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| **PERSONAL INFORMATION** | Paolo Viviani |
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|  | LINKS Foundation  Advanced Computing, Photonics and Electromagnetics research domain  Via P.C. Boggio 61, 10138, Torino, Italy |
| + 39 329 18 65 014 |
| [paolo.viviani@linksfoundation.com](mailto:paolo.viviani@linksfoundation.com) |
| Personal website(s)   * <https://paoloviviani.github.io> * <https://orcid.org/0000-0001-8947-9481> * [https://scholar.google.com/citations?user=utq5LYAAAAAJ](https://scholar.google.com/citations?user=utq5LYAAAAAJ&hl=it) * <https://www.scopus.com/authid/detail.uri?authorId=57194565548> |
| *Male, born June 14th 1989, Nationality: Italian* |

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| **Enterprise** | **University** | **EPR** |
| Management Level | Full professor | Research Director and 1st level Technologist / First Researcher and 2nd level Technologist / Principal Investigator |
| 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 |

Scientific sector INF/01

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| **WORK EXPERIENCE** |  |

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| 2021 - present | **Senior Researcher** |
| LINKS Foundation, Torino, Italy - <https://linksfoundation.com/en/> |
| * HPC, Machine Learning and Big Data convergence - acceleration of scientific/technical applications * Quantum algorithms and applications - discrete optimization on neutral atoms machines and quantum annealers * ML/DL algorithms for neural signal decoding * Funded research projects - proposals writing, technical management and execution * ETP4HPC Working groups member |
| Sector: Research, no-profit |

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| 2015 - 2021 | **Research Engineer** |
| Noesis Solutions, Novara, Italy/Leuven, Belgium - <https://www.noesissolutions.com> |
| * Machine learning methodologies for engineering modelling and design exploration * Design and development of numerical code and software stack * Redesigned internal source code management workflow * Technical contact for funded research projects |
| Sector: Software R&D |

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| **EDUCATION AND TRAINING** |  |

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| 2019 | Computer Science PhD |  |
| Computer Science Department, University of Torino, Italy | |
| * Thesis: *Deep Learning at Scale with Nearest Neighbours Communications*. Supervisor: Marco Aldinucci. Funded by Noesis Solutions. | |
| 2015 | Master’s Degree, Theoretical Physics |
| Physics Department, University of Torino, Italy | |
| * Thesis: Parallel computing techniques for High-Energy Physics | |

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| **WORK ACTIVITIES** |  |

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| **Main research projects** | B-CRATOS H2020-FET Open 2021 -- ongoing  ACROSS H2020-EuroHPC 2021 -- ongoing  Lexis H2020-ICT-11 2021 -- 2022  BoSS IMEC-ICON 2018 -- 2019  Fortissimo 2 H2020-FoF project 2016 -- 2018  CloudFlow FP7-I4MS project 2016 -- 2017  MACH ITEA2 2015 – 2016 |
| **Editorial activity** | Several times Program Committee member of Euromicro International Conference on Parallel, Distributed, and Network-based Processing (PDP) and International European Conference on Parallel and Distributed Computing (Euro-Par) |
| **Invited presentations** | [Machine Learning – Current Challenges and Opportunities for Neuroprosthetics](https://www.b-cratos.eu/events/)  November 22nd, 2022 – B-Cratos project monthly focus webinars  [Graph Coloring with Neutral Atoms](https://events.prace-ri.eu/event/1327/)  February 17th, 2022 – 18th Advanced School on Parallel Computing, CINECA  [Quantum Computing: A hype-avoiding introduction](https://alpha.di.unito.it/seminars/)  June 7th, 2021 – University of Torino, Parallel Computing Seminars |

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| **ADDITIONAL INFORMATION** |  |

