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PERSONAL INFORMATION

Prof. Giulio Giunta

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Gender Male | Date of birth 16/04/1954 | Nationality Italian

ORCID ID: 0000-0003-0101-6154

Scopus ID: 10045163400

CURRENT POSITION

Full professor of Scientific computing

WORK EXPERIENCE

1978-1982	Scholarship in Numerical analysis, National Research Council (CNR), Department of Mathematics and Applications University of Naples Federico II
1982-1986	Assistant professor (Numerical computing and programming), Department of Mathematics and Applications University of Naples Federico II
1984	Researcher (Resident Associate), Mathematics and Computer Science Division, Argonne National Laboratory University of Chicago, USA
1987-1990	Associate professor (SSD MAT/08), Faculty of Engineering University of Basilicata
1990	Professor of Numerical analysis Somali National University, Mogadishu, Somalia
1990-1993	Full Professor (SSD MAT/08), Faculty of Nautical Sciences Naval University of Naples
From 1993 to present	Full Professor (SSD MAT/08) Parthenope University of Naples

EDUCATION AND TRAINING

1977	Degree in Physics. Grade: 110/110 cum Laude. University of Naples Federico II

PERSONAL SKILLS

Mother tongue(s) Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1

BIBLIOMETRIC INDICES (updated to 18-01-22)

Publications *Scopus*: 56
H-index *Scopus*: 21
citations *Scopus*: 957

RESEARCH ACTIVITY

Direction or participation in the activities of research groups characterized by collaborations at national or international level

His main research interests are in the field of scientific computing, numerical analysis, computational modelling for environmental problems, high performance computing, numerical methods for computer science applications, largescale data analysis (big data), computer tools for distributed scientific computing and cloud scientific computing.

Previously, his research interests focused on methodologies and techniques for developing and evaluating scientific software, floating-point arithmetic systems, methods, algorithms and software for various integral problems, methods, algorithms and software for inverse problems, algorithms and basic mathematical software for parallel architectures, numerical resolution of transport-diffusion-reaction models on large scale.

He has lead research units within several research projects founded by the Italian National Research Council (CNR), MIUR, Campania Region and Parthenope University, namely, to mention a few of them:

- PRIN 1995. Role: Scientific Responsible of the Research Unit. from: 01/05/1994. Università degli Studi di NAPOLI "Parthenope. Protocol: 9501102878_015 Duration: 12 months. Title: Calcolo parallelo per problemi ambientali e problemi inversi.

- PRIN 1996. Role: Scientific Responsible of the Research Unit. from: 01/05/1995. Università degli Studi di NAPOLI "Parthenope". Protocol: 9601102449_031.Duration: 12 months. Title: Calcolo parallelo per problemi ambientali e problemi inversi.

- PRIN 1997. Role: Scientific Responsible of the Research Unit. from: 15/02/1998. Parthenope University of Naples. Protocol: 9701091751_022. Duration: 24 months. Title: Modelli numerici per l'inquinamento atmosferico e Problemi inversi.

- H2020. Role: Leader of Research Unit . from: 01/01/2015. Università degli Studi di NAPOLI "Parthenope". Protocol: H2020-ICT-644312. Duration: 36 months. Title: RAPID- Heterogeneous Secure Multi-level Remote Acceleration Service for Low-Power Integrated Systems and Devices (http://rapid-project.eu).

Coordination of scientific and academic networks

Dean of the School of Science, Engineering and Health, Parthenope University of Naples.

Head of the research laboratory High Performance Scientific Computing Smart Lab, Parthenope University of Naples.

Member of the Society for Industrial and Applied Mathematics (SIAM), the National Group for Scientific Computing of the National Institute of High Mathematics (GNCS-INdAM).

Technical-scientific expert and evaluator of the Italian Ministry of University and Research (MUR) for projects of industrial research and applied research.

Scientific expert in the Register of Expert Peer Reviewers for the Italian Scientific Evaluation of the activities "Competitive industrial research and social development" and “Basic research”.

Director of the Institute of Mathematics, Parthenope University of Naples, 1990-1998.

Director of the Institute of Mathematics, Physics and applications, Parthenope University of Naples, 1998-2004.

Chairman of the Computing Centre, Parthenope University of Naples, 1998-2014.

Member of the Evaluation Board, Parthenope University of Naples, 2000-2005.

Member of the Board of Directors, Parthenope University of Naples, 2002-2005.

