



# USER OFFICE COMMON BUSINESS SOFTWARE WORKING GROUP

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# OUTLINE

## Motivation

1. **BES User Facilities**
2. **Benefits of Improvements**
3. **Looking at Competition**

## Working Group

### Examples of Working Group Outcomes

- **Review of Software, Hardware and Applications**
- **Benchmarking User Registration Fields**
- **Observations**
- **Observations : ORCID**

## Proposed Next Steps

## Summary

# MOTIVATION 1: BES USER FACILITIES

**BES-funded User Facilities:** Provide access to world-leading X-ray science tools to domestic and foreign investigators based on the scientific merit of their proposed research

Metric	To understand ...
Proposals submitted	User demand
Operating hours	Reliability and effectiveness
Oversubscription ratio	Guiding strategic decisions for improvement
Publications	Scientific output
Impact factors	Scientific impact
Statistics	Details of User communities

**User Offices:** Provide a seamless user experience, so that investigators can conduct their research at our facilities in a safe manner, while complying with all rules and regulations

User Registration	Onboarding	Post Experiment	Compliance
Proposal:	Safety Reviews	Publications	Safety Regulations
Submission	Safety Training	Satisfaction Survey	Lab Requirements
Review		Facility Statistics	DOE Regulations
Scheduling			DOE Reporting

# MOTIVATION 2: BENEFITS OF IMPROVEMENTS

## Improving user experience across all BES X-ray User Facilities

- Streamline processes
- Sharing information
- Remove repetition and non-value added tasks

Users' Benefit	Facilities Benefit	BES Benefits
Streamlined communication	Standardizing on best practices	Coordinate vision for BES user facilities
Common registration	Common vision for user access	Improved statistics across all user facilities
Common proposal template	Long-term cost effectiveness	Cross-facility data
Common scheduling tools		Cost effectiveness
Shared training		
Publication portal		

# MOTIVATION 3: LOOKING AT THE COMPETITION

European User Facilities have already started!



Coordinated Access to Lightsources to Promote Standards and Optimization



**Search & Filter**  
A powerful search engine featuring different levels of interactive filters.

**Standardized Datasheets**  
for ALL European beamlines (300+) containing photon source characteristics, instrumentation and endstation description, local contact information.

**Beamline Datasheet**

**Umbrella**  
A single sign-on service.

**Standardized Proposal Form**  
The Standardized Proposal Form created on wayforlight includes 3 sections A) General B) Scientific C) Technical, is **facility-independent** and **fully portable** among European facilities. Upon filling the wayforlight form, an XML/PDF output is generated. The proposal is finalized by uploading this file at the chosen facility website.

[www.wayforlight.eu](http://www.wayforlight.eu)

**QR Code** | **wayforlight** | 8 FELs | 13 synchrotrons | 300+ beamlines | 1 website

**Training**  
Support to the HERCULES Annual Course and Specialized Trainings (HSC). Networking and Training of free electron laser scientists through the FELNET activities.

**ESUO**  
European Synchrotron User Organisation: represents 30.000 European lightsource users through 26 national user delegates. Assists synchrotron user communities in the creation of National Organisations, shares information on a pan-european level and provides proactive feedback to facilities.

[www.esuo.org](http://www.esuo.org)

**User Friendliness**  
New approach centred on lightsource users.

**Access during the project lifetime**  
Promoted excellence and equal opportunities for all European users. Project selection based on scientific merit. Access to 16 European facilities (11 synchrotrons, 5 FELs).  
In 3 years:  
1400+ user projects supported  
2100+ users from 31 countries  
400+ peer reviewed publications  
53% junior (<35 years old) users

**New Detectors**  
X-ray detector performance is a major challenge for state-of-the-art synchrotron experiments: facilities jointly developed and tested a new generation of High-Z Pixel Array Detectors, including numerical simulations and links with industry.

**Industry Outreach**  
To promote industrial innovation and use of lightsources, 20 workshops with local industries have been organized by partner facilities. A dedicated Industrial Advisory Board (jointly developed with the Neutron-Muon 13 project) provided practical recommendations to remove current bottlenecks for access to facilities, together with sharing of best practice amongst the facility industry offices.

**Vision**  
A world where European science is a catalyst for solving global challenges, a key driver for competitiveness and a compelling force for closer integration and peace through scientific collaboration.

**Mission**  
LEAPS will use the power of its combined voice to ensure that member light source facilities continue to be world-leading, to act as a powerful tool for the development and integration of skills and solutions with a view to address 21<sup>st</sup> century global challenges, and to consolidate Europe's leadership in the field.

