

User Survey Summary

EMSL is committed to continually improving the users' experience. Although change cannot always be implemented overnight, we rely strongly on the input received from our user community and encourage you to continue providing feedback to our technical staff, our [User Support Office](#), and through the bi-annual survey. Users can also provide comments and feedback to the [User Executive Committee](#) and should feel free to contact anyone on the committee at any time.

Currently, user surveys are administered biannually for experimental users and are sent only to those individuals who have accessed our resources during the prior six months or annually for computational-only users and are sent only to those individuals who have accessed computing resources during the prior year. The results of the most recent survey are posted here with management responses to concerns or issues identified by our user community.

April 2015 Survey

Surveys Submitted Between April 11, 2015, and April 30, 2015.

Survey Satisfaction: 92.8%

Survey Responses: 129

Surveys Sent: 452

Survey Response Rate: 28.5%

1. How satisfied were you with the availability of facilities and equipment?

- 84 Very Satisfied
- 37 Satisfied
- 6 Neither Satisfied nor Dissatisfied
- 1 Dissatisfied
- 3 Very Dissatisfied
- 0 Not Applicable

2. How satisfied were you with performance of facilities and equipment (e.g., were they maintained to specifications for your intended use, ready when scheduled, etc.)?

- 83 Very Satisfied
- 38 Satisfied
- 6 Neither Satisfied nor Dissatisfied
- 0 Dissatisfied
- 0 Very Dissatisfied

- 2 Not Applicable

3. List additional capabilities that you think EMSL should have.

User comments to this and other survey questions are below.

4. With the new knowledge gained at EMSL, I expect to (check all that apply):

- 122 Disseminate new knowledge via publication in peer-reviewed open literature
- 96 Disseminate new knowledge via presentations at professional society meetings
- 9 Acquire a patent
- 57 Further Department of Energy mission(s)
- 76 Facilitate collaborative interactions (e.g., stimulated new ideas for future experiment; increased work; etc.)
- 44 Train students (undergraduate, graduate or postdoctoral associate)
- 64 Use data for a future proposal
- 60 Establish or grow network and/or further collaboration
- 2 Other

5. How satisfied were you with the assistance provided by the EMSL technical staff?

- 89 Very Satisfied
- 30 Satisfied
- 5 Neither Satisfied nor Dissatisfied
- 0 Dissatisfied
- 0 Very Dissatisfied
- 1 Not Applicable

6. How satisfied were you with the assistance provided by the EMSL administrative staff?

- 81 Very Satisfied
- 33 Satisfied
- 4 Neither Satisfied nor Dissatisfied
- 1 Dissatisfied
- 0 Very Dissatisfied
- 9 Not Applicable

7. How appropriate and user friendly were the training and safety procedures?

- 50 Very Satisfied
- 46 Satisfied
- 9 Neither Satisfied nor Dissatisfied
- 4 Dissatisfied
- 0 Very Dissatisfied

- 19 Not Applicable

8. How satisfied were you with the proposal process (e.g. submission & review)?

- 49 Very Satisfied
- 42 Satisfied
- 11 Neither Satisfied nor Dissatisfied
- 2 Dissatisfied
- 0 Very Dissatisfied
- 23 Not Applicable

9. How did you learn about EMSL?

- 29 Scientific meeting/conference
- 15 Internet search
- 14 Journal publication
- 33 Previous EMSL use
- 51 Colleague
- 76 PNNL staff member
- 4 Other

USER ENDORSEMENTS AND COMMENTS

Although not all comments are shown, below is a representative sampling of the positive user comments received.

- Absolutely outstanding.
- Personnel in charge of instrument operation really make the EMSL MS capabilities first class when compared to other Omics resources.
- Excellent HPC systems and codes.
- Overall I was very satisfied. We worked with 7 different EMSL staff. The point of contact was highly responsive, typically responding to email or phone calls within 24 hr.
- The EMSL administrative staff is first class. They have always provided effective and outstanding assistance when necessary. It makes working with EMSL resource that much better!
- It was an excellent experience. I was very pleased with the studies conducted.

EMSL's Response

We appreciate your recognition of the efforts we make to provide outstanding facility operations, a stellar suite of instruments and dedicated scientific, technical and administrative staff. We especially want to call out Alice Dohnalkova, Mark Engelhard, Dehong Hu, Andy Lipton, the MSC User Consulting group, Galya Orr, and Marsha Zeigler who received special recognition for their outstanding expertise and assistance.

User Concerns and Suggestions

While user satisfaction rates very highly, we carefully review any comments in which users expressed concerns or suggestions for improvement. These have been compiled into several topical areas and representative comments are provided below, along with EMSL's response.

