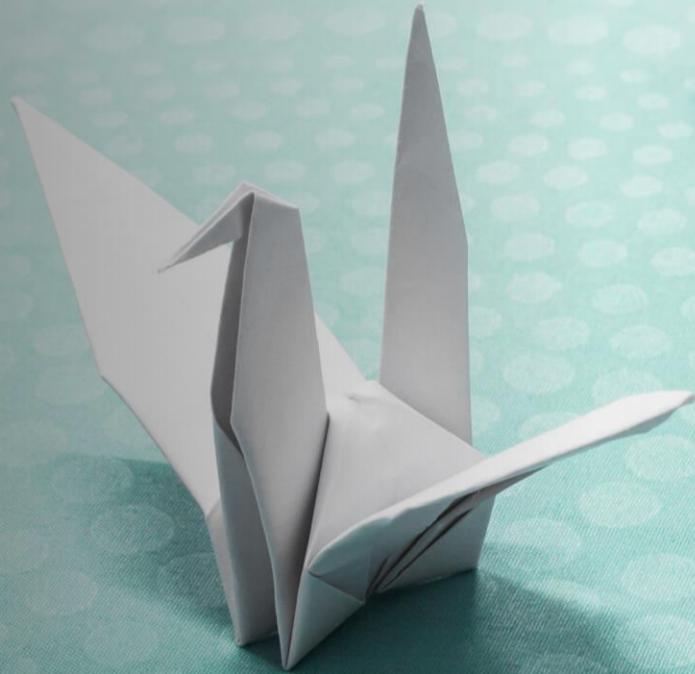


Open peer review: new tools in scientometrics



Edit Gorogh and Judit Fazekas-Paragh

University of Debrecen University and National Library

Maribor Open Science Summer School

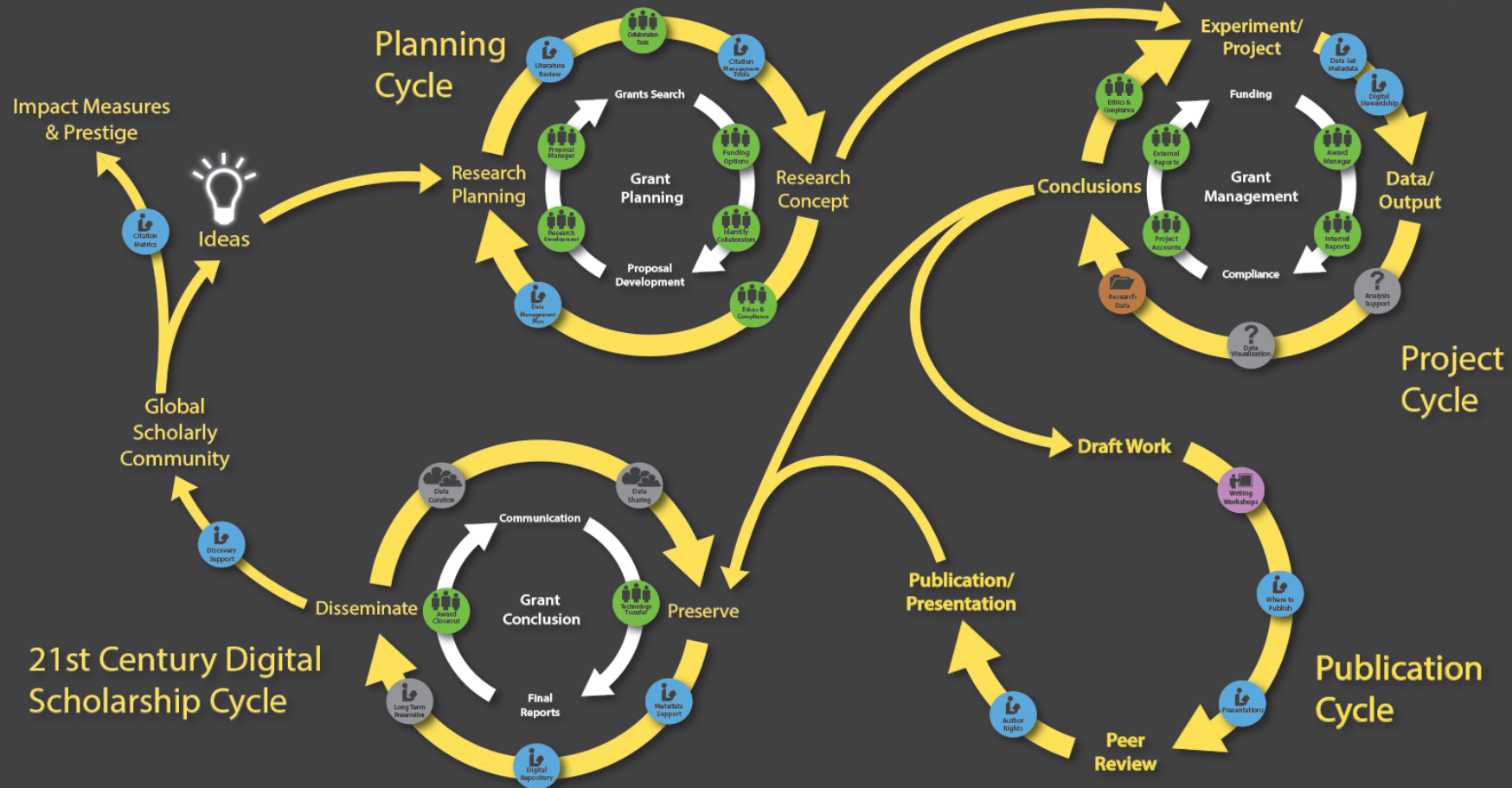
12-16 September, 2022

Maribor Open Science Summer School, 12-16 September 2022

Research Lifecycle at University of Central FL

Version 2.0

A library-led institutional collaboration to develop a mental model of research support and services



All content is available under the Creative Commons Attribution-ShareAlike license. <http://creativecommons.org/licenses/by-sa/3.0/us/>

Legend

- Research Data Management
- Faculty Center for Teaching and Learning
- Libraries
- Office of Research and Commercialization
- Institute for Simulation & Training
- Not yet supported

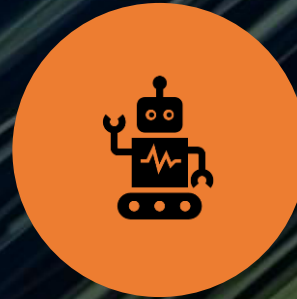
Design Inspiration by OpenWetWare

Maribor Open Science Summer School, 12-16 September 2022

library.ucf.edu/ScholarlyCommunication



What is Open Science?



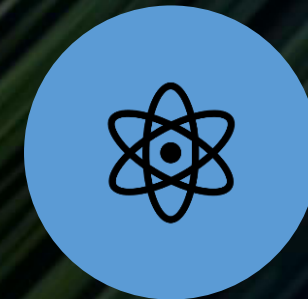
OPEN SCIENCE IS SUCH A SCIENTIFIC PRACTICE WHERE THE GENERATED INFORMATION WITHIN THE RESEARCH PROCESS IS OPENLY AVAILABLE.



