



EMSL Diversity, Equity, and Inclusion Plan

January 2023

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Acronyms and Abbreviations

BER	Biological and Environmental Research
DEI	Diversity, Equity, and Inclusion
DOE	Department of Energy
EMSL	Environmental Molecular Sciences Laboratory
FY	fiscal year
MSIs	minority-serving institutions
PI	principal investigator
PNNL	Pacific Northwest National Laboratory
SC	Office of Science



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1.0 Overview

The Environmental Molecular Sciences Laboratory (EMSL) is a Department of Energy, Office of Science user facility sponsored by the Biological and Environmental Research (BER) program. EMSL is committed to fostering an inclusive culture that welcomes and values people with diverse identities, perspectives, and backgrounds. As stewards of federally funded resources, we are responsible for ensuring that all researchers have equal access to EMSL's user program, and as conscientious members of the scientific community, we wish to align our operations with national efforts to address racism, sexism, and other forms of discrimination in science. For these reasons, EMSL has established this plan for Diversity, Equity, and Inclusion (DEI) to define our goals, outline our strategy for achieving them, and hold ourselves accountable.

Cultivating and promoting DEI aligns with our mission as a Department of Energy, Office of Science user facility. As stated by our sponsor, "the Department of Energy (DOE) and the Office of Science (SC) believe that creating a diverse workforce and an equitable and inclusive workplace culture that values and celebrates a diversity of people, ideas, practices, cultures, and educational backgrounds is essential for establishing the creative and innovative work environments necessary for the success of the DOE National Laboratories and continued delivery on DOE's vital missions." Research and common sense both tell us that the best innovation happens when diverse voices and perspectives are included on a team and when team members feel safe and valued. Further, we recognize that addressing racism, sexism, and other forms of discrimination in science is a moral imperative and that it reflects the values of our community.

This plan is intended to guide, inform, and communicate EMSL's strategy toward DEI activities. Because EMSL is part of Pacific Northwest National Laboratory (PNNL), we will access and leverage the DEI activities PNNL has in place for staff and not duplicate existing efforts. We aim to find areas of synergy with PNNL efforts, but the focus of this plan is on the EMSL user program.

Initially, much of the content in this plan is focused and weighted on Phase 1. As progress is made, lessons are learned, and feedback is captured, Phases 2 and 3 will be expanded and developed further. This plan is intended to be annually reviewed and refreshed to capture efforts, realign based on future needs, and share the outcomes of our efforts. EMSL aims to be intentional in our approach to DEI efforts and consider ways in which we can incorporate activities to achieve our aims in all activities we pursue.



2.0 Definitions

For the purposes of this plan, we will focus on specific aspects of DEI. As we progress in our understanding of these concepts and how they pertain to our organization, we expect to expand and/or refine these definitions.

- **Diversity:** Variations among individuals in context of characteristics such as race, ethnicity, gender, sexual orientation, physical ability, religious belief, age, and socioeconomic status. In this plan, we will focus on attributes that include race, ethnicity, gender, type of affiliation, prior EMSL access, career stage, and geographic location.
- **Equity:** Fair and just treatment of all individuals. Here, we will focus on equity in terms of access to EMSL resources through the user program. We will not duplicate PNNL-wide efforts in activities related to staff equity in compensation, hiring practices, and performance management.
- **Inclusion:** Ensuring that every person feels respected, accepted, and valued and can participate fully in the organization.



3.0 Aims

We identified five initial aims to focus our efforts on:

1. **User equity:** Provide equal access to EMSL resources for all users, prospective, and existing.
2. **User diversity:** Cultivate a user community that represents the research community in terms of racial and gender diversity.
3. **Culture:** Foster and propagate an equitable and inclusive culture among staff and users.
4. **Pipeline:** Help develop a diverse population of future researchers.
5. **Broader impact:** Participate in broader national efforts to address race- and gender-based bias in science.

The aims of this plan are targeted toward the activities associated with the EMSL user program. Because EMSL is part of PNNL, we will access and leverage the DEI activities PNNL has planned regarding all staff members, including recruiting efforts to attract and retain staff.



4.0 Ten-Year Vision

EMSL's DEI plan is divided into several phases, as outlined in Table 1 below. Most of the initial structure of the plan is integrated in Phase 1 activities knowing that this plan will be assessed and revised annually with updates to activities based on input and feedback collected during the initial years. As a result, the initial phase of this plan is more comprehensive compared to the following two.

Table 1. EMSL's Ten-Year Diversity, Equity, and Inclusion Strategy.

