

TAB NOMINATION FORM



CANDIDATE NAME: BIN ZHAO

POSITION NOMINATED: 2021-2022 Chair, IEEE Conferences Committee

BIOGRAPHY: Bin Zhao received his Ph.D. degree from California Institute of Technology and has held engineering and management positions at SEMATECH, Rockwell, Conexant, Skyworks, Freescale, Fairchild, ON Semiconductor, and Iotelligent Semiconductor. He has worked on advanced VLSI technology development and design implementation of analog/mixed-signal, power management, and RF IC products. In 1997, he fabricated the industry-first Cu/low-k ($k < 3$) dual-damascene interconnect by developing a successful

fabrication process for the Cu/SiOCH low-k dual-damascene interconnect, which is widely used in today's high-performance IC products. He has authored and coauthored more than 200 journal publications and conference presentations, has written three book chapters, and holds more than 70 issued US patents. He is an IEEE Fellow and served as the Founding Co-Chair of the Technical Working Group of RF and Analog/Mixed-Signal IC Technologies for Wireless Communications, the International Technology Roadmap for Semiconductors (ITRS), 2003-2007.

IEEE ACTIVITIES:

COMMITTEES/BOARDS:

- Chair, IEEE Conference Committee, 2019-2020
- Chair, IEEE Conference Governance and Strategy Committee, 2019-2020
- Chair, IEEE Conference Open Access Ad Hoc Committee, 2019-2020
- Chair, IEEE Conference Governance Ad Hoc Committee, 2018
- Chair, IEEE Conference Strategy Ad Hoc Committee, 2017-2018
- Chair, IEEE Future of Conference IP Committee, 2015-2017
- Chair, IEEE Conference Quality Policies Ad Hoc Committee, 2017
- Chair, IEEE Technical Program Integrity Committee, 2013-2014
- Chair, IEEE Reynold B. Johnson Technology Award Committee, 2007-2008
- IEEE Technical Activities Board, 2019-2020
- IEEE TAB Finance Committee, 2019-2020
- IEEE Publications Services and Products Board, 2019-2020
- IEEE Conference Quality Committee, 2017-2018
- IEEE Conference Publication Committee, 2015-2018
- IEEE Technical Program Integrity Committee, 2011-2012
- PSPB Liaison, IEEE Conference Committee, 2015-2016
- TAB Rep, IEEE Conference Committee, 2011-2014
- TAB Rep, IEEE Conference Publication Committee, 2011-2014
- IEEE Fellow Committee, 2012

SOCIETY:

- Treasurer, IEEE Electron Devices Society (EDS), 2020-2021
- Board of Governors, IEEE Electron Devices Society, 2010-2015, 2017-2019
- EDS Vice President of Publications and Products, 2014-2015
- EDS Vice President of Meetings and Conferences, 2010-2013

- Chair, EDS Finance Committee, 2020-2021
- Chair, EDS Publications and Products Committee, 2014-2015
- Chair, Paul Rappaport Award Selection Committee, 2014-2015
- Chair, George E. Smith Award Selection Committee, 2014-2015
- Chair, EDS Conference Committee, 2010-2013
- Chair, EDS VLSI Technology and Circuits Committee, 2004-2009
- EDS VLSI Technology and Circuits Committee, 2003, 2010-2017
- EDS Fellow Committee, 2016-2017
- EDS Executive Committee, 2010-2015, 2020-2021
- EDS Publication Committee, 2004-2013
- EDS Finance Committee, 2010-2015

CONFERENCES:

