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 CN00000013, CUP C83C22000560007.

CURRICULUM VITAE

PERSONAL INFORMATION	RAFFAELE MONTELLA
	The University of Naples "Parthenope", Via: Acton 38, City: Naples (Italy)
	Tel.: +390815476613 Mobile: +393393055922
	E-mail: raffaele.montella@uniparthenope.it
	https://raffaelemontella.it
	Male / 10.05.1972
	h-index: 23 Total citations: 1122 (Scopus)

Enterprise		University		EPR	
☐	Management Level	☐	Full professor	☐	Research Director and 1st level Technologist/First Researcher and 2nd level Technologist
☐	Mid-Management Level	☒	Associate professor	☐	Level III Researcher and Technologist
☐	Employee/worker level	☐	Researcher and Technologist of IV, V, VI and VII level/Technical collaborator	☐	Researcher and Technologist of IV, V, VI and VII level/Technical collaborator

WORK EXPERIENCE	
2022 - present	POSITION: Associate Professor of Computer Science (INF01, 01/B1) with tenure.
	INSTITUTIONAL ADDRESS: University of Naples "Parthenope", Naples, Italy.
	Research Topics: High-Performance Computing, Cloud Computing, GPU Virtualization, Scientific Workflows, Internet of Things, Computational Environmental Science.
	Research or Industry:Research
2008 - 2021	POSITION HELD Assistant Professor of Computer Science (INF01, 01/B1) with tenure.
	INSTITUTIONAL ADDRESS: University of Naples "Parthenope", Naples, Italy.
	Research Topics: High-Performance Computing, Cloud Computing, GPU Virtualization, Scientific Workflows, Internet of Things, Computational Environmental Science.
	Research or Industry: Research

EDUCATION AND TRAINING

2005	PhD in Marine Science and Engineering
	University of Naples "Federico II"
	Topics: Environmental modelling with Grid Computing
1998	M.Sc+B.Sc in Environmental Science
	Naval University of Naples
	Topics: Development of a GIS for marine applications

PROJECTS (last five years)

	With leadership roles
2024-2025	MytilX: Modelling mytilus farming at scale (IZSUM, PI)
2023-2025	FGPE Plus Plus: Gamified Programming Learning at Scale (Erasmus Agency, Local PI)
2023-2028	MytilEx: Extended Modeling mytilus farming System with High-Performance Computing and Artificial Intelligence (Campania Region, PI)
2022-2023	DX4S: DataX for the Sea (NEC Labs of America, PI)
2020-2023	Borgo 4.0: A-Mobility (Campania Region, Local PI)
2021-2023	FGPE Plus: Learning tools interoperability for gamified programming education (Erasmus Agency, Local PI)
2021-2023	MytilAI: Modeling mytilus farming with Artificial Intelligence technologies (Campania Region, PI)
2021-2024	ADMIRE: Adaptive Multi-tier intelligent data manager for Exascale (H2020 EuroHPC, Local PI)
2018-2021	FGPE: Framework for Gamified Programming Education (Erasmus Agency, Local PI)

EDITORIAL ACTIVITY

2024	Guest Editor Concurrency and Computation: Practice and Experience
2022-present	Future Generation Computer Systems - Editorial Board
2021	Guest Editor Future Generation Computer Systems
2021	Guest Editor Simulation Modelling Practice and Theory
2021	Guest Editor Concurrency and Computation: Practice and Experience
2019	Guest Editor Lecture Notes in Computer Science
2018	Guest Editor Concurrency and Computation: Practice and Experience
2017	Guest Editor International Journal of Parallel Programming
2013	Guest Editor New Generation Computing

PH.D. SUPERVISION

2018-present	Ph.D. in Environmental Risks and Phenomena (XXXVII cycle)—Thesis (tentative) title: HPC+AI for the prediction of bacteria contaminants in farmed mussels (C. G. De Vita).

TEACHING

2018-present	Computer Science (CS): Web Technologies
2016-2018	CS: Mobile Programming
2019-present	CS: Computer Architecture, Cloud Computing
2019-2023	Law (LW): Law and Techniques of the Digital World
2022-present	Computer Engineering (CE): Mobile Device Programming
2023-present	CE: Future Computing Architecture: Programming Paradigms LW: Computer Science for Law

INSTITUTIONAL RESPONSABILITIES

2022	Head of AWS Academy @ uniparthenope
2022	Director of the High-Performance Scientific Computing Laboratory
2022	Head of the Univ. of Naples "Parthenope" in the CINI National Laboratory "HPC: Key Technologies and Tools"
2012	Founder and curator of the Museum of Computational Architectures (MArC)
2010	Chief of Technical Operations (CTO) of the Center for Marine and Atmosphere Monitoring and Modeling

