

Research Integrity & Engagement: Dissemination of Research, Authorship and Advocacy

Padraig Murphy

School of Communications & Societal
Impact Platform

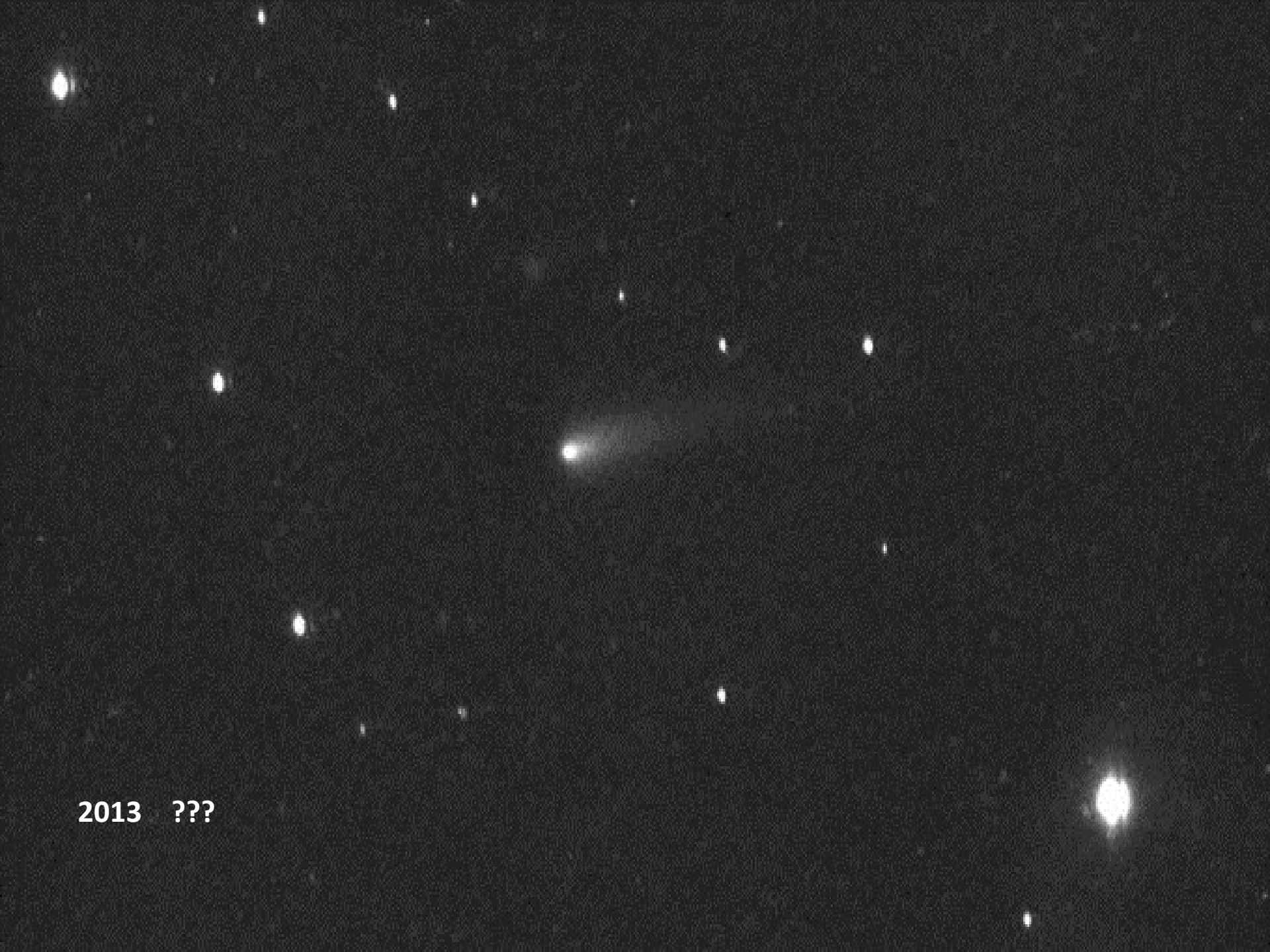
Outline

- Communicating research: why bother?
- News values and research values
- Scientific writing: authorship
- From deficit to dialogue
- Responsible Research and Innovation
- Scenarios where RI meets RRI: what would you do in these situations?

