

WEDNESDAY, FEBRUARY 8, 2012

# High Performance Computing at Sheffield: Opportunities and Futures

Date 4th April 2012

## Outline

During the year 2011 over 500 years of processor time was consumed by users running tasks on the Iceberg compute facility. In 2012 this is expected to approach 1000 years. HPC@sheffield will provide an opportunity for researchers, post graduates and final year undergraduates to hear about projects using research computing facilities used nationally and hosted locally at The University of Sheffield.

HPC@sheffield is an exciting University of Sheffield research computing event that will provide an opportunity for researchers, post graduates and final year undergraduates to hear about projects using research computing facilities used nationally and hosted locally at The University of Sheffield. HPC@sheffield will comprise a series of presentations and a poster session. The objective of the event is to publicise what is available and to provide examples of what may be achieved using e-Infrastructure available to the research community. We will also introduce the new N8 centre for computational science and engineering.

## Programme

- 10:00 Introduction to e-Infrastructure for Research Computing - chair Prof. R., von Fay-Siebenburgen
- 10:05 Opening and Welcome (PVC Faculty of Engineering Prof. M. Hounslow)
- 10:15 Development of Materials Using Tier 1 Compute facilities (Hector), Prof. J.Harding
- 10:45 Overview of the Upgraded Iceberg System and the new N8 Tier 2 facility( Mr Wil Mayers, Alces Software)
- 11:15 Agent based simulation using CUDA.(Dr. P. Richmond)
- 11:40 Understanding our Nearest Star (Dr. V. Fedun)
- 12:05 The White Rose Grid e-Science Centre and the You Share Project (Mr. A. Turner)
- 12:30 Poster Session - lunch
- 13:30 Introduction to Research Computing Showcase (chair. Prof Merlyne De Souza)
- 13:35 Particle Physics using grid computing and the Analysis of data from the Large Hadron Collider (Dr. D Costanzo)
- 13:55 Integrative numerical models of the heart -- how close can we get to Star Trek medicine (Dr. R Clayton)
- 14:15 Bayesian inference using BUGS on Iceberg (Tim Pearson)
- 14:35 Coffee and posters
- 15:05 Medical Physics - a newcomer engages with GPUs (N.Higson)
- 15:25 On the effect of defects on the formation of small molecules on interstellar dustgrain analogues (Dr. A.J.H.M. Meijer)
- 15:45 Gold Doped Epitaxial Graphene studied via STM and Density Functional Theory (Mr. Premial Pillai)
- 16:05 Direct numerical simulation of unsteady turbulent flow (Prof. Shuisheng He)
- 16:25 Detached Eddy Simulation of Turbulence on Flow Control Devices (Prof. Ning Qin)
- 16:45 conclusion
- 16:55 close