

IEEE CIRCUITS AND SYSTEMS SOCIETY
ELECTION OF MEMBERS TO THE BOARD OF GOVERNORS
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MASSIMO ALIOTO (M'01-SM'07-F'16) received the Laurea (MSc) degree in Electronics Engineering and the Ph.D. degree in Electrical Engineering from the University of Catania (Italy) in 1997 and 2001, respectively. He is an Associate Professor at the Department of Electrical and Computer Engineering, National University of Singapore where he leads the Green IC group and is the Director of the Integrated Circuits and Embedded Systems area. Previously, he was Associate Professor at the Department of Information Engineering of the University of Siena. He was Visiting Scientist at Intel Labs – CRL (Oregon, 2013), Visiting Professor at University of Michigan Ann Arbor (2011-2012), BWRC – University of California, Berkeley (2009-2011), and EPFL (Switzerland, 2007).

He has authored or co-authored more than 230 publications on journals (80+, mostly IEEE Transactions) and conference proceedings. One of them is the second most downloaded *TCAS-I* paper in 2013. He is co-author of three books, *Enabling the Internet of Things - from Circuits to Systems* (Springer, 2017), *Flip-Flop Design in Nanometer CMOS - from High Speed to Low Energy* (Springer, 2015) and *Model and Design of Bipolar and MOS Current-Mode Logic: CML, ECL and SCL Digital Circuits* (Springer, 2005). His primary research interests include ultra-low power VLSI circuits, self-powered and wireless nodes, energy-quality scalable circuits, widely energy-scalable VLSI circuits, circuit techniques for emerging technologies and hardware-level security, among the others.

In 2009-2010 he was Distinguished Lecturer of the IEEE Circuits and Systems Society, for which he is/was also member of the Board of Governors (2015-2017) and Chair of the “VLSI Systems and Applications” Technical Committee (2010-2012). In the last five years, he has given 50+ invited talks in top universities and leading semiconductor companies. He currently serves as Associate Editor in Chief of the *IEEE Transactions on VLSI Systems*, and serves/served as Guest Editor of several journal special issues. He also serves or has served as Associate Editor of a number of journals (e.g., *IEEE Transactions on VLSI Systems*, *IEEE Transactions on CAS - part I*, *IEEE Transactions on CAS - part II*). He was Technical Program Chair (ICECS, NEWCAS, PRIME, SOCC, ICM, VARI) and Track Chair in a number of conferences (ISCAS, ICECS, NEWCAS, VLSI-SoC, APCCAS, ICM, ICCD). Prof. Alioto is an IEEE Fellow.

Statement: I have been an active CAS member since 1997 and I have personally contributed to our Society in various capacities, being part of the Board of Governors (2015-2017), the CAS anti-plagiarism and the Distinguished Lecturer Program committee, Technical Committee Chair, Associate Editor in Chief for *TVLSI*, Associate Editor for various CASS journals (e.g., *TCAS-I*, *TCAS-II*), Technical Program Chair of several CAS conferences, among the others.

I strongly believe that the intense and continuous interaction with the members of our Community at all levels has provided me with a clear perspective on the directions that we need to take to address the current and up-coming endeavours for our CAS Society.

In my vision, the rapid change in the way knowledge is produced, disseminated and used, is redefining every role in our community and is posing very serious challenges to our Society:

CHALLENGE 1: RESEARCH FRAGMENTATION AND RELEVANCE

The increasing volume of knowledge produced every year on one hand, and the existence of barriers between geographical areas on the other hand (e.g., research funding policies, technology investment practices), are determining heavier fragmentation of the research effort at the global scale. More coordinated research effort towards common directions is needed to synergistically address truly fundamental challenges, and to attract young generations of engineers who want to have a major impact in tackling those exciting challenges.

CHALLENGE 2: KNOWLEDGE DIVIDE

As a second challenge stemming from the fast-paced knowledge generation, access to timely knowledge has become an even more fundamental divide between developed and developing areas. Mitigating this gap is certainly within the core values of the CAS Society. Also, it is instrumental in strengthening the impact of our Society, nurture a broader CAS community cutting across the geographical boundaries, and ultimately favor knowledge osmosis to make technology advances that address global challenges.

CHALLENGE 3: SUSTAINED CAS LEADERSHIP

The traditional across-discipline leadership of CAS Society has been somewhat undermined by other IEEE societies, which have been able to adapt to changes more quickly and effectively. CAS Society needs to focus on regaining such leadership by leveraging interdisciplinarity and high quality of publications, as distinctive features of our Society since its inception. Our Society needs to play a central role in defining key research directions for the whole community, and favor convergence of different research areas as enabler of new applications that are relevant to other Societies (so that they further amplify the impact of CAS).

The above challenges require well-shaped lines of action.

As required by challenges # 1 and #2, wider (new members) and deeper (current members) engagement in CAS activities are both necessary to augment the value of the CAS membership and favor a more collaborative environment (e.g., academia/industry synergy, which is currently rather limited) to tackle truly fundamental challenges. These goals can be achieved by introducing explicit initiatives for academia/industry synergy (e.g., regular publication of overviews of industrial trends and interest, member remote access to industrial demos), narrowing the geographical distances through technology (e.g., by offering keynote speeches of all CAS conferences, iDLP and e-DLP lectures to all CAS members), coordination and integration between events/e-initiatives/CAS publications (e.g., promoting online discussion forums directly linked to conference talks to enable tight interaction between young and highly accomplished members, giving more visibility to events/e-initiatives on CAS magazine, give recognition to outstanding Associate Editors/reviewers through Best AE/reviewer awards on all CASS journals).

Challenges #2 and #3 require the involvement of members through live forums organized within existing conferences, where “bottom-up” and truly open discussion among members is encouraged (e.g., definition of main/new CAS directions, convergence of CAS fields towards new applications/fields, proposal of new initiatives to be evaluated by editorial boards and conference chairs).

Challenge #3 also requires serious counteraction of the plagiarism and double-submission issues, which are escalating due to many recent and well-known factors. As quality is a key factor to sustain CAS credibility and leadership, more effective and stronger action is required by our Society to discourage these phenomena. Although some advance has been made in the last few years, much better coordination between CAS Society, journals and conferences is needed (e.g., shared submission databases, much faster action in determining the originality of papers and publicly expose plagiarism).

If elected, I will serve the CAS community with all my enthusiasm, usual commitment and openness to actively collaborate with the other BoG members.

Questions: 1) What are, in your opinion, the three most important services that CASS should provide to its membership?

The three most important services that CASS should provide to its members are:

1. Wide access to knowledge advances through IEEE-sponsored massive open online courses (MOOCs).
2. Support of continuous education through advanced courses over media publications (e.g., live/remote Distinguished Lectures, intensive courses via webinars on topics of wide interest, video tutorials by leading researchers).
3. Enable/facilitate collaboration of younger and experienced engineers, thanks to the offer of a network of professionals with certified experience and level of accomplishment, leveraging the value of conferences as networking events.

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

A long-term new CAS initiative that I am keen to help establish is the "INCAS" (Internship Network within CAS) network that bridges the gap between students, academic groups and industry. Indeed, industry is constantly searching for talent for prospective hiring, students are interested in getting in touch with industry (through internships), and academic groups can be the glue between them by providing research directions and mentoring capability.

To this purpose, a database of CAS contacts within companies and offers of internships will be made available to academics, who select and make them available to students to close the loop.

3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)

1. For students: electronic access to all conference keynote speeches and Distinguished Lectures.
2. For recent graduates: enhanced conference services to enable continuous learning and create networking opportunities with industry. This would permit to extract more value from IEEE CASS conferences and encourage attendance, leveraging on the networking opportunities that they offer.
3. The new concept of INCAS network described in the previous item.



SANDRO CARRARA (M'08-SM'14-F'16) is an IEEE Fellow for his outstanding record of accomplishments in the field of design of nanoscale biological CMOS sensors. He is also the recipient of the IEEE Sensors Council Technical Achievement Award in 2016 for his leadership in the emerging area of co-design in Bio/Nano/CMOS interfaces. He is a faculty member (MER) at the EPFL in Lausanne (Switzerland). He is former professor of optical and electrical biosensors at the Department of Electrical Engineering and Biophysics (DIBE) of the University of Genoa (Italy) and former professor of nanobiotechnology at the University of Bologna (Italy). He holds a PhD in Biochemistry & Biophysics from University of Padua (Italy), a Master degree in Physics from University of Genoa (Italy), and a diploma in Electronics from National Institute of Technology in Albenga (Italy). His scientific interests are on electrical phenomena of nano-bio-structured films, and include CMOS design of biochips based on proteins and DNA. Along his career, he published 7 books, one as author

with Springer on Bio/CMOS interfaces and, more recently, a Handbook of Bioelectronics with Cambridge University Press. He has more than 240 scientific publications and is author of 13 patents. He is now Editor-in-Chief (Associate) of the *IEEE Sensors Journal*; he is also founder and Editor-in-Chief of the journal *BioNanoScience* by Springer, and Associate Editor of *IEEE Transactions on Biomedical Circuits and Systems*. He has been appointed as IEEE Sensors Council Distinguished Lecturer for the years 2017-2019, and CASS Distinguished Lecturer for the years 2013-2014. His work received several international recognitions: several Top-25 Hottest-Articles (2004, 2005, 2008, 2009, and two times in 2012) published in highly ranked international journals such as *Biosensors and Bioelectronics*, *Sensors and Actuators B*, *IEEE Sensors Journal*, and *Thin Solid Films*; a NATO Advanced Research Award in 1996 for the original contribution to the physics of single-electron conductivity in nano-particles; four Best Paper Awards at MOBIHEALTH Conference in 2016 (Milan), and at the IEEE PRIME Conference in 2015 (Glasgow), in 2010 (Berlin), and in 2009 (Cork), three Best Poster Awards at the at the EMBEC'17 Conference in 2017 (Tampere, Finland), at the Nanotera workshop in 2011 (Bern), and at the NanoEurope Symposium in 2009 (Rapperswil). He also received the Best Referees Award from the journal *Biosensor and Bioelectronics* in 2006. From 1997 to 2000, he was a member of an international committee at the ELETTRA Synchrotron in Trieste. From 2000 to 2003, he was scientific leader of a National Research Program (PNR) in the field of Nanobiotechnology. He was an internationally esteemed expert of the evaluation panel of the Academy of Finland in a research program for the years 2010-2013. He has been the General Chairman of the Conference IEEE BioCAS 2014, the premier worldwide international conference in the area of circuits and systems for biomedical applications.

Statement: I am IEEE Fellow in recognition of my outstanding record of accomplishments in the field of design of nanoscale biological CMOS sensors. I have been also awarded with the IEEE Sensors Council Technical Achievement Award in 2016 for my leadership in the emerging area of co-design in Bio/Nano/CMOS interfaces. The CAS Society has recognized my scientific and teaching activities by appointing me as CASS Distinguished Lecturer for the years 2013-2014, while in last year. I am similarly recognized and nominated Distinguished Lecturer by the IEEE Sensors Council, an IEEE Council funded by the CASS. I entered as a member IEEE and CAS society in 2008 and starting almost immediately serving. For example, I am serving IEEE journals as Topical Editor for the *Sensors Journal*, and Associate Editor for the *Transactions on Biomedical Circuits and Systems*. I am currently CAS representative in the IEEE Sensors Council. I have an experience in serving for IEEE conferences. I am the General Chairman of the Conference IEEE BioCAS 2014, and two times member of the TPC chair of the same conference in 2015 and in 2017 (this year). I am in TP chair at the IEEE ISMICT 2011. I am Special Session chair for our flagship conference ISCAS last year, and two times Demos chair for the conference IEEE Sensors, in 2013 and 2017 (this year). I am also involved in other conferences duties for IEEE IWASI (edition 2013 and 2011), in BioCAS (editions 2010-12). I have organized Special Sessions in ISCAS 2010 in Paris, and in 2008 at BioCAS 2008 in Baltimore. I have started the IEEE Sensors Council Summer School series in 2016 and I am now designing the ByLaw for that series to be organized in the following years in a continuous manner. I belong to two Technical CAS Committees: TC on Biomedical applications and TC on sensors. I am CASS representative in the IEEE Sensors Council. My activity has always been at the interface between the electronics and the biophysics and therefore, by nature, multidisciplinary. For that reason, I am especially interested and actively working for cross-collaborations among disciplines in order to get more than we could expect by working in only one domain. For example, I actively worked for obtaining a scientific contribution to the conference

BioCAS 14, conference that is co-sponsored by the CAS and the EMB societies but that has received only technical/scientific contributions from the CAS society only. In the editions 2014 (held in October in Lausanne), we will have (first time so far) a special session organized by members of the EMB society and we already received several submissions from the same society in addition to ones from the CAS society.