RESEARCH IS COLLABORATIVE, TRANSPARENT AND ACCESSIBLE.



ITS MAIN PURPOSE IS TO SUPPORT THE CONTINUOUS DEVELOPMENT OF RESEARCH, SCIENCE AND INNOVATION.



TO SHARE KNOWLEDGE IT USES DIGITAL TECHNOLOGIES.



Why Open Science?

Visibility of results

Sustainability

Innovation opportunities



scientific research became highly data-driven

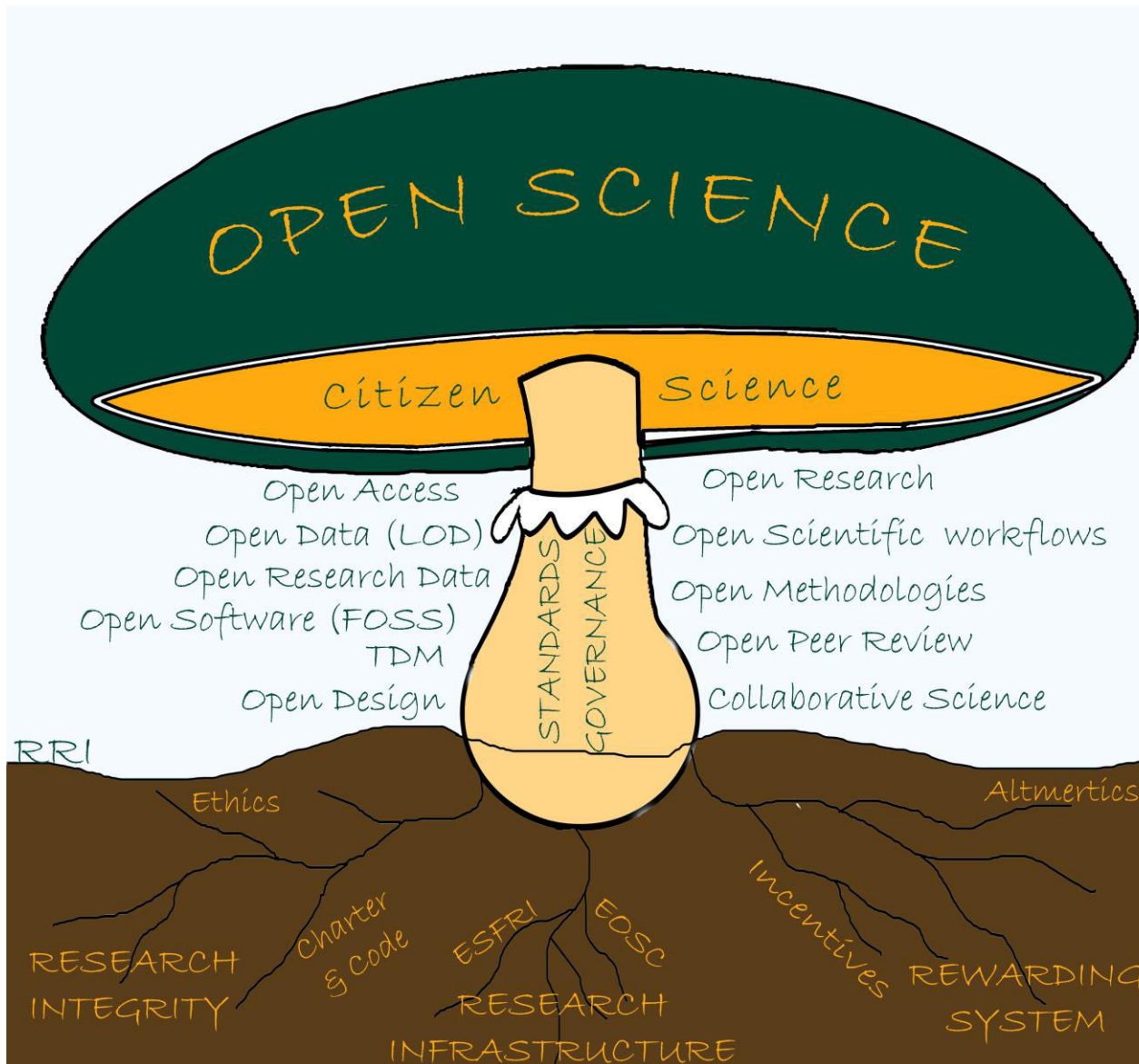
dependent on computing

growing need to share data, software and infrastructure

reduce wasteful duplication

increase economies of scale

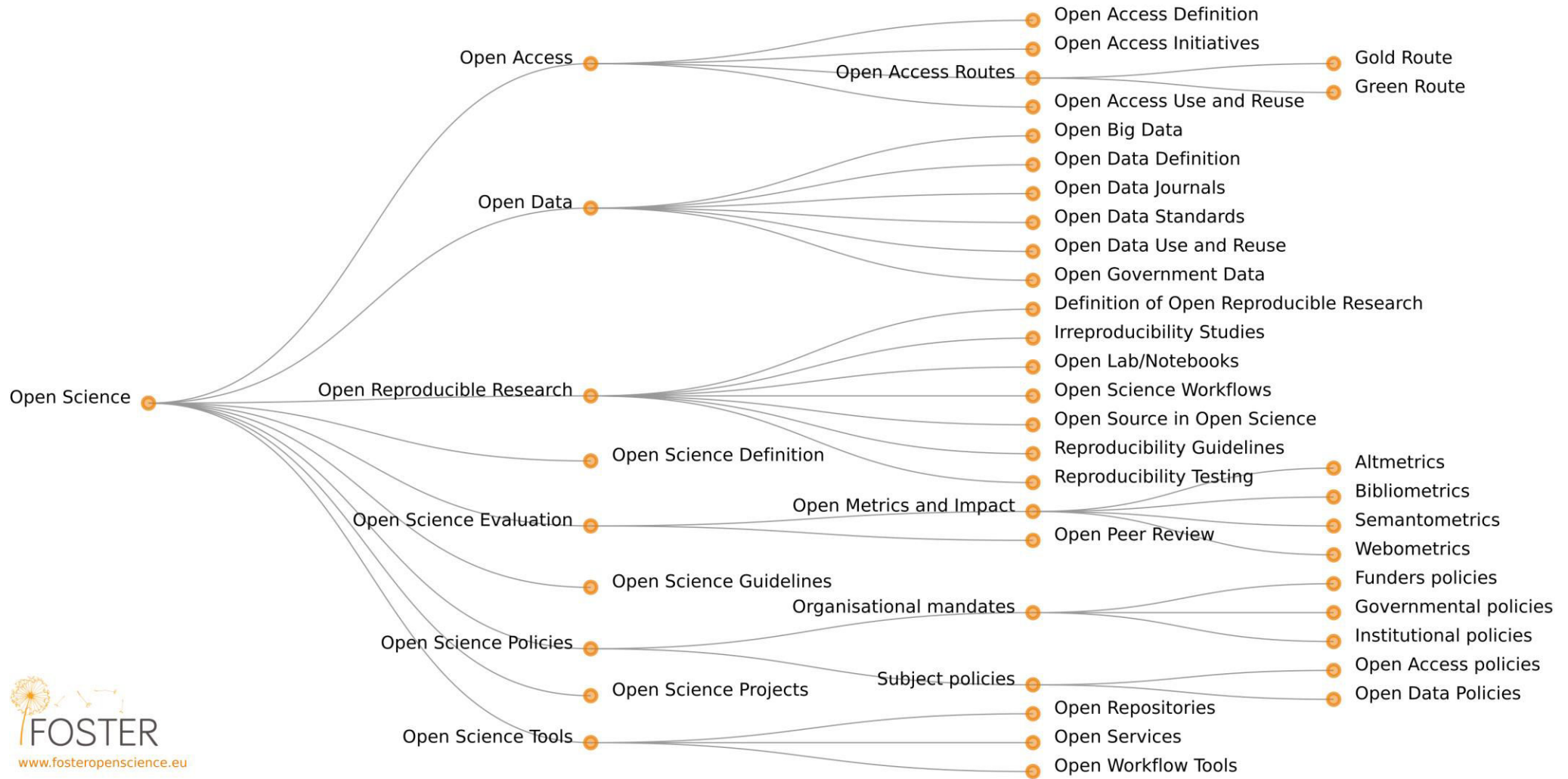




Méndez, E. . (2021) «Open Science por defecto. La nueva normalidad para la investigación», Arbor, 197(799), p. a587. doi: 10.3989/arbor.2021.799002



