China Begins Excelling in Research: An Interview with Mingfang Lu

Author
Enago Academy

Post Url
https://www.enago.com/academy/china-begins-excelling-in-research-an-interview-with-mingfang-lu/

Research in China has seen an exponential growth in the recent years. So much so that China is now the world's largest producer of scientific articles. There are a number of factors that have led to this achievement in Chinese research. One of them is the Chinese government's continued push towards science and research and development.

As part of our interview series on Connecting Scholarly Publishing Experts and Researchers, we had the opportunity to speak with Dr. Mingfang Lu. Mingfang is a distinguished publishing expert, has a diverse academic profile, and has driven several initiatives in the academic publishing industry in China. He has worked as the ex-Editor-in-Chief at IOP Publishing for over 15 years, where he worked in collaboration with organizations such as IOPCAS, NSFC, CAS, CAST, MOST, Peking University, and Tsinghua University.

On behalf of Enago Academy, we wish you a very Happy Chinese New Year. The last year (2017) has been really good for research in China. Do

you think this trend will continue?

The Chinese government is constantly pushing forward and investing in science, innovation, and R&D. So, China is expected to continue to keep growing in terms of science and R&D output and produce more research papers in the New Year and going forward.

Recently, it has been reported that China overtook the US to become the world's largest producer of scientific articles. According to you, what initiatives have helped China achieve this milestone?

According to the Ministry of Science and Technology of China (MOST), in 2017, China's R&D investment reached a record high of 408 billion USD, approximately 2.12% of China's annual GDP. This investment was only second to that of USA (496 billion USD). In addition, according to the Science and Engineering Indicators report published by the National Science Foundation (NSF), in 2016, China published 426,000 STM papers, overtaking USA (409,000) for the first time (SCOPUS/Elsevier). This milestone event can be attributed to China's decade-long persistent push towards science and R&D, with a consistent amount of investment. Moreover, China now has more research institutions and researchers and so is able to produce more research papers. While increasing the number of papers published, China also urges its research institutions and researchers to pay more attention to the originality and impact of their published academic papers. So far, the average number of citations of Chinese papers is still far lower than that of papers published by US-based researchers. So, Chinese researchers still have a long way to go.

China has increased its investment in research and development over the last 20 years. How have researchers in different universities and institutions benefitted?

Researchers in Chinese universities and institutions now receive high amount of funding for their proposed research projects. They are also better supported in terms of research infrastructure. This can help them explore new ideas to try and achieve real progress and initiate ground-breaking work. Examples include the quantum teleportation satellite and communications experiments, dark matter satellite, space-based gravitational wave detection project, FAST, Weyl fermion and Majorana fermion, gene technology, etc. Chinese researchers also carry out more diverse research projects and have more collaborations with international experts.

It has been seen that research originating from China has the highest number of foreign collaborations. What has made this possible?

Many Chinese researchers pursue their higher education and initial research training at international universities. This has helped them establish strong research connections and collaborations with their foreign counterparts. After returning to China, they continue their collaborations with their foreign counterparts in various domains. Such

collaborations facilitate the sharing of research ideas and facilities and even facilitate research paper submissions. Such collaborations are also supported by China's funding bodies. These factors could have contributed to Chinese researchers having the highest number of foreign collaborators. In recent years, the Chinese government has launched several national talents programs, such as the Thousand Talents Program, 10 Thousand Talents Program, etc., to attract many top Chinese researchers to return to China and continue their research. In addition, many of them continue to maintain their research position and group abroad, and their research is always published in a collaborative manner.

Chinese universities have been known to give its researchers incentives for publishing in high impact journals. Do you think this has put more strain on researchers and led to incidents of misconduct?

The impact factor is an indicator of the target journal's impact based on citations. Generally, high impact factor journals are highly selective and researchers who get their papers published in such journals signify that their research is competitive in that subject area. However, the impact factor alone is not a direct measure of productivity for any individual, nor can it be used to compare studies in different subject areas or different publication types, e.g. letters vs. regular papers or review papers. So, incentives based on the impact factor do not take the science into direct consideration and need special attention to avoid any possible abuse. Furthermore, researchers should be given a free environment so that they can pay full attention to their research.

You have been the ex-Editor-in-Chief for IOP Publishing in China. What are some of the common difficulties noticed from submissions of Chinese researchers?

One major challenge for Chinese researchers submitting their paper to an international journal is the English language and presentation. It is not only because of their writing skills but also because Chinese researchers cannot express their ideas in a simple and sophisticated manner. This even happens during their communication with referees who put forward constructive comments for their papers. Quite often, they require a native English speaking professional to improve their papers and help them with the entire publishing process.

Do you think the perception of international journals or publishers about research originating from China has changed?

China is now producing the most number of research papers and seeing improved quality and citations. In general, Chinese researchers still need to improve their papers in terms of originality, significance, as well as language, writing, and presentation. They also need to get more familiar with the concepts of research ethics and best practices, open access, re-use rights and licenses, as well as following journal-specific requirements. By improving on these aspects, there could definitely be a change in the perception of Chinese researchers among the international community.

In the past decade, many journals have had to retract studies originating from China. What do you think is the reason behind this?

