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CRediT | Recognising author contributions to publications

FORCE2019
Edinburgh
17 October 2019

Tanita Casci Head of Research Policy

Valerie McCutcheon Research Information Manager

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Search: University of Glasgow



Research culture: Promoting how research is done

“A positive research culture is one

in which colleagues are recognised and valued for their **varied contributions** to a research activity,

in which colleagues **support each other** to succeed,

and in which there is support to produce work that meets the highest standards of **academic rigour.**”



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Drivers

INSPIRING PEOPLE CHANGING THE WORLD

University Strategy 2015–2020

REF2021

Research
Excellence
Framework

UK Research and Innovation

Opinion | 10 September 2019

Why we need to reimagine how we do research



Jeremy Farrar
Director
Wellcome

“AdvanceHE

PRES

POSTGRADUATE RESEARCH EXPERIENCE SURVEY

The Concordat
In Support of the Career Development of Researchers

The Concordat to Support the Career Development of Researchers

Commonly known as
the Researcher
Development
Concordat

SEPTEMBER 2019

Technician Commitment



Authorship contributions

Aim: To recognise and record the distinct roles that each collaborator makes to an output

Why?

- > **To improve research practice**
Avoid disputes, allegations, credit-hogging
- > **To improve research quality**
With credit comes accountability; with transparency comes quality
- > **To support careers**
Especially useful for multi-author papers, for ECRs
- > **To future-proof scholarly communications**



Authorship doesn't always reflect contribution ...

THE AUTHOR LIST: GIVING CREDIT WHERE CREDIT IS DUE

The first author
Senior grad student on the project. Made the figures.

The third author
First year student who actually did the experiments, performed the analysis and wrote the whole paper. Thinks being third author is "fair".

The second-to-last author
Ambitious assistant professor or post-doc who instigated the paper.

Michaels, C., Lee, E. F., Sap, P. S., Nichols, S. T., Oliveira, L., Smith, B. S.

The second author
Grad student in the lab that has nothing to do with this project, but was included because he/she hung around the group meetings (usually for the food).

The middle authors
Author names nobody really reads. Reserved for undergrads and technical staff.

The last author
The head honcho. Hasn't even read the paper but, hey, he got the funding, and his famous name will get the paper accepted.

CRediT



CRT

CRediT (Contributor Roles Taxonomy) is high-level taxonomy, including 14 roles, that can be used to represent the roles typically played by contributors to scientific scholarly output. The roles describe each contributor's specific contribution to the scholarly output.



14 CRedit Roles

Term	Definition
Conceptualization	Ideas; formulation or evolution of overarching research goals and aims.
Methodology	Development or design of methodology; creation of models.
Software	Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components.
Validation	Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs.
Formal Analysis	Application of statistical, mathematical, computational, or other formal techniques to analyse or synthesize study data.
Investigation	Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection.
Resources	Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.
Data Curation	Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later re-use.
Writing – Original Draft	Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation).
Writing – Review & Editing	Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision – including pre- or post-publication stages.
Visualization	Preparation, creation and/or presentation of the published work, specifically visualization/data presentation.
Supervision	Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.
Project Administration	Management and coordination responsibility for the research activity planning and execution.
Funding Acquisition	Acquisition of the financial support for the project leading to this publication.



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CRediT implemented by growing number of outlets

Publishers

American Association of Petroleum Geologists
BMJ
British Psychological Society
Cell Press
Dartmouth Journal Services
De Gruyter Open
Duke University Press
eLife
Elsevier
Evidence Based Communications
F1000 Research
Geological Society of London
Health & Medical Publishing Group
International Centre of Insect Physiology and Ecology
The Journal of Bone & Joint Surgery
KAMJE Press
Lippincott Williams & Wilkins
MA Healthcare
MIT Press
Oman Medical Specialty Board
Oxford University Press
Public Library of Science (Plos)
SAE International
SLACK Incorporated
Springer
Springer Publishing Company
Wiley VCH
Wolters Kluwer

Institutions

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Integrators

Allen Press/ Peer Track
Aries Systems/ Editorial Manager
Clarivate Analytics/ ScholarOne
Coko Foundation/ PubSweet
River Valley/ ReView

Publishing Outlets

Gates Open Research
HRB Open Research
Wellcome Open Research



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Code of Good Practice in Research

3.7.3.2 *Agreeing on what constitutes authorship or other* may be named as an author on a paper for contributions. Contributors are advised to discuss authorship at the outset of a collaboration. This record should include an agreed definition of the contributions, whether these are worthy of authorship (i.e. what constitutes a contribution), simply an acknowledgment; expectations around order of publication; keep track of contributions during the project (e.g. through a log).

Authors should express in a clear manner the contribution of each author to the publication itself wherever this is permitted. The following (from the Research Administration Information) document²² may be helpful and is being used by several academic journals.

Furthermore, anyone listed as an author on a paper must ensure that they are familiar with the contents of the paper, that they understand their public responsibility for these.