Open Science Taxonomy



Continuous change of

- Technology
- Evaluation of results
- Reproducibility
- Transparency
- Sustainability

Managing Complex Change

VISION + SKILLS + INCENTIVES + RESOURCES + ACTION PLAN =



HOORAY!!!

✓	✓	✓	✓	✓	CHANGE
✗	✓	✓	✓	✓	CONFUSION
✓	✗	✓	✓	✓	ANXIETY
✓	✓	✗	✓	✓	RESISTANCE
✓	✓	✓	✗	✓	FRUSTRATION
✓	✓	✓	✓	✗	FALSE STARTS

@sylviaductworth

Adapted from Knoster, Villa, & Thousand





Map up new
models of peer
review

Helps to strengthen
the evaluation of
research via open
peer review

Describe
alternative peer
review tools

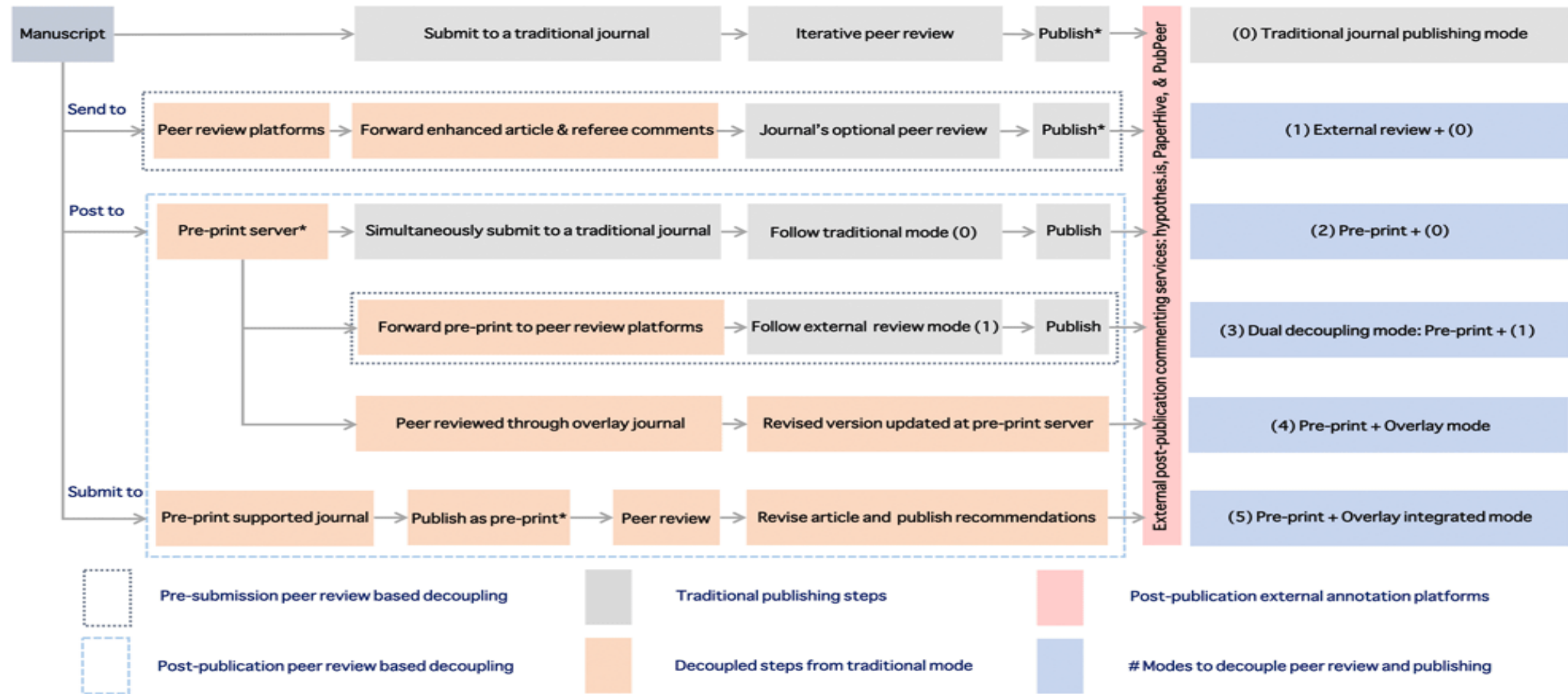
Seeking for
answers how to
motivate and
credit review work

