

## The Open Scientist: fact or fiction?

Antoon Goderis, Yuwei Lin, Meik Poschen, Rob Procter, Carole Goble, Dave De Roure, Bill Flanagan, Ilya Sytchev, Lorrie LeJeune

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Participation in online activities has become highly popular in contemporary society. There is evidence that the collection of technologies captured under the banner of Web 2.0 is changing the way we do research, facilitating communications between scientists and encouraging collaboration through sharing data. Research 2.0 (or Science 2.0) is the term commonly used to describe a platform, powered by Web 2.0 tools to support scientific and other research, for providing open access to information, allowing peer review, and the pooling of collective intelligence. myExperiment and Open Wet Ware are two important examples of such a platform.

myExperiment (<http://www.myexperiment.org>) focuses on the sharing and re-use of research objects that are associated with computational data analyses, formalised as workflows. The majority of its 850+ users are bioinformaticians. myExperiment has adopted a social networking paradigm, akin to Web 2.0 sites like Facebook (<http://www.facebook.com>).

Open Wet Ware (<http://www.openwetware.org>) focuses on supporting activities that occur in the wet lab. Its 3000+ user base predominantly comes from a biological engineering background. In terms of Web 2.0 technology, the site relies on Wiki technology (<http://en.wikipedia.org/wiki/Wiki>).

Both platforms provide an opportunity to better understand the socio-cultural ramifications of Web 2.0 technologies in the scientific process. Our analysis is based on both qualitative and quantitative data. The myExperiment community was analysed through a formal survey, interviewing, observational studies and Web log analysis. The Open Wet Ware community was modelled through a formal survey and Web log analysis.

Through a comparison of the sharing and re-use behaviour of the two communities, we are investigating the question of whether the concept of an *open scientist* is fact or fiction, i.e. what is the attitude scientists display in practice. Under which conditions does sharing occur? Who shares what? Is re-use of research objects from third parties feasible? Etc.

Current early results of the analysis are encouraging. Sharing and re-use occurs on both platforms. On myExperiment, a kernel of highly motivated expert users provides high quality workflows to the wider community. Open Wet Ware users report sharing lab work prior to its formal publication. Problem areas are documentation, acknowledgement schemes, reputation versus early sharing, IPR. Both communities also report a problem with effectively finding research objects.