Therefore, even based on that working attitude of mine, I am planning, if elected, to actively address the following three main goals:

- To foster the interdisciplinary among technical committees by identifying, proposing, and then getting run several cross-committee initiatives like joint-special issues on transactions, joint special sessions in conferences
- To foster the collaboration among academia and industry by identifying, proposing, and then getting run several cross-institutions initiatives like special prizes for industrial researchers, special sessions in conferences organized by industries, small workshops or summer/winter schools mainly offered to industrial researchers.
- To foster and leverage new techniques and approaches for training (also including but not limited to e-learning) of a new young generation of electrical engineers with more expertise at the interface between CMOS design and biophysics in order to develop new curricula at the frontier of the biomedical applications by moving from the traditional (and strong!) curricula in electrical engineering.

I have also recently discovered that there are small national communities of experts in the IEEE region 10 that are extremely advanced in terms of expertise but small represented in some IEEE events. I suspect something similar might happen with region 9 as well as with the southern part of region 8. As international liaison chair of the conference BioCAS2012 and now as General Chairman on BioCAS2014 I get a certain result in getting more involved colleagues by those regions thanks to special actions. For example, I proposed and get approved by the CAS society an outreach action for fostering participation in BioCAS conference of young PhD students from those regions. I also actively working together with outstanding scientist from region 10 and got approved the organization of the conference BioCAS in Japan in 2019.

Therefore, even based on this past experience I have done, another goal that I will pursue, if elected, will be:

- To foster more cross-fertilization among IEEE worldwide regions by identifying, proposing, and then getting run several new initiative that can attract and support more participation of people from regions 9, 10, and south-part of regions 8 like, for example, leveraging more proposals for IEEE conferences in those regions, new outreach initiative, new workshops and/or summer/winter schools for young PhD students to be organized in those regions.

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

Even based on my experience as member of the CASS, I think that three of the most important services are:

1. The access of the most advanced state-of-the-art in circuits and systems new developments for the area by through (but not limited to): publications, conferences, workshops, schools, etc.
2. Facilitating the cross-fertilization with other disciplines since the CAS is “almost automatically an interdisciplinary field” due to its natural attitude in applications. Typical examples are the automotive and the biomedical areas.
3. Supporting the carrier of your engineers by through (but not limited to): awards, prizes, recognition, certificates of serving, etc.

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

In line with the previous statements, I'll foster a closer cooperation industry/academia, targeting IEEE regions not always well represented. So, for example, I am ready to work for organizing a new CAS event in the form of summer (or winter) school with the idea to bring top lecturers (both from academia and from industry, and even using the DL distinguished program of the CAS society and of other societies too in order to assure a multi-disciplinary approach) for students in regions 9, 10 and 8-south, with special focus on industrial developments and specially focus on young EE in industry.

3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)

In my opinion, the CASS can serve members by:

1. Involving them in organizing conferences/workshop by asking to develop special sessions more focused on their interests, by inviting them as keynotes/tutorials, by choosing sometimes event' venues in industrial research centers.
2. Foster and grant the possibility of stage and internship from academia in industry and vice-versa in order to get more mobility of engineers from/by the two sides.
3. Provide more information (also but not limited to e-training) for/from the industrial world, and attracting especially young engineers in industry to collaborate to these new pages in our web site.



YEN-KUANG CHEN (S'95-M'98-SM'02-F'12) Dr. Yen-Kuang Chen is a Principal Engineer at Intel Corporation. His research areas span from emerging multimedia and Internet of Things (IoT) applications to computer architecture that can embrace emerging applications. He has 60+ US patents, 20+ pending patent applications, and around 100 technical publications. He is one of the key contributors to Supplemental Streaming SIMD Extension 3 and Advanced Vector Extension in Intel microprocessors.

He has served as a program committee member of 50+ international conferences on Internet of Things, multimedia, video communication, image processing, VLSI circuits and systems, parallel processing, and software optimization. He was a chair of the theme track on Internet of Video Things (IoVT) at IEEE International Symposium on Circuits and Systems (ISCAS) 2016 and a chair of Circuits and Systems Society Forum on Emerging and Selected Topics (CAS-FEST) at ISCAS 2013.

He is the Editor-in-Chief (EIC) of *IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS)*, and has served on the editorial boards of *IEEE Transactions on Circuits and Systems I (TCAS-I)*, *IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)*, *IEEE Transactions on Multimedia (TMM)*, *JETCAS*, and *IEEE Signal Processing Magazine*. He received TCSVT Outstanding Associate Editor awards twice (from two EICs).

He is currently the founding chair of special interest group (SIG) on IoT of Circuits and Systems Society (CASS), and served as the Chair of Multimedia Systems and Applications (MSA) technical committee (TC) of CASS from 2012 to 2013, and the founding chair of SIG IoT of IEEE Signal Processing Society from 2013 to 2015.

He served a steering committee member of *IEEE Internet of Things Journal*, *IEEE Transactions on Multimedia*, and International Conference on Multimedia & Expo (ICME).

He is currently a Distinguished Lecturer (DL) of CASS. He has been tutorial speakers at International Conference on Information, Communications and Signal Processing (ICICS) 2013, IEEE Visual Communications and Image Processing Conference (VCIP) 2012 & 2011, International Symposium on Wireless Personal Multimedia Communications (WPMC) 2012, ISCAS 2012 & 2009, ICME 2010 & 2007, International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2009, 2008, & 2007.

He received his Ph.D. degree from Princeton University and is an IEEE Fellow.

Statement: I have been an active Circuits and Systems Society (CASS) member for 26 years. I was elevated to an IEEE Fellow through CASS. I am a Distinguished Lecturer of CASS from 2016 to 2017. For CASS flagship journals, I am currently the Editor-in-Chief of *IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS)*, and has served on the editorial boards of four CASS' flagship journals, *IEEE Transactions on Circuits and Systems I (TCAS-I)*, *IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)*, *IEEE Transactions on Multimedia (TMM)*, and *JETCAS*. In 2009 and 2011, I received two TCSVT Outstanding Associate Editor Awards from two different EiC's. I had also served on the steering committee of TMM on behalf of CASS. For our CASS conference, e.g., ISCAS, I have been playing key program committee roles as track chairs and RCMs of ISCAS as well as the innovative roles. For example, I served as a chair of the theme track on Internet of Video Things (IoVT) at ISCAS 2016 and a chair of Circuits and Systems Society Forum on Emerging and Selected Topics (CAS-FEST) at ISCAS 2013. I had also served on the steering committee of International Conference on Multimedia and Expo (ICME) on behalf of CASS. For CASS' technical committees on areas of interest of the Society, I am currently the founding chair of Internet of Things (IoT) special interest group (SIG), and served as the Chair of Multimedia Systems and Applications (MSA) technical committee (TC), from 2012 to 2013.

Though my close involvement of various IEEE activities, I had observed that CASS could benefit from my further involvement, in particular, leveraging my rich experiences in both academia and industry. If elected, I would like to work closely with the Board of Governors and the Executive Committee to actively create new policies, new initiatives, and new forms of technical exchanges to provide the best possible service to our CASS members---(1) a premier information source of latest technologies that can address real-world challenges, (2) a platform that can facilitate industry and academia collaboration, and (3) diverse & inclusive networking.

(1) Leading technologies that address real-world challenges: CASS has a great advantage over other IEEE societies because many real-world challenges can be more efficiently addressed by multi-discipline collaboration. CASS covers a broad range of research areas, from circuit theory, algorithm development, and design implementation. To deliver the most updated technical knowledge to our members, and to foster in-depth collaboration among members, we should (a) establish SIGs, in particular, if a topic required two or more TCs to collaborate, (b) publish special issues, and (c) organize theme-based forums for emerging and cross-discipline topics on CAS. These will also help expand the expertise of CASS in new research areas and applications.

(2) Industry-academia collaborations: With technical leadership and excellence, CASS should drive better industry-academia collaboration. There is a well-known gap between industry and academia. This is because industry cares a lot about the integration of technologies that can help solve real problems. Academic researchers often care about the technology itself, regardless of applications. This is the foundation of the gap. We cannot change the primary focus of industry or academia, but CASS can build a platform so that it is easier for industry and academia members to exchange research challenges or technology innovation, e.g., (a) establish SIGs to address real-world challenges and (b) organize theme-based forums for emerging and cross-discipline topics, where industrial speakers can describe real-world challenges, while the academic speakers describe potential technologies that can address the challenges. Note that today's technologies (e.g., the internet, search engine) make it easy for any person to get new information. However, today's technologies still cannot facilitate the same amount of idea exchange among people when meeting face-to-face.

(3) Inclusion in addition to diversity: A diverse culture in the society benefits CASS in countless ways. Traditionally, cultural diversity occurs when the CAS Society has members from a variety of backgrounds, race, gender, age, or religion. Moreover, we should include active participation from all members. For example, to strengthen the role of young researchers and their contributions to the society, we can (a) Increase the journal/conference reviewer pools to include students or GOLD (graduates of the last decade) members, (b) have students or GOLD members participate in the student paper awards, (c) have student members in TCs/SIGs (in addition to associate members or affiliate members). For another instance, to increase the technical exchange between our industry and academia members, we can increase conference sessions from industry participants (e.g., presentation without publishing papers). Through active participation from all members, we build stronger networks.

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

The three most important services that CASS provides to its members are a premier information source of latest technologies that can address real-world challenges, a platform that can facilitate industry and academia collaboration, and diverse & inclusive networking. Therefore,

1. We should establish SIGs, publish special issues, and organize theme-based forums for emerging topics on CAS.
2. We should organize industry-academia discussions, where industry describes real-world challenges, while the academic describes potential technologies that can address the challenges.
3. We should include active participation from all members from a variety of backgrounds (race, gender, age, or religion) and thus build strong networks.

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

CASS can build a platform that makes it is easier for industry and academia members to exchange research challenges or technology innovation. Industry cares a lot about the integration of technologies that can help solve real problems, while academia often cares about the technology itself, regardless of applications. We cannot change the primary focus of industry or academia, but CASS can build a platform so that it is easier to exchange research challenges or technology innovation. For example, organizing theme-based forums for emerging and cross-discipline topics, where industry describes real-world challenges, while the academic describes potential technologies.

3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)

To make it easier for industry and academia members to exchange research challenges or technology innovation, we should organize theme-based forums for emerging and cross-discipline topics, where industry describes real-world challenges, while the academic researchers describe potential technologies.

To strengthen the role of young researchers and their contributions to the society, we should:

1. increase the journal/conference reviewer pools to include students or GOLD (graduates of the last decade) members,
2. have students or GOLD members participate in the student paper awards,
3. have student members in TCs/SIGs (in addition to associate or affiliate members).



FERNANDO CORINTO (S'04-M'04-SM'10) received the Masters' Degree in Electronic Engineering and the Ph.D. degree in Electronics and Communications Engineering from the Politecnico di Torino, in 2001 and 2005 respectively. He also received the European Doctorate from the Politecnico di Torino, in 2005. F. Corinto was awarded a Marie Curie Fellowship in 2004.

He is currently Associate Professor of Circuit Theory with the Department of Electronics and Telecommunications, Politecnico di Torino. His research activities are mainly on nonlinear circuits and systems, locally coupled nonlinear/nanoscale networks and memristor nanotechnology.

Prof. Corinto is co-author of 6 book chapters and more than 130 international journal and conference papers. Since 2010, he is Senior Member of the IEEE. He is also Chair of the IEEE CAS Technical Committee on "Cellular Nanoscale Networks and Array Computing" and member of the IEEE CAS Technical Committee on "Nonlinear Circuits and Systems". Prof. Corinto serves as Vice-Chair of the IEEE North Italy CAS Chapter. Prof. Corinto has been Associated Editor of the *IEEE Trans. on Circuits and Systems - I* for 2014-2015. He is also in the Editorial Board and Review Editor of the *International Journal of Circuit Theory and Applications* since January 2015. Prof. Corinto is Vice Chair of the COST Action "Memristors -- Devices, Models, Circuits, Systems and Applications (MemoCiS)". Prof. Corinto has been DRESDEN Senior Fellows at the Technische Universitat Dresden in 2013 and 2017. Prof. Corinto has been August- Wilhelm Scheer visiting professor at Technische Universitat Munchen in 2016 and he is also member of the Institute for Advanced Study -Technische Universitat Munchen.

Statement: As an active IEEE senior member over the last years I have beheld the endeavour of our Society and its members in fostering innovation through high quality publications, conferences, professional and educational activities.

In my view, the crucial point to pursue the continued technical vitality of the Society is our ability to engage members in mutually beneficial and cooperative actions.

If elected, I would like to push radical changes in the Society according to the following pillars for the benefit of our members:

- 1) Scientific excellence of society activities;
- 2) Active help to younger members of the society and hearten new members to join our Society;
- 3) Encourage industry to join IEEE activities and meetings to facilitate networking and sharing of technical ideas among participants.