Reseraching the
efficacy of
different OPR
models

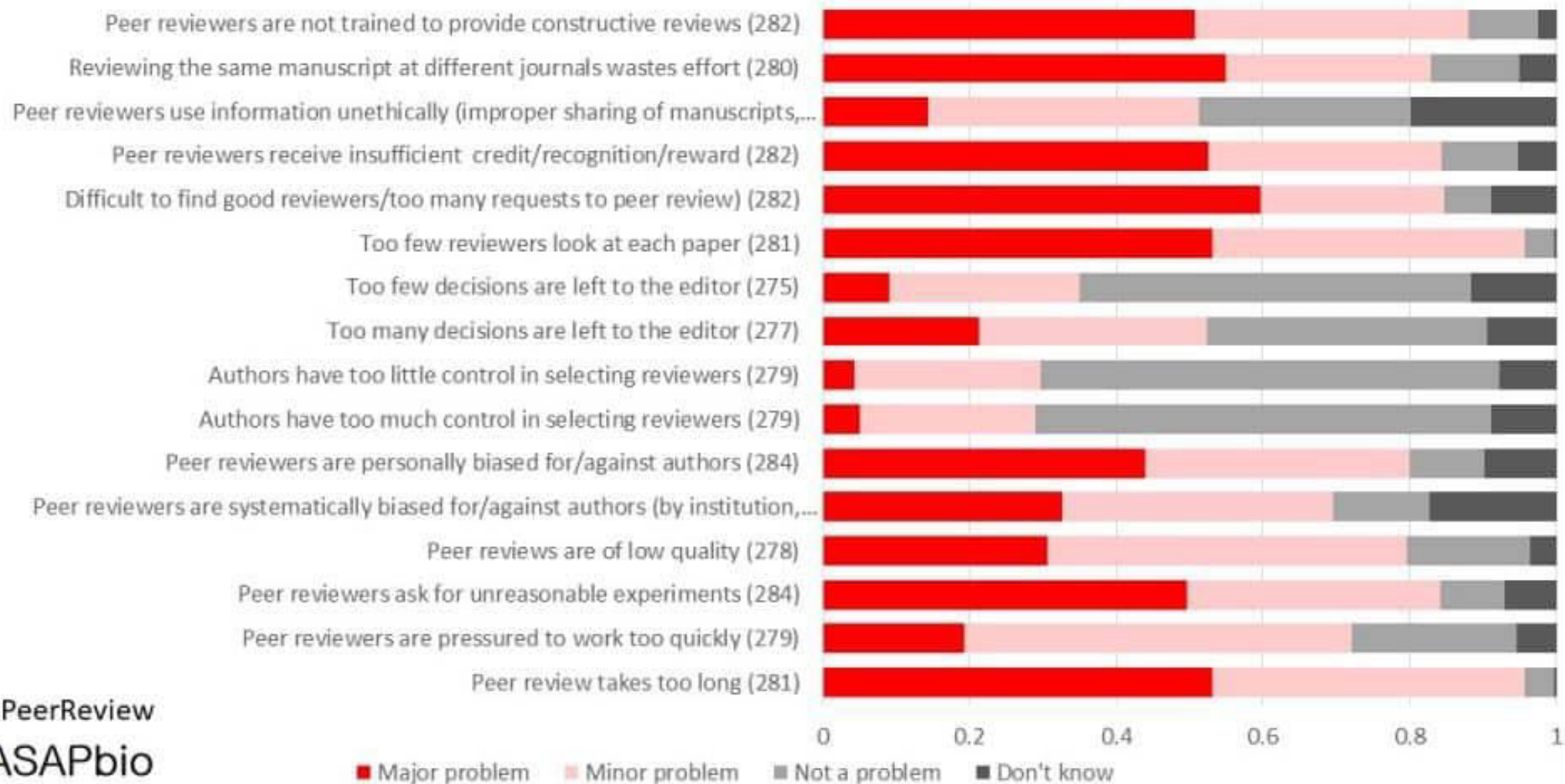
Peer review

Quality assurance mechanism where scholarly works are analysed by others, out of the feedbacks which are used to improve work and make final decisions regarding selections.





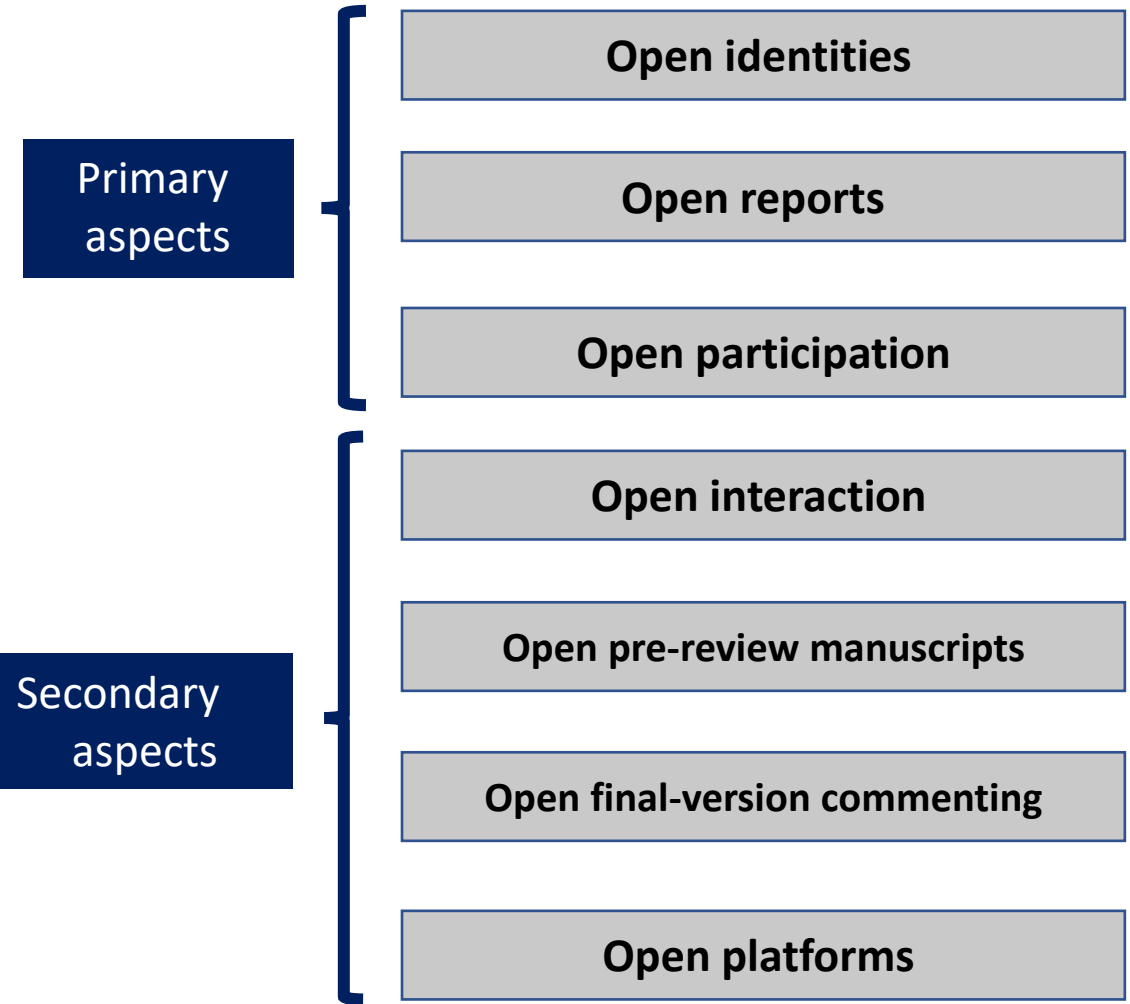
In your view, what are the major problems with the current peer review of manuscripts in the life sciences, in general? (# of responses)



#bioPeerReview


Open peer review

Open peer review is an umbrella term for a number of overlapping ways that peer review models can be adapted in line with the aims of Open Science.