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| **Publications** | 2 publications on peer-reviewed journals; 13 publications on peer-reviewed conference proceedings  60 citations; H-index 4 (scopus)  90 citations; H-index 5 (google scholar)  C. Vercellino, A. Scionti, G. Varavallo, P. Viviani, G. Vitali, and O. Terzo, “A machine learning approach for an HPC use case: The jobs queuing time prediction,” *Future Generation Computer Systems*, 2023, doi: <https://doi.org/10.1016/j.future.2023.01.020>.  P. Savio *et al.*, “Accelerating legacy applications with spatial computing devices,” *J Supercomput*, Nov. 2022, doi: [10.1007/s11227-022-04925-2](https://doi.org/10.1007/s11227-022-04925-2).  C. Vercellino *et al.*, “Neural-powered unit disk graph embedding: qubits connectivity for some QUBO problems,” in *2022 IEEE International Conference on Quantum Computing and Engineering (QCE)*, Broomfield, CO, USA: IEEE, Sep. 2022, pp. 186–196. doi: [10.1109/QCE53715.2022.00038](https://doi.org/10.1109/QCE53715.2022.00038).  A. Scionti *et al.*, “Distributed HPC Resources Orchestration for Supporting Large-Scale Workflow Execution,” in *HPC, Big Data, and AI Convergence Towards Exascale: Challenge and Vision*, 1st ed.New York: CRC Press, 2022, p. 23. doi: [10.1201/9781003176664](https://doi.org/10.1201/9781003176664).  P. Viviani, G. Vitali, D. Lengani, A. Scionti, C. Vercellino, and O. Terzo, “Taming Multi-node Accelerated Analytics: An Experience in Porting MATLAB to Scale with Python,” in *Complex, Intelligent and Software Intensive Systems*, L. Barolli, Ed., in Lecture Notes in Networks and Systems, vol. 497. Cham: Springer International Publishing, 2022, pp. 200–210. doi: [10.1007/978-3-031-08812-4\_20](https://doi.org/10.1007/978-3-031-08812-4_20).  G. Vitali *et al.*, “Towards Optimal Graph Coloring Using Rydberg Atoms,” in *The International Conference for High Performance Computing, Networking, Storage, and Analysis, Research posters*, 2021. [Online]. Available: <https://sc21.supercomputing.org/proceedings/tech_poster/tech_poster_pages/rpost113.html>  P. Viviani, M. Drocco, D. Baccega, I. Colonnelli, and M. Aldinucci, “Deep Learning at Scale,” in *Proc. of 27th Euromicro Intl. Conference on Parallel Distributed and network-based Processing (PDP)*, Pavia, Italy: IEEE, 2019, pp. 124–131. doi: [10.1109/EMPDP.2019.8671552](https://doi.org/10.1109/EMPDP.2019.8671552).  V. Reniers, D. Van Landuyt, P. Viviani, B. Lagaisse, R. Lombardi, and W. Joosen, “Analysis of Architectural Variants for Auditable Blockchain-based Private Data Sharing,” in *Proceedings of the 34th ACM/SIGAPP Symposium on Applied Computing*, in SAC ’19. New York, NY, USA: ACM, 2019, pp. 346–354. doi: [10.1145/3297280.3297316](https://doi.org/10.1145/3297280.3297316).  M. Drocco, P. Viviani, I. Colonnelli, M. Aldinucci, and M. Grangetto, “Accelerating spectral graph analysis through wavefronts of linear algebra operations,” in *Proc. of 27th Euromicro Intl. Conference on Parallel Distributed and network-based Processing (PDP)*, Pavia, Italy: IEEE, 2019, pp. 9–16. doi: [10.1109/EMPDP.2019.8671640](https://doi.org/10.1109/EMPDP.2019.8671640).  P. Viviani, M. Aldinucci, M. Torquati, and R. d’lppolito, “Multiple back-end support for the armadillo linear algebra interface,” in *Proceedings of the Symposium on Applied Computing*, Marrakech Morocco: ACM, Apr. 2017, pp. 1566–1573. doi: [10.1145/3019612.3019743](https://doi.org/10.1145/3019612.3019743). |