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March 2018

NEWS

UPCOMING SSCS WEBINARS



New Trends in Analog Filters

Thursday, April 19, 2018

11:00 AM ET

**Presenter: Professor Antonio Liscidini,
University of Toronto, Canada**

Abstract: Filters are fundamental building blocks in the analog based band section of a wireless transceivers. In both receiver (RX) and transmitter (TX) sides, the use of an analog filter allows to reduce the dynamic range requirements of the following stages. In this webinar,

three different approaches will be discussed. The first will be the class of pipe filters where the fundamental kT/C limit is somehow overcome by high-pass shaping the noise in the filter pass-band. In the second part of the webinar, the concept of adaptivity will be analyzed by presenting a low pass filter able to automatically adapt its filter transfer function upon the strength of the interferers at its input. The webinar will end with a discussion about passive switch capacitor filters. In this section it will be introduced a new continuous time model for switched capacitor circuits able to characterize the capability of time-variant systems to implement non-reciprocal network with only passive element. This characteristic will be also the key to the implementation of complex conjugate poles in passive switched capacitor structure.

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Nyquist-Rate Healthcare: Silicon Systems to Close the Sub-Sampling Gap in Health Monitoring
Wednesday, April 25, 2018
12:00 PM ET
Presenter: Professor Amin Arbabian, Stanford University

Abstract: Advances in healthcare technologies have mainly focused on therapeutics, interventional procedures, and late-stage/ 'post-symptom' diagnostics. These steps have undergone significant improvements, leading to higher survival rates and enhancements in quality of life. Nevertheless, current trends are unsustainable due to the inadequate outcomes on specific critical diseases and skyrocketing national healthcare costs. An important example is cancer, where mortality rates have not seen major improvements, even with the tremendous technological advances in diagnostic imaging tools over the last four decades.

In this talk I will outline our efforts in better marrying technology and healthcare with new systems that 1) enable continuous "Nyquist rate" imaging and screening tools to enable preventive/predictive care, and 2) introduce smart implants for precision monitoring and closed-loop therapies. Preventive screening through continuous monitoring has the potential to fundamentally revamp our understanding of disease as well as targeted therapy. Today, the human body is monitored infrequently, perhaps on an annual basis and with a low "resolution". This is in contrast with advanced electronic systems (many of which our community designs and ships), which are frequently monitored and calibrated. I will summarize a few example projects that aim to address these issues, including portable, semiconductor-based, "Tricorder" imaging systems, ultrasound-powered implantable devices that can measure, detect, and act upon local physiological changes through closed-loop neuromodulation or "electroceuticals", and finally our new investigation of a noninvasive methods of neuromodulation based on ultrasonic excitation.

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Have you attended an SSCS webinar? Attendees of upcoming and past webinars have the opportunity to earn professional development hours. Certificates of completion are offered to participants who view a webinar. A certificate of completion confirms one hour of professional development. After you attend the webinar, you may request a certificate of completion by completing the form [HERE](#).

Upcoming SSCS

Micro-Mentoring Session at CICC 2018

Tuesday, April 10th
6 PM
Shutters I & II Room, DoubleTree
Mission Valley, San Diego



- Complimentary event for all students, faculty, & engineers within 15 years of their first degree, even if not registered for the conference.
- Leading experts from industry and academia, IEEE SSCS Executives and Distinguished Leaders will share their experiences
- 1 on 1 answers to all your questions on publications, entrepreneurship, industry vs. academia and career coaching.
- Free SSCS T-Shirt to event attendees and all student participants get 1-year complimentary SSCS membership.
- Learn about SSCS member benefits for young engineers & students, such as complimentary ISSCC tutorials and short courses, SSCS webinars, distinguished lecturers sponsored by SSCS to present at your region, \$1,500 conference travel grants for SSCS volunteer leaders and more...

[Click here to view](#) the video from the 2017 Young Professionals Event.

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*Walk-in's are also
welcome!*



SSCS Members can Join CASS for Just \$5

As a member of the IEEE Solid-State Circuits Society, you can add [IEEE Circuits and Systems Society \(CASS\)](#) annual membership for just \$5.

More than 20% of SSCS members are already members of CASS.