Phase	Objective	Year
Phase 1	<ul style="list-style-type: none"> • Collect data on user demographics and staff activities • Develop communication tools to support the DEI mission • Improve equitable access for applicants and users • Build diversity and inclusion into new and existing outreach activities • Establish plan for external review of DEI plan 	1–2
Phase 2	<ul style="list-style-type: none"> • Outreach and education • Promote staff activities in DEI • Evaluate diversity and equity of access using metrics and in-depth internal and external reviews of performance 	3–5
Phase 3	<ul style="list-style-type: none"> • Drive sharing of best practices among user facilities • Continue periodic performance reviews and updates to the plan 	6–10

4.1 Phase 1

In support of the aims described above, we will pursue the following objectives and activities in the next 1 to 2 years. These activities are largely foundational for establishing a framework for DEI activities and how we plan to be measured.

1. Collect data on user demographics and staff activities

- Collect demographic data on users and conduct a preliminary analysis.
- Start collecting data from staff on DEI-related activities.
- Analyze available data on applicants from minority-serving institutions (MSIs), non-R1 institutions, etc. to serve as a benchmark.

2. Develop communication tools to support DEI mission

- Establish or evaluate systems to receive and address complaints from users and staff (such as an anonymous reporting tool and internal process for responses).
- Add culture-related questions to user survey.
- Define goals and share DEI plan on EMSL website.
- Conduct listening sessions with underrepresented constituencies to inform our plan of activities to outreach with these groups.



3. Improve equitable access and support for applicants and users

- Reduce bias in peer-review process by implementing a dual-anonymous peer review for proposals.
- Develop a system for tracking and helping Integrated Research Platform leaders respond to inquiries from prospective users.

4. Build diversity and inclusion into new and existing development and outreach activities

- Pilot an internal program to bring graduate student researchers from Historically Black Colleges and Universities (HBCUs) and MSIs to EMSL under the Office of Science Graduate Student Research (SCGSR) Program.
- Add to our communications strategy targeted outreach and marketing of webinars, summer schools, and other opportunities to MSIs and HBCUs.

5. Establish a plan for periodic external evaluation of our DEI efforts and for updating our DEI plan

- Present this plan and report on activities to the EMSL User Executive Committee at their annual meeting, requesting feedback.

4.1.1 Present State Activities

4.1.1.1 EMSL User Community

We consider EMSL's user community to consist of all individuals who submit research proposals to EMSL's user program—or are identified as team members—regardless of whether they receive an award. When submitting a proposal, users are required to provide information about their home institutions and themselves. The principal investigator (PI) and any co-investigators are required to answer a question about gender, which is optional to other team members. Until recently, our user profile form did not include any questions about race or ethnicity.

Using the existing data of the user community, we can only make a limited demographic analysis of the current users. On average, over the past five years, 36 percent of the PIs on active user projects are females and 64 percent are males. Over the same time period, 6 percent of users on active projects had MSI-based affiliations and 8 percent were affiliated to institutions located in EPSCoR states (states identified by the Established Program to Stimulate Competitive Research as being disproportionately under-resourced with federal research funding).

We have recently made modifications to our user portal profile form to revise our gender question to allow more inclusive ways for users to identify themselves, including preferred pronouns while also seeking race and ethnicity-based information. These questions and response options were developed in collaboration with the Atmospheric Radiation Measurement and Joint Genome Institute user facilities to seek consistent input across BER user facilities. In addition, the wording of questions and responses were vetted with PNNL's DEI subject matter experts. Moving ahead, when users create a profile, they will be required to complete all questions as part of their profile, which will enable us to conduct a better analysis of our user base and inform progress. While users will be required to answer the profile questions, each question includes a "prefer not to answer" option.

4.1.1.2 Equitable Access

Access to EMSL resources via the user program begins with equity in the proposal review process. Based on a limited analysis of the equity of the proposal review process, data suggests a bias when reviewers are aware of the submitter's identity. For this analysis, proposals submitted to the annual calls for Large-Scale Research



(LSR) and Facilities Integrating Collaborations for User Science (FICUS) were only included because they are peer-reviewed by the Proposal Review Panel and have substantially larger scopes than other proposal types.

Over a five-year period, fiscal year (FY) 2017 to FY 2021, 35 percent of LSR and FICUS proposals were submitted by female PIs and 23 percent were submitted by PIs new to EMSL. Proposals from female PIs constituted 35 percent of the total accepted proposals but only received one of the top two scores in a given proposal call 30 percent of the time, suggesting the possibility of bias in the review process. Proposals from new PIs were less likely to be accepted (with an acceptance rate of only 17 percent) and were much less likely to receive one of the top two scores (5 percent), which likely reflects both the inexperience of new PIs as well as bias in the review process.