Open identities

Authors and reviewers aware of each other's identity

Open reports

Review reports published alongside relevant article

Open participation

Wider community able to contribute to review process

Open interaction

Direct discussion between author(s)/reviewers, and/or between reviewers

Open pre-review manuscripts

Manuscripts/pre-prints available online in advance of peer review

Open final-version commenting

Review or commenting on final "version of record" publications.

Open platforms
("decoupled review")

Review is facilitated by a different organizational entity than the venue of publication

Open identities



Pros

- Increase quality of reports
- Foster transparency to avoid conflicts of interest
- More civil language (in review and response)

Cons

- Difficulty in taking and giving critical feedbacks
- Labor-intensive process

Open reports



Pros

- Feedback improves work and provide contextual information
- Giving better feedback - increase review quality
- Enable credit and reward for review work
- Help train young researchers in peer reviewing

Cons

- Higher refusal rates amongst potential reviewers
- Time-consuming and more demanding process
- Fear of being exposed (esp. for early career researchers)

Open participation



Pros

- Expanding the pool of reviewers (including to those non-traditional research actors)
- Support cross-disciplinary dialogue
- Increase number of reviewers being part of the debate

Cons

- Time issue: difficulties motivating commentators to take part and deliver useful critique
- Self-selecting reviewers tend to leave less “in-depth” responses
- Feedback from non-competent participants

Changing discourse

Role of Peer Review

- Functions: critical review checking the soundness of research assessing originality novelty, interest.

Changing Role of Editors

- Tasks: first scan, finding reviewers, reviewing, collaboration with authors/other editors

Growing responsibility of authors

- Tasks: finding reviewers, cooperation with editors/Reviewer, revision based on community comments

Involvement of peers

- Role of the community/peers: who is the peer?

OPR in practice

PeerJ Publishing

Facts:

- Optional open peer review
- Peer review is rewarded. Reviewers and Editors earn Tokens that can be exchanged for **unlimited discounts** on Article Processing Charge.
- 40% of reviewer signed their name
- 80% of authors made review reports openly available

Validity of the findings

Table 1 shows that classes are imbalanced and large variance. How it is handled during training? The loss and accuracy graphs need to be presented. Epoch and training explanation needs to present.

Authors can compare his work with baseline Deep CNN classifier models.

Cite this review as

Garg D (2021) Peer Review #1 of "KL-MOB: automated COVID-19 recognition using a novel approach based on image enhancement and a modified MobileNet CNN (v0.1)". *PeerJ Computer Science*

Review History

KL-MOB: automated COVID-19 recognition using a novel approach based on image enhancement and a modified MobileNet CNN

To increase transparency, PeerJ operates a system of optional signed reviews and history. This takes two forms: (1) peer reviews are encouraged, but not required, to provide their names (if they do so, their profile page records the articles they have reviewed); and (2) authors are given the option of reproducing their entire peer review history alongside their published article (in which case the complete peer review process is provided, including reviewers, rebuttal letters and editor decision letters).

How to public review? Learn more about optional signed reviews and how to write a better rebuttal letter.

Summary

The initial submission of this article was received on May 12th, 2021 and was peer-reviewed by 3 reviewers and the Academic Editor.
The Academic Editor made their initial decision on June 10th, 2021.
The first revision was submitted on July 2th, 2021 and was reviewed by 1 reviewer and the Academic Editor.
A further revision was submitted on August 3rd, 2021 and was reviewed by the Academic Editor.
The article was Accepted by the Academic Editor on August 6th, 2021.

Version 0.3 (accepted)

Davide Chicco · Aug 5, 2021 · Academic Editor

[Accept](#)

The authors correctly addressed the points raised by the reviewer at the previous round. The article can be considered for publication.

[If PeerJ Staff Note - this decision was reviewed and approved by Jun Chen, a PeerJ Section Editor covering this Section.]

[Download Version 0.3 \(PDF\)](#) [Download author's rebuttal letter](#) - submitted Aug 3, 2021

Version 0.2

Davide Chicco · Jul 23, 2021 · Academic Editor

[Request Revisions](#)

Please address all the points raised by the reviewer and prepare a new version of the manuscript.

Additionally, please measure all the performances of the binary classification through the Matthews correlation coefficient (MCC) besides the rates already employed.

Reviewer 4 · Jul 23, 2021

Basic reporting

The emergence of the novel coronavirus pneumonia (Covid-19) pandemic at the end of 2019 led to worldwide chaos. However, the world breathed a sigh of relief when a few countries announced the development of a vaccine and gradually began to distribute it. Nevertheless, the emergence of another wave of the pandemic returned us to the starting point. At present, early detection of infected people is the paramount concern of both specialists and health researchers.

Experimental design

This paper proposes a method to detect infected patients through chest x-ray images by using the large dataset available online for Covid-19 (COVID), which consists of 2128 X-ray images of Covid-19 cases, 8596 normal cases, and 5075 cases of pneumonia. A hybrid algorithm is applied to improve image quality before undertaking neural network training. This algorithm combines two different noise-reduction filters in the image, followed by a contrast enhancement algorithm. To detect Covid-19, we propose a novel convolutional neural network (CNN) architecture called KL-MOB (Covid-19 detection network based on the MobileNet structure).

Validity of the findings

The performance of KL-MOB is boosted by adding the Kullback-Leibler (KL) divergence loss function when trained from scratch. The KL divergence loss function is adopted for content-based image retrieval and fine-grained classification to improve the quality of image representation. The results are impressive: the overall benchmark accuracy, sensitivity, specificity, and precision are 99.37%, 98.32%, 99.82%, and 99.37%, respectively.

Additional comments

- Pls give the reasons why "patients can have a good chance of survival if they are diagnosed sufficiently early"?
- Why do we need noise reduction here in "One way around these issues is to use proper image preprocessing techniques for noise reduction and contrast enhancement"?
- Some COVID-19 papers could be discussed, see "MCCAN: A multi-input deep convolutional attention network for Covid-19 diagnosis based on chest CT and chest X-ray" and "PSPPNN: PatchShuffle stochastic pooling neural network for an explainable diagnosis of COVID-19 with multiple-way data augmentation"
- Eq(2) what does Z mean?
- How do you design the model?
- What is the effect of KL divergence?
- What can you find from "In contrast, the output vector 256 in the original data achieved the best value with an accuracy of 93.24%."