If you have not yet renewed for 2018, join CASS for just \$5 by entering promotion code SSCXCAS2018 at checkout. If you have already renewed for 2018, sign in with your [IEEE account](#) and the discounted CASS membership will be present in your cart.

EDUCATION

April 2018 Distinguished Lectures

CHAPTER	TALK DETAILS	DATE	LOCATION
SSCS Montreal Chapter	TBD by David Stoppa	April 6, 2018	Polytechnique Montreal Click here for more information
SSCS Japan	Lighting the Network by Hyeon-Min Bae	April 6, 2018	University of Tokyo Click here for more information
SSCS San Diego	Energy-Efficient Deep Learning: Challenges and Opportunities by Vivienne Sze	April 10, 2018	Qualcomm San Diego Click here for more information
SSCS Vancouver	On-Chip Epilepsy Detection: Where Machine Learning Meets Patient-Specific Wearable Healthcare - Presented by Jerald Yoo	April 12, 2018	Location TBD Click here for more information

CONFERENCES

Upcoming Conferences

<u>2018 IEEE Custom Integrated Circuits Conference (CICC)</u> San Diego, CA	April 8 - 11, 2018
<u>2018 International Symposium on VLSI Technology, Systems and Application (VLSI-TSA)</u> Hsinchu, Taiwan	April 16 - April 19, 2018
<u>2018 International Symposium on VLSI Design, Automation and Test (VLSI-DAT)</u> Hsinchu, Taiwan	April 16-19, 2018
<u>2018 IEEE Radio Frequency Integrated Circuits Symposium (RFIC)</u> Philadelphia, PA	June 10 - 12, 2018
<u>2018 IEEE Symposium on VLSI Technology</u> Honolulu, HI	June 18 - 22, 2018
<u>2018 IEEE Symposium on VLSI Circuits</u> Honolulu, HI	June 18 - 22, 2018
<u>2018 IEEE/ACM International Symposium on Low Power Electronics and Design (ISLPED)</u> Seattle, WA	July 23 - 25, 2018
<u>ESSCIRC/ESSDERC 2018 - 44th European Solid-State Circuits Conference/44th European Solid-State Device Research Conference</u> Dresden, Germany	September 3 - 6, 2018
<u>2018 IEEE BiCMOS and Compound Semiconductor Integrated Circuits and</u>	October 14 - 17, 2018

<u>Technology Symposium (BCICTS)</u> San Diego, CA	
<u>2018 IEEE Biomedical Circuits and Systems Conference (BioCAS)</u> Cleveland, OH	October 17 - 19, 2018
<u>2018 IEEE Asian Solid-State Circuits Conference (A-SSCC)</u> Tainan, Taiwan	November 5 - 7, 2018

2018 RFIC Symposium

June 10 - 12, 2018

Philadelphia, Pennsylvania

We cordially invite you to participate in the **2018 IEEE Radio Frequency Integrated Circuits Symposium (RFIC 2018)**. This international event will be held in Philadelphia, PA from 10-12 June, 2018. The RFIC Symposium is the premier integrated circuit (IC) design conference focused exclusively on the latest advances in RF, microwave, and millimeter-wave IC technologies and designs, as well as innovations in high-frequency analog/mixed-signal ICs and ultra-low power radios. With a wide range of papers from industry and academia, all attendees will find plenty of relevant and technically interesting topics to choose from!

The RFIC Symposium is an annual IEEE conference that is co-located with the International Microwave Symposium (IMS), ARFTG, and the Industry Exhibition to form "Microwave Week", the largest worldwide RF/microwave technical meeting of the year. This year, the Microwave week key themes are "Microwaves, Medicine, and Mobility", and the 2018 International Microwave Biomedical Conference (IMBioC) will be part of the Microwave Week in parallel to IMS, RFIC, and ARFTG. The Microwave Week will be held at the Pennsylvania Convention Center in Philadelphia, PA. In addition to the vast array of technical content, attendees will have the opportunity to interact with world experts, expand their networks, and leave invigorated with new ideas and a drive to innovate.

The 2018 RFIC Symposium will begin on Sunday, 10 June 2018, with 12 RFIC focused workshops (8 full day and 4 half day). In addition, there will be several joint RFIC/IMS workshops on Sunday and Monday. These workshops cover a wide range of advanced topics in RFIC technology and IC design, including 5G systems and beyond.

