

Curriculum Vitae

Personal information

First name(s) / Surname(s) **Ivan Girotto**
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Nationality Italian
Date of birth 25.12.1980
Gender Male

Desired employment / Occupational field

High Performance Computing

Work experience

Dates	April 2012 – Current
Position held	High-Performance Computing Specialist
Main activities and responsibilities	<p>From ordinary consulting activity to world-class computational challenges at large scale, at the ICTP I am employed as UNESCO International Professional Staff for supporting the scientific community on a wide range of subjects related to HPC: education and training, code development, code enabling and optimization, HPC facility management and consulting. I'm co-Author to the Master in HPC curricula as well as coordinator and lecturer for three main courses: "Introduction to Computer Architectures for HPC", "Parallel Programming" and "Parallel FFT". I am co-author and PI for the ICTP node of the "Max: MAterials design at the eXascale" European center of excellence - a H2020 e-infrastructure (http://www.max-center.eu). I am responsible of the scientific production of the ICTP community at CINECA.</p> <p>My main task at the ICTP it is to direct and/or collaborate at the definition and the delivery of international activities of education and training, in various form, aimed to disseminate HPC knowledge in the developing world. A complete list of those activities and publications is available upon request.</p>
Name and address of employer	The Abus Salam, International Centre for Theoretical Physics, Strada Costiera 11, 34151 Trieste, Italy (IT) http://www.ictp.it
Type of business or sector	ICTP operates under a tripartite agreement between the Italian government, the International Atomic Energy Agency (IAEA), and the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Dates	April 2009 – April 2012
Position held	Computational Scientist
Main activities and responsibilities	<p>Main commitment in activities of research enablement, technical consulting, education and training, parallel code development and optimization, for Irish research institutions from all around the country and business partners (i.e. Tullow Oil and Paddy Power). Responsible for ICHEC of the Irish's Geophysics community, major involvement with Prof. Chris Bean's group from the University College Dublin (UCD). In charge within ICHEC of PRACE for the WP7 "Enabling Petascale Applications: Efficient Use of Tier-0 Systems" and for the WP9 "Future Technologies" packages. Leader of the PRACE's 7.5e Sub-Task, "Accelerators". As a leader of the ICHEC GPU computing Team, I was involved in research activities for porting application on hybrid CPU-GPU system. The group was a pioneer about exploiting accelerators applied to scientific computing in Europe.</p> <p>Co-author of FP7 project proposals Autotune funded through "Small or medium-scale focused research action (STREP) proposal ICT Call 7 FP7-ICT-2011-7" program.</p>

Name and address of employer	Irish Centre for High-End Computing - ICHEC, 7th Floor Tower Building, Trinity Technology & Enterprise Campus, Grand Canal Quay, Dublin 2, Ireland, http://www.ichec.ie
Type of business or sector	No profit research organization - Supercomputing Centre
Dates	April 2006 – April 2009
Position held	Computational Scientist (Supercomputing Group)
Main activities and responsibilities	User support – technical consulting for HPC resources exploitation and production management for both scientific and industrial (BMW-Oracle racing) CINECA's users. Assistance during the phase of enabling, porting, profiling and debugging of supercomputing applications. Management of software environment for HPC infrastructures. Main tasks were also number of teaching activities, member of DEISA EU project as well as code programming, parallelization and optimization.
Name and address of employer	CINECA, via Magnanelli 6/3, 40033 Casalecchio di Reno, Bologna. www.cineca.it
Type of business or sector	University Consortium - Supercomputing Centre
Education and training	
Dates	Nov 2016 – Current
Title of qualification awarded	Joint PhD in Computational Physics (University of Modena & Reggio Emilia, Italy - Eindhoven University of Technology, The Netherlands)
Principal subjects/occupational skills covered	The project is meant to employ highly optimized computational codes, based on the multicomponent Lattice Boltzmann model (LBM), to explore the physics of complex fluid emulsions: from their production, via turbulent stirring, to their (statistical) behaviour under flowing as well as resting conditions. To accomplish this challenge two PRACE projects named "TurEmu – The physics of (turbulent) emulsions" were allocated on CINECA (call 17 th) and BSC (call 19 th), respectively. Thesis: "Towards Exascale computing for fluid dynamics: optimization and profiling"
Dates	September 2000 – March 2006
Title of qualification awarded	BSc and MSc in Computer Science (University of Ferrara – Italy)
Principal subjects/occupational skills covered	Database systems, Network architecture, Computer architecture (VHDL), Imperative programming languages (Pascal, C), Object – oriented programming languages (Java, C++), Software engineering (UML), Operative systems and system programming in Unix environment, Web programming & architecture, Distributed & parallel systems, Advanced data structures and algorithm, Simulation & approximation methods Thesis (BSc): "Lamp: Linux, Apache, MySQL, Php, JavaScript for E.R.P. management" (www.deltacommerce.com). Thesis (MSc): "Performance evaluation of parallel systems: use of scientific kernels to build a suite of benchmark" (www.cineca.it).
Personal skills & competences	
Mother tongue(s)	Italian
Other language(s)	English (Professional) Spanish (Intermediate Speaking & Comprehension, Basic Writing)
Organisational skills and competences	For the ICTP I directed number of international events for education in HPC and scientific programming (see the attached document). My professional profile it is fully related to the HPC computing and parallel applications environment. With almost ten years of experience in this field I had the opportunity to collaborate with personnel from Academy, Industry and R&D as well as Governmental and International Organizations. I faced a large number of challenges and interacted with a wide range of professional figures from the lowest level to the to really high. I was responsible for ICHEC's first and second exhibition at the International Supercomputing Conference (ISC2010/11). I have directed and participated as lecturer at number of International Schools and Workshops for education in HPC with participants from all over the world. A complete list is provided to the attached document.

Other skills and competences

NVIDIA CUDA Certificated programmer. PRINCE2 project management certified.

While working at the Irish Centre for High-End Computing I have been responsible for GPU related activities at both Irish National and International level developing extensive networks within the international GPU community.

Technical skills and competences

Skills in the most advanced programming and optimization techniques and advanced knowledge on a wide range of profiling and debugging professional tools. Management experience in both HPC resources and software environments (compiler, scientific library, development tools, and applications). Skill to evaluate and analyze problem on number of different architectures based on direct work experience: IBM-BG, Cray, IBM-SP, NEC, SGY, Cluster Linux and hybrid GPU cluster.

I have years of direct experience in HPC completed by a constant activity of knowledge update based on world-class journals and publications. This gives me today the necessary confidence and experience to lead an HPC production environment, including education related activities. I can face and tackle strategic decisions toward HPC technologies and applications for both current and further development, having the essential knowledge for understanding risks and being aware of the high level of responsibility this requires.