

PERSONAL INFORMATION

Prof. Giulio Giunta



 Parthenope University of Naples, Centro Direzionale, Isola C4, 80143 - Naples, Italy

 +39 081-5476546  +39 338-7322218

 giulio.giunta@uniparthenope.it

 <https://unescochair-uniparthenope.weebly.com/giulio-giunta.html>

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

 ORCID ID: [0000-0003-0101-6154](https://orcid.org/0000-0003-0101-6154)

 Scopus ID: [10045163400](https://scopus.com/authid/detail.url?authorID=10045163400)

CURRENT POSITION

Full professor of Scientific computing

WORK EXPERIENCE

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- | | |
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| 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

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

Mother tongue(s)	Italian
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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	<i>Scopus</i> : 56
H-index	<i>Scopus</i> : 21
# citations	<i>Scopus</i> : 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., & Potemski, 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
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- 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
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- 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 approach doi: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
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- 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
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- 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
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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. Giulio Giunta

