Open Notebook Science
Perspectives from a newbie

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Open notebook science

- Provide access to the experimenter's lab book to any viewer (with internet access) as soon as is practicable
- Must include fully open data
- Requires an electronic lab notebook
- 'No insider information'
Motivations – why ONS?

- Started as an interest in having a better record of lab work, both my own and that of my students
- Funded by UK research council to develop an electronic lab notebook system with colleagues at Southampton University
- Made my student’s lab book open for my ease of use (because I work on two sites)
- Was inspired by other groups (UsefulChem, OpenWetWare) to take this further
Implementation of e-lab book

- Blog based format
- Purpose built engine
- Fully flexible system with arbitrary metadata
- Full record of changes (not currently easily accessible)

http://chemtools.chem.soton.ac.uk/projects/blog

http://blogs.openwetware.org/scienceintheopen
Implementation of e-lab book

- One post, one item approach
- Procedures can be tracked back to starting materials (or forwards to products) by clicking through
- Aim to ultimately be interpretable by machine and human
ONS - The good

Fairly safe and accessible storage of data and notes
Finding a community
Doing better science
  – Scrutiny and advice
  – Both inside and outside of the research group
Doing more effective science
  – Collaborations that can compete with the ‘big boys’
ONS – The good

The **fun** of talking about what you are actually doing right now and not what you were doing two years ago…
ONS – The bad

- ‘Being scooped’
  - The biggest fear and probably not actually a serious problem

- Being embarrassed
  - I believe this is actually the biggest issue

- Requires effort, discipline, and a bit of persistence

- Legal issues...safety and ethics?
Things to improve on…

- Presentation and readability (need to provide good visualisation tools)
- Need people to be able to comment (problems with spam)
- How much of what information should there be and where should it be?
  - Safety information, papers, grant proposals
- Building communities to enhance the benefits of being more open
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- Lab work and blog use
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Links

- Our lab blogs (pick one of the “Bio Blogs”)
  http://chemtools.chem.soton.ac.uk/projects/blog/

- Timeline view of one of the Lab Blogs

- Discussion of related issues with the Lab Blog including technical and ‘social’ issues
  http://blog.openwetware.org/scienceintheopen