INVITED TALKS

2023	Workflow Building Blocks: The Success Story of Environmental Modeling, HPC, and AI for Predicting Farmed Seafood Bacteria Contamination - WORKS/Supercomputing 2023
2023	About Citizen Science and the Sea: Beyond the Common Oceanographer - INSTIL/eScience 2023
2023	Artificial Intelligence for food safety assessment in mussels primary production - OPSS International Conference 2023
2021	GPGPU as a Service: the GVirtuS experience - DUAC/ICPP 2021
2012	The role of high-performance (cloud) computing in the "next big thing" people are waiting for building the web 3.x with x really close to 9 and beyond - International Symposium on Parallel Architectures IEEE ISPA 2012, July 2012, Madrid, Spain.

FELLOWSHIPS AND AWARDS

2019	Outstanding Service "The 12th International Conference on Internet and Distributed Computing Systems, IDCS2019" award for the scientific and logistic organization, Naples, Italy, 2019.
2018	Best Paper Award "Performance, Resilience, and Security in Moving Data from the Fog to the Cloud: The DYNAMO Transfer Framework Approach" - The 11th International Conference on Internet and Distributed Computing Systems, IDCS2018, Tokyo, Japan, 2018

ADDITIONAL INFORMATION

2023	Italian National Academic Qualifications as a Full Professor in Computer Science (01/B1)

PUBLICATIONS

Publications best and most relevant in the last 10 years	1- Montella, R., D. Kelly, W. Xiong, A. Brizius, J. Elliott, R. Madduri, K. Maheshwari et al. "FACE- IT: A science gateway for food security research." *Concurrency and Computation: Practice and Experience* 27, no. 16 (2015): 4423-4436.
	2- Di Luccio, D., A. Riccio, A. Galletti, G. Laccetti, M. Lapegna, L. Marcellino, S. Kosta, R. Montella. "Coastal marine data crowdsourcing using the Internet of Floating Things: Improving the results of a water quality model." *IEEE Access* 8 (2020): 101209-101223.
	3- Montella, R., S. Kosta, D. Oro, J. Vera, C. Fernández, C. Palmieri, D. Di Luccio, G. Giunta, M. Lapegna, and G. Laccetti. "Accelerating Linux and Android applications on low-power devices through remote GPGPU offloading." *Concurrency and Computation: Practice and Experience* 29, no. 24 (2017): e4286.
	4- Montella, R., G. Giunta, G. Laccetti, M. Lapegna, C. Palmieri, C. Ferraro, V. Pelliccia, C. Hong, I. Spence, D. S. Nikolopoulos. "On the virtualization of CUDA based GPU remoting on ARM and X86 machines in the GVirtuS framework." *International Journal of Parallel Programming* 45 (2017): 1142-1163.
	5- Montella, R., G. Giunta, G. Laccetti. "Virtualizing high-end GPGPUs on ARM clusters for the next generation of high performance cloud computing." *Cluster computing* 17 (2014): 139-152.
	6- Laccetti, G., R. Montella, C. Palmieri, V. Pelliccia. "The high performance internet of things: using GVirtuS to share high-end GPUs with ARM based cluster computing nodes." In *International Conference on Parallel Processing and Applied Mathematics*, pp. 734-744. Berlin, Heidelberg: Springer Berlin Heidelberg, 2013.
	7- Montella, R., M. Ruggieri, S. Kosta. "A fast, secure, reliable, and resilient data transfer

framework for pervasive IoT applications." In *IEEE INFOCOM 2018-IEEE conference on computer communications workshops (INFOCOM WKSHPS)*, pp. 710-715. IEEE, 2018.

8- Sánchez-Gallegos, D. D., D. Di Luccio, S. Kosta, J. L. Gonzalez-Compean, and R. Montella. "An efficient pattern-based approach for workflow supporting large-scale science: The DagOnStar experience." *Future Generation Computer Systems* 122 (2021): 187-203.

9- Montella, R., D. Di Luccio, L. Marcellino, A. Galletti, S. Kosta, G. Giunta, I. Foster. "Workflow-based automatic processing for internet of floating things crowdsourced data." *Future generation computer systems* 94 (2019): 103-119.

10- Montella, R., A. Brizius, D. Di Luccio, C. Porter, J. Elliot, R. Madduri, D. Kelly, A. Riccio, I. Foster. "Using the face-it portal and workflow engine for operational food quality prediction and assessment: An application to mussel farms monitoring in the bay of napoli, italy." Future Generation Computer Systems 110 (2020): 453-467.

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 **11 April 2024, Raffaele Montella**