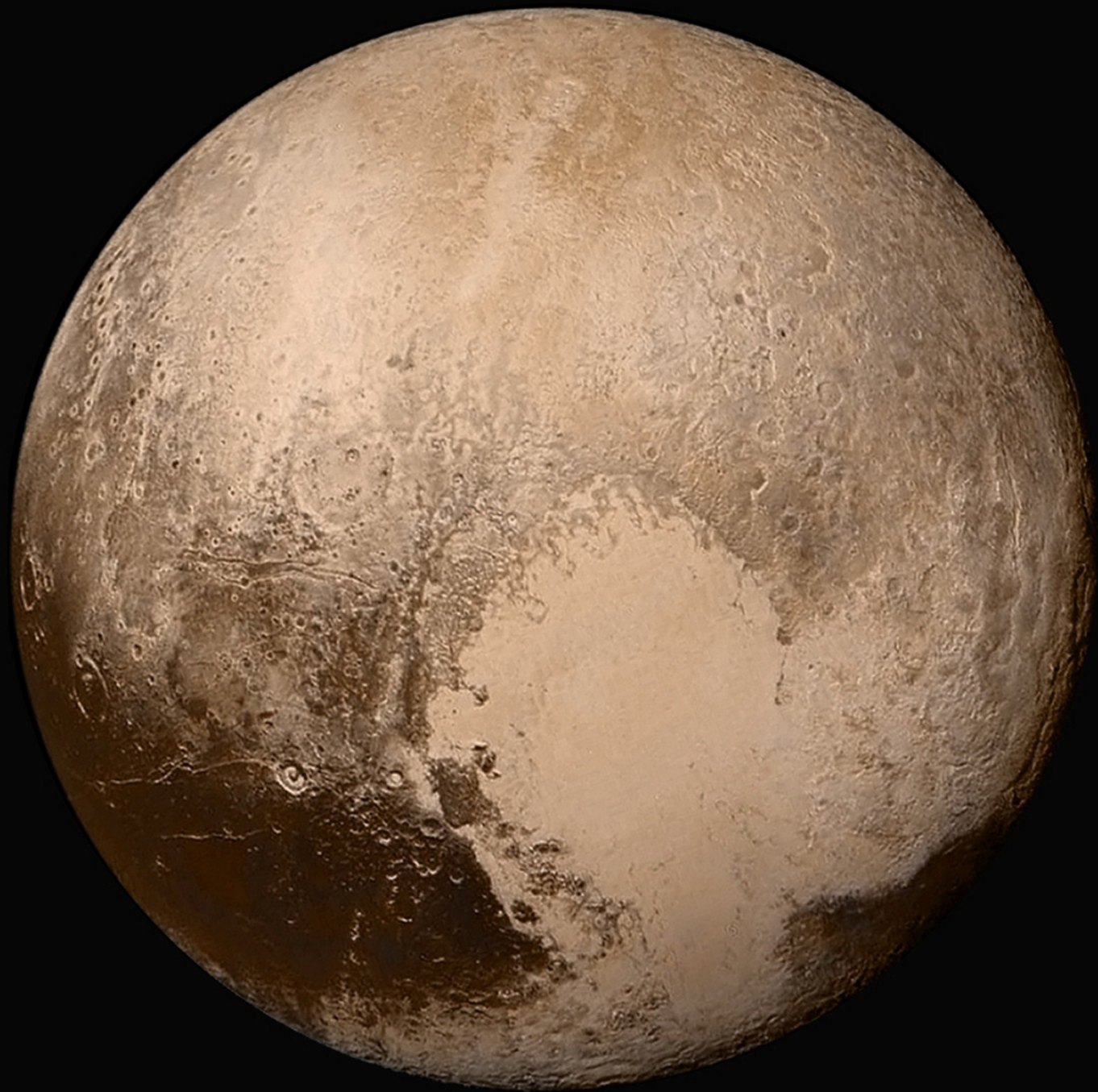
Recent science in the news



2015: 67p and the Philae Lander