In my view, this can be done by

- A) fostering collaborations among the Society Technical Activities and its Committees;
- B) reducing fees of flagship conferences (e.g. ISCAS, ICECS, etc) and encouraging industry participation;
- C) introducing a transparent system for rewarding active individuals parts of the society.

It has been my privilege and pleasure in the past few years to volunteer in local chapter, technical committees, associate editor and conference chair. I have been visiting different universities during my academic career. I believe that my academic background and extensive research experience in nonlinear circuit and systems, together with my intense interest in working with cross-disciplinary communities, can be of great impact in the Board of Governors and I can promote initiatives to foster cross-discipline collaborations.

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

In my opinion the three most important services that CASS should provide are:

1. High quality journal publications and conference proceedings are fundamental for our scientific community. We need to explore a radical new approach in highlighting major breakthrough in CASS.
2. Organization of educational events for young students and industrial partners. We need to widen our community
3. Foster the interaction between local chapters and technical committees to stimulate among the members the feeling of being part of an active community.

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

Scientists, engineers, and educators are building a future in which the ability to understand and control matter at the nanoscale leads to a revolution in technology and industry. This requires collaboration among researchers from a broad spectrum of disciplines, including nanoscience, computer science and engineering, neurophysiology, applied mathematics and electrical engineering. CASS should undertake a joint effort in promoting activities for computing inspired by neural organization whose main new feature is learning, but is also more energy-efficient than conventional computers. If elected, my extensive research experience in nonlinear information processing systems can provide a contribution in this initiative.

3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)

In my opinion the three ways for CASS to serve a specific part of the CAS community are:

1. lower fees to conferences and workshops by introducing reduced fees for those attending several CASS conferences
2. restructuring the current membership fees (e.g. gradual increment over the years after graduation)
3. improving the quality of its services for job postings and recruitment both in academia and industry



TIMIR DATTA-CHAUDHURI (GSM'09-M'15) Dr. Timir Datta-Chaudhuri received his BS, MS, and PhD degrees in Electrical Engineering from the University of Maryland, College Park, MD, in 2007, 2013, and 2015, respectively. His thesis work was on the development of hybrid bioelectronic sensing systems, integrating CMOS circuits with living systems. He was recruited into the Neural Technologies Group within the Center for Bioengineering at Lawrence Livermore National Laboratory, Livermore, CA, as a postdoctoral fellow in 2015. His research focus was on the development of implantable neural interfaces for restoring memory and the treatment of neuropsychiatric disorders. His research interests include brain-machine interfaces, lab-on-a-chip, cell-based sensing, biosensors, microsystem design and packaging, mixed-signal integrated circuit design, adaptive analog circuits, and neuromorphic engineering. In 2017, Dr. Datta-Chaudhuri accepted a position as an assistant professor at the Feinstein Institute for Medical Research, where he joined the Center for Bioelectronic Medicine as the lead of the Bioelectronics and Biosensing Laboratory. He is a member of the BioCAS Technical Committee and served on the Organizing Committee for ISCAS 2017.

The intersection of biology and electronics has always been the focus of the work performed by Dr. Datta. His early work involved neural networks and neuromorphic computing, building systems that emulated the computational capability of biology by employing spiking neural networks built

using silicon integrated circuits. He then went on to develop lab-on-CMOS systems that intimately combined electronics and biology to create hybrid bioelectronics systems with capabilities greater than the sum of their parts. These systems included electrical and optical interfaces to living cells, and electronics that were designed to interact with living systems. The living cells were used to sense the environment and the signals from the cells were processed by the onboard electronics using the same computational paradigms seen in biology. Building these systems required developing novel die-level packaging techniques to allow the biology and electronics to work together harmoniously. Now his work focuses on the development on implantable neural interfaces for treatment of diseases and for augmenting human capability.

Statement: I have been a member of CASS for a number of years and deeply appreciate the opportunities for professional growth that the society has provided to me. Now, as a young professional I hope to be able to contribute to CASS leadership by drawing on the unique perspective that I bring to the society. My professional career has closely straddled both academia and industry, and though both are inextricably intertwined, there is a fundamental disconnect that has appeared between the two. About half of CASS membership worldwide is from industry, yet we see little participation in our activities, publications, and conferences. We must acknowledge the troubling but inevitable conclusion that, as a Society, CASS does not adequately address the needs and concerns of our industrial colleagues. I believe that this disconnect can be addressed by a few simple, long lasting initiatives that will help to bring these two constituent parts of the CASS community together.

My own research is in the area of applied neuromodulation, a field which intimately combines approaches from mixed signal integrated circuit design, neural interface materials and structures, wireless power and data transfer, and hermetic implantable packaging. Successful programs in this field require not only a holistic systems-based approach, but also close collaboration with industry.

After receiving my doctorate I worked for some time in a national lab, and now have an appointment at a quasi-academic institution which is the research wing of a large healthcare company. Both of these institutions place significant value on translational work, bringing research outside of the laboratory and into the hands of clinicians or engineers and customers.

Having had the opportunity to work closely with a number of large, well established medical device companies I have had a first hand opportunity to observe the challenges in allocating resources towards innovation and new technology development which stands outside of the scope of current product pipelines. As a business proposition, the allocation of resources towards unproven technology is considered to be highly risky, and one can often count on one hand the number of engineers and researchers within a large company that are dedicated to developing cutting edge devices and systems. This view is generally shared by other members of industry as well. As a result of this approach, Industry largely looks towards academia for innovation. Yet there exists a fundamental rift in this relationship. Industry values reliability over novelty, and academia values novelty over reliability. As a result of this, academic contributions to CASS are not considered of high value by industry management, and they do not incentivize the participation of their employees in the activities of societies such as CASS. Other IEEE societies also suffer from this view held in the eyes of industry, though in many cases to a much lesser extent. The consequence is that, although a significant percentage of the CASS membership are from Industry, their level of engagement in CASS activities and contributions to CASS publications remains relatively quite poor.

To help overcome this issue I propose that we implement a number of new initiatives that can address this issue from both sides, engaging directly with industry to better understand their values and priorities and to improve the visibility of CASS, and at the same time creating opportunities for engagement with academia so that their contributions can better meet the needs of industry.

In many cases the company culture of industry is established by a few key leaders, and we should engage with them directly to form a closer and more favorable relationship with CASS. One approach could be to increase their exposure to CASS in the form of talks that focus on the needs of industry, and invitations to participate in panels to help shape the future of the CASS community efforts.

Similarly, we should foster more meaningful interactions between academia and industry. This can be addressed by holding workshops and tutorials organized by industry members that highlight topics of interest to industry. Using these meetings as a forum to encourage engagement between industry and future talent, we can help to establish long lasting trends in research output that will emphasize concepts of value to industry. Over time we can hope that these and other similar approaches will engender more participation from industry and open up doors for collaborative efforts.

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

Clearly CASS needs to provide tangible value to ALL of its members.

1. CASS promotes technical excellence in circuits and systems through its high quality publications and conferences.
2. CASS should do more to foster connections and interactions between its industrial and academic membership and to promote activities that support the translation of CASS ideas into innovations that benefit humanity.
3. CASS should find more ways to nurture and reinvigorate activities in our local chapters. We want to create an atmosphere of excitement and intellectual proliferation among our membership.

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

CASS has a unique opportunity to establish itself as a place where industry and academia work together to address the critical technology demands of the future. Our strength is creative, multidisciplinary ideas and research in many related interdisciplinary technical fields, and this is precisely what will sustain technological advancement in coming decades. CASS can help by organizing workshops and events which bring together industrial and academic partners to learn about each other's challenges and find opportunities for helping novel, early stage research prototypes mature into reliable systems and innovations that develop into reliable commercial products.

3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)

CASS technical quality and relevance will benefit from greater engagement with members from industry.

1. CASS should establish itself as the society of innovation by fostering technical progress that bridges the gap between novelty and reliability.
2. We must find ways to recognize the contributions of members in industry that are relevant and supportive of their careers. We have to think beyond traditional academic publication and find ways to make conference and chapter participation accessible and appealing.
3. CASS sponsor workshops to explore the connections between creative research ideas and practical, reliable systems in specific industrial segments.



RANDALL GEIGER (S'75-M'77-SM'82-F'90-LF'15) Randy Geiger currently holds the Tunc and Lale Doluca Professorship in the Department of Electrical and Computer Engineering at Iowa State University. He received a BS degree in electrical engineering and an MS degree in mathematics from the University of Nebraska and a Ph.D. degree in electrical engineering from Colorado State University. His technical interests are in the areas of analog and mixed-signal integrated circuit design and testing. Emphasis has been on amplifier and filter design, data converter design, references, sensors, and mixed-signal testing and built-in self-test (BIST). Recently he has also focused on hardware security with a focus on identifying and mitigating vulnerability to analog hardware Trojans.

Dr. Geiger is a past Vice President of Publications of the CAS Society and a past member of the IEEE Publications Board. He has served as the CAS Society editor for the Circuits and Devices Magazine and as an associate editor for the *IEEE Transactions on Circuits and Systems*. He is a past member of the Board of Governors of the CAS Society and served a term as president of the CAS Society. He served for several years as chair of the Transactions Committee of the IEEE Periodicals Council. He has been actively involved on numerous occasions in conference activities with both the IEEE International Symposium on Circuits and Systems (ISCAS) and the IEEE Midwest Symposium on Circuits and Systems (MWSCAS). He has been a member of the CAS Society Analog Signal Processing Technical Committee and the CAS Education Technical Committee for many years.

He was a recipient of the CAS Society Golden Jubilee Award, the IEEE Third Millennium Medal, and the CAS Society Meritorious Service Award. He is a Fellow of the IEEE and a past member of the IEEE Fellows Committee.

Statement: I believe one of the most critical goals that the CAS Society should establish is enhancing relevance to the professional needs of engineers that are working in the greater circuits and systems field. We are fortunate to see incredible and rapidly growing opportunities in our field for technology development that will serve society around the world and fortunate to have long-term and rewarding career opportunities for engineers interested in the circuits and systems area. But counter to these opportunities are the observations that the CAS Society membership has declined by around 35% since 2000 and the level of CAS Society student membership has declined much more. I believe that establishing initiatives that enhance relevance to the technical and professional needs of existing members and to students in both undergraduate and graduate programs will naturally lead to growth in interest and membership in the CAS Society. I also believe that empowerment of young engineers who bring new energies, new ideas, and fresh leadership skills is essential to enhance the relevance and vitality of the society. In contrast to the well-tested approach for membership enhancement and growth that focuses on convincing students, young engineers, and practitioners that they should embrace and support the existing structure and portfolio of the CAS Society, I believe that evolving the structure and products of the society to serve the technical and professional needs of today's engineers will naturally lead to membership growth and enhanced participation by those that will become the future leaders of the society.

Enhancing relevance is a challenge and also an opportunity for strengthening the CAS Society. Structurally, the CAS Society operates much as it did 60 years ago (though the name changed in 1973) with a mixture of journal publications, conference activities, and technical committees being the primary venues for serving members of the society. But with the advances in networking technology, social media, and computer infrastructure that have occurred in the past two decades, there are now other avenues available for serving the professional interests of existing and prospective members. With the creative and practical use of alternative technologies and with the recognition that methods of professional and social interactions have evolved, we should be able to better engage both undergraduate and graduate students and practicing engineers in industry from around the world. We should also be able to better integrate engineers from developing countries in Africa, Latin America, and parts of Europe and Southeast Asia where resource constraints often make regular and active participation in existing society activities using existing paradigms challenging. If elected as a member of the Board of Governors, I welcome the opportunity to work with others to enhance relevance of CAS Society activities on initiatives that will enhance interests, increase membership in both the undergraduate and graduate student populations, enhance retention of members as they transition from student status to practicing engineers, and that will increase participation by individuals in developing countries in Africa, Southeast Asia, and Latin America.

I believe enhanced participation by engineers from industry in CAS Society activities is important. Though sponsored and co-sponsored conferences with dominantly academic participants and journals with dominantly academic authors are providing critical venues for those in academia, it is less apparent that these activities are well-serving the needs of many engineers in our field who work in industry or are in environments where participation in CAS Society sponsored conferences is not practical. It is critical that we establish programs that better serve the technical and professional needs of engineers in industry.

I believe that it is important that we enhance the stature of the archival publications of the CAS Society. Though the existing transactions of the CAS Society are highly valued by most working in the field, some papers that are published in these transactions are serving more the publication goals of authors rather than the technical interests of other practitioners and researchers. By increasing the emphasis on contributions and presentations that will be of interests to the readers, the quality and stature of the publications can be enhanced.

I believe the "competition" between CAS Society sponsored journals and conferences, though not intentional, is not healthy. At the present time authors must make a decision about whether to disseminate their best results through a journal or a conference venue. This competition compromises the quality of the journal publications and the relevance of the conferences. I believe we must establish procedures that encourage authors to bring their best results to conferences where direct and timely dialog with others working in the field is practical and that also motivates authors to disseminate their best results through journal publications that practically provide exposure to a much broader audience. I believe that dissemination of these best results through conference venues should be in such a way that they enhance the value of these results that reach a much broader audience through archival journal publications.

