



NMDC Newsletter

The Microbiome Standard

-Fall 2023-

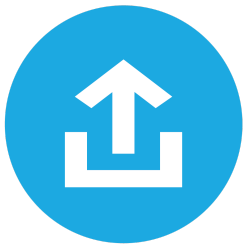
Update from the NMDC Leadership

Last week, our team gathered in person for our annual retreat and convened our Scientific Advisory Board for the first time in person to gather their expert feedback. We have several updates to share, including our ongoing partnerships with [NSF's NEON and ESS-DIVE](#), [a new collaborative publication with the JGI team](#), and [a recap of our summer conference activities](#). Over 1,500 standardized metagenome workflow outputs have been added to the NMDC Data Portal from diverse soil samples collected across NEON sites. We invite you to read on to learn more about our team's activities and for opportunities to engage with the NMDC team.

Releases

Software updates

We had several [NMDC schema releases](#), bringing us from version 7.7.1 to version 8.0.0. Improvements include updates to how studies are modeled, improved support for database conversion to Resource Description Framework (RDF) triplestore with corresponding SPARQL queries, and an overhaul to the definition and usage of CURIE prefixes.



Updates to the NMDC Submission Portal

To support improvements and development of new features, our team conducted five user interviews for the Submission Portal to gather feedback as part of our [User Research](#) program. These interviews resulted in 72 insights and 20 compiled action items that our team will add to our development activities.



Workflow updates in NMDC EDGE

Our call for beta tester feedback on the bioinformatics workflows in NMDC EDGE is live! This quarter, we opened up beta testing for our most recently added workflows: Viruses & Plasmids and Metaproteomics. If you are interested in participating, please run the Viruses & Plasmids or Metaproteomics workflows and submit your feedback using [this form](#). Please have your feedback submitted by October 21st! Beta testers will be acknowledged on the NMDC website, via ORCID, and in relevant publications for their feedback.



New data in the NMDC Data Portal

This quarter we added [National Ecological Observatory Network](#) (NEON) soil data totalling 4,443 samples and 1,560 metagenomics datasets with corresponding standardized bioinformatics workflow outputs for these samples. We also added natural organic matter (NOM) data from two new studies, covering 448 samples collected from NEON sites. These studies are focused on [understanding permafrost stability in Alaskan landscapes susceptible to freeze-thaw cycles](#) and [soil organic matter \(SOM\) stabilization and vulnerability](#).

For usability feedback, errors, or questions on all NMDC products and software, please let us know through support@microbiomedata.org.



Publications

Team members Michal Babinski, Antonio Camargo, Patrick Chain, Bin Hu, and Simon Roux have published an article on geNomad, a JGI tool that is available through the NMDC EDGE platform, in *Nature Biotechnology*. The article describes how NMDC EDGE's approachable interface allows users to import their data and run the geNomad tool to identify signatures of viruses and plasmids in their datasets. Read more on [our website](#).

New staff members join the NMDC

Michael Thorton and Katherine Heal joined our team this summer. Visit our [team webpage](#) to learn more about them.

Learn more about our Ambassadors

We have launched a new series, *NMDC Snapshots*, highlighting the NMDC Ambassadors. [Check out](#) our short interviews with each Ambassador to learn more about their background and current research projects.

Follow us on Instagram

The NMDC will be officially launching our Instagram channel this week! Follow us at [@microbiomedata](#).

Partnership Updates

NEON and NMDC team members receive CSP Award

Thanks to the JGI Community Science Program, we'll be working with our partners at NEON to support access to 1,000 terrestrial and aquatic samples through the NMDC Data Portal with links to JGI's Integrated Microbial Genomes and Microbiomes ([IMG/M](#)) platform. Read more about our collaboration [on our blog](#).

ESS-DIVE and NMDC collaborate to share more data

To support researchers from across DOE's Office of Science Biological & Environmental Research (BER) program, ESS-DIVE and the NMDC are finding new ways to work together to standardize the linking of environmental and biological samples and their associated metadata, sample sets, workflows, datasets, and project(s). This work is part of a larger effort across DOE User Facilities and computational resources. Learn more about ESS-DIVE's work with the NMDC and other teams on [our blog](#).

Events

Where in the world was the NMDC team this summer? NMDC team members traveled all over to lead workshops in Georgia, Oregon, and even Thailand! Learn more about their travels in a [new blog post](#) on our website.

NMDC team members Julia Kelliher, Mark Miller, Montana Smith, and Yuri Corilo traveled to Thailand for the Genomic Standards Consortium (GSC) Annual Meeting. (l to r)



In October, NMDC team members traveled to Monterey, CA for a two-day retreat. Team members from the Pacific Northwest National Laboratory (PNNL), the Los Alamos National Laboratory (LANL), and the Lawrence Berkeley National Laboratory (LBNL) brainstormed new ways to help users access data and information, and also connect with researchers across the microbiome community.



Team members gather in Monterey.

Upcoming Events

Interested in meeting up with the team in person? You can find NMDC team members presenting at the upcoming [Society for Advancement of Chicanos/Hispanics & Native Americans in Society \(SACNAS\)](#) conference in Portland, OR from October 26 — 28.

The Joint Genome Institute is offering a five-day workshop on Microbial Genomics and Metagenomics. The upcoming MGM Workshop will be held on October 23 — 27 at the IGB, onsite at the Lawrence Berkeley National Laboratory in Berkeley, CA. This highly hands-on workshop is designed to familiarize users with the [Integrated Microbial Genomes & Microbiomes](#) (IMG/M) data. To learn more, [visit their website](#).

The Environmental Molecular Sciences Laboratory will host the [MONet Community Science Meeting](#) from November 7 — 8 at the Pacific Northwest National Laboratory in Richland, WA. The NMDC is a strategic partner of MONet. Attendees will experience two days of immersive lectures, tutorials, and hands-on training (for those who attend in person) about methods and data types collected through the [Molecular Observation Network \(MONet\)](#).

The ESS-DIVE data repository is holding their annual (fully virtual) [Open Data Workshop](#) on November 15 — 16. Our team will be participating during the Linking Related Project Data session on November 15, 12:30 — 2 PM PT.

The NMDC will be leading a session, co-hosted with NMDC Ambassadors Heng-An Lin and Archana Yadav and our NASA GeneLab collaborators, at the [American Geophysical Union \(AGU\)'s Annual Meeting](#) in San Francisco, CA from December 11 — 15.

Opportunities

The NMDC Champions Program: If you are passionate about FAIR microbiome data and are interested in being more engaged with the NMDC, consider [applying](#) to our [Champions program](#).

Black in Microbiology Week 2023 starts on Oct. 23! Join the free, online conference from October 23 — October 26, organized by the [Black Microbiologists Association \(BMA\)](#). Register on their [website](#).

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](#).



[Check out our 2022 Annual Report!](#)

