

The 4th World Conference on Research Integrity: Research Integrity and Rewards: Improving Systems to Promote Responsible Research

Rewards have always been an important issue in the scientific community, where they are associated with notions of originality, priority of discovery and credit, among others. Looking at the reward system of science, Robert K. Merton (1910-2003) reminds us that although talent and effort are important assets for the research endeavor, achievement and cumulative advantage will mostly drive rewards ¹. In this arena, Merton ² indicates that it is not without disputes over allocation of credit that the institution of science has evolved. He refers for example to Galileo, who “*keenly aware of the importance of his inventions and discoveries... vigorously defended his rights to priority first, in his Defense against the Calumnies and Impostures of Baldassar Capar, where he showed how his invention of the ‘geometric and military compass’ had been taken from him...*” ² (p. 635). Merton ³ (p. 60) adds “*great talents in science are typically involved in many multiple discoveries*”, which “*holds for Galileo and Newton: for Faraday and Clerk Maxwell... Gauss and Laplace; for Lavoisier, Priestley... and for most Nobel laureates*”.

Times have changed but rewards and then allocation of credit are concerns for research systems all over the world and have been echoed by institutions, researchers and policy-makers, including those in Brazil ^{4,5,6,7}. These concerns have been driven by factors related to research assessment and performance indicators, which have been recently expressed in *The Leiden Manifesto for Research Metrics* ⁸. This Manifesto lays out some principles based on the widely discussed idea that research evaluations should not rely solely on metrics – but rather on broader evaluations with more room for expert judgment. The importance of expert judgment in research evaluation and of mechanisms to improve the quality of contributions and allocation of credit has gained considerable attention. Initiatives such as Faculty of 1000 (<http://f1000.com>), a network that joins over 5,000 senior scientists and leading experts in all areas of biology and medicine who provide expert recommendation about the literature, may illustrate this trend ⁴. Faculty of 1000, not free of criticism ⁹, is harmonized with different types of post-publication peer-review, such as Pub Peer and PubMed Commons ^{10,11}. The scenario that seems to be unfolding is one of increasing scrutiny of research results by peers. As Francis Collins, director of the National Institutes of Health (NIH) has pointed out “*science has long been regarded as self-correcting, given that it is founded on the replication of earlier work. Over the long term, that principle remains true. In the shorter term, however, the checks and balances that once ensured scientific fidelity have been hobbled. This has compromised the ability of today’s researchers to reproduce others’ findings*” ¹² (p. 612).

This pro-active attitude should strengthen not only the self-correction mechanisms but also public confidence in the research endeavor. Satyanarayana ¹³ (p. 4) reasons that the scholarly communication system is “*choked with the never ending deluge of publications*”, which poses some challenges to these mechanisms and hence to the correction of the literature – quite related to perceptions of research integrity. When it comes to research integrity, the responsible conduct of funders, authors, reviewers, editors and publishers is key to define the way research systems will legitimate genuine contributions and whether or not these systems will be successful in handling rewards ¹⁴. Research integrity, incentives and rewards are increasingly connected and have gained enormous attention in the last couple of years. This is reflected in the theme of the 4th World Conference on Research Integrity

(4th WCRI; <http://www.wcri2015.org>), to be held in Brazil (May 31-June 3: *Research Integrity and Rewards: Improving Systems to Promote Responsible Research*).

It may be due to a convergence of dialogues and concerns over this theme that major Brazilian funders such as Brazilian National Council for Scientific and Technological Development (CNPq), Brazilian Coordinating for the Advancement of Higher Education Personnel (Capes), São Paulo Research Foundation (FAPESP) and Carlos Chagas Filho Foundation for Research Support in the State of Rio de Janeiro (FAPERJ) have been among the major supporters of this world event. In addition, international organizations have joined Brazilian efforts, such the US Office of Research Integrity (US ORI), the International Council for Science (ICSU) and the Wellcome Trust, among several others.

The 4th WCRI will thus have a unique role to play in making a comprehensive approach to ethical matters underlying research rewards, notions of quality and excellence for a community that has started to revisit its own modus operandi of funding and assessing research and also of rewarding the achievements of institutions and fellows. What will come from these exchanges will depend on the level of engagement of participants in the proposed conversations.

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