



Large Scale HPC Infrastructures: Societal Impact and the Role of Training for Data-driven Professionals, Scientists, and Innovators

High performance computing (HPC) is key to Europe's future prosperity, digital transformation and resilience. This has been acknowledged by the EU strategy and investments. One recent initiative in this context is the establishment of the Italian National Centre for HPC, Big Data and Quantum Computing. This centre, which is funded under the National Recovery and Resilience Plan (NextGenerationEU), conducts R&D, nationally and internationally, for innovation in high-performance computing, simulations, and big data analytics. The aim is pursued through a world class research infrastructure for high-performance computing and big data management, which leverages existing resources and integrates emerging technologies.

This workshop aims at discussing two dimensions:

1. The need to elaborate disruptive methods for assessing the societal impact of this type of infrastructures, encompassing the following spectrum of implications: on the scientific side, generating high-quality knowledge, enhancing human capital in research and innovation, and promoting Open Science and data-driven research methods; on the social and ethical front, boosting efficiency, awareness, participation, equity, fairness, trust, sustainability, and transparency while addressing discrimination and improving education access; economically, striving for efficiency, innovation, and new business models, with potential effects on employment, public funding reliance, fintech, and inclusive economic growth; legally, grappling with fundamental rights, intellectual property, privacy, liability, cybersecurity, fairness, and compliance; politically, working on international control, decision-making, e-democracy, abuse, and digital sovereignty.
2. The need of training in order to attain systemic objectives such as promoting "culture" and competencies of data-driven research and innovation, improving the competencies of young researchers through the access to large HPC infrastructure, creating a knowledge ecosystem for a tailored access modes for industry, supporting the whole research lifecycle through integrated and federated HPC and Big Data resources, ensuring that more scientific communities have access to state-of-the-art HPC and Big Data services.

The workshop is part of the RITrainPlus Community of Practice workshops (see <https://ritrainplus.eu/join-the-events-of-ritrainplus-community-of-practice/>).

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