The UK Research Excellence Framework (REF 2014)

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REF 2014 sub-panel 11 chair
(Computer Science and Informatics)
REF background

• UK Research Assessment Exercise (RAE)
  – at each stage becoming more detailed & expensive
  – directly determines the distribution of “QR” (research quality) central funds
    • £1.7B per year across all UK universities and subjects
  – has a major impact on university and subject reputation
REF 2014 costs

- Total cost of REF 2014: £246M (estimated)
  - £14M direct costs to funding bodies
  - £19M to universities for panel members’ time
  - £212M to universities for preparing submissions
    - = £4k per submitted research
    - = 1% of researcher salary costs over 6 years
    - possibly double accounting – need to monitor research anyway?

- Evaluating £27B of publically-funded research
  - 1%

- Determining the allocation of £10.2B funds
  - 2.4%

“REF Accountability Review: Costs, benefits and burden”, Technopolis report to the four UK higher education funding bodies.
Overview of the process

REF assessed the quality of research in all UK universities, in all disciplines. It was carried out by 36 expert panels, grouped into 4 main panels.

Main Panel A: Medical and life sciences
Main Panel B: Physical sciences and engineering
Main panel C: Social sciences
Main Panel D: Arts and humanities

2011-12 Preparation
Panels were appointed. Guidance and criteria were published.

2012-13 Submissions
Universities made submissions in whichever subjects they chose to.

2014 Assessment
36 expert panels reviewed the submissions, guided by the 4 main panels.
What was assessed

Panels judged the overall quality of each submission

- **65%** Quality of research outputs
- **20%** Impact of research on society
- **15%** The research environment

- **191,150** research outputs by **52,061** staff were reviewed
- **6,975** impact case studies were reviewed
- The review was based on data and information about the environment
The research of 154 UK universities was assessed. They made 1,911 submissions including:

- 52,061 academic staff
- 191,150 research outputs
- 6,975 impact case studies

The overall quality of submissions was judged, on average to be:

- ★★★★★ 30% world-leading (4*)
- ★★★★ 46% internationally excellent (3*)
- ★★★ 20% recognised internationally (2*)
- ★★ 3% recognised nationally (1*)
Expert Panels

• Submissions were assessed by 36 Sub-panels working under the guidance of four Main Panels

Each Main Panel comprised:
• The chair
• Chairs of each sub-panel
• International members
• User members

Each Sub-Panel comprised:
• The chair and deputy chair
• Panel members
• Additional assessors (for outputs and impact)
• On average ~30 people

• The Equalities and Diversity Panel (EDAP) reviewed complex staff circumstances
Published results include the three sub-profiles and the overall quality profile for each submission.

<table>
<thead>
<tr>
<th>Institution name</th>
<th>Main panel</th>
<th>Unit of assessment name</th>
<th>Profile</th>
<th>FTE Category A staff submitted</th>
<th>4*</th>
<th>3*</th>
<th>2*</th>
<th>1*</th>
<th>unclassified</th>
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<td>Outputs</td>
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The overall quality profile is weighted 65% for Outputs, 20% for Impacts, 15% Environment.
Across the exercise as a whole, output quality was found to have improved significantly since RAE2008

- 22% of outputs were judged world-leading (4*), up from 14% in the 2008 RAE
- 50% were judged internationally excellent (3*), up from 37% in the 2008 RAE
- This is in line with independent evidence about the improved performance of UK research
- International members of each main panel confirmed that the assessment reflected international standards
- Impact is new and cannot be compared with RAE
- Environment was assessed differently so also cannot be compared directly with RAE
Excellence was found in diverse submissions and institutions across the UK

- Submissions from the 154 institutions ranged from 3 staff in a single subject to over 2,500 staff in 32 subjects

![Graph showing average % 4* awarded to each institution (all UOAs)]

- The top quarter have at least 30 per cent of their work graded as world-leading (4*).
- Three-quarters have at least 10 per cent of their work graded as world-leading (4*).
Differentiation between institutions resulted from all three elements

**Average % 4* awarded to each institution (all UOAs)**

- Environment (15%)
- Impact (20%)
- Outputs (65%)

**Average % 3*+4* awarded to each institution (all UOAs)**

- Environment (15%)
- Impact (20%)
- Outputs (65%)
Excellence was found in all types of research

- Interdisciplinary research (where flagged as such by HEIs) was found to be of equally high quality
- Work of the highest quality was present in all forms of outputs
For the first time, REF has demonstrated the impact of UK research

- Across the exercise, over 250 research users judged the impacts, jointly with academic panel members.
- Across the exercise, 44% of impacts were judged outstanding (4*) and a further 40% were judged very considerable (3*).
- Impressive impacts were found from research in all subjects.
- REF shows many ways in which research has fuelled economic prosperity, influenced public policy and services, enhanced communities and civic society, enriched cultural life, improved health and wellbeing, and tackled environmental challenges.
## Main Panel B submissions

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<tr>
<th></th>
<th>Number of submissions</th>
<th>Cat A FTE</th>
<th>% change in Cat A FTE</th>
<th>Number of outputs</th>
<th>Number of impact case studies</th>
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Further information

www.ref.ac.uk includes:

- The results and submissions
- Summary data and analysis
- Panel overview reports

- Confidential feedback on submissions was provided to institutions in January

- Evaluations of the REF are currently being carried out by the funding bodies, with reports due in March
REF 2014: a personal view

- It’s very expensive!
  - and a lot of work for a lot of folk
  - SP11 members each assessed over 1,000 “outputs”

- It isn’t perfect
  - with the best will in the world...
  - ...it is impossible to eliminate unconscious bias from peer review processes

- The results are statistically fairly robust...
  - mean, variance, etc

- ...but too much hinges on the the tail
  - all the money goes to 4*
  - where the statistics are least reliable
Things to worry about

• Subject bias
  – e.g. cryptography vs HCI

• Institution bias
  – e.g. (UK) post- vs pre- 1992