Retractions of published research by international journals happen from time to time because of various kinds of misconduct such as fabricated data, plagiarism, etc. and covers major regions of the world that conduct research. In China, researchers are anxious to achieve quick success, which is beyond their actual capacity. This is a major reason why such hurriedly published studies are retracted later for inaccurate/incomplete information. Moreover, some universities require that their graduate/PhD students have SCI-published papers before qualifying for graduation. Other reasons are academic promotions being determined based on the number of publications; e.g., some universities/hospitals ask their clinical doctors to publish certain number of papers to be eligible for promotion. They can do this as a good doctor but not by writing an English paper. However, some infamous “service companies” have taken advantage of these requirements by offering to generate fake data for drafting manuscripts. This is indeed a grave wrong-doing that needs to be dealt with sternly. Therefore, all the related parties involved need to bear their responsibilities, and in this case, researchers cannot be singularly blamed for the high number of retractions.

Based on your experience, what tips would you like to share with researchers wanting to publish articles in international peer-reviewed journals?

1. Papers should report original, novel, and significant research that is of interest to the community; they need to have sound motivation and purpose; and they should not have been published elsewhere previously. Scientific quality and not the quantity of papers should be considered first. Moreover, all ethical practices need to be kept in mind and followed.
2. When writing a paper, focus on new and important research results. The language should be clear and precise, especially the conclusions. Use simple and plain language rather than “flowery” language. Moreover, be careful when using abbreviations and jargons, use appropriate figures and tables, and keep your paper within the journal’s word count limits.
3. When writing a paper, you should avoid presenting “new” but trivial or obvious results, making unsubstantiated conclusions, burying your results beneath too much information, or presenting incremental research.
4. You should ensure that the references are complete and that the figures and data are of good quality (and complete).
5. Before submitting to a journal, allow time for rewriting and checking all the parts and the structure of the paper. Ask a colleague to read and comment on an earlier draft.
6. Each publisher or journal may have different submission requirements and some may have set submission formats. Make sure that you know what your chosen journal needs and have all the required information available, i.e., all the author details, copyright forms, permissions for reproduced articles, supplementary data, etc.

7. An appropriate response to the referee's comments and revising your paper are critical for acceptance. Many publishers only give one chance to authors to do that. Read the referees' report carefully for better understanding. Respond to each and every comment specifically; wherever you disagree, explain why. If the referee misses a point it is not necessarily his/her fault; be polite! Maintain a list of your changes and prepare a detailed cover letter with your response(s) and your revised paper, which should be returned to the journal before the deadline.
8. If your paper gets rejected, do not despair: treat referees' comments as free advice by experts. You may be able to re-write your article taking into account the suggestions of the referees and re-submit it, either back to the same journal if sufficiently significant and new results have been added or to other journals of a different publisher. If you think the review was unfair, appeal to the journal by sending a letter explaining why you think your work did not receive fair treatment.
9. If your paper gets accepted, then carefully check your proofs; identify and correct any potential mistakes. Make your paper perfect before it gets published!

There continues to be limited awareness among Chinese researchers about research and ethical misconduct. How can this be overcome?

Systematic academic publishing training for researchers and graduate students will help to overcome these problems. The initiatives like author workshops by Enago Academy and the resources on its website can surely help researchers to overcome the challenges of the publication process.

How should the research community tackle the problem of the "publish or flourish" model that results in a large number of questionable publications?

A good number of publications can be an indicator of the researcher's success. However, publications in high impact factor journals only mean somewhat higher citations. In order to avoid any questionable publications, it is important to improve the research evaluation mechanism. Therefore, research funding bodies, universities, and research institutes should work together to evaluate research specifically on the scientific concepts rather than relying on statistical indicators such as journal impact factors.

The growth in open access publishing has led to predatory publishers and journals that publish anything for a fee. How can this be changed?

Major Chinese universities and institutes require that their faculty and students publish papers in high impact SCI, or at least EI journals, which is fine as long as the institutions can provide the necessary research funding and conditions. However, there are other lower-tier small universities or colleges that do not have sufficient facilities to support high-quality research and publications. In addition, there are also some country-focused R&D research projects specifically in the industrial, commercial, or medical sectors etc. where researchers have been carrying out important research work in China; however, their results don't meet the publication criteria globally. All these institutions still ask their

researchers and students to publish papers, which provides the de facto “business opportunities” to the predatory journals that publish anything for a fee without scrutinizing the quality of the submitted papers. Moreover, because they publish under the open access model, they don’t even need to care about subscription or readership.

It is, therefore, necessary to initiate a formal and professional training program on publishing and impart training to such researchers who have good results but who lack the knowledge required for successful publishing. Such training will also help them choose the best open access possible journals to meet their publication needs and advance their research simultaneously. Only then will predatory journals no longer be able to survive.

How can the training about academic *publishing of Chinese researchers be improved?*

In China, at present, many universities and academic institutions do not have any specific courses to train students on the fundamentals of academic publishing in their Master’s/PhD programs. Furthermore, there is no specific information centre where researchers are able to access resources related to either academic publishing or academic writing. Currently, many universities do not have any infrastructure that provides continuous training or shares relevant updates in academic publishing with their faculty/students.

Knowledge platforms like Enago Academy can help universities and research institutes in providing systematic training to graduate students and researchers on the fundamental concepts of academic publishing. I strongly believe that all such initiatives will help Chinese universities improve the training of academic researchers across China.

It was a great pleasure to talk to Dr. Mingfang Lu. We sincerely thank him for taking the time to be part of this interview.

(This interview is a part of our interview series of Connecting Scholarly Publishing Experts and Researchers.)

Cite this article

Enago Academy, China Begins Excelling in Research: An Interview with Mingfang Lu. Enago Academy. 2018/03/08. https://www.enago.com/academy/china-begins-excelling-in-research-an-interview-with-mingfang-lu/