



PRACE Summer School
Enabling Applications on Intel MIC based Parallel Architectures

CINECA 8 - 11 July 2013

Agenda

Monday July 8

- 9.00 - 9.15 *Welcome*
- 9.15 - 10.00 *PRACE and the HPC Ecosystem, G. Erbacci, CINECA*
- 10.00 - 11.15 *HPC Architectures: trends and evolution, R. Tripiccione, Ferrara University*
- 11.15 - 11.45 *Coffee Break*
- 11.45 - 13.00 *Eurora Architecture, C. Cavazzoni, CINECA*
- 13.00 - 14.30 *Lunch*
- 14.30 - 16.20 *Intel MIC Architecture, T. Guillet, Intel Exascale Lab Paris*
- 16.20 - 16.40 *Coffee Break*
- 16.40 - 18.30 *Introduction to Hybrid Programming MPI + OpenMP, G. Fatigati, CINECA*

Tuesday July 9

- 9.00 - 10.20 *Multi and Many-cores Parallel Programming Models, T. Guillet, Intel Exascale Lab Paris*
- 10.20 - 10.40 *Coffee Break*
- 10.40 - 12.00 *Intel MIC Parallel Programming Environment, H. Pabst, Intel Software & Solutions Group*
- 12.00 - 13.00 *Guided hands on session on Intel MIC, T. Guillet & H. Pabst, Intel*
- 13.00 - 14.30 *Lunch*
- 14.30 - 15.50 *Code optimization on MIC: structuring code to enable SIMD vectorization, H. Pabst, Intel*
- 15.50 - 16.20 *Coffee Break*
- 16.20 - 17.10 *CINECA Eurora Programming Environment, A. Marani, CINECA*
- 17.10 - 18.30 *Guided hands on session on Intel MIC, T. Guillet & H. Pabst, Intel, A. Marani, CINECA*

Wednesday July 10

- 9.00 - 10.20 *Debugging and profiling codes on MIC. VTUNE and other tools, H. Pabst, Intel Software & Solutions Group*
- 10.20 - 10.40 *Coffee Break*
- 10.40 - 12.00 *Multi-threading and other techniques to get performance on MIC, T. Guillet, Intel Exascale Lab Paris*
- 12.00 - 13.00 *Guided hands on session on Intel MIC, T. Guillet & H. Pabst, Intel*
- 13.00 - 14.30 *Lunch*
- 14.30 - 15.50 *Bring your own code and guided hands on session I, H. Pabst, Intel, T. Guillet, Intel, A. Marani, CINECA*
- 15.50 - 16.20 *Coffee Break*
- 16.20 - 17.00 *Bring your own code and guided hands on session II, H. Pabst, Intel, T. Guillet, Intel, A. Marani, CINECA*

Thursday July 11

- 9.00 - 10.50 *User Case Studies on MIC:*
Experience with Material Sciences codes, F. Affinito, CINECA
Optimizing Lattice Boltzmann e Spin Glass codes, F. Schifano, Ferrara University
Porting an Eulerian Air quality model on MIC, G.F. Marras, CINECA
- 10.50 - 11.20 *Coffee Break*
- 11.20 - 13.00 *Introduction to OpenCL P. Lanucara, CINECA*
- 13.00 - 14.30 *Lunch*
- 14.30 - 15.30 *The Intel MKL library, F. Affinito, CINECA*
- 15.30 - 16.30 *Guided hands on session on Intel MIC, A. Marani, CINECA*
- 16.30 *Closing session*