Maybe a rehire? (30% time?)
4. How could we manage cross-training?
5. We currently suffer poor knowledge management, so we can not capture knowledge properly if someone leaves
6. Dula suggests a “Documentation day” like a clean-up day
7. Eli: Maybe we need to take a certain amount of hours away from operation to dedicate to other tasks such as documentation?
8. Padraic: Confluence would be an excellent tool, but we need to promote it
9. Management would need to require certain procedures for all programs etc to follow

ICTA Meeting Minutes

2022-02-18
A Wojdyla, J Reinhardt

Google Team Drive: **ALS Instrument and computing thrust area**
https://drive.google.com/drive/u/1/folders/0ADwaCsDYkq47Uk9PVA

Last meeting
2022-01-21 - ICTA Meeting Minutes

Agenda:

1. Updates (10 min)
    a. Around the ring
    b. ICTA co-chair J Reinhardt is stepping down
    c. Documentation: a committee is being formed
    d. LDRD
    e. MIE - discussed with L Horton
2. New co-chair (5 min)
3. Instrument controls (10 min)
4. Internal communication (10 min)
5. Attenuators, shutters and choppers (10 min)

Updates
Juliane Reinhardt is leaving, we are looking for a new co-chair – godspeed Juliane!
AH: There will be a search to replace her in the ALS compute group.

Major Item of Equipment: the process in ongoing, there's already been a meeting with Linda Horton (head of DOE BES)

A Doran: LCW didn't have good stability – needed chillers. Source of vibration + required maintenance.
Amber and QERLIN has good water conditioning solution.
P Shaffer: groundbreaking! Can you show some results?

Documentation
We are forming a documentation committee.
It seems Confluence is what is used by many facilities.

E Rotenberg: tried Confluence in the past, not too convinced
Competitors? Wordpress. Issue: not very collaborative, very top down

SLS has a nice SQL, where you can even look up price of individual items. But we don't have the skills/resources needed to maintain it (there would also be too much backlog)

Let's make sure we do not duplicate information
Need to define scope for documentation if e.g. using Confluence

- Is it for communication between groups
- Exposure to outside users etc

Padraic: distinguish between internal and external documentation

"Phonebook example": Confluence is more of a repertory

Example of Confluence webpage.
https://commons.lbl.gov/display/~bkalkan@lbl.gov/Beamline+12.2.2+Reference+Guide

Instrument controls
There were a few presentations of the last few weeks on instrument controls:
Presentation fro Padraic (PS meeting)
Presentation from Juliane (PS Dev)

Content on Nexus format:
https://github.com/lightsources/definitions/tree/943-contribute-NXxpcs

SLS uses stxm/cxi nexus format. It seems there are a few versions!
XPCS definition, ptychography definition.

Attenuators, shutters and choppers
For ALS-U, we might have to face too much brightness, and will need to turn down the photon hose.

What are some options to adjust the flux?
Attenuators, shutters and choppers
There's no neutral density filter (energy independent)
PShaffer: Good practices to preserve the coherence (foil can be bad!)
M Marcus: Mesh screen could be better -- but if the beam is coherent you may scatter everywhere (coherent artifacts can be nasty)
M Marcu: You can slit down (you would increase natural divergence
You can defocus (it might be hard to us spatial filtering)
You can detune the mono (might be tricky when the beam shape changes dramatically near coherence)

A Doran: Be wary of a very large variety of timescales/duty cycle.
Reducing rad damage on retrace

Fast x-ray shutter
M Marcus: STXM: Piezo flapper that goes in the beam. Bounces.
D Kilcoyne: Need tuning the control box. In-house solution.
More info: Fast Soft X-ray Beam Shutter (Kilcoyne and Tyliszczak, 2004)
http://dx.doi.org/10.1063/1.1757869

FIGURE 1. X-ray beam shutter. Shown are the piezo bender, copper shim and stainless steel stanchion.

Paul Denham with a cam. Fancy in pulse shaping. Out of a hard drive.
PR: Sophie and Sujoy may have a commercial shutter they can talk about

A Doran: Detectors are eating choppers' lunch – their improving gating abilities make chutters (and choppers) irrelevant in many situations.

Other topics
ICT co-chairs could attend another TA meeting

Meeting adjourned.

Next meeting: March 18, 2022

ICTA Meeting Minutes

2022-03-18
A Wojdyla, J Reinhardt

Google Team Drive: **ALS Instrument and computing thrust area**
https://drive.google.com/drive/u/1/folders/0ADwaCsDYkq47Uk9PVA

Last meeting
2022-02-18 - ICTA Meeting Minutes

Agenda

1. Updates (10 min)
    a. Around the ring
    b. New PS Dev group leader: Ken Goldberg
    c. New ICTA co-chair election
    d. LDRD going through
    e. TA breakout at the SAC
2. Internal communication (10 min)
3. Graphical User interfaces (10 min)`
4. Primer on Beamline design (ALS nomenclature, ALS coordinate system) (10 min)

Present: Andrew Doran, David Shapiro, Padraic Shafer, Matthew Marcus, Ken Goldberg, Antoine Wojdyla, Anders Glans, Valeriy Yashchuk, Dylan McReynolds, Jonathan Slack, Wanli Yang, Hari Krishnan, Chenhui Zhu, Juliane Reinhardt, Sujoy Roy, Jonathan Slack

Excused:

Updates

This is the last meeting for ICT co-chair Juliane Reinhardt. Good luck in your new endeavors!

New PS Dev group leader: Ken Goldberg – welcome!

Documentation: a documentation committee has been formed, will meet weekly on Friday at 2pm. DP, KG, AW, AD are part of it. Recommendations to ALS management in 2 months. AW presented some material to PS Dev and received good feedback. Will work on a demo.

Good news from congress:
https://www.aip.org/fyi/2022/lawmakers-converging-vision-doe-office-science

Election of the new co-chair
Candidates (1) : Dylan McReynolds.

Proceeding to the election
Dylan McReynolds elected at unanimity

Dylan McReynolds is the new co-chair of the Instrumentation and Computation Thrust – Congratulations Dylan!

ICT breakout at SAC meeting

There will be a ICT breakout session (led by AW and DM) at the upcoming ALS Strategic Advisory Committee on Thursday, March 31st, 11:20am. AW will share slides beforehands with ICT for input

KG: Remember SAC tells DOE how our management is doing. So when we ask them to put something in their report, it's because "we" want to push management in some direction.
DOE will say, "We give the facility money and the facility decides how to spend it." So we could tell the SAC that the low-budget levels are significantly hurting our ability to be productive and stay on the leading edge.

AD: Reminding the SAC that new instrumentation is important to buy – always good to remind
There wasn't much dev on beamline instrumentation

VY: Design work should probably start before money is available,potentially with ALS-U engineers.
AD: engineers are expensive. design is easily 25% of project cost. I agree with your big picture point Val, and yes, we should be already starting, but we don't have the people on staff, and if we want to utilize the design engineers that you rightfully point out are winding down on ALS-U, their salary has to come from somewhere
VY: We should prioritize in a way. Potentially start with the low hanging fruits (easy to do.) We could use this to rebuild the workforce (SEA/AM leaving)

DS: ALS-U calls for endstation, but there's currently no budget (worried: nominally responsible for two of them!)
AD: people in management are talking about them.

PS: we have no budget! We want to start projects 2/3y in advance, and we're getting close to missing ALS-U start.
AW: it would be useful to look at the typical timeline of an ALS project to make sure we don't fall behind.

Internal communications preferences
How do people communicate internally?