November 2017

Strategic recruitment schemes

Output details	
Importance & Contribution	

Output details	
Importance & Contribution	

Output details	
Importance & Contribution	

Output details	
Importance & Contribution	

Document your commitment to open research, as appropriate to your discipline (open data, open access, open code, open educational resources and practices that support replication).

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The CASRAI (Consortia Advancing Standards in Research Administration Information) document may be helpful in articulating contributions:
http://dictionary.casrai.org/Contributor_Roles



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A Glasgow paper



PUBLISH

ABOUT

BROWSE

 OPEN ACCESS  PEER-REVIEWED

RESEARCH ARTICLE

More miles on the clock: Neighbourhood stressors are associated with telomere length in a longitudinal study

Anne Ellaway , Ruth Dundas, Tony Robertson, Paul G. Shiels

Published: March 28, 2019 • <https://doi.org/10.1371/journal.pone.0214380>



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A Glasgow paper...with roles

Anne Ellaway

ROLES: Conceptualization, Formal analysis, Methodology, Writing – original draft

* E-mail: anne.ellaway@glasgow.ac.uk

AFFILIATION: MRC/CSO Social and Public Health Sciences Unit, University of Glasgow, Glasgow, United Kingdom

 <http://orcid.org/0000-0002-2117-4451>

Ruth Dundas

ROLES: Formal analysis, Methodology, Writing – review & editing

AFFILIATION: MRC/CSO Social and Public Health Sciences Unit, University of Glasgow, Glasgow, United Kingdom

Tony Robertson

ROLES: Writing – review & editing

AFFILIATION: Centre for Public Health and Population Health Research, Faculty of Health Sciences & Sport, University of Stirling, Stirling, United Kingdom

Paul G. Shiels

ROLES: Conceptualization, Formal analysis, Methodology, Writing – review & editing









AFFILIATION: Institute of Cancer Sciences, University of Glasgow, Glasgow, United Kingdom

Another Glasgow paper

Wellcome's Open Research platform

RESEARCH ARTICLE

REVISED Probing *Plasmodium falciparum* sexual
commitment at the single-cell level [version 4; peer
review: 2 approved]

Nicolas M.B. Brancucci ^{1,2*}, Mariana De Niz^{1*}, Timothy J. Straub ^{2,3*}, Deepali Ravel ^{2*},
Lauriane Sollelis ¹, Bruce W. Birren², Till S. Voss ^{4,5},  Daniel E. Neafsey^{2,3},  Matthias
Marti ^{1,2}

* Equal contributors

 [Author details](#)

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² Department of Immunology and Infectious Diseases, Harvard T.H. Chan School of Public Health, Boston, Massachusetts, USA

³ The Broad Institute of MIT and Harvard, Cambridge, Massachusetts, USA

⁴ Department of Medical Parasitology and Infection Biology, Swiss Tropical and Public Health Institute, Basel, Switzerland

⁵ University of Basel, Basel, Switzerland

Nicolas M.B. Brancucci

Roles: Conceptualization, Formal Analysis, Writing – Original Draft Preparation, Writing – Review & Editing

Mariana De Niz

Roles: Formal Analysis, Investigation, Methodology, Writing – Review & Editing

Timothy J. Straub

Roles: Formal Analysis, Investigation, Methodology, Writing – Review & Editing

Deepali Ravel

Roles: Formal Analysis, Investigation, Writing – Review & Editing

Lauriane Sollelis

Roles: Formal Analysis, Investigation

Bruce W. Birren

Roles: Data Curation, Funding Acquisition, Writing – Review & Editing

Till S. Voss

Roles: Methodology, Writing – Review & Editing

Daniel E. Neafsey

Roles: Conceptualization, Formal Analysis, Funding Acquisition, Project Administration, Supervision, Writing – Original Draft Preparation, Writing – Review & Editing

Matthias Marti

Roles: Conceptualization, Investigation, Project Administration, Supervision, Writing – Original Draft Preparation, Writing – Review & Editing

METRICS

1571

VIEWS

326

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Adding Roles on Wellcome's Open Research Platform

Corresponding Author

Author contribution(s)
We are using the [CRediT](#) taxonomy to capture detailed author contributions, to facilitate recognition for all involved.

<input type="checkbox"/> Conceptualization	<input type="checkbox"/> Resources
<input type="checkbox"/> Data Curation	<input type="checkbox"/> Software
<input type="checkbox"/> Formal Analysis	<input type="checkbox"/> Supervision
<input type="checkbox"/> Funding Acquisition	<input type="checkbox"/> Validation
<input type="checkbox"/> Investigation	<input type="checkbox"/> Visualization
<input type="checkbox"/> Methodology	<input type="checkbox"/> Writing – Original Draft Preparation
<input type="checkbox"/> Project Administration	<input type="checkbox"/> Writing – Review & Editing

Original Draft: Preparation
Creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation).

