# UMass HPC day

## November 14, 2014

hosted by

Center for Scientific Computing
& Visualization Research



UMASS DARTMOUTH

This conference was generously supported by the Office of the Vice Chancellor for Research at UMD. Book and software poster prizes made possible by generous donations from

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Organizing committee: Sigal Gottlieb and Gaurav Khanna (UMD), Hans Johnston (UMA), Jeff Dusenberry (UMB), Kavitha Chandra and Vinod Vokkarane (UML), Konstantin Zeldovich (UMW), Doug Banks and Ralph Zottola (UMass President's Office).

wifi login to CONFERENCE1 or CONFERENCE2 (no password needed).

## Program

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| 9:00-9:30am | Breakfast and registration |
| 9:30-9:45am | Opening Remarks |
| 9:45-10:30am | A Framework for Low-Communication 1-D FFT by P. Tang (Intel) |
| 10:45-11:15pm | Coffee break and poster session |
| 11:20-11:40am | HPC Simulations of Exploding Stars: Computational Astrophysics in a Post-Millennial Era *by R. Fisher (UMD)* |
| 11:40-12:00pm | Statistical methods for social networks *by K. Gile (UMA)* |
| 12:00-12:20pm | What HPC can do for my research by A. Ritacco (HPC at UMW) |
| 12:30-1:30pm | Lunch Break |
| | Program for students: *R. Panoff (Shodor)* on the Blue Waters Internship Program |
| 1:30-1:50pm | Crowd Computing: Scientific discoveries by protein folding game players *by Firas Khatib (UMD)* |
| 1:50-2:10pm | Hardware Acceleration of Private Information Retrieval Protocols Using GPUs by G. Ghinita (UMB) |
| 2:10-2:30pm | Simulation of Non-Equilibrium Flows: Plasma Turbulence and Radiation Transport *by J. P. Trelles (UML)* |
| 2:30-2:50pm | The FEAST eigensolver with application to electronic structure calculations *by E. Polizzi (UMA)* |
| 2:50-3:20pm | Coffee break and time for collaborations and posters |
| 3:20-4:00pm | Solving High Performance Computing Problems Requires Systems that Optimize the Workflow by K. Jordan (IBM) |
| 4:00-4:20pm | Model reduction that you can rely on by Y. Chen (UMD) |
| 4:20-4:40pm | HPC simulations of multiphase flows with applications in energy systems by *M. Raessi (UMD)* |
| 4:40-5:00pm | Scalable I/O Software Stack for Big Data *by S. W. Son (UML)* |
| 5:00 - 5:20pm | Closing remarks and poster awards |