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► **To cite this version:**

Gaelle Bequet. Questionable Practices in Scholarly Publishing: the Stance of the ISSN Network. IFLA WLIC 2016, International Federation of Library Associations and Institutions, Aug 2016, Columbus (Ohio), United States. hal-03972017

**HAL Id: hal-03972017**

**<https://hal.science/hal-03972017v1>**

Submitted on 3 Feb 2023

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## Questionable Practices in Scholarly Publishing: the Stance of the ISSN Network

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### Abstract:

*The ISSN network actively supports Open Access scholarly journals and repositories by disseminating free information about these resources on its web platform ROAD. ROAD provides the bibliographic and geographical metadata supplied by the ISSN network. The latter is enriched with metadata about the coverage of the resources by indexing, abstracting and citation databases, registries and journal impact factors.*

*The advent of Open Access publishing has been tainted by questionable practices favouring profit-generating activities over the advancement of sciences. The ISSN network has been faced since 2012 with ISSN requests lacking correct and verifiable information preventing the unambiguous identification of the publication. Some guidelines have been devised to handle these flawed requests. The ISSN network advocates some educational action towards authors, editors and publishers to improve the quality of publications.*

**Keywords:** ISSN network, ISSN International Centre, Directory of Open Access Scholarly Resources (ROAD), Think.Check.Submit campaign, Ethics in scholarly publishing.

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### Introduction

The ISSN network identifies various kinds of serial publications among which scientific journals are a prominent set. Marcel C. LaFollette describes the scientific journal as “a periodical that an identifiable intellectual community regards as a primary channel for communication of knowledge in its field and as one of the arbitrators of the authenticity of legitimacy of that knowledge.”<sup>i</sup> She also states that “journals represent the principal means of formal communication among scientists and social scientists through which research is made public and through which it is evaluated and authenticated by other experts, before and after publication.”<sup>ii</sup>

The ISSN International Centre and the 89 ISSN national centres receive requests from publishers in need of an ISSN to get their journals listed in retailers’ offers, identified in aggregators’ databases or preserved by scientific and cultural institutions. The ISSN network has thus witnessed a significant increase in the global number of ISSN assignments over the

last few years: 69,262 new serial publications (print and digital) were registered in 2005, 66,171 in 2010 and 73,834 in 2015. Over the same period, the number of digital serial publications has grown from 6934 (2005) to 11,429 (2010) and 22,610 (2015). Whereas new digital titles only represented 10 % of new serials worldwide in 2005, this proportion rose to 30 % in 2015.

The growth of digital serial publications has been fostered by the dematerialization of publishing practices and the evolution of research behaviors. “Virtually all STM journals are now available online. [...] The proportion of electronic-only journal subscriptions has risen sharply. [...] Consequently the vast majority of journal use takes place electronically, at least for research journals.”<sup>iii</sup> The emphasis laid upon scientific open access in the recent years has also attracted newcomers such as green open access-based repositories or gold open access journals. The latter have significantly upset the scientific journal markets with disruptive business practices based on article processing charges and low quality or inexistent peer reviewing.

This paper briefly examines the foundations of open access scholarly communication and the role of the ISSN network in promoting OA scholarly journals and resources. It also demonstrates how the ISSN network actually deals with the emergence of questionable practices in the OA publishing environment<sup>iv</sup>. It suggests a more balanced approach on the shared responsibilities of the author, the editor and the publisher regarding the quality of OA scientific output and present the campaign Think. Check. Submit supported by an array of international publishers, associations and institutions to raise awareness among scholars about the importance of selecting the journal to publish their research in.

