DORA: Summary of Research Achievements

A guide to highlighting individual contributions to research as alternatives to traditional metrics

As a researcher, it is important to be able to effectively convey your research achievements to a variety of bodies, such as potential funders and future employers. This document seeks to provide guidance on how to summarise individual research achievements and contributions to research, by providing some background and links to further information as alternatives to traditional metrics. This guide is intended for PhD students, postdoctoral researchers and academic staff at SGUL.

What is DORA?

The San Francisco Declaration on Research Assessment (DORA) was designed to improve the ways in which outputs of scholarly research by individuals and institutions are evaluated, and to assess research based on its own merits, in particular reducing the reliance on journal impact factors (JIF).

- Link to more information: *https://sfdora.org/*

What is the purpose of this document?

One of the aims of the St George's DORA sub-committee is to provide researchers with examples for summarising their academic activity, to raise awareness of tools for recording/evidencing the full range of their contributions to high-quality scientific research on CVs and promotions applications. Here, we aim to provide specific guidance on incorporating your achievements and contributions to research, which may be relevant to research students and staff when summarising this information.

When might this information be useful?

This information may be useful when you are: updating your CV; applying for jobs; applying for promotion; applying for funding, e.g. if you are seeking external funds to attend conferences or applying for research grants; applying for society membership.

What information is included in this document?

This document highlights important areas for consideration and provides links to further information. The matrix below lists the topics included, with an indication of their relevance to each career stage:

	PhD student	***Post-doc***	***Lecturer***	***Senior Lecturer***
1. Researcher identifiers and online profiles	■	■	■	■
2. Publications / outputs	■	■	■	■
3. How to sell your work in 50-100 words	■	■	■	■
4. Research funding	□	□	■	■
5. Teaching and research students	□	□	■	■
6. Public engagement	■	■	■	■
7. Esteem indicators	☐	□	■	■
8. Other contributions	□	■	■	■

Key: ■ *Highly relevant* □ *Somewhat relevant* ☐ *Not relevant*

Version 1.4 (CB, MH, LS: 18/12/2020)

1. Researcher identifiers and online profiles:

Researcher profiles can be used to establish a clear online presence and develop research networks. Online profiles increase your research impact by disseminating your work and, importantly, provide a space to build your own research(er) identity.

- **Google Scholar**
  Google Scholar accounts are freely available for researchers with an academic affiliation. You can use Google Scholar Citations to list your publications, identify who is referencing your work and track your personal citation metrics (see '**Citation count**' below). The database also provides recommendations of recent articles within your research area that may be of interest.
  - Google Scholar homepage: *https://scholar.google.com/*

- **Networking sites**
  Professional networking sites such as Academia.edu and ResearchGate are specifically designed for scientists and/or academics to facilitate collaboration and sharing of research papers. They are privately-owned but membership is typically free. Note: if uploading full-text PDFs of your outputs, you must check for any publisher copyright restrictions before sharing publicly.
  - Academia.edu homepage: *https://www.academia.edu/*
  - ResearchGate homepage: *https://www.researchgate.net/*
  - You can check article access and usage rights here: *https://www.howcanishareit.com/*

- **Personal SGUL webpage**
  All research staff at St George's are now encouraged to develop their own SGUL webpage. The template has a fixed set of headings to choose from, but the content can be tailored to your own experience and typically includes an overview of your research and a short biography. Publications can be auto-populated from your CRIS account (see '***Open access (OA) publishing***' below). You are also able to add links to your social media profiles (Twitter, Facebook, LinkedIn).
  - All SGUL profiles: *https://www.sgul.ac.uk/profiles*
  - How to set up or edit your own profile: *https://www.sgul.ac.uk/about/our-professional-services/ercm/communications-advice-for-staff/updating-the-st-georges-website/staff-profiles/how-to-edit-your-profile*

In addition, various organisations and publishers have now developed systems of unique researcher identifiers, to overcome author name ambiguity and ensure that research outputs are attributed to the correct contributor. Some examples of unique researcher identifiers are detailed below:

- **ORCID identifier**
  The Open Researcher and Contributor ID is a freely available, non-proprietary registry of unique identifiers for researchers. Your unique ORCID account can also be easily linked to other systems (e.g. manuscript submission sites) to ensure your research outputs, grants and/or reviews are correctly attributed to you. All researchers at SGUL are highly encouraged to create an ORCID profile and to ensure it is publicly visible and regularly updated.
  - ORCID homepage: *https://orcid.org/*
  - SGUL guidance on how to use ORCID: *https://cris.sgul.ac.uk/information.html*
  - How to connect an ORCID iD to your Je-S account (UKRI): *https://www.ukri.org/apply-for-funding/how-we-make-decisions/get-recognition-as-a-ukri-reviewer/*

❖ **ResearcherID (Web of Science)**

ResearcherID has now been integrated with Publons (see '**Peer review**' below) to provide an author profile service. Similar to ORCID, a unique identifier is allocated to each registered author and is also linked to your Web of Science account to track individual articles and citation metrics.