SAVE AUTHOR



Adding Roles on Glasgow's Outputs Repository, Enlighten

1. When the publisher implements CRediT

Creator Roles				
	Family Name	Given Name / Initials	GUID	Role
1.	Brancucci	Nicolas M.B.	nb133a	Conceptualization
2.	Brancucci	Nicolas M.B.	nb133a	Formal analysis
3.	Brancucci	Nicolas M.B.	nb133a	Writing – original draf
4.	Brancucci	Nicolas M.B.	nb133a	Writing – review and €
5.	De Niz	Mariana	mid4m	Formal analysis
6.	De Niz	Mariana	mid4m	Investigation
7.	De Niz	Mariana	mid4m	Methodology



Adding Roles on Glasgow's Outputs Repository, Enlighten

Enlighten: Publications

About Latest Additions Search Browse Open Access ORCID My Publications

Edit item: Case study: the University of Glasgow's digital preservation journey 2017-2019

Type → Upload → Details → **Roles** → Subjects → Funding → Open Access → RCUK

< Previous Save and Return Cancel Next >

Creator Roles

	Family Name	Given Name / Initials	GUID	Role
1.	Spence	Alison	as571n	Investigation
2.	Spence	Alison	as571n	Writing - original draf
3.	McCutcheon	Valerie	vmc2y	Project administration
4.	McCutcheon	Valerie	vmc2y	Supervision
5.	McCutcheon	Valerie	vmc2y	Funding acquisition
6.	McCutcheon	Valerie	vmc2y	Writing - review and €
7.	Mahon	Matt	mm401g	Investigation
8.	Mahon	Matt	mm401g	Writing - review and €

2. When the publisher does not implement CRedit



Approach to implementation at UofG

- Lead Glasgow author responsible for capturing agreed roles of Glasgow authors
- Must choose from the CRediT options
- Allow ALL co-authors to review and confirm the roles
- Ensure information is provided to publisher
- If publisher does not request roles, include them in the narrative if possible
- If publisher does not include in paper, submit to research-enlighten@glasgow.ac.uk to have roles recorded on repository

What next for CRediT?

- Update definitions so that applicable to all disciplines e.g. who curated an exhibition
- **Look at other output types**
- Some organisations have added an extra bit of metadata – lead, share, assist in the role. Other roles e.g. technicians, data creators.
- **Community manager (a possibility?)**
- In discussion with Crossref and DataCite

What next for us?

- Repositories might receive the data automatically from publishers
- **Work with researchers, publishers, suppliers, and others to address requirements**
- Feedback to CASRAI on usage and maintenance of roles taxonomy
- **Can this help with Research Excellence Framework author contribution statement?**



REF2021 Audit Guidance

Clause 99b

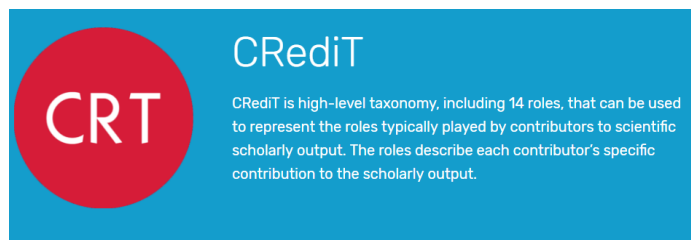
“b. Co-authorship. Details of an individual’s contribution to a co-authored output may be requested, to verify their substantial research contribution. We expect HEIs to be able to identify the most appropriate evidence to verify the author’s contribution. Where this cannot be verified the output will be graded as ‘unclassified’. [...]

For outputs returned in submissions that are within Main Panels A and B, where the author contribution has been included in the output acknowledgements, this will take precedence over the statement on co-authored outputs.”



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Find out more about CRediT



Background

CRediT grew from a practical realization that bibliographic conventions for describing and listing authors on scholarly outputs are increasingly outdated and fail to represent the range of contributions that researchers make to published output. Furthermore, there is growing interest among researchers, funding agencies, academic institutions, editors, and publishers in increasing both the transparency and accessibility of research contributions.

- Update article in *Learned Publishing* (2019)
<https://doi.org/10.1002/leap.1210>
- Visit the website: <https://casrai.org/credit>
- Ask a colleague from an adopter organisation
- Join the interest group by contacting CASRAI: info@casrai.org



Who did what

Name/Affiliation	Roles
Valerie McCutcheon University of Glasgow	Conceptualisation, resources, visualisation, writing – original draft
Tanita Casci University of Glasgow	Resources, visualisation, writing – reviewing and editing
Liz Allen f1000	Resources, visualisation
Simon Kerridge University of Kent	Resources, visualisation
Alison McGonagle Co-chair of CRediT Program Committee	Resources, visualisation
David Baker eVision	Resources, visualisation
The CASRAI UK Steering Group and Community	Resources, validation