[Cite this review as](#)

Anonymous Reviewer (2021) Peer Review #1 of "KL-MOB: automated COVID-19 recognition using a novel approach based on image enhancement and a modified MobileNet CNN (v0.1)". *PeerJ Computer Science*

[Download Version 0.2 \(PDF\)](#) [Download author's rebuttal letter](#) - submitted Jul 9, 2021

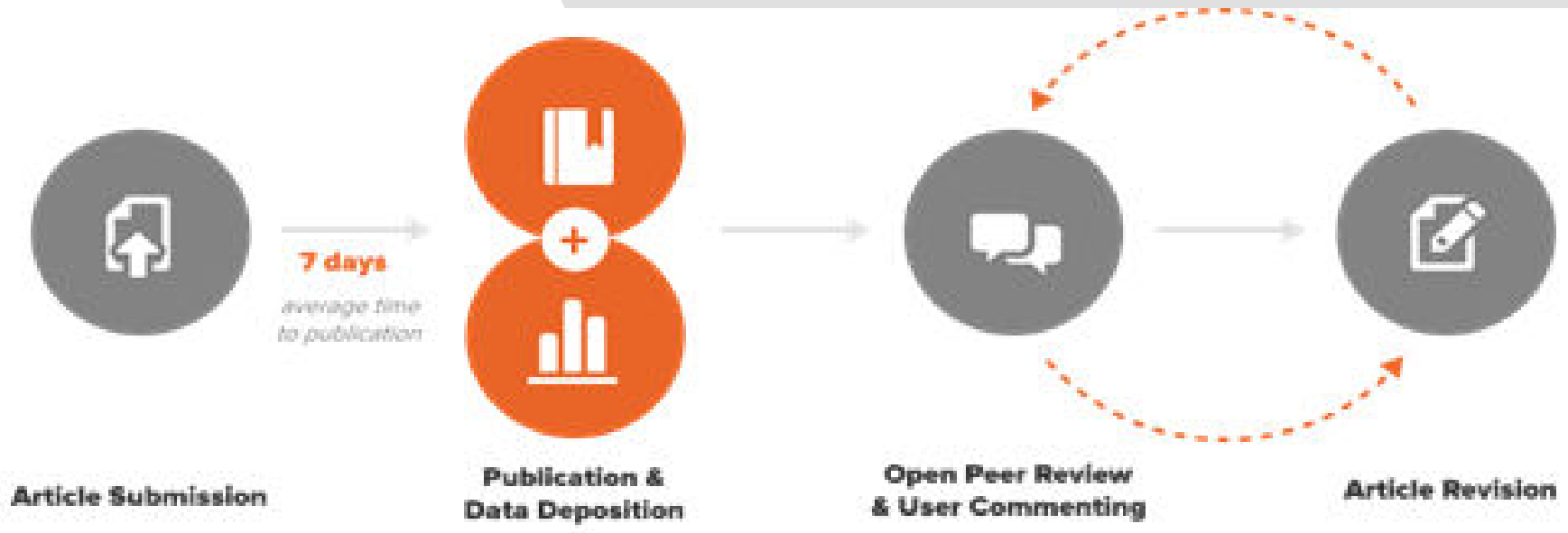


OPR in practice

Post publication PR

F1000 Research / Science Open

- Reviewers get credit for their reviews via ORCID
- Full report is published openly alongside the article, along with your name and affiliation



OPR in practice

Collaborative peer review

FRONTIERS

- Unite: authors, reviewers and the handling Editor
- direct online dialogue
- enabling quick iterations
- facilitating consensus
- editors and reviewers work with the authors to improve their manuscript.
- reviewers name appear on the published article



 **Robert Petersen**

College of Medicine, Central Michigan University, United States

REVIEWED BY

 **Nobuyuki Kimura**










National Center for Geriatrics and Gerontology (NCGG), Japan

 **Safikur Rahman**

Munshi Singh College, Babasaheb Bhimrao Ambedkar Bihar University, India

The editor and reviewers' affiliations are the latest provided on their Loop research profiles and may not reflect their situation at the time of review.

The Perspective of Dysregulated LncRNAs in Alzheimer's Disease: A Systematic Scoping Review

 **Mohammad Reza Asadi**^{1,2†},  **Mehdi Hassani**^{3†},  **Shiva Kiani**⁴,  **Hani Sabaie**^{2,5},  **Marziyeh Sadat Moslehian**⁵,  **Mohammad Kazemi**⁶,  **Soudesh Ghafouri-Fard**⁷,  **Mohammad Taheri**^{8*} and  **Maryam Rezazadeh**^{1,5*}

¹Molecular Medicine Research Center, Tabriz University of Medical Sciences, Tabriz, Iran

²Student Research Committee, Tabriz University of Medical Sciences, Tabriz, Iran

³Student Research Committee, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran

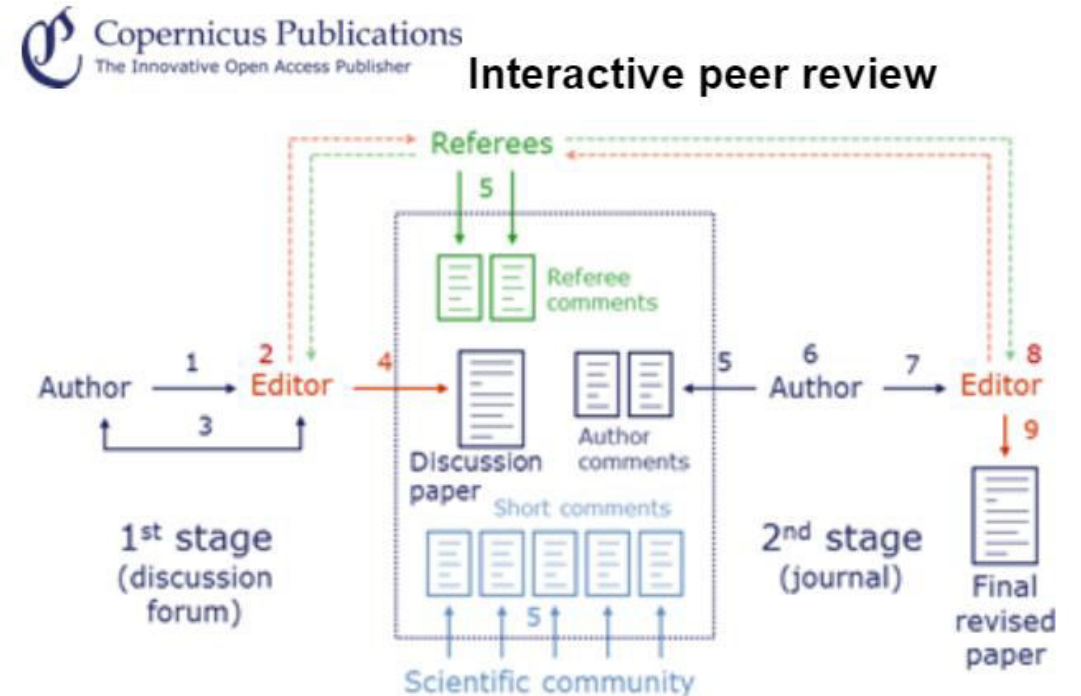
⁴Department of Molecular Genetics, School of Biological Sciences, Tarbiat Modares University, Tehran, Iran

⁵Department of Medical Genetics, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran

OPR in practice

Interactive PR

- Two stage peer review process
- To ensure publication precedence for authors and to provide a lasting record of the scientific discussions, the preprints and comments are archived and fully citable including DOI.



