



Queen's University
Belfast

Developing a research performance
management framework:

Perspectives from Queen's University
Belfast

October 2015

Overview

- Background: UK research evaluation framework
 - (1) Reviewing and understanding metrics
 - (2) Developing information systems
 - (3) External benchmarking
- Establishing a performance framework

Background: UK research evaluation framework

University rankings

- Teaching
- Research (volume, income and reputation)
- **Citations (20-30%)**
- Industry income
- International outlook

REF

- Research income
- Postgraduate research awards
- Impact
- Environment
- Peer review assessment of publications, citation percentile analysis (some subject areas)

Need - more regular analysis and benchmarking at granular level

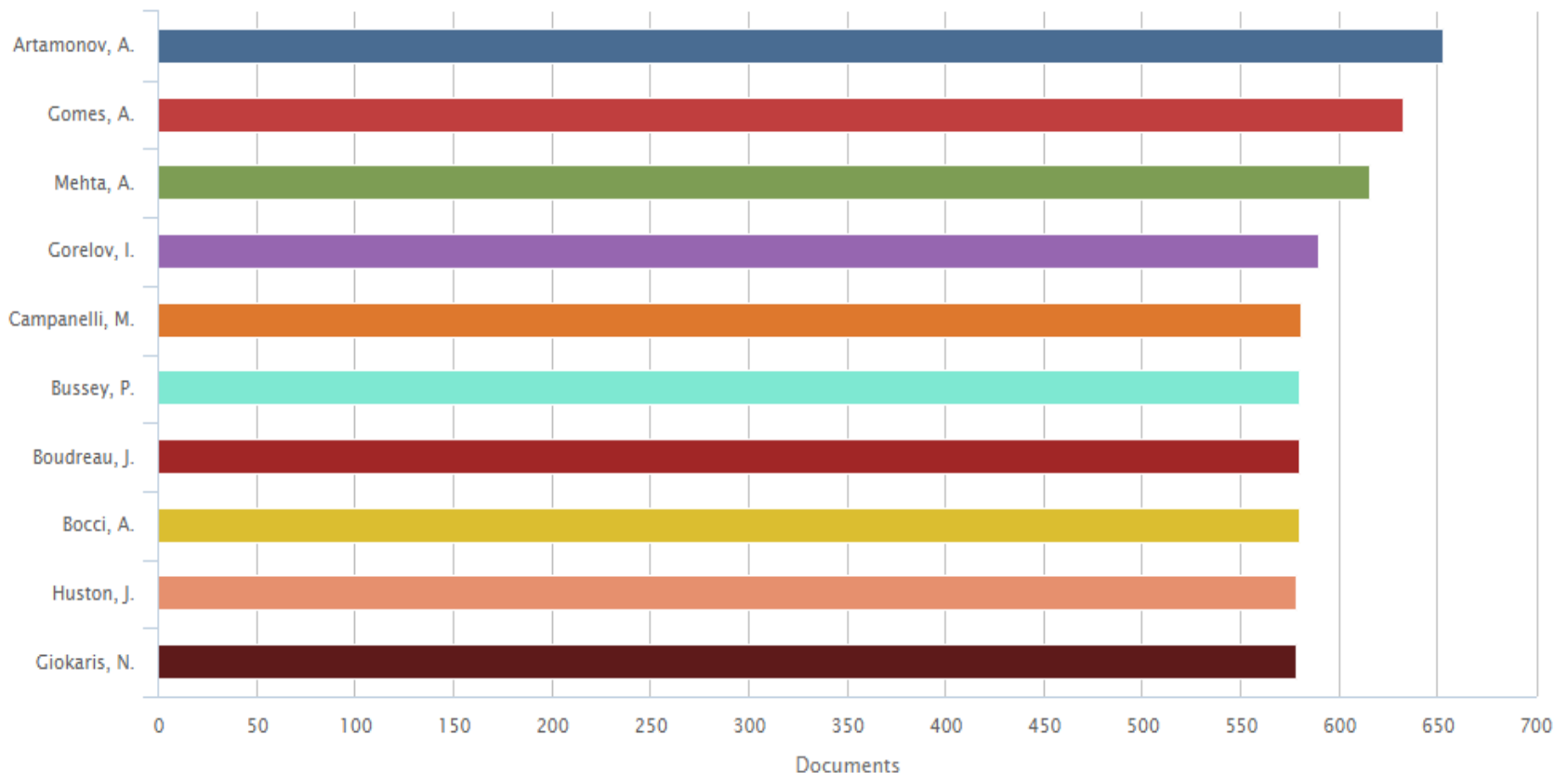
(1) Reviewing and understanding metrics

- Three year citation project between QUB and Elsevier (Sept 2012-Sept 2015)
 - Deepen awareness and understanding of citation indicators
 - Exploring links between citations and league tables
 - Develop evidence based action plans to help improve citation impact
- Focus on:
 - Understanding of bibliometric indicator methodology
 - Analysing QUB performance vs peer institutions (SciVal)
 - Undertaking a ‘deep dive’ analysis of initial group of three departments (SciVal)

Reviewing and understanding metrics

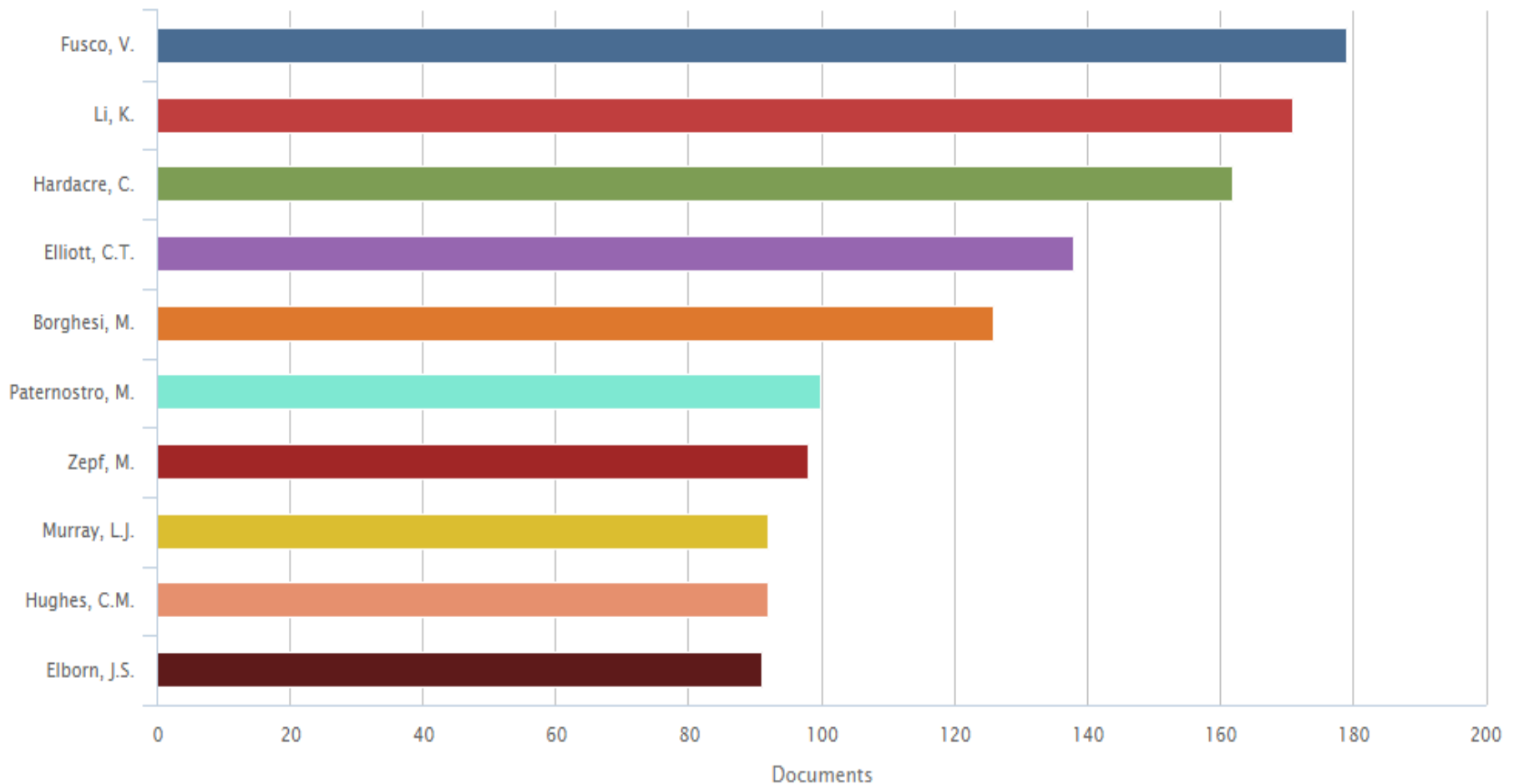
Competitors have larger research output and stronger co-author networks