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

1. Provide relevant technical and professional content targeted specifically to the interests of undergraduate and graduate students.
2. Provide practical avenue for bringing best research results simultaneously to both conference venues and journal publications
3. Enhance relevance of technical content to practicing engineers in industry.

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

Develop a program that specifically targets the technical and professional interests and needs of undergraduate and graduate students with interests in the circuits and systems field.

Foster the interactions and fruitful collaborations Industry-CASS

- 3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)
1. Enhance relevance of CASS activities by incorporating advances in communication and social interaction technologies with an emphasis on better integration of students and early-career practicing engineers
 2. Increase emphasis on technical content that is of interest to industry
 3. Increase emphasis on integrating engineers from developing countries in Southeast Asia, Africa, and Latin America in activities that are directly applicable to the interests and opportunities of engineers working in these regions.



MAYSAM GHOVANLOO (S'00-M'04-SM'10) received the B.S. degree in electrical engineering from the University of Tehran, and the M.S. degree in biomedical engineering from the Amirkabir University of Technology, Tehran, Iran in 1997. He also received the M.S. and Ph.D. degrees in electrical engineering from the University of Michigan, Ann Arbor, in 2003 and 2004.

Dr. Ghojanloo developed the first modular Patient Care Monitoring System in Iran, where he also founded a startup to manufacture physiology and pharmacology research laboratory instruments. From 2004 to 2007 he was an Assistant Professor in the Department of ECE at the North Carolina State University, Raleigh, NC. Since 2007 he has been with the Georgia Institute of Technology, School of Electrical and Computer Engineering, where he is a Professor and the founding director of the GT-Bionics Lab. He has 8 issued patents and has authored or coauthored more than 200 peer-reviewed book chapters, conference, and journal publications on implantable microelectronic devices, integrated circuits and micro-systems for medical applications, and modern assistive and rehabilitation technologies.

Dr. Ghojanloo was the general chair of the IEEE Biomedical Circuits and Systems (BioCAS 2015) in Atlanta, GA in Oct. 2015. He is an Associate Editor of the *IEEE Transactions on Biomedical Engineering* and *IEEE Transactions on Biomedical Circuits and Systems*. He was a CAS Society Distinguished Lecturer in 2015-2016. He served as an Associate Editor of *IEEE Transactions on Circuits and Systems, Part II* from 2008-2011, as well as a Guest Editor for the *IEEE Journal of Solid-State Circuits* and *IEEE Transactions on Neural Systems and Rehabilitation Engineering*. He has also served on the Imagers, MEMS, Medical and Displays subcommittee of the International Solid-State Circuits Conference (ISSCC) from 2009-2014. He has received the National Science Foundation CAREER Award, the Tommy Nobis Barrier Breaker Award for Innovation, and Distinguished Young Scholar Award from the Association of Professors and Scholars of Iranian Heritage.

Statement: Since becoming an IEEE member in early 2000, I have considered CASS as my home society, whose members and topics I can relate to the most. Over the years, I have also contributed to and learned from the SSC and EMB societies, because of extensions of my main research area, which neatly falls within the interdisciplinary BioCAS community. Over the last decade, CASS became more than a collection of conferences/journal that I was attending/publishing in, as I became engaged in various committees and organized special sessions, leading to chairing the IEEE BioCAS 2015 in Atlanta-GA (<http://biocas2015.org/>), which preceded/succeeded by co-chairing the technical program of BioCAS 2014/2016. Two years of planning, preparation, and promotion for BioCAS'15 resulted in a record-number of papers submitted, number of conference attendees, and the lowest acceptance rate in the BioCAS history. However, what I am proud of the most is the parallel workshop, "Lessons Learned along the Translational Highway" presented by six medical device industry veterans, which was very well received with a packed room, and considered one of the highlights of the conference in the attendees' post-conference survey. This was a great experience for future endeavors.

If elected to serve on the CASS-BoG, I intend to help CASS to be more visible and play a more substantial role in members' professional lives and careers. CASS has done well so far, behind the scenes, managing and organizing major publications, conferences, and events that are important, not only for members but also those who are interested or working in related areas. However, in the age of internet and social media, there are several opportunities for CASS to play a more substantial role in its members' daily professional activities, and reach out to those who are already working on CAS-related topics but not yet active members, perhaps because of not clearly seeing the benefits beyond conference discounts. While I do have some preliminary ideas, I am excited about the potential opportunity to brainstorm with other members of the BoG to better refine and fine-tune them, leveraging the latest and most effective mass communication, networking, and influencing mechanisms, and helping the CASS management to execute them. I will carefully observe the effects through numerous feedback mechanisms, such as trends in impact factors, paper submissions, conference attendance, acceptance rates, etc.

An example of an area that needs attention is more effective industry participation in CASS publications and events. There is a clear mismatch between the percentage of CASS membership from industry and those who actually participate in CASS meetings or submit journal papers. While the CASS membership roughly constitutes 40% academia, 40% industry, and 20% students, retirees, and the unaffiliated, the industry participation rate in ISCAS, the flagship CASS conference, has been less than 5% in recent years. The reason is not because companies operating within CASS areas, from circuits and systems to algorithms and information processing, are not encouraging publications and conference attendance, but because CASS journals/conferences are not on top of their list. SSC and EMB societies that have partial overlap with CASS do not seem to suffer from such a great mismatch. Large companies announce their new products at ISSCC, and frequently publish in JSSC despite concealing many details. Companies, including those in secretive medical device industry, heavily attend EMBC, closely review the papers and their presenters, and use them as effective recruitment opportunities.

I do not think anyone would argue with the fact that most CASS publications/events are perceived to be academic-oriented, theoretical, and/or early stage. While I believe there is immense value in accepting/publishing/presenting this kind of work, and such novel early-stage ideas should always maintain their place in CASS publications/conferences, there are certainly many other ways to leverage this healthy percentage of CASS industry membership, and get the attention of this substantial portion of CASS members, and their managers, when they decide to bring their high caliber work and latest products to the public domain and experts' attention. For instance, a method that I successfully used in BioCAS'15 was the peer pressure, by encouraging active members from industry to recruit colleagues from their own and other companies. While it might take quite a long time to change the public perception of a journal publication, a conference, or activities of a technical society, perhaps longer than a 3-year BoG term, we should start from some point.

I intend to solicit engagement of not only the large multi-national companies, but also smaller local, regional, and even startup companies, which can play a significant role as job creators and employers of the current and future CASS members. Job prospects are extremely important for students at all levels, and if they find CASS membership and activities as a potential mechanism to improve/expand their job opportunities and future careers, they will be dedicated members for the rest of their lives, and help others when they become active IEEE-CASS members. Engaging the local and

global industry, facilitated by CASS existing active members, can have significant win-win-win impact on all parties involved: the young current/future CASS members (future employees), the industry (employers), and CASS itself by expanding further and becoming a more important/visible part of the members' professional lives.

One preliminary idea that has worked well in some other professional circles, and can be further promoted with regards to CASS engagement with industry, is to initiate student/researcher competitions, sponsored by local/global industry partners, to be facilitated/promoted by CASS, and executed/judged by its local members. The topics will be selected through consultation with industry, the advertisement and announcements will be done by CASS, the space and even low cost components/kits will be provided by industry, and finally the results will be announced by the CASS, and awards given at local events and/or larger conferences. Winners will be potential recruits for the sponsors, local industry, and even academia.

In conclusion, I intend to bring CASS to the forefront in professional activities of all members, while more specifically promoting and soliciting meaningful industry engagement in all CASS activities.

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

1. Arranging and monitoring the performance of high caliber editorial boards, who will in turn manage informative and innovation-rich publications from scientists and engineers all around the world through a fair and rigorous peer review process
2. Organizing engaging conferences and workshops with plenty of opportunities for networking among all members of the CASS, particularly between industry and academia, and rewarding the high achievers, rising stars, and role models among them
3. Providing educational and training opportunities for academic and industry members of the society to both deepen and broaden their knowledge in their areas of interest

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

I will help CASS to engage with industry more effectively. Not only the large multi-national companies but also smaller local, regional, and even startup companies, which can play a significant role as sources of innovation and job creation for the current and future CASS members. Job prospects are extremely important for students at all levels. If they find CASS membership and activities as a potential mechanism to improve their job opportunities and future career, they will be dedicated members for the rest of their lives and help others as well when they become active IEEE-CASS members.

3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)

1. Focusing on ways to increase industry participation in CASS conferences/events/publications. There is a large imbalance between the percentage of CASS members from industry and those attending its major conferences
2. DLP, which I served in 2015 and 2016, is a great mechanism to reach out to members of specific regions, and I think it should be further expanded and effectively orchestrated
3. CASS can do a better job tracking the latest trends in science, technology, and job market, and accordingly fine tune the themes of its conferences, publications, and other initiatives to stay relevant and attract more members



HADI HEIDARI (GSM'12-M'15-SM'17) (PhD, SMIEEE) is a Lecturer in the School of Engineering at the University of Glasgow. He received his PhD in Microelectronics under the direction of Prof. Franco Maloberti from the University of Pavia (Italy) in 2015, where he worked on Integrated CMOS Magnetic Sensory Microsystems. He spent Postdoctoral at the University of Glasgow, before he joined the Glasgow College UESTC at the University of Glasgow in 2016. His research interests include Analog Integrated Circuit Design, Magneto-electronics and Magnetic Sensors, CMOS Sensors and Systems, Point-of-Care Diagnostics and Micromagnetic Simulation Methods.

Dr. Heidari is IEEE Sensors Council Young Professional Program Rep., member of IEEE Sensors Council Administrative Committee and Senior Member of IEEE. He served on the organizing committee of several conferences including General Chair of UK-China Emerging Technologies (UCET) 2017 Workshop, social media chair of the IEEE SENSORS 2016 and 2017 conferences, track chair at NGCAS 2017 conference, local organizing committee of the IEEE PRIME 2015 conference,

and organizer of a special sessions on the IEEE ISCAS 2016 and 2017 conferences. He is and a committee member of the IEEE Sensors Council UKRI Chapter. Dr. Heidari has authored or co-authored over 40 peer-reviewed publications in international journals or conference proceedings and acts as a reviewer for several journals and conferences. He received honorary mention paper award at the IEEE ISCAS 2014 conference, Gold Leaf award at IEEE PRIME 2014 conference, and co-recipient of the ISSCC 2016 Silk Road Award. He was a research visitor with the University of Macau, China, and McGill University, Canada.

Statement: I am currently IEEE Sensors Council Young Professional Program Representative. The IEEE Circuit and Systems Society needs to actively promote the activities of the IEEE Young Professionals (YP) program which is tailored to the needs of young researchers during the first 15 years of their professional career. Dedicated YP events (Reception & meet up) are need to be organized regularly at the CASS sponsored conferences and events. Over the past several years, evening functions or lunch events for young professionals have proven to foster improved direct contact between young professionals and colleagues at the peak of their careers. Here, being a (young) IEEE member at the beginning of your scientific or industrial career clearly makes a difference!

This is nicely illustrated by a statement by an attendee at a YP event that was held at a recent IEEE SENSORS Conference: "I really enjoyed the short talks given by professionals. The talk I liked most was the one given by a representative from Siemens Medical Solutions. He is working in a field I have always been excited about, and where I would like to work after having completed my Ph.D. I got some valuable hints on how to get closer to my goal."

The IEEE Circuit and Systems Society strives to develop the YP further by extending the services to the members: A pilot program at one of the large conferences that features rapid resume/CV checks will be tested in 2018. Ideally, this may in some cases even lead to a long-term mentor-mentee relationship between YP members and IEEE Fellows. It will be easy for young attendees to profit from this program.

I plan to use my experience in organizing the YP events, to attract more young researchers in the Circuits and Systems areas. I will make a YP Committee including from different geographical areas and gender balance. In addition to YP committee, a Social Media committee helps to advertise the CASS activities. This will be include improvement of website, Twitter, Facebook, and LinkedIn. All news and bulletin will be announced to all members shortly and this will help to attract a large number of young members. We recently grew the IEEE Sensors council significantly.

A YouTube channel will be made to cover all the talks and lectures related to CASS society and upload short videos weekly. As my first plan, I'll make this YouTube Channel for ISCAS 2018 and upload main talks, tutorial and workshops.

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

1. High-quality events including conferences/workshops/Symposiums where state-of-the-art research and technological development can be found.
2. Providing continuing education opportunities with The Distinguished Lecturer Program and plenary talks in conferences, CAS Magazine, CAS newsletter, website etc. Improving the Social Media activities including Twitter, Facebook, LinkedIn, YouTube etc.
3. Particular attention to Young Professional researchers and students in the Circuit and Systems area. Young researchers are the main body of the CASS and a proper substrate should be provide to mentoring them by IEEE Fellows.