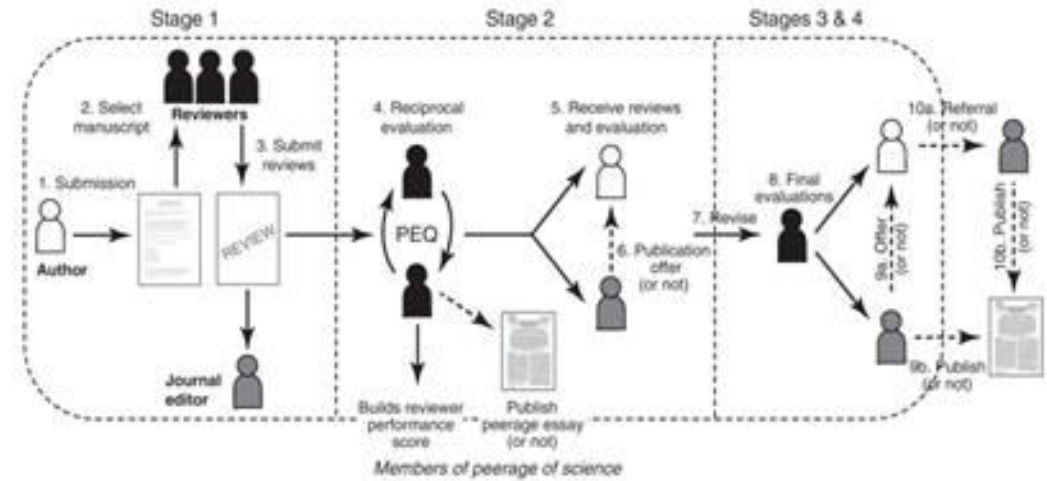
OPR in practice

Decoupled peer review

Peerage of Science/PublOn

Gives visibility to review and editorial work

Able to evaluate other reviewers



TRENDS in Ecology & Evolution

- Summary
- Metrics
- Publications
- Peer review

Editorial board memberships

CURRENT MEMBERSHIPS

- FEBS Letters ✓ WOS
- FEBS Open Bio ✓ WOS
- European Journal of Clinical Investigation... WOS
- Journal of Clinical Investigation WOS
- Molecular and Cellular Biology WOS

PAST MEMBERSHIPS

- EMBO Reports ✓ WOS

Verified editor records[®]

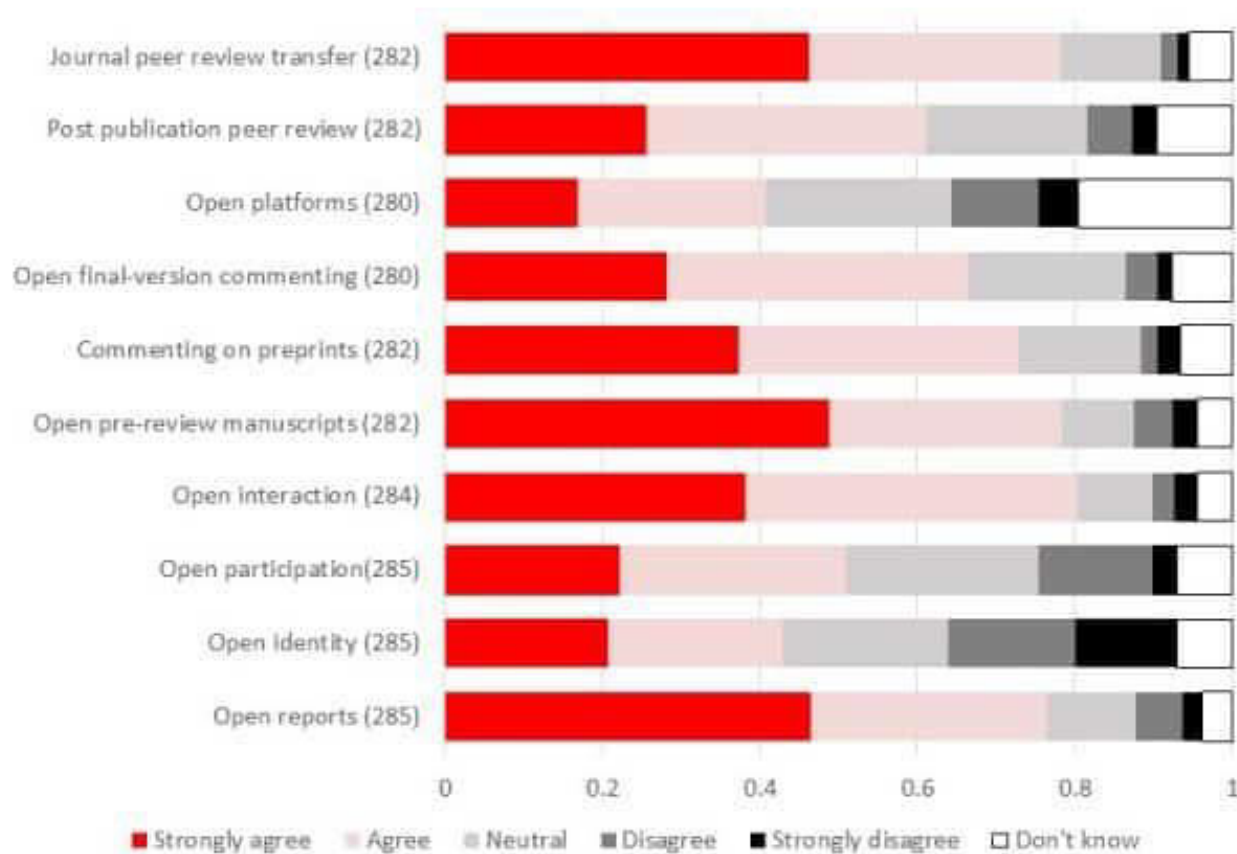
- (79) FEBS Letters WOS
- (18) Journal of Clinical Investigation WOS

Verified reviews[®]

