Editorial
TCAS-I State and Plans for the Future

WELCOME to the first issue of 2009 as we begin, in the 125th anniversary of IEEE, the 56th year of publication of the IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—I: REGULAR PAPERS (TCAS-I).

One year has passed since I took over from Dr. Sankar Basu as the new Editor-in-Chief (EIC) of TCAS-I, and I am delighted to review with you the activities and endeavors which were undertaken in 2008, as well as those planned for 2009. I take this opportunity to express my deepest appreciation to the many individuals who have helped to improve and, in many cases, to resolve many of these challenges which needed to be addressed at the time of transition, as is highlighted in the following.

Reduction of the Time Between Manuscript Submission and Publication

Last year, TCAS-I further consolidated its standing among the community-at-large of Circuits and Systems (CAS) scientists, receiving a total number of around 850 submissions (excluding special issues/sections), with an increase of 26% in relation to the average of the previous two years. Considering that we inherited more than 400 open papers at the time of transition (more than 300 of which had no first decision), one can easily understand the tremendous pressure on all of the members of the Editorial Board (EB), as well as the reviewers, to make quick and fair decisions on each manuscript, while working through a thorough review process that enables us to increase the high standards of TCAS-I.

I wish to congratulate all of them, given that they have done a tremendous job. As can be seen in Table I, the most significant data is the reduction of an average first decision time to less than 69 days, which amounts to a decrease of around 300% in relation to the past average. Another important figure is that, at present, we have 146 open papers only, among which only two have been left over by the previous editorial board.

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<th>AVERAGE TIMES OF FIRST DECISIONS FOR PAPERS SUBMITTED TO TCAS-I AFTER DECEMBER 5, 2007</th>
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<td>Number of first decisions</td>
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At the same time, we have strived to maintain a very high level of selectivity in the review process, as testified by an acceptance rate which has been decreased to just above the 17% mark (which rises to 23% if we include papers subject to just a minor revision).

Much has also been done to decrease the backlog of papers. A couple of months after the beginning of my term, after most of the inherited papers were successfully closed, the backlog could be estimated to have been at around 11 months.

To cope with this, the CAS Society (CAS-S) kindly agreed temporarily increasing the TCAS-I yearly page budget by approximately 850 additional pages, thus cutting the queue by about four months. With respect to this, I wish to express my deepest gratitude to all members of the CAS-S Executive Committee, who approved the expenses necessary for this operation, and, in particular, to the VP-Publications Prof. Franco Maloberti, as well as the Administrative VP Dr. Richard Smith, and the 2008 President Prof. Maciej Ogorzalek, President-Elect Prof. David Allstot, and Past-President Prof. Ljiljana Trajkovic.

The problem is regrettably not completely solved due to both the decrease of the TCAS-I page budget from 2850 to 2150 pages and the decision to go on with some high-quality initiatives (some of which are described in the following), which again produced an increase in the backlog to the current value of nine months. We are thus still not at the optimal value of five–six months, which is the target I would like to reach by the end of 2009.

In the meantime, to at least partially circumvent the problem, we keep exploiting the mechanism of “rapid posting,” which allows us to post the final version of a manuscript in IEEEXplore approximately three weeks after submission to the TCAS-I web site. This copy is in the same format as the authors supply it, without copy editing, but possesses already a Digital Object Identifier, which allows it to be read and cited by other authors.

If we consider this almost-final “rapid posting” publication of the manuscript in electronic format as our target, the performance of TCAS-I is certainly entirely satisfactory. In fact, in a nutshell, we may say that a good paper submitted to TCAS-I, which has been directly accepted or is subject to a minor revision, should appear in IEEEXplore in about five–six months after submission. This is a result that puts TCAS-I in line with other renowned publications, such as the IEEE JOURNAL OF SOLID-STATE CIRCUITS.

We hope that this will help to attract even better submissions and to further increase the perception of high quality in the minds of our readers.

TCAS-I Special Issues/Sections and Invited Tutorials

With an aim to increasing the impact and quality of the journal, TCAS-I has launched several initiatives, one of which is actually hitting the “market” in this very issue.

