

State of the Journal

Paolo Montuschi, *Fellow, IEEE*



WELCOME to the middle-of-the year update on the state of the journal, where, as usual, you'll find information about current and new initiatives as well as the presentation of the new associate editors and the farewell to those whose term has expired.

Today, July 2016, the *IEEE Transactions on Computers (TC)* is just in the middle of their 65th year of continued and successful publication, and the Computer Society (CS) is now celebrating its 70th year of life.

TC, as the flagship Transactions of the Computer Society, during its nearly 65 years of publication has been the undisputed reference for generations of researchers. TC reflects a unique brand of quality, a tradition and an everlasting lighthouse in the Engineering Community. Readers, authors, reviewers, associate editors and editors in chief, have been and are over so many years the key of the success of this publication; the recipe is simple: everyone is proud and honored when invited to contribute, so they perform at their very best. TC has hosted, over the years, the most important technical papers that have made the history of Computers. The challenge for the future is to tackle the challenges of the world of scientific dissemination that has already started experiencing fundamental changes. At TC we are ready, not only planning, but also driving the future to continue offering a peer-reviewed periodical that is in itself one more reason to become an active part of our Community and the Computer Society.

Our agenda has plenty of interesting ideas and, as of May 10, 2016 (as the going-to-press deadline of this issue), I am shortly presenting three (already or soon-to-be launched) initiatives: "Editor's pick of the year", "multimedia", and "Authors' biographies in submitted and finally accepted papers".

- "Editor's pick of the year". I am proud to announce that starting with 2016 TC will identify and select a small group of 1 to 4 selected papers that have appeared in 2016, referred to as "Editor's pick of the year". This is not a formal award but a selection of published high quality manuscripts which are highly representative of the journal, and it will be operated by a committee internal to TC, chaired for 2016 by Professor and Associate Editor Diana Marculescu. Authors of nominee papers will be contacted and requested to prepare a video presentation, such as those usually presented for the featured paper of the month. The finally selected "Editor's pick of the year" manuscripts will be announced in the first months of 2017 and, in addition to the authors receiving a "thank-you-for-your-contribution" letter from the Editor-in-Chief, these papers will be made available for free download by everyone for the full 2017 calendar year. We are well aware and honored to remark that, overall, this initiative fits well in the IEEE mission's tagline "Advancing Technology for the Benefit of Humanity" and marks the role and commitment of TC, the CS and the IEEE while soliciting, promoting and delivering results of the Scientific Research.
- "Multimedia". As announced in the June 2015 editorial, starting May 2015, the monthly featured paper of TC has a short video abstract available in Chinese, on Youtube, Youku, as well as the TC multimedia page, reachable directly from the main TC pages <http://www.computer.org/web/tc>. Starting December 2015 the monthly featured paper of TC also has a short video clip prepared by the Authors, accessible from the TC multimedia page too. We are all grateful to Professor Weiqiang Liu of NUAU (PRC) for preparing the Chinese short abstracts videos and maintaining the Youku channel, and to Professor Lan-Da Van of NCTU (Taiwan) for handling the invitation and production of the video clips prepared by the Authors of the featured paper of the month. I am pleased to announce that, with the help of Professor Tomás F. Pena, TC will soon start producing short video abstracts of the featured paper of the month in Spanish as well. This is, for me, the opportunity to announce the official constitution, first in the history of TC, of The Multimedia Team at the TC Editorial Board (MTTC), that is now composed of the following AEs: Weiqiang Liu (Leader), Tomás F. Pena and Lan-Da Van (liaison of TC with *Computing Now*).
- Authors' biographies in submitted and finally accepted papers. It is a matter of fact that in the well-internet-connected world, the impact and role of "printed" authors' biographies has to be heavily revisited. Now, the easiest way to get relevant and updated information about everyone, authors included, is to search the web, to mine the professional social networks and to visit personal webpages. This has caused the editorial board to reflect on the subject of author biographies and, with the goal of both providing a quick digital communication of most important information and, at the same time, reserving the maximum space possible for the technical contents of a paper, it has been decided that authors' bios should both include links to personal websites and not exceed a maximum length, reasonably equal to the minimum between 16 lines and 150 words, or less. In this way, all changes, including new achievements, changes of affiliations, career advances and so on, as well as more detailed information about the author, will remain flexibly current and complete as long as the personal websites remain alive. This new change is expected to become fully operational, both for new and currently under review submissions, starting September 1, 2016.

