Programming GPUs with CUDA

2-days course at Università degli Studi di Palermo

June, 16th-17th, 2015. Department of Mathematics and Computer Science.
Room: TBA. Contact person: Simona Rombo (simona.rombo@math.unipa.it).
Lecturer: Manuel Ujaldon. Nvidia CUDA Fellow.
Target audience: Researchers/students with basic knowledge of parallelism and C programming. CUDA programmers can join us during the second day.

June, 16th:

09:30 - 11:00 The GPU hardware: Many-core developments.
11:00 - 11:30 Coffee break.
11:30 - 13:00 CUDA Programming: Threads, blocks, kernels, grids.
13:00 - 14:00 Lunch break.
14:00 - 15:30 CUDA Tools: Compiling, debugging, profiling, occupancy calculator.
15:30 - 15:45 Coffee break.
15:45 - 17:00 CUDA Examples: VectorAdd, Stencils, ReverseArray, MatrixMultiply.

June, 17th:

09:30 - 11:00 Inside Kepler & Maxwell: Hyper-Q, dynamic parallelism, unified memo ,.
11:00 - 11:30 Coffee break.
11:30 - 12:15 OpenACC and other approaches to GPU computing.
12:15 - 13:00 Optimizing kernels to maximize GPUs
13:00 - 14:00 Lunch break.
14:00 - 17:00 Hands-on: Programming GPUs in the cloud using Amazon EC2 services.

NVIDIA