



NMDC Newsletter

The Microbiome Standard

-Winter 2024-

Update from the Leadership Team

Happy New Year! We are excited to kick off 2024 with several exciting activities to further advance the NMDC mission. We launched the annual call for applications for our [Ambassador program](#), released our [2023 Annual Report](#), and updated our Inclusion, Diversity, Equity, and Accountability (IDEA) [Action Plan](#). We have updates to share including [major development for the NMDC schema](#), new data available in the [Data Portal](#) and accessible through the [NMDC API](#), and several accomplishments with our NEON partners, JGI's IMG/M team, and the Genomic Standards Consortium. We are pleased to share that the NMDC has been selected to provide quarterly reports for [DOE's Performance Metrics](#) with the first report [now available](#). We invite you to read on to learn more about our team's activities and ways to engage.

Announcements

THE NATIONAL MICROBIOME DATA COLLABORATIVE

AMBASSADOR PROGRAM

Seeking early career microbiome researchers who wish to engage with their research communities to address the challenges of finding and reusing microbiome data.

ELIGIBILITY

- Early career researcher (graduate student or within **12 years** post-highest degree)
- Works with amplicon, metagenomic, metatranscriptomic, metaproteomic, and/or metabolomic data
- Works with microbiome data
- Willing to commit to a year-long term and attend virtual trainings
- Affiliated with a U.S. institution

BENEFITS

- Cohort-based training on data stewardship, data standards, and community engagement
- Event hosting opportunities
- Networking and professional development
- Financial (\$1000 for researchers from eligible institutions), logistical support
- Credit and recognition of contributions via NMDC channels
- Co-authorship opportunities



APPLICATIONS ARE DUE FEBRUARY 9, 2024
LEARN MORE AND APPLY AT:
[MICROBIOMEDATA.ORG/AMBASSADORS/](https://microbiomedata.org/ambassadors/)

2024 Ambassador Application Open

Applications for the 2024 NMDC Ambassador program are open until February 9th! NMDC Ambassadors are early career researchers who spread awareness about microbiome data stewardship by running workshops and hosting presentations. Find out more about this opportunity by visiting the [Ambassador webpage](#). And help us spread the word over [LinkedIn](#), [X](#), and [Instagram](#)!

Apply now!

Read more about our Ambassador Program in a new [blog post](#) summarizing the successes of the 2023 cohort of Ambassadors and in a recent [news article](#) published by LBNL.

Annual Report

The [2023 NMDC Annual Report](#) is now available! Read about the past year's updates regarding NMDC infrastructure and community partnerships.

IDEA Action Plan

Our 2024 Inclusion, Diversity, Equity, and Accountability (IDEA) [Action Plan](#) is also now available along with the accountability metrics from our previously outlined IDEA actions.

New staff members join the NMDC

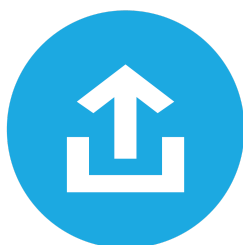
Sierra Moxon recently joined the [NMDC team](#) at LBNL as a software developer!

Releases

Software updates

Schema changes this quarter involved adding classes for preparation metadata and remodeling studies, available in our [9.3.2 release](#). During a week-long schema development meeting, updates were made to better capture laboratory processing for generating omics data and better aggregating laboratory and analysis workflow processes. Updates on dependent systems are needed before this will be deployed

in production; until then, a detailed overview of the changes can be found [here](#). Additionally, we deployed ORCID member credentials for the Data Portal and enabled ORCID authentication for the NMDC API. We established a monthly release calendar for public-facing software products and updated the NMDC Runtime release workflow.