Publications by author (2010-15) University of Liverpool



Reviewing and understanding metrics

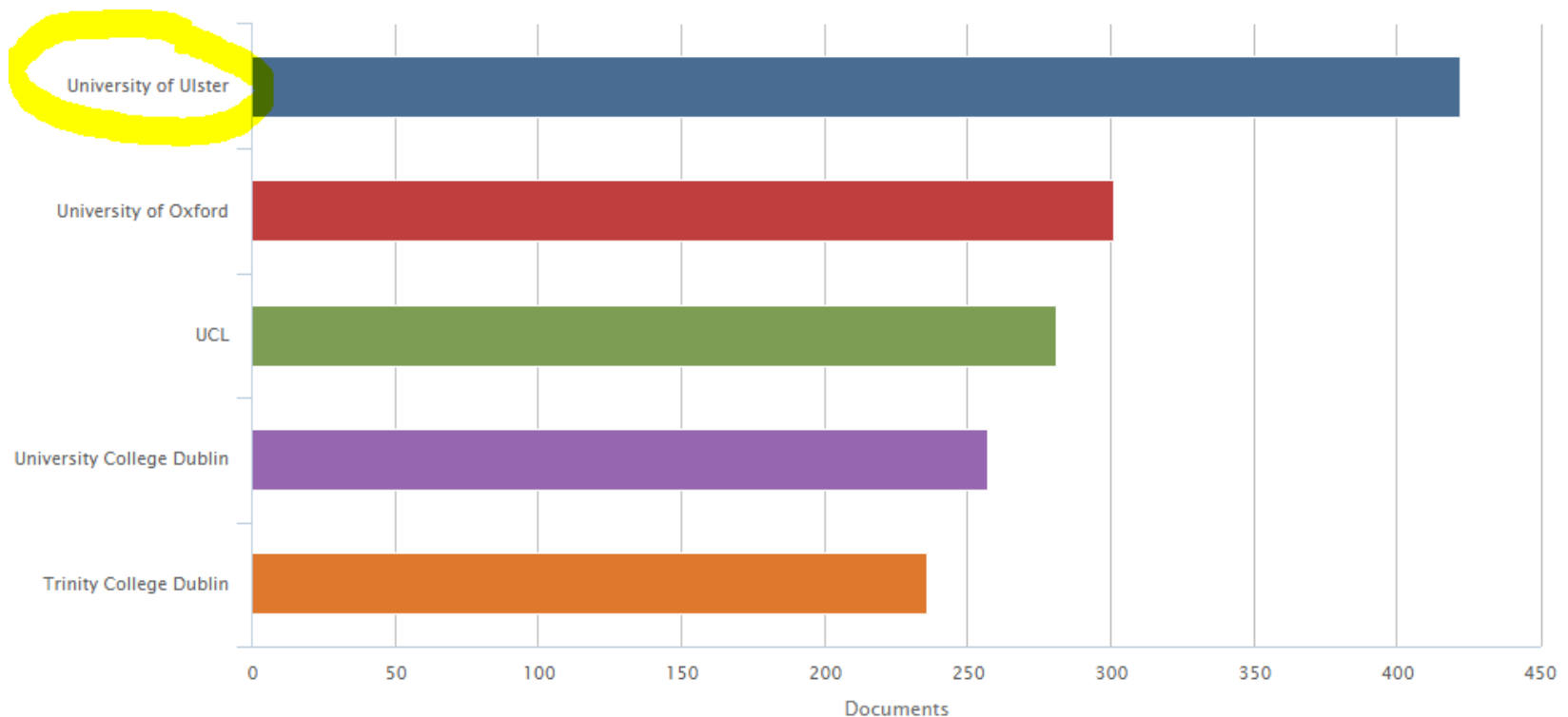
Publications by author (2010-15) Queen's University of Belfast



