Approved Proposals FY20

Following are the approved user proposals for fiscal year 2020, including CSP, CSP New Investigator, and FICUS JGI-EMSL.

Community Science Program

Proposer	Affiliation	Proposal Description
Alcami, Antonio	Spanish National Research Council (Spain)	Diversity of DNA and RNA viruses in Antarctica
Anderson, Rika	Carleton College	Microbial and Viral Mediation of Biogeochemical Cycles from Source to Sink in Hydrothermal Vent Systems
Bowler, Chris	Institut de Biologie (France)	New Diatom Genome Sequences from the Most Abundant Genus in the Global Ocean
Brodie, Eoin	Lawrence Berkeley National Laboratory	Scaling Microbial Traits from Genomes to Watersheds Through Combined Airborne Hyperspectral Imaging, Soil Biogeochemistry, and Metagenome Assembled Genomes
Bushley, Kathryn	University of Minnesota	Defensive Mutualisms Between Fungal Root Endophytes and Soybean

Cullen, Daniel	Forest Products Laboratory	Mechanisms of Wood Decay by Soft Rot Fungi
diCenzo, George	Queen's University (Canada)	Constructing a Functional and Regulatory Gene Atlas of a Nitrogen-Fixing Legume Symbiont to Instruct Genome Annotation and Synthetic Biology Applications
Dick, Richard	The Ohio State University	Exploring Microbial Roles in Plant Drought Tolerance in the Sahel
Gerlach, Robin	Montana State University	Deciphering Cross-Domain Interactions in High-Productivity, High-pH, High-Alkalinity Microalgae Communities
Hanson, Thomas	University of Delaware	Groundtruthing And Expanding Our Metabolic Understanding of Important C And S Cycling Microbes
Hess, Matthias	University of California, Davis	Detangling the Inter-Organismal Interactions During Anaerobic Biomass Degradation And Methane Production in the Rumen Ecosystem
Hori, Chiaki	Hokkaido University (Japan)	Elucidating the Plant-Microbe Interactions of the Wood Decay Fungus Perenniporia fraxinea, a Serious Pathogen Of Hardwood Trees
Juenger, Tom	University of Texas at Austin	Resequencing a Fast-Neutron Mutant Population of a C4 Perennial Grass (*Panicum hallii*)
Kliebenstein, Daniel	University of California, Davis	Pangenomic Comparison of Structural Variation Driving Recurrent Network Evolution in Brassicaceae Metabolism

Mock, Thomas	University of East Anglia (United Kingdom)	The International Arctic Ice Drift Experiment MOSAiC: Seasonal Changes of Microbial Communities Across the Arctic Ocean
Polle, Juergen	Brooklyn College of CUNY	Exploring the Diversity of Parasitic and Commensal Chytrids of Microalgae
Rodrigues, Jorge	University of California, Davis	Is the Soil Aggregate a Biogeofunctional Island? Unifying Two Theories to Explain Multiple Biological Processes
Selbmann, Laura	University of Tuscia (Italy)	Shed Light in The daRk lineagES of the Fungal Tree Of Life (FTOL) Acronym: (STRES)
Sullivan, Matt	The Ohio State University	Inferring Virus-Host Interactions Through Multi-Omics High-Resolution Time Series
Uehling, Jessie	University of California, Berkeley	Evaluating the Role of Fungal Endosymbionts in Fungal Mating and Evolution
Woods, Daniel	University of California, Davis	Genetic Tools in Brachypodium Distachyon to Identify Genes Regulating Bioenergy Relevant Traits in Grasses
Wrighton, Kelly	Colorado State University	Creating the GROW (Genome Resolved Open Watershed) Database: Leveraging Distributed Research Networks to Understand Watershed Systems
Ziels, Ryan	University of British Columbia (Canada)	Mapping Methanogenic Metabolic Networks in Full-Scale Bioenergy Facilities Using Functionally-Targeted Multi-Omics

Zuccaro, Alga	University of Cologne (Germany)	Host-Specific Regulation of Effector Gene Expression In Mutualistic Root Endophytic Fungi

CSP New Investigator

Proposer	Affiliation	Proposal Description
Anantharaman, Karthik	University of Wisconsin-Madison	Paired viral-microbial metagenomes from anoxic freshwaters to inform biogeochemical cycling and hypolimnion dynamics associated with a long-term time series
Branco, Sara	Montana State University	Mechanisms of heavy metal tolerance in Suillus luteus
Brzezinski, Mark	University of Califorina	Unraveling the genetic basis of silica formation and fatty acid biogenesis in freshwater vs. marine diatoms
Ciric, Milica	Institute of Molecular Genetics and Genetic Engineering (IMGGE)	De-novo sequencing of 82 selected strains with biomass-degrading and bioremediation potential
Collins, Gavin	National University of Ireland Galway	Growth and development of methanogenic biofilms for bioenergy production
Eyice, Ozge	Queen Mary University of London	Microbial dimethylsulfide degradation in anoxic sediments
Harkess, Alex	Donald Danforth Plant Science Center	The phylogeny and evolution of rapidly reproducing duckweeds

