

Peter J. Olver
University of Minnesota
math.umn.edu/~olver

From the Chair of the Committee on Electronic Information and Communication (CEIC)

It is an honor to have been asked by the IMU to serve as the next chair the CEIC. I should begin by thanking my predecessors, particularly John Ball, who first introduced me to the Committee's mission and convinced me to accept an invitation to join. I also must thank the members of past incarnations of CEIC for their dedication and hard work over the past decade plus. The revolution in electronic information and communication fomented by the internet continues to accelerate, making it an almost impossible challenge to formulate policies and initiatives that have any degree of permanence.

Nevertheless, CEIC's charge to advise the IMU, and, by extension, the worldwide mathematics community as they navigate the electronic landscape is more critical than ever. Let me outline some of the key issues that will occupy the attention of the CEIC in the near term:

Best practices: the signal accomplishment of the last term is the "Best Practices for Journals" document (<http://www.mathunion.org/fileadmin/CEIC/bestpractice/bpfinal.pdf>), that was approved by the General Assembly at its Bangalore meeting in 2010. The committee will continue to actively promote this document, both within the mathematical community and its learned societies and publishers, as well as the broader scientific world.

Access to mathematics: a long running goal of the IMU is to make sure access to the latest mathematical research is available and affordable throughout the world. The CEIC must continue to develop new means of expanding access to electronic publications and preprints, software repositories, etc., particularly in countries with less developed infrastructure.

Web innovations: there has been a proliferation of new internet-based approaches to mathematics and research, including blogs, wikis, polymath collaborative projects, and so on. The CEIC needs to stay abreast of these developments, informing the IMU and the broader community. In this spirit, it will be worth revisiting of the current format of IMU-Net.

Use and abuse of metrics: the increasing reliance of administrators and funding agencies on impersonal metrics such as impact factors is a cause of great concern. Not only are all such metrics unreliable, there is increasing evidence of unscrupulous publishers, editors and authors actively manipulating metrics to their own advantage. See D. Arnold and K. Fowler, Nefarious Numbers, to appear in Notices Amer. Math. Soc., 58(3), 2011, (<http://umn.edu/~arnold/papers/impact-factors.pdf>.) The IMU General Assembly has approved the creation of a joint IMU/ICIAM Working Group to consider "whether or not a joint ICIAM/IMU method of ranking mathematical journals should be instituted, and what other possible options there may be for protecting against the inappropriate use of impact factors and similar manipulable indices for evaluating research".

Plagiarism: professional pressures have led to increasing incidents of plagiarism - of papers, material from books, and scientific ideas. The mathematical community (including its

publishers) are only just waking up to how prevalent this has become. See D. Arnold, Integrity Under Attack: The State of Scholarly Publishing, SIAM News, 42 (10) (2009), (<http://ima.umn.edu/~arnold/siam-columns/integrity-under-attack.pdf>.) One of my own direct experiences with plagiarism is documented on my web site: (<http://math.umn.edu/~olver/plag.html>.) Preventing such misconduct will require a combination of widespread publicity, software, and, if necessary, legal remedies.

Predatory journals and conferences: new models of publication (open access, pay to publish, etc.) and dissemination have unfortunately spawned the appearance of predatory journals and conferences that are motivated by money and status, with science only serving as a facade. While most established researchers can distinguish between legitimate science and scam, neophytes and those not well connected to the scientific mainstream may well be led astray. Again, increased publicity will go a long ways to curbing such abuses.

Archives: an ongoing charge of the CEIC, which will now enter a new phase with the permanent head quartering of the IMU in Berlin, is to locate, preserve, and archive past material, including minutes, proceedings, videos, etc. Developing a secure system that makes public material readily available while ensuring that embargoed and confidential material is properly secured and preserved will require careful thought. Moreover, there is a pressing need to revamp and update the committee's own web pages.