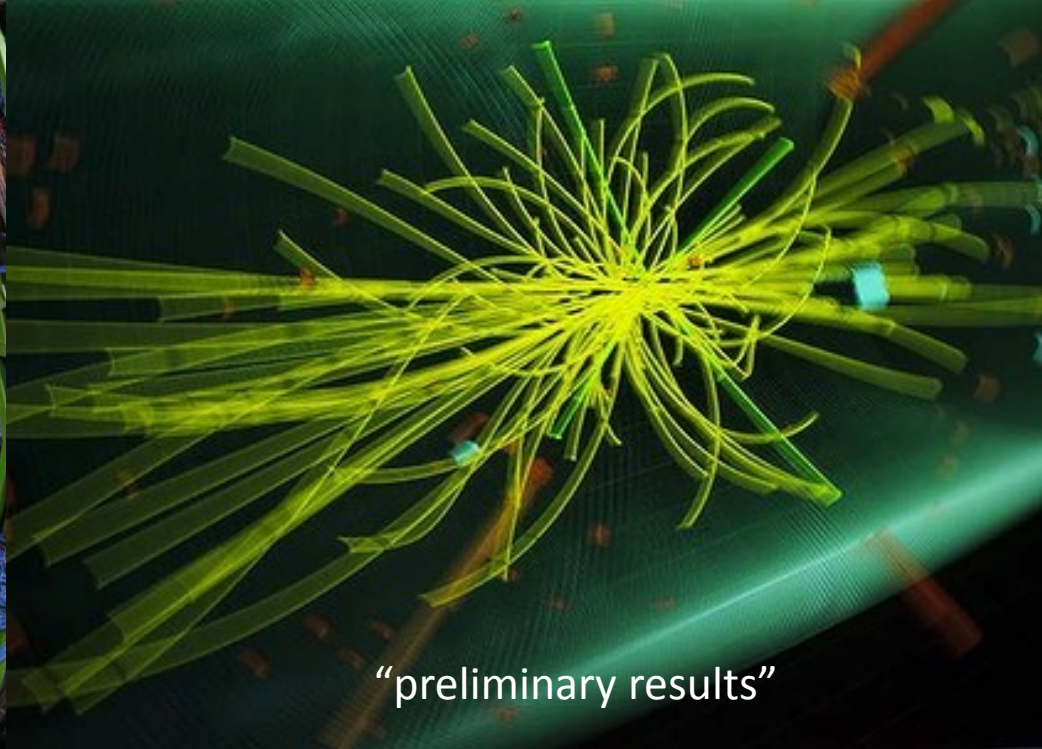
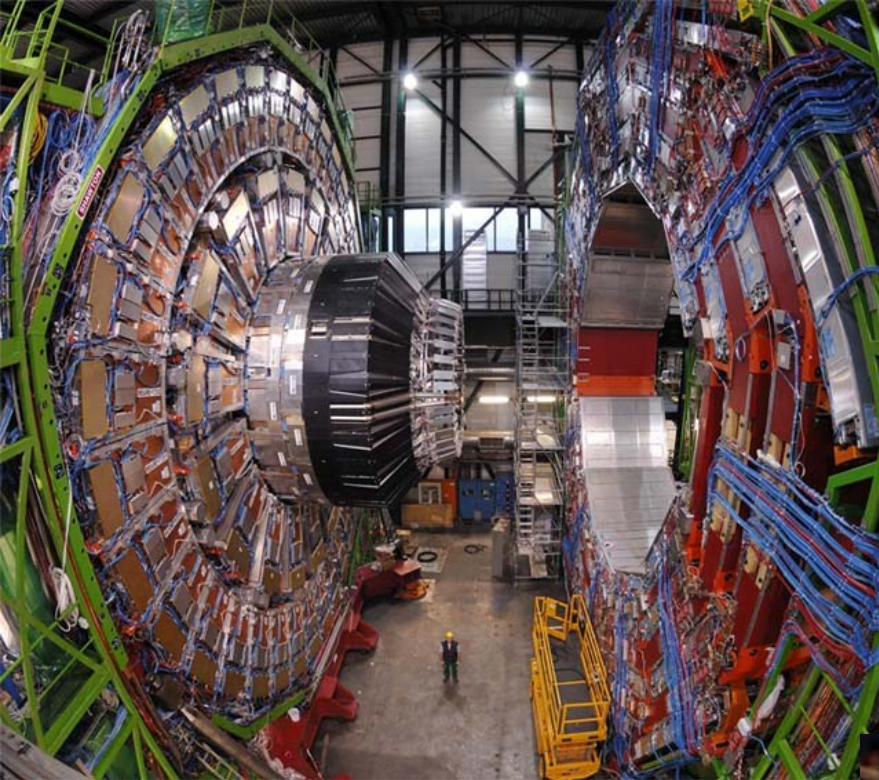
2013 ???





