

## **The FAIRSCAPE digital commons framework and Evidence Graphs for reproducibility (Keynote)**

Speaker: Timothy Clark, University of Virginia at Charlottesville, VA, USA

FAIR Data (Findable-Accessible-Interoperable-Reusable), and increasingly, FAIR Software, are key concepts being adopted by the scientific community to support validation of results and digital object reuse. FAIR principles and roadmaps provide explicit models of how sharing is to be implemented across the data and software lifecycle, including for publishing.

Our team has developed FAIRSCAPE, a reusable cloud-based framework for digital commons environments and reproducibility in biomedicine, to provide support for FAIR methods from the inception of research projects, deep provenance of results, and robust, configurable security for protected health information. Our implementation at the University of Virginia has been used to run thousands of analyses on biomedical datasets. This talk will describe the use cases, implementation, and application of our reusable framework.

It will also present the Evidence Graph Ontology, a vocabulary for computational reproducibility, which can be used independently of FAIRSCAPE, and will discuss various problems and developments relating to FAIRness in science communication

### **Biography**

Timothy Clark, Ph.D., is an Associate Professor of Public Health Sciences and Data Science at the University of Virginia. He has over three decades of experience in leading, developing, and contributing to large-scale bioinformatics platforms, including significant work on interoperability and FAIRness approaches. Prof. Clark was a Founding Director of the FORCE11 consortium, led development of the FORCE11 Data Citation Roadmaps, and co-authored the FAIR Data Principles. His current research focuses on cloud-based systems for FAIR data, software and computation in biomedical research. Prof. Clark holds a Ph.D. in Computer Science from the University of Manchester.

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