### **About Open Access initiatives in the early 21st century and the role of the ISSN network**

It may be commonplace to remind that the foundations of the Open Access movement were laid in the Budapest Declaration in 2002 although initiatives such as arXiv.org (Cornell University) or Scielo.org (Fundación de Apoyo a la Investigación del Estado de São Paulo, Brazil) date back to the 1990s. In February 2002, a score of scholars and publishers, supported by the Open Society Institute, drafted the Budapest Declaration which draws a link between “the willingness of scientists and scholars to publish the fruits of their research in scholarly journals without payment”<sup>v</sup> and the ease of disseminating information on the Internet. The Budapest Declaration thus advocated the development of self-archiving of articles by researchers and the creation of “a new generation of journals committed to open access”<sup>vi</sup>.

In June 2003, the Bethesda Statement on Open Access Publishing<sup>vii</sup> further specified that OA publications should rely 1) on the perpetual right of access to the work granted by the author or the copyright holder and 2) on the deposit of the work in an online repository supported by an organisation committed to long-term preservation. In October 2003, the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities completed the OA founding statements by “encouraging researchers to publish their work according to the principles of the open access paradigm [...] and developing means and ways to evaluate open access contributions and online-journals in order to maintain the standards of quality assurance and good scientific practice.”<sup>viii</sup>

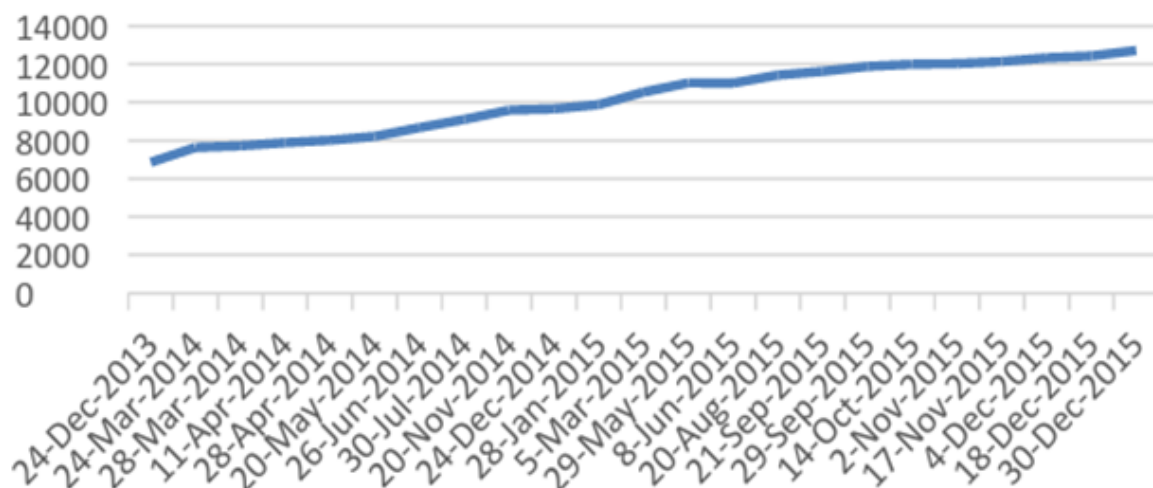
Since then, many initiatives have harnessed the potential of open access principles to disseminate scholarly information. Suffice it to mention the impressive expansion of academic repositories in various areas of the world. According to the figures provided by the Registry of Open Access Repositories<sup>ix</sup>, there were 4278 repositories operating in 2016. For

its own part, the Directory of Open Access Repositories<sup>x</sup> identified 3091 repositories at the same date. Organisations and services such as the Confederation of Open Access Repositories or OpenAire strive to enhance the visibility of research outputs and lobby for repositories at the national and international levels. Digital scientific repositories, and at least institutional ones which are defined as “digital collections capturing and preserving the intellectual output of a single university or a multiple institution community of colleges and universities”<sup>xi</sup>, require a rather complex IT infrastructure securing both interoperability and long-term preservation among other factors which are deemed critical for success<sup>xii</sup>. Sometimes less demanding in terms of technical and human resources, e-journals, e-conference proceedings and scholarly blogs have also flourished under the aegis of the Open Access movement.

