CRediT
Contributor Roles Taxonomy
저자 역할 구분 및 표시 기준

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Contents

- CRediT: Contributor Roles Taxonomy
  - What is it?
  - What is it for?
  - Initial development history
- 14 Contributor Roles/Responsibilities
- Use Cases/Implementations
- Benefits and Expectations
- References

CRediT: Contributor Roles Taxonomy

CRediT: What is it?

- A controlled vocabulary (taxonomy) of contributor roles

- To describe the typical "contributions" to scholarly published output
  (for biomedical and science more broadly)

- Open standards

- http://casrai.org/CRediT

저자 역할 구분 및 표시 기준 제시

- Who are eligible to be authors?
- Am I eligible as an author?

- Attribution
- Credit
- Accountability

CRediT: What is it for?

- Transparency and accessibility of research contributions

- Publishers require contribution disclosures upon article submission (structured or free-text form)

- Funders are developing more scientifically rigorous ways to track the outputs and impact of their research investments.

CRediT: initial development history

- May 2012
  - Wellcome Trust, Harvard University, MIT, Digital Science
  - Initially with a group of mainly biomedical journal editors and members of the ICMJE
  - Facilitated by CASRAI and NISO

- 2014
  - Project CRediT working group finalizes the 14 terms & descriptions (Taxanomy)
- 2015
  - Published to the CASRAI dictionary
  - Endorsed by major publishers
  - Encouraged authors to use CRediT when they submit papers, instead of traditional (free format) author role and responsibility statements

- 2016 and beyond
  - CRediT is being incorporated into Open Badges
  - E-submission systems include CRediT
    Aries Editorial Manager 13.0
  - ORCID is building CRediT into its registry
  - JATS is looking to integrate CRediT

14 Contributor Roles/Responsibilities

Contributor Roles/Responsibilities

1. Conceptualization

   Ideas; formulation or evolution of overarching research goals and aims.

2. 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.

Contributor Roles/Responsibilities

3. Formal analysis

Application of statistical, mathematical, computational, or other formal techniques to analyse or synthesize study data.

4. Funding acquisition

Acquisition of the financial support for the project leading to this publication.

Contributor Roles/Responsibilities

5. Investigation

Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection.

6. Methodology

Development or design of methodology; creation of models.

Contributor Roles/Responsibilities

7. Project administration

   Management and coordination responsibility for the research activity planning and execution.

8. Resources

   Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.

Contributor Roles/Responsibilities

9. Software

   Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components.

10. Supervision

   Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.

Contributor Roles/Responsibilities

11. Validation

Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs.

12. Visualization

Preparation, creation and/or presentation of the published work, specifically visualization/data presentation.

Contributor Roles/Responsibilities

13. Writing – original draft

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

14. 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.

Open-Contributorship-Badges

Conceptualization

Data Curation

Formal Analysis

Funding Acquisition

Investigation

Methodology

Project Administration

Resources

Computation

Supervision

Testing

Data Visualization

Writing - Initial Draft

Writing - Review

T1 - Conceptualization

Ideas; formulation or evolution of overarching research goals and aims.

CRediT: Use Cases/Implementations

optimal HLA-C*03:04-restricted epitopes. (C) The wild-type peptide RALGPGATL stabilized HLA-C*03:04 expression on 721.221-ICP47-C*03:04 cells significantly better than the variant epitope RALGPAATL at non-saturating concentrations of 1 μm (G [mean 4.24 ± 0.46 SD] to A [mean 2.72 ± 0.81 SD], $p = 0.006$) and 0.1 μM (G [mean 2.26 ± 0.39 SD] to A [mean 1.29 ± 0.19 SD], $p = 0.008$) as measured by paired, two-tailed t-test. HLA-C*03:04 surface expression was determined flow cytometrically by staining with the anti-pan-HLA antibody W6/32 ($n = 3$).
(TIF)

S1 Text. Details of the computational modeling.
(PDF)

Acknowledgments

Author Contributions

Conceived and designed the experiments: AH CJC WGB NvT AC JC RZ MA. Performed the experiments: AH CJC WGB SK JC. Analyzed the data: JC CJC CK AH CT WGB SK MA AC. Contributed reagents/materials/analysis tools: JS MC PH CK TP DE BW GA. Wrote the first draft of the manuscript: AH MA. Contributed to the writing of the manuscript: AH CJC CT JC MA. Agree with the manuscript's results and conclusions: AH CT CJC WGB JC NvT JM MJ SK AC CK JS DE GA BW PG MC PH TP RZ TN MA. Enrolled patients: JM MJ CT PG TN. All authors have read, and confirm that they meet, ICMJE criteria for authorship.

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Projected Impact of Mexico's Sugar-Sweetened Beverage Tax Policy on Diabetes and Cardiovascular Disease: A Modeling Study

Luz Maria Sánchez-Romero, Jo...
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Author Summary
Introduction
Methods
Results
Discussion
Supporting Information
Acknowledgments
Author Contributions
References

...official views or positions of the National Institutes of Health, the University of California, or the US Preventive Services Task Force (of which K. B.-D. is the chair).

Abstract
Author Summary
Introduction
Methods
Results
Discussion
Supporting Information
Acknowledgments
Author Contributions
References

Reader Comments (0)
Media Coverage (1)
Figures

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Formal analysis: LMSR JP AM MO KBD.

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Clinicopathologic Impacts of Poorly Differentiated Cluster-Based Grading System in Colorectal Carcinoma

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DISCLOSURE

All authors declare no conflicts of interest.

