



**Europass
Curriculum Vitae**



Personal information

Surname(s) / First name(s)	ALOISIO, Giovanni
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E-mail	giovanni.aloisio@unisalento.it , giovanni.aloisio@cmcc.it
Nationality	Italian
Date of birth	January 6, 1951

Occupational field	Full Professor of Computer Engineering
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<i>Work experience</i>	
<i>Dates</i>	July 1978 - present
<i>Occupation or position held</i>	Full Professor of Computer Engineering at the Dept. of Innovation Engineering of the Univ. of Salento, Lecce
<i>Main activities and responsibilities</i>	<ul style="list-style-type: none"> • High Performance Computing, High Performance Data Analytics, Machine Learning • Member of the CMCC Strategic Council • Director of the CMCC Supercomputing Center • Delegate of the Rector for Information Systems & Services University of Salento (2014--2015) • Delegate of the Rector for Research Internationalization & Fund Raising, University of Salento (2013-2014) • Head of the Division "Scientific Computing and Operations" (SCO) at the Euro Mediterranean Center on Climate Change (CMCC), Italy • CeO of the SPACI (Southern Partnership for Advanced Computing Infrastructures), Italy • Responsible for CMCC of the EU FP7 EU-Brazil CC project • Responsible for CMCC of the EU FP7 EU-Brazil CC project • Responsible for CMCC of the EU FP7 CLIP-C project • Responsible for CMCC of the EU FP7 CLIP-C project • Responsible for CMCC of the EU G8 ExArch project • Scientific coordinator of the OFIDIA (Operational Fire Danger prevention plAtform) project in the context of the European Territorial Cooperation Program Greece-Italy 2007-2013 • Responsible for CMCC of the EU FP7 IS-ENES1 and IS-ENES2 projects • Member of the ENES (European Network for Earth system Modeling) HPC Task Force • Chair of the European panel of experts on WCES (Weather, Climate and solid Earth Sciences) that has contributed to the PRACE strategic document "The Scientific Case for HPC in Europe 2015-2020" • Responsible for ENES of the EU-FP7 EESI (European Exascale Software Initiative) project and Chair of the WCES (Weather, Climate and solid Earth Sciences) European Working Group • Responsible for University of Salento (as PRACE Third Party) of the EU-FP7 EESI 2 project and Chair of the WCES (Weather, Climate and solid Earth Sciences) European Working Group • Leader of Task 3.2: "Weather, Climatology and Solid Earth Sciences" of the Work package 3: "Applications roadmap toward exascale" in the H2020 EU project EXCDI (European Extreme Data & Computing Initiative) • Member of the IESP (International Exascale Software Project) working group • CMCC scientific coordinator of the OFIDIA2 (Operational Fire Danger prevention plAtform) project in the context of the European Territorial Cooperation Program Greece-Italy 2014-2020 • Leader of the Task 3.2: "Engagement with HPC users communities and CoEs" of the Work package 3: "Excellence in HPC applications and usages" in the H2020 EU project EXCDI2 (European Extreme Data & Computing Initiative)
<i>Name and address of employer</i>	Dept. of Innovation Engineering of the University of Salento, Lecce Euro Mediterranean Center on Climate Change (CMCC), Italy

<i>Dates</i>	April 1999 - October 2003
<i>Occupation or position held</i>	Associate Professor at the Dept. of Innovation Engineering of the Univ. of Lecce
<i>Main activities and responsibilities</i>	Design & implementation of grid comp. systems for dynamic EOS data access Director of CACT (Center for Advanced Computational Technologies)
<i>Name and address of employer</i>	University of Lecce, Dept. of Innovation Engineering, Italy

<i>Dates</i>	January 1995 – Marzo 1999
<i>Occupation or position held</i>	Senior researcher at the Dept. of Mathematics of the University of Lecce, Italy
<i>Main activities and responsibilities</i>	Design of Metacomputing environments, Remote sensing data archives Senior Visiting Researcher at Caltech, Center for Advanced Computing Research
<i>Name and address of employer</i>	University of Lecce, Dept. of Mathematics, Italy

<i>Dates</i>	November 1991 – December 1994
<i>Occupation or position held</i>	Senior researcher at the Dept. of Electronics of the Polytechnic Inst. of Bari Visiting Researcher at Caltech, Center for Advanced Computing Research, USA

<i>Main activities and responsibilities</i>	Design of parallel/pipeline multiprocessors systems, high perform. computing
<i>Name and address of employer</i>	Polytechnic Inst. of Bari, Dept. of Electronics, Italy

<i>Dates</i>	January 1983 – October 1991
<i>Occupation or position held</i>	Researcher at the Dept. of Electronics, Faculty of Engineering, University of Bari Visiting Researcher at Caltech, C3P (Caltech Concurrent Computation Program)