12 Sunday RFIC Focused Workshops include the following topics:

- RFIC Design in CMOS FinFET and FD-SOI
- ICs for Quantum Computing and Quantum Technologies
- 5G mm-Wave Power Amplifiers, Transmitters, and Beamforming Techniques with Massive MIMO
- eXtreme-bandwidth architecture for RF and mmW transceivers in nanoscale CMOS
- Integrated mm-wave & THz sensing technology for automotive, industrial and healthcare
- Advanced integrated RF filtering circuits and techniques
- Synthesizer Design and Frequency Generation/Synchronization Schemes for High-Performance Wireless Systems
- High-performance WLAN Transceiver Design and Calibration Techniques
- High Efficiency Power Amplification for Emerging Wireless Communication Solutions from Devices to Circuits and Systems
- Millimeter-wave Systems, Manufacturing, Packaging and Built-in Self-Test
- Towards Direct Digital RF Transceivers
- Ultra Low-Power Transceiver SoC Designs for IoT Applications

Following the full day of workshops, the RFIC Plenary Session will be held on Sunday evening beginning with conference highlights, the presentation of the Student Paper Awards, and the Industry Paper Awards. The plenary session talks begin with Mr. Zachary J. Lemnios, Vice President of Science, Technology, and Government programs at IBM research, who will talk about "Compact Silicon Integrated mmWave Circuits: From Skepticism to 5G and Beyond"; the second talk will be given by NXP's Automotive Chief Technology Officer, Mr. Lars Reger, who will share his vision on "The road ahead for autonomous cars - what's in for RFIC". Immediately following the plenary session will be the RFIC reception that will highlight our industry showcase and student paper finalists in an engaging social and interactive technical evening event supported by the RFIC Symposium corporate sponsors. You will not want to miss the RFIC Reception this year!

On Monday and Tuesday, RFIC will have multiple tracks of oral technical paper sessions as well as the popular Interactive Forum poster session.

17 Technical Paper Sessions on Monday and Tuesday include the following topics:

- Building Blocks for 5G Transceivers
- Advances in Packaging, Modeling and Optical Phased Arrays
- Techniques for High-Performance Frequency Synthesis
- 28 GHz Phased Arrays, Beamformers and Sub-Components for 5G Applications
- Technology Optimization for RF Applications
- ADC-Based RF/Mixed-Signal Systems and Wireline Transceiver Techniques
- RF Front-Ends for Emerging Wireless Paradigms
- Mixed Signal Transmitters and Power Amplifiers
- cm/mm-Wave CMOS Integrated Phased-Array Building Blocks
- Ultra-Low Power Radios for Security, Ranging and Connectivity
- Silicon Integrated mm-Wave Transmitters
- Highly Efficient mm-Wave Oscillators with Wide Tuning Range
- mm-Wave Power Amplifiers
- Submillimeter Wave and Terahertz ICs
- mm-Wave Radar and Beamforming Transceivers
- mm-Wave LNAs and RF Receiver Front-Ends
- Wireless Transceivers and Transmitters for Connectivity and Cellular

Enlightening lunchtime panels focusing on the Microwave Week key themes will be featured on both days. The Monday panel session, titled "How will the future self-driving cars see? Lidar vs Radar", will cover the state of the art in radar and lidar technologies and attempt to draw contrasts between the two approaches in the context of self-driving cars. The Tuesday panel session, titled "Can a residential wireless Gbps internet connection compete with wired alternatives?", will convene expert panelists to discuss some of the technology advancements that are enabling Gbps internet connections and will debate the merits of both the wired and wireless technology alternatives. Please make sure to bring your engaging opinions and questions to both panel sessions and they will be highly interactive!

The 5G Summit technical sessions on Tuesday will provide high-level 5G overview presentations that will complement the 5G-focused RFIC technical sessions on Monday morning. A separate registration will be required for the 5G Summit sessions. On behalf of the RFIC Steering and Executive Committees, we welcome you to join us at the 2018 RFIC Symposium in Philadelphia, Pennsylvania!