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I thank all authors in advance for their collaboration to support these new initiatives and, at the same time, as it has been a recurring question during the last few months, I take the opportunity to gently remind that, per IEEE, CS and TC policies, papers cannot be changed in any form or contents after their acceptance, otherwise they have to undergo a full review cycle from scratch. In addition, I also highlight that, starting May 1, 2016, TC, as other highly reputed Transactions, does not offer the option of requesting a double review process. Clearly, per IEEE and TC policies, authors have always the possibility to request and enumerate some opposed reviewers, supported by solid and objective reasons.

Before introducing the Colleagues who have just joined the Editorial Board, my sincere thanks for their thoughtful service and support to TC goes to *Jean-Luc Beuchat*, *Hironori Kasahara*, *Alberto Nannarelli*, *Sanguthevar Rajasekaran*. The following new members of the editorial board have started or will soon start their service as associate editors; you'll find their biographies in the next pages of this editorial.

- Samarjit Chakraborty (IEEE Senior Member), <http://www.rcs.ei.tum.de/staff/chakraborty/>
- Jason Cong (IEEE Fellow and recipient of the 2016 Computer Society Technical Achievement Award), <http://vast.cs.ucla.edu/people/faculty/jason-cong>
- Ramón M. Rodríguez-Dagnino (IEEE Senior Member) https://scholar.google.com.mx/citations?user=FRDt_04AAAAJ&hl=es&oi=sra
- Fred Douglass (IEEE Senior Member) <http://www.douglis.org/fred/>
- Lieven Eeckhout (IEEE Senior Member) <http://users.elis.ugent.be/~leeckhou/>
- Gernot Heiser (IEEE Fellow), <https://www.cse.unsw.edu.au/~gernot/>
- Sushil Jajodia (IEEE Fellow and recipient of the 2016 Computer Society Technical Achievement Award), <http://csis.gmu.edu/jajodia/>
- Ruby B. Lee (IEEE Fellow), <http://www.ee.princeton.edu/people/faculty/ruby-lee>
- Dinesh Manocha (IEEE Fellow), <http://www.cs.unc.edu/~dm/>
- Isabelle Puaut, <https://team.inria.fr/alf/members/isabelle-puaut/>
- Tomás F. Pena (IEEE Senior Member) <https://citius.usc.es/v/tomas-fernandez-pena>
- Hanan Samet (IEEE Fellow and recipient of the Computer Society Wallace McDowell Award), <http://www.cs.umd.edu/~hjs/>
- Donatella Sciuto (IEEE Fellow) <http://home.deib.polimi.it/sciuto/About%20Me.html>

The last six months have seen TC constantly improving their service to readers and authors and in general to the Communities that we serve. Average turnaround time as been speeded up at least a factor of 2. Today, by far the largest majority of first time submissions receive a first review decision in less than 100 days and more than 97 percent of all submissions (either in first or in revised form) in less than 120 days. This has been achieved thanks to the hard work of the associate editors and reviewers, to whom I extend my sincere appreciation. At the same time, thanks to a temporary increment in the page budget granted by the IEEE and CS, the delay from acceptance to publication is expected to be reduced by a factor of up to 3 by the end of 2016. We expect to have the publication of a manuscript occurring between four and six months after its final acceptance. Within this framework, TC is further strengthening his reputation to be a highly selective journal for quality submissions and printed papers. To have your research accepted and published in TC is an honor and worldwide acknowledgment of a solid achievement, spreading from the Americas to Europe, from Asia and Africa to Oceania and, more importantly, from all Research Institutions of the World. The next six months will host new challenges and initiatives, and my thanks for your continued and future help goes to everyone of you, readers and supporters of the Journal, members of the editorial board, contributors, reviewers and the Computer Society staff.

Once more, my warm invitation to you is to continue supporting our Journal, by reading, commenting on and reviewing our submissions and published papers, as well as by submitting your best research contributions in current scope and interest to our Readership, in which, as a Computer Society publication, computation and computing are of primary importance and focus.

Before closing this editorial, let me take the opportunity to remember a Master, mentor and researcher who has made the History of Computers and the Computer Society. On February 13, 2016 at the age of 86, Professor Edward J. McCluskey passed away. He has been often been referred to as "*The Father of Modern Digital Design*" and we cannot agree more. In 2008 he received the Computer Pioneer Award "For seminal contributions to the design and synthesis of digital systems over five decades, including the first algorithm for logic synthesis (the Quine-McCluskey method)", <https://www.computer.org/web/awards/pioneer-edward-mccluskey>. Previously, from 1970 to 1971 he served as the First President of the IEEE Computer Society <https://www.computer.org/web/cshistory/edward-mccluskey>. His short biography is found at the end of this editorial.