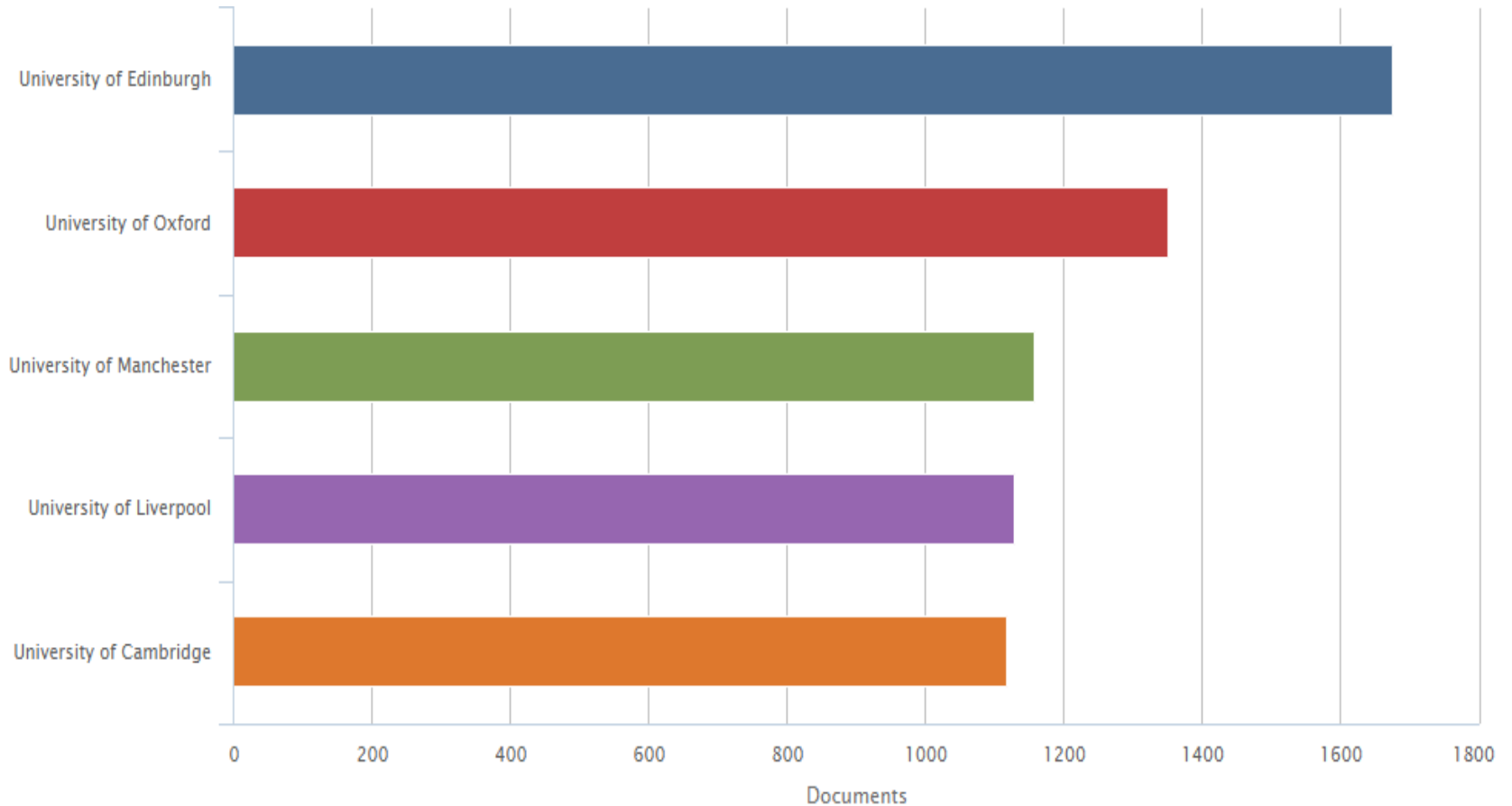
Reviewing and understanding metrics

- QUB performs well regarding international collaboration but;
 - Strength and depth of international collaboration
 - Strong concentration with regional institutions

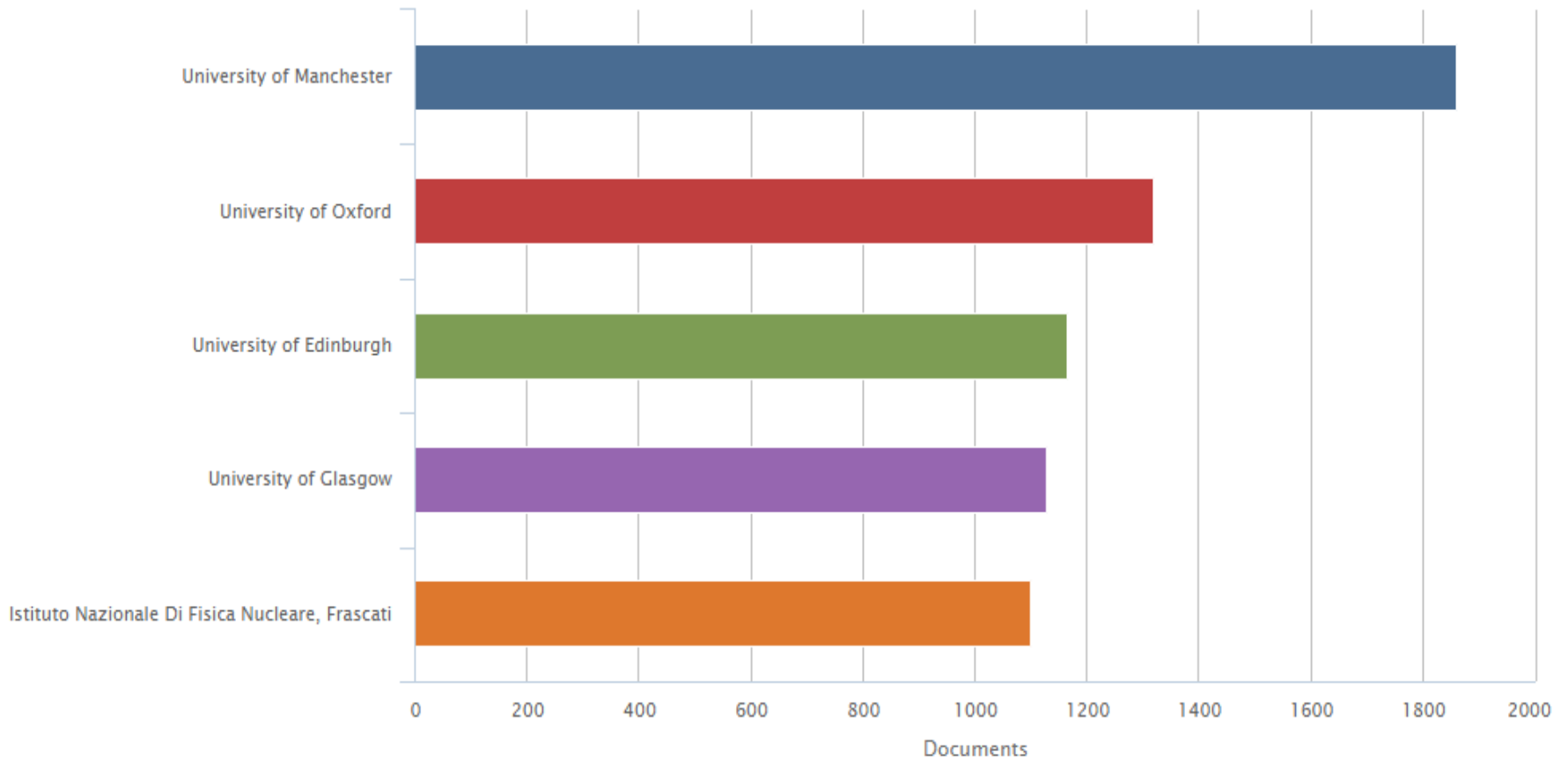
Publications by affiliation (2010-15) Queen's University Belfast