Please visit the RFIC 2018 website (<http://rfic-ieee.org/>) for more details and updates.

CALL FOR PAPERS

ESSCIRC/ESSDERC 2018: Call for Papers

European Solid-State Device Research Conference

European Solid-State Circuits Conference

September 3-6, 2018
Dresden, Germany

The aim of **ESSDERC and ESSCIRC** is to provide an annual European forum for the presentation and discussion of recent advances in solid-state devices and circuits. The level of integration for system-on-chip design is rapidly increasing. This is made available by advances in semiconductor technology. Therefore, more than ever before, a deeper interaction among technologists, device experts, IC designers and system designers is necessary. While keeping separate Technical Program Committees, ESSDERC and ESSCIRC are governed by a common Steering Committee and share Plenary Keynote Presentations and Joint Sessions bridging both communities. Attendees registered for either conference are encouraged to attend any of the scheduled parallel sessions, regardless to which conference they belong.

Although not limited, papers are solicited for the following main topics:

ESSDERC

CMOS Devices and Technology - CMOS scaling, Novel MOS device architectures; Circuit/device interaction and co-optimization; High-mobility channel devices; CMOS front-end or back-end processes; Interconnects; Integration of RF or photonic devices; 3D integration. Frontend and back-end manufacturing processes; 3D integration and wafer-level packaging; Reliability and characterization of materials, processes and devices; Advanced interconnects; ESD, latch-up, soft errors, noise and mismatch behavior, hot carrier effects, bias temperature instabilities, and EMI; Defect monitoring and control; Metrology; Test structures and methodologies; Manufacturing yield modeling, analysis and testing.

Opto-, Power and Microwave Devices - New device or process architectures; New phenomena and performance improvement of optoelectronic, high voltage, smart power, IGBT, microwave devices; Passive devices, antennas and filters (including Si, Ge, SiC, GaN); Optoelectronic devices including sensors, LEDs, semiconductor lasers; Photovoltaic devices; Studies of high temperature operation; IC cooling and packaging aspects. Reliability and characterization of materials, processes and devices.

Physical Modeling of Materials and Devices - Numerical, analytical and statistical modeling and simulation of electronic, optical or hybrid devices, the interconnect, isolation and 2D or 3D integration; Aspects of materials, fabrication processes and devices e.g. advanced physical phenomena (quantum mechanical and non-stationary transport phenomena, ballistic transport, ...); Mechanical or electrothermal modeling and simulation; DfM. Reliability of materials and devices

Compact Modeling of Devices and Circuits - Compact/SPICE modeling of electronic, optical, organic, and hybrid devices and their IC implementation and interconnection. Topics include compact/SPICE models and their Verilog-A standardization of the semiconductor devices (including Bio/Med sensors, MEMS, Microwave, RF, High voltage and Power), parameter extraction, compact models for emerging technologies and novel devices, performance evaluation, reliability, variability, and open source benchmarking/implementation methodologies. Modeling of interactions between process, device, and circuit design as well Foundry/Fabless Interface Strategies

Memory Devices and Technology - Embedded and stand-alone memories; DRAM, FeRAM, MRAM, ReRAM, PCRAM, Flash, Nanocrystal and single/few-electron memories, Organic memories, NEMS-based devices, Selectors; Novel memory cell concepts and architectures, covering device physics, reliability, process integration and manufacturability issues and including 3D NAND Flash, crosspoint arrays, and 3D systems integration; Devices and concepts for neuromorphic computing, memory-enabled logic and security applications.

Sensor Devices and Technology - Design, fabrication, modeling, reliability, packaging and smart systems integration of actuators (discrete SoC, SiP, or heterogenous 3D integration); MEMS, NEMS, optical, chemical or biological sensors; Display technologies; High-speed imagers; TFTs; Organic and flexible substrate electronics.

Emerging non-CMOS Devices and Technologies - Novel non-CMOS materials, processes and devices, (carbonnanotubes, nanowires and nanoparticles, 2D materials, graphene, metal oxides, ...) for electronic, optoelectronic, sensor & actuator applications; Reliability and characterization of materials, processes and devices; Molecular and quantum devices; Nanophotonics, plasmonics, spintronics, self-assembling methods; Energy harvesters; High frequency digital and analog devices including THz; New high-mobility channels (strained Si, Ge, SiGe).