With the awareness of his exceptional figure and gratitude for his outstanding contributions and achievements, on behalf of the *IEEE Transactions on Computers*, let me forward our sincere condolences to Dr. Edward J. McCluskey's family and all those who knew him.

Dr. Paolo Montuschi
Editor-in-chief
<http://staff.polito.it/paolo.montuschi/>
pmo@computer.org

IN MEMORIAM OF EDWARD J. MCCLUSKEY



Edward J. McCluskey (Fellow, IEEE) was at electronic switching systems at the Bell Telephone Laboratories from 1955 to 1959. In 1959, he moved to Princeton University, where he was a professor of electrical engineering and the director of the University Computer Center. In 1966, he joined Stanford University, where he is currently an Emeritus professor of electrical engineering and computer science, as well as the director of the Center for Reliable Computing. He founded the Stanford Digital Systems Laboratory (now the Computer Systems Laboratory) in 1969 and the Stanford Computer Engineering Program (now the Computer Science MS Degree Program) in 1970. The Stanford Computer Forum (an Industrial Affiliates Program) was started by Dr. McCluskey and two colleagues in 1970 and he was its director until 1978. He leads the Reliability and Testing Symposium (RATS). He has mentored more than 70 PhD students and has an expanding family of academic 'grandchildren'. He served as the first president of the IEEE Computer Society. (Biography taken from <https://www.computer.org/web/cshistory/edward-mccluskey>)



Samarjit Chakraborty (Senior Member, IEEE) received the PhD degree in electrical and computer engineering from ETH Zurich in 2003. He is a professor of electrical engineering at TU Munich in Germany, where he holds the chair for Real-Time Computer Systems. From 2011 to 2016, he also led a research program on embedded systems for electric vehicles at the TUM CREATE Centre for Electromobility in Singapore, where he also served as a scientific advisor. Prior to joining TU Munich in 2008, he was an assistant professor of computer science at the National University of Singapore from 2003 to 2008. His research interests include distributed embedded systems, hardware/software codesign, embedded control systems, and sensor network-based information processing for healthcare, smart-buildings and electromobility. He was the general chair of Embedded Systems Week (ESWeek) 2011, and the program chair of EMSOFT 2009 and SIES 2012, and regularly serves on the TPCs of various conferences on real-time and embedded systems. During 2013 to 2014, he also served on the Executive Committee of DAC, where he started a new track on Automotive Systems and Software along with Anthony Cooper from the Ford Motor Company. For his PhD thesis, he received the ETH Medal and the European Design and Automation

Association's Outstanding Doctoral Dissertation Award in 2004. In addition, he has received Best Paper Awards in ASP-DAC 2011 and EUC 2010, a Best Demo Award in Mobisys 2013, and several Best Paper Award nominations at RTSS, EMSOFT, CODES+ISSS, ECRTS and DAC.



Jason Cong (Fellow, IEEE) received the BS degree in computer science from Peking University in 1985, the MS, and the PhD degrees in computer science from the University of Illinois at Urbana-Champaign in 1987 and 1990, respectively. Currently, he is a Chancellor's professor at the Computer Science Department, also with joint appointment from the Electrical Engineering Department of University of California, Los Angeles, the director of the Center for Domain-Specific Computing (CDSC), and the director of VLSI Architecture, Synthesis, and Technology (VAST) Laboratory. He served as the chair the UCLA Computer Science Department from 2005 to 2008. His research interests include synthesis of VLSI circuits and systems, programmable systems, novel computer architectures, nano-systems, and highly scalable algorithms. He has more than 400 publications in these areas, including 10 best paper awards, two 10-Year Most Influential Paper Awards (from ICCAD'14 and ASPDAC'15), and the 2011 ACM/IEEE A. Richard Newton Technical Impact Award in Electric Design Automation. He received the 2010 IEEE Circuits and System (CAS) Society Technical Achievement Award "For seminal contributions to electronic design automation, especially in FPGA synthesis, VLSI interconnect optimization, and physical design automation" and the 2016 IEEE

Computer Society Technical Achievement Award "For setting the algorithmic foundations for high-level synthesis of field programmable gate arrays". He is also a distinguished visiting professor at Peking University. He was elected to an IEEE fellow in 2000 and ACM fellow in 2008.



