

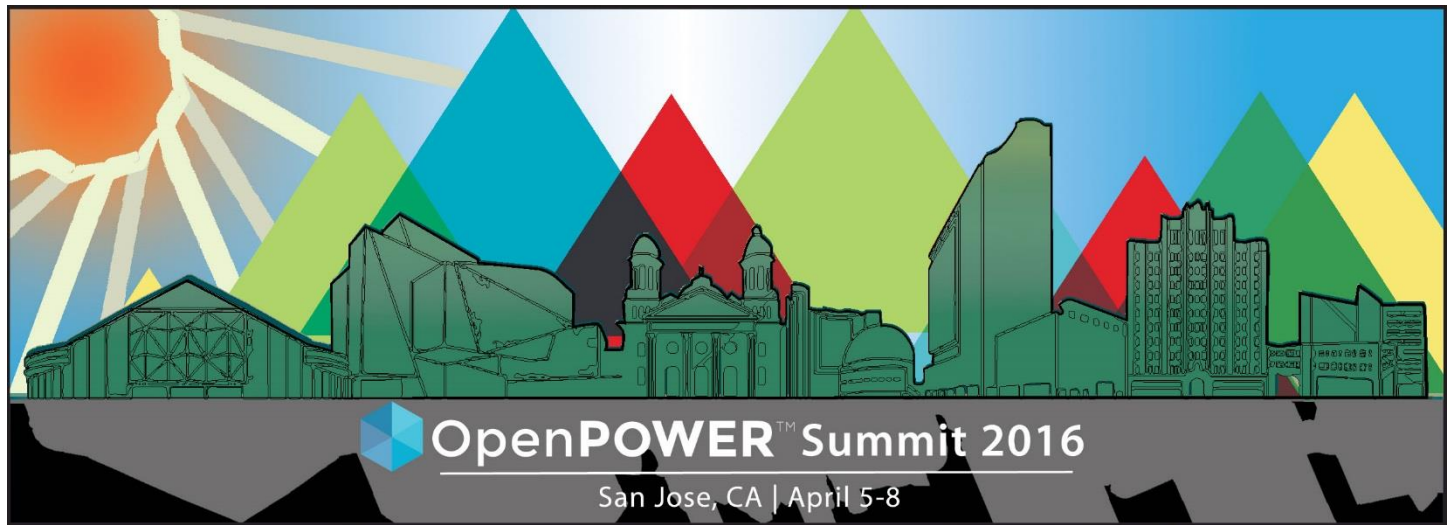


ADVANCED RESEARCH COMPUTING
TECHNOLOGY SERVICES
UNIVERSITY OF MICHIGAN

ConFlux – A Platform for Data Driven Computational Physics

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Assoc. Director ARC-TS



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ARC ADVANCED RESEARCH COMPUTING UNIVERSITY OF MICHIGAN

COMPUTATIONAL SCIENCE



The Michigan Institute for Computational Discovery and Engineering (MICDE) focuses on the interdisciplinary development of mathematical algorithms and models on high performance computers.



DATA SCIENCE



The Michigan Institute for Data Science (MIDAS) is the focal point for the new multidisciplinary area of data science at the University of Michigan.



TECHNOLOGY SERVICES



The Advanced Research Computing – Technology Services (ARC-TS) provides access to and support for the use of advanced computing resources



CONSULTING SERVICES



Consulting for Statistics, Computation and Analytics Research (CSCAR) provides support and training relating to the management, collection, and analysis of data.