ESSCIRC

Analog - OP-Amps and instrumentation amplifiers; CT and DT filters; SC circuits, Comparators; Voltage and current references; high voltage circuits; Nonlinear analog circuits; Digitally assisted analog circuits.

Data Converters - Nyquist-rate and oversampling A/D and D/A converters; Sample-hold circuits; Time-to-digital converters; ADC and DAC calibration/error correction circuits

RF and mm-Wave - RF/IF building blocks like LNAs, mixers, power amplifiers, IF amplifiers; Power detectors; Subsystems for RF, mm-wave and THz design

Frequency Generation - Modulators/demodulators; VCOs; PLLs; DLLs; Frequency synthesizers; Frequency dividers; Integrated passive components.

Wireless and Wireline Systems - Receivers/transmitters/transceivers for wireless/wireline systems Gigabit serial links; Clock and data recovery; Equalization; Advanced modulation systems; Base station and handset applications; TV/radio/satellite receivers and transmitters; Radars.

Sensors, Imager and Biomedical - Sensor subsystems and interfaces; Accelerometers; Temperature sensing; Imaging and smart imaging chips; AMOLED; MEMs subsystems; RF MEMs; Implantable electronic ICs; Biomedical imagers; Bio-MEMs integrated systems; Lab-on-chip; Organic LED and liquid-crystal-display interface circuits; Flat panel and projection display.

Digital, Security and Memory - Techniques for energy efficient and high performance digital circuits; I/O and inter-chip communication; Reconfigurable digital circuits; Security and encryption circuits; Clocking; Arithmetic building blocks; Memories; Microprocessors; DSPs; Memory interfacing; Bus interfacing; Many core and multirate ICs; 3D integration.

Power Management - Energy transducers; Power regulators; DC-DC converters; Energy-scavenging circuits; LDOs Boost-buck-converters; LED and gate drivers; Sequencers and supervisors; Green circuits.

Important Information

Manuscript guidelines as well as instructions on how to submit electronically will be available on the [conference website](#). Papers must not exceed four A4 pages with all illustrations and references included.

All submissions must be received by 3 April 2018.

BioCAS 2018: Call for Papers

Biomedical Circuits and Systems Conference

**October 17 - 19, 2018
Cleveland, OH**

BioCAS 2018 is a premier international forum for presenting the interdisciplinary research and development activities at the crossroads of medicine, life sciences, physical sciences and engineering that shape tomorrow's medical devices and healthcare systems.

This conference brings together members of our communities to broaden their knowledge in emerging areas of research at the interface of the life sciences and the circuits and systems engineering. The three-day single-track program for BioCAS 2018 is multidisciplinary in topics including but not limited to:

Biomedical Technologies

- * Assistive, Rehabilitation, and Quality of Life Technologies
- * Biofeedback, Neuromodulation, and Closed-Loop Systems
- * Bio-Inspired and Neuromorphic Circuits and Systems
- * Biosensor Devices and Interface Circuits
- * Biotelemetry and Energy Harvesting/Scavenging Circuits and Systems
- * Body Area/Sensor Network and Wireless/Wearable Health Monitoring
- * Electronics for Neuroscience
- * Implantable Medical Electronics
- * Lab-on-Chip and BioMEMS

Biomedical Applications

- * Point-of-Care Technologies for Healthcare
- * Biomedical Imaging and Image Processing
- * Biosignal Recording, Processing, and Machine Learning
- * Genomics and Systems Biology
- * Human-Machine Interfaces
- * Medical Information Systems and Bioinformatics

Submission Guidelines

The complete 4-page paper (in standard IEEE double-column format), including the title, authors' names, affiliations and e-mail addresses, as well as a short abstract and an optional demonstration video link (3 minute max) are requested. Papers must be submitted electronically in PDF format through www.biocas2018.org.

