Interdisciplinary Research: Assessments, Culture and Collaborations

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Outline of Presentation

- The Rise of Interdisciplinary Research
- Facilitators of Interdisciplinary Research
- Barriers to Interdisciplinary Research
- Assessment of Interdisciplinary Research in REF2021
- REF2021: Working Methods for Interdisciplinary Research Assessment

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Interdisciplinary Research

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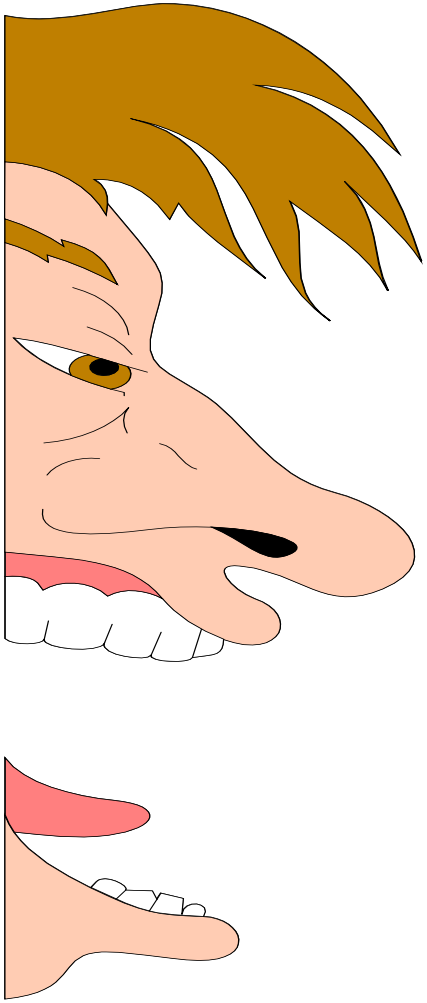
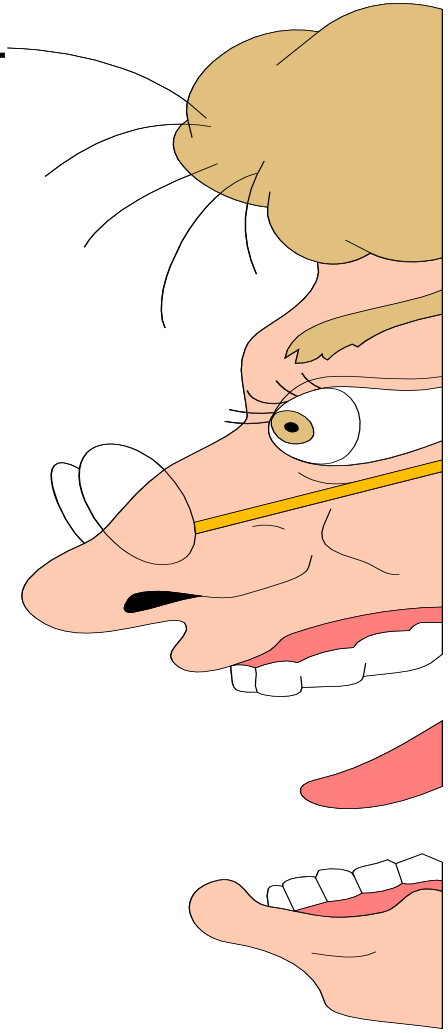
Barriers to Interdisciplinary Research



