

Using semantic data management to facilitate FAIR and reproducible data science for the analysis of cardiac dynamics

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The analysis of cardiac dynamics involves managing large amounts of complex data stemming from experiments, computer simulations and data analysis. Especially for digital workflows, e.g. data analysis, establishing standardized methods and tools that ensure proper documentation, findability and reproducibility can be challenging.

Using an example from wave tracking analysis applied to 3D simulations of cardiac tissue, we will demonstrate a pragmatic approach for proper (human- and computer-readable) documentation that can be embedded into heterogeneous research environments. By combining this approach with semantic data management using the CaosDB crawler framework, we show how this information can be made findable and re-usable.