- General Co-Chair, IEEE International Conference on Solid-State and Integrated-Circuit Technology (ICSICT), 2018, 2020
- Conference Steering Committee (2020), International Advisory Committee Vice Chair (2018), Emerging Technologies Chair (2017), IEEE Electron Devices Technology and Manufacturing (EDTM) Conference
- Co-Chair, Technical Program Committee, IEEE International Conference on ASIC (ASICON), 2007, 2009, 2011, 2017, 2019
- Co-Chair, Technical Program Committee, IEEE International Conference on Solid-State and Integrated-Circuit Technology (ICSICT), 2010, 2014, 2016
- Co-Chair, Organizing Committee, International Conference on Solid-State and Integrated-Circuit Technology (ICSICT), 2001, 2004, 2006, 2008
- Technical Program Committee, IEEE Symposium on VLSI Circuits, 2005-2007
- Technical Program Committee, IEEE Symposium on VLSI Technology, 2001-2004
- Chair, Technical Program Subcommittee, Integrated Circuits and Manufacturing, IEEE International Electron Device Meeting (IEDM), 2001
- Technical Subcommittee, Integrated Circuits and Manufacturing, IEDM, 1999-2000
- IEDM Short Course Organizer/Speaker, "More-than-Moore: Technologies for Functional Diversification," December 14, 2008
- IEDM Short Course Organizer/Speaker, "RF Device Technologies for Communication Systems," December 8, 2002

OTHER:

- Chair, Editorial Steering Committee, IEEE Journal of Microelectromechanical Systems (J-MEMS), 2014-2015
- Chair, EiC Search Committee, IEEE Transactions on Electron Devices, 2015
- Chair, EiC Search Committee, IEEE Electron Device Letters, 2015
- Editorial Oversight Committee, IEEE/TMS J. of Electronic Materials, 2014-2016
- Guest Editor, "Special Issue on Device Technologies and Circuit Techniques for Power Management," IEEE Transactions on Electron Devices, 2008
- Guest Editor, "Special Issue on RF Integrated Circuits Technologies," IEEE Transactions on Electron Devices, 2005
- Associate Editor, IEEE Trans on Circuits and Systems, I: Regular Papers, 2006-2007
- Associate Editor, IEEE Trans on Circuits and Systems, II: Express Briefs, 2004-2005
- Guest Editor, "Special Issue on Advances in Interconnect and Packaging Materials," J. of Electronic Materials, 2001

QUALIFICATIONS:

Currently serving as Chair of the IEEE Conferences Committee; has held virtually every position possible in a conference; has served as society VP of Conferences and chaired

several subcommittees of the IEEE Conferences Committee. Has a strong understanding of IEEE conferences in their mission, diversified purposes and needs, competition, and business operation. Has been engaged in and worked on various issues and opportunities in IEEE conferences: financial growth, open access strategy, quality, co-sponsorship, education and trainings, conference portfolio management, conference publications, new conference IP, conference governance and policies, etc. Highly motivated to develop a collaborative environment and win-win relationships so as to maximize the value and success of all parties involved – authors/speakers, attendees, readers, conference organizers, IEEE sponsoring OUs and external partners, and ultimately the whole technical community.

MAJOR ACCOMPLISHMENTS:

- As Chair of the IEEE Conference Committee, led the committee work on opportunities in conference financial growth; improvements in conference finance transparency, accountability, and controllability; TCS value proposition and appropriate cost allocation; conference portfolio review and management; conference quality review metrics and improvement; conference organization integrity management; conference mobile apps and tools; strategy and plan for conference open access; etc. Developed the specification of conference finance management – its planned and on-going implementation will significantly improve conference finance’s visibility and controllability by the sponsoring S/Cs, and additionally make it much easier to organize and run conferences at IEEE. Working closely with MCE in conference operation and business optimization; e.g., cut conference closure time to 7 months; 3X increase in usage of Payment Manager from 2018 to 2019; the emergency response, health and safety guidelines, going virtual and operational support to IEEE conferences impacted by the COVID-19 outbreak and crisis around the globe at the moment.
- As Chair of several IEEE Conference Subcommittees, worked on conference policies in TPC and peer review requirements, conference scope and presentations to assure the quality, attendee experience, and preserved values of IEEE conferences. Investigated archiving emerging conference IP, including introducing digital posters to Xplore and developing a pathway to host non-conventional conference materials for their broader use. Identified a feasible approach for XML conversion of conference papers and proposed a procedure with clearly defined responsibilities, timelines, and logistics for 100% Cross-Check/plagiarism screening of conference papers – approved by TAB in 2017 and now in implementation for all IEEE conferences.
- As Chair and early member of IEEE Technical Program Integrity Committee (TPIC), was instrumental in setting up the procedure and criteria for conference quality screening. Directly worked with conference organizers and sponsoring OUs on identified issues, strived for resolution, improvement, and future prevention. Lectured at conference quality workshops; did a webinar entitled “Technical Co-Sponsorship – Strategy, Tactics & Best Practices”. With others, made significant improvements in conference quality; e.g., the percentage of rejected conference papers was reduced from 12% in 2011 to <0.5% in 2014 (Xplore submissions) at the term end of TPIC Chair’s service.
- As EDS VP of Conferences, responsible for EDS conference operation with 80+ EDS conferences: made sponsorship change (ASMC, MEMSTECH, EDSSC, ISPDs, etc.); closed financials overdue for years (BCTM, CSICS, etc.); transformed IEEE SOI Conference to the new IEEE S3S Conference with expanded technical scope – increased conference attendance by 46% at the 1st IEEE S3S Conference (2013). Initiated the new EDS Flagship Conference in Asia (EDTM). Collaborated with other IEEE societies in starting up new conferences in emerging and interdisciplinary areas – e.g., CPCW (CPMT/EPS) and WiPDA (PELS). Achieved excellent financial outcomes from EDS conferences operation (2010-2013). Improved budget and operation of every EDS financially sponsored

