

Publishing Linked Data with Nanopublications

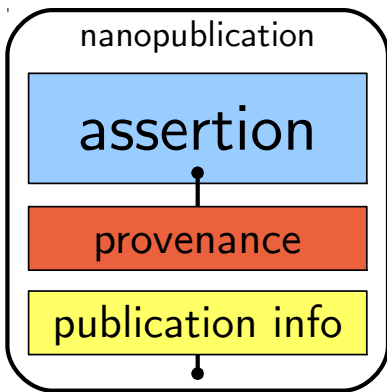
Tobias Kuhn

<http://www.tkuhn.ch>
@txkuhn

ETH Zurich

Linked Data for Libraries (LD4L) Workshop
Stanford University
24 February 2015

Provenance-Aware Data Publishing with Nanopublications

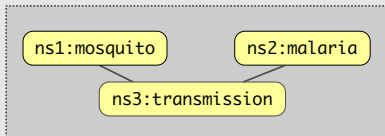


<http://nanopub.org> / @nanopub_org

Provenance-Aware Data Publishing with Nanopublications

Nanopub0001

Assertion:



Provenance:

opm:wasDerivedFrom d:DataSourceX

Publication Information:

dc:created "2013-01-01"

pav:createdBy p:Isabelle_Dubois

`http://nanopub.org / @nanopub_org`

Example: Nanopublication for MODS Record

```
:head {
  : a np:Nanopublication ; np:hasAssertion :assertion ;
    np:hasProvenance :provenance ; np:hasPublicationInfo :pubInfo .
}
:assertion {
  :dataset a dctypes:Dataset ;
    dct:title "Activation pathway of Src kinase reveals intermediate states as ta
    dct:description "This dataset contains following items: 1) MD Simulation tra
    dct:creator [ a foaf:Person ; foaf:name "Shukla, Diwakar" ] ;
    dct:creator [ a foaf:Person ; foaf:name "Meng, Yilin" ] ;
    dct:creator [ a foaf:Person ; foaf:name "Roux, Benoit" ] ;
    dct:creator [ a foaf:Person ; foaf:name "Pande, Vijay" ] ;
    dct:license <https://creativecommons.org/licenses/by-sa/3.0/> ;
    dct:rights "User agrees that, where applicable, content will not be used to :
}
:provenance {
  :assertion prov:wasDerivedFrom <http://purl.stanford.edu/cm993jk8755.mods> .
}
:pubInfo {
  : prov:wasAttributedTo orcid:0000-0002-1267-0234 .
  : prov:generatedAtTime "2015-02-24T09:52:27-08:00"^^xsd:dateTime .
}
```

Trusty URIs

Trusty URIs are URI references that include **cryptographic hash values** to make digital artifacts like nanopublications ...



Verifiable

+



Immutable

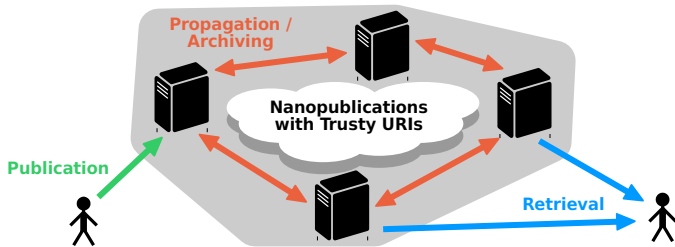
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Permanent

`http://example.org/r1. RA 5AbXd pz5DcaYXCh9l3eI9ruBosiL5XDU3rxBbBaU070 .trig`

Decentralized Nanopublication Server Network



<http://npmonitor.inn.ac>



Let's Publish Our Exemplary MODS-Nanopublication!

Give it a trusty URI:

<http://example.org/stanford-digital-repository/cm993jk8755.RAxuI9shCHSUnwtUzf6uy7s08nZ6Sug3g7B0sSSmycRbA>

Publish it to a server in the network:

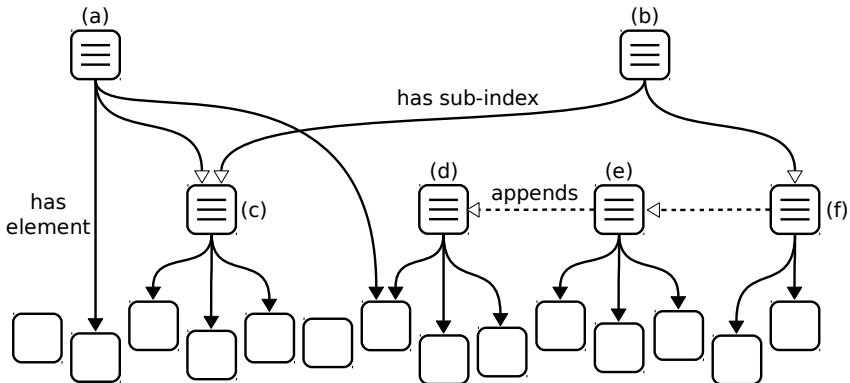
<http://np.inn.ac/RAxuI9shCHSUnwtUzf6uy7s08nZ6Sug3g7B0sSSmycRbA>

And a few minutes later, it is distributed in the network:

<http://nanopub-server.ops.labs.vu.nl/RAxuI9shCHSUnwtUzf6uy7s08nZ6Sug3g7B0sSSmycRbA>

<http://s1.semanticscience.org:8082/RAxuI9shCHSUnwtUzf6uy7s08nZ6Sug3g7B0sSSmycRbA>

Defining Datasets with Nanopublication Indexes



Some Links

- Nanopublications: <http://nanopub.org>
- Trusty URIs: <http://trustyuri.net>
- Nanopublication Server Network: <http://npmonitor.inn.ac>
- Interface to validate, “trustify,” and publish nanopublications:
<http://nanopub.inn.ac>