Krukenberg, Viola	Montana State University	Revealing the extent of microbial methane cycling in geothermal features of Yellowstone National Park
Louis, Joe	University of Nebraska-Lincoln	Temporal transcriptomic analysis to understand the host and non-host aphid feeding on sorghum
Martinez Garcia, Manuel	University of Alicante	Tackling complex paradigms in marine virology: what are we missing with current viral metagenomics?
Monteoliva, Mariela	Oklahoma University	Transcriptomic and metabolomic analysis of stems of switchgrass lignin mutants under drought stress
Paape, Tim	University of Zurich	Molecular strategies for adaptation by legumes to toxic environments
Perryman, Clarice	University of New Hampshire	Characterizing the Pathways and Potential for Methane Oxidizing Bacteria to Mitigate Emissions from Thawing Permafrost
Rhee, Seung	Carnegie Institution for Science	Leveraging genomics and metabolomics to reveal mechanisms of thermoadaptation in a desert extremophile Tidestromia oblongifolia
Santoro, Alyson	University of California, Santa Barbara	Interactions between chemoautotrophic and heterotrophic bacteria investigated using combined transcriptomics and metabolomics
Sharp, Jonathan	Colorado School of Mines	Depth-resolved metagenomic inquiry of coupled nitrogen, carbon and sulfur biogeochemistry within a temporally dynamic photosynthetic wetland biomat

Techtmann, Stephen	Michigan Tech University	Diversity of carbon monoxide-based metabolisms and the role of carbon monoxide in sediment carbon cycling
Trivedi, Pankaj	Colorado State University	Effect of climate warming on the temporal functional scaling of boreal forest soil microbiome?
Wakao, Setsuko	Lawrence Berkeley National Laboratory	Mining for genes required for silica biomineralization in stramenopiles
Ward, Lewis	Harvard University	Metagenomic characterization of novel phototrophic microbial mats from an organic carbon-rich hot springs

FY 2020 Facilities Integrating Collaboration for User Science (FICUS) JGI-EMSL Plans

Proposer	Affiliation	Proposal Description
Beliaev, Alex	Pacific Northwest National Laboratory	Understanding Genomic Underpinnings of High-Biomass Productivity Phenotypes in Industrially Relevant Microalgae
Brodie, Eoin	Lawrence Berkeley National Laboratory	Beyond the Rhizosphere: Microbial Functional Traits Through the Whole Soil Profile and Their Response to Warming
Chain, Patrick	Los Alamos National Laboratory	Bacterial:Fungal Interactions in Soil: Developing a Mechanistic Understanding of Nutrient Exchange Between Soil Microbes and the Resulting Consequences for C/N Cycling

Crump, Byron	Oregon State University	Sunlight Exposure Replaces the Function of Microbial Enzymes Needed to Degrade DOM
Dunbar, John	Los Alamos National Laboratory	Carbon Cost of Plant-Microbe Interactions Under Drought
Gerlach, Robin	Montana State University	Deciphering Interactions Hypothesized to Lead to High Productivity in High Ph-High Alkalinity Phototrophically Driven Microbial Communities
Hallam, Steven	University of British Columbia	Expanding the Functional Metagenomics Toolkit with CRAGE and CRISPR-Cas9 In Taxonomically Diverse Microbial Host Chassis
Liao, Hui-ling	University of Florida	Discover Ectomycorrhizal Fungi-Triggered Macro- and Micronutrient Reactions and Movements: From Cell to Ecosystem Function
McDermott, Jason	Pacific Northwest National Laboratory	Prediction of Response in Soil Microbiome Carbon Utilization to Changing Moisture Conditions
Merchant, Sabeeha	University of California, Berkeley	Gene Function Discovery in Photosynthesis: A Multi-Omics Approach
Tfaily, Malak	University of Arizona	Rhizosphere Effects on Soil Organic Matter Decomposition and Microbial Activity in a Tropical Rainforest Under Drought: Unearthing Aggregate- to Ecosystem-Scale Contributions to Carbon Cycling Through Whole-Ecosystem Stable Isotope Labeling