**Working together to form LEAPS**

# WORKING GROUP

	ALS	APS	LCLS	NLS II	SSRL
User Program Manager	S. Bailey	S. White De Pace	L. Conradson	L. Miller	C. Knotts
Additional Oversight & Input	S.Kevan	A.Ramanathan, C.Vanni, D.Mills	P.Jones, A.Robert	S.Cambell, G.Cisco	L. Dunn, B.Hedman

- Four teleconferences between 11/2017- 03/2018:
  - Reaching common goals:
    - Driven by improving user experience
    - Drive for better tools
  - Conducted benchmarking on:
    - Data collection
    - Laboratory use of ORCiD
    - Registration questions
  - Shared examples of best practices:
    - ALS Scheduling and ESAFS System



# WG OUTCOME 2: BENCHMARKING

## Comparing User Registration Forms

- No surprise -- ~90% of the information requested is common to all

	NSLS II		APS		LCLS	SSRL	ALS			
Fields	Field	Req'd?	Field	Req'd?	Fields	Field	Req'd?	Field	Req'd?	...
Previous Guest	Y	Y	Y	Y	Proposal ID	N		N		Y
Emergency Contact	Y	Y	Y	Y	Country of Second Citizenship	N		Y	Y	N
US Citizen	Y	Y	Y	Y	Subject Code (type of science) /Field of Research	Y	Y	Y	Y	N
Country of Birth	Y	Y	Y	Y	Thesis Research (yes or no)	Y	Y	N		N
Current Affiliation	Y	Y	Y	Y	Health Insurance? (yes or no)	Y	Y	N		N
DOB	Y	Y	Y	Y	Family Members (yes or no - foreign or not)	Y	Y	N		N
Gender	Y	Y	Y	Y	Lead Investigator	Y	N	N		Y
Country	Y	Y	Y	Y	Affiliation Fax	Y	N	Y	N	Y
First Name	Y	Y	Y	Y	Funding Source	N		N		Y
Middle Name	Y	N	Y	Y	Contact Name	Y	Y	Y	Y	Y
Last Name	Y	Y	Y	Y						

Note: Sample of differences are highlighted in red

# WG OUTCOME 3: FACILITY OBSERVATIONS

- Most user facilities are *not fully satisfied* with their current systems
- Each facility is *planning to change/update* some of their systems
- There are various levels of interests in *sharing data among facilities*
- Each user facility has its *own identification* mechanism
- A *common identifier is essential* to share information

Selected Examples
<b>NLS II</b>
Considering Softek scheduling
Purchased, evaluating Fluid Review
Safety approval included in Fluid Review
<b>LCLS</b>
Evaluating proposals with Wizehive, Fluxx, Fluid Review,...
Softek scheduling is being considered
ORCID implementation into any new system
<b>APS</b>
Reviewed Softek scheduling and ESAFS
Softek scheduling is under consideration
ORCID into registration and proposal system in summer of 2018
Will look into Fluid Review, Fluxx, Wizehive
<b>ALS, SSRL</b>
Etc...

# WG OUTCOME 4: ORCID OBSERVATIONS

- ORCID is an *existing, global author/institution identifier system* currently used in publication world
- ORCID is *already* a field used by many scientists *in user profiles*
- ORCID is *already incorporated* into *registration and/or proposal systems* at most of our facilities
- Publications are an important *metric for facilities and DOE for measuring success*
- *Capitalizing* on ORCID as a *backbone for a common identifier* through our processes FROM publications (i.e. down-end) TO user registration (i.e. first step)

The screenshot displays the ORCID iD profile for Aymeric Robert. The profile includes the following sections:

- ORCID ID:** https://orcid.org/0000-0002-6371-4196
- Country:** United States
- Keywords:** XPCS, X-rays, Coherence, Free Electron Laser, Speckle, X-ray Photon Correlation Spectroscopy, Synchrotron Radiation, Light Source, Soft Matter, Amorphous, Disordered and Glassy materials, Dynamical Heterogeneity
- Email:** aymeric@slac.stanford.edu, aymeric@stanford.edu
- Other IDs:** Scopus Author ID: 8267183200, Stanford Linear Accelerator Center, Linac Coherent Light Source, Menlo Park, United States, Author ID: 8267183200
- Education (1):** Université Joseph Fourier: Grenoble, France, 2001-09 | phd
- Employment (6):** Linac Coherent Light Source, Basic Energy Sciences (DC, DC, United States), Contract: DE-AC02-76SF00515
- Funding (1):** Linac Coherent Light Source, Basic Energy Sciences (DC, DC, United States), Contract: DE-AC02-76SF00515
- Works (50 of 78):** Performance of a hard X-ray split-and-delay optical system with a wavefront division, Journal of Synchrotron Radiation

The profile also features a subject area section with tags for Physics and Astronomy, Materials Science, Engineering, Mathematics, Computer Science, Chemistry, Biochemistry, Genetics and Molecular Biology, Multidisciplinary, Medicine, Chemical Engineering, and Earth and Planetary Sciences. A document and citation trends chart shows a peak in citations around 2016. The profile statistics include 80 documents, 1713 citations, and 1248 documents cited by the author.