**2013: Google glass synthetic
meat**





“preliminary results”

2012: Higgs Boson



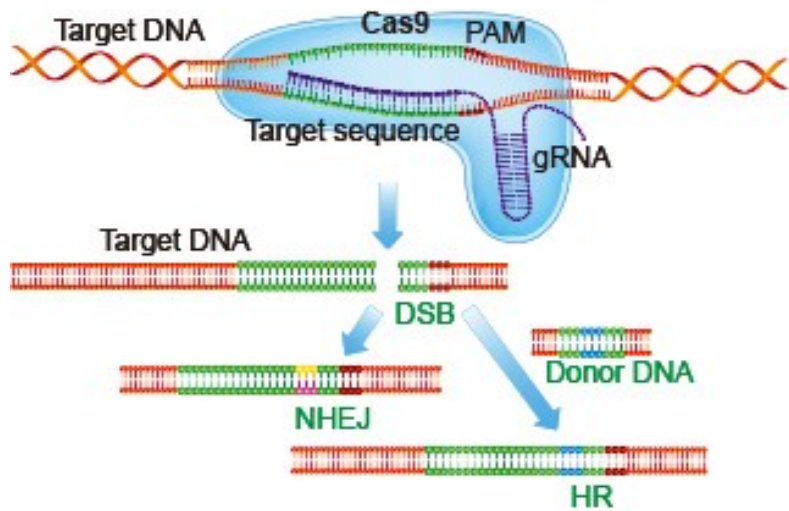
SCIENCEPHOTO LIBRARY



2012: horsemeat scandal



2014: Ebola virus



CRISPR Cas9, 2015



Zika virus, 2016



From now.... And for a long time in the future!

Communicating your research: why bother?

- Benefits to audience/readers
- Benefits to yourselves
- Public responsibility
- Because you have a story to tell



Benefits to your audience or readers

- Satisfaction of curiosity
- Better-informed choices on science-based public issues
- Better-informed choices on science resources



Benefits to yourselves

- Communication skills
- Visibility for your institute
- Profile for yourself



Public accountability

- Duty to give account of how public funds are used
- Contractual commitment to dissemination
- Duty to share knowledge
- Good citizenship

Values guiding news selection

- **Timeliness**
 - of recent date, immediate, anniversary
- **Proximity**
 - geographically and culturally close
- **Prominence**
 - involving prominent people, on large scale
- **Consequence**
 - having some relevance to the wider population
- **Human interest**

- Let's digress a bit to look at news values versus research values...

Values guiding news selection

- Novelty (or Originality, as in "man bites dog")
- Personality
- Relevance to "real life"
- Controversy or Conflict
- Worry or Anxiety

Sources of tension between academic experts and journalists

- Different judgements about what is news(worthy)
- Different views of accuracy and objectivity
- Different views of media's role
- Journalists' use of well-known people
- Journalism's search for clear messages
- Simplification used to achieve readability
- Media emphasis on novelty and originality
- Media interest in conflict and deviancy

Sources of tension between academic experts and journalists

- Experts expect the media to support their goals; journalists are indifferent towards experts' goals
- Experts and journalists disagree about extent of control each should have over communication



By the time you appear on the radio news...

How much?

Who has, or will, ————— So what? Who cares?
screw up?

.....these become the only circular questions you may be asked...

However, media audiences generally...

- diverse and differentiated
- not just passive receptors of information provided by experts
- talking down, transmitting knowledge, or engaged in dialogue with audiences?



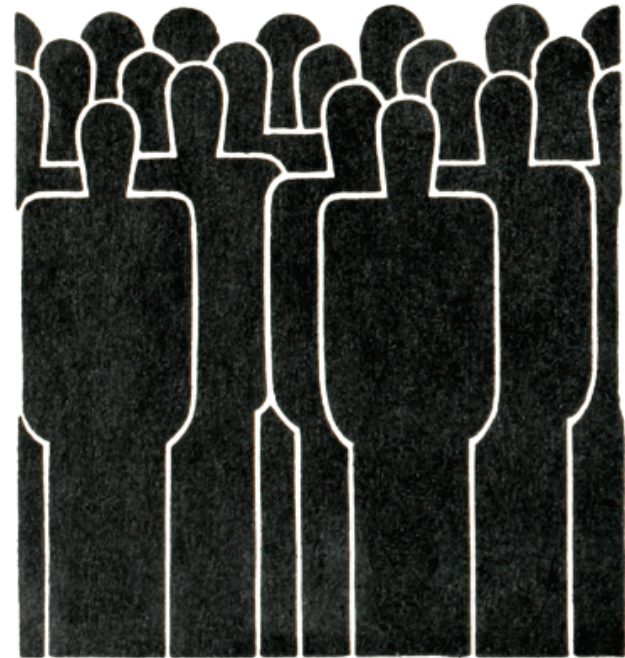
Diverse audiences / publics for your technical area of expertise

- Attentive Public
quite confident in knowledge of the technical basics
- Interested Public
not confident with the basics, but show high levels of interest
- Residual Public
only occasionally learn about, or are interested in, something relevant to your area



Influences on public risk perception (cf. Peter Sandman)

- Is the risk voluntary or imposed?
- Are we in control or not of the risk?
- Is the risk distributed fairly?
- Do we trust those who are making the risk claims?
- Is the risk (morally) acceptable?
- Is the risk familiar or new?
- Is the source natural or artificial?
- Is the risk linked to a memorable event?
- Does the risk fill us with (special) dread?