USER COMMENTS

OVERSUBSCRIBED INSTRUMENTATION OR STAFFING

- It's very difficult to schedule time for TEM. The staff scientist is great, but just really overworked.
- The resources are great, but the 3-5 month queue times can be problematic for novel and cutting-edge applications. Would be great to have some faster turn-around possibilities for pilot study work.
- While EMSL scientists were very capable and knowledgeable and provided high quality data, it was difficult for them to find time to work on my project. After many months of minimal progress, I had to visit EMSL in person to ultimately get the work done. It took 3 days to complete the project, after 4-5 months of waiting.
- Still waiting for results.
- Since the reception desk was unstaffed the couple days that I was working in EMSL, and this trip was my first to Richland (I work in Sequim), my badge access was not completely activated. No one could help me in the badging office, so I could only get myself into half of the rooms I was using.

EMSL'S RESPONSE

We have added significant capacity with the addition of several Q-exactive based platforms to help reduce the previous queue time of 4-6 months. Currently, the average queue time is two months.

There are opportunities for pilot studies outside of the annual Call for proposals. General proposals, which can be submitted at any time, provide opportunities for the proposal author to identify special circumstances, such as the need for rapid access to conduct a proof-of-principle study or respond to a rapid data need. Proposals with special circumstances are reviewed outside of the annual call schedule.

Given the anonymity of the survey, it is difficult to determine the exact cause of delay(s) to user projects. In some cases, sample preparation can be problematic and require on-site discussions with EMSL staff to develop new strategies for preparing high-quality samples. If you have any issues related to your project, you are strongly encouraged to contact your project Host as quickly as possible. They can help identify the potential causes and facilitate plans to address your concerns.

PNNL staff have regular hour access to Core buildings on the campus but access to EMSL laboratories require the staff member to be listed as a participant on an active proposal and to have an approved IOPS request. Whether you are a PNNL staff member or an external user, if the Front Desk is unstaffed and you need help with access or information, please contact the User Support Office.

USER COMMENTS

TRAINING

- It would be helpful if electronic version of detailed manuals could be provided, and a sheet of Q&A's highlighting issues [that can] occur during operation. Hard copies of these documents at the equipment sites ...[would be] also appreciated.
- The online training resources are adequate and convenient, but the training requirements seem excessive.
- The training seemed a bit overboard. It would have been nice to get the highlights of the training. However, I understand that PNNL needs to cover all bases to avoid any kind of legal complication. So maybe it is a necessary evil.
- I don't learn well from online videos. I also don't like doing 20 hours of training for 40 hours of visit.

EMSL'S RESPONSE

EMSL has considered developing operating manuals for instruments that could be candidates for more independent operation. But our first concern is for the safety of our users. This is often the reason why lengthy training is required even for short-term use of an instrument and it makes developing operation manuals more complicated. In addition, almost all instruments require significant expertise to get the best results from the samples and make the most of the allocated time per user. Other instruments have restrictions imposed by the vendor contracts that limit the amount of operating information that can be provided. If there are specific instruments that you think could be operated with little training outside of electronic manuals, please email the User Program Services Manager (terry.law@pnnl.gov) or the instrument Capability Lead with the details.

The researcher's safety is also the primary driver for PNNL's hazard and site orientation training materials. They know that EMSL users come from a number of different safety environments, and they develop courses to provide the basics for all users. The Enterprise Learning department, however, continues to look at ways to deliver this information in a format that can work for everyone (for example, adding opportunities for users to "challenge" courses when appropriate). They also incorporate different delivery methods into the training because individuals have a variety of learning styles—auditory, interactive, or visual (reading). For those of you who do not learn well from videos, some courses already include the option to read a transcript instead of watching the video. We've asked our Enterprise Learning staff to consider implementing this option in all courses, if possible.

USER COMMENTS

TRANSPARENT PROCESSES AND COMMUNICATION

- Some aspects of the submission process was unclear
- Length of time from Science Theme proposal submission to the start of user time seems very long.
- [It's] important to keep in mind that many resources at EMSL are generally unavailable in standard research labs. This means that new users may be unfamiliar with operation and the most appropriate applications of this cutting-edge instrumentation. For this reason, it's critical that EMSL staff provide as much detailed input during development of proposal approaches as possible, in addition to thorough training on the instruments and sample preparation procedures. I have been satisfied with the instrument training and EMSL staff input concerning the tone and mission of my proposal, but would have appreciated more input into development of the proposal approach.
- The table of collaborators takes forever to make for anyone doing atmospheric science because everyone collaborates with everyone else.

EMSL'S RESPONSE

At the end of each fiscal year, we review the strengths and weaknesses identified in the proposal process by staff and users in order to build improvements into the process for the next Call or General cycle. Because we are so familiar with the processes, however, it can be hard for us to identify pieces that are unclear. If you have specific suggestions for added clarity, please contact [Terry Law](#) so we can continue to refine and improve the proposal submission and review process.