Chairman of the BSc program in Computer Science, Parthenope University of Naples, 2003-2018.

Member of the College of Teachers of the PhD program "Sea Sciences and Engineering", University of Naples Federico II, 2001-2005.

Member of the National Committee "Support of Scientific and technological research and diffusion of technologies" (law 297) of the Ministry of Education, University and Research, 2004.

Chairman of the School of Specialization for High School Teachers (SICSI) in Computer Science, University of Naples Parthenope, 2004-2009.

Member of the Committee for Industrial Research, Ministry of University and Research, 2005-2008.
Dean deputy for e-learning, Parthenope University of Naples, 2005-2010.

Director of the Department of Applied Sciences, Parthenope University of Naples, 2005-2010.

Activity of technical-scientific expert for the Ministry of University and Research (MUR)

Member of the MUR technical-scientific panel for the Evaluation of research projects – Strategic programme "Sustainable development and Climate change" (MUR. 694, 19/04/2004);

Deputy member of the Committee of Technical-Scientific Experts of MUR – Law 297/99 – Industrial Research (MUR prot. N. 60, 20/05/2004), 2004;

Deputy member of the Committee of Technical-Scientific Experts of MUR – Law 297/99 – Industrial Research for the three-year period 2005-2008;

Technical-scientific expert of MIUR for the evaluation of the Project FISR 2001 "VECTOR: Vulnerability of the coasts and ecosystems...." (MUR prot. 2775, 22/02/2006);

MIUR Technical-Scientific expert for the technical-scientific evaluation of the DM62569 Industrial Research Project (2011);

MUR Expert, Register for Industrial Research (MUR prot. 30/Ric, 02/02/2012);

Member of the MUR panel of technical and scientific experts for the “ICT technology Area/technologies for the smart communities”, PON "R&C" 2007/13 (MUR prot. 20363, 07/08/2013);

MUR Technical-Scientific expert for the technical-scientific evaluation in itinere of two Industrial research projects, PON "R&C" 2007/13 (MUR prot. 0019901 of 24/09/2015);

Member of the MUR Test Commission of the FISR Project "CARBOITALY: Innovative tools for the implementation of the Kyoto protocol, creation and harmonization of the Italian network of measurement....." (MUR prot. 0000421, 17/02/2015).

TEACHING ACTIVITY

Teaching and supervision activity

His teaching activity began in 1980 and was held at the University of Naples Parthenope, the University of Basilicata, the University of Naples Federico II and also at the University of Salerno, the Second University of Naples, the National Somali University, in courses of Bachelor's degree, Master's degree, School of specialization in teaching, and PhD degree.

He also carried out extensive training activities at public and private institutions and within various IFTS.

His teaching activity has covered various courses of programming, laboratory of programming, numerical analysis and scientific computing and several advanced courses in the field of Computer Science and Computational Mathematics.

He is member of the College of Teachers of the International PhD program "Environment, Resources and Sustainable Development", Parthenope University of Naples.

ADDITIONAL INFORMATION

Computer skills

SELF-EVALUATION				
Processing of information	Communication	Content Creation	Security	Problem solving
Advanced	Advanced	Advanced	Advanced	Advanced

Other skills:

- Advanced use of Office suite (excel, word, power-point).

Driving license B

Scopus publications.

Ascione, I., Giunta, G., Mariani, P., Montella, R., & Riccio, A. (2006). A grid computing based virtual laboratory for environmental simulations doi:10.1007/11823285_114

Barone, G., D'Ambra, P., Di Serafino, D., Giunta, G., Modestia, F., Murli, A., & Riccio, A. (1998). Application of a photochemical air quality model to the naples urban area and implications to local ozone control strategies. Fresenius Environmental Bulletin, 7(3-4), 283-290.

Barone, G., D'Ambra, P., Di Serafino, D., Giunta, G., Murli, A., & Riccio, A. (2000). Application of a parallel photochemical air quality model to the campania region (southern italy). Environmental Modelling and Software, 15(6-7), 503-511. doi:10.1016/S1364-8152(00)00040-2

Barone, G., D'Ambra, P., Di Serafino, D., Giunta, G., & Riccio, A. (1999). A comparison of numerical methods for solving diffusion-reaction equations in air quality models. Computing and Visualization in Science, 2(1), 1-13. doi:10.1007/s007910050022

Barone, G., D'Ambra, P., Di Serafino, D., Giunta, G., & Riccio, A. (1999). A comprehensive atmospheric chemistry model for the description of dynamics of reactive pollutants doi:10.1111/j.1749-6632.1999.tb10441.x

Buia, M. C., Giunta, G., Guala, I., Iacono, G., Montella, R., Silvestre, F., & Tiberti, L. (2005). State of posidonia oceanica meadows around the sardinian coast. Paper presented at the Proceedings of the 7th International Conference on the Mediterranean Coastal Environment, MEDCOAST 2005, , 1 431-440.