Ramón M. Rodríguez-Dagnino (Senior Member, IEEE) received the PhD degree from the University of Toronto, Canada, 1993, and the MSc degree from the Research and Advanced Studies Center (CInvEstAv) in México City, 1984. He is a full-time professor at Tecnológico de Monterrey (ITESM) at the Electrical and Computer Engineering Department, Monterrey, México. He was at the R&D Center of TelMex (Mexican Telephone Co.) from 1984 to 1989, and was the chair of the Electronics and Telecommunications Center at ITESM from 2000 to 2001, and a member of the Academic University Council from 2000 to 2001 academic years. He was the director of the Telecommunications Management Master Program from 2000 to 2010, and received the ITESM Best Teaching and Research Award twice. He is the chair of the nationwide IEEE-MTTS-17 Chapter in México. His research interests include teletraffic modeling or probabilistic performance analysis, multimedia network design, video and image compression algorithms, signal processing, hypercomplex algebra, and electromagnetics. He has more than 60 published papers in refereed journal, and he has served as a technical reviewer of many papers submitted to IEEE journals and conferences, SPIE, Springer, Taylor&Francis and Elsevier journals; in the Program Committee of IEEE

and SPIE conferences; and as an associate editor of four journals. He has been a member of IEEE for more than 25 years, the American Mathematical Society, the Mexican Academy of Sciences, the Mexican Academy of Engineering, and the Mexican National System of Research (SNI).



Fred Douglass (Senior Member, IEEE) received the BS degree in computer science from Yale in 1984 and the MS and PhD degrees in computer science from U.C. Berkeley in 1987 and 1990, respectively. He is currently with the Advanced Development group of EMC Core Technologies Division, in the office of the CTD CTO. He works on systems and storage technologies such as flash memory, deduplication, compression, load balancing, and others. He has been with industrial applied research throughout his career, including Matsushita, AT&T (Bell) Labs, and IBM Research before joining EMC in 2009. He also has been a visiting professor at VU Amsterdam and Princeton University. He served as an editor in chief of *IEEE Internet Computing* from 2007 to 2010 and has been on its editorial board since 1999. He is a member of the IEEE Computer Society Board of Governors from 2016 to 2018.



Lieven Eeckhout (Senior Member, IEEE) received the PhD degree in computer science and engineering from Ghent University in 2002. He is a professor at Ghent University, Belgium, in the Department of Electronics and Information Systems (ELIS), where he is currently leading a research group with seven PhD students and two postdoctoral researchers. He has more than 15 years of experience in computer architecture research, with a specific emphasis on performance evaluation and modeling. He published numerous papers at premier venues such as ISCA, ASPLOS, HPCA, MICRO, OOPSLA, PLDI, PACT, CGO, ISPASS, IISWC, *IEEE Micro*, *ACM Transactions on Computer Systems*, *IEEE Transactions on Computers*, and *ACM Transactions on Architecture and Code Optimization*. He was awarded with two *IEEE Micro* Top Pick selections (2007 and 2010); the ISPASS 2013 Best Paper Award; and Best Paper Nominations at PACT 2014, and ISPASS 2012 through 2016. He served as the program (co)chair for ISPASS 2009, CGO 2013, and HPCA 2015, and a general chair for ISPASS 2010. He is the current an editor-in-chief of *IEEE Micro* (as of January 2015), and an associate editor for *IEEE Computer Architecture Letters* and *ACM Transactions on Architecture and Code Optimization*. He recipient an ERC Starting Grant; and two of his PhD students recently founded CoScale, a spin-off in data center monitoring.



Gernot Heiser (Fellow, IEEE) is Scientia professor and John Lions Chair of Operating Systems at UNSW Australia, senior prinzipal researcher in the Trustworthy Systems Group at Data61 (formerly NICTA). He has been a full-time member of academic staff at UNSW since 1991, and at NICTA since its creation in 2002. His research focus is on highly dependable operating systems with an emphasis on security, safety, and performance. Past achievements include the Mungi single-address-space operating system (OS), several unbroken records in microkernel IPC performance, and the best-ever reported performance for user-level device drivers, the world's first formal proof of functional correctness of a protected general-purpose operating-system kernel, the first published sound worst-case execution time analysis of a protected OS kernel, and the synthesis of high-performance device drivers. His OS kernels shipped on billions of mobile communications processors (though his startup Open Kernel Labs, meanwhile sold to General Dynamics) and on the security processor of all recent Apple iOS devices.