Important Dates

Monday, April 23, 2018: Special Session Proposal Deadline
Monday, June 11, 2018: Regular Paper Submission Deadline
Monday, July 16, 2018: Live Demo Session deadline
Monday, August 13, 2018: Author Notification Date
Friday, August 31, 2018: Author Registration/Final Paper Submission Deadline

A-SSCC 2018: Call for Papers IEEE Asian Solid-State Circuits Conference

Conference Theme: Silicon Enabling Mobile Intelligence

The miniaturized silicon technology enabled big success in the realization of software solutions such as machine learning, big data, virtual and augmented reality in the image and speech recognition, the medical diagnosis and the autonomous driving automobiles. The current software solutions, however, consume huge power by employing cloud computers along with many graphic processing units and a large amount of memory. Nowadays, the integrated circuit design community tries to develop efficient low-power mobile intelligence solutions by taking challenges in the design of digital and analog circuits, processor architecture, and system for compact IoT devices.

Prospective authors are invited to submit four-page or two page (NEW) manuscripts, including figures, tables, and references to the official A-SSCC 2018 website. The two-page submission can include two-page supplements with figures and figure captions. All papers will be handled and reviewed electronically.

Papers are solicited in the following categories:

Regular Session

- 1. Analog Circuits & Systems:** Amplifiers, comparators, switched capacitor circuits, continuous-time & discrete-time filters, voltage/current references; DC-DC converters, power-control circuits; IF/baseband analog circuits, AGC/VGA; non-linear analog circuits.
- 2. Data Converters:** Nyquist-rate and oversampling A/D and D/A converters, time-to-digital converters, and capacitance-to-digital converters; sub-circuits for data converters including sample-and-hold circuits, calibration circuits, etc.
- 3. Digital Circuits & Systems:** Design, fabrication, and test of digital VLSI systems; high-speed low-power digital circuits, power-reduction and management methods for digital VLSI, ultra-low-voltage and sub-threshold logic design; leakage reduction techniques; clock distribution, I/O circuits, reconfigurable logic-array circuits; supply/substrate noise measurement and cancellation for digital VLSI, variation and fault-tolerant circuits.
- 4. SoC & Signal Processing Systems:** System-on-chip(including 3D integration), microprocessors, network processors, baseband communication processing system & architectures, system-level power management; multimedia and recognition processing systems; cryptographic, security, machine-learning, deep-learning, and neuromorphic circuits and systems; bio-medical/neural-network processors and sensor network systems.
- 5. RF:** Receivers/transmitters/transceivers for wireless systems; narrowband RF, ultra-wideband and millimeter-wave circuits; circuits and building-blocks including RF front-end, LNA, mixer, power amplifiers, VCOs, frequency synthesizers, RF filters, RF switches, power detectors, active antennas.
- 6. Wireline:** Receivers/transmitters/transceivers for wireline systems; optical/electrical data links and backplane transceivers; power-line communication; clock generation circuits, PLL, DLL, spread-spectrum clock generation; building blocks for high-speed wireline communication; analog-digital mixed-mode circuits.
- 7. Emerging Technologies and Applications:** Advanced system designs and circuit solutions for technologies and applications including state-of-the-art devices and packaging technologies; flexible and printable electronics; smart sensors and transducers; MEMS for analog, RF, and sensor applications; image sensors and displays; energy harvesting systems; transceiver systems; medical/bio-electronics/bio-inspired chip design and silicon systems.
- 8. Memory:** Volatile and Non-volatile memory; new memory designs for 3D/2D architectures, emerging devices such as resistive-/phase change-/magnetic-/ferro-electric- memory devices; data storage and multi-bit-cell memory design; cache-memory system, multi-port memory, memory subsystem, processing in memory, and CAM design; yield-enhancing and ECC techniques; memory testing and built-in self-test.

Special Session

- 1. Industry Program:** This special category accepts only papers based on state-of-the-art industrial products. Strong emphasis on systems realized by silicon chips is encouraged. The papers should cover architecture, circuits, process technology, packaging and testing, including characterization results, die and system photos, as well as product demos.
- 2. Student Design Contest:** A student design contest is held among the accepted papers with system prototypes or measurement results of which operations can be demonstrated on-site. Refer to the web for further information.
- 3. FPGA Session (NEW) :** This session accepts papers describing FPGA implementation with

novel algorithm and/or architecture. The demo results(eg. video or slide) must be included in the paper submission. The authors of accepted papers are required to participate in demo sessions.

