

# IAU

## Horizons

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International Association of Universities (IAU), founded in 1950, is the leading global association of higher education institutions and university associations. It has over 600 Member Institutions and 30 organisations in some 130 countries that come together for reflection and action on common concerns.

IAU partners with UNESCO and other international, regional and national bodies active in higher education **and serves as the Global Voice of Higher Education.**

## IN FOCUS

Democratising Knowledge:  
Open Science in a Closed World?

## UPCOMING

Introducing the UNESCO World  
Higher Education Conference



(country/institution). A critical suggested change is to reduce the amount of evaluation procedures to give priority to in-depth evaluations, with less bureaucratic exigences and more formative features. A *pluralisation* of evaluation criteria is also required because scientific research involves diverse academic practices according to the methodological design, the institution involved, interdisciplinarity and nexus with society. A *diversification* of the social profile of the evaluators is finally critical to boost participatory science and advance towards the assessment of social relevance against purely academicist evaluations.

There is a certain amount of consent among experts in scientific policies that the most effective path to produce changes in the production and circulation of research is to change the rewards system. Of course, implementing this shift and adopting localised criteria depends on the existence of a certain degree of governance autonomy at the level of the institutions. Accordingly, a “new deal” between global, national and local standards should be pushed. The Recommendation on Open Science in progress within UNESCO precisely addresses these tensions and seeks to pave the road.

## 24 To foster Open Science we need a new system to protect intellectual creation



by **Gregory Randall**, *Professor in the School of Engineering, Universidad de la República, Uruguay*

Humanity is facing enormous challenges, many of them produced by human action itself: climate change,

health crises, social problems generated by an increasingly populated, degraded and unequal world. Understanding these complex problems requires the collaboration of all the capabilities that humanity has developed. This includes diverse knowledge systems, research capacities, technologies, and forms of organisation.

The complexity of these problems, as well as the growing dimension of scientific research systems in the world, drives the need for open science. Free circulation of knowledge and collaboration contribute decisively to the advancement of science. Thus, increasingly dense circuits of exchange between researchers from all over the world have been formed: scientific publications, conferences, joint projects, cross-training, etc. The scientific community itself has realised that open science is the most efficient way to address the problems we face. Open science means breaking down borders: between researchers, disciplines, countries, approaches, cultures. Open science also means breaking down boundaries between academia and society in its many facets.

Science has developed in an extraordinary way over the last several hundred years and has become a central aspect of society. Today we speak of a knowledge society. In this context, science is becoming an increasingly powerful factor. From this stems the multiform attempt to appropriate science: to set the agenda and channel major resources to certain problems (to the detriment of others), to direct the results of scientific research to solve the problems of part of society, to exploit discoveries for some economic or military purposes, and so on.

Open science is a movement with growing strength, driven by researchers themselves who know from experience the power of collaboration and by institutions that realise that breaking down barriers has great benefits. But there are important difficulties in its development. One is the belief that it goes against the “intellectual property” framework and therefore could become a negative incentive to further scientific development.

The so called “intellectual property” system is the main legal tool to guaranteeing the appropriation of knowledge. It is based on secrecy and on asserting the monopoly of the use of certain knowledge by the owners of patents and similar instruments. The current “intellectual property” framework prioritises the appropriation by a few in detriment of collective benefit and makes the free collaboration necessary for the advancement of science more difficult.

It is often said that the intellectual property system protects the rights of scientists for their scientific production and is therefore a necessary incentive for promoting research. This is a fallacy. In universities, where much of the research takes place, we are fuelled by curiosity, love, a sense of duty to our fellow humans, or vanity, among other reasons. The idea that the results of research can be converted into a product that generates economic profit is a recent phenomenon and rather alien to most researchers. In many institutions a specific effort must be made to change their academics’ naturally open attitude to a sort of “intellectual property friendly” approach to research, which gives greater importance to closeness.

On the other hand, in a world characterised by the dominance of a few over a large part of humanity, many rightfully fear that without proper regulation open science may facilitate the predatory behavior of the powerful.

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The COVID pandemic has been an extraordinary example. During 2020, we witnessed a collective, collaborative and generous effort to address a health crisis of major proportions. It allowed us to better understand the problem and make scientific progress in record time. In 2021, we are returning to the “intellectual property” mode of science, marked by selfishness, secrecy and greed. The results on public health of this way of acting are a true moral catastrophe, as pointed out by Tedros Adhanom Ghebreyesus, director of the World Health Organization (WHO).

There are instruments for protecting intellectual property that go in the same direction as open science, for example Creative Commons licenses. But, in order to strengthen the necessary movement towards open science, it is of utmost importance that we create a true system of protection of intellectual creation (no longer intellectual property, words matter), which asserts authorship recognition and truly promotes collaboration and openness instead of private appropriation and secrecy. We need a system that effectively protects open knowledge, preventing some people from misappropriating open knowledge.

## 25 The Contribution of Costa Rican Public Universities to Open Science



by **Saray Córdoba González**,  
*Honorary member of Latindex, University of Costa Rica, Costa Rica*

Costa Rica is a country located in the Central American Isthmus that has five public universities (which are financed by the Costa Rican state through constitutional mandate) and 54 private universities. The University of Costa Rica (1941) is the largest and oldest of them and they are all grouped in the National Council of Rectors (CONARE), which is the coordinating body and developer of joint programmes throughout the country. One of its organisations is called “Open Knowledge” and it is the one that has initiated and developed most of the activities to promote Open Science (OS). Since 2010 it has been organising activities, first to promote OS through repositories and journal portals and secondly, it has been involved in the promotion of OS [1], mainly with regard to research data, the application of open indicators and the inclusion of preprints in some journals.

Since commercial trade and profit have never been common practices (albeit there’s a tradition of library exchange and networking throughout Latin America), Costa Rica’s journal system like those of other countries in the region, was born with an open access concept in its academic publications. Indeed, the vast majority of these are financed with public

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funds from the universities and constitute a fundamental piece in the fabric of the science produced in the country. The open access diamond path has been the strongest option for journals, and the green path or the repositories options are strengthened.

As part of this process, Latin American information systems – which the country is a part of – have been the cornerstone of open access since 1997. Latindex, SciELO, Redalyc, LA Referencia, CLACSO, LatinRev and AmeliCA are services that bring together and disseminate the publications born and developed in the region. Most of these are distinguished by promoting non-commercial open access and represent, in many cases, unique examples in the world due to their characteristics. Some are promoted and sponsored by the universities. They were born with the aim of highlighting the scientific production of the region and as an alternative to paid publication of scientific articles. In addition, it is calculated that there are about 380 scientific journal portals and 665 repositories in the Latin American region, which is an important example of this development.

However, these conditions are currently the focus of extensive discussions, as we cannot stay on the sidelines of what is happening in the world. The influence of the market is a real threat. We observe that universities’ budgets are reduced and commercial practices are consolidated in the scientific field; science evaluation systems are increasingly inclined to privileged mainstream journals, rather than the intrinsic quality of the article, thus causing an exclusion of local journals instead of strengthening them. We concentrate on reflecting where we are going and how we can get around those impositions. The path to OS is interfered with by these superstructures that become the puppeteer who pulls the strings of the system.

In this scenario, OS could become a chimera because, in order to make it a reality, we must consider, in addition to the already mentioned challenges, the efforts necessary to achieve a cultural change. There is reluctance in academia, not only because these are new and unusual practices, but also because they require a process of sensitisation to orient more towards “the common good”, which collides with individualism, commercial interests, lack of incentives and the fear of change.