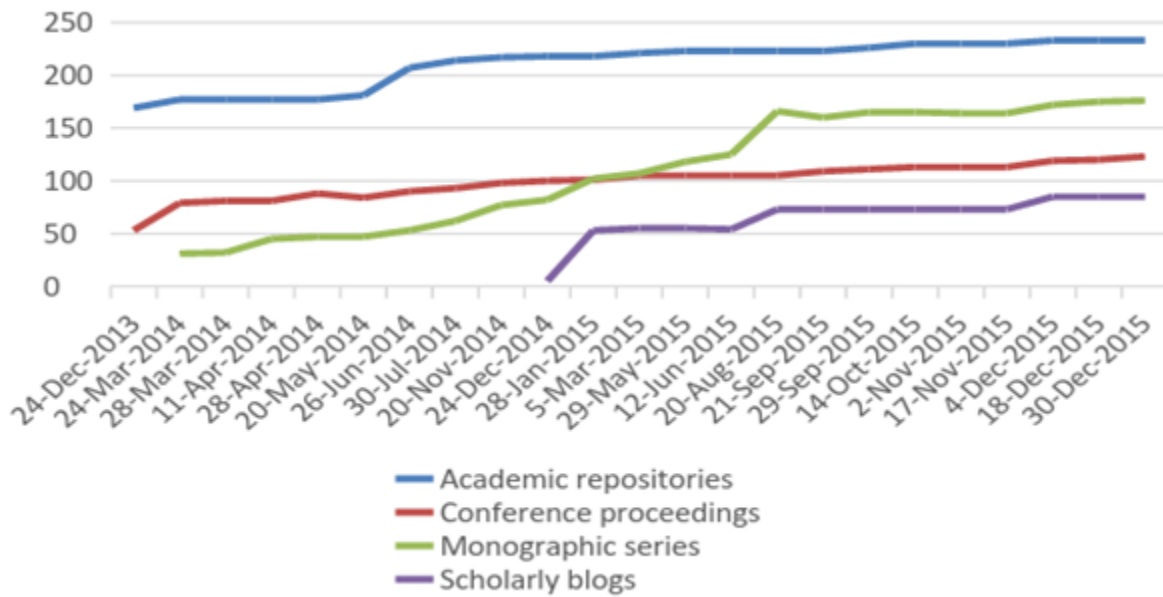
In 2012, the ISSN International Centre, under the guidance of its Governing Board and largely inspired by the ventures mentioned above, posited that it could play a useful part in the promotion of Open Access scholarly resources. With the support of the 89 national centres which comprise its network, the ISSN International Centre is indeed in a good position to provide an overview of the development of OA scholarly resources worldwide. With backing from UNESCO’s Communication and Information Sector, the ISSN International Centre opened in 2013 a web service called the Directory of Open Access Scholarly Resources<sup>xiii</sup> which is fed by national ISSN centres supplying their bibliographic records that are further processed to be made available on ROAD in various formats including RDF.

A unique feature of ROAD lies in the provision of global statistics thus allowing users to monitor the development of OA resources across the globe. The tables below give some indications about ROAD content and show the unsurprising prominence of e-journals in the database.