Papers related to integrated circuits for intelligent systems are highly solicited. Papers on low-power and/or low-voltage approaches, signal integrity, noise, test, and manufacturability for all the above categories are welcomed. Measurement results are highly recommended, especially for analog, and RF categories. Design methodologies for SiP, and SoC are included in the scope of the conference; the papers only describing CAD tools and CAD algorithms are not considered. Authors must follow detailed instructions provided within the "Authors" section of the website, including the Authors' Guide and Pre-publication Policy. The technical content beyond the abstract of the accepted paper must not be announced, published, or in any way put in the public domain prior to the Conference. Extended versions of selected papers from the Conference will be published in a Special Issue of the IEEE Journal of Solid-State Circuits.

Important Dates

Paper Submission: June 3, 2018 (20:00 GMT)

Acceptance Notification: August 6, 2018

Final Paper Submission: September 9, 2018

PUBLICATIONS

Call for Applications and Nominations: *Editor-in-Chief of the IEEE Transactions on Very Large Scale Integration (VLSI Systems)*

The IEEE Transactions on Very Large Scale Integration (VLSI) Systems (TVLSI) is published as an archival monthly journal under the co-sponsorship of the IEEE Circuits and Systems Society, the IEEE Computer Society, and the IEEE Solid-State Circuits Society. We are currently seeking nominations and applications for the position of the Editor-in-Chief(EIC) of the IEEE TVLSI for the publication years 2019 and 2020.

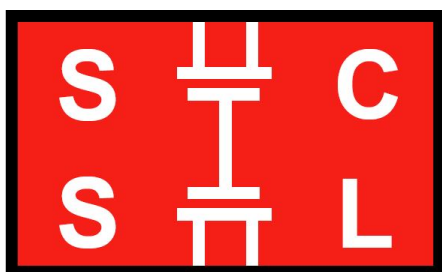
The design and realization of microelectronic systems based on nanometer VLSI technologies require multidisciplinary collaboration in the fields of systems architecture, logic and circuit design, integrated circuit fabrication, packaging, testing, systems applications, novel systems platforms (such as 3-D integration), and emerging technologies. Generation of specifications, design, and verification must be performed at all abstraction levels, including the system, register-transfer, logic, circuit, transistor, process, and materials levels. The IEEE TVLSI serves as a common forum to address these critical areas. The editorial board, consisting of international experts, invites original papers which emphasize and focus on the novel systems integration aspects of microelectronic systems, including interactions among systems design and partitioning, logic and memory design, digital and analog circuit design, physical design, layout synthesis, CAD tools, integrated circuit fabrication, testing and packaging, emerging technologies, and systems level design and analysis. Coverage of these Transactions will therefore focus on nanometer VLSI systems integration. For more information on the journal, refer to and <http://tvlsi.egr.duke.edu>.

Applicants must have strong, relevant experience in roles such as author, reviewer, and associate editor for TVLSI and/or other related journals, and/or a technical program chair or similar roles in high-quality, peer-reviewed conferences. To attract high-quality papers to the journal, the EIC must also be a well-recognized leader in his/her areas of expertise. Key qualities of the EIC are an outstanding understanding of the needs of the

research community at academic as well as industrial and government laboratories, awareness of changing emphases in research areas and development of emerging fields, plus the administrative skills to manage the editorial cycle in a timely fashion. The EIC must also be able to attract respected experts to his/her editorial board. The EIC must have good interpersonal skills to maintain good rapport with authors, editors, reviewers, and the IEEE staff. Applications or nominations must include an application/nomination letter, a complete curriculum vitae (CV), a personal statement summarizing their vision and plans for TVLSI, and also a letter from their employer indicating support for the EIC activity. The target start date for the new EIC is January 1, 2019.

Please send an email with the materials as a single zip file and with the subject line 'IEEE TVLSI EIC application' to: henkel@kit.edu
(Make sure to receive a confirmation within two days of submission)

Deadline for submission: April 30th 2018.



IEEE Solid-State Circuits Letters - Officially Launches

We're happy to announce that our new publication, IEEE Solid-State Circuits Letters, has launched. We are now accepting paper submissions.

