What innovation can tell us about responsible conduct of research

Maria Leptin
EMBO Director
About EMBO

• Founded 1964
• Members
• Fellowships
• Young Investigators
• Courses & Workshops
• Policy programme
• EMBO Press
• We have features of many kinds of organizations
• We are ourselves innovative
About EMBO

- Founded 1964
- Members
- Fellowships
- Young Investigators
- Courses & Workshop
- Policy programme
- EMBO Press
- We have features of many kinds of organizations
- We are ourselves innovative
About EMBO

• Founded 1964
• Members
• Fellowships
• Young Investigators
• Courses & Workshops
• Policy programme
• EMBO Press
• We have features of many kinds of organizations
• We are ourselves innovative
About EMBO

- Founded 1964
- Members
- Fellowships
- Young Investigators
- Courses & Workshops
- Policy programme
- EMBO Press

- We have features of many kinds of organizations
- We are ourselves innovative
EMBO policy work in this area

- Interactions between universities and journal editors (CLUE)
- Peer review limits, focal randomization
- Coordinated frameworks for research misconduct investigations
- New indicators for journals
- Also: responsible for training
• EMBO founding member
• EMBO Science Policy office has dedicated staff to DORA

Principles at EMBO:
- Applicants not allowed to list JIFs, H-Indices or other metrics
- Committee members not allowed to use such metrics
Researchers love research

Andre Geim
‘better to be wrong than to be boring’

Research = Innovation?
Looking at research integrity through the lens of researchers

• What does x tell us about y:
  → do researchers do what integrity rules demand?
  → do researchers do what the law says?
  → do researchers do what the funders require?

• Turn this around: what does y tell us about x?
  → do our research integrity approaches serve the needs of researchers?
  → are our laws up to date, do they enable researchers?
  → have funders kept up?
The researchers in our community want to do the right thing, but sometimes they do not know how.

“...although I have been doing research for more than 15 years, I was not aware of many important details. I am ashamed in admitting that I have sometimes followed and witnessed incorrect research conduct, without even noticing. Of course I haven't done anything evil, but in the future I will pay more attention. I think that more education, at all levels, is needed to get the research community aware and more attentive to research integrity.”
Limits in dealing with research integrity

- Lack of knowledge or interest (researchers AND administrators!)
- Journals have became the police
- RCR/RI does not always address the underlying issues
  - extreme competition
  - inappropriate rewards and incentives
Researchers are conservative

- Scientists pursue conservative research strategies exploring the local neighborhood of central, important molecules
- Increased risk-taking and the publication of experimental failures would substantially improve the speed of discovery
- Institutional shifts in grant making, evaluation, and publication that would help realize these efficiencies

But funders, administrators, and publishers are conservative too!
Views of leading young researchers

What were the main contributing factors to the discoveries you have made?

**Funding:** Stable, longer term (5yrs +), but competitive
Flexible

**Freedom:** Ability to make ad hoc decisions and follow
new ideas

**Intellectual environment:** Critical and stimulating
colleagues, good scientific culture

**Infrastructure:** High level core facilities
Many forces work against innovation

• “Failure” has different valences for funders, VCs, institutes, individual scientists, etc.

• For individual researchers, “aversion to risk-taking” is at least in part “fear of losing grants”

• It certainly is better to be wrong than to be boring, at any given moment or for any particular experiment.

• But over the longer term society (the supporters of research) do reasonably demand some kinds of successes

• RCR does not work against innovation per se but may not be doing everything it can to help

• How do we reconcile these?
“the system”

• The reward system in science is (becoming) warped
• Resources for thorough evaluation are not available
• Journal articles have become the currency of rewards rather than a contribution to knowledge
• This is not (just) about overworked or lazy promotion committees and rapacious journals
• RCR training
• DORA
• Warped views of the value of competition and scarce resources
• There is no relief from this competition at any level
• Let’s at least reward people for what they actually do
• The research community is a critical link to “fixing the world”.
Fixing, if not the world, our part of it

GET MORE IDEAS FROM ML
Looking at research integrity through the lens of innovation

• What does x tell us about y:
  → what does research integrity say about innovation?
  → what does law say about innovation?
  → what do funders say about innovation?

• *Turn this around: what does y tell us about x?*
  → are our research integrity approaches up to date?
  → are laws outdated?
  → have funders kept up?