**Table 1: OA e-journals identified by the ISSN network (as of April 2016)**



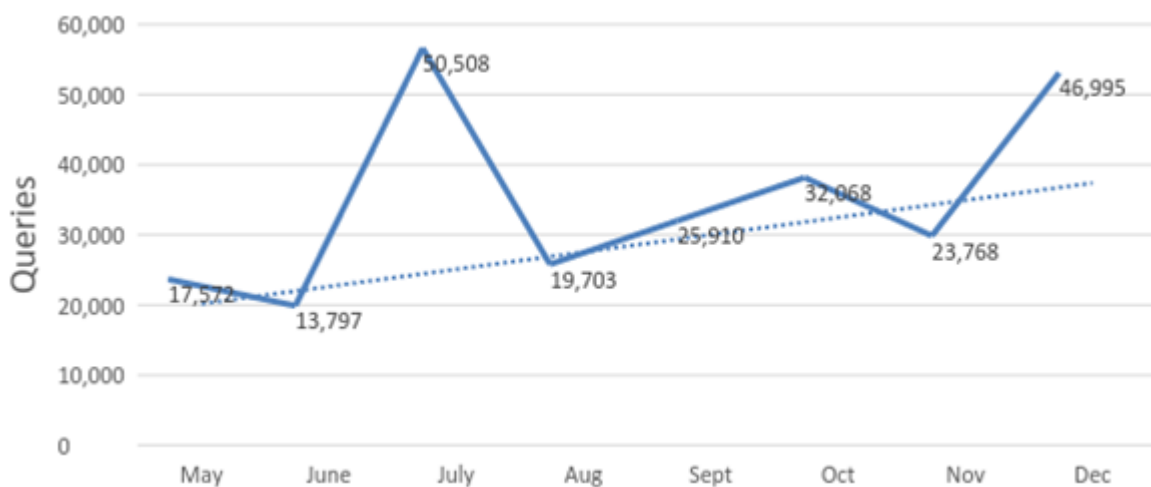
**Table 2: OA resources (except journals) identified by the ISSN network (as of April 2016)**



ROAD is still in its infancy but there is a growing interest in the distinctive services it provides. Presentations given in 2015 at UKSG, the Bibliothèque nationale de France, University College London, the National Library of Colombia and Latindex General Assembly have attracted new users with a 2015 monthly average of 28,790 visitors.

In considering the number of contributions to ROAD, the top five countries are India, Brazil, the United Kingdom, the United States of America and France. In considering the number of sessions, the top five countries are India, Iran, the United States of America, Brazil and Pakistan. India is thus the country which identifies the highest amount of OA journals in ROAD (1400 titles) and has the highest number of user sessions (46,348). As of June 2016, there were altogether 14,633 OA journals identified by the ISSN Network and listed on ROAD.

**Table 3: ROAD’s user queries (May-December 2015)**



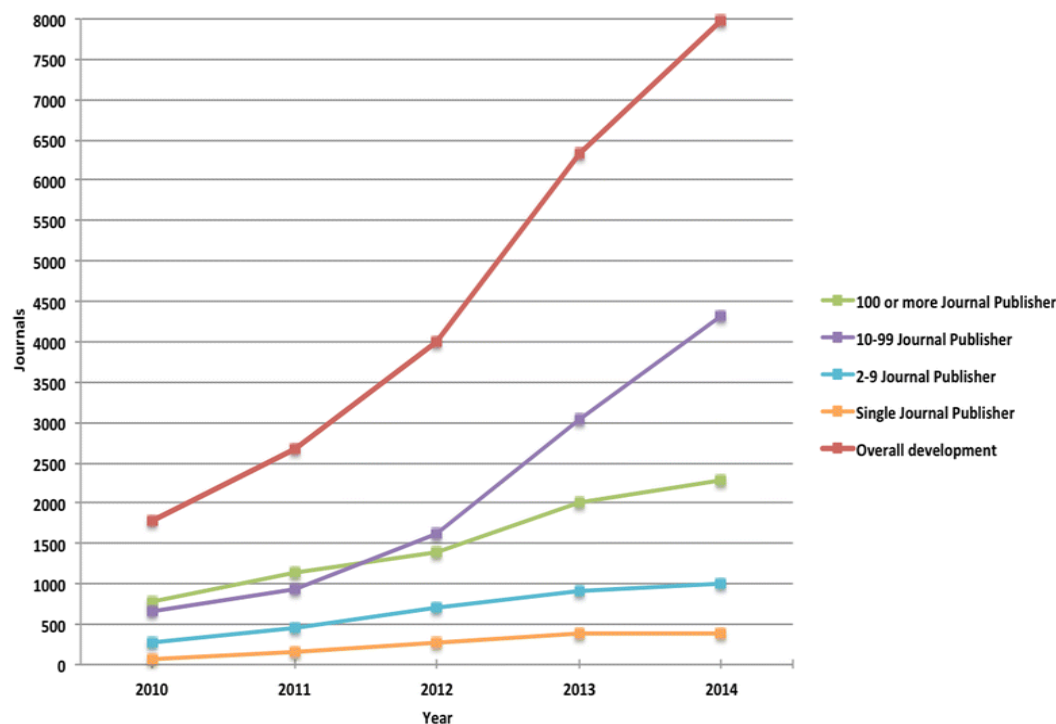
## How the ISSN network handles the issue of questionable publishing

