ALCF Data Science Program: Productive Data-centric Supercomputing[1] NICHOLS ROMERO, VENKATRAM VISHWANATH, Argonne National Laboratory — The ALCF Data Science Program (ADSP) is targeted at big data science problems that require leadership computing resources. The goal of the program is to explore and improve a variety of computational methods that will enable data-driven discoveries across all scientific disciplines. The projects will focus on data science techniques covering a wide area of discovery including but not limited to uncertainty quantification, statistics, machine learning, deep learning, databases, pattern recognition, image processing, graph analytics, data mining, real-time data analysis, and complex and interactive workflows. Project teams will be among the first to access Theta, ALCFs forthcoming 8.5 petaflops Intel/Cray system. The program will transition to the 200 petaflop/s Aurora supercomputing system when it becomes available. In 2016, four projects have been selected to kick off the ADSP. The selected projects span experimental and computational sciences and range from modeling the brain to discovering new materials for solar-powered windows to simulating collision events at the Large Hadron Collider (LHC). The program will have a regular call for proposals with the next call expected in Spring 2017. http://www.alcf.anl.gov/alcf-data-science-program

Nichols Romero
Argonne National Laboratory

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