

**The research community has been building towards a new understanding of research information management.**

**It is time to conceive of a new Research Data Mechanics that brings to the fore the ways in which information travels through systems and, in the process, to create a template for a more efficient research cycle.**

## Consider the following structure

A publication, published and classified. A product of funded research. Authored by researchers who are affiliated to institutions. Referencing, and referenced by, an external network of ideas.



## The ideas of Research Data Mechanics examine 6 recent advances in research infrastructure:

**1 The increasing availability of publication information to research institutions**

Adopting a Research Data Mechanics view of the research landscape, we see an expanding network of systems that are connected with minimal latency. These connections change the nature of what can be easily valued by the research system, and empower universities to do more with the information they have.

**2 The transformative effect of ORCID**

Within a Research Data Mechanics view of the world that includes ORCID, researchers remain in control of their information and there is an ever increasing set of incentives to reward sharing their information as broadly as possible.

**3 The disentanglement of system silos from research workflows**

In a Research Data Mechanics view of the world, walled gardens and system silos are replaced with research processes that can be managed across multiple systems.

**4 The connection of collaborative environments into the research ecosystem**

Within a Research Data Mechanics view of the world, research collaboration and administrative environments are not only connected, but the activity of research should be sufficient to generate most of the metadata required for administration.

**5 The expanding network of research particles to cover research grants**

Within a Research Data Mechanics view of the world, both publications and grants are first class particles.

**6 The rise of organizational context: an increasing shift from internal to externally linked identifiers**

Within a Research Data Mechanics view of the world, as information travels through the research system, its context must be externally connected.

## Next steps for Research Data Mechanics

- Commitment:** To expand research information citizenship

**Law:** A research particle can only travel through a space created by its research information citizens
- Commitment:** To reduce information friction

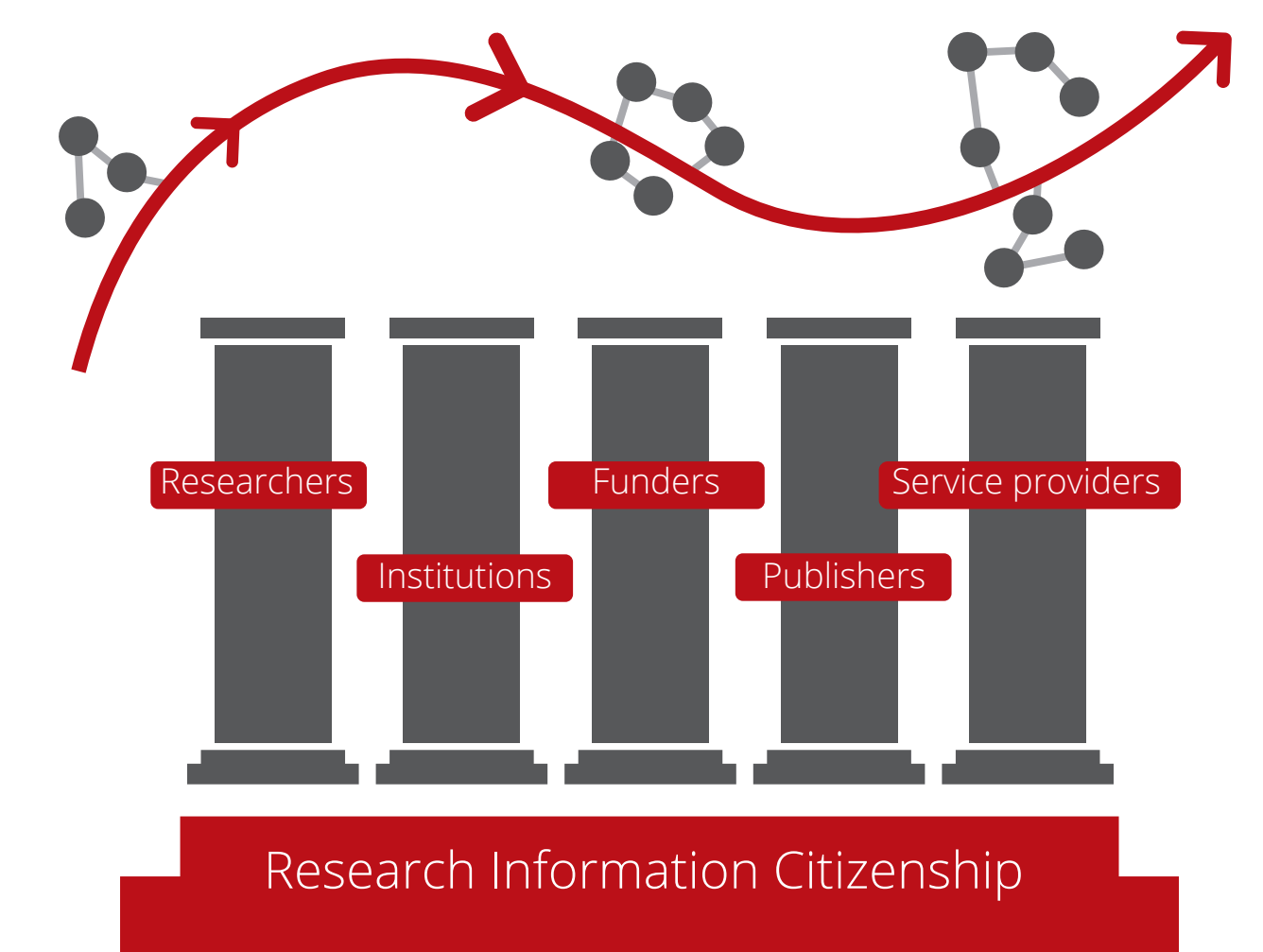
**Law:** Research information has maximum utility to the sector when its progress through the system encounters minimal latency
- Commitment:** To increase available context

**Law:** Research particles can only exist in an openly available shared context

## Consider again the following structure

A publication molecule, published and classified. A product of funded research. Authored by researchers who are affiliated to institutions. Traveling through a trusted ether of systems supported by an open community of research citizens.

*It is with this understanding of research information that Digital Science hopes to contribute to a new Research Data Mechanics and demonstrate a new approach to supporting the research industry.*



**? A new research information citizenship is emerging. What do you think? Tell us your views using #researchdatamechanics**

**Read Simon Porter's white paper at [digital-science.com](http://digital-science.com)**