

Publishing Chinese Research: A Look at the Evolving Requirements and Experiences of Editors and Scientists

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The CSE 2020 Annual Meeting session “Publishing Chinese Research: A Look at the Evolving Requirements and Experiences of Editors and Scientists” explained the evolution of the research assessment system in China relative to scientific articles and academic journals, discussed what qualifies an article to be considered “high-quality,” and shared the experiences of medical scientists navigating the research environment in China.

Dr Hua (Selin) He opened the session with a look at the evolving research assessment system in China and the roles that are changing in response to its evolution. The system was presented through 3 eras: the Pre-SCI Era (prior to 1990), the SCI Era (1990–2016), and the SCI Plus Era (2016 to present), with “SCI” referring to “Science Citation Index” (aka, Web of Science) focus. During the Pre-SCI Era, administrative officials made all decisions regarding career advancement. Within the SCI Era—particularly from 1990–2010—a focus on Journal Impact Factors (JIF) created a shift of how and where researchers published as it tied directly to their ability to reach the next step in their career paths. It was determined that a researcher needed to publish in a journal with a JIF greater than 5 to receive a research grant, and a journal with a JIF greater than 10 to receive a promotion prize and title. With more publications in journals with a JIF greater than 10, researchers could reach their ultimate career goal of academician status within the Chinese Academy of Sciences/Engineering.

Though the JIF continues to be a strong motivator, the SCI Plus Era has introduced more assessment indicators that could change research behaviors in China in the future. Some of these changes have already begun to be introduced through scientific research reform proposals released in February 2020 by the Ministry of Science and Technology and the Ministry of Education.^{1,2} These proposals redefined what makes an article “high-quality” by emphasizing publication in Chinese academic journals with international influence, publication in top internationally recognized academic journals, and presentations at top international academic conferences. They also support an action plan for the Excellence of Chinese STM Journals that was launched in 2019. “The Action Plan” consists of a 5-year cycle with over ¥200 million to support Chinese academic journals. There are currently 280 academic journals included in this plan. Though the proposals are still evolving and being interpreted, expected changes include a requirement for more articles in Chinese academic journals (no less than 1/3 of a researcher’s articles), no requirement of publication of scientific articles in such fields as applied research and technology innovation, rapid development of Chinese academic journals selected into the “Action Plan,” and more academic journals sponsored by Chinese institutions (likely in collaboration with international publishers).

Lei Pei and Clark Holdsworth went on to explain the state of scientific research in China. With 20.6% of all science and engineering articles coming from China in 2018, China became the largest producer of such content through their researchers.³ With this, China became the country with the highest citation numbers per author. Spending on scientific research has also increased substantially in China over the past decade, quickly closing in on the lead the United States currently holds.⁴ Though the combination of this large researcher workforce and growing scientific funding support have the potential to lead to greater research influence throughout the globe, there has also been an increase in the numbers of retractions and other misconduct. As of 2018, China grew to rank seventh in the world in number of retractions (5 out of 10,000 articles).⁵ Such concerns for wanting to maintain quality while also supporting China’s

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own publishing system are much of what contributed to the proposals that were released in February 2020.

Pei reported that, through the reform, national science and technology (S&T) funding programs were reorganized into 5 new funding pillars: National Natural Science Fund, Major S&T Projects (Megaprojects), National Key R&D Programs (NKPs), Technology Innovation Guidance Fund, and the Bases and Talents Program. Due to the reformed application process, researchers can be disqualified from research funding opportunities that can potentially lead to difficulty in furthering one's career.

Career paths and employment structures were also part of the SCI Plus Era reform. What was once a 4-rank hierarchy for advancing in an academic post system has since evolved into a 13-rank system. Primary posts of Teaching Assistant, Assistant Professor, Associate Professor, and Professor remain, but there are now 3–4 ranks built into each area, bringing with it greater competition. The 3 main categories of academic posts were identified as research track, teaching track, and research-teaching track (combined).

For young Chinese researchers, academic posts are considered high-stature positions. To obtain them, though, many identify with such challenges as working long hours, balancing work and personal life, securing limited research opportunities, and managing heavy teaching loads. In a 2017 survey of 1,066 young Chinese researchers at universities, 14.63% were considering moving overseas for greater opportunities. Institutions continue to work toward improving working conditions, providing adequate financial support, providing systematic on-the-job training, and fully supporting young academics' research ideas and innovation with the hope of building the next generation of strong research leaders in China.

Advice was provided for young scientists. Though encouraged to follow one's own interests, it was advised also to be open to new ideas and link up with national strategic demands. Young scientists are expected to publish to advance, but they should not lose sight of their own personal development in the process. They should learn to manage time in order to support a balance between work and life responsibilities. Networking, collaborating, and having the right attitude of optimism and resiliency were noted as key ingredients to thriving in the reformed SCI Plus Era as well. Pei summarized the following guidance:

- **Early career researchers:** SCI-indexed journals are still an ideal publishing outlet. JIF is an objective and reliable indicator.
- **Senior and tenured professors:** They strive for the top outlets and international journals published in China. Newly-launched Open Access (OA) journals and academic social media can be used as alternative outlets to widely disseminate works.

- **Scientists in applied research:** They will focus on the actual contribution of their studies in real life, not on the number of papers published by the researcher.

Holdsworth further emphasized the need for journals to focus on clear communication with Chinese authors. The review process can be confusing enough for native English speakers, so focusing on how each step is communicated is especially important when working with English as a second language (ESL) authors. If a rejected paper is "outside of scope," make sure it really is, or provide clear feedback on what specifically did not align with the journal. Editors need to give realistic expectations of whether a paper will be acceptable if revised, as ESL-authors may read such phrases as, "editors find your paper potentially acceptable if you make these changes," as a guarantee of acceptance upon revision. Additionally, ESL-authors often require clarification of reviewer comments from ESL-reviewers, a systemized editorial decision on language issues, and language review by native English-speaking reviewers.

The presenters responded to a few attendee questions at the end that allowed them the opportunity to emphasize that the policy documents were only just released in February 2020, meaning that they are still in an early stage. It is unknown exactly how far these measures will go at this time. In general, though, international journals continue to remain first choice for researchers looking to publish and the JIF is still very important for young researchers.

The policy's stance on article processing charges (APCs) was thought by the presenters to have the greatest influence on journals with low JIFs. Though researchers will more likely try Gold OA journals when they are further in their careers, early career researchers with limited funding will need to prioritize journals with no or very low APCs. Through the funding reforms, it was also noted that there is a blacklist of journals where APCs would not be paid through funding.

References and Links

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