

# State of the Journal

Bashar Nuseibeh

MY two-year term as Editor-in-Chief of the *IEEE Transactions on Software Engineering (TSE)* has flown by, and I am fortunate to have been given the opportunity to continue for a further two years. I think these are challenging times for scholarly journals, whose content needs to undergo rigorous and lengthy review, often repeatedly, until a group of expert peers, an associate editor, and an editor-in-chief all deem the content suitable for publication. It can be tempting for authors to publish incremental results, lightly evaluated, in conferences with fixed review deadlines, or in magazines that publish highlights quickly and to audiences who may not wish to invest many hours engaging with the details of the authors' research.

I am not going to use this editorial as a forum for reiterating the arguments for journal publication, except to say that I am a firm believer in the value of scholarly journals as the bedrock of a mature engineering discipline and of a discipline with substantial research problems. I also believe that journals provide both the opportunity and the gatekeeping necessary to present and filter significant research results, the quality of which readers can be confident. That is not to say that there is less value in the late-breaking result, the accessible highlight, or even the timely tweet, but this does not replace the foundational work upon which our discipline is built, and which still invariably gets meticulously documented in leading journals such as *TSE*.

Nonetheless, recognizing the need for timeliness of publication and the environmentally friendly opportunities provided by online publication, *TSE* will be moving to a "mostly online" mode of delivery in 2013. Through IEEE Computer Society's OnlinePlus™ (<http://www.computer.org/portal/web/publications/onlineplus>), *TSE* papers will not only be available online as soon as they are accepted for publication (which has been the case for some time through online Preprints and RapidPosts), they will also be packaged as an electronic offering as the default form of subscription. This will be accompanied by a quarterly 6 inch by 9 inch digest in hardcopy, containing paper details—including titles, authors, abstracts, and citation information—and a disk containing the PDF version of the papers and supplemental material. Readers wishing to continue to receive hardcopies of the full journal can do so for an additional subscription fee, using a print-on-demand service.

This will, of course, generate financial savings to publishers, some of which I am happy to say will be passed on to authors and readers in the form of an increased page budget, which will rise from 904 in 2011 to 1,512 pages in 2012, and in cost savings to subscribers starting in 2013 when OnlinePlus™ goes into effect for *TSE*. This should help reduce the year-long backlog of papers accepted for publication but still waiting to appear "in print." Of course, the costs of publication are not solely in printing and shipping. *TSE* papers are lightly edited and formatted, and the additional page budget does come with some additional costs that will be absorbed by the savings achieved from going online.

This is the time of the year when I give you some quantitative indicators of the state of the journal over the past 12 months. *TSE* received 360 new submissions and published 48 papers. Sixty-six papers were accepted in 2011, while 300 were rejected (of these, some 149 papers were rejected administratively without undergoing review for a variety reasons, such as being out of scope, being badly presented to such an extent as to prevent review, or missing some fundamental components of scholarly research such as the articulation of a research problem or the evaluation of the proposed solution). As Editor-in-Chief, and guided by the Editorial Board of Associate Editors, I have tried to ensure that each paper submitted—even those rejected without review—receives some form for qualitative feedback to help authors develop their work further. I sometimes also offer substantial feedback to authors of papers before submission to help keep down the potential time wasted in nonproductive reviews post submission.

For the first time in five years, the Thompson/ISI Impact Factor of *TSE* dropped—to 2.216 in 2010 from 3.75 in 2009. This is somewhat disappointing, although it should be viewed in the context of other scholarly journals in the area, all of whom also saw a drop in their impact factor. Indeed, *TSE* remains the software engineering title with the highest impact factor. Recall that impact factor measures the number of times, on average, a paper published in a journal is cited during a 2-year period, and is also a function of the number of papers published in the journal as a whole. It is only one measure of "influence" and there has been a flurry of indices (and tools that count them) that have become popular in recent years.

Of course, journals that publish popular surveys or literature reviews often get rewarded with higher impact factors. However, this is not a goal that I have set for *TSE*, and I would prefer that the impact of *TSE* is evaluated through other means, for example through the application or use of *TSE* research results in practice (which does not normally attract citations). This kind of impact, however, is harder to measure, and I hope that readers will write to me with examples of non-citation-based impact or with explanations for why citations numbers may have dropped in recent years.

While 2011 saw some *TSE* special issues published, these had been preplanned a while before. Following my *TSE* Editorial in July/August 2010 (entitled “How Special Should Issues Be?”) and a discussion with the *TSE* Editorial Board in 2011, I took the decision to suspend all new special issues. I propose to continue this policy in 2012, although *TSE* will continue to alternate with *ACM Transactions on Software Engineering and Methodology (TOSEM)* in inviting selected papers from the ICSE and ESEC/FSE conferences, to be extended and submitted in journal form—but without a single schedule or any guest editing. I hope this will ensure more uniformity in reviewing standards and timely publication of individual papers when they are ready for publication. Having said this, the penultimate special section in the backlog appears in this issue of *TSE*. It comprises a selection of papers from the ICSE 2009 conference—and I am grateful to Guest Editors Jo Atlee and Paola Inverardi for their editorial work in getting the papers into shape over a long review period.

To end, it is my pleasure to welcome two new Associate Editors, Dr. Tim Menzies and Dr. Wolfram Schulte. Their short biographies are included below, and I look forward to benefitting from their expertise in empirical software engineering, software analysis and testing, and programming languages.

Of course this is also the time to thank the full Editorial Board for their support and diligence in 2011. The associate editors are responsible for selecting reviewers, interpreting (sometimes contradictory) reviews, and making editorial recommendations to the Editor-in-Chief. For me though, one of their most valuable functions is as a sounding board for new ideas, for helping to resolve the problem cases, and for bridging the communication gap between authors and reviewers.

I am also grateful to the *TSE* Editorial Office for their efficient support throughout 2011. Particular thanks to Debby Mosher, Kathy Santa Maria, Hilda Carman, Kathleen Henry, Duffy Lucas, Joyce Arnold, and Alicia Stickley for making sure the publication machine works!

My final thanks must go to the professional software engineering community of authors, reviewers, and of course readers, whose intellectual contributions sustain the journal.

Happy new year to you all.

Bashar Nuseibeh  
*Editor-in-Chief*  
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**Tim Menzies** received the PhD degree from the University of New South Wales, Sydney, Australia (1995). He has been working on advanced modeling and AI since 1986. He is an associate editor of the *Automated Software Engineering Journal* and the *Empirical Software Engineering Journal*. He was one of the founders of the PROMISE conference on repeatable experiments in software engineering. He also maintains the PROMISE repository, one of the most used on-line sources for SE data (see <http://promisedata.org>). A former research chair for NASA (2002-2003), Dr. Menzies is now an associate professor at West Virginia University's Lane Department of Computer Science and Electrical Engineering. His research applies AI and data mining to software engineering. Dr. Menzies is one of the pioneers of open source data mining experiments in SE; cross-company learning; as well as

applying Pareto optimality in search-based software engineering for requirements engineering. In other work, he has explored defect prediction, effort estimation, as well as the implementation of numerous data miners including TAR3 and WHICH.



**Wolfram Schulte** is a principal researcher at Microsoft Research (MSR), Redmond, Washington, and the founding manager of the Research in Software Engineering (RiSE) group. His research interests include software engineering, focusing on modeling, verification, and test, and programming languages, ranging from language design to runtimes. Before joining MSR in 1999, he worked as an assistant professor at the University of Ulm (1993-1999, habilitation 2000), as a software engineer at sd&m, a German software company (1992-1993), and as a research and teaching assistant at the Technical University Berlin (1987-1992, PhD 1992).