In 2012, when the ISSN network was working on ROAD's specifications, many national centres started to express some concerns about the emergence of "fake" or "pseudo-scientific" e-journals requesting ISSN. ISSN librarians were puzzled by the data provided by some applicants requesting ISSN: the journal had either no place of publication or a false one, the editorial board mentioned on the website was populated with fictitious individuals or with scholars not even aware of their appointment to the board, the article content was scarce or plagiarized, the impact factor was pure invention.

In the last few years, the ISSN network has thus been faced with the business challenge of "predatory publishing" as coined by the high-profile whistleblower and librarian Jeffrey Beall<sup>xiv</sup>. According to him, "2012 was basically the year of the predatory publisher; that was when they really exploded."<sup>xv</sup> Another malpractice is title hijacking which has proved to be even more challenging for the ISSN community because forgers use the ISSN as a token of legitimacy to convey the look and feel of the official journal's website. In 2015, the ISSN International Centre was thus contacted by a young Polish scholar who had submitted a manuscript to Jökull Journal, a fake publication mimicking the Icelandic journal Jökull: on its homepage, the former, which is included in one of Beall's blacklists<sup>xvi</sup>, does use the official ISSN of the latter<sup>xvii</sup>.

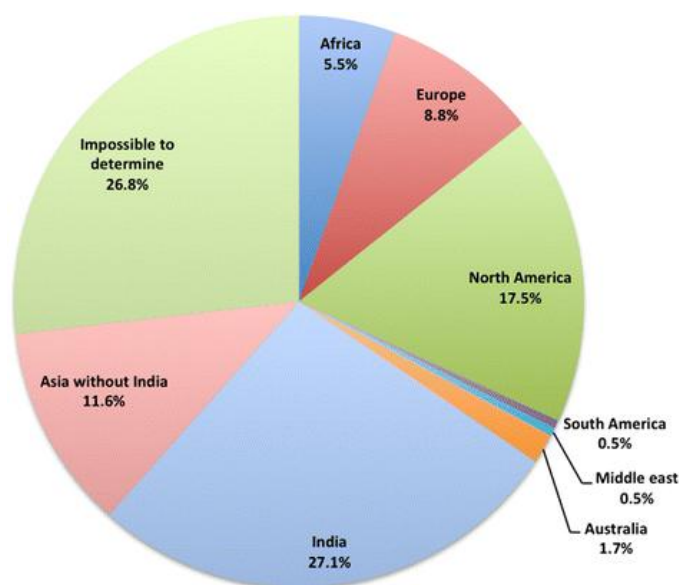
A 2015 study by Cenyu Shen and Bo-Christer Björk<sup>xviii</sup> based on Beall's lists showed that the number of OA journals with questionable practices was actually growing.

**Table 4: The development of active predatory open access journals from 2010 to 2014<sup>xix</sup>**



The same study pointed out that Open Access questionable publishers were mainly located in Asia (with India alone accounting for 27 % of the total) and Africa although other continents were also affected.