Picture: Gerd Arntz

What Research Integrity is...

Principles of:

- honesty in communication;
- reliability in performing research;
- objectivity;
- impartiality and independence;
- openness and accessibility;
- duty of care;
- fairness in providing references and giving credit; and
- responsibility for the scientists and researchers of the future.

(The European Code of Conduct for Research Integrity, 2011)

What Research Integrity means...

“Fabrication, falsification and the deliberate omission of unwelcome data are all serious violations of the ethos of research. Plagiarism is a violation of the rules of responsible conduct vis-à-vis other researchers and, indirectly, harmful for science as well. Institutions that fail to deal properly with such wrongdoing are also guilty.”

(The European Code of Conduct for Research Integrity, 2011)

DCU Code of Practice on Authorship

- National Policy Statement on Ensuring Research Integrity in Ireland (2014)
- DCU Code of Practice applies to all staff, all research students
- DCU Code of Practice applies to journal articles, books, chapters, conference abstracts, reports, web-based publications, creative works and other scholarly outputs but not to intellectual property, patents, copyright or **research theses**

DCU Code of Practice on Authorship

- Authorship issues, including allocation of publication credit through position in the author list, **should be agreed by all authors at an early stage in the process** of preparing a publication, and reviewed periodically. For multi-authored papers, a **designated author** will be identified and agreed by all co-authors to undertake specific responsibilities as outlined in the Code of Practice. The designated author should ensure that all named authors have consented to be named, and have approved the final version of the paper or report, and the order of author's names. It is this author's responsibility to ensure all relevant authors are included. They are the contact for journals.
- **All named authors must have made a substantial intellectual contribution to the research** that is presented in the publication.
- Entitlement to authorship only exists where **all** the conditions below are met:
 - Significant intellectual contribution: e.g. substantial contributions requiring intellectual effort include conceiving the original idea, designing the study, collecting, analysing and interpreting the data.
 - Drafting the article, or revising it critically for important intellectual content.
 - Final approval of the version to be published.

DCU Code of Practice on Authorship

- Authorship rights flow from the substance of intellectual input.
 - To have provided materials, data that has already been published, routine technical support, or to have simply made measurements do not constitute intellectual input.
 - Technical editing is not considered a substantial intellectual contribution.
 - Any individual who is an author, consistent with this definition, must be named as such. This is particularly important for protection of research students and researchers on temporary contracts.
- To exclude any such individuals (even with their consent) fails to give due credit, and conflicts with principles of openness by masking the involvement of particular individuals.
- Any person, including research students, research assistants, research officers, technical officers and other support staff can be considered for authorship of a paper, provided his/her contribution was substantial and intellectual in nature.

DCU Code of Practice on Authorship

- Publication credits are assigned to all those who have contributed to a publication in proportion to their contribution and, according to discipline
- The contribution of a research student in any multiple authored paper that substantially derives from his/her thesis is expected to be appropriately reflected in assignation of publication credit.
- **Authorship rights flow from what an individual does in respect of a publication, not from who s/he is**
- Not by virtue of being the fund-raiser, supervisor, Head of School/Centre, course chair etc

DCU Code of Practice on Authorship

Disputes:

“1. Where a dispute relating to authorship, publication credit or right to publish arises, in the first instance the designated author will engage all co-authors (including those whose authorship right may be in dispute) in correspondence, with a view to finding a resolution.

A record will be kept of all correspondence. No attempt to publish the disputed output can be made at this stage. If the designated author is a student, he/she may request the advice and assistance of the independent supervisory panel member in this exercise.

2. If such discussions are not successful in a timely manner, the designated author will request intervention by the Executive Dean of his/her Faculty, to review documentation, discuss with all co- authors and arrive at an agreed solution which will allow publication to proceed. The Dean may seek independent expert opinion as part of this process.

3. If this is not successful in a timely manner, the Executive Dean will request intervention by the Vice President for Research and Innovation. Having reviewed all documentation and correspondence and received any other information he/she considers relevant, the decision of the Vice President for Research and Innovation will be final.

4. If issues relating to authorship or process of paper approval are contested subsequent to publication, this is considered under the DCU Policy on Responding to Allegations of Research Misconduct.”

What Responsible Research and Innovation is...

