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Infrastructures for Science (InfraScience)

Connecting research and development to support Open Science

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SCENARIO

Modern science is heavily data and compute-intensive, AI-assisted, participatory, and multidisciplinary. Similarly, sharing and publishing of scientific results are going to be revolutionized to support openness, transparency, and reproducibility, and to enable rewards for scientists who publish results of their work beyond the scientific articles. These approaches are expressions of a profound evolution of science practices that on the one hand is enabled by, and on the other demand for, continuous innovation in IT instruments and approaches.

OUR MISSION

InfraScience is a Laboratory of the National Research Council of Italy - Institute of Information Science and Technologies (CNR - ISTI) based in Pisa, Italy. Its mission is to contribute to the evolution of data-centered research and open science practices and to foster and support the necessary corresponding change in the scientific communication approach.

RESEARCH TOPICS

To support its mission the InfraScience Lab performs research in the areas of

Data Infrastructures ***eScience*** ***Intelligent Systems***

Specific topics addressed include FAIR data management; Collaborative and social computing systems; Virtual Research Environments and Science Gateways; Scientometrics; Scholarly Knowledge Graphs; Computational reproducibility and provenance in scientific workflows; and Scientific publishing.
The Lab's mission is undertaken by investigating, experimenting, and closely connecting research and development in these areas to deliver innovative digital infrastructures and information systems. A major aim of the multi-areas integration is to foster and empower research workflows that are FAIR and open "by-design". By these properties, we mean first that processes and workflows are recognized as research products and second that, as such, they are automatically enriched with contextual metadata while they are executed. This approach lays the ground for a radical change in scientific communication. In the new vision, processes become first-class objects to be communicated and published. These objects offer a context that can be referred to by all the published results that are obtained in any of its steps. This relation largely contributes to explaining how they have been generated and thus it helps transparency and reproducibility.

ACTIVITY & RESULTS

FOUDED PROJECTS

infrascience.isti.cnr.it/projects

DATASETS

OpenAIRE Research Group
OpenAIRE Covid-19

https://graph.openaire.eu

INFRASTRUCTURE & SERVICES

D4Science, OpenAIRE, ISTI Open Portal, GreyGuide

d4science.org openaire.eu

openportal.isti.cnr.it

greyguide.isti.cnr.it

SOFTWARE

gCube, D-Net

gcube-system.org

d-net.research-infrastructures.eu

TRAINIG ACTIVITIES & ORGANIZED EVENTS

WORKING GROUP TASK FORCES, & INTEREST GROUPS

infrascience.isti.cnr.it/ & doi.org/10.32079/ISTI-AR-2022/001

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