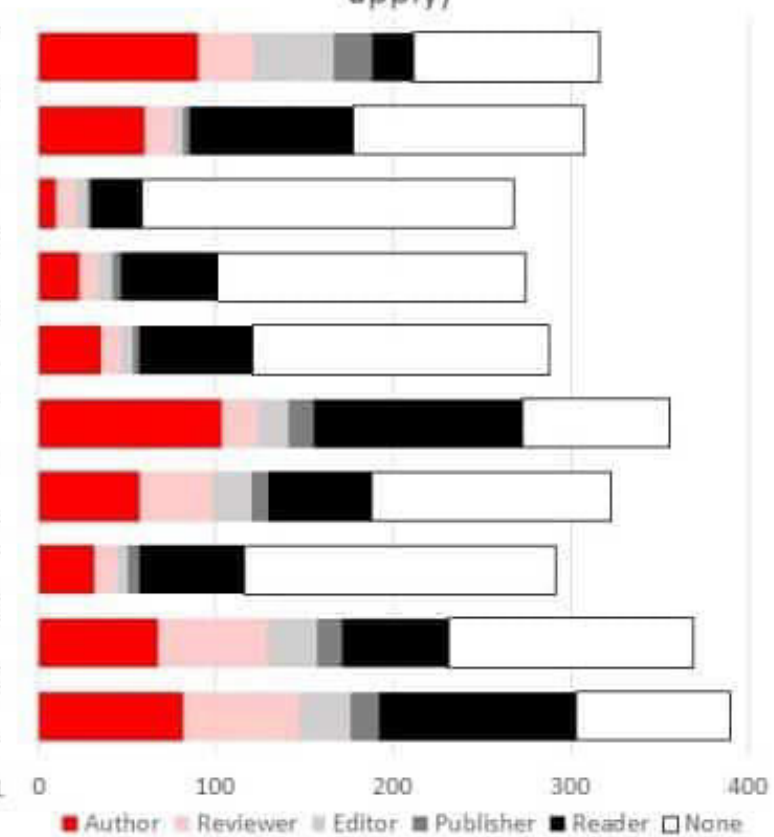
- (64) Molecular and Cellular Biology WOS
- (19) The Journal of Immunology WOS
- (15) Nature Communications WOS
- (12) American Society for Pharmacology and ... WOS
- (12) Arteriosclerosis, Thrombosis, and ... WOS
- (12) European Journal of Immunology WOS
- (11) Cell Death and Differentiation WOS
- (11) Plos One WOS
- (9) Diabetes WOS
- (9) Stem Cells WOS

Showing 10 of 107 [SHOW MORE](#)

The following types of peer review should be more widely used. (# of responses)



Do you have personal experience of the following types of peer review in various roles? (please check all that apply)



#bioPeerReview

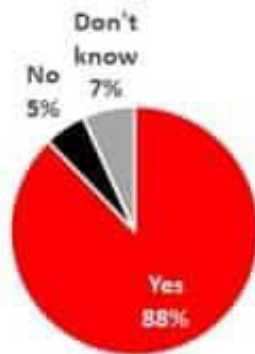


Credit and training for peer review

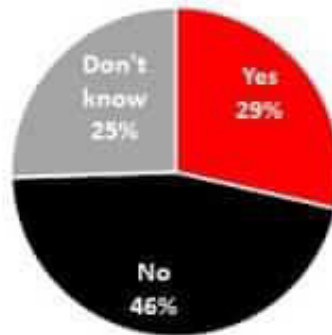
Should a researcher's peer reviewing activity be taken into consideration when they are evaluated for grants, jobs or promotions?



If a student or postdoc participates in peer review, should they be identified as a peer reviewer to the editor?



Should scientists receive monetary compensation for peer review?



Would you accept \$200 as compensation for reviewing a manuscript?

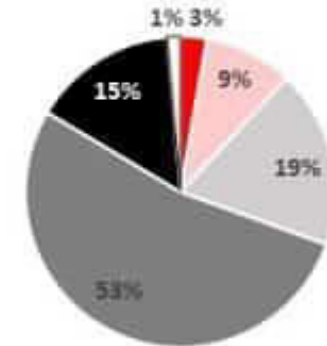
- Yes
- No, this is too much compensation
- No, this is not enough compensation
- Other (mostly summarized as "no")



From Peer Feedback survey

Researchers are adequately trained in how to perform effective peer review.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree
- Don't know



#bioPeerReview
ASAPbio



Why OPR?

Transparency

Reliability

Credit for peer reviewers

Educational tools

Accountability

Quality of feedback

Two ways to practice OPR

Retain the current peer review system but with open reviews and identities

Develop an entirely new system that is open to the community



Open peer review models are developing, improvements are made and lessons learnt.

What is needed?

- a coherent framework
- rigorous integrity principles and practices, as they allow quicker dissemination of research results and quicker ways of vetting the quality thereof;



- How these practices work out in the long run?
- To be able to collect the good/best practices - It would be necessary to have an open dialog with publishers about the review data they are collecting
- The picture of open peer review practices are tremendously varying.

World Café Process

We will now have 5 rounds of conversation of 15 minutes each. Questions on Open Science related topics discussed while other groups explore similar questions at nearby tables.

We encourage the table members to write, doodle, and draw key ideas on their flipchart paper.

After completing the 1st round of conversation, we will ask each table to agree a 'table host' who remains at the table while the others travel to different tables.

Let the travelers begin their journey clock wise.
The group travels together.

The Table Hosts to welcome their new guests and briefly share the main ideas, themes and questions from the initial conversation (max 1min). Encourage guests to link and connect ideas coming from their previous table conversations – listening carefully and building on each other's contributions.

After your 3rd round of conversation, initiate a period of sharing discoveries and insights in a whole group conversation.

World Café Guidelines



The World Café Etiquette

there are some simple rules of etiquette that help to get the most from a World Café workshop:

Focus on What Matters

Contribute Your Thinking

Speak Your Mind and Heart

Listen to Understand

Link and Connect Ideas

Listen Together for Insights and Deeper Questions (Playing, Doodling, Drawing are all encouraged!)

Have Fun!

The background of the slide features several colorful paper boats (origami) scattered across a white surface. The boats are in various colors: red, green, yellow, purple, and blue. The blue boat in the foreground is the most prominent and is in sharp focus, while the others are blurred in the background. A semi-transparent grey horizontal band is overlaid across the middle of the image, containing the title text.

New Trends in Research Assessment

Quantity vs. Quality

- **balance between quantitative and qualitative evaluation of research**
- **strengthening the qualitative research assessment indicators**
- **developing responsible use of quantitative indicators**

- recognising all forms of research and innovation output and processes:
 - datasets,
 - software,
 - codes,
 - methodologies,
 - protocols and patents,
 - publications;
- Highlight: data should be FAIR

References

- 1. Ross-Hellauer T, Deppe A, Schmidt B. Survey on open peer review: Attitudes and experience amongst editors, authors and reviewers. *PloS one*. 2017;12(12):e0189311.
- 2. Ross-Hellauer T. What is open peer review? A systematic review. *F1000Research*. 2017;6.
- 3. Ross-Hellauer T, Görögh E. Guidelines for open peer review implementation. *Research integrity and peer review*. 2019;4(1):1-12.





menti.com

Code 1976 8629

Please write 3 words that comes up to your mind in the context of this workshop



An aerial photograph of a complex, multi-level highway interchange. The roads are elevated and curve in various directions, creating a dense network of overpasses and ramps. The medians and surrounding areas are landscaped with green grass and large, colorful flower beds in shades of red, purple, and blue. In the foreground, a modern building with a glass facade and a white roof is visible, featuring the 'Standard Chartered' logo. The overall scene is a blend of urban infrastructure and landscaping.

Thank you for your activity!