Chianese, E., Galletti, A., Giunta, G., Landi, T. C., Marcellino, L., Montella, R., & Riccio, A. (2018). Spatiotemporally resolved ambient particulate matter concentration by fusing observational data and ensemble chemical transport model simulations. Ecological Modelling, 385, 173-181. doi:10.1016/j.ecolmodel.2018.07.019

Ciaramella, A., Gianfico, M., & Giunta, G. (2016). Compressive sampling and adaptive dictionary learning for the packet loss recovery in audio multimedia streaming. Multimedia Tools and Applications, 75(24), 17375-17392. doi:10.1007/s11042-015-3002-x

Ciaramella, A., & Giunta, G. (2016). Packet loss recovery in audio multimedia streaming by using compressive sensing. IET Communications, 10(4), 387-392. doi:10.1049/iet-com.2014.0995

Ciaramella, A., Giunta, G., Riccio, A., & Galmarini, S. (2009). Independent data model selection for ensemble dispersion forecasting doi:10.1007/978-3-642-03999-7_12

Ciaramella, A., Riccio, A., Galmarini, S., Giunta, G., & Potempski, S. (2011). Comparison of dispersion models by using fuzzy similarity relations doi:10.1007/978-3-642-23954-0_8

Cuomo, S., Galletti, A., Giunta, G., & Marcellino, L. (2014). A class of piecewise interpolating functions based on barycentric coordinates. Ricerche Di Matematica, 63(1), 87-102. doi:10.1007/s11587-014-0214-8

Cuomo, S., Galletti, A., Giunta, G., & Marcellino, L. (2014). A novel triangle-based method for scattered data interpolation. Applied Mathematical Sciences, 8(133-136), 6717-6724. doi:10.12988/ams.2014.49686

Cuomo, S., Galletti, A., Giunta, G., & Marcellino, L. (2017). Numerical effects of the gaussian recursive filters in solving linear systems in the 3Dvar case study. Numerical Mathematics, 10(3), 520-540. doi:10.4208/nmtma.2017.m1528

Cuomo, S., Galletti, A., Giunta, G., & Marcellino, L. (2015). Piecewise hermite interpolation via barycentric coordinates: In memory of prof. carlo ciliberto. Ricerche Di Matematica, 64(2), 303-319. doi:10.1007/s11587-015-0233-0

Cuomo, S., Galletti, A., Giunta, G., & Marcellino, L. (2017). Reconstruction of implicit curves and surfaces via RBF interpolation. Applied Numerical Mathematics, 116, 157-171. doi:10.1016/j.apnum.2016.10.016

Cuomo, S., Galletti, A., Giunta, G., & Marcellino, L. (2016). Some error bounds for k-iterated gaussian recursive filters. Paper presented at the AIP Conference Proceedings, , 1776doi:10.1063/1.4965320

Cuomo, S., Galletti, A., Giunta, G., & Marcellino, L. (2015). Toward a multi-level parallel framework on GPU cluster with PetSC-CUDA for PDE-based optical flow computation. Paper presented at the Procedia Computer Science, , 51(1) 170-179. doi:10.1016/j.procs.2015.05.220

Cuomo, S., Galletti, A., Giunta, G., & Starace, A. (2013). Surface reconstruction from scattered point via RBF interpolation on GPU. Paper presented at the 2013 Federated Conference on Computer Science and Information Systems, FedCSIS 2013, 433-440.

D'Ambra, P., & Giunta, G. (1995). Concurrent banded cholesky factorization on workstation networks using PVM. Parallel Computing, 21(3), 487-494. doi:10.1016/0167-8191(94)00079-P

De Lauro, M., Giunta, G., & Montella, R. (1999). Marine GIS development: Mapping the bay of naples. Sea Technology, 40(6), 53-59.