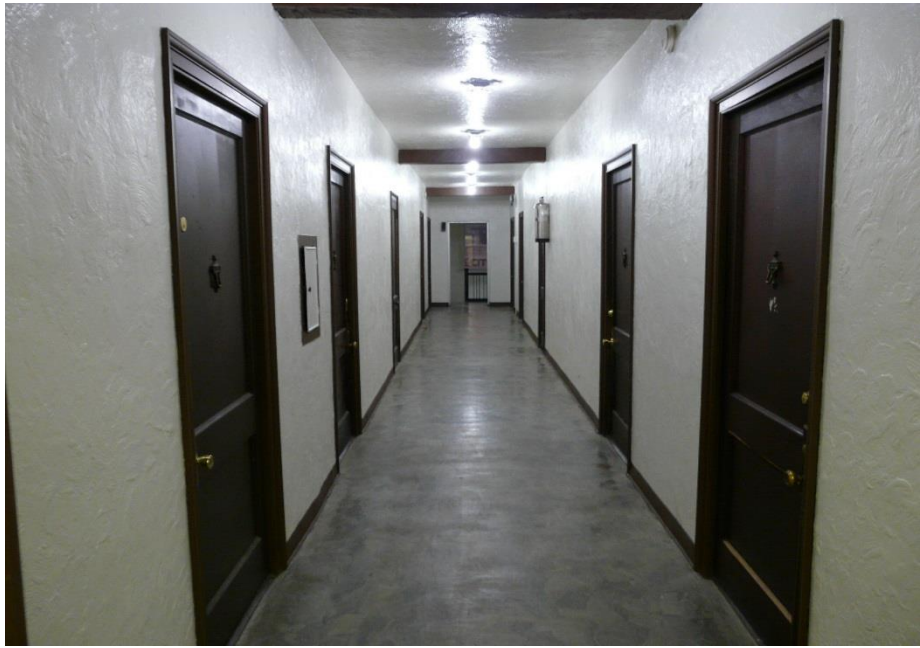
We are like inhabitants of a number of little islands all in the same part of the ocean. Each has evolved a different culture, different ways of doing things and different language to talk about what they do. Occasionally the inhabitants of one island may spot their neighbours jumping up and down and issuing strange cries about some new discovery but it makes no sense to them so they ignore it."

(Charlton, et al 1980, p15)



Barriers to Interdisciplinary Research

- “We shape our buildings and afterwards our buildings shape us”. (Winston Churchill, 1944)



Facilitators of Interdisciplinary Research

Apple Building

Francis Crick Institute

Interdisciplinary Research

- Academically-oriented interdisciplinary research.
  - An evolutionary process where disciplines have reached the limits of their methodological capacity and need to bring in insights from other disciplines. While it may create some short-term turbulence it should lead to the forging of new knowledge or sub disciplines (e.g. genetic counselling, bioinformatics, medical sociology).
- Problem-focused interdisciplinary research.
  - An individual researcher may see a gap in understanding and set out to bridge that gap by bringing together insights from more than one discipline

Lyall, C. (2012) Promoting Interdisciplinary Research and Knowledge Exchange Through Improved Assessment. Innogen working paper no. 96.

Barriers to Interdisciplinary Research

- Researchers are often only given kudos for publishing in select journals within their specific field. (Greenhalgh, 2014).
- IDR is seen as risky for early-career researchers- the lack of a disciplinary home makes it harder to publish papers and win jobs and funding, and projects can demand a high investment of time for little initial reward.
- Respecting other disciplines' methodological rules is tricky, particularly where one discipline's rules look like another's sloppy practices (Kate Maxwell, 2017).
- Substantial transaction costs come with interdisciplinary research. There is a need for 'T-shaped' researchers', who are able to cultivate both their own discipline, and to look beyond it. (Brown et al 2015).
- Despite Horizon 2020's interdisciplinary funding intentions, researchers from outside the hard sciences have felt marginalised.

(Kate Maxwell (2017) Research Professional. 26th Oct.
Brown, RR, Deletic, A. Wong, THF (2015) How to catalyse collaboration. Nature, 525, pp315-317.
Greenhalgh, L. (2014) Research Fortnight 22 May.

Facilitators of Interdisciplinary Research

- Clarity of methodological approach and lucid articulation of its purpose is vital to understanding how interdisciplinarity gives added value and increased rigour to research

- New vocabularies, networks and ways-of-being are different in each discipline so cognitive and social skills should be learned for interdisciplinary research to flourish.

- Interdisciplinary research assessment is not new; sub panellists were often asked to work outside their own specialisms, and did so conscientiously, in the knowledge that there are always at least two assessors, and that anomalies will be spotted and addressed.

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REF2021 and Interdisciplinary Research

- There have been concerns that the assessment of interdisciplinary research has presented challenges in previous REF and RAE exercises, due to the discipline-based structure of the UOAs, or that collaborative research has not been encouraged due to the competitive nature of the exercise.
- An underpinning principle of the REF is that all types of research and all forms of research output across all disciplines shall be assessed on a fair and equal basis, including interdisciplinary research.
- Results from REF2014 show that interdisciplinary Research was not disadvantages in terms of quality rating
- Most of the Impact Case Studies in REF2014 were interdisciplinary and were well regarded by assessors.