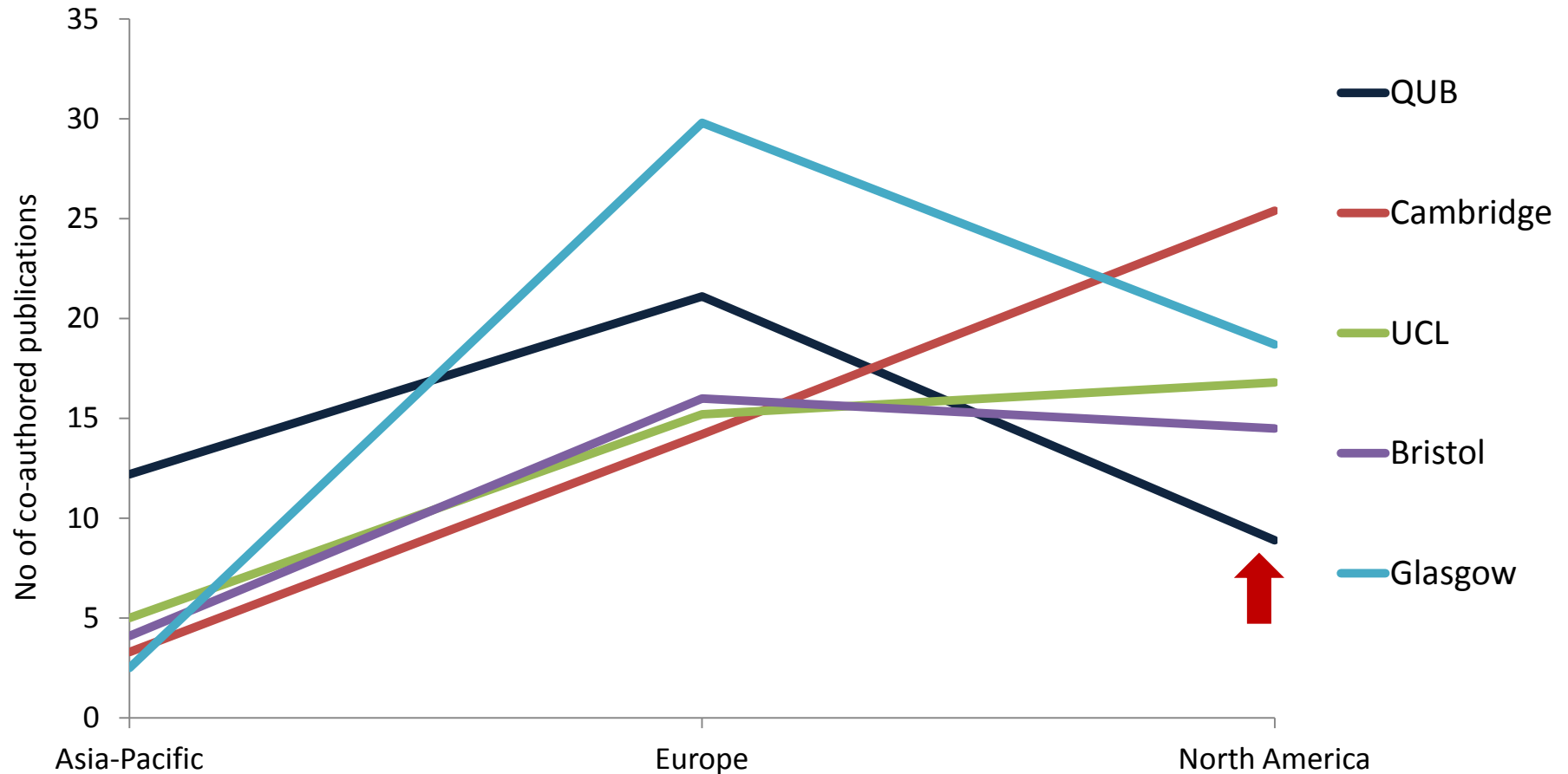
Publications by affiliation (2010-15) University of Glasgow



Publications by affiliation (2010-15) University of Liverpool



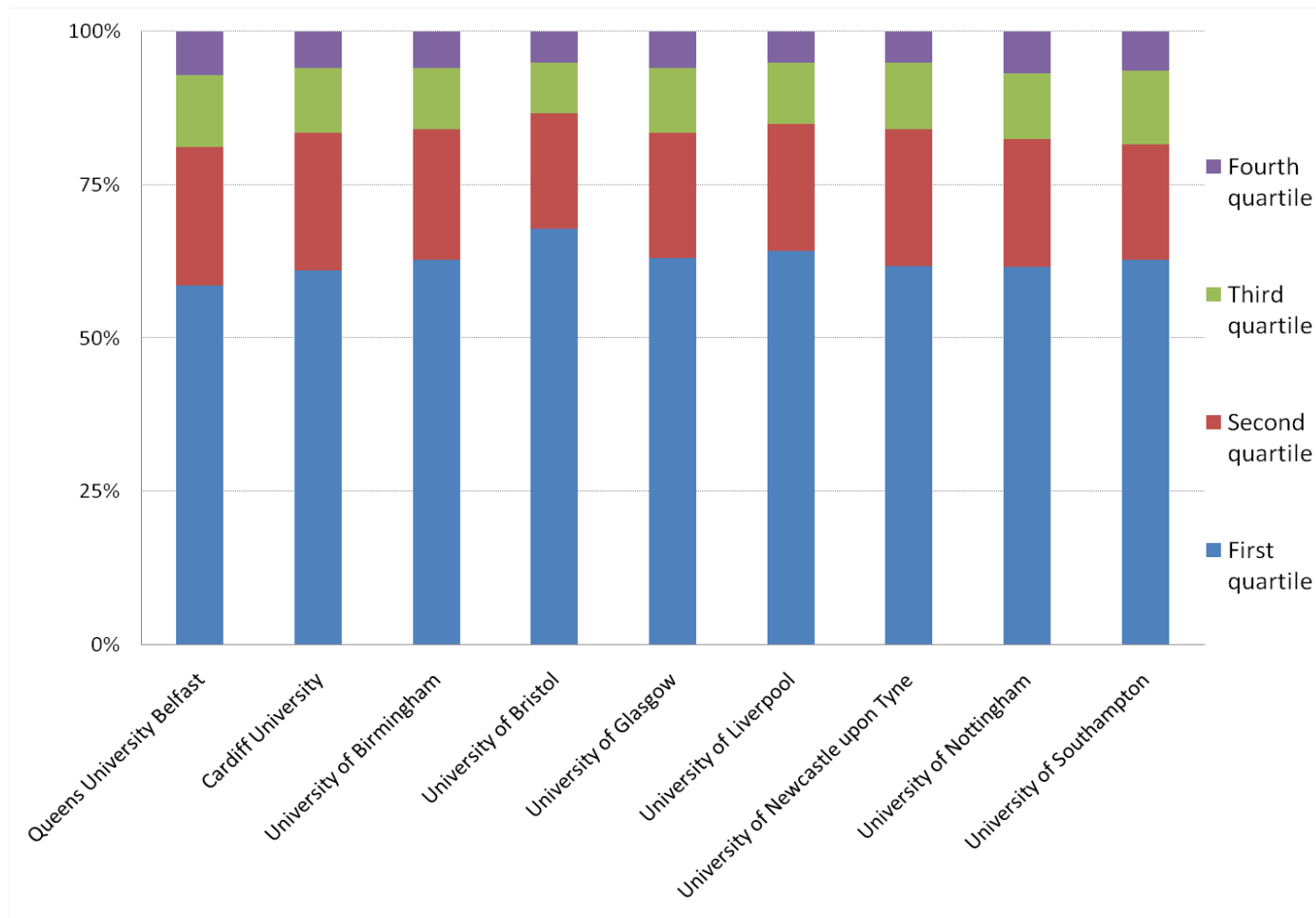
Geographic network of co-authors, School of Psychology




Reviewing and understanding metrics

- Lower proportion of publications in the top quartile of journals

| Institution | First quartile | Rank |
|-------------|----------------|------|
| Bristol | 68% | 1 |
| Liverpool | 64% | 2 |
| Glasgow | 63% | 3 |
| Southampton | 63% | 4 |
| Birmingham | 63% | 5 |
| Newcastle | 62% | 6 |
| Nottingham | 62% | 7 |
| Cardiff | 61% | 8 |
| Queen's | 59% | 9 |

