

**Evento Tecnico Gratuito**

**AGENDA**

Tema della mattina: <b>Heterogenous Software Programming for CPUs and dGPUs</b>		
08:30	09:10	<b>Registration</b>
09:10	09:20	<b>Welcome and Introduction to the Intel workshop</b>
09:20	09:40	<b>oneAPI – Introduction to a new heterogenous Development Environment</b> <ul style="list-style-type: none"> <li>- Hardware Evolution: From CPUs to heterogenous HW (GPUs, FPGAs) programming</li> <li>- Concept and purpose for the oneAPI Standardization initiative</li> <li>- Intel's oneAPI Solutions – Toolkits with Compilers, libs, analysis and migration tools</li> <li>- Transition from Intel Parallel Studio XE to Intel oneAPI toolkits</li> <li>- Dev Cloud, Public available development Sandbox</li> </ul>
09:40	10:40	<b>Direct programming with oneAPI and LLVM based Compilers (Part 1) – with Demos</b> <ul style="list-style-type: none"> <li>- Intro to heterogenous programming model with SYCL 2020</li> <li>- SYCL features and examples               <ul style="list-style-type: none"> <li>o "Hello World" Example</li> <li>o Device Selection</li> <li>o Execution Model</li> </ul> </li> </ul>
<b>10:40</b>	<b>11:10</b>	<b>Coffee Break</b>
11:10	11:55	<b>Direct programming with oneAPI and LLVM based Compilers (Part 2) – with Demos</b> <ul style="list-style-type: none"> <li>o Compilation and Execution Flow</li> <li>o Memory Model; Buffers, Unified Shared Memory (USM)</li> <li>o Performance optimizations with SYCL features</li> </ul>
11:55	12:25	<b>Intel OpenMP for Offloading – with Demos</b> <ul style="list-style-type: none"> <li>- Parallelizing heterogenous applications with OpenMP</li> <li>- Mixing of OpenMP and SYCL</li> </ul>
12:25	13:00	<b>Solutions for Profiling: Examples from the VTune and Advisor Cookbooks</b> <p>The Intel® Advisor is a tool to help design and optimize high-performing code for modern computer architectures. Each chapter in the Intel® Advisor Cookbook contains step-by-step instructions to help effectively use more cores, vectorization, or heterogeneous processing using Intel Advisor.</p>
<b>13:00</b>	<b>14:00</b>	<b>Lunch Break</b>

Tema del pomeriggio: **Accelerated AI Machine and Deep Learning with Intel**

14:00	14:30	<b>Hardware acceleration for AI and Intel® oneAPI AI Analytics Toolkit</b> - Hardware features that are powering AI on Intel CPUs and dGPUs
14:30	15:00	<b>How to accelerate Machine Learning on Intel Architecture - with Demos</b> - Intel® Distribution for Python and its optimizations - Data Frames Acceleration for ML with Modin (Pandas Replacement) - Intel® Extension for Scikit-learn and XGBoost - Intel Optimized DL Frameworks.
15:00	15:30	<b>Solutions for AI: Examples from the Intel AI Reference Kits</b> Demo of examples from the AI Reference Kit.
<b>15:30</b>	<b>16:00</b>	<b>Break</b>
16:00	16:45	<b>Easily speed up Deep Learning inference on multiple Intel Hardware – Write once deploy anywhere!</b> - OpenVINO Toolkit for high performance, deep learning inference - Optimized for high-performance inference models, trained with TensorFlow* or with PyTorch - Enables deep learning inference from the edge to cloud
16:45	17:00	<b>Wrap up</b>