Sushil Jajodia (Fellow, IEEE) received the PhD degree from the University of Oregon, Eugene. He is a university professor, BDM international professor, and the founding director of the Center for Secure Information Systems in the Volgenau School of Engineering at the George Mason University, Fairfax, Virginia. He is also the founding site director of the recently approved NSF I/UCRC Center for Configuration Analytics and Automation at Mason. His research interests include security, privacy, databases, and distributed systems. He has authored or coauthored seven books, edited 44 books and conference proceedings, and published more than 450 technical papers in the refereed journals and conference proceedings. He is also a holder of 18 patents. He received the 1996 IFIP TC 11 Kristian Beckman award, 2000 Volgenau School of Engineering Outstanding Research Faculty Award, 2008 ACM SIGSAC Outstanding Contributions Award, 2011 IFIP WG 11.3 Outstanding Research Contributions Award, 2015 ESORICS Outstanding Research Award, and 2016 IEEE Computer Society Technical Achievement Award. He was recognized for the most accepted papers at the 30th anniversary of the IEEE Symposium on Security and Privacy. His h-index is 92 and Erdos number is 2. He has served in different capacities for various journals and conferences.

He was the founding editor-in-chief of the *Journal of Computer Security* and a past editor of *ACM Transactions on Information and Systems Security*, *IET Information Security*, *International Journal of Cooperative Information Systems*, *IEEE Concurrency*, and *IEEE Transactions on Knowledge and Data Engineering*.



Ruby B. Lee (Fellow, IEEE) received the undergraduate degree from Cornell in the college scholar program and the PhD degree (EE) from Stanford. She is the Forrest G. Hamrick professor in the Electrical Engineering Department at Princeton University. Her research in security-aware computer architecture includes secure processors enabling fine-grained secure enclaves, secure caches resilient to side-channel attacks, software-hardware architectures for self-protecting data, cloud computing security, smart phone security, and security verification. Prior to Princeton, he was a chief architect at Hewlett-Packard, contributing to numerous technical innovations in processor architecture, multimedia architecture, and security architecture. She was a founding architect of HP's PA-RISC architecture and instrumental in the initial design of several generations of PA-RISC processors for HP's business and technical computers. She helped catalyze the widespread adoption of multimedia in commodity computers by pioneering subword-parallelism (SIMD) for multimedia acceleration in microprocessors, now supported in all major Instruction Set Architectures. She also led the introduction of the first multi-stream, real-time software video technology in low-end commodity computers. She coled the 64-bit Intel-HP multimedia architecture team, and

helped introduce advanced SIMD and permutation instructions into Intel processors. She also created the first security roadmap for enterprise and e-commerce security for HP, before leaving industry for academia. She holds more than 120 US and international patents. Known as a hardware security expert, she has served on various US committees for improving cyber security research.



Dinesh Manocha (Fellow, IEEE) received the BTech degree in computer science and engineering from the Indian Institute of Technology, Delhi in 1987 and the PhD degree in computer science at the University of California at Berkeley in 1992. He is currently Phi Delta Theta/Matthew Mason distinguished professor of computer science at the University of North Carolina at Chapel Hill. He has coauthored more than 420 papers in the leading conferences and journals on computer graphics, robotics, and scientific computing. He has received awards including IBM Fellowship, Alfred P. Sloan Fellowship, NSF Career Award, Office of Naval Research Young Investigator Award, SIGMOD IndySort Winer, Honda Research Award, Hettleman Award at UNC Chapel Hill, and 16 best paper awards at leading conferences. He received Distinguished Alumni Award from Indian Institute of Technology, Delhi. He has served on the editorial board of 10 leading journals and program committees of 100+ conferences in computer graphics, robotics, high-performance computing, geometric computing, and symbolic computation. He has been the program chair and general chair of more than 13 conferences/workshops in these areas. He also served as the director-at-large of ACM SIGGRAPH from 2011 to 2014. He has supervised 65+ MS and PhD students more than the last

23 years at UNC Chapel Hill. His research group has developed many well-known software packages for collision detection, triangulation, GPU-based algorithms, solid modeling and solving algebraic systems. These packages have been downloaded by more than 150K users worldwide and licensed to more than 55 industrial organizations including Intel, Microsoft, Disney, Ford, Kawasaki, Siemens, Phillips Labs, MSC Software, Lockheed Martin, Raytheon, etc. His research has been supported by ARO, NSF, DARPA, RDECOM, ONR, NIH and many industrial organizations (e.g., Intel, Samsung, Google, Microsoft, Honda, Ford, NVidia, AMD, Disney, Willow Garage). He has served as a principal investigator or a coprincipal investigator on more than 75 grants.



