

Research focuses on scientific innovation through integration, combining computational and experimental approaches for discovery. Nationally recognized experts and state-of-the-art instruments are available within the following capabilities at EMSL.

*Yeast called *Yarrowia lipolytica* can be engineered to make lipids from carbohydrates for biodiesel production.*

Get EMSL news!

Staying informed on EMSL's science, news and announcements is as easy as signing up.

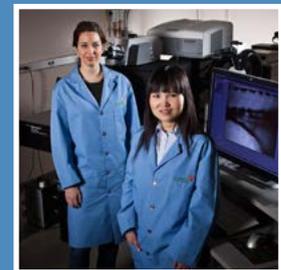
- <http://www.emsl.pnnl.gov/emslweb/emsl-news-how-you-want-it>.

EMSL offers several avenues for collaboration, including proposal opportunities and fellowships. Learn more at:

- <http://www.emsl.pnnl.gov/emslweb/working-us>
- <http://www.emsl.pnnl.gov/emslweb/fellowships-and-awards>.

For general proposal inquiries, contact the EMSL User Support Office:

emsl@pnnl.gov
(509) 371-6003



Cell Isolation and Systems Analysis



Deposition and Microfabrication



Instrument Development Laboratory



Mass Spectrometry



Microscopy



Molecular Science Computing



NMR and EPR



Spectroscopy and Diffraction



Subsurface Flow and Transport



How to Become a User



EMSL is an Office of Science user facility and specializes in solving scientific problems with multidisciplinary partnerships, collaborations and experimental and computational resources.



BECOME AN EMSL USER

At EMSL, scientific discovery and technological innovation in environmental molecular sciences are propelled by integrated experimental and computational resources. Researchers are invited to apply for the opportunity to collaborate with nationally recognized experts and use unparalleled state-of-the-art instruments and facilities. Typically, researchers use resources at EMSL for little to no cost if results are shared in open literature.



PARTNER WITH EMSL

Scientific Partner Proposals

- Accommodate users or groups of users who wish to partner with staff at EMSL to improve an existing capability or develop and build new or unique capabilities that enhance EMSL's user program
- Letters of Intent can be submitted any time (no call necessary)
- A full proposal may be requested pending review and approval of a Letter of Intent
- Awarded for a period of time contingent upon strategic needs and resource availability at EMSL

Apply for a Fellowship

Three fellowships are available: the William Wiley Distinguished Postdoctoral Fellowship, the Wiley Research Fellow Program and the Wiley Visiting Scientist Program.



Through a partner proposal, scientists from EMSL and AMOLF (the Foundation for Fundamental Research on Matter in The Netherlands) developed the world's first Cobalt-60 mass microscope.

SUBMIT A PROPOSAL

General Proposals

- Can be submitted any time (no call necessary); however, a proposal may be held until the next review cycle for resource availability
- Proposals are peer reviewed against criteria for award decisions
- Awarded for up to one fiscal year and ends September 30
- Can request access for deadline-driven, rapid turnaround data
- Scope can vary from a single experiment to substantial EMSL access
- Awards heavily depend on resource availability

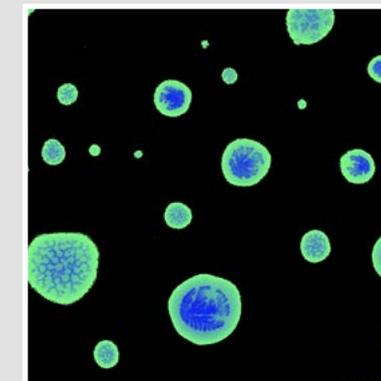
ANSWER OUR CALL

Annual Call for Proposals

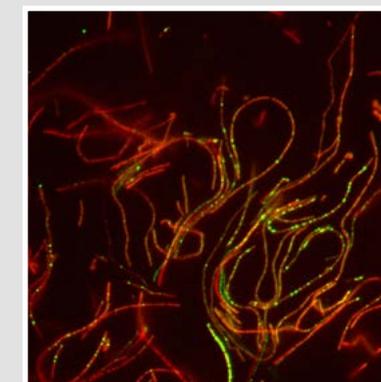
- Issued in December/January
- Awarded for up to two years
- External peer-review process favors research that integrates experiment and theory, crosses multiple science themes, and/or is computationally intensive



EMSL'S SCIENCE THEMES help define and direct the development of capabilities and focus collections of user projects that will enhance scientific progress in areas of environmental molecular science most critical to DOE and the nation.



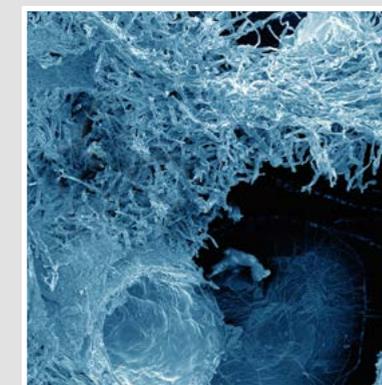
ATMOSPHERIC AEROSOL SYSTEMS focus on chemistry, physics and molecular-scale dynamics of aerosols for model parameterization to improve the accuracy of climate model simulations and develop a predictive understanding of climate.



MOLECULAR TRANSFORMATIONS focus on predictive understanding of molecular transformations in biology and chemistry central to energy production, bioconversion such as production of biofuels and bioproducts, biocatalysts such as deconstruction enzymes and bioinspired catalysis, and other processes key to sustainable energy conversion and storage.



BIOSYSTEM DYNAMICS AND DESIGN focuses on regulation of spatial and temporal parameters of metabolic processes in microbes, fungi and plants to advance systems biology for bioenergy and biorenewables.



TERRESTRIAL AND SUBSURFACE ECOSYSTEMS focus on the dynamics of nutrients, metabolites and contaminants at biogeochemical interfaces in heterogeneous environments across multiple scales for sustainable solutions to contaminant attenuation, remediation and biogeochemical cycling.