EMSL's proposal cycle is scheduled around the fiscal year so management can most accurately identify the number of proposals that can be supported based on the following year's budget estimates. We intentionally strive for an early Call to be able to send decisions to PIs by July so they can have time either to prepare samples and arrange schedules for the October 1 start or to find alternate resources for their research.

We recognize that research communities are more and more integrated, but the collaborator list – a standard requirement in BER proposal calls – helps us identify conflicts of interest *prior* to assigning reviewers. This way, we avoid the delays caused when reviewers decline assignments due to conflicts and we have to find new reviewers. To respond to user concerns and ease the burden of these lists to the extent possible, we revised our requirements last year. For example, participation in very large collaborative efforts with an individual does not necessarily constitute a conflict of interest for purposes of our peer review process. Lists in excess of 100 collaborators per investigator can be shortened to include only the closest collaborators, and we ask you to use your best judgment in these cases. In addition, lists from recent NSF, DOE, or other proposals that meets the spirit of this request can be used in lieu of the appendix.

When you're considering a proposal to EMSL, we encourage you to contact our Capability Lead(s). They are more than happy to discuss your proposal idea and help you identify the most appropriate applications and work plans for your goals. Keep in mind, however, that we receive a

lot of requests for proposal review so we encourage you to start these discussions as soon as possible after the Call announcement. That way, the Leads aren't trying to juggle your questions with those of a dozen other PIs and can dedicate the time to help refine your proposal.

USER COMMENTS

OPERATIONAL DELAYS OR DOWNTIME

- The resources are great, but the 3-5 month queue times can be problematic for novel and cutting-edge applications. Would be great to have some faster turn-around possibilities for pilot study work.
- It was sometimes difficult to get responses from instrument custodians regarding scheduling experiment time.
- SEM and HIM have had scheduled and un-scheduled maintenance issues, but this is to be expected.

EMSL'S RESPONSE

EMSL does provide opportunities for pilot study work. General proposals provide an opportunity for shorter-term projects either by competing for staffing support and resources in a competitive panel review twice a year or outside the cycles if there are special circumstances. Researchers can identify these on the proposal form, such as needing rapid access for a short proof-of-principle experiment or to meet an urgent deadline for a grant application, restricting data for protection of intellectual property (IP), requesting use of non-EMSL-owned resources, or providing funding for staff support and training needs. These special requests are exempted from the General review cycles and are evaluated on an expedited case-by-case basis (usually 1-2 weeks). Details regarding your options for General proposals are available on our website at </emslweb/general-proposals>.

You're right—unscheduled maintenance issues are to be expected. While we cannot fully prevent instrument downtime, our staff work hard to minimize the impact to you by moving the work to like instruments or shuffling the schedule. If you are experiencing problems using or scheduling time on instruments, please contact the appropriate [Capability Lead](#) directly or any of the staff in the User Support Office.

USER COMMENTS

ADDITIONAL CAPABILITIES REQUESTED BY THE USERS

Microscopy:

- Lower Energy Electron Microscopy (LEEM)
- A Coherent Anti-Stokes Raman Microscope (standalone CARS microscope for high-repetition rate imaging, e.g. of biological systems)

Mass Spectrometry:

- Nano-ESI interfaced ICP-MS for Metallomics and purity determination of crude peptides.
- LC-SRM, PRISM-SRM, PRM on Q Exactive HF

NMR and EPR

- Large capacity low carbon background probe

Spectroscopy and Diffraction:

- Small Angle X-Ray Scattering
- Radiological APT in [RadEMSL]
- LabVIEW [software]
- Radiological UV-Vis
- New high resolution four-circle x-ray diffraction
- Radiological APT

EMSL'S RESPONSE

Your suggestions for new capabilities have been provided to the Capability Leads and will be evaluated as part of our annual capital planning.

In response to previous concerns about the aging mass spectrometry instruments, we are in the process of acquiring a Thermo Fusion mass spectrometer that should come online by the end of FY2015. We partnered with PNNL to purchase a Q-Exactive system for targeted proteomics applications, and users now have access to a Q-Exactive HF system that PNNL purchased. A new AMS has been ordered with delivery anticipated this fall, and a state-of-the-art GC-Orbitrap MS is scheduled for delivery later this month. In addition, the new 21T FTICR MS development continues on track for completion by fiscal year end. We continually investigate advanced separation technologies including size-exclusion chromatography and super-critical fluid extractions, which will be implemented into our workflows when feasible and advantageous.

For details of available instruments or to provide more information of instrument needs to support the experiments you have in mind, we encourage you to talk to the appropriate Capability Lead (<http://www.emsl.pnl.gov/contacts/>) or your host.