Incoming Editorial

IT IS TRULY both an honor and a privilege to start my term of duty as Editor-in-Chief of the IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—I: REGULAR PAPERS (TCAS-I). I feel that after a period of two years, since the previous Editor-in-Chief (EiC), Gianluca Setti, became active for the journal, due to his diligence and excellent performance, TCAS-I has now reached a more or less steady-state situation and is in good shape. TCAS-I is definitively the journal of choice, where one could both publish and read high quality, seminal contributions in the field of modeling, design, analysis, synthesis and testing of circuits and systems, with diverse physical implementations and technologies. As recognition of this, its impact factor has increased already to 2.043 and is likely to increase further due to the various actions taken during the past two years, including:

- the inclusion of papers derived from the most successful tutorials and keynote speeches delivered at the IEEE International Symposium on Circuits and Systems (ISCAS), the international flagship conference of the Circuits and Systems Society (CAS-S);
- the creation of a special issue on ISCAS;
- a reduced review cycle (thus improving the timeliness);
- the introduction of rapid posting of already accepted papers via IEEE Xplore;
- a reduced acceptance ratio that went down to 21%; and
- a reduced backlog due to a temporary increase in the page budget.

In 2009, a special section on the Custom Integrated Circuits Conference (CICC) came to light, resulting from the cross-fertilization and cooperation between our society, IEEE CAS-S and the IEEE Solid-State Circuits Society. It has been agreed that also in 2010, we will have such a special section dedicated to the CAD and system design aspects of IC development.

These are all good things that I believe should be preserved. Of course there is always room for improvement. The following details some of the ideas I have to increase the quality and impact of the journal further.

REVIEW AND PUBLICATION PROCESS

Most of my duties as EiC, I believe, are related to dealing with the review and publication process in the most transparent and fair way, to the readership, the authors, the reviewers and the members of the Editorial Board. TCAS-I currently receives close to 900(!) fresh submissions per year, i.e., the re-submissions after minor/major revisions requested not included. For dealing with such a huge amount of manuscripts, two things are of prime importance:

1) *An outstanding editorial board*. Together with my Deputy Editor-in-Chief, Dr. Gabriele Manganaro and various chairs of the CAS-S Technical Committees, we have composed an editorial board with the best people available, with a good track record and experience and, most importantly, with the right commitment to fulfill their important duties. For the special issues and special sections in TCAS-I, we will select appropriate guest editors that were actively involved in the event or the topic the special issue is based on. As evidenced by the list of names you'll find on the inside cover, we have selected both associate editors in the well-established CAS domains and associate editors in emerging fields, both experienced and young, from industry and academia, and coming from all over the globe. I will closely monitor the performance of the associate editors and assist them in accomplishing their important task. If necessary, I will expand the editorial board with new members.
2) *A good and reliable review system*. Over the past years, CAS Web Manuscript System (CAS-WMS), also known as Manuscript CAS, has been used for the paper handling process and will also be used for at least the following two years. New features have been added that contribute to improving the quality and the timeliness of the review process, e.g., the Editors' Information Classification Scheme (EDICS). A feature that has been implemented recently but whose benefit will only become clear in the near future is the evaluation of the reviewers in terms of quality of their review and timeliness. Currently, all reviewers that have been assigned to a manuscript are already being ranked on these two aspects and a lot of information is thus being collected right now. This information may be used to assign only those reviewers that have a tradition of performing well, but should be used with care. First, newly added reviewers should also have a possibility to show their skills, *albeit* that they have not yet been ranked, and reviewers that perform well should not become overloaded. Second, the associate editors that do the evaluation should reach consensus on what the evaluation means and how it should be used. I will take the lead in this exercise, so that we can use this good feature to the best possible and just extent.

SPECIAL ISSUES AND SPECIAL SESSIONS

Probably one of the best ways to increase journal visibility is to organize and to promote special issues and special sections. These can be on emerging topics in the various CAS-S and TCAS areas, or on topics that overlap with different but neighboring domains, or on ISCAS, CICC and other IEEE flagship conferences.