<i>Main activities and responsibilities</i>	Real-time SAR (Synthetic Aperture Radar) data processing on hypercube parallel computers, performance optimization of FFTs algorithms
<i>Name and address of employer</i>	University of Bari, Faculty of Engineering, Dept. of Electronics, Italy

<i>Dates</i>	August 1980 – December 1982
<i>Occupation or position held</i>	Researcher at the Dept. of Physics of the University of Bari, Italy

<i>Main activities and responsibilities</i>	Design and development of single bit multiprocessors systems
<i>Name and address of employer</i>	University of Bari, Department of Physics, Italy

<i>Dates</i>	July 1978 - July 1980
<i>Occupation or position held</i>	Researcher holding a grant by the INFN (Nat. Institute of Nuclear Physics), Italy

<i>Main activities and responsibilities</i>	Design of specialized crate controllers Camac computer interfaces
<i>Name and address of employer</i>	INFN (National Institute of Nuclear Physics), Bari Section, Italy

Education and training

<i>Dates</i>	June 1977
<i>Title of qualification awarded</i>	Laurea Degree cum Laude in Physics

<i>Principal subjects/occupational skills covered</i>	physics, mathematics, electronics, computers architectures									
<i>Name and type of organisation providing education and training</i>	University of Bari. Faculty of Physics, Dept. of Physics, Italy									
<i>Mother tongue</i>	Italian									
<i>Other language(s)</i>										
<i>Self-assessment</i>										
<i>European level (*)</i>										
<i>English</i>										
	<i>Understanding</i>		<i>Speaking</i>				<i>Writing</i>			
	Listening		Reading		Spoken interaction		Spoken production			
	A1	Proficient user	B1	Proficient user	A1	Proficient user	A1	Proficient user	A1	Proficient user
	(*) <i>Common European Framework of Reference for Languages</i>									
<i>Social skills and competences</i>	Mediating, facilitation of compromise solutions, leadership, networking									
<i>Organisational skills and competences</i>	Coordination of large international projects, personnel management									
<i>Technical skills and competences</i>	High Performance computing technologies, Performance optimization of parallel algorithms, Distributed Data management, Exascale computing									
<i>Computer skills and competences</i>	Software (Fortran, C++, MPI and Regular MAC OSX office programmes) Hardware (Design of Computer architectures)									

Selected publications (last three years):

S. Fiore, D. Elia, I. Blanquer, F. V. Brasileiro, A. Nuzzo, P. Nassisi, I. A.A. Rufino, A. C. Seijmonsbergen, N. S. Anders, C. de O. Galvão, J. E. de B.L. Cunha, M. Caballer, M. S. Sousa-Baena, V. P. Canhos, G. Aloisio, BioClimate: A Science Gateway for Climate Change and Biodiversity research in the EUBrazilCloudConnect project, Future Generation Computer Systems, 2017, ISSN 0167-739X, <https://doi.org/10.1016/j.future.2017.11.034> (in press).

Cafaro, M., Epicoco, I., Pulimeno, M., **Aloisio, G.** "CUDA Based Parallel Implementations of Space-Saving on a GPU" (2017) Proceedings of the 2017 International Conference on High Performance Computing and Simulation (HPCS) 2017. Article in Press., Publisher: Institute of Electrical and Electronics Engineers Inc.

Cafaro, M., Pulimeno, M., Epicoco, I., **Aloisio, G.** "Parallel space saving on multi- and many-core processors (2017) Concurrency and Computation: Practice and Experience, DOI: 10.1002/cpe.4160, Publisher: John Wiley and Sons Ltd ISSN: 15320626 CODEN: CCPEB

Epicoco, I., Mocavero, S., Porter, A. R., Pickles, S. M., Ashworth, M., **Aloisio, G.** "Hybridisation strategies and data structures for the NEMO ocean model (2017) The International Journal of High Performance Computing Applications, Volume 25, DOI: 10.1177/1094342016684930, Publisher: SAGE Publications ISSN: 10943420

Balaji V, Maisonnave E, Zadeh N, Lawrence B N, Biercamp J, Fladrich U, **Aloisio G**, Benson R, Caubel A, Durachta J, Foujols M-A, Lister G, Mocavero S, Underwood S, Wright G (2017). "CPMIP: measurements of real computational performance of Earth system models in CMIP6", Geoscientific Model Development, European Geosciences, Union, 10(1), pp.19-34, doi:10.5194/gmd-10-19-2017, 2017