David:

- Google Chat for small technical problems

- Slack if a broader group of people involved
- Spoken communication preferred for problem solving

Matthew:

- Spoken communication
- email

Valeriy:

- Zoom is great for immediate communication, as good as in person
- Screen share is best for quick demonstrations

Dylan:

- Github issues and PRs

Padraic:

- Email more for broadcasting information to many people, not really getting answers back from everyone, because then it gets messy
- If many people get involved, chat is better for quick conversations

Andrew:

- Remember that most of the different tools are not universal, so one might not be in alignment with standards
- Email
- In person conversations

Antoine:

- In person conversations

Hari

- In person conversations better for engagement
- With zoom people might tune out quickly

Generally, it seems that there is no better way to communicate, and that each channel of communication has its purpose. It might be difficult to favor one over the others. But we could provide some guidelines and advice (e.g. agenda for zoom meetings.)
Meeting in person is still a preferred method of interaction (less formal, ideal for bouncing off ideas and communication existing knowledge), but Zoom has some advantages (sharing material is better than a formal presentation)

Graphical User Interfaces

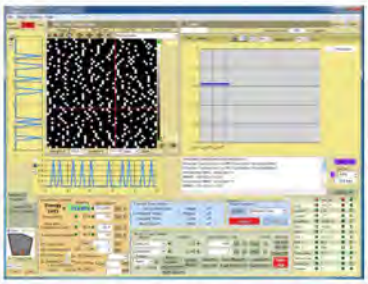
There is a lot of talk about bluesky/EPICS/ALS-U, but little attention is given to Graphical User Interfaces (GUI), which are a clear strength of LabView.

AW presented a few GUIs available around the ring (missing xicam) Apparently PEEM3 had a very advanced GUI based on Labview. In diffraction, people are using spec (https://certif.com/content/spec/), a commercial software.

Instrument controls on the ALS floor

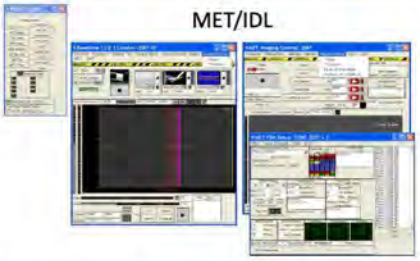
BCS/LabView

STXM control program/C



Sharp1 (IDL)

MET/IDL



Example of GUIs around the ring (AW)

STXMcontrol (written in C by Tolek) is not maintainable → DS created own GUI in Python, intent to add bluesky/EPICS in exchange to current pure python based scanning
DM: UI should be lightweight on top

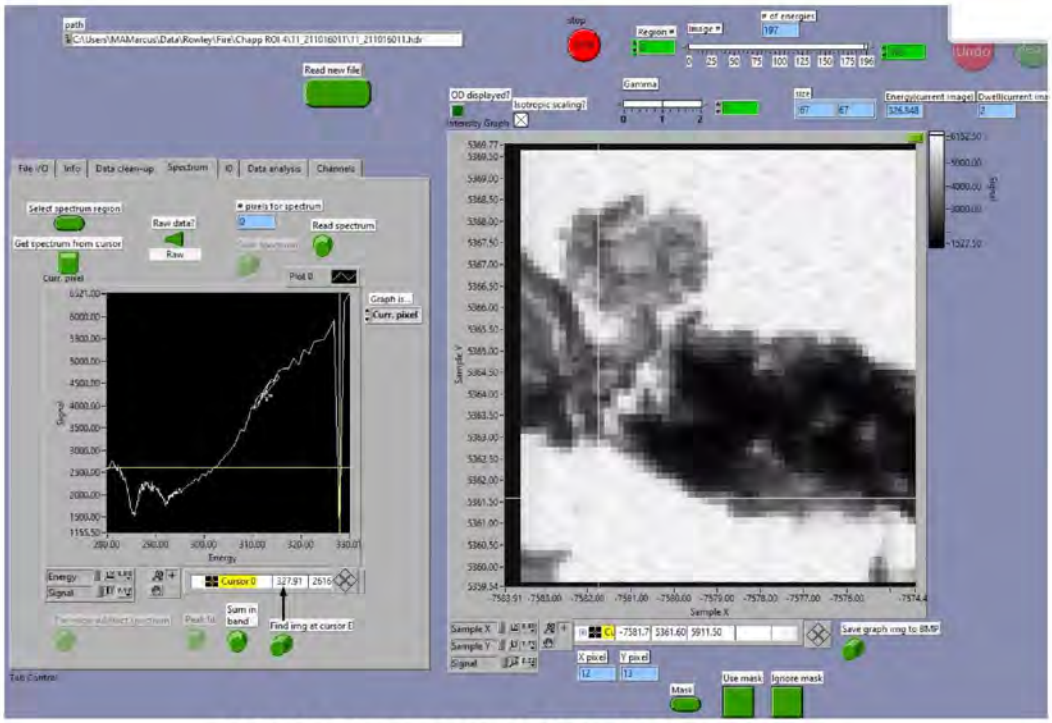
New STXM control is based on PyQt5. Everything is python, it talks to a backend developed by JR

STXM control (D Shapiro, COSMIC/ALS 7.0.1)

DS: Be aware that EPICS is scattershot - not everything works, since it relies on a variety of developers
HK: EPICS is actually overloaded - it provided Channel Access (c.f. Caproto), which is its big selling point. Drivers is another story (some do not provide access to all functionalities)

-> Compartmentalization is important
Generally becoming more and more complicated (many dev platform, screen size, backends)
SR: It's important to be opinionated - we have few resources, we need to reuse as much as we can.

MM showcased a LabView GUI for STxM



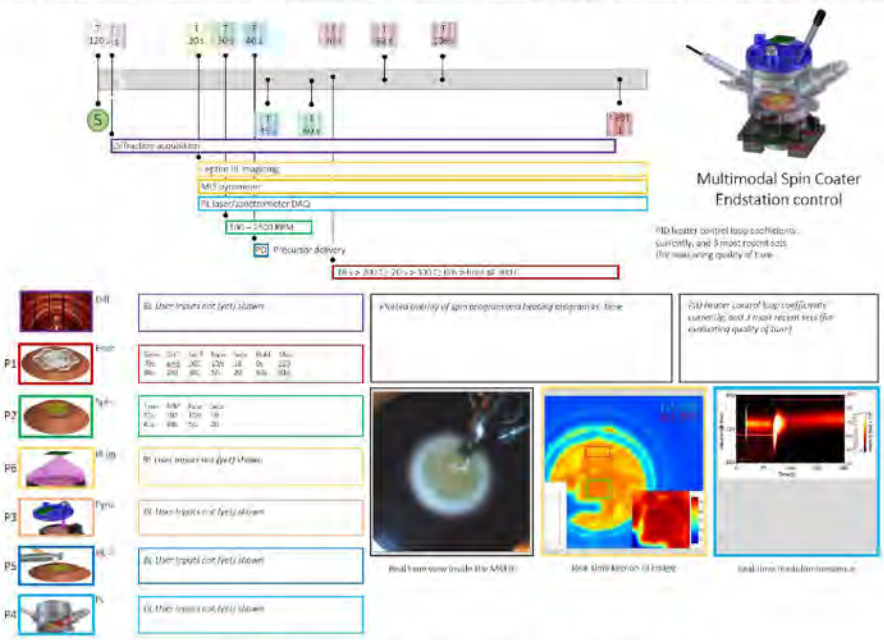
STXM Labview controls from Matthew Marcus

There's Xi-Cam (https://xi-cam.readthedocs.io/en/latest/quickstart.html) which is used by diffraction beamlines (ALS, NSLS-II.) Hard to make a one-size-fits-all. But lots to learn from xi-cam.
HK: GUIs are subjective – layers need to be cleanly defined.

Xi-Cam (RP, HK)

People are now looking into Dash, web-based GUI https://plotly.com/dash/
Perhaps the best way to work cross-platform.