As has been done also last year, authors of the best papers presented at ISCAS and CICC in the field of TCAS will be asked to submit an extended version to a special issue or special section of TCAS-I. The selection procedure of the papers for the special issues/sections is currently being refined and being discussed with some of the relevant CAS-S Technical Committees in order

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to make the selection process as transparent and fair as possible. Once submitted, the extended versions of papers will undergo the usual peer review process, coordinated, as guest editors, by, e.g., the General Co-Chairs and Technical Program Chairs of the conference, and the TCAS-I Deputy Editor-in-Chief. Another possibility is to do a joint special section on DATE or ICCAD [with IEEE TRANSACTIONS ON COMPUTER-AIDED DESIGN OF INTERGRATED CIRCUITS AND SYSTEMS (TCAD)]. The ultimate aim is, of course, that TCAS-I benefits from the extended versions of the best submissions to CAS-S' premier flagship conferences and in the TCAS field of interest

FURTHER INCREASING THE IMPACT FACTOR FOR TCAS-I (AND TCAS-II)

Many good initiatives were already developed in order to increase the impact factor for TCAS-I, such as:

- rapid posting in IEEE Xplore;
- soliciting good review papers; and
- requesting authors to TCAS-I to make their list of references up to date by adding recently published papers, e.g. and preferably those that appeared in TCAS-I and TCAS-II, insofar as they exist and are meaningful

Things that I further wish to do during my term as EiC are:

- assist authors in writing even better papers;
- defining to them the field of interest of the journal in a more clear manner; and
- defining to the authors and the reviewers in a more clear manner how much and what kind of additional information is needed for a publication in the journal with respect to a paper that has been presented previously at a conference (and is also available via IEEE Xplore)

These three points may need some clarification. First, to many authors and reviewers it is not entirely clear to what extent the results obtained by the scientific work should be verified experimentally and documented. Especially the difference between TCAS (I and II) and IEEE JOURNAL OF SOLID-STATE CIRCUITS may not be clear to them. A question often posed is: "Does TCAS require measurement results?" My answer to this question is: "TCAS requires the scientific and technical work be *validated by any appropriate scientific means*." As TCAS publishes papers on the theory, analysis, (computer aided) design, and practical implementation of circuits, and the application of circuit theoretic techniques to systems and to signal processing, validation of the results obtained can be by means of carefully conducted hand calculations, by carefully conducted circuit and system simulations, e.g., MatLab, SPICE, Spectre RF, ADS, etc., or by measurements. Also, the documentation of the work should be done so that the results are *reproducible*, by several independent experimenters with properly performed experiments. It is my intention to help the authors by providing (on the Information for Authors page of the TCAS-I web site) examples of what are good and bad practices in order to assist them in deciding whether their work can indeed be submitted to TCAS-I and whether it meets the requirements of a good manuscript. Another possibility I wish to explore further is whether it is possible to create a web-based repository that contains additional material, e.g., source codes, net lists, measurement data, project links, etc., linked to the TCAS-I manuscript, which will allow the reviewer and ultimately the reader to evaluate the reproducibility of the results even better or indeed reproduce the result documented. Such a repository is not an *idée fixe* and is, in fact, currently being created at Delft University of Technology under my direct supervision.

Second, currently TCAS-I still receives manuscripts that are out of the scope of the journal. Although the situation has improved over the past couple of years, I feel there are still too many. I intend to, together with the members of the Editorial Boards of TCAS-I and -II, carefully check the current Editors' Information Classification Scheme (EDICS) and update the information on the TCAS-I web site, so that it will become obvious to the authors when a paper does belong to the scope of the journal or does not belong to the scope of the journal and thus should be redirected elsewhere.

Third, currently TCAS-I, unfortunately, receives manuscripts that are:

- derived from a conference paper and show not enough additional scientific and technical content, or
- resubmitted without any modifications, after being rejected by a different journal, sometimes even TCAS-II, the so-called recycled submissions, or, even worse,
- submitted to two journals at the same time, so-called duplicate submissions, or, even worse,
- completely or partially, plagiarized.

Not only are the latter three of the above submissions very dubious from an ethical point of view, they also greatly affect the reputation of the journal and the authors involved if not spotted on time and are in all cases a waste of the precious time of the reviewers and the editorial board. Currently, TCAS-I is dealing with a few cases and, in line with the rules by the IEEE, sanctions may be applied to those that committed the misconduct. However, in my previous role as Deputy EiC to this journal, I have also witnessed that not all of the above cases were created by the corresponding author or the authors intentionally, and that they could have been prevented from happening if the corresponding authors knew the prospective consequences of their actions well in advance. I feel it is my role as EiC to not only to deal with the cases of misconduct in the most fair way to all that are involved, but also to reach out to prospective authors, both at junior and senior level, and make them aware of the ethics involved in submitting a paper to one of the IEEE periodicals in general and TCAS-I in particular.

The above list is certainly not exhaustive. More ideas may come from our readership, i.e., you. If you have proposals or comments, please do not hesitate to contact me at eic-tcas1@tudelft.nl.