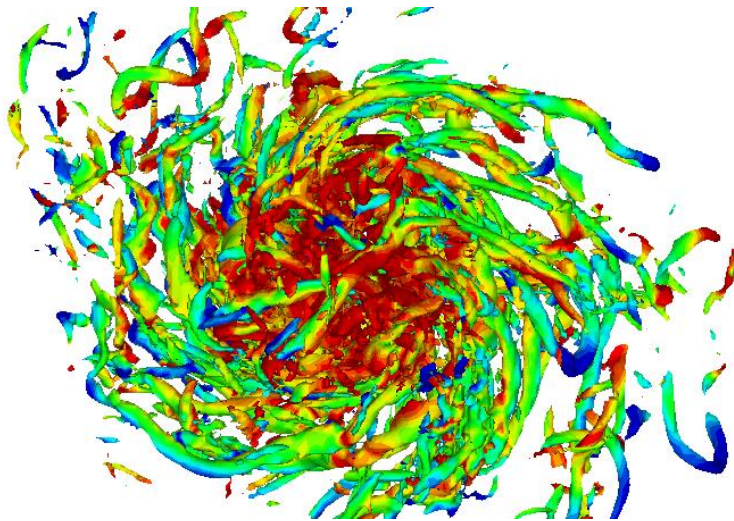


- <http://arc.umich.edu/>
- <http://micde.umich.edu/>

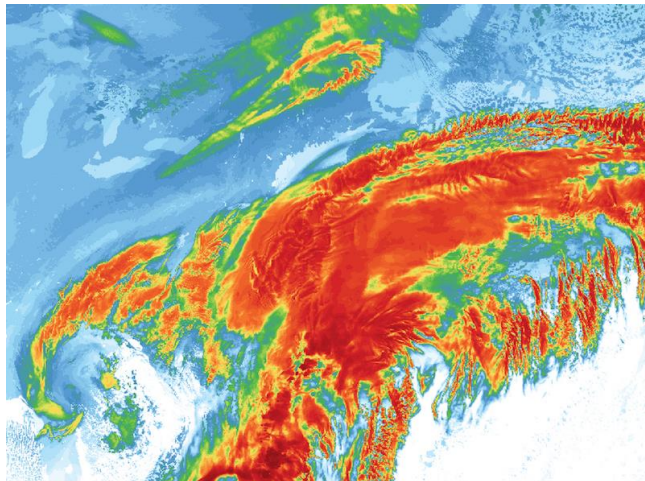
Center for Data-Driven Computational Physics

- Director Dr. Karthik Duraisamy
- Mission: Usher in the future of large-scale, data-driven modeling of multi-scale physical systems.
- However, the interaction of high performance computing for physics with large-scale data is itself a challenging problem, **meriting new hardware configurations, software, and computational methods.**

Research Areas



- Turbulence in Fluid Flow
- Cosmology
- Subject –Specific Blood Flow
- Computational Material Physics
- Climate Systems Interactions



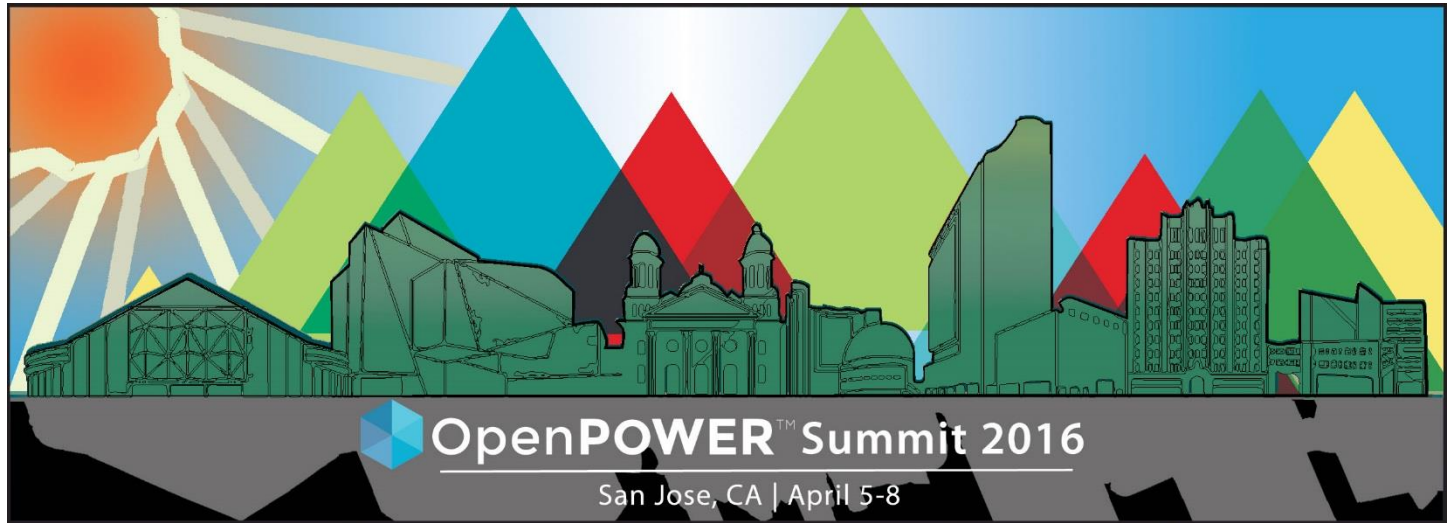
The Machine ConFlux

- 43 S822LC Firestone Nodes
 - 960GB Flash
- 15 Garrison Nodes (TBD)
 - 4 Nvidia Pascal GPU
 - Device to Host NVLink
- 1PB Spectrum Scale / GPFS
 - HDFS API Interface
- 100Gbps EDR Infiniband Mellanox
- LSF with Yarn / Hadoop Support

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- <http://arc.umich.edu/>
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- Supported by NFS ACI award 1531752