- ResearcherID homepage: *https://www.researcherid.com/*

❖ **Scopus**

The Scopus citation database includes automatically generated identifiers for each author, to facilitate matching of authors with their papers and citation metrics. However, duplicate profiles are often generated for the same author. Author profiles are free to search, but an academic subscription is required to make any edits to your own profile (or you can contact them directly).

- Scopus homepage: *https://www.scopus.com/*

2. Publications / outputs:

❖ **Original research articles**

All original research articles on which you are a named author, not necessarily first author, should be included as part of your research achievements. Typically, research articles are presented in chronological order (most recent first) and should include a list of all authors with your own name highlighted. For research articles with multiple authors (20 or more), it is acceptable to list the first few author names followed by '*et al*'. However, to illustrate your own contribution to an article, it is good practice to provide an indication of the total number of authors:
e.g. Potter HJ, Weasley RB, Granger HJ, … [18 authors] …, Dumbledore APWB.

To reduce the reliance on JIF alone, alternative metrics and article information may be used to emphasize the impact of your research. No single metric is ideal so you need to decide which are right for you. New metrics are being developed all the time, but only a few are taken up by the research community because of their usefulness, accessibility and accuracy. For further information on publication metrics see this link: *https://www.sgul.ac.uk/about/our-professional-services/information-services/library/researchers/publication-metrics*

Some useful examples include:

- ***Altmetric Attention Score*** (an indicator of the popularity for your research article online). This score combines mentions in public policy documents, mainstream news, patents, social media networks, blogs and references in Wikipedia, amongst others. Each section of the donut is colour-coded, providing an indication of where the article has received most attention. The links below provide more information about the colours and how to use the score:
  - *https://www.altmetric.com/about-our-data/the-donut-and-score*
  - *https://www.altmetric.com/blog/the-altmetric-score-is-now-the-altmetric-attention-score*
- ***Citation count*** (the number of times your research article has been cited). This will vary between databases, but notable examples are Google Scholar, Scopus and Web of Science. Citation counts are also used to calculate an individual author's *h*-index (see '***H-index***' below). Note: citation count may also provide an indicator of the ranking of your article in the context of other articles in the same research field. Web of Science collated data for the Research Excellence Framework 2021 (but this will not be freely available longer term):
  - *https://www.ref.ac.uk/guidance/citation-and-contextual-data-guidance/*

- ***CRediT taxonomy*** (a summary of individual author contributions to the research article). The Contributor Roles Taxonomy includes 14 distinct roles that can be used to describe each author's specific contribution to a scientific scholarly output. For more information about CRediT taxonomy and how it can be applied, see the links below:
  - *https://casrai.org/credit/*
  - *https://www.cell.com/pb/assets/raw/shared/guidelines/CRediT-taxonomy.pdf*

- ***H-index*** (an author-specific measure of a scientist's individual productivity and impact). The 'h' number refers to the *h* number of publications that have been cited *h* number of times, e.g. an *h*-index of *10* denotes that the author has *10* papers with *10* or more citations. Any other papers with <10 citations are not counted (until the next paper reaches 11 citations). Note: as the *h*-index is based on citation count, this score will also vary across databases.

- ***Open access (OA) publishing*** (whether your research article is freely available to the wider public). Publishing articles with immediate open access typically requires a fee. However, like many universities, SGUL has a free-to-use institutional open access repository called St George's Online Research Archive (SORA). Researchers with a profile in SGUL's Current Research Information System (CRIS), which could be yourself or other SGUL co-authors, can make your papers available in SORA (email: sora@sgul.ac.uk; openaccess@sgul.ac.uk) :
  - Link to SORA: *http://openaccess.sgul.ac.uk/*
  - Open Access FAQs: *https://www.sgul.ac.uk/about/our-professional-services/information-services/library/researchers/open-access-publishing/open-access-publishing-faqs*