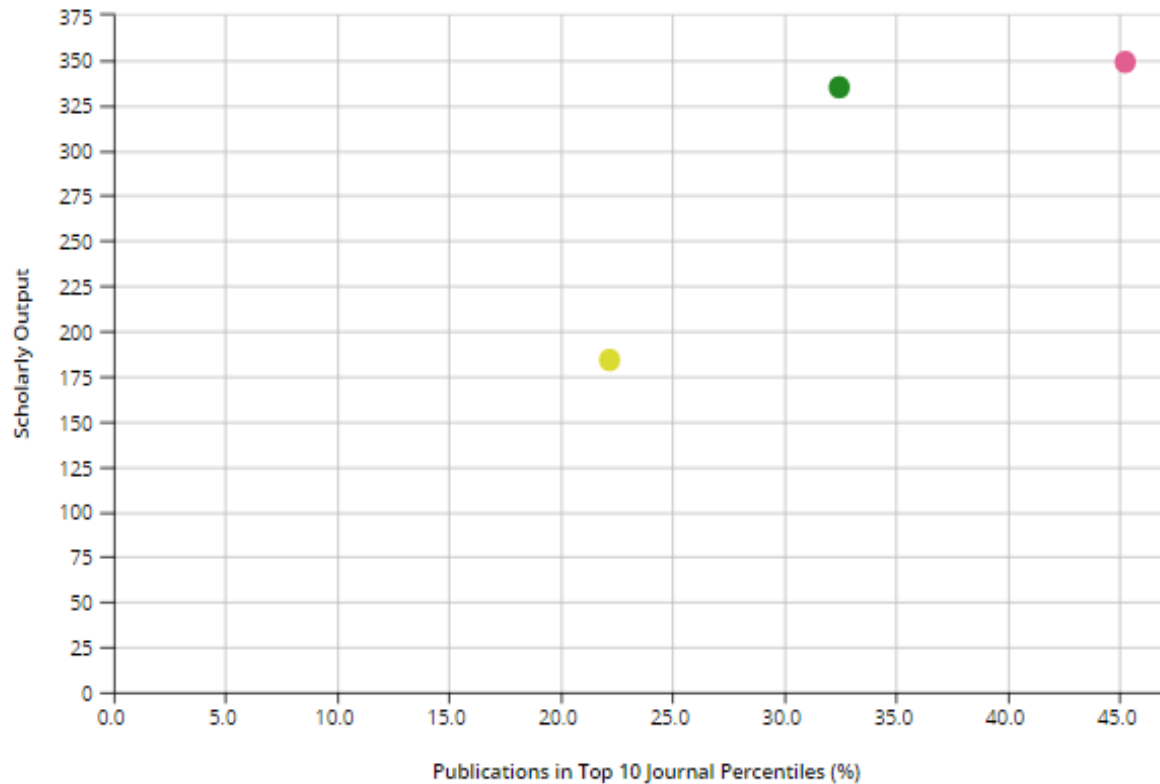


Reviewing and understanding metrics








Scholarly Output 

Publications in Top Journal
Percentiles 

[View a third metric](#)



Researchers and Groups

-   High Frequency Electronic Circuits/Antennas
-   High Performance and Distributed Computing
-   Wireless Communications Systems
-  [View list of journals for the selected Researchers and Groups](#)

Reviewing and understanding metrics

| Journal | SNIP ▼ | High Frequency Electronic Circuits/Antennas | High Performance and Distributed Computing | Wireless Communications Systems |
|--|--------|---|--|---------------------------------|
| IEEE Communications Magazine | 4.980 | 0 | 0 | 3 |
| IEEE Transactions on Parallel and Distributed Systems | 3.892 | 0 | 1 | 0 |
| IEEE Transactions on Industrial Informatics | 3.676 | 0 | 0 | 1 |
| IEEE Wireless Communications | 3.568 | 0 | 0 | 1 |
| IEEE Transactions on Circuits and Systems for Video Technology | 3.447 | 0 | 0 | 1 |
| IEEE Transactions on Audio, Speech and Language Processing | 3.430 | 0 | 0 | 3 |
| IEEE Journal on Selected Topics In Signal Processing | 3.361 | 0 | 0 | 2 |
| IEEE Micro | 3.236 | 0 | 1 | 0 |
| IEEE Journal on Selected Areas In Communications | 3.196 | 0 | 0 | 5 |
| ACM Transactions on the Web | 3.020 | 0 | 0 | 1 |
| IEEE Transactions on Signal Processing | 2.921 | 1 | 0 | 6 |
| IEEE Transactions on Terahertz Science and Technology | 2.884 | 1 | 0 | 0 |
| IEEE Transactions on Multimedia | 2.836 | 0 | 0 | 1 |
| IEEE Computer Architecture Letters | 2.790 | 0 | 1 | 0 |
| Formal Aspects of Computing | 2.754 | 0 | 2 | 0 |
| ACS Nano | 2.647 | 0 | 1 | 0 |