Very interesting contribution from J Slack on the design and specification requirements for the user interfer of the multimodal spincoater (in collaboration with Kevan Anderson.) Labview GUI



Spin-coater GUI (shared by J Slack)

There are a few ideas regarding GUI design that are worth considering (mentioned by KG)

- Visual feedback (moving)
- Auditory cues (sounds)
- Keyboard navigation
- Virtual motors for development

Meeting adjourned.

Next meeting: April 15, 2022

-Discuss topics for SAC meeting

Usual self-introduction around members attending the meeting

- **Functions of S.C./trusts** &how are they connected and coordinated with the operations
- (ongoing) Workshops, forums…
- (if possible) **extra resources** available for STAs to promote collaborations and developments?

- Positive: towards collaborative proposals (SC)
  - But resources, like beamtime, are yet to be available to support proposals with ALS PI direction involved.
  - Need realistic approaches/**actions**, especially with ALS management, &PSP? ~DD/RAPPID?

- SAC may ask: how is the situation/feeling of user support during COVID?
  - There are both negative and positive aspects? - But not to leave the impression that the "flexibility" introduced by such a mode impacts user supports/operations
  - A tricky topic though, also other issues such as man power etc...

-updates on various funding activities past and future

-do we have any priorities for our thrust area to accomplish during reduced budgetary times

-strategies for mitigating challenges of reduced financial budget options.

-ALS User Meeting workshops

- Combined apXPS/RIXS (plus other techniques too, e.g., scattering, IR, STXM..) workshop ?

    - some CT "intersections" to bridge a multimodal approach on "big" problems.
- Plenary speaker recommendations?

1. We need to finalize our STA recommended ALS colloquium speakers. I was only able to put in the names that we discussed and some info, and need to work out recommendations as I don't remember many info requested, e.g., who recommended who.
- I have copied the form out to our STA folder here so you can all see:
https://docs.google.com/spreadsheets/d/1Izy8B9xNNNw8kHqbm7cu73cvHTUFcbjh83YuQj26UFk/edit?usp=sharing

2. Updates on students/postdoc fellowship
Jinghua: ~ 2 students/ 1 postdoc candidates
Slavo: 1 postdoc candidates

https://als.lbl.gov/about/career-opportunities/als-doctoral-fellowship-in-residence/
https://als.lbl.gov/about/career-opportunities/als-collaborative-postdoctoral-fellowship-program/

- **Also pay attention to various fellowship programs by DOE/NSF, see SC meeting minutes below.**
    - 2 awards to Jinghua
    - 1 award to Ethan

https://science.osti.gov/wdts/scgsr

3. Input for Table 4 and Table 7 in Strategic plan. This is no longer a priority item per Andreas' latest notification, but it seems we should get this ready by early next year. Definitely does not hurt to start discussions.
Again, I copied out the document to our CT STA folder here:
https://docs.google.com/document/d/1NP17O3cKwS4ZD5df4Tx225-M-ZLHQR4efSkB8emL09Y/edit?usp=sharing

4. I pulled out the 10/5 SC meeting minutes to our STA folder, so you could all browse through if interested:
https://docs.google.com/document/d/1zmKgRtile9XBDb1ToluZqax5GABnp5ha9AK_aFI29go/edit?usp=sharing

5. MISC discussions:

How to motivate our STA meeting attendees:
- Better communications
- More specific and useful discussions, e.g., proposal preparation
- Add external participants to the invite for specific topics

Collaboration with EPSCoR state partners for funding opportunities (money goes to the University partner but usually students and postdocs are sent to us).

List of EPSCoR states:
https://www.nsf.gov/od/oia/programs/epscor/nsf_oiia_epscor_EPSCoRstatewebsites.jsp

1) Prioritized **ALS colloquium speakers** from CT STA (based on the speaker list from 6 months ago):
Simone Raoux EMIL (CH very good fit for this)
Yi Cui (Stanford, for CH)
Frank de Groot (very broad field of expertise – touch ALS-U/CH)
Bernd Winter (good speaker, ALS-U)
Conny Sathe (ALS-U/CH)
Eli Stavitski (CH)

Yi moved up on spot on the list in comparison to the previous suggestions

2) Doctoral and Postdoctoral Fellowships:
- 5 postdoc/ 3 student fellowship for THIS cycle (tentative)
- likely start in October for application submission and tentative start date around April 2022
Will (still) be every 4 months/ for postdocs & every 6 months for students.

3) ALS Innovation Forum:
May start formalizing the plan/proposal for an ALS Innovation forum for approvals and logistics…

- Yi-de Chuang / Per-anders Glans: Forum of low-energy high-resolution RIXS for critical materials, heavy elements, and others.
Tentative time schedule: December 2021

4) Other:
Andrew asked about interest in mechano-chemistry research topics.

What are the specific topics/concerns we want to communicate with SAC members (Lou & David) assigned to our Breakout?

1. "Partnership model"
   - We understand this is still wide open in many aspects, but we don't have even basic clarifications on the general/tentative goals and directions.

2. Budget & new ALS director: a special time requires more open information communication/transparency.

3. Short cycle operation of the ALS (for ALS-U): staff scientific activities are squeezed, e.g., 5% staff beamtime gets shortened by ~half too.
   - Need more details on post-ALSU startup?

4. Last year SAC meeting topics: nothing really happened
   - There seems to be lots of committees, meetings, debates on almost everything, but don't see what is really happening as a response.

Praise:
- Recognition is improving

Stole from Chenghui:
(1) ALS annual operating budget, re-baseline plan,
(2) ALS endstation upgrade/relocation, and ALS new endstation design/constructions, MIE plan,
(3) IDEA related,
(4) Partnership - with internal, external research institutions, and industry,
(5) Science council, STA related,
(6) work-life balance, career development, recognition,

October 7, 2019 EEBS TA meeting
Agenda:

(1) Updates:

- **Superbend decision**
  Superbends will be replaced by 3.2 Tesla permanent magnets at the same sectors.
  Lower risks compared to superbends was main argument
  Superbend beamlines will lose flux but gain (a little) brightness provided optics will be updated.
  Optics update is outside ALS-U project and needs to be completed within ALS budget.
  MK to figure out spectrum of warm ALS-U bends

- **Beamline moves**
  ALS management started the planning process.
  Priorities will be set according to "ALS priorities"

  Unofficially: Insertion devices first (no moves)
  High field bend beamlines next (no priorities known there)
  Some beamlines will not be moved/realigned at all: e.g.
  7.3.3 (will be relocated to high-field magnet - which one unclear, probably 12.2.1, Fate of Chemical Crystallography unknown
  10.3.2: Program will be taken over by ALS-U TENDER beamline

- **DOE Facility R&D Funding call:**
  'We' submitted three one pagers (Bechtel Voltolini, Tamura);
  SC feedback:
  "COMBINE THESE PROPOSALS TO ONE WHITEPAPER:
  1.1 [Tamura] Machine Learning and Artificial Intelligence for the analysis of complex synchrotron x-ray/electron diffraction data
  1.2 [Nemsak] X-ray Database for Spectral Interpretation and Modeling PLatform (SIMPL)

  DISCOURAGE THESE PROPOSALS, TOO SCIENCE-DOMAIN SPECIFIC. These should be encouraged for consideration as future LDRDs or ALS projects.
  10. [Voltolini] Improving in situ capabilities for the new 11.3.1. tender/hard X-ray nanotomography beamline.
  Not a fit for this call
  11. [Bechtel] A cryo-nano-FTIR
  Not a fit for this call

- **ALS Budget**
  ALS continued to be underfunded compared to inflation.
  Management is forced to find ways to save money (i.e. staff).
  No RIF planned

Readjustments by attrition upon retirements etc.
Management is in search for "creative" methods to operate ALS beamlines cheaper (i.e. with less staff).
No decisions or details communicated yet.
User outreach / information

- **Operating Schedule:**
  From now til dark time, ALS will operate closer to 4000 hours to accommodate pre-installations of ALS-U components.