Tomás F. Peña (Senior Member, IEEE) received the BS and PhD degrees from the University of Santiago de Compostela, Spain, in 1989 and 1994, respectively. From 1990 until 1994, he was an assistant professor in the Faculty of Computer Science at the University of A Coruña (Spain). From 1994, he is an associate professor in the Department of Electronics and Computer Engineering of the University of Santiago de Compostela. From 2010, he is a senior member of the Research Center in IT (CITIUS) of this University. His main research lines include the high-performance computing in general, the architecture of parallel systems, the development of parallel algorithms for clusters and supercomputers, the optimization of the performance in irregular codes and with sparse matrices, the prediction and improvement of the performance of parallel applications in general, the development of applications and middleware for Grid and Cloud, and the use of Big Data technologies for scientific and natural language processing applications.



Isabelle Puaut received the PhD degree from the University of Rennes 1 in 1993. She became an assistant professor in 1994 at INSA Rennes (Institut National des Sciences Appliquées), and a professor at University of Rennes 1 in 2004. Her research interests include real-time systems, computer architecture, programming languages, and operating systems. Her current research focuses on timing analysis of real-time software (worst case execution times estimation), more precisely on the impact of hardware on worst-case performance. She has published more than 130 papers in journal publications or peer-reviewed conference papers.



Hanan Samet (Fellow, IEEE) received the BS degree in engineering from UCLA, the MS degree in operations research, and the MS and PhD degrees in computer science from Stanford University. He is a distinguished university professor of computer science at the University of Maryland, College Park. His doctoral dissertation dealt with proving the correctness of translations of LISP programs which was the first work in translation validation and the related concept of proof-carrying code. He is the author of the recent book *Foundations of Multidimensional and Metric Data Structures* published by Morgan-Kaufmann, an imprint of Elsevier, in 2006, an award winner in the 2006 best book in Computer and Information Science competition of the Professional and Scholarly Publishers (PSP) Group of the American Publishers Association (AAP), and of the first two books on spatial data structures *Design and Analysis of Spatial Data Structures* and *Applications of Spatial Data Structures: Computer Graphics, Image Processing, and GIS*, both published by Addison-Wesley in 1990. He is the founding editor-in-chief of the *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, the founding chair of ACM SIGSPATIAL, a recipient of the 2009 UCGIS Research Award, 2011 ACM Paris Kanellakis Theory and Practice Award, the IEEE Computer Society's 2014

Wallace McDowell Award. He received best paper awards in the 2007 *Computers & Graphics Journal*, the 2008 ACM SIGMOD and SIGSPATIAL Conferences, the 2012 SIGSPATIAL MobiGIS Workshop, the 2013 SIGSPATIAL GIR Workshop, and one of the best papers in the 2009 IEEE ICDE Conference selected for publication in the *IEEE Transactions on Knowledge and Data Engineering*. He is a fellow of the ACM, IEEE, AAAS, IAPR (International Association for Pattern Recognition), and UCGIS.



Donatella Sciuto (Fellow, IEEE) received the Laurea degree in electronic engineering from Politecnico di Milano, the PhD degree in electrical and computer engineering from the University of Colorado, Boulder, and the MBA degree from Bocconi University. She is currently Vice Rector of the Politecnico di Milano and a full professor in computer science and engineering. Her main research interests cover the methodologies for the design of embedded systems and multicore systems, from the specification level down to the implementation of both the hardware and software components, including reconfigurable and adaptive systems. She has published more than 300 scientific papers. She served as the president of the IEEE Council of Electronic Design Automation from 2011 to 2013. She is member of the IEEE Awards Committee and has been a chair of the IEEE Philips Award committee. She is associate editor of *Embedded Systems Letters* and has been an associate editor of different other journals in the field. She is in the executive committee of the conference IEEE/ACM Design Automation and Test in Europe, for which she has been a program chair in 2006 and general chair in 2008. She has been a general cochair of ESWEEK in 2009 and 2010. She has been program cochair for the IEEE/ACM Design Automation Conference in 2012 and

2013. She is in the main board of the European Design Automation Association. She has participated in and managed different EU and national research projects.

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