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

Young Professional and Social Media (YP & SM). CASS promotes membership for students and young generation engineers and researchers (Young Professionals). We should start our activities, where the all potential members are. We should attract more young generation by dedicate more events and Social Media as a strong tool to promote the activities.

3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)

1. CASS website should include research positions announcements CAS can learn from good ideas of other IEEE Societies, that have proven to be effective. Continue to improve the CAS Magazine, CAS newsletter, website etc.
2. Use the capacity of Young Professionals in both academia and industry.
3. Social Media including Twitter, Facebook, LinkedIn, YouTube and WeChat (in China).



RAJIV JOSHI (M'89-SM'94-F'02) Dr. Rajiv V. Joshi is a research staff member and key technical lead at T. J. Watson research center, IBM. He received his B.Tech I.I.T (Bombay, India), M.S (M.I.T) and Dr. Eng. Sc. (Columbia University). His novel interconnects processes and structures for aluminum, tungsten and copper technologies which are widely used in IBM for various technologies from sub-0.5 μm to 14nm. He has led successfully predictive failure analytic techniques for yield prediction and also the technology-driven SRAM at IBM Server Group. He has extensively worked on novel memory designs. He commercialized these techniques. He received 3 Outstanding Technical Achievement (OTAs), 3 highest Corporate Patent Portfolio awards for licensing contributions, holds 58 invention plateaus and has over 225 US patents and over 350 including international patents. He has authored and co-authored over 185 papers. He has given over 45 invited/keynote talks and given several Seminars. He is awarded prestigious IEEE Daniel Noble award for 2018. He received the Best Editor Award from *IEEE TVLSI* journal. He is recipient of 2015 BMM award. He is inducted into New Jersey Inventor Hall of Fame in Aug 2014 along with pioneer Nicola Tesla. He is a recipient of 2013 IEEE CAS Industrial Pioneer award and 2013 Mehboob Khan Award from Semiconductor Research Corporation. He is a member of IBM Academy of technology. He served as a Distinguished Lecturer for IEEE CAS and EDS society. He is Distinguished visiting professor at IIT, Roorkee. He is IEEE, ISQED and World Technology Network fellow and distinguished alumnus of IIT Bombay. He is in the Board of Governors for IEEE CAS. He serves as an Associate Editor of *TVLSI*. He served on committees of ISCAS 2017, ISLPED (Int. Symposium Low Power Electronic Design), IEEE VLSI design, IEEE CICC, IEEE Int. SOI conference, ISQED and Advanced Metallization Program committees. He served as a general chair for IEEE ISLPED. He is an industry liaison for universities as a part of the Semiconductor Research Corporation. Also he is in the industry liaison committee for IEEE CAS society.

Statement: I have already good experience in serving in BOG as Industry Liaison. I have already started initiatives which are beneficial to Industry and Universities:

1. Started initiative to promote CAS with Prof. Aliato to reward Best Editor and reviewers of *TVLSI* journal and are CAS members. Both industries and universities are promoted in this endeavor.
2. I have participated in Industry Board of ISCAS to bring in quality speakers in emerging areas from Industries.
3. Hosting Emerging Technology Symposium in IBM, T. J. Watson Research Center for industry and universities through sponsorship of IBM, CAS and EDS.

Apart from these I would like IEEE CAS to grow by catering to the needs of its membership in all aspects of circuits and systems exploring other emerging areas such as: big data/analytics, cognitive computing, quantum computing, circuit driven security, sensor networks (IoT), bioelectronics, medical electronics, wearable computing and nano and other relevant topics. CAS also needs strength from the industry, proper representation of the industry and needs to be attractive to the industry. To maintain a leadership universally CAS needs to position itself to support, stimulate and promote these future directions. As the technology scales and cost of investment have become hyper issues which make many top tier companies to think twice in this field. Hardware is coupled tightly with core foundry technologies and impact the development of circuits and systems. As a result many industries related to technology, Circuits and Systems fields have gone through some very rapid and profound changes that have made many parts of the products obsolete and irrelevant. They are pursuing high yielding and new areas where there is a big bang for the buck. Many disciplines in universities will go through similar changes. In my opinion Industries-CAS-Universities is a symbiotic triangle. In this reinventing phase CAS needs to embrace industries and universities closely. To achieve this CAS must work with capable people from industry, offer opportunities to implement new out of the box ideas in emerging fields, and walk the walk of industries. Also we must encourage creation of new activities, seminars, invite lecturers, webinars, workshops in this field.

I believe that along with these issues vibrant active industry participation is the biggest challenge. Also identification and promotion of new opportunities for CAS in terms of relevant research and applications required by universities and industries, expansion in emerging and growth areas are keys to success. Thus, I would like to provide visionary implementations by bringing industry closer to CAS.

Relevant Experience:

I have already served in BOG for last 3 years as an Industry Member. I passionately worked to introduce new themes to increase industry participation. I have been in the industry close to 32 years and as IEEE member for 27 years. I have had distinguished career in the industry, IBM in particular and served as an adjunct professor in SUNY, NY and gave over 42 tutorials and over 42 invited/keynote talks. I worked with many IBM alliance partners as well as external clients and I know well most of the leading researchers in circuits, computer and VLSI. I have been promoting

CAS for many through years through my lectures and keynote talks. I have been actively involved in IEEE as organizer, journal editor, conference organizer and member of various committees (ISCAS, ISLPED, VLSI design, CICC, SOI, ISQED, etc).

I am also industry-university liaison through SRC organization and connected with high profile folks in the industry and government. Thus, I am familiar with both: industry and academia and member needs and expectations from both, have a broad organizing experience and perfect for this job.

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

1. Create some service positions in the CAS organization and attract new hires for these positions from industry. Set-up few industry awards for innovative work to create a win win situation. Organizing short courses (certificate courses) on new subjects of current interest (e.g. software defined environment, predictive analytics etc.) and providing continuing education/updates for its members.
2. Strengthening CAS chapters (forming new ones where appropriate) and providing activities relevant to member's needs.
3. Continuing to support / organize conferences with topic related to the problems industry is facing / continuing to face. Host CAS conferences at key industry locations

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

Implement emerging theme such cognitive technique in variety of CAS activities – journal reviews for automation. Establishment of a continuing education program that would encompass various facets such as: short courses and certificate programs created, supervised and maintained by top industry professionals in emerging fields, enhanced web site containing podcasts of such and including most important and relevant keynote speeches from CAS conferences, web-based education and drive new areas relevant to Industries but fall under the domain of CASS etc. Also provide the retraining opportunities to CAS members.

3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)

1. Provide service term based service awards in the form of certifications to students, continuing to provide relevant and quality publications (IEEE journals) that are enticing to read in order to be current in the profession.
2. Enhance CAS Website by a page dedicated to new graduates with links to jobs and job postings, blogs, bulletin boards, podcasts of relevant and interesting talks. Create job fairs at the conference.
3. Providing continuing training, certificate courses in an organized fashion that covers particular specialties and is designed/supervised by industry and university experts in a particular field of interest.



PEDRO M. JULIÁN (S'93-M'99-SM'05) received the Electronic Engineer degree in 1994 and the Ph.D. degree in Control Systems in 1999, both from Universidad Nacional del Sur (UNS), Bahía Blanca, Argentina. He was visiting scholar at UC Berkeley (2000-2001), visiting scholar (2001-2003) and visiting Fulbright Professor (2009) at Johns Hopkins University. He holds positions as an Associate Professor in the Department of Electrical Engineering and Computers at UNS, as a Principal Researcher in the National Research Council of Argentina (CONICET) and he is also a Visiting Associate Professor in the Electrical and Computer Engineering Department at Johns Hopkins University, in Baltimore, USA. His research interests include theory and applications of computational circuits and systems, electronic systems, in particular sensory processors (acoustic and vision), with emphasis on low power VLSI systems. He is the recipient of the Bernardo Houssay 2009 Prize of the Ministry of Science and Technology (MINCyT) and the 2009 Electronic Engineering Prize of National Academy of Exact, Physical and Natural Sciences (ANCEFN). He also serves as Associate Editor of the *International Journal of Circuit Theory and Applications*.

He is the principal investigator of "Tecnopólis del Sur" a hi-tech scientific park project located in Bahía Blanca and Coronel Rosales.

He served as the Region 9 (Latin America) Vice President and on the Board of Governors of the IEEE Circuits and Systems Society (CASS) from 2004-2007. He contributed to the creation of LASCAS, the flagship conference of CAS in Latin America in 2007 and is a founding member of the Argentine School of Microelectronics (EAMTA), Technology and Applications and Technical Program Chair of its associated conference. He was the co-chair of LASCAS 2016 held in Florianópolis, Brazil and is the co-chair of the 2017 edition to be held in Bariloche, Argentina.

Statement: I consider the CAS Society my professional home and cherish it deeply. Back in 1998, in my little home town of Bahía Blanca, Argentina, we began to be visited by wonderful speakers from all parts of the world that would describe the advances of technology in a wide variety of areas within circuits and systems. We became very good friends with many of these speakers, and thanks to their help we were able to establish what is today the leading research center of VLSI design in Argentina. To me, this will always represent the best of the CAS community: technical leaders reaching across geographical and disciplinary boundaries to help others strive for excellence and push forward the field of circuits and systems.

These experiences convinced me of the importance – both personally and professionally – of supporting high quality CAS activities and events at the local chapter level. I later became involved with the CAS Society as the Regional VP for Latin America (Region 9) and had the opportunity to extend our support for activities across the region at the local chapter level. During my 4 years as VP I managed to increase the number of chapters in the region from 6 to 11. Together with other colleagues from the society, we continued and strengthened the "CAS Tour in Region 9", taking a small group of Distinguished Lecturers around two or three countries in Latin America, in order to use the limited funds we had as efficiently as possible. In my last year as VP, the 2007 CAS Tour took place in 8 different places: Puebla-Mexico, Venezuela, Puerto Rico, Salvador de Bahía-Brazil, Cordoba-Argentina, Western Puerto Rico, Costa Rica and Sao Paulo. Every year I made sure the budget for the region was appropriate and then properly executed by following closely the activity of the chapter chairs, with monthly teleconferences and two periodic budget revisions in May and November. During the last part of 2007 I set as a strategic action the creation of a CAS flagship conference in the region, LASCAS, which later became a reality thanks to the great effort of the next Region 9 VP, Prof. Ricardo Reis, and the other chapter chairs and researchers of the region.

Nowadays, the scenario for CAS has become more complex. The world has become strongly connected and the technical scope of the CAS society has become more multidisciplinary than ever, with the confluence of hardware, software, nano, bio, neural, organic, energy efficiency and so on. Indeed, today we are faced with a situation where Moore's law is slowing down, and new integration paradigms like nanodevices and 3D integration start to emerge to attempt to keep up with the increasing computation needs demanded by BIGDATA applications. At the same time, the cost and availability of energy appears as the new limit for computation. In past decades, many circuits advances relied heavily on improvements in materials science and process technology – however, in the future we will not be able to rely so heavily on physics and instead advances in circuits will be gained through clever design and creativity. The CAS Society has always been a society of ideas and is well positioned to play a major role in this

new paradigm. Circuits and systems needs to be smarter than ever, to achieve more with less energy. Moreover, this places our society in a key position to influence the dynamic and evolving relationship between technology and society, where we can try to find answers to some fundamental questions: how much technology do humans need? How can technology better help people and the environment at the same time? We are witnessing the beginning of human centric technology.

Clearly the commercialization of CAS ideas and innovations is an important factor that influences the relationship between technology and society, and the CAS Society has much to gain from more effective integration with industry. Approximately one half of CAS members worldwide belong to industry – however, our major conferences, which serve as focal meeting points for our community, are composed almost entirely by academia. We need to find better ways for our meetings to be accessible and appealing to industry, and to offer meaningful professional opportunities and advantages for their careers. The more effectively we can integrate industry within the DNA of CAS, the more likely we will be in a better position to answer the relevant questions that await us. Having witnessed the power of action through the chapters, I envision that they will be powerful allies in integrating industry into CAS. One of my goals as a member of the Board of Governors will be to develop initiatives that stimulate and support CAS members from industry at the local chapter level.

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

Clearly, CASS needs to provide its members with real value.

1. CASS should provide an ecosystem where industry and academia can fully grow and develop to mutual benefit.

2. Local chapters should be motivated and supported to develop activities that make sense in their local region and that engage members from academia and industry equally.

3. Last but not least, we all demand the highest technical standards from our society through our ongoing technical activities, meetings, and publications.

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

CASS should work together with local chapters to identify local industries and develop activities of mutual interests. The challenge is to find new ways to provide value to members from industry while continuing to support our strong ties to the academic community. Then we should develop initiatives at the society level that make these benefits and activities available to all of our chapters. We will all benefit from closer ties between our academic and industrial members.