Considerations for

- gender
- open access
- ethics
- science education (often called STEM education)
- engagement
- governance
- social inclusion
- sustainability

(Rene Von Schomberg's keys of RRI)

What Responsible Research and Innovation means...

“As far as process requirements for RRI are concerned, we agree that RRI should have four integrated dimensions: **anticipation** (envisioning the future and understanding how present dynamics of promising shape the future), **reflexivity** (which occurs as first-, second- and third-order learning), **inclusion** (the involvement of a wide range of stakeholders, such as users, NGOs, etc. in the early development of science and technology) and **mutual responsiveness** (responding to emerging knowledge, perspectives, views and norms). In addition, we suggest adding another three process requirements in our conceptualization of RRI: **diversity** (key criterion for the evaluation of interactive policy-making processes), **meaningful openness** (rephrasing transparency) and **adaptive change** (describing how an RRI process must leave room to adaptation).”

Working definition of RRI Tools, Horizon 2020 project

What Responsible Research and Innovation means...

“Responsible Research and Innovation is a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products (in order to allow a proper embedding of scientific and technological advances in our society)”

- Quoted from: Von Schomberg, Rene (2011) ‘Prospects for Technology Assessment in a framework of responsible research and innovation’ in: *Technikfolgen abschätzen lehren: Bildungspotenziale transdisziplinärer Methode*, P.39-61, Wiesbaden: Springer VS



SCIENCE
EDUCATION
EDUCATION

OPEN ACCESS

ENGAGEMENT
ENGAGEMENT

OPEN ACCESS
OPEN ACCESS

ETHICS
ETHICS

GENDER EQUALITY
GENDER EQUALITY

GOVERNANCE
GOVERNANCE

Strange acronyms of science communication and public engagement...