**Table 5: The distribution of publishers (n = 656) by geographic regions<sup>xx</sup>**



Some debates have been going on within the ISSN network since 2012 to improve the control of data provided by publishers before delivering the ISSN. The main principle on which ISSN centres have agreed is that their role is to identify a publication. The ISSN is a code without any intrinsic meaning: as such, it does not include any information about the origin or content of a publication and furthermore, it does not guarantee the quality or validity of the content. Hence, the ISSN national centres are not entitled to assess the quality of scholarly publications, whether print or online. Other organisations are specialised in journal quality ranking. However, the ISSN centres now reserve the right to refuse assignment when a publisher provides misleading information which prevents the accurate identification of the resource in the ISSN Register. A second principle is that ISSN centres reserve the right to refuse or to delay the ISSN assignment when they consider that the publishing projects are not mature enough: they can delay assignment until the first issue is released or a significant number of articles is available. A third principle is that an ISSN can be revoked if it subsequently comes to light that misleading information has been provided in the request.

It is thus important to emphasize that the ISSN Register provides accurate bibliographic information about a serial title although it does not give any indication about the quality of the content. Nevertheless, as quality has become a vivid issue especially in scholarly Open Access publishing, ROAD does provide information about the indexation of a title by matching ISSN records with coverage lists provided by indexing and abstracting databases, registries and journal indicators.

### **Towards an educational approach to malpractices in the authoring and publishing chain**

J. Beall certainly deserves credit for raising international awareness about dubious practices in scholarly online publishing but the link he has drawn between this phenomenon and the Open Access movement<sup>xxi</sup> has been subject to much criticism. J. Beall has often claimed that “in the so-called gold open-access model, authors are charged a fee, called the article processing charge (APC) upon acceptance of a manuscript. Numerous publishers have emerged since 2009 that aim to exploit this model.”<sup>xxii</sup> In his comment to this allegation, P.



Young specifies that “a majority of open access journals do not charge authors, and those that do usually have waivers. [...] It’s not accurate to portray fee-based publishing as the only open access model.”<sup>xxiii</sup> Furthermore, many journals, whether open access or not, charge publication fees to the authors of research papers: using APC to support a publishing venture is not specific to open access publishers.

Low-quality publishing ranging from mere amateurism to blatant scam has not been brought about by the open access movement nor by the Internet. Monica Berger and Jill Cirasella remind us that “there have long been opportunistic publishers (e.g. vanity presses and sellers of public domain content) and deceptive publishing practices (e.g. yellow journalism and advertisements formatted to look like articles).”<sup>xxiv</sup> Renowned scientific journals have built their reputation on the excellence of their peer-reviewing, i.e. the technical scrutiny of a paper by subject experts. However, established publishers such as Springer and IEEE<sup>xxv</sup> to only name a few have sometimes published bogus papers. As early as 1992, M. C. LaFollette was writing that “the emphasis on peer review reinforces a myth that says all scientific journals use rigorous expert review in selecting all content and that the peer review process operates according to certain universal, objective and infallible procedures, standards, and goals. Quite the opposite is true.”<sup>xxvi</sup> Journal editors are being overwhelmed with manuscripts sent by scholars or would-be scholars who are under constant pressure to publish in order to get a position or to move their career forward or improve their metrics. The sheer volume of papers to review may hinder systematic and rigorous scrutiny. “Some prestigious journals use external referees for just a tiny fraction of their manuscripts; other adjust the amount of external review to the author and topic.”<sup>xxvii</sup> Although resource constraints may often be central in this shortcoming, one can also surmise that training for newly-established editors and publishers is also crucial to enhance their practices. An initiative like the Committee on Publication Ethics<sup>xxviii</sup> offers guidance to these target audiences by providing educational material and a forum for dialogue between professionals.

