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ARDC Data and Services Summit



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The Project

‘Standardisation of protocols for collecting linked images and electrophysiological data from in vitro and in vivo studies on neural cells and tissues’

Step 1 - Survey

- How do researchers currently **collect, analyse and store** neural data?
- Are standard **database systems** used for storage and retrieval?
- How do users **interact** with these systems?
- What are key needs for **improving standardisation** of neural data collection?
- What types of **platforms** could we use to support ‘**data interoperability**’?
- How can we support more effective **accessibility and sharing** of neural data?
- What mechanisms will be put in place for secondary use of research data to ensure **privacy and security** of data?



Step 2 - Workshop and collaboration

Step 3 - Report and publication



Preliminary Survey Findings

The Data

- Raw data formats are equipment specific or a defacto industry standard
- Analysis is done using defacto standards but lab/user specific choices
- Databases are generally not used resulting in complicated filing structures



The Hard Stuff

- Linking different datasets to generate a ‘coherent story’ is seen as an issue
- Replicating an experiment or analysis becomes problematic as a result

The Overhead

- Data integrity is of key importance but each lab has it’s own archiving system
- Data sharing is considered important but is complicated by all the above

There are large gaps between the researcher’s ‘comfort zone’, and what may be necessary to achieve open data interoperability and collaboration.

Food for Thought

How do we move from local, private or institutional storage of a wide range of different data formats to wider sharing (cross-institutional)?

Maintain the status quo?

- Not practical to standardise different raw data formats
- Need to maintain researchers preference for analytical tools
- Don't create an unnecessary overhead for the users



What can metadata provide?

- A data summary (important with large datasets)
- The links to create the 'story' behind the data
- Enable machine based data searches

Which platform to achieve data sharing and interoperability?

- Commercial vs custom
- Can a single platform do the job?
- API to enable a virtual institution



Acknowledgements



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