(2) "We have to talk":

Science Council is now chaired by Eli Rotenberg (ER) Lead Program Development and Science Council
ER initiated a revision of the SC charter. Most important change:
Non ALS beamline staff (e.g. all Bio beamline scientists) can be full member of TA's and also be elected chair-person).

So.... shall we break up? ("It's me, it's not you")
Pros:
EE is scientifically far removed from B and common funding opportunities are unlikely and mutual interest in a busy schedule will always remain limited

Cons:
TA can serve as information channel for Bio BL scientists who are left out on many of the ALS information channels.
SAC member Tolbert thinks as one TA we are a stronger voice advocating for the hard X-ray programs. (Are we?)

[Online discussion and vote]

(3) Chair election:

Depends on outcome of discussion on (2)
If no break-up: We need to re-elect one chair and replace one chair.
EEBS TA chair role may need upgrading -> coordinating funding opportunities.

Action items (MK, HB)

- **Spectrum of warm ALS-bends**
- **Think about thinking about how to reach out to users for lobbying motivation (beyond UEC).**
- **Organize online discussion/forum on break-up or not and following that chair election.**

- Discussions on future strategic beamlines by Thrust area
    - Each STA will generate a list of projects
    - The project will need to meet certain criterias (for example, project scale, staffing, budget)
    - Prioritize to high, higher and highest

- New capabilities, connect to the user community
- Transformative manufacturing opportunity
    - High throughput capability, in-situ characterization
- Charter Hill discussion
    - Multimodal instrument … connection to NCEM, MSD, CSD

Earth/Environmental/Biological Sciences Thrust Area (EEBS TA):

Updates August 18, 2020

Proposed Agenda

1) Latest developments in creation of a dedicated Biology TA (MK)
2) NAWI (National Alliance for Water Innovation) at LBL: Activities at EESA (MK)
3) Multi-Area SARS-CoV-2/COVID-19 Research Strategy survey (HB)
4) Upcoming Dear Colleague Letter by NSF-EAR/IF for Earth Science research at US synchrotrons (MK)
5) ALS strategic plan (HB)

1. ALS Highlight selection committee (6 month term, 2 per STA)
2. STA page… content…
3. Roaster of TA
4. SAC meeting 9/26-27, TA Breakouts (60min Friday)... TA priority, slides for Eli
5.

CMI TA meeting 2022.3.10
Draft discussion topics

1. 3:15-3:20, Update on the ALS MIE discussion with DOE, SAXS/WAXS relocation/upgrade, Tender scattering endstation (CZ)
2. 3:20-3:25, ALS science highlight committee member rotation (CZ/GS)
3. 3:25-3:35, LDRD updates, other FOA updates (CZ/GS).
    a. EFRC calls (GS - MWET renewal, core program renewable, CW/GS -NASA funding, CZ - Purdue EFRC pre-proposal, CW - EFRC with Patrick@CXRO)
    b. Hydrogen (AK - on a hydrogen proposal)
    c. Jinghua is involved in a proposal with Peidong, Mary Scott.
4. 3:35-3:45, ALS user meeting (8/15-17) speakers, workshops planning (submit by Mar. 15th)
    a. Interface?
    b. Workshop on SAXSWAXS relocation/upgrade?
5. Other topics

CMI TA meeting 2022.1.14 agenda

Tentative agenda and minutes:

1. Thoughts on ALS budget, external funding, etc. following Steve's follow-up discussion on the budget at the PSP meeting.
    a. Staff loss. How to address that before the ALS-U.
    b. Are cuts made uniformly across the organization?
    c. The big budget - annual operating budget - did not get addressed. Re-baseline?
    d. How to define 100% workload? This could be beamline dependent.
    e. To get partner users requires additional effort? How to keep a good balance of partnership effort and existing user support duties? Work-life balance concern. Outreach to bring partner users to ALS should not be the focus of every staff's job…
    f. ALS is currently poorly funded due to the cumulative inflation and an annual operating budget based on ~ 30 years ago. How to address this?
    g. Industry partner list.
    h. Find a way for ALS staff to make contacts to program managers so that ALS staff could be more effective in attracting funding?
    i.
2. LDRD discussion after ESA/ALS Town Hall (on Tuesday, 1/12)
    a. 1-page White papers are due on Jan. 20th.
3. MSD retreat follow-up.
    a. ALS SC is considering a response forum, time to be determined.
4. Funding opportunities
    a. EFRCs
    b. LDRDs
5. Sub-committee updates
6. Open discussion

CMI TA 2021. 12. 13
Meeting agenda

Participants:
Tom Russell
Cheng Wang
Gao Liu
Greg Su
Sohoie Morley
Chenhui Zhu
Skavomir Nemsak
Eric Schaible
Alex Hexemer

1. LDRD discussion
2. TPR, suggested corrosion, interfaces, to be studied with hard/soft x-rays with chemical specificities. And with AFM, etc.
3. SINS, APXPS has been used to study corrosion by Miguel S. et al … in an MSD core program
4. CZ, spin coater, plus xpcs, gisaxs. TPR/GS-Look at asymmetric thin film. use water etc non-solvent to make non-symmetric films. AH- multi-layer OPVs? Real-time monitoring.
5. AH - polymer printing.
6. Transformative manufacturing area.
7. 3d printer. Kinetic processes. Laser, chemical modification.

Feb 25, 2022 | EESTA Meeting

Attendees: Bora Kalkan Chenhui Zhu Hans Bechtel Harry Lisabeth Matthew Marcus Martin Kunz Nobumichi Tamura Quentin Williams Sirine Fakra

Agenda:

1. LDRD practice talk: Harry
2. NSF-EAR proposals:
   ALS-Hard X-ray: update from Quentin
   SYSTER: update
3. FOA discussion: Martin
4. Other funding opportunities

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1. Harry presented his LDRD idea for characterizing physical properties of planetary materials in realistic conditions (high vacuum, cryogenic temperature). Idea is to get seed funding to build institutional knowledge to study materials resulting from planetary exploration and set the lab as a major player. LDRD scope is to build a cryogenic high vacuum chamber for the tomography beamline 8.3.2 (first year development, second year postdoc). The LDRD is submitted through the ESA route. LDRD received very positive feedback from the stakeholders.

2. Update on the NSF-EAR proposals responding to calls on Synchrotron-based Analytical Capabilities Advancing Earth and Environmental Sciences research and training. There are 17 proposals submitted (2 from ALS, 7 from APS/GSECARS). Quentin gave an update on the "ALS Hard-X-Ray proposal". Reasonably optimistic about getting funded to continue the COMPRES program on 12.2.2. Unclear about getting funding for the other beamlines. Sirine gave an update on the SYSTER proposal headed by Brandy Toner. Quentin suggested a possible conflict of interest with the Stony Brook proposal for SSRL/NSLSII.

   Chenhui asked Quentin, as a newly elected UEC member, what the UEC can do about the ALS current funding bottleneck. UEC is well aware of the long term budgetary problem of the ALS and the additional uncertainties stemming from the upcoming changes in leadership, and is in direct communication with Steve Kevan.

3. Martin briefly discussed last year's Critical Materials and Minerals FOA proposal and asked if it should be resubmitted. Consensus from the PIs is that it would not be worth the effort as the proposal does not align very well with the current call scientific priorities.

4. Major Research Instrumentation Program (MRI) call: Hans provided some feedback.

Materials Discovery, Scientific Thrust Area (MD-STA)
September 25, 2018

First meeting

Present:
Eli
Yi-De
Chris
Padraic
Sung-Kwan
Alexei
Alpha
Aaron
Hendrik

Introduction
History, from TAGs, no formal structure, responsibilities.
Summer 2018, Photon Ops and Science Council Added to Org chart
Science Council has already met three times (Graduate fellowships meeting, postdoc fellowship, ?)
Had presentations, group ranked them, some discussions. around half selected
Materials Discovery proto-STA already through ALS-U beamline selection stuff.