- ***PlumX metrics*** (an aggregate of information from five measures: Citations, Usage, Captures, Mentions, Social Media). These individual metrics are collated into a graphical "Plumprint" for each article. For more information, see the following links:
  - *https://plumanalytics.com/learn/about-metrics/*
  - *https://plumanalytics.com/interact/videos-and-tutorials/*

An example of how to convey meaningful metrics of your research article is demonstrated below:
***Reynolds CR**, Islam SA, Sternberg MJE. EzMol: A web server wizard for the rapid visualization and image production of protein and nucleic acid structures. J Mol Biol. 2018; 430:2244-2248*

- Altmetric Attention Score: 11
- 31 citations (Web of Science)
- My CRediT: Conceptualization, Methodology, Formal Analysis, Investigation, Resources, Writing – Original Draft Preparation, Visualization
- Open access: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5961936/

If you would like to learn more about publication metrics, the PowerPoint presentation below on 'Using publication metrics responsibly' provides an overview of their relative merits and issues for consideration when evaluating the quality of a journal, article or individual researcher:

- *https://www.sgul.ac.uk/research/our-impact/research-excellence-framework/ref-2021/documents/Using-publication-metrics-responsibly-17-Oct-2019.pptx*

The Library liaison team also provide free training on 'Citation metrics: an overview':

- *https://live-stgeorges-uni.cloud.contensis.com/about/our-professional-services/information-services/library/training/information-skills-workshops*

❖ **Other research outputs**

Research outputs include any contributions to the wider scientific community and should be included as a part of your summary of research achievements. Some examples include: protocols; data; conference presentations (posters/oral); invited reviews or book chapters; statistical packages/code; media/images; patents (see '**Enterprise and Innovation**' below'); reports; educational material; or figures published on a data repository. SGUL provides an institutional data repository on FigShare for researchers to publish their wider research outputs:

- Link to FigShare: *https://sgul.figshare.com/*
- Guidance for using the SGUL research data repository: *https://www.sgul.ac.uk/about/our-professional-services/information-services/library/researchers/research-data-management/at-the-end-of-your-project*

3. How to sell your work in 50-100 words

It is becoming increasingly important to be able to describe your research in a short paragraph, as a brief summary on your CV or to accompany a publication, funding or job application. Therefore, it is worth thinking about your 'brand' and how to best convey the significance and impact of your work in 50-100 words, i.e. how is your work uniquely distinctive in your field of research?

❖ **Audience**

The most important point is to aim your paragraph to the correct target audience. This may be a general 'lay' audience or a panel of experts. Either way, you should view this as an advertisement for your work and/or your expertise, to encourage the audience to want to know more and to read your paper, collaborate, or support your research (e.g. by funding, public engagement, etc).

❖ **Clarity and precision**

In a short paragraph, every word counts. Therefore, the language needs to be clear and precise. Avoid the temptation to include every aspect of your project and instead focus on selling the most important point(s). Try summarising your project in one sentence 'chunks' (perhaps each sentence could represent a specific research question you are aiming to address). These can then be prioritised and tailored to each scenario, i.e. included or excluded depending on the brief. Critically, read your writing back to yourself multiple times and remove any verbosity!

❖ **Tell (and sell) a story**

Providing a context for your research project will help to make it relatable to the reader. Make sure you assign a few words to introducing the disease/concept/problem you are addressing, to provide a foundation for why the work is necessary. The finished piece should tell a story with a clear start, middle and end. Avoid being too modest or using qualifying terms (such as potentially, possibly, maybe, etc.) as these could be interpreted as a lack of conviction.

❖ **Why do we care?**

You want the reader to recognise the significance of your work and feel as excited about it as you are. Typically, it is more important to convince them of the overall relevance of your work – why you are doing it and the discrete outcomes anticipated – rather than adding granular detail. Ask yourself, 'why does this matter?' Namely, what is the impact of your research: a) in your field; b) to your target audience; and/or c) on a societal level? Addressing these questions will help others understand who your work is helping and how it will make a difference.

4. Research funding:

- **Awards and prizes**

  All awards and prizes can be included as evidence of achievement in research. This extends to travel grants, conference presentation awards and societal awards, among many others. Research Professional is an online database of research funding opportunities across a range of scientific disciplines, which can be accessed using your standard SGUL credentials. It also provides comprehensive information on forthcoming conferences and is a useful source of news on international research policy and practice. Further links providing award/prize information can be found on university, society and funding body websites.

