

**4º EXERCICIO ESPECIALIDADE BIBLIOTECAS
IDIOMA: INGLÉS**

**Interview With Eloy Rodrigues: “There Will
Be No Open Science If the Excessive and
Wrong Use of Metrics Is Not Abandoned”**

Elsa Costa e Silva

Centro de Estudos de Comunicação e Sociedade, Instituto de Ciências Sociais, Universidade do Minho, Braga, Portugal

ECS: Considering the costs related to publishing, is it possible that open science will intensify the already known inequalities in access to the production of science and that it is only a movement for the so-called “developed countries”, the only ones with the means to support these new structures?

ER: That is a serious risk if the fee-paying model of open access publishing becomes dominant, as the commercial publishers want. The regional, institutional and disciplinary inequalities mentioned above could be accentuated, and there are already some signs of this. In the project *ON-MERRIT* (Observing and Negating Matthew Effects in Responsible Research & Innovation Transition), we are part of, explored this problem and produced recommendations: *ON-MERRIT Recommendations for Maximising Equity in Open and Responsible Research* (Cole et al., 2022) to mitigate the inequalities identified.

ECS: What is the role of institutional repositories in this new context? Can they re-ally be a new trend in institutions producing science?

ER: Repositories and other institutional infrastructures will be pivotal for a new model of scholarly communication. Not only as another outlet for content originally published elsewhere but as the starting point for scholarly communication.

Whereas when journals were published on paper, which meant that the roles of registration, certification, dissemination and archiving, essential for scholarly communication, were handled by the same entity (the journal), in the digital world, these four roles can advantageously be distributed among different players and infrastructures.

Repositories can be the foundation of a distributed and globally connected infrastructure for scholarly communication. They can ensure registration and archiving roles and facilitate external value-added services (such as peer review, certification, and dissemination) provided by other entities and infrastructures, such as journals or publishing platforms.

That is an innovative vision of scholarly communication, which we have been promoting, namely through the Pubfair framework proposal (Ross-Hellauer et al., 2019) and the *Notify* project (Confederation of Open Access Repositories, n.d.).

ECS: One of the constraints for open science is that indexing provides clear references to the visibility and reputation of publications. Will there be conditions for the emergence of new models for validating the scientific quality of publications within the context of open science?

ER: There will be no open science if the excessive and wrong use of metrics is not abandoned. And I say the same about the possibility of a good evaluation system for researchers and research. Metrics, such as the impact factor, shift the evaluation from the content (intrinsic to the publication) to the container and circumstances (extrinsic) and replace human qualitative evaluation with an automatic quantitative evaluation.

The excessive use of metrics, and especially indirect metrics such as impact factor, has been strongly criticised for almost 1 decade, with successive declarations (such as the San Francisco Declaration on Research Assessment, in 2012, and the *Leiden Manifesto for Research Metrics* [Hicks et al., 2015], in 2015, or, more recently, the Paris Declaration — Paris Call on Research Assessment, 2022). It seems consensual today that the current model will have to be replaced by alternatives that combine qualitative and quantitative assessment and, in the latter dimension, by the limited and responsible use of metrics.

ECS: Among the main challenges to the idea of open science, which do you think are the most difficult to overcome?

ER: I honestly think that the main challenges and obstacles are inertia and the difficulty in coordinating and taking concerted action on the part of the scientific community and its institutions. Open science does not require more financial resources (it is quite likely that if it is led by the scientific community and not by commercial entities, it will allow for savings regarding the publication and dissemination of results). On the other hand, it has advantages repeatedly proven in emergency situations and everyday science, so there is no significant opposition to open science in the scientific community.

However, although it already has a very significant adherence in some countries, institutions and scientific disciplines, and among young researchers, the spontaneous adoption of open science practices is still limited, and the major advances were made through “top-down” political stimuli. Traditional academic conservatism, inertia, and especially evaluation systems that reinforce the incentives to use traditional practices make old habits die hard. Cultural changes are always difficult and time-consuming, and this is particularly evident in academia.

Finally, the widespread adoption of open science, managed by the scientific community, and serving the interests of science and society, calls for a systemic change, which requires the coordinated and concerted action of all institutions, from funding agencies to universities and other research organisations. Such alignment must happen globally, involving the main institutions and their members in the different regions, which is anything but trivial.



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