3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)

1. Young members will be attracted to CAS if we are available in their world: CASS must begin to use social networks in an enlightened way. Personal contact and mentorship from senior CASS members (both industrial and academic) is very important in encouraging young members.

2. CASS should organize more special activities at the chapter level, aligned with local industry, and find more ways to recognizing contributions from and provide career value to members from industry.

3. CASS plays an important role for all members of our community in providing opportunities to learn continuously and stay up to date.



QIANG LI (S'04-M'06-SM'13) received the B.Eng. in Electrical Engineering from the Huazhong University of Science and Technology (HUST), Wuhan, China and the Ph.D. in Electrical and Electronic Engineering from the Nanyang Technological University (NTU), Singapore, in 2001 and 2007, respectively. He has been working on analog/RF and mixed-signal circuits in both academia and industry, holding positions of Engineer, Senior Engineer, Project Leader and Technical Consultant in Singapore at the Centre for Wireless Communications (later known as I2R), Institute of Microelectronics (IME), and OKI Techno Centre, respectively, and Associate Professor at the Aarhus University, Denmark. He is currently a full professor and head of the Institute of Integrated Circuits and Systems, University of Electronic Science and Technology of China. He serves also as a Vice Dean of the School of Microelectronics and Solid-State Electronics. His research interests include ultra-low voltage and energy-efficient analog/RF circuits, data converters, and mixed-signal circuits for biomedical and sensing applications.

He has authored and co-authored over 90 technical papers, 4 international patents and 2 books. He has served on various journal editorial boards and conference committees including Student Research Preview (SRP) committee of ISSCC, and review panel for a number of funding agencies in Singapore, Europe, Australia and China. He will be the General Chair of APCCAS 2018, a regional flagship conference of IEEE CAS Society. He is the founding Chair of CASS chapter in Chengdu.

He is a Changjiang Young Scholar, and was a recipient of the National Program for Support of Top-Notch Young Professionals (1st Batch) from the Chinese central government, and the Teaching Excellence Award from UESTC.

Statement: CASS is a unique society in IEEE, it covers a broad scope in electronics and information domain. CASS is also the origin of several other societies and councils in IEEE. “Open” is a wonderful nature of CASS as well as a challenging factor for the leaderships. The following describes several focus I can contribute to make CASS an even better society.

Promoting CASS in China: The wide spectrum of CASS gives a huge potential in promoting it in China, where CASS (as well as IEEE) is actually less represented than it should. With the significant development in the past 40 years, China now is the most active area and has the largest number of students, researchers and engineers in the world, most of them are the potential members for the society. I have been working with Professor Yoshifumi Nishio, a BoG member and R10 representative, on the survey of current CASS infrastructures in China. I am quite inspired to put more efforts in this direction, and I believe CASS will get significant return and accomplishment with a big China community. Moreover, we will enhance the connections of CASS societies between China and neighbor regions including (but not limited to) Japan, Taiwan, Singapore, Hong Kong, Korea, etc.

Boosting the support level for students and young professionals: Students and young professionals are the most important part of the members the society is responsible to support. I personally am a university professor and group leader, thus I witnessed and understand this significant mission. In particular, they need more opportunities to access the state of the art, to interact with successful peers, mentors, teachers and engineers, to participate top-level conferences and workshops, and the most important is to get those done in an economic way – they are only at their early career stages. The society has to put more effort in supporting them.

Increasing the connections among chapters in difference regions: In my early career, I have studied and worked in different part of the world. I was an undergraduate student in China, a PhD, engineer, and technical consultant in Singapore, a professor in Denmark, and now a professor in China.

Along my main career I have also been involved in service and administrative work in different cultures. Everybody and every country has unique aspects worth learning from, and often the interaction itself becomes a wonderful experience. CASS is the most diverse society I believe among all IEEE societies. Increasing the connections among different regions must make our society more attractive and successful."

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

1. A knowledge platform to access state-of-the-art scientific and engineering resources in CAS areas.
2. A community platform to interact with all levels of researchers and engineers in CAS areas.
3. A personal development platform where the young generations get the best support and mentorship from CASS.

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

To increase impact and presence of CASS in China is a challenging as well as promising task. China's pool of potential researchers and engineers in CAS areas are growing comparable and even bigger than US now. However, the CASS is often invisible in a lot of regions in China. I personally initiated the CASS Chengdu chapter and have been working with Professor Yoshifumi Nishio, the BoG member in charge of R10, to survey the CASS chapters and volunteers in China, which has actually inspired me to follow up the task.

3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)

1. China CASS community: China has a big pool of potential CASS members and supporters that have not been well considered. We need and we can have more chapters, volunteers and members in China.
2. Young students and professionals: to set up, support and promote more opportunities and economic ways for them to participate CASS events, for example but not limited to local PhD forums, student interest groups, etc.
3. Industry members: to increase the industry involvement in CASS. This may be planned structurally from the CASS top level. More industrial events can be initiated.



MAURO MANGIA (GSM'10-M'13) received the B.Sc. and M.Sc. in Electronic Engineering and the Ph.D. degree in Information Technology from the University of Bologna (Bologna, Italy), respectively in 2005, 2009 and 2013. He is currently a Postdoctoral Researcher in the statistical signal processing group of ARCES - University of Bologna. In 2009 and 2012, he was a visiting Ph.D. student at the École Polytechnique Fédérale de Lausanne (EPFL). His research interests are in nonlinear systems, compressed sensing, ultra-wideband systems, and systems biology. He was the recipient of the 2013 IEEE CAS Society Guillemin-Cauer Award and best student paper award at ISCAS2011. He is also the Web and Social Media Chair for ISCAS2018.

Statement: Since the beginning of my professional activities in 2009, I have considered CASS my home society. The idea of being part of a community working across such a wide swath of multidisciplinary areas was very attractive. CASS was to me the community which could make possible innovative systems design via cross-disciplinary, cross-layer optimization to improve people's lives and I had to be part of it!

To me CASS is this: it is a model community for both Academics and Practicing Engineers who want to have the chance to make an impact by advancing technology for humanity around the world. Making this possible is a hard task, and to reach this goal we need to enlarge our idea of constitutes a System and to promote connections between professionals from different fields and different locations.

If elected as a BoG member, I will strive to contribute to grove of our community in this direction, facilitating the contributions of YP members as much as possible and helping to integrate them into the greater CAS society.

I would consider it an honor and a privilege to serve our community as a member of the Board of Governors of CASS. I sincerely hope that you will offer me such an important opportunity to serve the community that has served me so well.

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

1. Facilitate technical networking opportunities. CASS can and should play an important role in promoting multidisciplinary collaboration between members with different backgrounds aiming to enable the development of innovative solutions in emerging areas such as IoT, Big Data and Industry 4.0.
2. Organize conference and workshops to stimulate technical advances in the fields of interest of CASS.
3. Provide tools and guidance for career issues such as job search and promotion. One example would be guidelines for proper interpretation of bibliometric indexes to avoid misunderstandings in analysis of bibliometric data, which is of increasing importance in academia.

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

As a YP member, my natural focus is to increase engagement of students and YP in general. Social Networking is fundamental for our generation and I feel that CASS is not doing enough on this front. My plan is to engage the entire YP community via LinkedIn and Collabratec which both offer excellent opportunities for permanent networking. My experience as Web and Social Media Chair for ISCAS2018 will be an asset. I also plan to create a CASS Hackathon at ISCAS every year, to give the chance for students/YP to perform system design in a challenging and stimulating environment.

3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)

1. Promote entrepreneurship, especially among YPs, by launching a new initiative dedicated to networking and advice for start-ups.
2. Promote tools and platforms for CASS members to share their research and develop deeper collaborations.
3. Circuits and Systems are the two words best representing our extremely multidisciplinary community. But CASS must work to more effectively foster and exploit its great potential in emerging areas such as IoT and Big Data, which both require the development of innovative architectural solutions.



NICOLE MCFARLANE (GSM'07-M'09) received her B.S. and M.S. degrees in Electrical Engineering from the Howard University, Washington DC, in 2001 and 2003 respectively, and her Ph.D. in Electrical Engineering at the University of Maryland, College Park, in 2010. In the summers of 2000 and 2001 she worked as an electrical engineering intern at the Millstone Nuclear Power Plant. From 2001 to 2003 she worked as a Graduate Research Assistant at the Materials Science Research Center of Excellence at Howard University, characterizing III-V Nitrides. From 2003 to 2010 she worked as a Graduate Research Assistant in the Integrated Biomorphic Information Systems Laboratory at the Institute for Systems Research of the University of Maryland. Her work focused on understanding information and power efficiency trade-offs in mixed-signal integrated circuit design, CMOS biosensors, and on CMOS/MEMS integration for lab-on-a-chip technologies.

Since 2010, she has been an Assistant Professor at the University of Tennessee working on circuits and devices for sensing systems. Her main research includes carbon nanostructures and CMOS based solutions. Additionally, while at the University of Tennessee she has done significant outreach and mentoring to underrepresented groups at the, high school, undergraduate, and graduate levels. She currently serves on the Biomedical and Life Science Circuits and Systems and the Sensory Systems Technical Committees and served on the Organizing Committee for ISCAS 2017.

Statement: I believe that diversity of ideas and open minds can solve most problems. I was born in the Caribbean and, with the encouragement of older family members, moved to the US to study engineering. Along the way to my CAS related PhD, I did a Master's degree on a Materials Science topic, was a student worker in the IT field, and interned at a nuclear power plant. My involvement in CAS began as a graduate student publishing papers and attending conferences with encouragement from my advisor. After my graduation in 2010, I became an assistant professor at the University of Tennessee, where I continue to publish at CAS conferences. For the first few years of my faculty career, I was not actively involved in attending CAS conferences. Some of this was due to logistics related to my young children. However, due to my varied research background (nanodevices and circuits), it was not obvious which technical society would be the best fit. In the last couple of years, I made a commitment to be actively involved in the CAS community by joining two standing CAS Technical Committees (BioCAS and Sensory Systems) and serving on the Organizing Committee for ISCAS 2017. My fresh perspective on issues and active participation as a member of the Board of Governors will offer a fresh perspective as the BoG tackles issues and improvements that will benefit all CAS members.

Circuits and Systems is a multi-disciplinary field that is critical for many applications and important industrial segments. However, based on my own experiences I know that we can do a better job of communicating the value of CAS membership and participation to the outside world. There are an overwhelming number of journals and conferences these days, and even societies within IEEE. When faced with so many choices, it is not clear to many young professionals, graduate students, undergraduate students, or researchers (in industry and academia) that they should choose to publish and participate in CASS sponsored publications and conferences. In order for our community to continue making significant technological and societal impact, we should increase the outreach and visibility of CAS to all groups. This means that we need to promote our conferences, seasonal schools, and distinguished lecturer series to groups both inside and outside our community. I would like CAS to establish a stronger social media presence and be adaptable to the varying uses of social media across the different regions. I would like to see more local CAS chapters, which would increase the level of visibility of the community to groups who are not necessarily in research just yet, but may be there in the future.

We also want to grow and retain underrepresented groups and not have them exit the field or community, and I believe that establishing a formal mentoring program where in person meetings take place at conferences could go a long way to retaining and growing those groups in our community. I also believe that this type of mentoring can be expanded to the benefit of the wider community. For example, younger attendees at CAS conferences can be paired with senior members. As a junior underrepresented faculty member, I feel I have been extremely fortunate to have experienced this type of mentoring from a number of senior CAS members in informal settings. Whether it was discussing the challenges in implantable sensors, challenges in pursuing research funding, or challenges in work-life balance, these discussions have encouraged me that CAS is not just the best technical home for my research, but it is also the best community to offer positive professional growth. However, some conference attendees are not able to have these types of experiences for various reasons. This mentoring experience could be formalized through a process where younger graduate students and professionals attending a CAS conference are assigned to senior members and they are encouraged to meet at the conference and have a one on one lunch together at least once at the conference. The mentorship would not end at the conference, but would be continued electronically and by meeting at other CAS conferences. We can also consider extending this mentorship, as a recruitment tool, to our future members by including our competition attendees and involving our student chapters.

Finally, I believe that many of our members and future members would benefit from professional development sessions on topics that are not research, but which could enable them to be active contributors to CAS community activities. For example, many graduate students are just learning about what is expected of them in reviewing papers and presenting at conferences. Indeed, both younger members and senior members learn to excel at these activities initially through advice from their graduate advisor or institution, but primarily through experience. Having sessions on how constructive criticism can improve a final paper or how to give good technical presentations that are also engaging or how to write a journal or conference paper so that it is technically accurate and accessible or what is a technical committee and why you should be involved can enable professional development. This can be implemented as a special session at conferences and at the local chapter level serving to both develop our current members and recruit future members.

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

1. Provide forums for breaking news, discussion, and networking on cross/inter disciplinary topics via publications, conferences, and lecture series.
2. Foster discussions and leadership on current challenges and engender global solutions within our diverse membership.
3. Provide opportunities and guidance for growth and development of young professionals into career paths in industry and academia.

