Is e-Science the Semantic Web's Friend? Or Just a FOAF? Or Just Tagging Along?

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Abstract. e-Science [1,2] is scientific investigation performed through distributed global collaborations between scientists and their resources, and the computing infrastructure that enables this. Scientific progress depends on pooling know-how and results; making connections between ideas, people, and data; and finding and reusing knowledge and resources generated by others in perhaps unintended ways. It is about harvesting and harnessing the "collective intelligence" of the scientific community. The major investment by the UK e-Science programme is leading the way in what is now a worldwide phenomenon. The Semantic Web [3] is an extension of the current Web in which information is given well-defined meaning to facilitate sharing and reuse. It is promoted as a ubiquitous infrastructure for gathering and exploiting society's collective intelligence; i.e. the capacity of human communities to evolve towards higher order complexity and integration through collaboration and innovation. Intuitively, applying the Semantic Web paradigm to e-Science *potentially* brings significant benefits to scientific discovery. We have seen this most notably on the Life Sciences, with some adoption of OWL for bio-ontologies and the application of Semantic Web technologies, such as RDF, in bioinformatics applications [4]. Sufficiently semantically enriched scientific metadata might lead to hypothesis generation and scientific knowledge discovery [5] not just better data search and data webs. However, there are many obstacles to the vision of a Life Science Semantic Web [6]. Drawing on our extensive, practical experiences of a variety of high profile e-Science projects such as ^{my}Grid, CombeChem, and BioPAX, we have adopted increasingly "scruffy" approaches, becoming encouraged and disillusioned in equal measure. In particular, when we look at the big picture of scientific practice, not only does a little bit of semantics go a long way, it maybe all you need. The "social networking, folksonomy, collaborative tagging and data mash-up" zeitgeist, gathered under the banner of "Web 2.0" [7], has struck a chord with e-Scientists and Scientists. Initiatives such as Friend-Of-A-Friend (FOAF) become Colleague-of-a-Colleague. Rather than MySpace we have MyExperiment. So, is e-Science the Semantic Web's friend? Or just a FOAF? Or is e-Science just tagging along?

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