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Article

CRH Engagement of the Locus Coeruleus Noradrenergic System Mediates Stress-Induced Anxiety

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http://www.cell.com/neuron/abstract/S0896-6273(15)00606-6

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Software Metapapers

A Web-based modeling tool for the SEMAT Essence theory of software engineering

Authors: Daniel Graziotin ✉, Pekka Abrahamsson   Author Contributions

Abstract

As opposed to more mature subjects, software engineering lacks general theories that establish its foundations as a discipline. The Essence Theory of software engineering (Essence) has been proposed by the Software Engineering Methods

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Author Contributions

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Pekka Abrahamsson

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Top
Abstract
Findings
Results
Discussion
Materials and methods
Materials and methods
Availability and requirements
Availability …
Abbreviations
Competing interests
Authors' contributions
Acknowledgements
References

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GWATCH: a web platform for automated gene association discovery analysis

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Top
Abstract
Findings
Results
Discussion
Materials and methods
Availability and requirements
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GWATCH: a web platform for automated gene association discovery analysis

Anton Svitin[1][*][†], Sergey Malov[1 2][†], Nikolay Cherkasov[1][†], Paul Geerts[3], Mikhail Rotkevich[1], Pavel Dobrynin[1], Andrey Shevchenko[1], Li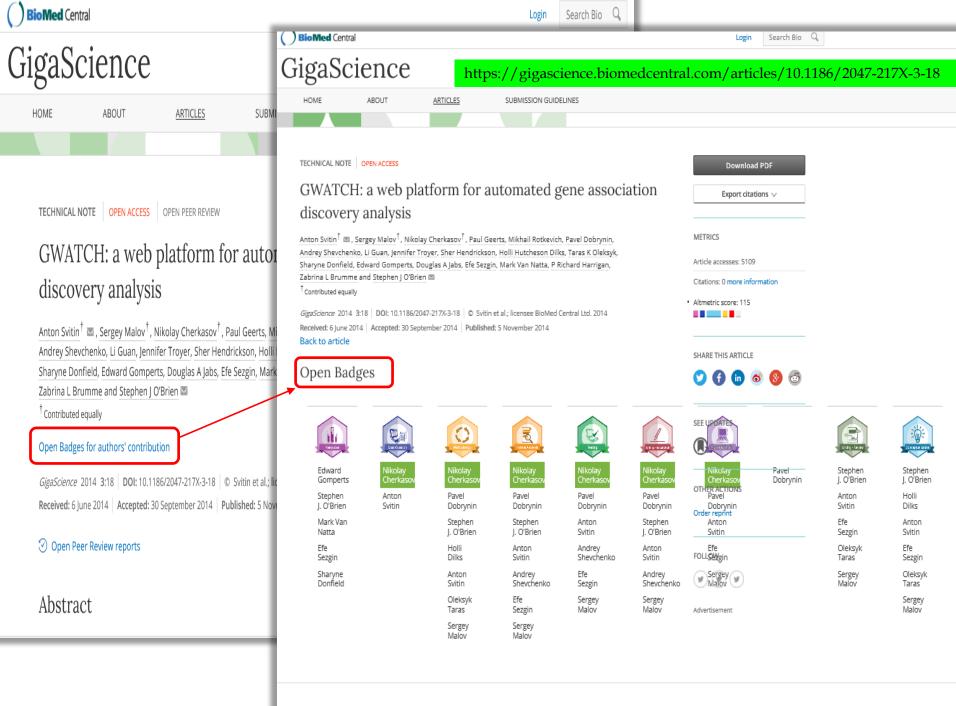 Guan[1], Jennifer Troyer[4], Sher Hendrickson[5], Holli Hutcheson Dilks[6], Taras K Oleksyk[7], Sharyne Donfield[8], Edward Gomperts[9], Douglas A Jabs[10], Efe Sezgin[11], Mark Van Natta[11], P Richard Harrigan[12 13], Zabrina L Brumme[14] and Stephen J O'Brien[1 15][*]

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Implementation of CRediT into e-submission system

- Aries Editorial Manager 13.0
  - The ability to attribute one or more 'Contributor Roles' to each Author of a submission
  - The ability to identify the degree to which a particular contributor was involved "Lead", "Supporting", "Equal"
  - The ability to configure the collection of Contributor Roles per Article Type "Optional" or "Required"

CRediT Markup Example

```
<contrib>
  <name name-style="western">
    <surname>Jang</surname>
    <given-names>Young  Shil</given-names>
  </name>
  <role content-type="CRediT Taxonomy">Conceptualization</role>
  <ORCID authenticated="true">http://orcid.org/0000-0001-0001-0001</ORCID>
</contrib>
```

↑

```
JATS v1.1d3 Contributor tagging: as-is
<contrib contrib-type="author">
  <contrib-id contrib-id-type="orcid" authenticated="true">http://orcid.org/0000-0001-0001-
    0001</contrib-id>
  <name>
    <surname>Jang</surname>
    <given-names>Young Shil</given-names>
  </name>
</contrib>
```

Benefits and Expectations

Benefits

- CRediT을 사용하는 것이
기존 방식(Free format author contribution statements)보다
  - Easy to use
  - Clear (Concise & Precise)
  - Standardization
  - Useful
  - Visual (Open badges)

Expectations

- Facilitate authorship/contributorship disclosure processes and policies
- Identify good practices for tracking contributions to the components of scholarly published output
- Minimize authorship disputes
- Enable appropriate recognition for the different contributions in multi-authored works

  across all aspects of the research being reported (including data curation, statistical analysis, etc.)

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Thank you!

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