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REF2021 and Interdisciplinary Research

Definition

- For the first time, REF 2021 provides a definition of interdisciplinary research.

- “Interdisciplinary research is understood to achieve outcomes (including new approaches) that could not be achieved within the framework of a single discipline.

- Interdisciplinary research features significant interaction between two or more disciplines and/or moves beyond established disciplinary foundations in applying or integrating research approaches from other disciplines”.

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REF2021: Working methods. interdisciplinary research

Interdisciplinary
Research Advisory Panel

Main Panel
Interdisciplinary Leads

Sub-Panel
Interdisciplinary Advisers

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REF2021: Working methods. interdisciplinary research

Interdisciplinary Research Advisory Panel

- IDAP was established in 2017
- It has overseen the establishment agreed interdisciplinary research assessment principles and processes
- It will advise the REF team, REF panel chairs and the UK funding bodies on the development and implementation of measures to support the submission and assessment of interdisciplinary research.
- IDAP will not advise on individual assessments, but will advise on process, and provide advice and support for cross-panel collaboration.

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Sub-Panel
Interdisciplinary Advisers

- All sub-panels will have at least two members appointed as interdisciplinary research advisers.
- Offer guidance to the sub-panels in their assessment of interdisciplinary outputs to ensure that they are assessed robustly and fairly.
- This may include advising on the allocation of outputs and the calibration and moderation of scoring.
- Liaise and network with advisers on other panels
- This network of interdisciplinary advisers will meet at key points during the assessment phase, review joint working arrangements and identify wider expertise requirements.

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Main Panel Interdisciplinary Leads

Sub-panel interdisciplinary advisers

- Facilitate cross panel liaison.
- Oversee and be engaged in calibration processes relating to interdisciplinary research outputs,
- Support the interdisciplinary advisers on the sub-panels.
- Advise on the consistency of assessment standards for interdisciplinary research.
- Join the membership of IDAP during the assessment phase.

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REF2021

Interdisciplinary ResearchAssessment

In assessing interdisciplinary outputs, the sub-panels will make use of additional guidance provided by the IDAP. This will work in parallel with – rather than replace – the generic criteria:

Originality and significance: can be identified in one, some, or all of the constituent parts brought together in the work, or in their integration; they do not need to be demonstrated across all contributing areas/fields.

Rigour: can be understood in the context of interdisciplinary research as the design and application of relevant and robust approaches, methods and concepts to achieve productive interactions between the disciplines.

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REF2021 and Interdisciplinary Research

- Institutions are invited to flag outputs across their submissions that meet the definition of interdisciplinary research
- The sub-panels expect that flagged outputs would normally incorporate research crossing main panel areas, but recognise that they may also span disciplines across the sub-panels within a main panel, as well as sometimes within a sub-panel – particularly where UOAs cover a broad range of disciplines.

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REF2021 and Interdisciplinary Research

- The interdisciplinary flag will allow panels, working with their IDR advisers, to consider the most appropriate means of assessing the output, including whether within the sub-panel, with advice from the IDR advisers' network, or via cross-referral.
- The use of the interdisciplinary identifying flag is distinct from the cross-referral process.
- Where necessary, such outputs will be viewed by IDR assessors on more than one panel.

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REF2021 and Interdisciplinary Research

- There will be fair and equal assessment of interdisciplinary-flagged outputs (working with IDR advisers)
- The main and sub-panels will apply the standards of excellence defined by the starred quality levels equally to research in interdisciplinary areas and to research within distinct disciplines.
- The main and sub-panels consider that all such research is capable of displaying the highest standards of quality.
- There will be no advantage or disadvantage in the assessment in identifying outputs as interdisciplinary.

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REF2021 and Interdisciplinary Research Environment (REF 5b)

- Interdisciplinary will be assessed "as a discrete section" of the research environment.
- Within the environment template, a submitting unit should provide information about how it supports collaboration both within and beyond academia, and panels will give due credit where these arrangements have enhanced the vitality and sustainability of the research environment or the submitted unit’s contribution to the wider research base, economy or society.

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Interdisciplinary Research