For more information, visit:

<http://sscs.ieee.org/publications/ieee-solid-state-circuits-letters-ssc-l>

For paper submission, visit:

<https://mc.manuscriptcentral.com/ssc-l>

The latest in SSCS Flagship Publications...



IEEE Journal of Solid-State Circuits

Vol. 53, Issue 4, April 2018

New Associate Editors

Jan Craninckx

[Introduction to the Special Issue on the 2017 Symposium on VLSI Circuits](#)

Makoto Ikeda ; Ken Chang

[A High Energy Efficient Reconfigurable Hybrid Neural Network Processor for Deep Learning Applications](#)

Shouyi Yin ; Peng Ouyang ; Shibin Tang ; Fengbin Tu ; Xiudong Li ; Shixuan Zheng ; Tianyi Lu ; Jiangyuan Gu ; Leibo Liu ; Shaojun Wei

[BRin Memory: A Single-Chip Binary/Ternary Reconfigurable in-Memory Deep Neural Network Accelerator Achieving 1.4 TOPS at 0.6 W](#)

Kota Ando ; Kodai Ueyoshi ; Kentaro Orimo ; Haruyoshi Yonekawa ; Shimpei Sato ; Hiroki Nakahara ; Shinya Takamaeda-Yamazaki ; Masayuki Ikebe ; Tetsuya Asai ; Tadahiro Kuroda ; Masato Motomura

[Recryptor: A Reconfigurable Cryptographic Cortex-M0 Processor With In-Memory and Near-Memory Computing for IoT Security](#)

Yiqun Zhang ; Li Xu ; Qing Dong ; Jingcheng Wang ; David Blaauw ; Dennis Sylvester

[A 4 + 2T SRAM for Searching and In-Memory Computing With 0.3-V VDDmin](#)

Qing Dong ; Supreet Jeloka ; Mehdi Saligane ; Yejoong Kim ; Masaru Kawaminami ; Akihiko Harada ; Satoru M

[Exploiting Approximate Feature Extraction via Genetic Programming for Hardware Acceleration in a Heterogeneous Microprocessor](#)

Hongyang Jia ; Naveen Verma

[An Adaptive-Clocking-Control Circuit With 7.5% Frequency Gain for SPARC Processors](#)

Tetsutaro Hashimoto ; Yukihito Kawabe ; Michiharu Hara ; Yasushi Kakimura ; Kunihiro Tajiri ; Shinichiro Hirota ; Ryuichi Nishiyama ; Hitoshi Sakurai ; Hiroshi Okano ; Yasumoto Tomita ; Sugio Satoh ; Hideo Yamashita

[A Digitally Controlled Fully Integrated Voltage Regulator With 3-D-TSV-Based On-Die Solenoid Inductor With a Planar Magnetic Core for 3-D-Stacked Die Applications in 14-nm Tri-Gate CMOS](#)

Harish K. Krishnamurthy ; Sheldon Weng ; George E. Mathew ; Nachiket Desai ; Ruchir Saraswat ; Krishnan Ravichandran ; James W. Tschanz ; Vivek De

[Double Pile-Up Resonance Energy Harvesting Circuit for Piezoelectric and Thermoelectric Materials](#)

Kye-Seok Yoon ; Sung-Wan Hong ; Gyu-Hyeong Cho

[A Stacked CMOS Image Sensor With Array-Parallel ADC Architecture](#)

Tomohiro Takahashi ; Yuichi Kaji ; Yasunori Tsukuda ; Shinichiro Futami ; Katsuhiko Hanzawa ; Takahito Yamauchi ; Ping Wah Wong ; Frederick T. Brady ; Phil Holden ; Thomas Ayers ; Kyohei Mizuta ; Susumu Ohki ; Keiji Tatani ; Hayato Wakabayashi ; Yoshikazu Nitta

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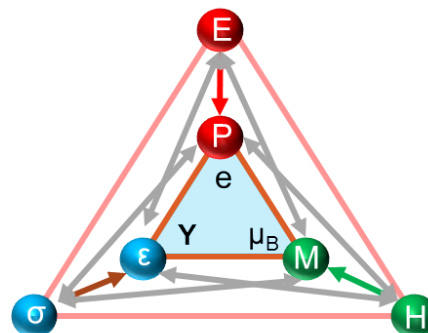
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