

# REF OUTPUTS: BEHIND THE SCENES

REF is all about research. But, behind the scenes there is a phenomenal amount of work that goes on to ensure the research outputs can be submitted for assessment – and are submitted at their best.

Central to this are three teams: the Research Performance team from Research and Innovation Services (RIS), the Library's ePrints and Research Engagement teams, and iSolutions.

The teams are responsible for leading the maintenance and complex upgrades of the Pure research information system, ensuring research outputs comply with open access policies, maintaining the vast institutional research repository, bibliographic checks, investigating bibliometrics, and gathering all physical outputs without digital object identifiers (DOIs), such as books and monographs.

The story begins with a 12-strong team in the Library.

Steven Vidovic, Open Research Development Manager at Hartley Library, explained: "Our preparation starts as soon as a paper is intended to be published. We are reviewing articles all the time as authors are submitting them. We have to assume that every output is potentially REF-able."

It is the Library's responsibility to ensure research outputs meet open access requirements, which involves liaising with authors to ensure the accepted manuscript is in ePrints, the institutional research repository.

This has been a major difference between REF 2021 and the previous REF, in 2014.

Isobel Stark, Research Data Development Manager, said: "The workload for this REF was so much greater, which is good because it's all improving our open research and making sure we have a good institutional record of our research outputs. It's important for us as an institution because we have always been a leader on open access to research, both in the UK and internationally."

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**Steven Vidovic**  
Open Research Development Manager

The Library team has also conducted thousands of bibliographic checks, checking page numbers and version numbers. Research Engagement Librarian, Michael Whitton, implemented an automated system to identify outputs that are available for

the REF return and if they require further bibliographic checks. Michael has also led on the bibliometrics analysis to help academic colleagues decide which outputs to select.

Collecting and – due to COVID-19 – quarantining hard copies of books and other outputs without DOIs, ready to deliver them to Research England, was also undertaken by the Library, working with Gemma Fitzsimmons, Research Information Analyst from RIS.

The Library is also involved every time there is an upgrade to Pure, the University's research information system, because Pure integrates with ePrints. "It's been a great team effort," added Steven.

## **Pure takes charge**

This year was the first time the University has used Pure to handle its REF submission.

Omar Salim, Research Information Manager from RIS, who manages Pure for the University, said: "We invested in Pure back in 2015 because there was a need for a central research information system, not only to handle the depositing of outputs and datasets but also to surface and connect to other data that previously was not easily accessible to our academic colleagues, such as Awards and Projects from our Finance system, and



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outputs to be returned was 2.5 times the full time equivalent of that number of staff. Additionally, each person had to have at least one output and a maximum of five outputs attributed to them. It quickly became a very complex process to find the optimal REF submission taking all outputs and co-author combinations into consideration.

“I worked with the UOAs to collate internal review scores and Professor Fliege developed a mathematical model to deliver an optimised submission profile for each UOA. The output of the model was used by the UOAs to decide on the best submission possible while following the REF rules. It proved an invaluable resource, especially for the larger UOAs.”

The REF submission deadline has now passed, but the behind-the-scenes work doesn't end there. In the nine months post-REF, the team will be handling audit queries from Research England, including evidencing staff contracts, when outputs were published, or queries from REF panel members.

Omar added: “Pure is constantly changing and evolving, so in order to handle these audit queries, we took a snapshot of Pure's data on 31 March 2021 which will provide a permanent record of Pure as it was on the day we made our REF submission.”

Postgraduate Supervision data from our Student system.

“The other big advantage is that it comes with a dedicated REF module, within which we could assess, hone and submit our REF data to Research England. It's far less labour-intensive than in previous years when the University managed its REF submission without this type of system.”

In the lead-up to REF, there were several upgrades to Pure that required coordination between the Pure team, the Library and iSolutions.

Stephen Perry, IT Manager from iSolutions, explained: “The Pure software is central in a web of interfaces to other systems, and the service relies on all components communicating together. All software must be updated regularly to provide improvements in security, performance, functionality, and continued supplier support. As REF drew

closer, the rate of Pure upgrades increased, and we responded by applying these quickly without compromising on testing and quality. To do this, we have three environments – development, pre-production and production. We move upgrades through all three in turn, working closely with Omar and Gemma, testing and documenting the process so the production update goes as smoothly as possible.”

#### **Drilling the data**

Preparing data and establishing the best submission profile for each Unit of Assessment (UOA) in readiness for the University's REF submission was another silent but huge task. Gemma worked with Professor Joerg Fliege, Head of Operational Research within Mathematical Sciences, on this.

Gemma said: “REF 2021 had different rules to previous assessments. There was a set number of eligible staff that had to be returned for each UOA, and the number of

*The Submission*

began with a folder of images: EMBRYO;  
INFLAMED ELBOW; GALLBLADDER DISEASE.

I was on the sofa, blanketed, digesting  
the heavy carb of a report.

An official body sent us a meme of a mother cat, carrying  
her kitten by the scruff of its neck, before dropping it  
into the wastepaper bin.

Cat or the kitten?

With the NOSTALGIA playlist on repeat,  
I'd rubbed my forehead shiny, like the statue of a saint.

ANTIMICROBIAL COPPER; AIRCRAFT DESIGN;  
WOMEN IN FILM.

It is the morning of the 25th of October and to my cornflakes  
I whisper, *once more unto the breach, dear friends*.

In the fridge, a bag of carrots, far gone in their unnecessary plastic.  
I bite the edge, carry them swinging from my teeth to the bin.  
I let them fall and thud.

I AM THE MOTHER CAT.  
I must not waste another carrot.

WINE CRITICS; THE MUSCLE HEALTH OF ASTRONAUTS;  
LONG-DISTANCE LIGHT COMMUNICATION.

My long-distance grandfather, poorly lit, offers  
the top of his head only to the camera.  
*Hello?* He says. *Hello.* I say back. *What?* he asks.

At 4am I send Peter Staniczenko an empty message,  
the subject line reads: HOW LONG DO WE LIVE?  
A more functional question, I decide, than WHY?

GENOCIDE, INDETERMINATE PRISON SENTENCE,  
EXTREME SEA LEVEL.

I stare into my dirty bathwater and think IMPACT.

*Dear Gem, I write, please find attached – my worn-out face,  
degraded self-esteem, a monograph on IMPERIAL ROME.*

RARE EYE DISEASE, PENILE COMPRESSION CLAMP;  
THE BENEFITS OF DANCE.

*Dear Gem, I write, today I ate a banana and felt good  
about my choices. The suitcases at the airport really are  
moving more efficiently than before.*

GUILT AND SHAME; SKIN HEALTH.

Spring came through today like a can of diet-summer,  
I squinted as I sipped it. Yes.

*Peter! Gem! How much we know!*

I AM THE MOTHER CAT.