D'Anca, A., Conte, L., Nassisi, P., Palazzo, C., Lecci, R., Creti, S., Mancini, M., Nuzzo, A., Mirto, M., Mannarini, G., Coppini, G., Fiore, S., and **Aloisio, G.**: A multi-service data management platform for scientific oceanographic products, Nat. Hazards Earth Syst. Sci., 17, 171-184, doi:10.5194/nhess-17-171-2017, 2017

Coppini, G., Marra, P., Lecci, R., Pinardi, N., Creti, S., Scalas, M., Tedesco, L., D'Anca, A., Fazioli, L., Olita, A., Turrisi, G., Palazzo, C., **Aloisio, G.**, Fiore, S., Bonaduce, A., Kumkar, Y. V., Ciliberti, S. A., Federico, I., Mannarini, G., Agostini, P., Bonarelli, R., Martinelli, S., Verri, G., Lusito, L., Rollo, D., Cavallo, A., Tumolo, A., Monacizzo, T., Spagnulo, M., Sorgente, R., Cucco, A., Quattrocchi, G., Tonani, M., Drudi, M., Nassisi, P., Conte, L., Panzera, L., Navarra, A., and Negro, G.: SeaConditions: a web and mobile service for safer professional and recreational activities in the Mediterranean Sea, Nat. Hazards Earth Syst. Sci., 17, 533-547, doi:10.5194/nhess-17-533-2017, 2017.

Donatello Elia, Alessandra Nuzzo, Paola Nassisi, Sandro Fiore, Ignacio Blanquer, Francisco V. Brasileiro, Iana A. A. Rufino, Arie C. Seijmonsbergen, Niels S. Anders, Carlos de Oliveira Galvao, John E. de B. L. Cunha, Mariane de Sousa-Baena, Vanderlei Perez Canhos, **Giovanni Aloisio**, A Science gateway for biodiversity and climate change research", PeerJ PrePrints 5: e2834 (2017)

Epicoco, I., Mocavero, S., Macchia, F., Vichi, M., Lovato, T., Masina, S., **Aloisio, G.** Performance and results of the high-resolution biogeochemical model PELAGOS025 v1.0 within NEMO v3.4 (2016) Geoscientific Model Development, 9 (6), pp. 2115-2128. DOI: 10.5194/gmd-9-2115-2016, Publisher: Copernicus GmbH ISSN: 1991959X

Cafaro, M., Pulimeno, M., Epicoco, I., **Aloisio, G.** "Mining frequent items in the time fading model (2016) Information Sciences, 370-371, pp. 221-238. DOI: 10.1016/j.ins.2016.07.077, Publisher: Elsevier Inc. ISSN: 00200255, CODEN: ISIJB

Waleed W. Smari, Mohamed Bakhouya, Sandro Fiore, **Giovanni Aloisio**: "New advances in High Performance Computing and simulation: parallel and distributed systems, algorithms, and applications". Concurrency and Computation: Practice and Experience 28(7): 2024-2030 (2016)

Sandro Fiore, Marcin Plóciennik, Charles M. Doutriaux, Cosimo Palazzo, J. Boutte, Tomasz Zok, Donatello Elia, Michal Owsiak, Alessandro D'Anca, Z. Shaheen, Riccardo Bruno, Marco Fargetta, Miguel Caballer, Germán Moltó, Ignacio Blanquer, Roberto Barbera, Mário David, Giacinto Donvito, Dean N. Williams, V. Anantharaj, Davide Salomoni, **Giovanni Aloisio**: "Distributed and cloud-based multi-model analytics experiments on large volumes of climate change data in the earth system grid federation eco-system", BigData Conference, Washington 2016: 2911-2918

Donatello Elia, Sandro Fiore, Alessandro D'Anca, Cosimo Palazzo, Ian T. Foster, Dean N. Williams, **Giovanni Aloisio**: "An in-memory based framework for scientific data analytics", Proceedings of the ACM International Conference on Computing Frontiers 2016: 424-429, Como, Italy

Maria Mirto, Sandro Fiore, Laura Conte, Luisa Vittoria Bruno, **Giovanni Aloisio**, "A spatial data analysis infrastructure for environmental health research", Int. Conference on High Performance Computers & Simulation (HPCS) 2016: 435-442, Innsbruck, Austria

Marcin Plóciennik, Sandro Fiore, Giacinto Donvito, Michal Owsiak, Marco Fargetta, Roberto Barbera, Riccardo Bruno, Emidio Giorgio, Dean N. Williams, **Giovanni Aloisio**, "Two-level Dynamic Workflow Orchestration in the INDIGO DataCloud for Large-scale, Climate Change Data Analytics Experiments". The International Conference on Computational Science (ICCS) 2016, 722-733, San Diego, California

Date: July 10th, 2018