Our charge: advise ALS MGMNT on science strategy, launch initiatives, prioritize resources.
Each person must be a member of 1 main group
Instrumentation Interest Group (IIG) can be open to everyone being a full member
Affiliates also allowed.
We should allow postdocs, possibly AP investigators.
Does this depend on how much "dirty laundry" we have to work through?
Could depend on agenda - should invite for initiative investigation
Would like to put some thought and have a rule specifically for our STA. (should have younger folk invited, but should be mature. maybe could have the junior members invited based on agenda.

2 co-chairs, two years (by secret ballot), two terms max, unless no one else wants to.
term starts oct 1
sets agenda, lead meetings, record decisions, collect minutes, members of science council

Eli's proposal: we should have group secretary, to keep minutes, organize/store presentations, other documentation, plus one backup. TBD after chairs selected. one year cycle.
should we do more frequent? no, not such a heavy load, one year is fine

Beamline/Endstation proposal/development : see later slide

Form collaborations in response to funding opportunities.

These tend to move so fast, so communication has to be quick, maybe chairs' responsibility

Form internal MD-STA strategic plan, to be incorporated into ALS SP.

LDRD portfolio management, review

Could there be clarification on LDRD workflow - specifically does it have to go through the STA's

Seminars

Open ended, current status quo, although there were rumors of rotating through STAs

Workshops

convene UM, LBL, international workshops

Small Instrumentation Projects (<$500k)

normally originate in photon ops group, but STAs may be asked to review

Recommend members of SAC, etc

Update our name/description

shoulder shrug., can look at suggestions next meeting

Formal approach to implementing projects (>$500k):

Funding OP ->
Idea ->
STA discussions, workshops, community readiness, impact, ->
Proposal ->
presented to Scientific Council/SAC/ext review Board ->
ALS MGMNT review -> (back to rev, or to initiative)
-> project

Two other groups:

Instrumentation Interest Group

Science Council (coven of 13)

- 8 chairs of four STAs
- 1 chair from IIG
- 2 PS Ops Leads
- 1 AP leader (Fernando)
- 1 ALS science deputy

duties:

seminar budget, DOE highlight selection, suggests awards, reviews/starts/ends STAs, propose amendments.

Eli's name suggestion: materials discovery to "Quantum Materials Discovery" for general external understanding of what we are. Although perhaps some might feel excluded if they don't think they are dealing with QM. Lots of discussion, some like timeless terms of condensed matter / solid state physics, some worry this is too old school. Quantum Materials Research? QMRD?

brief statement suggestion " use worlds best tools to investigate the electronic spin, chemical and physical properties of QM" - lets come back with ideas next time.
pointed out that this concept of discovering properties, not materials….

Chair Election:

Eli's suggestion: punt until next meeting.
If you want to be a chair, send name and 150-word (short) statement by Oct. 5th
Jason Templer disseminates ballots with candidate name / voting statements, voting the following week

Should there be structure - i.e. one senior/one junior. Should they be staggered?

Strong support for staggering, just how? Succession Plan is interesting question.
Chair/vice chair

Eli presents his SAC slides
review groups projects: notes that qrixs and spinarpes are in "early operations"

Timeline:

Add details for 4.0.2, including qSTXM, etc
Some discussion about HERS at ALS-U dark period -

Minutes
01/28/2019
Location: 15-300

Attendance: Marc Allaire, Hans Bechtel, Sirine Fakra, Ben Gilbert (Zoom), Hoi-Ying Holman,James Holton, Martin Kunz, Alastair MacDowell, Matthew Marcus, Michael Martin, Peter Nico, Dula Parkinson, Corie Ralston, Nobumichi Tamura, Marco Voltolini

Discussion on Topics/Frequency

- Monthly Meetings
  - Each meeting will highlight one speaker
  - Brainstorm ideas to collaborate within Thrust area (Corie Ralston)
  - Business
  - Hans&Martin will report on Science Council meetings
- ALS Colloquium Speaker
  - As a thrust group, we will be responsible for nominating and hosting a speaker (3-4 times a year) for the Colloquium.
  - Brandy Toner mentioned as potential speaker

ALS Projects Update

- Reviewed meeting of last Science Council
  - Projects for BL 4.0.2, QSTXM, 4.0.3, and 9.3.2
- Other projects
  - Nanotomography BL 11.3.1 (Ben Gilbert, Jonathan Ajo-Franklin, and Marco Voltolini)
    - Plan to build endstation with 250um field of view with < 100 nm lateral spatial resolution
    - Initial energy range 10-12 keV, but possibly extended to ~5 keV or ~25 keV
    - Plans to incorporate temperature and high pressure (~100 bar)
  - Tender X-ray Microscopy (Pupa Gilbert, NSF)
    - Similar to what is proposed with ALS-U project; if funded ALS-U project may be modified to focus on another endstation

LDRD

- James Holton & Chenhui Zui proposed a Radiation Damage LDRD
  - Generally support by nearly everyone, including Dula Parkinson, Sirine Fakra, Nobu Tamura, Hoi-Ying Holman, Marco Voltolini, Chenhui Zui (not present)
  - Upcoming special issue on radiation damage with publications accepted/desired outside of crystallography.
  - James will push idea through Paul Adams

Postdoctoral/Graduate Fellowships

- Deadline for 1st quarter due Jan 31 for Feb 7 council meeting
- Ben Gilbert mentioned possibility of University of Utah collaboration for Nanotomography BL 11.3.1
    - No candidate identified yet, but possibly for 2nd quarter
    - Alastair MacDowell or Dula Parkinson likely to be ALS scientist sponsor

Bend Magnet Beamlines at ALS-U

- Alastair MacDowell presented current status of beamlines; presentation included in folder
- ALS-U still discussing superbend beamlines: whether 3/3.5 Tesla permanent magnet or 4.7 T superbend
    - Review to be held in Spring 2019 and decision before June 1, 2019
- All bend magnet beamlines will have to be moved (some up to 16 mrad) or rebuilt

Action items:

- Put together list of possible speakers for TA meetings (Hans & Martin with input from everybody)
- Initiate brain-storming process to think of science projects with overlapping BioGeoEnviro components (Corie)

Minutes Meeting Dec 6, 2021

EESTA Meeting
Attendance: Fakra, Marcus, Shapiro, Kunz, Nico, Bechtel, Lisabeth, Tamura

LDRDs ideas:
Shapiro-Fakra: Data acquisition for correlative x-ray spectroscopy on the tender x-ray nanoprobe beamline. Multiprobe including x-ray ptychography, XAS, XRF, XRD.

Lisabeth-Kunz: Environmental cell for high pressure geoscience

Lisabeth-Tamura: Tensile rig for in-situ crack propagation studies. Microfluidic cell.

Marcus: Microtensile tester for STXM.

Issues with favoriting ESA connections vs rest of the lab. STA has more connections with ESD than ESA. Was asked many times, but no clear answer was received.

Doctoral/Postdoctoral Fellowship
3 postdoctoral spot/ 6 candidates
5 doctoral spots/18 candidates
3 doctoral candidates for EESTA: Abe Levitan (Shapiro), Michelle Devoe (Tamura), Abdulrahman Zamani (Marcus)
Hosts are not able to pitch for their doctoral candidates. Have to rely on TA chairs to defend their candidates.