Updates to the NMDC Submission Portal

- Currently working with DOE user facilities EMSL and the JGI to optimize metadata submissions and improve the user experience
- Modifying permissions to allow multiple editors on a single submission



Workflow updates in NMDC EDGE

- French and Spanish translations for NMDC EDGE workflow [user guides](#) are now available
- Thanks to everyone who provided beta tester feedback! This feedback resulted in 63 insights and 40 action items, including workflow output and visualization updates, batch submission updates, and general interface updates to increase the accessibility of results and ease of run submission



New data in the NMDC Data Portal

- This quarter we added sample and workflow results for approximately 500 NEON benthic samples and 192 Great Lakes Bioenergy Research Center (GLBRC) phyllosphere samples. We've also been focused on revamping our study pages to make it easier to find data with DOE Science Focus Area (SFA) funding, and make links to external data and identifiers clearer

Partnership Updates

NEON

In December, the NMDC presented at a [webinar](#) hosted by NEON on how to access NEON soil data via the NMDC Data Portal as well as how to access metadata to make custom Jupyter [notebooks](#). This webinar was complementary to a science talk on NEON soil metagenome data hosted in November.

JGI's IMG/M

This past quarter, [IMG/M](#) has ingested reads-based taxonomic analysis and annotation results for several hundred NEON soil samples, bringing the total number of NMDC processed datasets in IMG/M to nearly 500.

Genomic Standards Consortium

Together with the GSC, we helped to release MixS [v6.2.0](#) and associated [documentation](#) which is a major technical re-implementation of the standard using the Linked Data Modeling Language ([LinkML](#)).

DOE's Great Lakes Bioenergy Research Center (GLBRC)

We are collaborating with researchers at the [GLBRC](#) to support FAIR data sharing. Biosample information from a [phyllosphere microbiome](#) study is now available via the Data Portal and we have used this study to expand metadata collection via the Submission Portal to improve interoperability.

Events

NMDC team members and two NMDC Champions co-hosted a panel entitled “Open Science for All: Skills for Data Management that Unlock Research Opportunities” at the SACNAS National Diversity in STEM conference in October in Portland.





The NMDC attended AGU in December and presented a lightning talk. A Learning Workshop entitled “Enabling Open and Interoperable Science: Multi-Omics Data Processing with Standardized Bioinformatics Workflows for Earth and Space Research” was hosted with our NASA GeneLab collaborators, Amanda Saravia-Butler and Sylvain Costes, as well as two NMDC Ambassadors, Heng-An Lin and Archana Yadav. The NMDC also co-hosted an Innovation Session with NASA GeneLab collaborators.

NMDC Co-PI Chris Mungall attended PAG-31 and presented on the NMDC at an inter-agency (NSF/DOE/USDA/USAID) workshop “[Beyond the National Plant Genome Initiative: New Frontiers and Grand Challenges in Plant Genomics](#)” with a focus on data for the bioeconomy. For those interested in hearing more about this topic, there are some upcoming town halls, which you can read about and sign up for [here](#).

This past quarter, the NMDC also presented at JGI’s Microbial Genomics & Metagenomics [workshop](#), presented a poster and demo of the Data Portal at the ESIP [virtual meeting](#), and participated in the ESS-DIVE [Open Data workshop](#).

Upcoming Events

The NMDC team will be hosting a [workshop](#) entitled, “Tools and Techniques for Promoting Open Science and Biological Data Reusability” at [AAAS](#) in Denver on February 17th.

Several NMDC team members will also be at the [Fungal Genetics](#) conference March 12-17.

NMDC team members will be at the [Deciphering Microbiome Functions workshop](#) in the Netherlands from March 25-28.

Opportunities

The International Microbiome and Multi-Omics Standards Alliance ([IMMSA](#)) will host a series of discussions on data reuse throughout 2024. To learn more and join the

conversation, please sign up [here](#).

Contribute soil samples to EMSL's Molecular Observation Network (MONet) [proposal call](#)! The first quarterly deadline is coming up on February 1st.

Are you passionate about FAIR microbiome data and are interested in being more engaged with the NMDC? [Apply](#) to our [Champions program](#)!

Would you like to help the NMDC create intuitive, user-friendly, and community-driven products? Explore our current call and sign up for user research on our [website](#). We are currently recruiting users to participate in user research for the NMDC Data Portal to understand how the community interacts with publicly available data and to improve the Data Portal interface.

Connect with us on our newly launched Instagram! @microbiomedata



[Check out our 2023 Annual Report!](#)

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