

Collaboration with the Experiment Data Depot

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<https://public-edd.jbei.org>

Project Goals:

Although recent advances in synthetic biology allow us to produce biological designs more efficiently than ever, our ability to predict the end result of these designs is still nascent. Predictive models require a large corpus of high-quality data to be usefully parametrized and tested. Suitable datasets for these models are often not generally available. Here, we present the Experiment Data Depot (EDD), an online platform designed to act as a repository of experimental data and metadata. EDD provides a convenient way to upload a variety of data types, visualize these data, and export them in a standardized fashion for use with predictive algorithms. In this poster, we describe EDD and showcase its utility for three different use cases: the characterization of promoters for synthetic biology parts, leveraging proteomics data to improve biofuel yield, and the use of extracellular metabolite concentrations to predict intracellular metabolic fluxes.

References

1. Morrell W, Birkel G, Forrer M, Lopez T, Backman T, Dussault M, Petzold C, Baidoo E, Costello Z, Ando D, Alonso Gutierrez J, George K, Mukhopadhyay A, Vaino I, Keasling J, Adams P, Hillson NJ*, Garcia Martin H*. (2017) "The Experiment Data Depot: a web-based software tool for biological experimental data storage, sharing, and visualization" *ACS Synthetic Biology* DOI: 10.1021/acssynbio.7b00204

This work was part of the DOE Joint BioEnergy Institute (<http://www.jbei.org>) supported by the U. S. Department of Energy, Office of Science, Office of Biological and Environmental Research, and was part of the Agile BioFoundry (<http://agilebiofoundry.org>) supported by the U.S. Department of Energy, Energy Efficiency and Renewable Energy, Bioenergy Technologies Office, through contract DE-AC02-05CH11231 between Lawrence Berkeley National Laboratory and the U. S. Department of Energy.