Contribution ID: **89**                                         Type: **Parallel talk**

# GPU Linear algebra extensions for GNU/Octave

*Thursday 8 September 2011 16:35 (25 minutes)*

Octave is one if the most used open source tools for numerical analysis
and liner algebra. Our project wants to improve Octave introducing the support for GPU computing, in order
to speed up some linear algebra operations. The core of our work is a C library that executes on GPU some
BLAS operations concerning vector-vector, vector-matrix and matrix-matrix functions. OpenCL functions
are used to program GPU kernels, which are bind within the GNU/octave framework. We report the project
implementation desing and some preliminary results about performances.

**Author:** Dr SANTOCCHIA, Attilio (Universita e INFN Perugia)

**Co-authors:** Dr BOSI, Leone (INFN Perugia); Mr MARIOTTI, Mirko (Dipartimento di Fisica Perugia)

**Presenter:** Dr SANTOCCHIA, Attilio (Universita e INFN Perugia)

**Session Classification:** Thursday 08th - Computations in Theoretical Physics

**Track Classification:** Track 3: Computations in Theoretical Physics - Techniques and Methods