GEBS Meeting September 12, 2018

Minutes

Agenda:

- Edits to Agenda
- What are Science Thrust Areas, Science Council - Charters.
- Science Council's tentative meeting agendas.
- Election of Co-chairs
- Self organization of GEBS: Next steps

Attending:

- Mike Martin ALS (PS Ops / IR)
- H-Ying Holman BSA
- David Shapiro ALS (STXM)
- Sirine Fakra ALS (XAS/XFS)
- Hans Bechtel ALS (IR)
- Marco Voltolino EESA
- Peter Nico EESA
- Jonathan Ajo-Franklin EESA
- Dula Parkinson ALS (Tomography)
- Hendrik Ohldag ALS (STXM)
- Matthew Marcus ALS (STXM)
- Greg Hura BSA (SIBYLS) - remote call-in
- Martin Kunz ALS (Diffraction)

Introduction of STA by Mike Martin:
STA are not part of ALS org chart but have a function to advice ALS management through Science Council on projects and strategy. STA's are represented in Science Council through 2 co-chairs. More details see documents

"STAScienceCouncilCHarter.doc" and "GEBS_Sept12_2018_Slides.ppx" in GEBS Team Drive.

Ensuing Discussions brought up the following points:

- Large diverse cross-cutting STA's (such as GeoEnviroBio) are a positive thing to bind in non-ALS personnel closer to ALS process and to spawn collaborations (Greg Hura, Hendrik Ohldag).
- Techniques and operational needs are unifying across many BL's of GEBS and could lead to common projects initiated and sustained by GEBS (Greg Hura).
- To lead off GEBS, STA should establish a list of strengths and weaknesses of current ALS operation (Greg Hura)
- Inclusive STA (i.e. STA with non ALS staff engaged) is a positive thing since it gives a platform for ALS staff to pursue Science (Martin Kunz)
- The diversity of GeoEnviroBio makes it difficult to properly represent all "boxes" (Dula Parkinson) within STA within Science Council by only two co-chairs (Dula Parkinson, Martin Kunz).
- Current limitations of chair eligibility and voting rights to Full Members (i.e. ALS staff only) causes several problems: (1) No true Bio person on ALS staff -> No Bio person eligible to vote or act as chair for GeoEnviro*BIO* STA. (2) Participation of non-ALS LBL staff in STA's is important for making STA's useful for ALS staff, but there is no incentive for Affiliate Members to really get engaged if they can't even vote. (Martin Kunz)
- Suggestion is made (Peter Nico, Matthew Marcus) to amend Charter accordingly, e.g. have anybody who operates a beamline at the ALS be eligible for Full Membership.
- There is no definite current roster of STA membership, furthermore there is no way of ensuring all potential interested individuals have had the chance to join an STA. This makes establishing a list of interested chair candidates difficult. We decide to postpone definite chair election procedure until STA's have been fully populated.
- We agree to first solicit candidates (via email) and then have Jason Templer set up a online poll for the chair election based on the list of nominated candidates.

Tasklist:

- Query Andreas Scholl on status of official online poll to assign ALS staff to STA's (MK, done): Response: "Absolutely, we can reuse the form I made for the SAC breakouts, but we would need to first advertise what the 4+1 areas exactly are. Our next Science Council meeting is Oct 10 and an action items for the interim chairs could be to update the thrust area descriptions and we will discuss them in the council meeting (and get the charge voted in). So, I am not sure we're quite ready.

-
- Send out email to STA roster soliciting co-chair nomination. As soon as STA membership poll is completed (MK)
- Set up online poll for anonymous voting on co-chair candidates (Jason Templer, Martin Kunz)

Notes EEBSTA Meeting August 18, 2020:

Latest developments in creation of a dedicated Biology TA

Summary and Conclusion:
Proposal to split was discussed with Chair Science Council Eli Rotenberg:
TA needs to vote.
Hans & Martin to set up a Google Poll w closure in 2 weeks.
Eli will bring it up at the next Science Council Meeting or convene a special Science Council Meeting.

Discussion Points:
Dula Parkinson Where would Environmental Biology belong to:
Eli Rotenbeg: Suggest to go with Funding Structures
Peter Nico: Boundaries even within funding structures are soft and grey
Matthew Marcus: Science inside versus outside of cell could be delimintor
Sirine Fakra:Virtually all soil and enviro research as biology component
Marc Allaire: Hard to define boundary. Biologists recognize biology when they see it.
Hoi-Ying: As long as she can be aa member (affiliate) in both TA's it doesn't matter
Hans Bechtel Assignment of grey area comes down to efficiency. Most people would prefer to not attend more than one meeting.
Eli Rotenberg Chair of Science Council can involve more than one TA for funding calls within the grey area.
Martin Kunz Individuals should be free to choose any TA they are interested in and can be part of several TA's (at least as affiliate members). So an individual TA does not need to make hard boundaries on the science interests of their members.

NAWI (National Alliance for Water Innovation) at LBL: Activities at EESA

Summary and Conclusion:
The Energy Science Division (EGD) of LBL's EESA has formed a group (chair Laura Lammers) with the task of brainstorming about and forming coordinated projects that could be used in response of upcoming funding calls within the lab's National Alliance for Water Innovation https://www.nawihub.org/about .
EEBSTA will initiate a focused Innovation Forum with Laura Lammers to start a closer communication between EGD-NAWI group and ALS scientists.

Discussion Points:
Peter Nico: Reluctance to engage in ALS collaboration from EDG side is mostly caused by a large degree of uncertainty with respect of the actual calls to be expected by ~ end of 2020.
Chenhui Zhu: APXPS, SAXS/WAXS, hard and tender-X-ray spectroscopy could possibly be useful.
Martin Kunz: Question to be addressed (besides which techniques) is the nature of collaboration. Will it be a deeper involvement of ALS scientists in the projects or more a user/ALS-staff relationship.

Chenhui Zhu: As a rule of thumb, if a project involves 'only' standard measurements, it is a user/staff relationship, if it involves a development, it is more involved.
Peter Nico: The nature of NAWI calls is that it must involve LBL-personnel, a university faculty or PI and an industrial entity.
Martin Kunz: Suggest to initiate an Innovation Forum with Laura Lammers between the EDG group and ALS, similar to Ethan Crumlin's Water Nexus forum: a platform for EDG to explain its needs and ALS to explain its tools.
Eli Rotenberg: Strongly supports organizing an IF in the next weeks/months. He expects a large amount of interest.

Multi-Area SARS-CoV-2/COVID-19 Research Strategy survey

Summary and Conclusion:
The Multi-Area SARS-CoV-2/COVID-19 Research Strategy Steering Committee is developing a strategic plan to enable lab researchers to pursue any additional funding for SARS-CoV-2 and COVID-19 research, as well as establish new capabilities and expertise thatwill advance our future mission research more broadly in strategic areas. Recently, the Committee sent out a survey (closed Aug 14) asking questions about Berkeley Lab's scientific and technological capabilities in the near-term and long-term to address COVID-19 and future pandemics. They will be holding two visioning sessions (Aug 20 and Sep 1) to seek input from various divisions and areas at LBL. The first session will focus on near-term research addressing the scientific challenges of mitigating the COVID-19 pandemic and rapidly responding to urgent national needs. The second session will build upon those discussions to consider how new capabilities could advance Berkeley Lab's long-term research goals.

Hans Bechtel will be attending visioning sessions as one of the ALS representatives...if you have any input about how ALS can contribute to these efforts, please let him know.

The multi-Area SARS-CoV-2/COVID-19 Research Strategy Steering Committee
(Rebecca Abergel, Paul Adams, Eoin Brodie, Katy Christiansen, Tom Kirchstetter, Peter Nugent, Deepti Tanjore, Jeroen van Tilborg, and Ashley White)

Discussion Points:
Marc Allaire: Structural biologist responded to survey; Paul Adams is on the Steering Committee

ALS strategic plan

Summary and Conclusion:
TA input in 2020 strategic plan was due Monday August 17. Hans and Martin made some minor edits to last year's EEBSTA section. Requesting input by end of the week on a document distributed after the meeting by Hans.