PUS

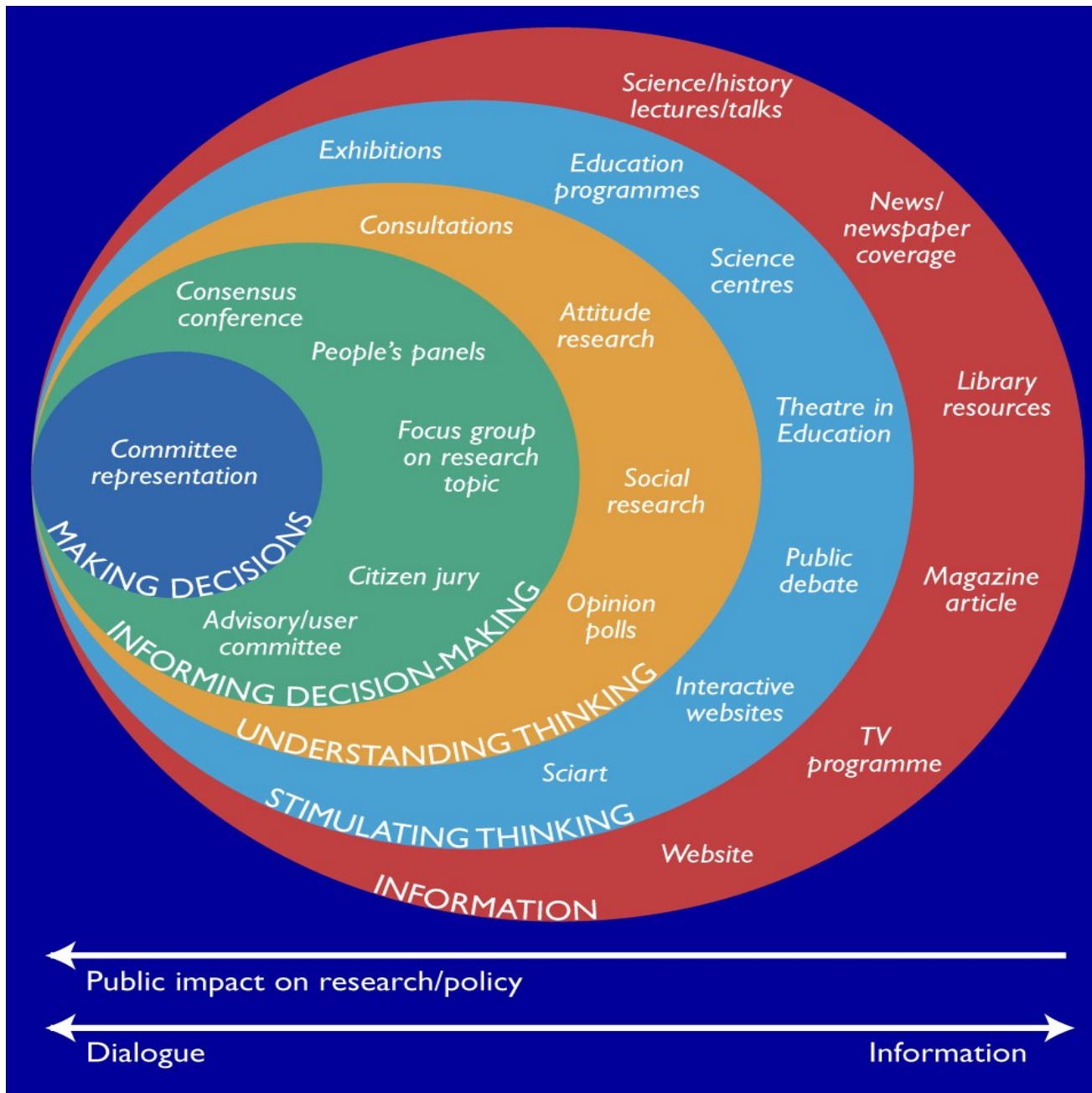
PEST

Models of science communication

Dissemination					Engagement				Conversation		
Deficit	Defence	Promotion	Popularisation	Outreach	Contextual	Consultation	Dialogue	Interactive	Deliberation	Cultural	Citizen / Open science
Findings Finished knowledge					Issues Applications, implications of knowledge				Process, agendas Construction, interpretation of knowledge		



Wellcome Trust - public engagement



Ways that a scientist may position herself with respect to science in policy and politics. What's your role?

- The Pure Scientist
- The Science Arbiter
- The Issue Advocate
- The Honest Broker of Policy Alternatives

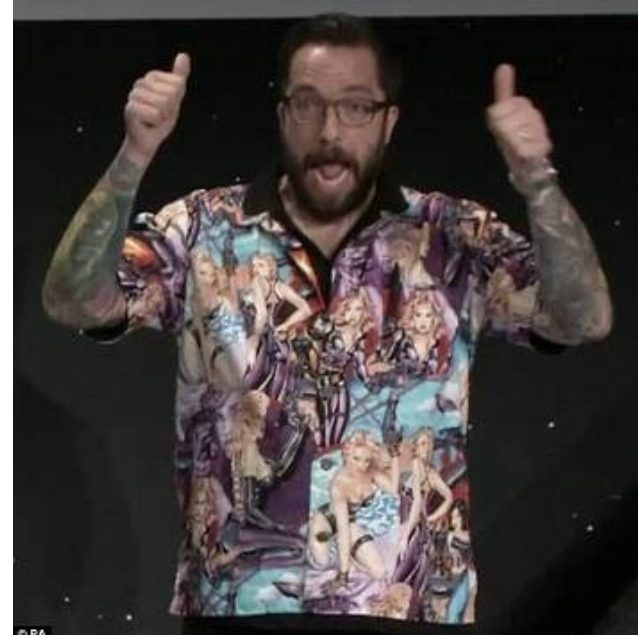


Roger A. Pielke (2007) *The Honest Broker: Making Sense of Science in Policy and Politics* New York: Cambridge University Press

European Commission on effective communications

- What's your key messages?
- Who are your audiences?
- What mode of communication will you use?
- How will you tailor your message to the outlet?
- Build good relationships with the media;
- Evaluate your communication results;
- Maximise the exposure
- Use your networks and resources at your disposal (EC also helpfully says to use their toolkits!).
- http://ec.europa.eu/research/science-society/science-communication/index_en.htm

Avoid getting it wrong , with the best of intentions....



