

Editorial

I am glad to be serving as the new Editor-in-Chief of *ACM Transactions on Design Automation of Electronic Systems* (TODAES). I take over this responsibility from Professor Nikil Dutt who has performed superbly as the TODAES EiC over the last four years. During his term, the TODAES reputation as a premier ACM journal for electronic design automation (EDA) grew, a number of highly visible special issues were published, and the publication backlog disappeared.

Let me begin by briefly introducing myself. I served as an Associate Editor (AE) for TODAES (1998–2004), *IEEE Transactions on Computer-Aided Design of Circuits and Systems* (TCAD, 1997–2006), and *Transactions on Circuits and Systems – I* (TCAS-I, 2002–2003). I also guest-edited a number of special issues at *IEEE Transactions* (including TCAD and TVLSI) and TODAES (including a recent Special Issue on the Demonstrable Software Systems and Hardware Platforms, published in 2007). I also served as the *IEEE Circuits and Systems Society* VP of Publications (2005–2006).

The major challenges facing TODAES today are the need to (i) improve the quality of published scientific work, (ii) reduce the time from submission to first decision, and (iii) improve the journal impact factor. I plan to tackle all three issues during my tenure as the EiC.

I plan to put into effect a number of concrete initiatives to improve the overall quality of TODAES as a premier ACM journal in EDA and increase its readership, reputation, and desirability as a key publication medium. In particular, with advice from the editorial board, I will requisition survey papers on emerging topics from leading authorities in the field, including ground-breaking researchers and tutorial presenters at prominent conferences. Such papers are likely to be widely cited and are likely to raise the profile as well as the impact factor of TODAES. Additionally, I will set up special issues on emerging and critical topics of interest to the EDA community. Finally, I will try to establish cooperative efforts with other ACM special interest groups to bring the highest level of participation and excellence to TODAES. I believe while we must remain fully engaged in traditional areas, we must also expand into new ones in order to maintain and enhance our strategic technical leadership position. Joint publications (e.g., in areas related to systems biology, energy efficiency in data centers, design of reliable systems, networks-on-chip architectures) with other SIGs should facilitate an open and fruitful exchange of ideas among the computer scientists, EDA professionals, and designers to explore these new and emerging technology areas.

I will strive to achieve the goal of a six-month turnaround time between the submission of a manuscript and its publication for a paper

that undergoes two full-review cycles. To attain this turnaround time, I will promote and introduce a set of “best practices” for the manuscript review process (e.g., raise the number of invited reviewers, consider reviewers’ speediness records, adhere to target processing times for different steps of the review process), identify and give out certificates of appreciation to our most active and effective reviewers and AE’s, and create a fast publication track for certain time-sensitive contributions in rapidly-evolving fields.

The impact factor of a journal is a measure of the frequency with which the average article in a journal has been cited in a given period of time. It is calculated based on a three-year period and is considered to be the average number of times published papers in the journal are cited up to two years after publication. More precisely, let A denote the number of times articles published in 2006–7 issues of TODAES are cited in journals indexed by Thomson ISI (Institute for Scientific Information) during 2008. Let B denote the number of articles published in 2006–7 issues of TODAES. The TODAES impact factor for 2008 is calculated as A/B . The impact factor (which may also be calculated over longer time spans) is an important quantitative measure because it affects the ranking/reputation and, eventually, the caliber of submitted papers to the journal, as well as increasing the click count and downloads of our technical papers in the ACM Digital Library (DL). Steps that can raise the journal impact factor are thus quite desirable.

To put things in perspective and in spite of the fact that the comparison of impact factors between different fields can be tricky and error prone, the 2006 impact factors of the *ACM Computing Surveys*, *Proceedings of the IEEE*, and *ACM Transactions on Computer Systems* are around 4.13, 3.69, and 1.41, respectively. For the same year, the *IEEE Transactions on Computer Aided Design* and *TODAES* impact factors are 0.84, and 0.52, respectively. A major goal during my tenure as the TODAES EiC will be to set a course that will raise the impact factor of TODAES. Example steps include (i) increasing the reputability of TODAES as a premier EDA journal as well as the scientific merit of the papers within it as described earlier, (ii) posting the list of the top 10 DL-downloaded TODAES articles over a window of say two years and that of top 30 DL-cited TODAES papers over a window of say ten years, (iii) encouraging inclusion of more comprehensive bibliographical indices in accepted TODAES articles, (iv) requiring an impact statement for accepted TODAES articles so that the article becomes more accessible to readers (alternatively, we can ask that the Associate Editor in charge of the article write an impact statement/editor’s note for each accepted article), and (v) providing a quarterly electronic mailing of the table of contents of the current issue along with the impact statement for some featured article(s) to a list of likely readers (e.g., the SIGDA Newsletter recipients).

In closing, I believe in a proactive approach to managing TODAES. My vision is to continue the tradition of excellence at TODAES while improving the quality of scientific work published in TODAES, increasing its impact

factor, shortening the article review cycle, and encouraging coverage of interdisciplinary research areas. I look forward to working with the TODAES editorial board as well as TODAES authors and contributors to achieve these goals.

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Editor-in-Chief