You can in fact read two invited contributions by outstanding authors from academia and industry, namely, Prof. Behzad...
Razavi (UCLA) and Dr. Bryan Casper and Dr. Frank O’Mahony (Intel), who accepted the request to prepare overview papers based on the extremely successful tutorials they delivered at the 2008 IEEE International Symposium on Circuits and Systems (ISCAS2008). I wish to thank Prof. David Allstot (ISCAS2008 General Co-Chair), who has been very supportive and helpful in this initiative which I am convinced will be appreciated by our readership and which, I hope, will become a tradition both for ISCAS and TCAS-I.

Among the plans for the future, let me mention:
1) The publication of a special issue composed of the best papers presented at ISCAS2008. The technical quality of the Flagship Conferences of CAS-S has, in fact, been steadily increasing since 2004, reaching an acceptance rate of around 46% in 2008 and 45% in 2009. We have invited the authors of 45 high-quality contributions to submit the follow-up of their papers to TCAS-I, 42 of whom have accepted our invitation. The review process is underway and the target publication date is May 2009. I am committed to making this a tradition for TCAS-I since I am fully convinced that this will contribute to further enhancing the trend of quality increase at the conference, as well as the journal.
2) The publication of a special section composed of selected papers from the 2008 IEEE Custom Integrated Circuits Conference (CICC2008), which will certainly increase the chance of cross-fertilization between the Circuits and Systems and Solid-State scientific communities.

In spite of the nice picture outlined above, there are still a few points that need to be addressed.

First of all, during the entire 2008, I could not help noticing the reasonably large number of submitted papers, especially in the areas of Signal (and Video) Processing, Power Electronics, and Automatic Control, which fall outside the scope of the Transactions. Before preparing a manuscript for TCAS-I, authors are strongly advised to read the guidelines for authors given at http://tcas1.polito.it/authors.html.

To cope with this problem, we introduced an Editors’ Information Classification Scheme (EDICS, see http://tcas1.polito.it/Forms/kwlist.html), identical to the one already adopted last year for TCAS-II, whose benefit in terms of the clear definition of the scope of the journal will hopefully show its positive effects in the near future. The EDICS is also meant to facilitate the assignment of papers to Associate Editors and reviewers (who are experts in the area of each submission) in conjunction with the improvements made through the CAS Web Manuscript System (CAS-WMS), as described in my January 2007 Editorial of TCAS-II. The EDICS are meant to be dynamic and will be adjusted regularly in order to better reflect the interests of our authors as well as to attract new ones.

A further issue relates to the appreciable number of papers which are relatively short, to the extent that they are (or could be reduced by proper formatting according to the standard two-column IEEE Transactions style) to less than six pages. These should be submitted to TCAS-II and will therefore be returned to authors without review.

To conclude, I wish to thank and congratulate all constituencies for all remarkable accomplishments of TCAS-I in 2008.

I am very happy to have Prof. Wouter Serdijn of the Technical University of Delft, The Netherlands, serving as a Deputy-Editor-in-Chief for this Transactions. Wouter is not only a very good friend, hard-working and extremely reliable, but is also very keen to propose new ideas and directions for enhancing the level of TCAS-I and, most importantly, is a great person to interact with. TCAS-I would not be the same without him.

Special thanks are due to all of the members of the EB who have been the key players to achieve a rigorous and fair review process in a very limited time. Among them, I owe my deepest gratitude to the many Associate Editors who have been handling a very large number of papers and who have made extra effort in maintaining a quick turnaround time, even when working with a load of manuscripts much larger than what they agreed to handle at the beginning, and/or who have also shown particular skill in handling difficult situations. More specifically, I wish to acknowledge with particular gratitude the support of Drs. Eduard Alarcon, Bertan Bakkaoglu, Gaurab Banerjee, Mario di Bernardo, Sergio Callegari, Henry Chung, Manuel Delgado-Restituito, Andreas Demosthenous, Mauro Di Marco, Zbigniew Galias, Jose Pineda de Gyvez, James Hellums, Hakan Johansson, Eric Klumperink, Yong Lian, Yuan-Pei Lin, Shen-Iuan Liu, Antonio Lopez-Martin, Gabriele Manganaro, Yehia Massoud, Philip K.T. Mok, Gaetano Palumbo, David Pan, Shanthi Pavan, Hanspeter Schmid, Eduardo Barros da Silva, Jose Silva-Martinez, Dusan M. Stipanovic, and Wolfgang Utschick.