conference including IEDM, PVSC, VLSI, IRPS. Worked with CSICS and IITC to improve operation/financials: focused on attendance, technical program, management cost, exhibits – achieved financial turn-around in both conferences (CSICS: from loss in 2009-2011 to profit in 2012-2013; IITC: from loss in 2007-2009 to profit in 2010-2013).

- As EDS VP of Publications, led development of a formal procedure for Editor-in-Chief (EiC) selection, applying it successfully in selecting the EiCs for IEEE Transactions on Electron Devices (T-ED) and IEEE Electron Device Letters (EDL) in 2015. Improved EDL publication time from 7 weeks (2014) to 5 weeks (2015) – the fastest in all IEEE journals at that time. Led efforts to promote the IEEE Journal of Electron Devices Society (J-EDS), greatly increased the number of papers published in J-EDS and secured the success of this first IEEE Open Access (OA) topical journal launched in 2013. Successfully completed TAB 5-year periodicals reviews: T-ED, EDL, T-DMR, J-MEMS and MoU modifications: T-DMR, J-DT, T-SM.

POSITION STATEMENT:

We must continue to strive for technical excellence in IEEE conferences and work closely with IEEE Societies/Councils to leverage conferences in driving our growth and influence around the globe. We need to improve tools, processes, and finance/contract management system for conference organizers to organize and run conferences more easily; enhance the experience of conference attendees by leveraging the infrastructure and advances in information technology; continue push for the generation of high-quality conference materials; and foster and support the generation and use of new types of conference IP.

Technical conferences serve a critical role in the process of knowledge creation and R&D evolution. We should recognize, encourage, be adaptive to, and be inclusive of the process diversity and the diversity in related technical and geographical communities. The IEEE Conferences Committee must engage with all IEEE OUs and the global conferences community to enable and encourage strong and successful conference activities in this dynamic and diversified environment. We should better understand the needs from young generations and industry professionals, and address those needs with innovative offerings in information exchange, learning, and networking. We should support sharing best practices in the conference community, promote collaboration among IEEE OUs, and address issues and challenges with systematic and data-driven approaches.

The on-going crisis of COVID-19 pandemic has disrupted worldwide conference operation. It is forcing many conferences contemplate alternative convene formats, including going virtual and online. It has enormous impact on how we organize, run, and support a conference now and in the future by introducing new requirements, challenges, as well as opportunities. Today, the requirement for conference open access (OA) remains unclear and it presents a great opportunity for IEEE to develop a leading and influential position on its direction. Thus, we must have a comprehensive understanding of current and future needs from related communities, take initiatives to increase our awareness of competition and threats, work on opportunities beyond the current scope of IEEE, and get our organization, policies, and infrastructure prepared for the upcoming changes and challenges.

We must broadly involve IEEE volunteers to address the challenges and materialize identified opportunities. Working together, we need to develop solutions that are IEEE members focused, cost effective, valuable and sustainable for the long term. We should continue to push for operational excellence in IEEE conferences business; make IEEE conference services more cost effective and competitive; streamline various processes and procedures in conference support; optimize the financial process and structure; improve financial transparency and accountability; and minimize the financial and legal risks.