The ISSN International centre and its network are convinced that educational action should be taken towards authors as well. In 2015, the ISSN International Centre started its partnership with the **Think.Check.Submit (TCS)**<sup>xxix</sup> campaign which aims at helping researchers, and more specifically early career researchers, identify trusted journals for their research. TCS organisations<sup>xxx</sup> are involved in scholarly communication at various levels and they have come up with a checklist that researchers can use to assess the credentials of a journal or publisher. What are the main points a young scholar should care about before deciding to submit her/his manuscript? First of all, TCS recommends to talk with colleagues to find out whether they know the journal and value it. On the journal’s website, the contact of the publisher should be readily available as well as the address of the company, the editorial board’s membership, the type of peer review and the amount of APC if any. Furthermore, some investigation is required to find if articles are actually indexed and by which service. Any information regarding the activities of the publisher within the professional environment should be actively sought for. For established scholars in developed countries, the tips provided by TCS may seem rather straightforward but this may not be the case for young and inexperienced researchers or doctoral students from developing countries. Indeed, authors publishing in questionable journals are “concentrated in a few countries, such as India, Nigeria, and Pakistan”<sup>xxxi</sup> and they “have little to no history of previous publications and citations.”<sup>xxxii</sup> These authors encounter some difficulties in publishing in renowned international journals and resort to submitting their research to less reputable journals because they have no other choice: “the publishing market is traditionally not a huge economic entity in many developing countries, which has given OA initiatives sufficient space to expand in these areas.”<sup>xxxiii</sup> TCS also expects to reach this specific audience through



academic librarians who can advise students and young scholars about the reliability of a journal title by checking ISSN data and by identifying libraries where this title is held and hopefully preserved.

Some ISSN centres have also been actively involved in the control of identification metadata about scholarly journals. The Indian ISSN Centre based at the National Institute of Science Communication and Information Resources<sup>xxxiv</sup> (NISCAIR) in New Delhi provides a good illustration of this engagement. As seen above, open access journals are flourishing in India and so is the Indian higher education sector which comprised 712 universities, 36,671 colleges and 11,445 standalone institutions in 2014<sup>xxxv</sup>. The figures regarding the student population are also impressive with 84,000 students enrolled in PhD in 2014 and 3.3 million students enrolled in post-graduate studies<sup>xxxvi</sup>. As the number of academics is growing, so is the number of scholarly publications. The Indian ISSN Centre has been assigning ISSN to periodicals since 1985. For a few years now, it has been faced with a surge in ISSN requests coming from questionable publishers. In 2015, meetings took place between the Indian ISSN centre and the University Grants Commission to discuss the problem of “fake” scholarly journals. In order to exercise some control over questionable journals seeking print-ISSN, the Indian ISSN Centre now requires the publisher to first register the print serial with the Registrar of Newspapers in India (RNI) before applying for ISSN. Online serials remain a challenge though since the RNI does not register online publications.

## **Conclusion**

Since 2013, the ISSN network has supported open access publishing across the globe by promoting scholarly journals and other types of academic continuing resources via the Directory of Open Access Scholarly Resources (ROAD). The paramount mission of the ISSN network is to identify a serial publication and to provide accurate and updated metadata to foster the dissemination of information. Metadata quality for serials is the ISSN centres’ business whereas content quality is assessed by services which make use of ISSN data: for instance, the ISSN International Centre signed an agreement with the Directory of Open Access Journals in 2015 to exchange data allowing ROAD’s description of an OA journal to refer to DOAJ when the latter does include it. The ISSN network thus pays much attention to initiatives aiming at enhancing publishing practices and it participates in the campaign Think.Check.Submit to alert young scholars about the criteria to consider when choosing a scientific publication to spread their research results. Education seems indeed the best way to help young scholars to improve their practices at different professional levels. They should also be advised to avoid some misconducts which are detrimental to the production of sound science. Description of imaginary data or dissemination of faked data, plagiarism, violation of copyright, misrepresentation of authorship (some authors are not mentioned as such), deception about a manuscript’s status (part of the manuscript has already been published) are some examples of offenses for which authors are directly responsible. International initiatives related to ethics in authoring, editing and publishing are thus extremely important to raise the global quality of scholarly research.

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