De Luca, P., Galletti, A., Giunta, G., & Marcellino, L. (2020). Accelerated gaussian convolution in a data assimilation scenario doi:10.1007/978-3-030-50433-5_16

De Luca, P., Galletti, A., Giunta, G., & Marcellino, L. (2021). Recursive filter based GPU algorithms in a data assimilation scenario. Journal of Computational Science, 53doi:10.1016/j.jocs.2021.101339

De Luca, P., Galletti, A., Giunta, G., Marcellino, L., & Raei, M. (2020). Performance analysis of a multicore implementation for solving a two-dimensional inverse anomalous diffusion problem doi:10.1007/978-3-030-39081-5_11

de Rosa, M. A., Giunta, G., & Rizzardi, M. (1995). Parallel talbot's algorithm for distributed memory machines. Parallel Computing, 21(5), 783-801. doi:10.1016/0167-8191(94)00108-M

Galletti, A., & Giunta, G. (2016). Error analysis for the first-order gaussian recursive filter operator. Paper presented at the Proceedings of the 2016 Federated Conference on Computer Science and Information Systems, FedCSIS 2016, 673-678. doi:10.15439/2016F455

Galletti, A., & Giunta, G. (2017). On the construction of a second order gaussian recursive filter. Paper presented at the Proceedings- 12th International Conference on Signal Image Technology and Internet-Based Systems, SITIS 2016, 705-712. doi:10.1109/SITIS.2016.118

Galletti, A., Giunta, G., Marcellino, L., & Parlato, D. (2017). An algorithm for gaussian recursive filters in a multicore architecture. Paper presented at the Proceedings of the 2017 Federated Conference on Computer Science and Information Systems, FedCSIS 2017, 507-511. doi:10.15439/2017F428

Galletti, A., Giunta, G., & Schmid, G. (2012). A mathematical model of collaborative reputation systems. International Journal of Computer Mathematics, 89(17), 2315-2332. doi:10.1080/00207160.2012.715641

Garbow, B. S., Giunta, G., Lyness, J. N., & Murli, A. (1988). Algorithm 662: A fortran software package for the numerical inversion of the laplace transform based on weeks' method. ACM Transactions on Mathematical Software (TOMS), 14(2), 171-176. doi:10.1145/45054.214375

Garbow, B. S., Giunta, G., Lyness, J. N., & Murli, A. (1988). Software for an implementation of weeks' method for the inverse laplace transform. ACM Transactions on Mathematical Software (TOMS), 14(2), 163-170. doi:10.1145/45054.45057

Giunta, G., Laccetti, G., & Montella, R. (2008). Five dimension environmental data resource brokering on computational grids and scientific clouds. Paper presented at the Proceedings of the 3rd IEEE Asia-Pacific Services Computing Conference, APSCC 2008, 81-88. doi:10.1109/APSCC.2008.201

Giunta, G., Laccetti, G., & Rizzardi, M. R. (1989). More on the weeks method for the numerical inversion of the laplace transform. Numerische Mathematik, 54(2), 193-200. doi:10.1007/BF01396974

Giunta, G., Mariani, P., Montella, R., & Riccio, A. (2007). pPOM: A nested, scalable, parallel and fortran 90 implementation of the princeton ocean model. Environmental Modelling and Software, 22(1), 117-122. doi:10.1016/j.envsoft.2006.05.024

Giunta, G., Montella, R., Agrillo, G., & Coviello, G. (2010). A GPGPU transparent virtualization component for high performance computing clouds doi:10.1007/978-3-642-15277-1_37

Giunta, G., Montella, R., Mariani, P., & Riccio, A. (2005). Modeling and computational issues for air/water quality problems: A grid computing approach. Nuovo Cimento Della Societa Italiana Di Fisica C, 28(2), 215-224. doi:10.1393/ncc/i2005-10184-3

Giunta, G., & Murli, A. (1987). Algorithm 649: A package for computing trigonometric fourier coefficients based on lyness's algorithm. ACM Transactions on Mathematical Software (TOMS), 13(1), 97-107. doi:10.1145/23002.214339

Lyness, J. N., & Giunta, G. (1986). A modification of the weeks method for numerical inversion of the laplace transform. Mathematics of Computation, 47(175), 313-322. doi:10.1090/S0025-5718-1986-0842138-1

