

Challenges to Data Sharing: Social Science Investigations of Scientific Collaboration

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Abstract

We will report on our current and past research projects undertaken within the Human-Computer Interaction (HCI) field of Computer Supported Cooperative Work (CSCW) that investigate collaboration and data sharing in the development of scientific virtual organizations called cyberinfrastructures. Our research takes what we call an infrastructural perspective in order to shed light on the social and organizational processes of scientific work and software development work so that we can better understand and therefore better support scientific practice including data sharing. In order to support data sharing, we must understand how data, software, and systems embody scientific practices and values. We use qualitative social science methods such as interviewing and observation to understand not only the social side of data sharing and information infrastructure development, but also the interaction between the social and the technical. Our work has included investigations of data sharing and software development in fields such as neuroscience, metagenomics, epidemiology, and computer science. Research on how stakeholders currently collaborate to conduct science and develop infrastructures that support scientific collaboration can help us to identify appropriate ways to facilitate open data sharing at the technical, social and organizational, and policy levels.