


MODULO C

BANDO PUBBLICO PER LA SELEZIONE DI PROPOSTE PROGETTUALI, FINALIZZATE ALLA CONCESSIONE DI FINANZIAMENTI PER ATTIVITA' COERENTI CON IL PROGRAMMA A VALERE SULLE RISORSE DEL PIANO NAZIONALE RIPRESA E RESILIENZA (PNRR) MISSIONE 4, "ISTRUZIONE E RICERCA" - COMPONENTE 2, "DALLA RICERCA ALL'IMPRESA" - LINEA DI INVESTIMENTO 1.4, FINANZIATO DALL'UNIONE EUROPEA - NEXTGENERATIONEU", PROGETTO "ICSC" "National Centre for HPC, Big Data and Quantum Computing (HPC)" Codice progetto CN0000013, CUP C83C22000560007.

CURRICULUM VITAE

PERSONAL INFORMATION	LIVIA MARCELLINO
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	Sex: F / Date of birth (14/12/74)
	h-index: 17 Total citations: 689 on scopus

Industry	University	EPR
<input type="checkbox"/> Management Level	<input type="checkbox"/> Full professor	<input type="checkbox"/> Research Director and 1 st level Technologist; First Researcher and 2 nd level Technologist
<input type="checkbox"/> Mid-Management Level	X Associate professor	<input type="checkbox"/> 3 rd level Researcher and Technologist
<input type="checkbox"/> Employee/worker level	<input type="checkbox"/> 4 th , 5 th , 6 th and 7 th level Researcher and Technologist; Technical collaborator	<input type="checkbox"/> 4 th , 5 th , 6 th and 7 th level Researcher and Technologist; Technical collaborator

WORK EXPERIENCE

2021 - present	POSITION: Associate Professor
	INSTITUTIONAL ADDRESS University of Naples Parthenope
	Research Topics: Numerical Analysis, Parallel Algorithms, High Performance Computing



	Research or Industry:
2006 - 2021	POSITION HELD: Assistant Professor
	INSTITUTIONAL ADDRESS University of Naples Parthenope
	Research Topics: Numerical Analysis, Parallel Algorithms, High Performance Computing
	Research or Industry:
2004-2006	POSITION HELD: Researcher
	INSTITUTIONAL ADDRESS University of Naples Federico II
	Research Topics: Image processing, Numerical Analysis, Parallel Algorithms

EDUCATION AND TRAINING

2004	PhD in Computer Science
	University of Naples Federico II
	Topics: Image processing, Inverse problems, PDE methods for Image and video enhancement. Parallel Computing
2000	M. Sc. In Mathematics
	University of Naples Federico II
	Topics: Image processing, Algebraic Methods for features extraction and filtering.

PROJECTS (last five years)

	Indicate only projects with leadership roles
M/Y – M/Y	(project name and reference) ...
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M/Y – M/Y	(project name and reference) ...
M/Y – M/Y	(project name and reference) ...

EDITORIAL ACTIVITY

2006-present	referee for the following journals: Journal of Network and Computer Applications - Elsevier; Future Generation Computer Systems - Elsevier; Ecological Modeling - Elsevier; International Journal of Parallel Programming - Springer; Concurrency Computation Practice and Experience - Wiley-Blackwell; Computational and Mathematical Methods - Wiley; Journal of Computational Science - Elsevier; Information Sciences - Elsevier; The Journal of Supercomputing - Springer.
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2018-present	Guest editor for the following Special Issue: "Methodologies, Approaches, and Challenges in Parallel and Distributed Computing System". Applied Science MDPI; Advances in Parallel and Distributed Computing. Mathematics MDPI; Advances in Parallel and Distributed Computing. Frontiers in High Performance Computing; Editorial Board: World Scientific Annual Review of Data Science. World Scientific
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PHD SUPERVISION

2018-present	
2018-present	

TEACHING

2011-present	Calcolo Parallelo e Distribuito (CFU 9) per il Corso di Laurea di I livello in Informatica High Performance Computing (CFU 6) per il Corso di Laurea di II livello in Informatica Applicata – Machine Learning and Big Data
2024-present	Algoritmi e Strutture Dati – Calcolo Numerico, mod Calcolo Numerico (6CFU) per il corso di I livello in Ingegneria e Scienze Informatiche per la Cybersecurity

INSTITUTIONAL RESPONSABILITIES

2018-2022	Rappresentante ricercatori Consiglio della Scuola interdipartimentale delle Scienze, dell'Ingegneria e della Salute (Scuola SIS).
2020-present	Referente di Corso di Studi in Informatica per le attività di orientamento e tutorato in itinere. Membro del gruppo qualità – Corso di Laurea Informatica – Informatica Applicata (ML&BD).

INVITED TALKS

2018-present	
2018-present	

FELLOWSHIPS AND AWARDS

2018	Award.....
2018-present	Fellowships

ADDITIONAL INFORMATION

2018	ASN
2000-present	<p>The research activity focuses on Scientific Computing and it is primarily concentrates on Numerical Analysis and Parallel Computing for numerical solution of large-scale applied problems of physical and environmental domains, using HPC environments.</p> <p>More specifically, the scientific interests are concentrated on studying parallel methodologies that best adapt to emerging architectures (multiprocessor, multicore, GPU), for: solving ill-posed inverse problems underlying the analysis and processing of digital images, data scattered interpolation for surface reconstruction and filtering and data assimilation in the learning phase of the machine learning process;</p>