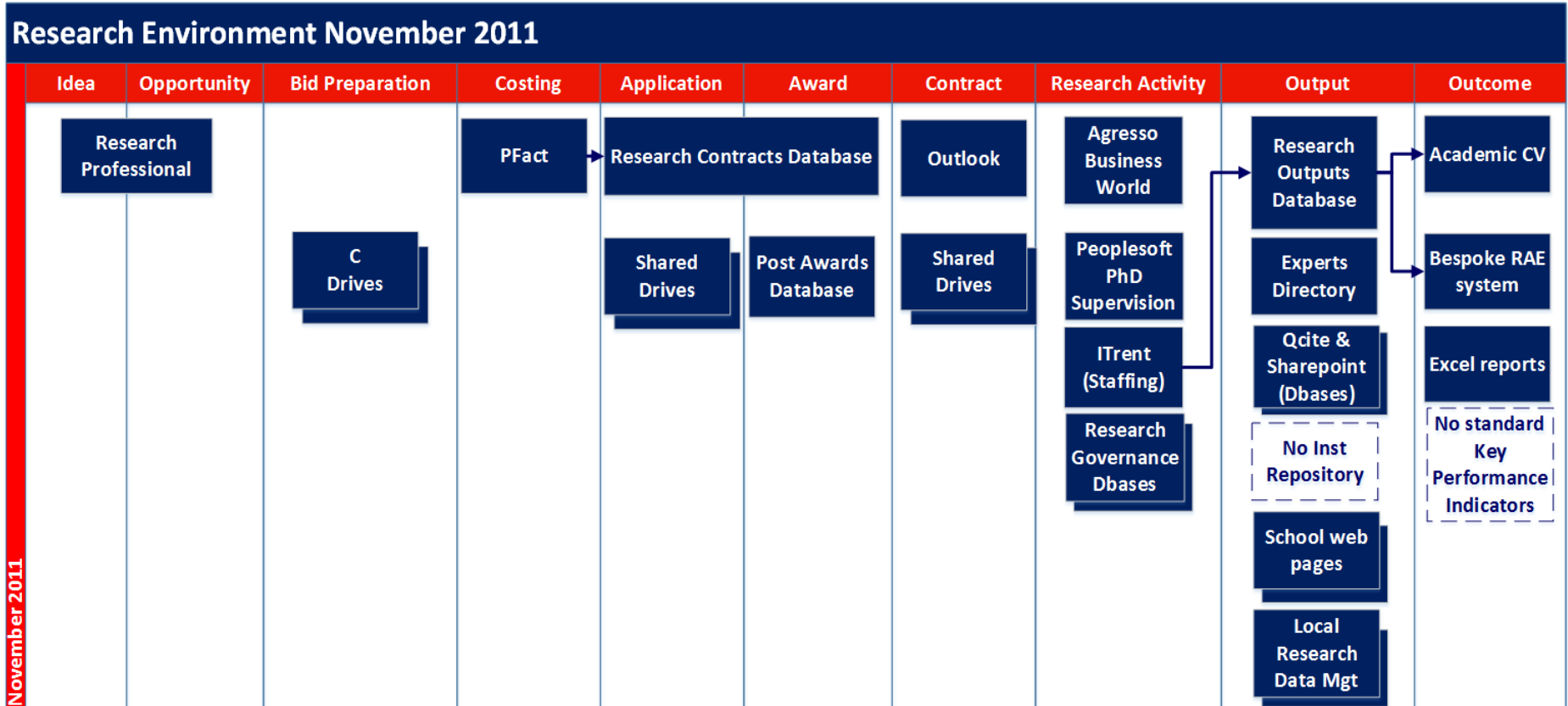
Reviewing and understanding metrics

- Publication decisions – getting the balance right:
 - Peer review vs professional / practitioner
 - Original research vs review
 - Quality of journal publication vs quantity and pressure to publish
- The nature of the research topic and size of readership
 - are we working in the right areas? but difficult to predict future hot topics

Reviewing and understanding metrics

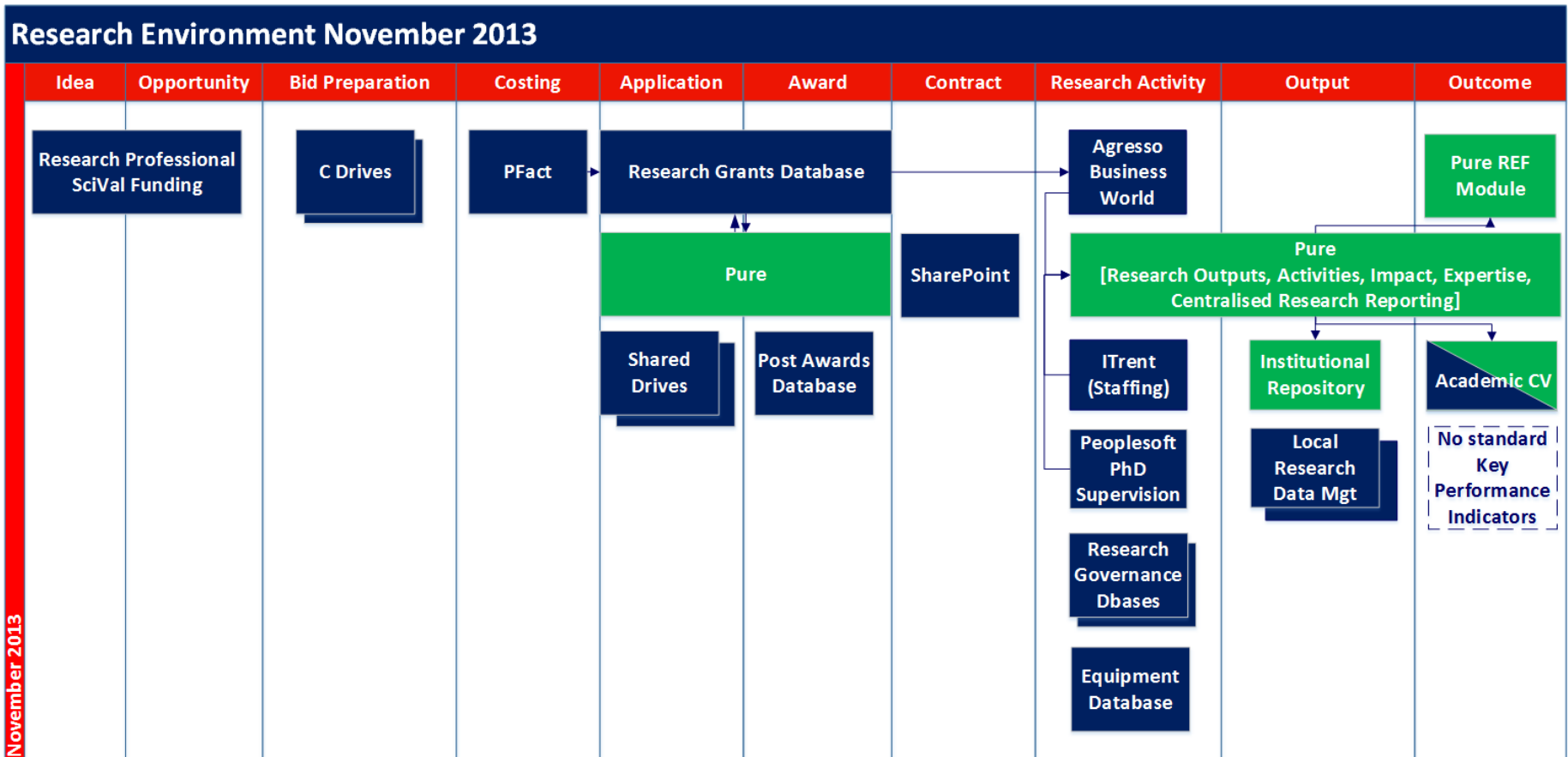
- Buy in and communication from senior academic staff – driving action from data
 - Developed targeted ‘Publication Action Plans’
 - ‘Roll out’ of bibliometric analysis via SciVal to other Schools
 - Aiming for upper centile journals and Mentoring plans for early career researchers
 - Reflections on citations at appraisal
 - International ‘placement’ schemes to foster broader collaborations
 - Dissemination and discoverability

(2) Developing information systems



- Disjointed systems (little integration)
- Siloed data, no holistic picture of research
- No Institutional Repository
- Bespoke systems
- Some ageing infrastructure
- Duplication of systems and data