  Some useful examples are provided below:

  - *https://www.researchprofessional.com/*
  - *https://www.sgul.ac.uk/for-students/student-support/student-finance-and-funding/finance-advice/other-sources-of-funding/prizes-awards-and-competitions*
  - *https://genetics.org.uk/grants/*
  - *https://www.elsevier.com/awards/early-career-researcher-uk-awards*
  - *https://wellcome.ac.uk/grant-funding/schemes*
  - *https://mrc.ukri.org/skills-careers/interactive-career-framework/*

- **Grant income**

  Grant income may become more relevant as you begin to advance in your career. Whether the grant has been obtained as either a principal investigator or a co-investigator, it should be included as an indicator for success. Ideas for the availability of relevant grants can also be found in the above links. When detailing your research income, it is important to include:
  i) the name(s) of the principal and co-investigators; ii) the funding body; iii) the dates of the award; iv) the type of award (e.g. PhD studentship, project grant, etc); and v) the amount awarded. If the award is to be split across more than one institution, your proportion of the award should be stated. The project title can also be included if preferred.

5. Teaching and research students:

Teaching provides an excellent opportunity to gain relevant experience in future career options and improves overall confidence in the subject area. Thus, all teaching experience has the potential to be communicated as an example of research achievement.

- **Support for teaching**

  At St. George's, there are numerous ways for PhD students and post-doctoral staff to get involved in teaching, including practical lab demonstrations, leading undergraduate tutorials and supervising research students. To find out more, you can contact the Science Programmes Officer (email: mmoroney@sgul.ac.uk).

- **Student supervision and examination**

  As you progress through your career, you will likely be responsible for the formal supervision of undergraduate and/or post-graduate research students and may be asked to participate in student examination, which could include research project marking or *viva voce* examination. More senior academics may be invited to work as external examiners (for undergraduate,

postgraduate or PhD examinations), to ensure that marking standards are consistent across and between universities. Activities such as these should also be included on your CV.

- **Module or course development**
  Ideally, teaching activity should include elements of contemporary research to illustrate the real-life applicability of the theory being taught. Academic researchers who are involved in developing new modules or courses should highlight this activity in their CV. It is therefore useful to consider and describe how your SGUL research activity could be incorporated into module/course design. Other examples of research-led teaching activity include the development of massive open online courses (MOOCs) or other online courses.

- **Teaching accreditation**
  If you are involved in numerous teaching activities, it is worth considering applying for a teaching qualification, as recognition of your experience and commitment to pedagogy. SGUL staff can gain a teaching accreditation through the SHINE programme or the Postgraduate Certificate (PGCert) in Healthcare and Biomedical Education course. See the links below for further details:
  - Information about SHINE: *https://www.sgul.ac.uk/about/our-education-centres/centre-for-innovation-and-development-in-education/shine*
  - PGCert course: *https://www.sgul.ac.uk/about/our-education-centres/centre-for-innovation-and-development-in-education/postgraduate-education/pgcert-in-healthcare-and-biomedical-education*

6. Public engagement:

- **Radio / TV / Media Interviews**
  Any engagement with the media should be included within your research contributions. Did you know that SGUL provides free training and resources to researchers on Media Engagement? The team will also assist in writing and releasing a Press Release if you've had an exciting manuscript accepted for publication. Visit this link for more information:
  - *https://www.sgul.ac.uk/about/our-professional-services/ercm/communications-advice-for-staff*

- **Involvement in research participant support groups**
  If you have conducted focus groups with members of the public or been involved in the support or management of participants within a research study/trial, this constitutes Public Engagement.

- **Other engagement opportunities**
  Whilst the above engagement opportunities may become more relevant as you begin to advance in your career, there are other opportunities which may be relevant to you including:
  - Initiatives by The Brilliant club: *https://thebrilliantclub.org*
  - Café Scientifique: *http://cafescientifique.org*
  - Pint of Science: *https://pintofscience.co.uk*
  - Soapbox Science: *http://soapboxscience.org*
  - Spotlight on Science: *https://www.sgul.ac.uk/about/who-we-are/public-engagement/spotlight-on-science*
  - PhD group-mediated public engagement events; becoming a STEM ambassador; or even participating in a 'Three Minute Thesis' challenge.

7. Esteem indicators:

Esteem indicators refer to any external activity that highlights your expertise in your specialist field. Such activities are typically invited, resulting from others' recognition of your expert knowledge and strong research reputation over time. Some examples are provided below but this is not exhaustive.