It is very important, of course, to mention the reviewers, who play such a vital role for TCAS-I by providing thorough technical comments and by volunteering their precious time. I offer my sincere appreciation to them all for their reviews as well as their patience regarding the constant reminder emails sent both by the system and by my editorial assistant, Dr. Alistair Rennie. If I perform my responsibilities well, a large part of the credit goes to Alistair for all of his efforts.

Special thanks go also to Alberto Grosso, administrator of the CAS-WMS at http://tcas1.polito.it, who has kept it up and running at all times and who has made lot of efforts for constantly enhancing its features to make it more user-friendly for authors, reviewers and Associate Editors. My gratitude also goes to Prof. Enrico Macii, EIC of the IEEE TRANSACTIONS ON COMPUTER-AIDED DESIGN OF INTEGRATED CIRCUITS AND SYSTEMS for the constructive discussions on the optimization process of CAS-WMS.

Last, but not least, I own a debt of gratitude to Prof. Franco Maloberti, CAS-S VP Publication, for his constant encouragement and for his continuous support and understanding to the needs of the journal. I can assure him and his successor in the VP position, Prof. Enrico Macii, that we shall continue to strive towards providing the best possible service for the CAS community.

I invite you to visit the TCAS-I web site at http://tcas1.polito.it to be sure that you will be timely informed of any incite of the journal, to which, I hope, you all will find a way to contribute. Do not hesitate to contact me at tcas1-eic@arces.unibo.it for any enquires related to TCAS-I: your comments and suggestions are always welcome.
Let me conclude by wishing you all, on behalf of the entire Editorial Board of TCAS-I, a very happy and prosperous 2009!

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Gianluca Setti (S’89–M’91–SM’02–F’06) received the Dr. Eng. degree (with honors) in electronic engineering and the Ph.D. degree in electronic engineering and computer science from the University of Bologna, Bologna, Italy, in 1992 and 1997, respectively, for his contribution to the study of neural networks and chaotic systems.

From May 1994 to July 1995, he was with the Laboratory of Nonlinear Systems (LANOS) of the Swiss Federal Institute of Technology in Lausanne (EPFL), Lausanne, Switzerland, as a Visiting Researcher. Since 1997, he has been with the School of Engineering, University of Ferrara, Ferrara, Italy, where he is currently a Professor of Circuit Theory and Analog Electronics. His research interests include nonlinear circuits, recurrent neural networks, implementation and application of chaotic circuits and systems, statistical signal processing, electromagnetic compatibility, wireless communications, and sensor networks. He is coeditor of the books Chaotic Electronics in Telecommunications (CRC Press, 2000) and Circuits and Systems for Future Generations of Wireless Communications (Springer, 2009) and one of the Guest Editors of the May 2002 Special Issue of the PROCEEDINGS OF THE IEEE on “Applications of Nonlinear Dynamics to Electronic and Information Engineering.”

Dr. Setti was the recipient of the 1998 Caianiello Prize for the best Italian Ph.D. dissertation on Neural Networks, and he was corecipient of the 2004 IEEE Circuits and Systems (CAS) Society Darlington Award, as well as the Best Paper Award at ECCTD2005 and the Best Student Paper Award at EMCZurich2005. He served as an Associate Editor for the IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—I: REGULAR PAPERS (TCAS-I, 1999–2002 and 2002–2004) and for the IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—II: EXPRESS BRIEFS (TCAS-II, 2004–2007), the Deputy-Editor-in-Chief for the IEEE Circuits and Systems Magazine (2004–2007), and the Editor-in-Chief for the IEEE TCAS-II (2006–2007). Since January 2008, he has also served as the Editor-in-Chief for the IEEE TCAS-I. He was the 2004 Chair of the Technical Committee on Nonlinear Circuits and Systems of the of the IEEE CAS Society, a Distinguished Lecturer (2004–2005), and a member of the Board of Governors (2005–2008) and is currently serving as the 2009 President-Elect of the same society. He was also the Technical Program Co-Chair of NDES2000 (Catania), the Track Chair for Nonlinear Circuits and Systems of ISCAS2004 (Vancouver), the Special Sessions Co-Chair of ISCAS2005 (Kobe) and ISCAS2006 (Kos), the Technical Program Co-Chair of ISCAS2007 (New Orleans, LA) and ISCAS2008 (Seattle, WA), as well as the General Co-Chair of NOLTA2006 (Bologna, Italy).