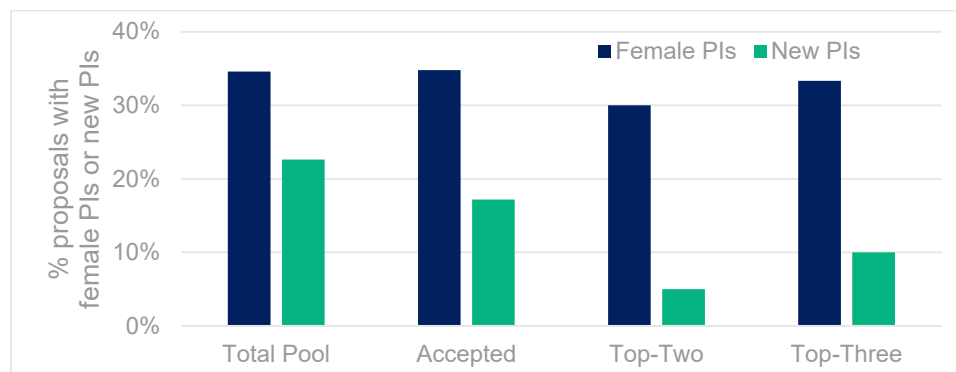


Figure 1. Five-Year Summary of Proposal Results for Female and New PIs.

To remove bias from the review process, EMSL piloted a dual-anonymous peer review for our FY 2023 Exploratory Call. Guidance was provided to PIs on how to anonymize their proposal submission whereby the review of the submissions was conducted with a focus on the proposed scientific merit, eliminating bias based on the identity of the individual submitting the proposal. The external peer-review panels were conducted in early FY 2023. Feedback was sought from PIs and reviewers on this process, and the overall feedback was positive and supportive of future calls utilizing this process.

4.1.1.3 Outreach Activities

EMSL has identified several opportunities to conduct outreach activities with underrepresented populations. These include a pilot to bring a graduate student to EMSL under the SCGSR Program. In our next cycle of EMSL Summer School, we intend to invite and provide funding for underrepresented groups to attend. In FY 2023, EMSL's 1000 Soils pilot will transition to the user program under the Molecular Observation Network, where we anticipate numerous opportunities for outreach and to develop relationships with underrepresented groups. We also have plans to conduct listening sessions that will help identify where we should be spending and focusing our activities to make the most impact rather than making assumptions about how we believe our activities should be planned. These outreach activities will inform both our strategic direction and the activities of this plan.

4.2 Phase 2

After initial metrics and reporting have been established, the focus of our efforts in Phase 2 will reside primarily in outreach and educational activities to drive the user community demographics positively to reflect a more diverse and equitable population.



4.2.1.1 Outreach Activities

Activities established in Phase 1, particularly the listening sessions, will help define continued efforts during this next phase. Feedback from all these activities will be regularly incorporated into plans as we strive to increase the diversity of applicants to the user program.

4.2.1.2 Promote Staff Activities

Recognizing EMSL staff are an integral part of interaction and outreach with our user community, we will seek ways to promote staff activities in the DEI space. We plan to promote a diverse pool of speakers for the EMSL's Exchange Seminar Series. Additionally, we will intentionally educate and inform EMSL staff about PNNL DEI activities, including mentorship opportunities.

4.2.1.3 Evaluation

Building off the data collection efforts in Phase 1, we will use Phase 2 to establish an evaluation rubric of the diversity and equity access to EMSL and assess our performance. We understand that transparency and reporting our efforts to include both successes and opportunities for improvement are important for positive changes in areas that need improvement.

4.3 Phase 3

During this final phase as the plans mature, the focus of Phase 3 will be to drive the sharing of best practices among user facilities. In addition, we will continue to conduct periodic performance reviews of our efforts to drive sustainability in this plan.

4.3.1.1 Best Practices

EMSL aims to be at the forefront of DEI activities within our user community and among user facilities. As we develop activities, take on new initiatives, and measure our progress, we intend to share the outcomes with other user facilities. As other user facilities develop DEI strategies and establish best practices, we will draw on those experiences and integrate them into our own plan.

4.3.1.2 Performance Reviews and Updates to Plan

This plan is intended to be a living document to guide our efforts related to DEI activities and hold us accountable. By establishing a plan for periodic external and internal review, we will draw on what efforts are impactful and adjust as needed.