- **Peer review**
  Publishing manuscripts in peer-reviewed journals within your specialised field may lead to invitations to peer-review manuscripts submitted by others within the same field. If so, the journal name and date of the review can be added as part of your research contributions. You may also consider *open peer review*. If reviewing manuscripts regularly, it is worth creating a Publons profile to generate a public record of your peer review activity. Publons also recently introduced a Grant Reviewer Recognition Service, to recognise research grant review activity.
  - Publons homepage: *https://publons.com/about/home/*

- **Invited speaker**
  Being invited to speak or present research, whilst typically more relevant to senior researchers, can include any presentations which you have been asked to deliver. Examples include: Institutional research seminars, St George's Research Day, External seminar series and Conference presentations. More prestigious activity may include delivering the keynote or plenary address at a national/international conference, being invited to chair a specific session, or organising your own conference.

- **Awards or Fellowships**
  These typically provide recognition of your individual reputation in the field and are highly prestigious. Examples include: nomination as a Fellow of a learned society; named lecture; receiving a prestigious award, prize, honour; or being awarded a personal research fellowship.

- **Editorial and Board membership**
  More experienced researchers and academics may be invited to participate more formally in the journal or grant review process, for example as an academic member of the Editorial Board of a scientific journal, or as a Grant Review Board member for a funding body. Similar roles may also include serving as a Guest Editor (e.g. for a Special Issue on a specific topic), or as an Expert Panel member (e.g. for an Institutional Review Board or working group).

- **Independent consultancy**
  Independent consultancy is paid work that is typically conducted outside of your normal academic commitments and, as such, should be approved by the university beforehand. Examples may include: industrial advisory for a pharmaceutical company; serving as an expert witness for court proceedings; providing expert opinion to media organisations.

- **Strategic advisory roles**
  This can include contributions to clinical guidelines, policy and/or practice, e.g. through membership of government panels or liaising with other experts on UK or International policy. For example, the Academy of Medical Sciences (AMS) works to connect medical science experts with policymakers through workshops, roundtables, private briefings and networking events.
  - AMS policy homepage: *https://acmedsci.ac.uk/policy*

8. Other contributions:

- **Committee membership**

  Active membership of scientific societies or committees demonstrates good citizenship within your institution and wider participation within your academic field. St George's encourages active contributions from PhD students and post-doctoral researchers on the Research Committee, Health & Safety Committee and Senate, amongst others. To explore relevant opportunities which you could get involved with at SGUL, please contact Derilyn Frusher (email: dfrusher@sgul.ac.uk). Alternatively, you can contact the chair of the relevant committee to provide an expression an interest.

- **Mentorship**

  St George's encourages mentorship across all levels of the university and engaging in mentorship activity provides an indicator of your commitment to the development of young academic researchers. St George's has a mentorship scheme for PhD students and post-doctoral staff. Training programmes in both coaching and mentoring are also available. For more information, please contact Rebecca Henry-Litteck (email: rhenry-l@sgul.ac.uk) or see the following link:

  - *https://www.sgul.ac.uk/about/our-professional-services/staff-development/coaching-and-mentoring*

  More senior academics may be involved in enabling activities to support early career researchers (ECRs). These can include organising specific groups targeted to PhD students and/or post-doctoral researchers, writing workshops, or career progression events to provide information on the academic career path or highlight alternative research careers.

- **Enterprise and Innovation**

  Enterprise and Innovation refers to any commercial applications of your research. This may relate to intellectual property (IP), for example from the design of new databases, biological reagents, medical devices, diagnostics or therapies, but can also include academic-industrial collaborations or setting up a company. For more information, contact JRES at the links below:

  - JRES Enterprise and Innovation: *https://www.sgul.ac.uk/about/our-professional-services/joint-research-and-enterprise-services/research-support/intellectual-property-and-commercialisation/enterprise-and-innovation*
  - Understanding Intellectual Property: *https://www.sgul.ac.uk/about/our-professional-services/joint-research-and-enterprise-services/research-support/intellectual-property-and-commercialisation/understanding-intellectual-property*

- **Strategic involvement**

  Additional research-related activity may include involvement in building/laboratory design, or other involvement in shaping or implementing the research strategy of your institution. The SGUL Strategic Plan (2017-22) captures what is important to the St George's community and details our plans to sustain excellence and impact. To identify how you may be able to get involved, see the links below:

  - SGUL Strategic Plan: *https://www.sgul.ac.uk/about/vision-mission-and-strategy/strategy-2017-2022*
  - Research Strategy: *https://www.sgul.ac.uk/about/vision-mission-and-strategy/strategy-2017-2022/research*