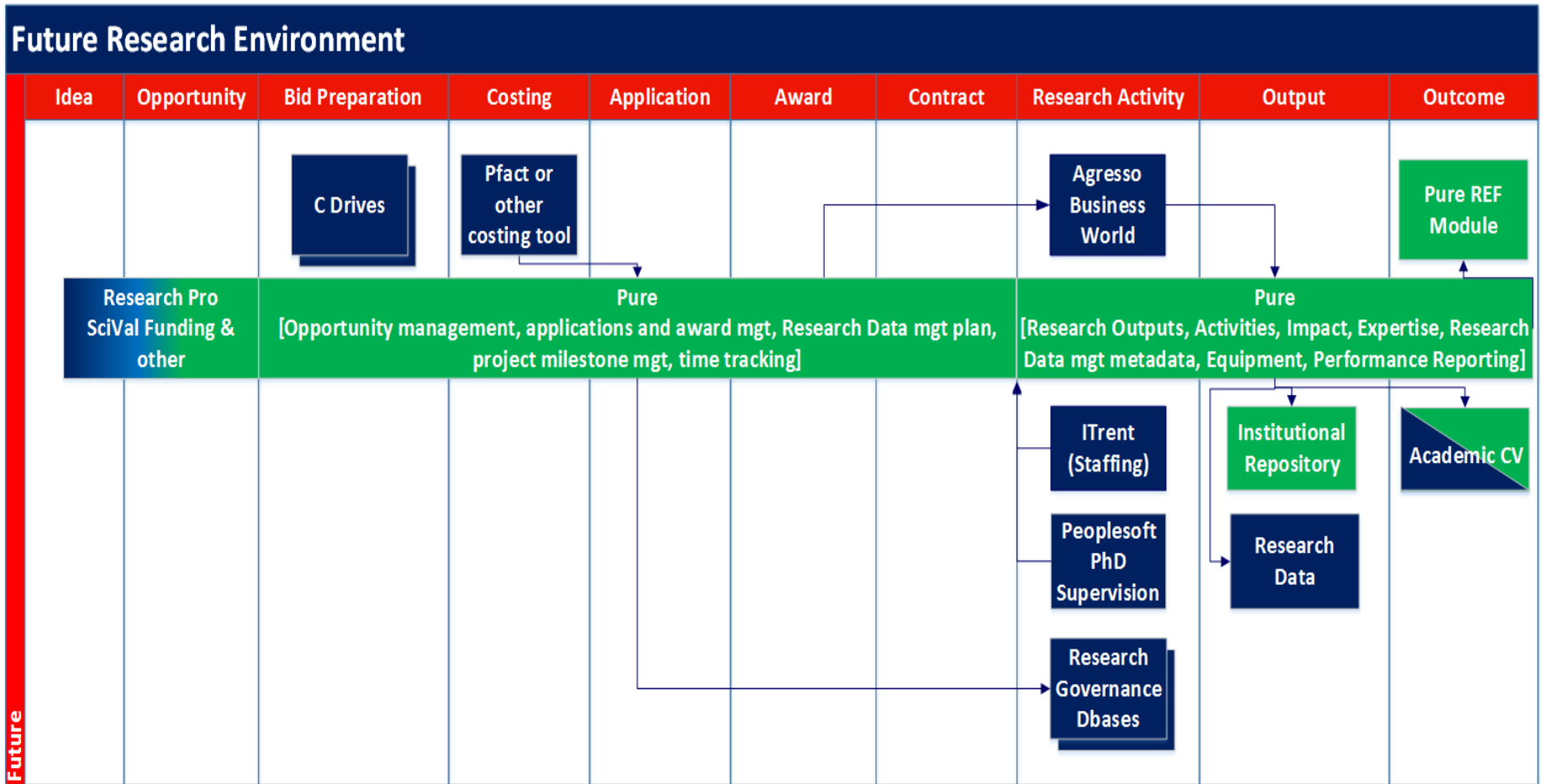
Developing information systems



- Much improved data management
- One set of reference data (can be reused


- More connected systems
- More holistic picture of research
- Institutional Repository launched

Developing information systems

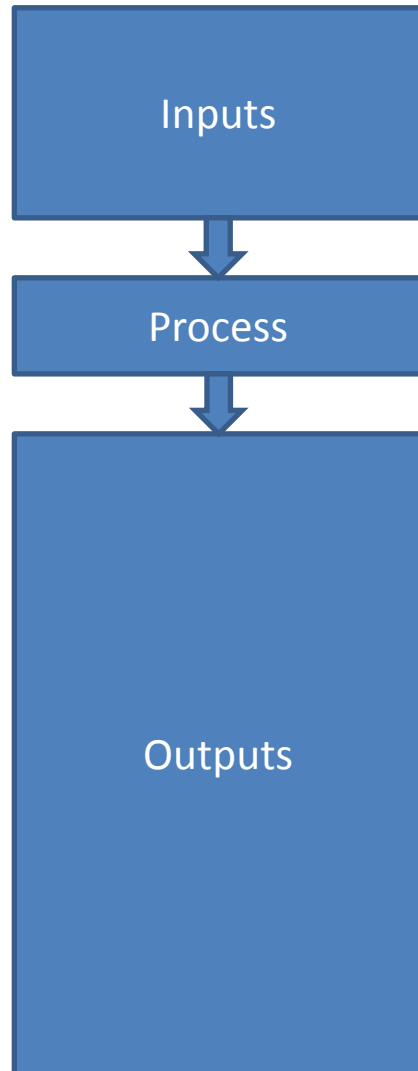


(3) External Benchmarking

- Project ‘Snowball’
 - Metrics defined and **agreed by partner Institutions**
 - Ambition to measure performance across **inputs, process and outputs**
 - Clearly **agreed data definitions** to build consistency and transparency
 - Benchmarking against peers **open to those who participate**
 - Aspiration for metrics to become **global standards**

|  | <i>Research Inputs</i> | <i>Research Process</i> | <i>Research Outputs</i> |
|--|---|---|---|
| Research Grants | Research applications Research awards <ul style="list-style-type: none"> • Price / overhead recovery • Philanthropy | Research income <ul style="list-style-type: none"> • Space utilisation • Staff recruitment • Start/ end date slippage | Publications & citations Collaboration (co-authorship) Esteem measures <ul style="list-style-type: none"> • Socio-economic impact |
| Post-Graduate Education | PGR volumes <ul style="list-style-type: none"> • PGT volumes • International PGT volumes • UG to PG conversion rates | Post-graduate experience <ul style="list-style-type: none"> • Contact time • Facilities | Completion rates <ul style="list-style-type: none"> • Alumni / destination of leavers • Skills development (impact) |
| Enterprise Activities | Industrial income <ul style="list-style-type: none"> • Industry engagement | <ul style="list-style-type: none"> • Contract turnaround times • Industry research income | Patenting Licensing income Spin-out generation / income <ul style="list-style-type: none"> • KTPs numbers • Consultancy income |
| Denominators <ul style="list-style-type: none"> • “Slice and dice” • Normalise for size | (Number of) People <ul style="list-style-type: none"> • Researcher, authors • Principal / co-investigators • Academic staff by category • Research assistants • PGR Students • UG / PGT Students • Post doctoral staff • Support staff | Organisations <ul style="list-style-type: none"> • Institution • Faculty / department • Cost Centre • Unit of Assessment • Groups / clusters • Funders by type • Centres / institutes | Themes / Schemes <ul style="list-style-type: none"> • Standard grants • Strategic initiatives (Calls) • Grand Challenges • Subject areas • Keywords |

Establishing a performance framework



- Total applications and awards (no and value)
- Applications and awards by quality funders (e.g. EU)
- % of awards above set Faculty threshold

- Value of research income

- Scholarly output
- Number of citations per output
- % of papers in the top 10% percentiles
- % of research outputs in top tier journals
- % of papers including international co-authors
- No of awards, national / international honours and elections to learned societies
- No of Postgraduate Research Students completed

Any changes made will immediately affect all users with access to this dashboard

Apps by School of Med, Dent & Biomed PIs

| Managing organisational unit | Count |
|---|-------|
| School of Medicine, Dentistry and Biomedical Sciences | 412 |