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

I believe that CASS should establish and support a formal mentorship program that pairs young members and new members with senior members. The goal would be to help those new to the field learn how to succeed in the CASS community and gain all of the benefits afforded by CASS membership. This might encourage talented undergraduates to pursue graduate research in CAS-related fields as well as groom graduate students and post-graduate students for successful CAS-related careers. Mentors could be from industry or academia, and mentoring could take place at CAS sponsored conferences, chapter meetings, or electronically.

3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)

Young members are our future. The CAS community should nurture its own growth. The ways in which CASS engages its members are outdated; we can do better. In order to address the needs of young, new, and underrepresented CAS members, we should:

1. Establish a strong social media presence and strong local CAS chapter activities.
2. Provide professional development guidance at our conferences on topics such as how to write high quality journal publications, how to constructively review a paper, etc.
3. Organize formal in-person mentoring at conferences for growth, guidance, and encouragement to continue in CAS after graduation.



RICARDO A. REIS (M'81-SM'06) was born in Cruz Alta, Brazil. He received a Bachelor degree in Electrical Engineering from Federal University of Rio Grande do Sul (UFRGS), Porto Alegre, Brazil, in 1978, and a Ph.D. degree in Microelectronics from the National Polytechnic Institute of Grenoble (INPG), France, in 1983. Doctor Honoris Causa by the University of Montpellier in 2016. Since 1981, he is a professor at the Informatics Institute of Federal University of Rio Grande do Sul, and a leader of the Microelectronics Group. His main research includes physical design automation, design methodologies, fault tolerant systems and microelectronics education. He has more than 500 publications including books, journals and conference proceedings. He was vice-president of IFIP (International Federation for Information Processing) and he was also president of the Brazilian Computer Society (two terms) and vice-president of the Brazilian Microelectronics Society.

He is an active member of CASS and he received the 2015 IEEE CASS Meritorious Service Award. He was vice-president of CASS for two terms (2008/2011), representing R9. He is the founder of the Rio Grande do Sul CAS Chapter, which got the World CASS Chapter of The Year Award 2011 and 2012, and R9 Chapter of The Year 2013, 2014, 2016 and 2017.

He is a founder of several conferences like SBCCI (sponsored by CASS in Brazil) and LASCAS, the CASS Flagship Conference in Region 9. He was the General or Program Chair of several conferences like IEEE ISVLSI, SBCCI, IFIP VLSI-SoC, ICECS, PATMOS.

Ricardo was the Chair of the IFIP/IEEE VLSI-SoC Steering Committee, vice-chair of the IFIP WG10.5 and Chair of IFIP TC10.

He also started with the EMicro, an annually microelectronics school in South Brazil, that now is co-sponsored by IEEE CAS chapter.

In 2002 he received the Researcher of the Year Award in the state of Rio Grande do Sul. Ricardo also participates in many Latin-American research activities.

Prof. Reis is a member of the IEEE since 1981 and senior member since 2006. He is also member of the ACM, founding member of the SBC (Brazilian Computer Society) and also founding member of SBMicro (Brazilian Microelectronics Society).

The main research topics are physical design automation, circuits tolerant to radiation effects, IC design methodologies, low power design, microprocessors architecture,...

Statement: The IEEE Circuits and Systems Society has increased its visibility in Latin America during recent years. My main goal is to help extending this work to all regions of CASS, doing the necessary to increase the presence of CAS in all continents. I always understood that the exchange between professionals is an important point to promote the development and social interaction. I think that it is also important to increase the relations and exchanges between regions, as collaboration with regions is another way to contribute to bring experience and knowledge together. One experience that is working well in R9 is a series of CAS Seasonal Schools, I also would like to help the organization of new CASS Seasonal Schools all around the world. The seasonal schools, DLP talks and CAS tours are good opportunities to increase the visibility of CAS Society and to continue spreading the society along the world. I also think that CASS should improve quality and recognition of its conferences and one way is to improve the recognition of the best conference papers by publishing extended versions in IEEE CASS journals, as from two years is being done for ISCAS, ICECS, LASCAS and APCCAS. This action will also improve the submission of high quality papers to our conferences. I think also that CASS can extend its DLP Program, that is an excellent way to promote CASS around the world and to bring state-of-art talk to all CASS Chapter members. So, it is a way to bring CASS to the locations where the CASS members live. We need also to do actions to improve the participation of the Industry in CASS activities.

I also believe that the attraction of new members is well related with the activities done by local chapters. CASS should keep provide grants to help the improvements of activities in each chapter around the world.

Finally, I am ready to do all my efforts and use all my energy to keep improving the activities and presence of CAS Society in all regions around the world. My two terms as R9 VP and member of CASS ExCom give me a better knowledge of the issues that CASS face to keep improving the benefices to CASS members. I can promise that I will be an active member of the BoG as I have been as CASS VP and Chapter Chair.

OBS: Also it should be observed that this year one of new members of the BoG should be a member from R9, as CASS regulations states that the BoG must have at least one member from each region.

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

The main services of CAS should be:

1. the provision of updated technical information,
2. the promotion of a high quality education in the CAS professional fields and,
3. to promote the technical exchanges between people all around the world

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

To increase the amount of state-of-art CAS Seasonal Schools in each region of the world. The CASS Seasonal Schools should cover a state-of-art topic in depth and if possible the contents should become a book showing the state-of-the-art in a hot topic. Seasonal School is a way to attract professionals that wants to update their knowledge in the state-of-the-art and also a way to attract students to work in circuits and systems.

3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)

1. to provide materials with updated technical contents.
 2. to provide streaming videos with state-of-the-art lectures to help the continuous education of the professionals.
 3. to promote student's activities within the society and in its conferences, and promoting the contacts with professionals in the field of knowledge.
- The participation of students in CASS events is an important way to get young members that will be the leaders of the society in the future.



HIROO SEKIYA (S'97-M'99-SM'10) received the B.E., M.E., and Ph.D. degrees in Electrical Engineering from Keio University, Yokohama, Japan, in 1996, 1998, and 2001 respectively. Since April 2001, he has been with Chiba University and now he is a Professor at Graduate School of Advanced Integration Science, Chiba University, Chiba, Japan. From Feb. 2008 to Feb. 2010, he was also with Electrical Engineering, Wright State University, Ohio, USA as a visiting scholar. His research interests include high-frequency high-efficiency tuned power amplifiers, resonant dc/dc power converters, dc/ac inverters, nonlinear phenomena on electrical circuits, communication protocol designs, and digital signal processing for wireless communications. He received 2008 Funai Information and Science Award for Young Scientist, 2008 Hiroshi Ando Memorial Young Engineering Award, Ericsson Young Scientist Award 2008, and Best Paper Award of ICUFN2010.

Dr. Sekiya has served the secretary of IEEE CASS Japan Joint Chapter since April 2016. Additionally, He served the Technical Committee Chair of Nonlinear Circuits and Systems (NCAS) and Power and Energy Circuits and Systems (PECAS) during 2013-2014, and 2014-2015, respectively. He also served the track co-chair of ISCAS2010 (NCAS), 2015(PECAS) and 2016(PECAS), IPEC2017, and PEDS2013. He was the Chair of IEEE Keio University Student Branch (1999-2001), organizing committee member of many conferences such as APCCAS (Special Session Co-chair), NOLTA2018 (General Chair, Technical Committee Chair, and Secretary), NCSP (Technical Committee Chair), ICUFN, EDAPS, WPMC, ICOIN, APCC, and AVIC (Secretary); Associate Editor of *IET Circuits, Devices & Systems*, *International Journal of Renewable Energy Research*, *Journal of Signal Processing*, *IEICE Transactions on Fundamentals*, *IEICE Electronics Express*, *IEICE Communication Express*, and *NOLTA, IEICE*; and Guest Editor of the special sections on *Springer Journal*, *Journal of Signal Processing*, and *NOLTA, IEICE*.

Statement: The Circuits and Systems Society (CASS) is a historical and unique society in the IEEE. One of the features of the CASS is that the CASS covers a wide area of research fields from fundamental theories to system applications, from nano-scale circuits to power systems, and so on. Actually, most of the technical committees (TCs) have other specialized societies in the IEEE. In my opinion, this diversity is the strength, but also the weakness of CASS. I believe that it is important to build bridges among TCs more actively for enhancing the CASS strength.

I joined the IEEE and CASS 16 years ago as a student member. When I was a student, I served as a chair of the IEEE student branch at Keio University, Japan. Through the IEEE student branch activity, I felt the importance of making friendships among different affiliation and different research field colleagues. It was also my memory that valuable suggestions were received at the ISCAS, which stimulated my research motivation and lead me to the academic position.

After my graduation, I have been a TC member of the Nonlinear Circuits and System (NCAS) and the Power and Energy Circuits and Systems (PECAS) and served as chairs of both TCs. Through the activities on the TCs, I can have many international friends. Research collaborations with my friends are valuable and impressive experiences for me. In addition, I have served a secretary of CASS Japan Joint Chapter from 2016. I could also make many international friends through the chapter networking program in Region 10, which expands my view widely. In my opinion, networking over the own research field is one of the most important advantages when we belong to CASS.

I really recognize importance and value of personal/professional networking in the CASS over own technical fields. If elected, I would like to contribute to the following areas for enhancing CASS activities.

- (1) Enhancing networks among TCs, regions, and chapters: When CASS members withdraw into the shell of just own society, charm, features, and strength of CASS decrease by half. As a result, some members may leave CASS for other specialized societies. I believe that the cross-sectional networks among the TCs are typical characteristics of the CASS and enhancement of the networks leads to the increase in CASS members. Bottom-up activity enhancement from regions and chapters are also effective for making the CASS more attractive.
- (2) Encouragement of young researchers: Energy of young researchers stimulate society's activity. In addition, it is important to cultivate personal resources for supporting the CASS in the future. In this sense, the encouragement of young researchers is my mandatory mission. I have joined the WiCAS/YP activities at ISCAS and other regional conference until now. It is possible to encourage young researchers using the experience of the WiCAS/YP activities. Outreach activity to high-school students is also an important event for recruiting young students to CASS research fields.
- (3) Exchange between academia and industry: Recently, developments of many kinds of 'systems', e.g., smart grid, are required. For building such systems, it is necessary to integrate many technologies from different research fields into the system. Generally, the big system was built by industry. In this sense, the importance of exchange between academia and industry increases more and more. The strong network between academia and industry also attracts young researcher's interest.

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

1. Holding high-quality symposiums and conferences: Conferences are core activities for CASS members to share the state-of-the-art research results and to build a researcher networks among technical committees and countries.
2. Publishing world's leading transactions and journals related to CASS topics: High quality papers stimulate members' intellectual curiosity, which is definitely the basis of CASS activity.
3. Providing fruitful information through the CAS magazine: Not only the state-of-the-art technologies, but also technical trends including market expectations may attract much attention of young members, in particular.

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

One of the features of the CASS is to cover the wide-area technical fields from fundamental to application-oriented researches. Additionally, activities of regions and chapters are also strength of the CASS. I think that there are, however, rooms to enhance the activities, which yield from collaborations among technical committees, regions, and chapters. Actually, it was a great experience for me to make collaborations with international friends who I got to know at the ISCAS. If elected, I would like to make many opportunities to link technical and personal friendships among TCs, regions, and chapters.

- 3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)
1. Developing a system for making links between industry and academia for collaborations: Now, the IEEE is making such a web system; IEEE Collaboratec. It is possible to encourage for making collaborations between them by using this tool effectively.
 2. Providing fruitful information to young CASS members: Many young members may require wide and shallow information rather than narrow and deep one. In this sense, the CASS magazine has an important role for them to retain their membership.
 3. Providing opportunities for recruiting: It may be attractive for industry to have opportunities to meet young active members.



ANDREI VLADIMIRESCU (S'79-M'82-LM'14-LS'15-LF'17) received the M.S. and Ph.D. degrees in electrical engineering and computer sciences from the University of California, Berkeley, in 1980 and 1982, respectively. He received his Diploma Engineering degree in electronics from the Polytechnic Institute in Bucharest, Romania, in 1971. He is an IEEE member since 1977.

From 1971 to 1977 he worked at the R&D Center for Electronic Components, in the areas of CAD tools and MOS IC design and modeling.

In 1977 he joined the IC/CAD research group of the EECS department at the University of California, Berkeley, where he was part of the research team that developed the SPICE simulator responsible for all releases from 1977 to the SPICE2G6 production-level release in 1981. He developed the CLASSIE prototype simulator for VLSI electrical simulation on parallel computers as part of his PhD work.

In 1983 he joined the Linear Signal Processing Division of Analog Devices Inc. where he participated in the development of CAD tools for ASICs. From 1984 to 1988 he was R&D director of the analog division at Daisy Systems Corp., where he led the development of the first analog EDA product Virtual Lab, and led the team that built a SPICE hardware accelerator prototype.