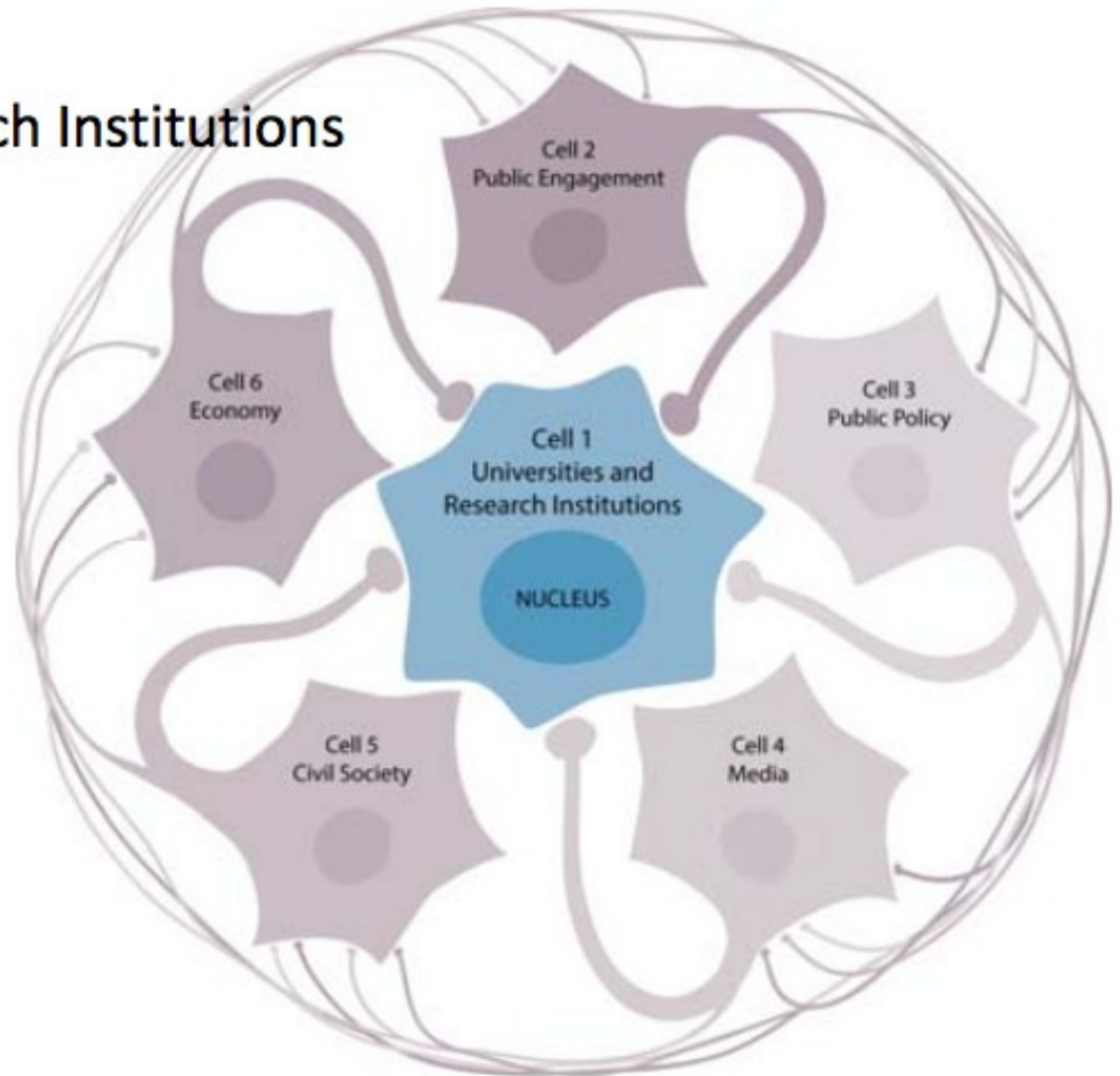
SCIENCE: IT'S A GIRL THING!

NUCLEUS

**New Understanding of Communication,
Learning and Engagement in Universities
and Society**

Cells

Universities and Research Institutions
Public Engagement
Public Policy
Economy
Media
Civil Society



Scenarios connecting RI and RRI

- Source: Dr. Kenneth Skeldon, University of Aberdeen

<http://nucleus-project.eu/>

Scenario A

A University receives funding from a major company to conduct research on the safety of a new agricultural technique.

The research concludes that the technique has negligible environmental impact, and a peer reviewed publication follows.

An NGO (non-governmental organisation) picks up on the findings, questioning the integrity of the research in view of the commercial interests of the company providing the funding. They embark on a social media campaign to discredit the findings.

As a science communicator, how do you go about engaging publics and what stakeholders are important?

Scenario B

The results of a large survey are published by the major funders of research, showing that public attitudes towards science have improved by 40% over the past 5 years.

As a researcher with awareness of statistical rigour, you know that the survey is flawed, the sampling inadequate, and that the conclusions drawn are unsafe.

However you also know that the positive claims will make for a solid case to provide continued funding for science communication activities in the next spending round.

You are also a researcher who practices, and sometimes engages in research in, science communication. How do you respond to the study with your peers and external stakeholders?

Scenario C

Research into a medical monitoring technology shows promising signs of detecting early infection in patients in intensive care, but is a long way from any tangible practical application.

However the media pick up on the story and want to run a major news piece on the technique. You know the story will be sensationalist and will raise expectations of the research, well ahead of time. However you also know the significant external profile gained through the news piece will help secure further funding for the project.

As a researcher with a passion for science communication, how do you balance the issues in deciding how to approach the media interest?