Discussion Points:

Dula Parkinson: In the subsection "High-priority goals for this TA include the following:" The entry on 2d-3-d nanotomorgraphy refers to 11.3.1 that is supported by EESA but not ALS. Should we take that out or put ALS 11.3.1 support into 'Table 7'.
Martin Kunz, Hans Bechtel: This section could be understood s TA's high priorities which does not need to be restricted to ALS funded activities but to LBL-wide Earth Science collaborations.

Upcoming Dear Colleague Letter by NSF-EAR/IF for Earth Science research at US synchrotons

Just FYI:
Last week (August 14) NSF-EAR/IF announced (to COMPRES and GSECARS) a 'Dear Colleague Letter' to be expected in the coming weeks announcing a call for proposals for funding to coordinate Earth and Environmental Science Research at US synchrotrons.
This program will replace COMPRES and GSECARS with one single entity
This entity will include *all* Earth- and Environmental Sciences conducted at US synchrotrons; not only mineral physics.
This could be an opportunity for the ALS since many ALS beamlines conduct Earth Sciences outside the traditional COMPRES/GSECARS scope

Agenda:

- Official separation of EE and B and setting up start of BioTA (Hans)

- Replacement of Hans as EE chair. Still awaiting enthusiastic nominations.... (MK)

- NSF Midrange instrumentation funding opportunity (MK / DS)

https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505602&org=NSF&sel_org=NSF&from=fund

DUE DATES

Preliminary Proposal Deadline Date

January 7, 2021

Full Proposal Deadline Date

April 23, 2021

By Invitation Only

Previously granted proposals were between 3 and 20 million $

David Shapiro (new EESTA voting member!!!) has started an initiative for a Berkeley Center for X-ray microscopy

2022.03.28 Agenda

- Plans for EPIQS submissions from QMRD
    - Thomas, Hendrik → Magnonic cellular nonlinear network DSP
    - Padraic, Alpha, Hendrik → QSTXM ?? (probably not, but need to check)
    - Eli → Cryogenic microdiffraction
    - Sujoy → OAM application

  → Prepare EPIQS call answer by April 7 for review and discussion internally

  → Peter Fischer, Jeff Bokor for magnetic proposal and TBD for Eli and Sukoy

  → Overhead funding needs to be discussed with ESA/Lab before submission. Talk to Ethan, Ashley to understand process

- Users' Meeting workshops suggestions form QMRD
    - Alexei, Sujoy, Alessandra → Chirality and ALS-U opportunities
    - Thomas, Hendrik → Times resolved STXM
    - Sophie → COSMIC 7.0.1.1 science and prospective users
    - Sung-Kwan, Alexei, Jonathan → Spin ARPES

- ALS director search
    - Thoughts so far? Did anyone make suggestions for candidates?
    - Nice open process
    - Discussion about what we want science or management? We do need someone who has a science background, but how much management do we need. We don't want a business person and we don't want an academic person. Balance is tricky.
    - We should suggest some more names, but make sure to als state the rationale behind your suggestion. "Even if the name does not stick, the rationale may"

2022.03.07 Agenda

Highlight selection committee rotation:

- Next two representatives for QMRD: Sujoy, Jonathan
- Check with Lori to see if an intro can be developed for new reps: Guidelines for selection and types of highlighting
- Return to previous model of BLS/user groups drafting highlight and submitting for consideration

LDRD Status:

- LDRD development schedule here. ESA selection notifications March 11 (with feedback).
    - Work with Christy Bertoldo, ALS Resource Analyst to define budget and prepare necessary paperwork. PIs must also prepare a slide for Steve to present to the Area prioritization committee (template will be provided).
    - Final submissions by March 25.

How to appropriately respond to FOAs

- Any advanced preparation within QMRD?
- Standard capabilities, "boilerplate" white paper drafts, slides
    - location in QMRD folder

User Meeting Nominate speakers and propose workshops/tutorials here

- Plenary speaker
    - multiple beamline user, strong science case for low temperature
- Workshops/tutorials
    - Flexon? Potential meeting outside of the UM
    - Cross-QMRD workshop ideas
        - Bringing together multiple beamlines/new access modes

2022.01.09 Agenda

Quick follow up on LDRDs - where do we stand?

- Feedback from lightning talks should arrive this week.
- Lightning talks were useful, feedback form well-received
- Interest in shifting ALS talks to after lab call to prevent changing direction/refocusing after other divisions start thinking about proposals
- Response from SC and management on 3rd year LDRD renewals?
    - The prior information on this has not been changed, in that it does not appear there will be a lab COVID exemption this year. Thus the guidance is that if they want to pitch a 3rd year, is to pitch it as such focusing on the science as the selection will be compared to all other new proposals and first renewals.

QMRD internal follow-up on budget discussions.

- Generally want clarity on Steve's comments, plans
- What is the facility plan especially with regard to program/research strengths? Specifically, reducing scope
    - Want a stakeholder (BLS) discussion with management about research direction
        - Participation of BLS, but management ultimately has to decide if/what beamlines and programs are cut
            - How many beamlines would need to close? Would PRTs be sought for closed beamlines or do they disappear completely?
- Comments on budget issues:
    - Pursuing funding is a full time job by itself; cutting BLS time to 40 hours a week isn't realistic as user success and not breaking instruments relies on BLS time
        - Non-PhD level technicians operating beamlines on shifts if current BLS must seek funding like Uni. faculty
    - BNL has an ~5 year funding cycle managed by tenured staff who apply for grants
        - Some staff will be better at grant writing than others - can we utilize senior staff now for grant writing?
    - How can we compete for funding as PIs realistically?

Any interest in EFRC or EPSCoR calls?

Register now for grant-writing workshop series, beginning Jan 20th:
https://www.eventbrite.com/e/grant-writing-writing-your-specific-aims-tickets-191984730497

2021.12.13 Agenda

LDRD discussions:

Science Council Lightning talks (12/21): open to all from ALS, ESA office/leadership. People give short presentations of their ideas/connection points. Meant to be a teaser of upcoming LDRD proposals as well as access to other divisions for possible collaboration. If there are other possible divisions/connections, let Hendrik/Stephanie know so we can invite them.

- Eli - Instrumentation proposal, adding a cryo stage to micro-Diff at 12.3.2 to do cross cutting experiments between hard x-ray and other soft x–ray experiments who think strain may play a role without knowing it.
    - Push at SC for general/broadly useful ALS projects
- Sujoy: revisit the idea of mini low-T sample holder for COSMIC and potentially other endstations.
    - Focus on impact of measurements and science facilitated by 3rd year
    - Highlight new equipment purchased in lieu of postdoc
- Alpha: see if the chiral molecules on graphene template is still interesting.
    - Contact other lab staff - verify project wouldn't overlap
    - Develop clear deliverables

2021.11.29 Agenda

Focus on LDRDs for this meeting:

So far we have the following ideas that were discussed:

- Alexei - water splitting
- Hendrik Q-STXM or Q2M or magnetic STXM in general.
- Hendrik THz spectroscopy of nutation effects in Ferromagnetic Resonance.
- Eli - Instrumentation proposal, adding a cryo stage to micro-Diff at 12.3.2 to do cross cutting experiments between hard x-ray and other soft x–ray experiments who think strain may play a role without knowing it.
- Sujoy: maybe revisit the idea of mini low-T sample holder for COSMIC and potentially other endstations.
- Alpha: see if the chiral molecules on graphene template is still interesting.

Eli is in contact with the Instrumentation STA and will/may submit his idea via this route. The impression is so far no one within the STA has pushed very hard for the other four proposals listed above.