PUBBLICATIONS

Most relevant publications of the last 10 years	<ol style="list-style-type: none"> 1. S. Cuomo, A. Galletti, G. Giunta, L. Marcellino – “A novel triangle-based method for scattered data interpolation”. Applied Mathematical Sciences, 8 (133-136), pp. 6717-6724, 2014. DOI: 10.12988/ams.2014.49686 2. S. Cuomo, A. Galletti, G. Giunta, L. Marcellino – “A class of piecewise interpolating functions based on barycentric coordinates”. Ricerche di Matematica, 63 (1), pp. 87-102, 2014. DOI: 10.1007/s11587-014-0214-8 3. S. Cuomo, A. Galletti, G. Giunta, L. Marcellino – “Piecewise Hermite interpolation via barycentric coordinates”: Ricerche di Matematica, 64 (2), pp. 303-319, 2015. DOI: 10.1007/s11587-015-0233-0 4. S. Cuomo, A. Galletti, G. Giunta, L. Marcellino – “Reconstruction of implicit curves and surfaces via RBF interpolation”. Applied Numerical Mathematics, 116, pp. 157-171, 2017. DOI: 10.1016/j.apnum.2016.10.016
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5. S. Cuomo, A. Galletti, G. Giunta, L. Marcellino – “Numerical Effects of the Gaussian Recursive Filters in Solving Linear Systems in the 3Dvar Case Study”. *Numerical Mathematics*, 10 (3), pp. 520-540, 2017. DOI: 10.4208/nmtma.2017.m1528
6. S. Cuomo, P. De Michele, A. Galletti, L. Marcellino – “A parallel PDE-based numerical algorithm for computing the Optical Flow in hybrid systems”. *Journal of Computational Science*, 22, pp. 228-236, 2017. DOI: 10.1016/j.jocs.2017.03.011
7. R. Campagna, S. Crisci, S. Cuomo, L. Marcellino, G. Toraldo – “Modification of TV-ROF denoising model based on Split Bregman iterations”. *Applied Mathematics and Computation*, 315, pp. 453-467, 2017. DOI: 10.1016/j.amc.2017.08.001
8. S. Cuomo, A. Galletti, L. Marcellino – “A GPU parallel optimised blockwise NLM algorithm in a distributed computing system”. *International Journal of High Performance Computing and Networking*, 11 (4), pp. 304-311, 2018. DOI: 10.1504/IJHPCN.2018.093231
9. S. Cuomo, A. Galletti, L. Marcellino, G. Navarra, G. Toraldo – “On GPU-CUDA as preprocessing of fuzzy-rough data reduction by means of singular value decomposition”. *Soft Computing*, 22 (5), pp. 1525-1532, 2018. DOI: 10.1007/s00500-017-2887-x
10. P. De Michele, F. Maiorano, L. Marcellino, F. Piccialli – “A GPU Implementation of OLPCA Method in Hybrid Environment”. *International Journal of Parallel Programming*, 46 (3), pp. 528-542, 2018. DOI: 10.1007/s10766-017-0505-2
11. S. Cuomo, P. De Michele, E. Di Nardo, L. Marcellino – “Parallel Implementation of a Machine Learning Algorithm on GPU”. *International Journal of Parallel Programming*, 46 (5), pp. 923-942, 2018. DOI: 10.1007/s10766-017-0554-6
12. S. Cuomo, V. De Angelis, G. Farina, L. Marcellino, G. Toraldo – “A GPU-accelerated parallel K-means algorithm”. *Computers and Electrical Engineering*, 75, pp. 262-274, 2019. DOI: 10.1016/j.compeleceng.2017.12.002
13. D. Rea, G. Perrino, D. di Bernardo, L. Marcellino, D. Romano – “A GPU algorithm for tracking yeast cells in phase-contrast microscopy images”. *International Journal of High Performance Computing Applications*, 33 (4), pp. 651-659, 2019. DOI: 10.1177/1094342018801482
14. P. De Luca, A. Galletti, G. Giunta, L. Marcellino – “Recursive filter based GPU algorithms in a Data Assimilation scenario”. *Journal of Computational Science*, 53, art. no. 101339, 2021.
15. P. De Luca, A. Galletti, L. Marcellino – “GPU-CUDA Implementation of the Third Order Gaussian Recursive Filter”. *SN Computer Science* 3 (1), 1-11, 2021.
16. Cacciapuoti, L., Inno, L., Covone, G., Kostov, V., Barclay, T., Quintana, E., Colon, K.; Stassun, K.G, Hord, B., Giacalone, S.,



Kane, S. R., Hoffman, K., Rowe, J., Wang, G., Collins, K.I., Collins, K.A., Tan, T.G., Gallo, F., Magliano, C., Ienco, R.M., Rabus, M., Ciardi, D.R., Furlan, E., Howell, S.B., Gnilka, C. L., Scott, N.J., Lester, K.V., Ziegler, C., Briceño, C., Law, N., Mann, A. W., Burke, C.J., Quinn, S.N., Ciaramella, A., De Luca, P., Fiscale, S., Rotundi, A., Marcellino, L., Galletti, A., Bifulco, I., Oliva, F., Spencer, A., Kaltenegger, L., McDermott, S., Essack, Z., Jenkins, J., Wohler, B., Winn, J.N., Seager S., Vanderspek, R., Zhou, G., Shporer, A., Dragomir, D., Fong, W. – “TESS discovery of a super-Earth and two sub-Neptunes orbiting the bright, nearby, Sun-like star HD 22946”. *Astronomy and Astrophysics*. Open Access Volume 6681 December 2022 Article number A85, 2022.

17. A. Cardone, P. De Luca, A. Galletti, L. Marcellino – “Solving Time-Fractional reaction–diffusion systems through a tensor-based parallel algorithm”. *Physica A: Statistical Mechanics and its Applications* Volume 6111 February 2023 Article number 128472, 2023.1.

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.

Date and signature 9/05/2024