

# Research Objects & Nano- publications

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# Capturing Workflows

- Apologies!
- MyExperiment
- WorkFlow4Ever
- Research Objects



# MyExperiment

- [www.myexperiment.org](http://www.myexperiment.org)
- Started at Universities of Manchester and Southampton (supported by JISC and Microsoft Technical Computing Initiative)
- Now supported by FP7 and EPSRC
- Over 7500 members, 300 groups, 2500 workflows, 600 files and 300 packs
- Oxford became partner when Prof. Dave De Roure joined OeRC
- Video! <http://www.youtube.com/embed/x83pzMMw7lk>



# WorkFlow4Ever

- <http://www.wf4ever-project.org/>
- EU FP7 project
  - Formalise the structure of ResearchObjects (derived from MyExperiment “packs”)
  - Identify and disseminate best practice on the creation of research objects
  - Analyse the decay of research objects

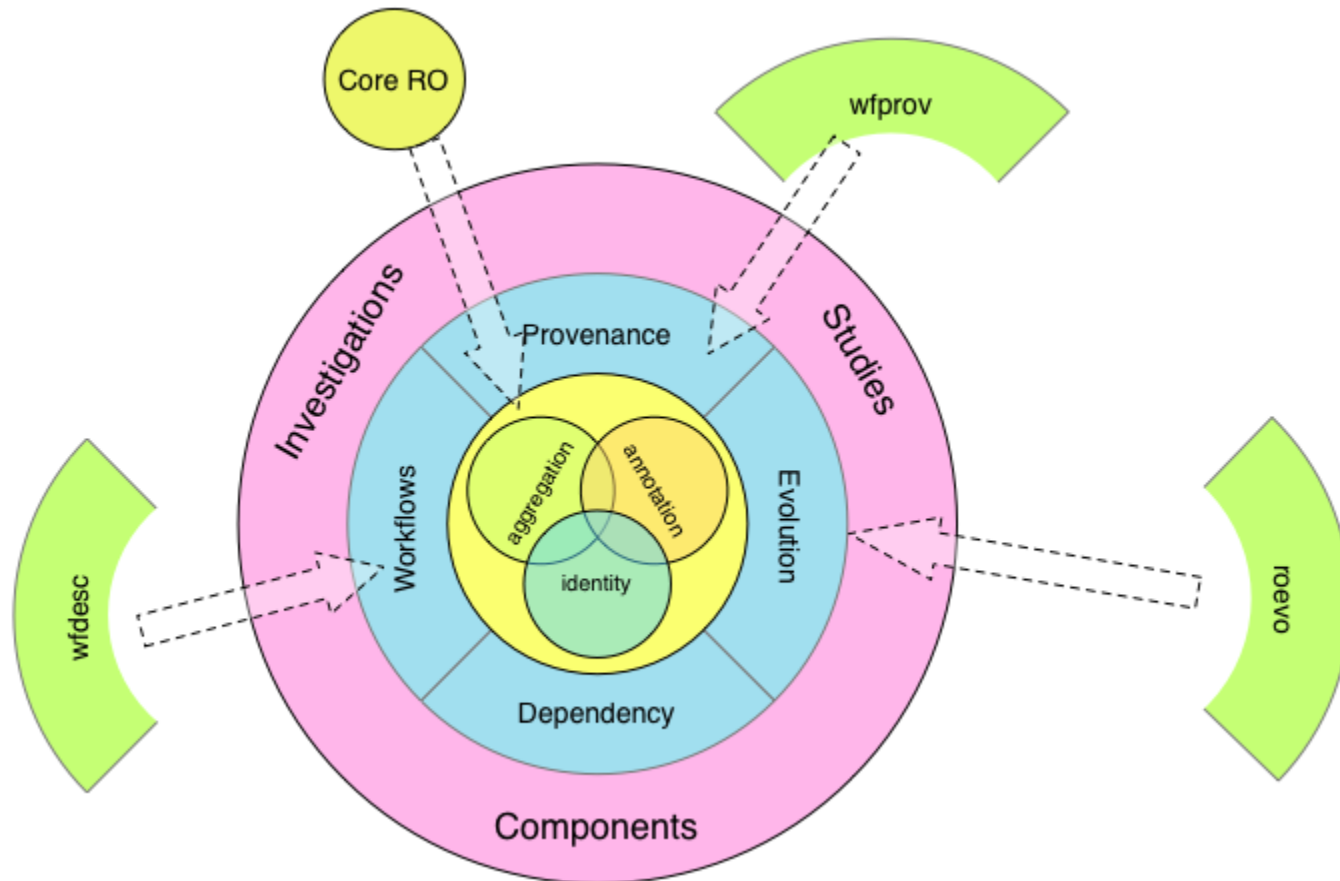


# Research Objects

- [www.researchobject.org](http://www.researchobject.org)
- “an aggregation of resources that bundles a workflow specification and additional auxiliary resources, including documents, input and output data, annotations, provenance traces of past executions of the workflow, etc.”
- Based on:
  - OAI-ORE Aggregation (<http://www.openarchives.org/ore/>)
  - Annotation Ontology, now merged with Open Annotation (<http://www.w3.org/community/openannotation/>) – PROV-O
  - Research Objects Ontology (<http://wf4ever.github.io/ro-primer/>)
  - Intrinsic manifest means they can be easily wrapped for transport/archiving but equally, can be easily represented on a simple filesystem
- Includes API's, code and toolsets (<http://www.wf4ever-project.org/wf4ever-reference-implementation>)
- Versioning, validation and star-ratings for feature-richness



# Another go!



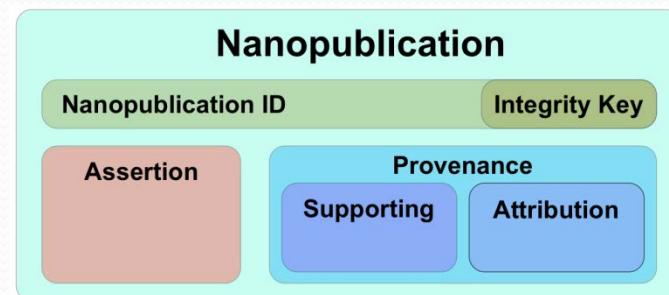
# Decay

- Why/how do workflows stored/archived in resources like MyExperiment decay?
- <http://users.ox.ac.uk/~oercoo33/preprints/why-decay.pdf>
- Identifies general principles that apply to many complex preserved objects:
  - Dependency on 3<sup>rd</sup> party resources
    - Importation of data
    - Avoidance
    - Careful selection



# Nano-publications

- Annotation mechanisms such as Open Annotation provide a highly granular method of making assertions
- Increasingly, online resources include comments and other scholarly contributions which are too small individually to publish via normal routes – yet, in aggregation, amount to significant intellectual content
  - Early Modern Letters Online (<http://emlo.bodleian.ox.ac.uk>) 60886 letters with 32339 comments
- Nano-publications (<http://www.nanopub.org>) are a simple mechanism for the publication/citation of individual RDF assertions (or aggregations of assertions)
  - Development of the idea started in early 2009 by CWA (Concept Web Alliance) with a focus on e-science
  - Easily derived from OA
  - Easily expressible





# Questions...