Questions for the meeting:

1.) Is anyone listed as a proposer above motivated to pursue this seriously in 2022?
2.) Or should we push for a "COVID-related" 3rd year extension of the two existing LDRD within QMRD (Sujoy, Hendrik)
3.) If so, do we simply ask for a 3rd year "because of COVID" , or should we actually come up with a more detailed science case.
4.) Or do we have other ideas?

2021.11.15 Agenda

- Please add to Colloquium speaker suggestion list Colloquium Speaker Pick Lists
- See comments below from Ethan regarding LDRD feedback
    - Covid-related extension to existing LDRDs?
        - Ethan ask lab-level LDRD person about 3rd year vs. resubmission
            - Internal QMRD review of potential 3rd year
        - 3-6 month extensions for several existing postdocs
    - We really need EARLY management feedback
    - Need real support from other divisions, not just a tacit agreement with no follow-through

- Letter of intent/abstract for Dec. deadline?
  - Fill out cover page form
  - Review in QMRD in next 2-3 weeks; internal advice/feedback before reaching out to other divisions and partners
  - Bring up how to get early feedback at SC meeting

2021.11.08 Agenda

- URGENT: Please add to the ALS Colloquium Speaker suggestions: Colloquium Speaker Pick Lists
  - Top two candidates/Priority?
- Updates
  - Science Council meeting
    - Fellowships open Nov. 1 - Dec. 1
      - Review criteria
        - Strength of ALS host's support letter, proposed research, willingness to host
        - Strength of research plan, likelihood of success in allotted time/with requested tools, obvious benefit to candidate to be at ALS vs. as a user
        - Research should align with ALS priorities/beamline core program and enable collaborative research with user groups
      - Issues with Humboldt fellows being "hired" by ALS and insurance
  - DOE-BES funding call training session
    - Slides, recording
    - Website detailing opportunities, internal LBL process, resources, etc.
- LDRD schedule - Feedback shared with Ethan, his responses are in blue
  - Can we get early leadership feedback to minimize effort if it won't proceed
    - Narrow much earlier so we don't waste effort (interesting but not in top 5, etc.) Help maintain motivation if we get honest feedback concerning top priorities
      - A few thoughts on this. I personally do not think taking the time to develop thought and think it through is "wasted". If anything we should do this more often. Sometimes best things come from the development and thinking that comes from going deeper. We need to support our staff in seeing this as a fruitful journey regardless of the final outcome. Of course, it is disappointing to put in a lot of work and not get selected, but to not try and give up too soon I worry is worse.
    - Regimented template (5 bullets, no pictures, same for everyone) for early review to level time spent on slides before narrowing

        - I personally do not believe I could make a great decision on 5 bullet points, no figures, and narrow down without discussion or more context. But we can look to uniforming aspects where possible. The new structure is designed to bring in more touchpoints of ALS management and ESA Leadership earlier on. So from this, I do hope we can help to provide more diverse and strategic feedback earlier on and throughout the process.
    - 5 min slam favors people who are good presenters; not necessarily good science - esp. since we won't be presenting at higher levels.
        - good science conveyed clearly is important. If people are worried about how they present and want help preparing STA leads, SC, and myself will find ways to support. The goal of this "Slam" is not to be flashy, its really just meant to be a focused/short touchpoint with SC, ALS management, and ESA leadership. Not looking for a TED talk.
    - How much polish is required for first round of "Slam"
        - enough to get your idea articulated well. But by no means final.
    - Early career LDRD, process
        - I believe this will take place this year (not confirmed but no reason at this time to not believe it will happen). The process has not been shared.

2021.10.11 Agenda

- LDRD topics/slides (upload to drive folder https://drive.google.com/drive/folders/14Uw9AIpFUXEcR4Pc4URaat_X3me18d5q?usp=sharing)
    - Alexei - water splitting
    - Hendrik Q-STXM or Q2M or magnetic STXM in general.
    - Eli - Instrumentation proposal, adding a cryo stage to micro-Diff at 12.3.2 to do cross cutting experiments between hard x-ray and other soft x–ray experiments who think strain may play a role without knowing it.
    - Sujoy: maybe revisit the idea of mini low-T sample holder for COSMIC and potentially other endstations.
    - Alpha: see if the chiral molecules on graphene template is still interesting.

  → In general, we should keep in mind that instrumentation heavy proposal could go to the Instrumentation TA

- Fellowships are available again. Use the following links to apply during November:

Postdoctoral Program: https://als.lbl.gov/about/career-opportunities/als-collaborative-postdoctoral-fellowship-program/ and the Doctoral Program https://als.lbl.gov/about/career-opportunities/als-doctoral-fellowship-in-residence/

- Potential seminar speakers/recently published work
    - IR program
        - O. Tschauner - recently accepted Science article on the geo-chemistry of lower-mantle chemical and heat heterogeneities through the discovery of a high-pressure mineral (natural cubic CaSiO3-rich perovskite, approved as new mineral Davemaoite with large amounts of K) entrapped in diamond. (XRD and Far-field FTIR at ALS). Not really QM but generally interesting
        - X. Chen - Recently published ACS Photonics work on using hybrid machine learning techniques for analytical descriptions of scanning near-field optical spectroscopy (SINS at ALS)
        - Z. Yao - (former graduate fellow) Recently published Nat. Com. on proof-of-concept demonstrations to determine the in-plane sample anisotropy with SINS
    - QM:
        - A.D. Kent (NYU) - has some connections to microscopy work at ALS. Skyrmions and switching in AF. Generally very engaging speaker with a well networked and active group behind him
        -

- Science council discussion
    - Potential sources of funding (NSF MRI, NSF conference, NSF mid-scale instrumentation). Anything from endstation to Beamline is possible, but requires outside lead.
        - Check requirements - most need to be led by Univ. with lab partnering.
    - Grad student funding
        - EPSCOR university collaborations? https://www.nsf.gov/od/oia/programs/epscor/nsf_oiia_epscor_EPSCoRstatewebsites.jsp
        - Office of science graduate student research program https://science.osti.gov/wdts/scgsr
- Future priorities and proposals

2021.09.27 Summary

- In-person meeting outside next week!

- TA elections
    - Hendrik is the new co-chair!
    - Thank you Alpha for your hard work over the last few years
- LDRD thoughts - lets get started sooner this year
    - One slide for next meeting with preliminary ideas
    - Instrumentation thrust area - planning to open to all partners for LDRD development/across TAs. We should follow this example
        - Partnering tool style information sharing using single slide format
- Re-starting seminars once a month? Hybrid meetings?
    - Small meetings in seminar room maybe possible
        - Collaborators presenting on recent research topics
- How to reconnect with QMRD members outside of ALS
    - Follow-up with LDRD partnering tool slide share to entice Foundry/MSD/CSD members for collaboration

Suggested: Beamline controls annual checking of hard stops for ID beamlines

Comments: Succession planning needs to be implemented at ALS. Lab management is aware of staffing and financial issues at the ALS.

2021.09.13 Summary

- Science Council Meeting outcomes
    - lacking transparency; suggestions PS Ops summary and agenda for next meeting
    - Strategic plan utility
        - what should it be?
        - how to create overarching goals/technical plan rather than x.x beamline should have *--* upgrades
    - Fellowship applications will be accepted soon - only 3 grad students, 4 postdocs
- Candidate list for TA elections
    - Hendrik interested
    - Sophie nominated
    - Sujoy in a year/after COSMIC is running
- Sujoy attended RIXREX conference (hybrid mode)
    - Bernhard Keimer Max Plank - tender xray beamline in PETRA Ru-L edge in middle of tender range with quantum capabilities
- Na Hyun - needs help finding speakers with Postdoc Science Hour
    - please suggest your postdocs and grad students to speak
    - Christoph may have updated postdoc list from safety circle