# PROPOSED NEXT STEPS

- Our priorities will remain to continue managing user science programs to their existing levels of excellence
- Develop a robust plan for the future
- We should socialize the plan and actively engage with our stakeholders
- A global and centralized system for all user facilities would be ideal but does not seem realistic at the present time. Or should we explore this route, in parallel?
- We propose to identify areas that could lay the foundation for demonstrating that we can collectively improve in these areas
- Continue to keep identifying areas and gradually streamline and exchange information by implementing common approaches for some of our processes



Don't  
**FEAR** the future!  
**PLAN** for it!

# SUMMARY

- Identified many similarities among the many processes managed by the User Offices
- Identified drastic differences in the solutions employed, developed, or planned for upgrade
- International competition has already moved in this direction. We should immediately capitalize on what is already known and in place.

## Your Guidance & Feedback Requested

Is the direction proposed by the WG appropriate?

Did WG miss/ignore anything that you believe is important?

Should WG continue in the same direction?

What do you think would be an appropriate time-frame for presenting you a detailed plan of action?





# UPDATE ON ORCID IDENTIFIERS

# PERSISTENT IDENTIFIERS\*

## DOE/SC, SSURF, and Facilities investigating ORCID IDs

- January 2016 journals and publishers begin requiring ORCID IDs for authors
- Early 2016, ORNL approached DOE's Office of Science and Technical Information, ORCID and some publishers (APS and ACS) about a project to create a new identifier-enabled workflow for user facilities
- June 2016, the Society for Science at User Facilities (SSURF) Annual Meeting focuses on persistent identifiers and data sharing
  - Recommends that SSURF work with DOE to pilot training reciprocity program using ORCID IDs
- November 2016, SSURF and national lab attend PIDapalooza conference to introduce user facilities to identifier world
- In January 2017, DOE, national laboratories, SSURF, CHORUS, publishers, and ORCID established a working group to define terms, user stories, and information flows that **leverage open identifier infrastructure**
  - Report published outlining findings and recommendations

\*courtesy of Stephen Streiffer

# PERSISTENT IDENTIFIERS

**Pilot 1:** Integrate identifiers into user facility registration and proposal processes. ORNL, ALS, EMSL, SSRL, and BNL have incorporated ORCID into their registration and/or proposals systems, with ORNL leading the way

**Pilot 2:** Integrate award and facility IDs into the manuscript publication process

- Collect ORCIDs at time of manuscript submission or acceptance
- Couple collection of ORCIDs with other data from the author's ORCID record
- Amend Journal Article Tag Suite (JATS) standard to enable collection of facility use information

**Pilot 3:** With the use of ORCIDs pilot a training reciprocity program for users (BES/SSURF)

Note: ORNL recently started pushes of beam awards to ORCID records. Use the ORCID permission token to post award metadata (Proposal/Project Identifier, facility name and facility organization ID). Facility service is planned next.

# PERSISTENT IDENTIFIERS

A plan has been developed to integrate with the publishers

**Path 1:** Work with editorial office systems on a solution that ingests facility information directly from a user's ORCID profile

**Path 2:** Build a stand-alone widget that pulls facility information directly from a user's ORCID profile into non-editorial office system workflows, such as proofing or license signing, where a publisher can choose when they'd like to receive this data

Note1: Either plan would also apply to ingesting funder and institutional data

Note 2: An update to the JATs is required to support facility information

*JATs Committee just approved a change to the standard to create the "contributed-research-group"*

# GOAL WOULD ALLOW USER FACILITIES TO PULL PUBLICATION INFORMATION DIRECTLY FROM ORCID AND THE PUBLISHER\*

- Authors and co-authors are presented with a list of all facility, funder, and institutional information (including PIDs) associated by those parties to their ORCID profile
- They can select which information to apply to a given piece of research for publication, but additionally report other information not found in the ORCID record
  - If a dataset was created and published to a repository, the DOI for the dataset can also be pulled into the publication metadata
- The publisher will include this information (and the underlying PID) in the publication metadata, and feed it back to CrossRef (and thus ORCID) so that facilities, funders, and institutions are aware that they were properly acknowledged