From 1988 to 1997 Dr. Vladimirescu was Director of Engineering at Analog Design Tools Inc., and, subsequently at Valid Logic Systems Inc. and Cadence Design Systems Inc. During these years he has taken a leading role in the development of the Analog Workbench an analog and mixed-signal system design tool, and, in particular in the advancement of the simulation technology represented by SpicePLUS and Profile, a mixed graphical and textual modeling language, a precursor of today's analog HDLs.

Currently he is Professor involved in research projects at the University of California at Berkeley, at the Institute of Electronics of Paris, ISEP, at the Technical University of Delft, as well as a consultant to industry in the area of Electronic Design Automation. His research activities are in the areas of ultra-low-voltage (ULV) CMOS, design, simulation and modeling of circuits with new devices and circuits for quantum computing, and, electrical simulation for special computer architectures.

Dr. Vladimirescu is an IEEE Life Fellow and was a CAS DL from 2003 to 2005. He plays an active role in the organization of conferences: conference chair for the IEEE Low-Voltage Low-Power FTFC Workshop in 2003, the EuroSOI Workshop in 2013 and IEEE ICECS 2016, local arrangements chair for ISCAS 2010 and TPC Chair for ESSCIRC-2013. He is a member of the ESSCIRC TPC and a reviewer of technical papers for IEEE journals and conferences.

Dr. Vladimirescu is the author of "The SPICE Book" published by J. Wiley and Sons in 1994 that was translated in several languages. He also authored and co-authored over 100 journal and conference papers, and had numerous invited and keynote addresses.

Statement: Andrei Vladimirescu, Life Fellow IEEE

Distinguished Lecturer IEEE Circuits and Systems Society, 2003-2005

If elected, I am willing to serve on the Board of Governors for the IEEE Circuits and Systems Society.

At the present time we are witnessing a very wide diversification of the material base on which circuits are built and at the same time an important increase in the number of application fields. An important and particularly challenging task presented to CASS is to support, stimulate and promote these future directions. If elected I will strive to focus CASS on the most promising directions and at the same time, encourage involvement in all promising budding technologies but limit the number of areas by bundling some of the emerging fields together.

Relevant Experience

I have been working in the electronic devices, circuits and systems field for over forty years and am an IEEE Life Fellow. In my career I have been active both in industry, in the best known Electronic Design Automation (EDA) companies, such as Daisy, Valid and Cadence, as well as startups such as Analog Design Tools, iWatt and Nimbic, and in academia, at the University of California Berkeley and the Institut Supérieur d'Electronique de Paris (ISEP). I have become aware of the importance of tying fundamental research to industry needs early on while working on my PhD and developing the circuit simulator SPICE with other colleagues at UC Berkeley. In this respect I am uniquely positioned to understand the expectations and needs of the members in both academia and industry.

I have been actively involved in IEEE as conference organizer, reviewer and contributor of technical papers for IEEE conferences and journals. As conference organizer I was conference chair for the IEEE Low-Voltage Low-Power FTFC Workshop in 2003, the EuroSOI Workshop in 2013 and IEEE-ICECS the CASS Region 8 flagship conference, in 2016, local arrangements chair for ISCAS 2010 and TPC Chair for ESSCIRC-2013. I am a member of the steering committees of ICECS, LASCAS and of the ESSCIRC TPC. In 2014, in collaboration with European and US colleagues I prepared and presented a bid to organize ISCAS-2018 in Nice, France, in the heart of the French Silicon Valley; unfortunately, this was not the winning bid among the nine presented. I regularly attend about half a dozen conferences every year such as ISCAS, ISSCC, ESSCIRC, ICECS and LASCAS.

CASS Publications and Conferences

CASS publications and conferences are an area of particular interest as they are critical to the society for promoting participation and contributions; in order to be successful they need to be of high quality, anchored in areas of actuality and visibility. One particular aspect I will devote my efforts to if elected, is to raise the quality and visibility of the leading CAS conferences, ISCAS and the regional flagships. In my first BoG mandate I became actively involved in the steering committees of ICECS and LASCAS as a member of the BoG conference division. During my tenure the conference division defined a charter of metrics for CASS conferences meant to raise the quality, interest and participation. I also worked with my division

colleagues to increase focus of ISCAS, bring more industrial participation in order to attract the same high level of submissions as the flagship conferences of the SSCS and EDS.

Extending the Reach and Attractiveness of CASS

A very important challenge of our times is education and attracting young science students to the field of electronic circuits and systems. If elected, I will work together with all interested educators in CASS to innovate on the best ways to present, attract and teach our field to young students such that they would again choose CAS as their profession.

International collaboration in research can lead to faster progress and would strengthen CASS by raising the interest and participation in regions that are currently underrepresented. If elected, I will promote more collaboration among research teams from different regions, among engineers from academia and industry, and support the participation of all underrepresented groups. I will also work on increasing the cooperation with other IEEE societies, in particular with the SSCS and EDS. A good example of this cooperation is IEEE-BioCAS, a CASS conference having as technical co-sponsor SSCS.

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

1. Increase the focus and quality of publications in all CASS conferences and journals, with special emphasis on ISCAS, the society's most visible conference;
 2. Attract student members through symbolic fees to join and retain them as full members through the attractiveness of the programs offered and gradual increase of fees;
 3. Attract active participation of engineers from industry. This can be achieved by setting up training courses that companies will offer to their engineers for keeping their skills up-to-date, collaborative projects between industry and academia and organizing ISCAS near industrial platforms inviting recognized representatives from industry as speakers.
- 2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.
Raise interest in the profession to attract students to the CAS field.
- 3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)
The highest importance for CASS is our future represented by the young new members.
1. Attract EECS students as members by offering free membership followed by a gradual increase of membership fees for 3 years after graduation and complimentary membership in the related societies SSC and EDS.
 2. Offer more travel grants to grad students to participate in leading CASS conferences before they are able to publish in order to learn what makes a good paper and good presentation.
 3. Organize student demonstrations of practical realizations, poster sessions and panels with experts in different CAS areas at CASS conferences.



ZHIHUA WANG (M'99-SM'04-F'17) received the B.S., M.S., and Ph.D. degrees in electronic engineering from Tsinghua University, Beijing, China, in 1983, 1985, and 1990, respectively. In 1983, he joined the faculty at Tsinghua University, where he has been a full professor since 1997. From 1992 to 1993, he was a visiting scholar at Carnegie Mellon University. From 1993 to 1994, he was a Visiting Free Researcher at KU Leuven, Belgium. From September 2014 to March 2015, he was a Visiting professor in Hong Kong University of Science and Technology. He was the Deputy Director of Institute of Microelectronics of Tsinghua University for the period of 2000-2016. He is now leading the RF and Medical Microelectronics group in Tsinghua University.

Zhihua Wang's current research mainly focuses on CMOS RF IC and biomedical applications. His ongoing work includes RFID, PLL, low-power wireless transceivers, and smart clinic equipment with combination of leading edge CMOS RFIC and digital imaging processing techniques. He was elected as an IEEE fellow in 2016 for contributions to circuits and microsystems for medical applications.

Prof. Wang has been one of the most productive and influential researchers and educators in the field of integrated circuits and systems for the past two decades. He has published over 600 peer-reviewed papers in international transactions/conferences, and 11 books/book chapters, been granted 121 Chinese patents and 7 U.S. patents. As a professor in the most prestigious engineering school of China, he has taught over 1000 undergraduate students, supervised 49 Ph.D. and more than 300 Master theses. Today, many of his former students are industry leaders and academia luminaries.

Prof. Wang has served as Deputy Chairman of Beijing Semiconductor Industries Association and ASIC Society of Chinese Institute of Communication, as well as Deputy Secretary General of Integrated Circuit Society in China Semiconductor Industries Association. He had been one of the chief scientists of the China Ministry of Science and Technology serves on the expert committee of the National High Technology Research and Development Program of China (863 Program) in the area of information science and technologies from 2007 to 2011. He had been an official member of China Committee for the Union Radio-Scientifique Internationale (URSI) during 2000 to 2010. He was the chairman of IEEE Solid-State Circuit Society Beijing Chapter during 1999-2009. He served as a technologies program committee member of the IEEE International Solid-State Circuit Conference (ISSCC) from 2005 to 2011. He has been a steering committee member of the IEEE Asian Solid-State Circuit Conference (A-SSCC) since 2005 and has served as the technical program chair for the 2013 A-SSCC. He served as a Guest Editor for IEEE JOURNAL OF SOLID-STATE CIRCUITS Special Issue in December 2006, December 2009 and November 2014. He was an associate editor of IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS - PART II: EXPRESS BRIEFS, an Associate Editor for IEEE TRANSACTIONS ON BIOMEDICAL CIRCUITS AND SYSTEMS, and he is currently an associate editor of IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS - PART I: REGULAR PAPERS.

Statement: It has been about 26 years since I was first involved in the activities of Circuits and Systems Society (CASS) when I attended ISCAS'91 in Singapore in June 1991 and presented my first paper in ISCAS. Ever since then, the technical strength and broad vision of CASS has been helping and guiding my career life in this rapidly developing area of circuits and systems. CASS is a multidisciplinary community dedicated to the technical challenges for a better and efficient life in the new century, in which I can share ideas and find echoes from the CASS members.

For the past decades, IEEE CASS has played an irreplaceable role in the area of circuits and systems globally. The leadership of CASS is established on the basis of the top-level *IEEE Transaction on CAS* series publication with the highest quality, and the unmatched CASS sponsored conferences such as ISCAS. While many important advances in recent decades have derived from technological advances in devices, circuits and systems, I believe that even greater opportunities exist in how those devices, circuits and systems are understood, optimized, and leveraged in systems and applications, which is really at the core of CASS technical interests and society activities. And most importantly, the CASS members around the world have made the most

significant contributions to the development of CASS. However, a noticeable membership decline has been observed in recent years, which is believed to be a major impediment to the advancement of CASS in the future. Membership promotion would be one of the key challenges to CASS.

With the development of global economy, the worldwide information technology geography has shown significant changes, both in the industry and the academy, which has brought quite promising opportunities for CASS membership promotion. Specifically, the Asian countries and regions are now playing a more and more important role in the CAS area. However, among the current CASS members, the portion from Asian countries and regions does not match their actual influence to the worldwide CAS area. Obviously there is still much to do to promote the CASS membership in Asia.

As a community, CASS should provide values to its members. I believe that the activities for the professional development to support careers of CASS members is quite important. More importantly, we need to make our effort to ensure these technical activities are of the highest quality, and can deliver positive impact on members' careers. Actually, Circuits and System is a rapidly evolving field for both their contents and applications. In order to adapt the perennial changes, CASS should continue to support and strengthen the quality of our excellent technical publications, conference and workshop. CASS should also carefully evaluate the successes and shortcomings of these activities as it moves forward.

Based on the previous observations, I promise that if I am elected as CASS BoG member, as one representative from Asia, I will focus on the membership promotion in Asian countries and regions, taking the advantage of short distance, both geographically and culturally. The planned work will include, but not limit to, organizing technical workshops to promote CASS in industry and academy, meeting with local industry associations and government officers to promote CASS and CASS sponsored conferences, developing specialized membership benefits to attract new members, arranging student-oriented activities to boost the student membership, and etc. I believe that my past activities in the Far East CASS community will be an essential factor to help me to accomplish these tasks. Moreover, my personal influence to China CAS industry and academy will be greatly beneficial to promote CASS in a country with the fastest-developing IC design industry.

Questions: 1) What are in your opinion the three most important services that CASS should provide to its membership?

1. CASS should provide the technical publications and conferences of the highest quality to its membership. There are a bunch of CASS sponsored conferences. CASS should carefully evaluate the quality of each conference carefully and provide guidance to the conference organizers;
2. CASS should continue student-oriented activities such as the student design contest and student travel grant to promote student membership and future full membership;
3. The young professional and women professional activities should be further enhanced for broader diversity.

2) Mention one large long-term initiative that CASS should undertake in the next two years and that you would help to establish if elected.

A noticeable membership decline has been observed in the past one decade. Membership promotion would be one of the key challenges to CASS. On the other hand, the worldwide information technology geography has shown significant changes, both in the industry and the academy, which has brought quite promising opportunities for CASS membership promotion. CASS should take steps to develop membership in the emerging economies, including countries in east and south Asia, South America and South Africa. The work will include organizing technical workshops to promote CASS, meeting with local people to promote CASS and CASS sponsored conferences, and etc.

3) Mention three ways for CASS to reach/serve a specific part of the CAS community that you consider of particular importance (Industry, Academia, young CAS members, members of a specific region)

1. Organize technical workshops to promote CASS in industry and academy in the emerging economies and the fastest developing countries and regions;
2. Meet with local industry associations and government officers in the emerging economies to promote CASS and CASS sponsored conferences;
3. Develop specialized membership benefits to attract new members, and arrange student-oriented activities to boost the student membership.