Apps by Sch of Med, Dent & Biomed by HESA Type

| Fundings > Classification | Count |
|--|-------|
| BIS Research Councils, The Royal Society, British Academy and The Royal Society of Edinburgh | 68 |
| EU-based charities (open competitive process) | 1 |
| EU government bodies | 42 |
| EU industry, commerce and public corporations | 4 |
| EU other | 3 |
| Non-EU-based charities (open competitive process) | 10 |
| Non-EU industry, commerce and public corporations | 3 |
| Non-EU other | 7 |
| Other sources | 1 |
| UK-based charities (open competitive process) | 183 |
| UK central government bodies/local authorities, health and hospital authorities | 81 |
| UK industry, commerce and public corporations | 9 |

Apps by Sch of Med, Dent & Biomed PIs > £500K

| Fundings > Classification | Count |
|--|-------|
| BIS Research Councils, The Royal Society, British Academy and The Royal Society of Edinburgh | 14 |
| EU government bodies | 15 |
| Non-EU other | 1 |
| UK-based charities (open competitive process) | 17 |
| UK central government bodies/local authorities, health and hospital authorities | 17 |
| UK industry, commerce and public corporations | 1 |

Awards to Sch of Med, Dent & Biomed PIs

| Managing organisational unit | Count |
|---|-------|
| School of Medicine, Dentistry and Biomedical Sciences | 138 |

Awards to Sch of Med, Dent & Biomed PIs by HESA Type

| Fundings > Classification | Count |
|--|-------|
| BIS Research Councils, The Royal Society, British Academy and The Royal Society of Edinburgh | 9 |
| EU government bodies | 5 |
| EU industry, commerce and public corporations | 2 |
| EU other | 1 |
| Non-EU-based charities (open competitive process) | 3 |
| Non-EU industry, commerce and public corporations | 1 |
| Non-EU other | 4 |
| Other sources | 1 |
| UK-based charities (open competitive process) | 61 |
| UK central government bodies/local authorities, health and hospital authorities | 45 |
| UK industry, commerce and public corporations | 6 |

Awards to Sch of Med, Dent & Biomed PIs > £500K

| Fundings > Classification | Count |
|--|-------|
| BIS Research Councils, The Royal Society, British Academy and The Royal Society of Edinburgh | 3 |
| EU government bodies | 1 |
| UK-based charities (open competitive process) | 3 |
| UK central government bodies/local authorities, health and hospital authorities | 7 |

Awards to Sch of Med, Dent & Biomed PIs £50K–£500K

Academics Employed by School

| Organisations > Student type | Count |
|------------------------------|-------|
| Academic | 151 |

No. of research outputs in journals

| Journal > Journal | Count |
|------------------------------|-------|
| PLoS One | 22 |
| Oncotarget | 11 |
| Thorax | 10 |
| European Respiratory Journal | 8 |
| Journal of Cystic Fibrosis | 8 |
| Organic Letters | 7 |
| Journal of Clinical Oncology | 7 |
| British Journal of Radiology | 7 |
| Chest | 6 |
| Cancer Research | 6 |

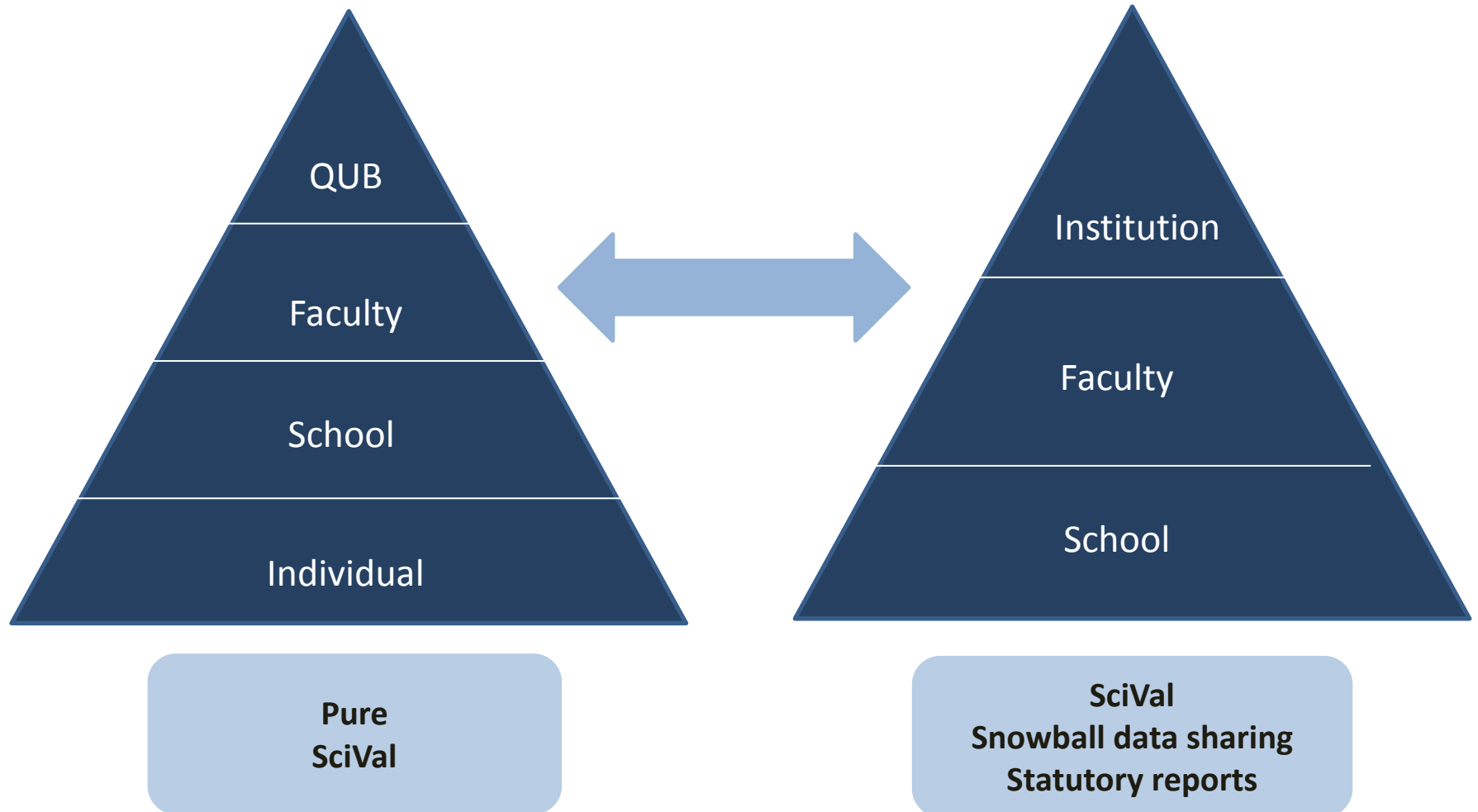
Scholarly Output

| A snowball metric | 2014 | 2015 |
|-------------------|------|------|
| Number of outputs | 606 | 564 |

Citation count

| A snowball metric | 2014 | 2015 |
|-------------------|------|------|
| Scopus | | |

Internal and external benchmarking



Queen's University THE rankings position

