



A Brief History of the Impact Factor and Its Impact on ECS Journals

There was a time in the not so distant past in which the scientific enterprise was driven mostly by the singularly-human need to know. Discovery fueled the activities of a very small number of highly-dedicated and talented individuals who, on occasion, shared and discussed their findings at meetings of obscure societies attended mostly by their peer members. That same cohort reviewed each other's work and assessed whether the material was of sufficient quality and significance to be considered for publication in journals mostly known by them, and seldom accessible to the general public. That inaccessibility being due either to physical availability, or to the high degree of complexity reserved only to the few with the required intellectual capacity to follow intricate logical arguments and complicated mathematical derivations. Given this background, it would have been virtually impossible to predict, at the time, that dissemination of highly sophisticated scientific and technical information would become during this 21st century a business as profitable and competitive as, for example, the mundane buying and selling of material goods and services.

Among the many factors that have contributed to this process, the strong links established between science and technology rank as the most important. Indeed, science-driven technology has shaped just about every aspect of the world we live in today and will undoubtedly shape the future evolution of humanity. The irrevocable integration of business into the science–technology partnership has brought with it new angles and opportunities. For business to thrive, profitability is a must, and thus the need to create and promote markets. Essential to this endeavor is the development of metrics that allow products to be compared and ultimately used to influence customer decisions. The inevitable unfolded; and metrics believed to afford a measure of the prominence of scientific publications were found and adopted, most notably, the impact factor (as calculated yearly for those journals that are indexed in Thomson Reuters *Journal Citation Reports*).

It behooves then to ask, what has been the impact of the impact factor? In my personal view it has been more far-reaching than perhaps ever envisioned by those who first proposed it. In most of the world, but, surprisingly, not so prevalent in the U.S., researchers are being evaluated based not only on the quality and quantity of what they publish, but also on the impact factor of the journals in which their research is published. The upside of metrics is transparency. Everyone would be judged according to the same rules. Promotions and salary raises, for example, could be coupled to the metrics and thereby mitigate problems associated with unwarranted favoritism. Within this framework and from a strictly strategic point of view, the landscape was crystal clear: authors seeking to further their careers and achieve personal gains would naturally submit their work to journals with a high impact factor. Not surprisingly, over a period of a few years, the race was in full swing, and the management of the impact factor became key to the corporate scientific publishing world.

New journals emerged and old ones began to reshape themselves to face the realities of the new order. Almost overnight, the impact factor of the *Journal of The Electrochemical Society*, our flagship publication, fell below that of some of its competing journals. Our long-standing policy of keeping electrochemistry and solid state science and technology as indivisible pillars of our Society had to be revised to better reflect the new metrics. The Society's Executive Committee felt strongly that a new editorial structure was needed to implement the separation of the journals into these two generic disciplines, with a full-papers and a letters journal



for each. Changes bring about both challenges and opportunities. The challenge is for ECS to accomplish its goal of becoming the leading publisher of electrochemical and solid state research without crossing the delicate and at times diffuse ethical boundaries we as a Society must rigorously uphold.

This new structure created a Publisher position, two Editors, Associate Editors, and Technical Editors with the individual authority to recapture the prominence ECS publications deserve, which, as stressed by our leadership, would benefit the readers, authors, and scientific communities. I may wish to close this, my last Editorial, by expressing my deep appreciation to Prof. Dennis Hess from whom I received most valuable advice, particularly during the time we devoted to helping the journals reorganization; to all the Associate Editors, many of whom will continue their dedicate role as Technical Editors and Associate Editors in the new Journals; and, especially, to the ECS staff at Pennington, Mary Yess, Annie Goedkoop and Paul Cooper, who made my journey through ECS publications an enjoyable and indeed most rewarding experience. Lastly, I am sorry I will not have the opportunity to become part of the day-to-day publications activities and to continue my most pleasurable interactions with my Editor colleagues; but at the same time, I look forward in my position as Third Vice-President to vigorously contribute to the future success of our publications.



Daniel A. Scherson
Editor
dxs16@po.cwru.edu