Montella, R., Coviello, G., Giunta, G., Laccetti, G., Isaila, F., & Blas, J. G. (2012). A general-purpose virtualization service for HPC on cloud computing: An application to GPUs doi:10.1007/978-3-642-31464-3_75

Montella, R., Di Luccio, D., Kosta, S., Giunta, G., & Foster, I. (2018). Performance, resilience, and security in moving data from the fog to the cloud: The DYNAMO transfer framework approachdoi:10.1007/978-3-030-02738-4_17

Montella, R., Di Luccio, D., Marcellino, L., Galletti, A., Kosta, S., Giunta, G., & Foster, I. (2019). Workflow-based automatic processing for internet of floating things crowdsourced data. Future Generation Computer Systems, 94, 103-119. doi:10.1016/j.future.2018.11.025

Montella, R., Ferraro, C., Kosta, S., Pelliccia, V., & Giunta, G. (2016). Enabling android-based devices to high-end GPGPUs doi:10.1007/978-3-319-49583-5_9

Montella, R., Giunta, G., & Laccetti, G. (2008). A grid computing based virtual laboratory for environmental simulations doi:10.1007/978-3-540-68111-3_101

Montella, R., Giunta, G., & Laccetti, G. (2014). Virtualizing high-end GPGPUs on ARM clusters for the next generation of high performance cloud computing. Cluster Computing, 17(1), 139-152. doi:10.1007/s10586-013-0341-0

Montella, R., Giunta, G., Laccetti, G., Lapegna, M., Palmieri, C., Ferraro, C., & Pelliccia, V. (2016). Virtualizing CUDA enabled GPGPUs on ARM clusters doi:10.1007/978-3-319-32152-3_1

Montella, R., Giunta, G., Laccetti, G., Lapegna, M., Palmieri, C., Ferraro, C., . . . Nikolopoulos, D. S. (2017). On the virtualization of CUDA based GPU remoting on ARM and X86 machines in the GVirtuS framework. International Journal of Parallel Programming, 45(5), 1142-1163. doi:10.1007/s10766-016-0462-1

Montella, R., Giunta, G., & Riccio, A. (2008). An integrated classAd-latent semantic indexing matchmaking algorithm for globus toolkit based computing grids doi:10.1007/978-3-540-68111-3_100

Montella, R., Giunta, G., & Riccio, A. (2007). Using grid computing based components in on demand environmental data delivery. Paper presented at the Proceedings of the Second Workshop on use of P2P, GRid and Agents for the Development of Content Networks, UPGRADE-CN'07, 81-86. doi:10.1145/1272980.1272995

Montella, R., Kosta, S., Oro, D., Vera, J., Fernández, C., Palmieri, C., . . . Laccetti, G. (2017). Accelerating linux and android applications on low-power devices through remote GPGPU offloading.Concurrency and Computation: Practice and Experience, 29(24) doi:10.1002/cpe.4286

Montella, R., Marcellino, L., Galletti, A., Di Luccio, D., Kosta, S., Laccetti, G., & Giunta, G. (2018). Marine bathymetry processing through GPGPU virtualization in high performance cloud computing.Concurrency Computation, 30(24) doi:10.1002/cpe.4895

Potempski, S., Galmarini, S., Riccio, A., & Giunta, G. (2010). Bayesian model averaging for emergency response atmospheric dispersion multimodel ensembles: Is it really better? how many data are needed? are the weights portable? Journal of Geophysical Research Atmospheres, 115(21) doi:10.1029/2010JD014210

Riccio, A., Barone, G., Chianese, E., & Giunta, G. (2006). A hierarchical bayesian approach to the spatio-temporal modeling of air quality data. Atmospheric Environment, 40(3), 554-566. doi:10.1016/j.atmosenv.2005.09.070

Riccio, A., Ciaramella, A., Giunta, G., Galmarini, S., Solazzo, E., & Potempski, S. (2012). On the systematic reduction of data complexity in multimodel atmospheric dispersion ensemble modeling.Journal of Geophysical Research Atmospheres, 117(5) doi:10.1029/2011JD016503

Riccio, A., Giunta, G., & Chianese, E. (2007). The application of a trajectory classification procedure to interpret air pollution measurements in the urban area of naples (southern italy). Science of the Total Environment, 376(1-3), 198-214. doi:10.1016/j.scitotenv.2007.01.068

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Personal statement According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV.

Naples, Italy, 18-01-2022

Prof. Giulia Giunta