An introduction to research integrity

James Parry, Chief Executive, UKRIO
“Most people say that it is the intellect which makes a great scientist. They are wrong: it is character.”

Albert Einstein

“In general terms, responsible conduct in research is simply good citizenship applied to professional life... However, the specifics of good citizenship in research can be a challenge to understand and put into practice.”

US ORI *Introduction to the Responsible Conduct of Research* (2007)
But what has this go to do with me?
Key elements of research integrity are:

- Honesty, Rigour, Transparency and Open Communication, Care and Respect, Accountability

*UK Concordat to Support Research Integrity* (2019)

Key themes:

- All disciplines
- All career stages
- All elements of your research: from beginning to end
- **Enabling research, not restricting it**
- Safeguarding trust in research
Problems are rare?

  
  - On average, 1.97% of respondents admitted to have fabricated, falsified or modified data or results at least once.
  
  - Up to 33.7% admitted to questionable research practices.

- What about mistakes?
  
  - Studies looking at the causes of retractions suggest that c.12% - c.19% are caused by honest errors (e.g. Moylan, E.C., and Kowalczuk, M.K., 2016 and Fanelli, D., 2016.)
Can problems be prevented?

• A recurring theme from UKRIO: problems occurring because of **overconfidence, bad habits or a failure to get help**.

• Awareness and training: researchers need to be encouraged to **be self-critical** and there should be no stigma attached to asking for assistance.

• Organisations need to **support their researchers** in this.

• A key lesson from UKRIO’s unique experience: **serious problems could have easily been avoided with a bit of foresight**.
What is ‘good’ research?

- Rigorous
- Accurate
- Original
- Honest
- Transparent
- Collaborative
- Multidisciplinary
- Open
- Creative
- To the benefit of society

The Culture of Scientific Research in the UK Nuffield Council on Bioethics (2014)

- Also: ‘No such thing as failures, only setbacks’
- What do all of the above traits look like in different types/disciplines of research?
Research culture: ‘Publish or perish’ vs. ethics & reflection

TOP FIVE INCENTIVES FOR EACH CATEGORY AS RATED FOR THEIR POTENTIAL IMPACT ON RESEARCH INTEGRITY*

<table>
<thead>
<tr>
<th>Strongly positive perceived impact:</th>
<th>Positive and negative perceived impact:</th>
<th>Strongly negative perceived impact:</th>
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<tr>
<td>Data sharing policies and requirements</td>
<td>Media coverage and public perception of research</td>
<td>Incidents of bullying and harassment</td>
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<td>Open access publishing</td>
<td>Research leadership and management</td>
<td>Use of journal impact factor (JIF), h-index and other metrics</td>
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<td>Interdisciplinary research</td>
<td>How funding for specific projects is awarded</td>
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Source: *Research Integrity: a landscape study*, June 2020
Vitae, UKRIO and UKRN, on behalf of UKRI
Research during a pandemic

- Considerable effects on how research is designed, funded, conducted, managed, monitored and disseminated.

- Huge impact on health, wellbeing and working practices of researchers and of society as a whole.

- How to best support researchers during these times?

- Are there any new working practices which we should try to retain long term?
Questions and discussion

• **What challenges do you face** when trying to do high quality, ethical research?

• **What do you need to help you** overcome these challenges?

• **What can you do yourselves?** What role should others play – e.g. institutions, funders, publishers, etc?

• **How do we want to improve research culture:** what changes, and how? What shouldn’t be changed?