I am very fortunate to have Dr. Gabriele Manganaro of National Semiconductor serve as the Deputy Editor-in-Chief for TCAS-I. Gabriele is not only punctual and very reliable, but also a great person to interact with. Many of the current associate editors have been spotted by him.

I also wish to cordially thank the former Editor-in-Chief of TCAS-I, Prof. Gianluca Setti of the Universities of Ferrara and Bologna for leaving TCAS-I in the best state possible, for the guidance he gave me during my tenure as Deputy EiC of TCAS-I and for being a true friend.

Finally, I wish to stress that even the best Editorial Board cannot maintain a high-quality journal with a short decision time without competent and diligent reviewers. I would like to take this opportunity to thank in advance the unselfish and vital service of the many reviewers that will be needed to evaluate the submissions to TCAS-I. I plan to acknowledge their work by publicly acknowledging the outstanding reviewers.

We need excellent authors to maintain and increase the high quality of the journal even further. I therefore invite all researchers working in the field of interest of TCAS-I to submit their most significant results of their research to TCAS-I.

On behalf of the entire Editorial Board of TCAS-I, I wish you a very happy and prosperous 2010!

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Wouter A. Serdijn (M'98–SM'08) was born in Zoetermeer ("Sweet Lake City"), the Netherlands, in 1966. He received the M.Sc. (*cum laude*) and Ph.D. degrees from Delft University of Technology, Delft, the Netherlands, in 1989 and 1994, respectively.

His research interests include low-voltage, ultra-low-power and ultra wideband analog integrated circuits for wireless communications, pacemakers, cochlear implants, portable, wearable, implantable and injectable ExG recorders and neurostimulators. He is co-editor and co-author of the books *Ultra Low-Power Biomedical Signal Processing: An Analog Wavelet Filter Approach for Pacemakers* (Springer, 2009), *Circuits and Systems for Future Generations of Wireless Communications* (Springer, 2009), *Power Aware Architecting for Data Dominated Applications* (Springer, 2007), *Adaptive Low-Power Circuits for Wireless Communications* (Springer, 2006), *Research Perspectives on Dynamic Translinear and Log-Domain Circuits* (Kluwer, 2000), *Dynamic Translinear and Log-Domain Circuits* (Kluwer, 1998) and *Low-Voltage Low-Power Analog Integrated Circuits* (Kluwer, 1995). He authored and co-authored 6 book chapters and more than 200 scientific publications and presentations. He teaches analog electronics, analog signal processing, micropower analog IC design and electronic design techniques, and has received the Electrical Engineering Best Teacher Award in 2001 and 2004.

Dr. Serdijn has served as an Associate Editor for the IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—I: REGULAR PAPERS (2004–2005) and the IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—II: EXPRESS BRIEFS (2002–2003 and 2006–2007), as tutorial session co-chair for ISCAS 2003, as Analog Signal Processing Track Co-Chair for ISCAS 2004 and ISCAS 2005, as chair of the Analog Signal Processing Technical Committee of the IEEE Circuits and Systems society, as Analog Signal Processing Track Chair for ICECS 2004, as Technical Program Committee member for the 2004 International Workshop on Biomedical Circuits and Systems, as International Program Committee member for IASTED CSS 2005 and CSS 2006, as Technical Program Committee member for APCCAS 2006, as Technical Program Committee member for the IEEE Biomedical Circuits and Systems Conference (BioCAS 2006, BioCAS 2007 and BioCAS 2008), as Special-Session Chair for ISCAS 2007, as International Program Committee member of the 2009 International Conference on Biomedical Electronics and Devices, as Special Session Chair for ISCAS 2009, as a member of the IEEE CAS-S Board of Governors (BoG) Nominations Committee, Deputy Editor-in-Chief for IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS-I: REGULAR PAPERS, member of the Editorial Board of *Analog Integrated Circuits and Signal Processing* (Springer), member of the Editorial Board of the *Journal on Low Power Electronics*, Special Sessions Chair for ICECS 2009, Technical Program Committee member for ICUWB 2009, a member of the CAS Long Term Strategy Committee and currently serves as a member of the Board of Governors (BoG) of the IEEE Circuits and Systems Society (2nd term), a member of the Conference Division of the CAS BoG, as Technical Program Chair for BioCAS 2010, and as Technical Program Chair for ISCAS 2010. Recently, he has been appointed Editor-in-Chief for IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—I: REGULAR PAPERS (2010–2011).