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From Bureaucracy to Usability - How OSTRails Simplifies Open Science

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The Open Science landscape today is full of good intentions, grand infrastructures, and endless new portals. Yet for many researchers, the daily reality has changed very little. Managing data, publications, and workflows remains fragmented, bureaucratic, and painfully slow. FAIR principles are widely endorsed, but in practice, they are often difficult and time-consuming to implement. The distance between Open Science policy and everyday research practice is still wide.

OSTrails tackles this problem head-on. Rather than adding another layer of complexity, OSTRails builds practical, machine-actionable pathways that connect scientific workflows directly to Open Science best practices. It makes Open Science easier, not harder, by embedding automation and guidance into the tools and systems researchers already use.

By integrating Scientific Knowledge Graphs (SKG), machine-actionable Data Management Plans (maDMPs), and FAIRness assessment tools, OSTRails helps researchers move from scattered documents and disconnected systems to streamlined, reproducible, and responsible science. Researchers no longer have to treat Open Science as an extra administrative burden—it becomes a natural part of their research process.

At the heart of OSTRails is a simple but disruptive idea: researchers should not have to choose between doing good science and doing Open Science. Good workflows should make FAIR, reproducible research automatic, seamless, and intuitive.

In this poster, we present how OSTRails:

- Connects research outputs and datasets automatically through Scientific Knowledge Graphs, improving traceability and reuse.
- Simplifies data management planning with machine-actionable DMPs that integrate directly into research workflows, updating dynamically as research evolves.
- Embeds FAIRness assessment into the research lifecycle without adding extra bureaucracy, helping researchers check and improve the FAIRness of their outputs in real time.
- Supports researchers in producing better, more reproducible science with less administrative overhead, freeing up time for discovery and innovation.

OSTrails is a call to rethink how we operationalize Open Science: not by building yet another system that researchers must learn separately, but by embedding FAIRness, reproducibility, and responsibility into the systems, tools, and practices they already know and use.

Ultimately, Open Science will succeed not because researchers are forced to comply, but because Open Science becomes the easiest and most natural way to work. OSTRails is showing how to make that shift real by designing Open Science for researchers, not around them.

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