new Double-Blind Paper Review

ISSCC 2017 Call for Papers

IEEE International Solid-State Circuits Conference

Sunday-Thursday, February 5-9, 2017

San Francisco Marriott Marquis, San Francisco, CA

ISSCC website: http://www.isscc.org

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The Theme of ISSCC 2017 is "Intelligent Chips for a Smart World":

Advancements in solid-state circuits and systems continue to propel the ongoing fusion between the physical and virtual worlds. With the resulting growth in sensor deployment, data traffic, and data-center workloads, future systems must employ "intelligent" chips at all levels of the system stack to improve the efficiency at which we acquire, network, store, and process information. Modern applications centered around the Internet of Everything (IoE) and real-time data analytics are driving circuit and system designers toward new ways of leveraging the immense device density and processing power of modern technology. ISSCC 2017 is seeking innovations that will fuel further progress in this development toward a truly smart and interconnected world.

Innovative and original papers are solicited in subject areas including (but not limited to) the following:

ANALOG: Amplifiers, comparators, oscillators, filters, references, regulators, DC-DC converters; power control and management circuits, energy-harvesting circuits; nonlinear analog circuits; digitally-assisted analog circuits.

DATA CONVERTERS: Nyquist-rate and oversampling A/D and D/A converters; time-to-digital converters.

DIGITAL ARCHITECTURES & SYSTEMS: General-purpose microprocessors, micro-controllers, application processors, graphics processors, network processors, digital baseband processors, multi-mode communications systems, video and multimedia, machine-learning/deep-learning systems, neuromorphic systems, cryptographic systems, special function acceleration, system-level power management, near-threshold/subthreshold processing for wearable/IoE applications, digital architectures and systems for emerging applications (e.g. virtual reality, artificial intelligence, autonomous vehicles).

DIGITAL CIRCUITS: Building blocks for 2D/3D SoC: including special-purpose digital circuits, intra-chip communication circuits, clock distribution techniques, soft-error and variation-tolerant circuits. Circuits for power management in digital applications: including voltage regulators, adaptive digital circuits, digital sensors; Sub-threshold and Near-threshold circuits; PLLs for digital clocking applications. Circuits for neuro-computing; Hardware security circuits (e.g. PUF).

IMAGERS, MEMS, MEDICAL, & DISPLAYS: Image sensors and companion chips; image-sensor SoCs; MEMS for analog, RF, timing and sensor applications; smart sensors, thermal sensors, ultrasonic sensors; sensor- and transducer-interface circuits; neural interfaces and closed-loop systems; biosensors, microarrays, and lab-on-a-chip; environmental and wearable electronics; biomedical SoCs; display and touch electronics, flexible displays, and displays with integrated sensing functionality.

MEMORY: Static, dynamic, and non-volatile memories for stand-alone and embedded applications; memory/SSD controllers; high-bandwidth I/O interfaces; memories based on phase-change, magnetic, spin-transfer-torque, ferroelectric, and resistive materials; array architectures and circuits to improve low-voltage operation, power reduction, reliability, and fault tolerance; memory subsystem enhancements, including in-memory logic functions.

RF CIRCUITS and WIRELESS SYSTEMS*: Building blocks and complete solutions at RF, mm-Wave, and THz frequencies for receivers, transmitters, frequency synthesizers, transceivers, SoCs, and SiPs. Innovative circuit-level and system architecture solutions for established wireless standards and future systems or applications.

TECHNOLOGY DIRECTIONS: Emerging IC and system solutions for: biomedical, sensor interfaces, analog signal processing, power-management, computation, data storage, security, and communication; non-silicon-, carbon-, organic-, metal-oxide-, compound-, wide-bandgap-semiconductor-, and nano-electronics circuits; flexible, large-area, stretchable, and printable electronics; 3D integration; spintronics; quantum, optical, new-device, and non-transistor-based circuits.

WIRELINE: Receivers/transmitters/transceivers for wireline systems, including backplane transceivers, optical links, chip-to-chip communications, 2.5/3D interconnect, copper cable links, and equalizing on-chip links; exploratory I/O circuits for advancing data rates, power efficiency, and equalization; building blocks for wireline transceivers (such as AGCs, analog and ADC/DAC-based front ends, equalizers, clock generation, and distribution circuits including PLLs, line drivers, and hybrids).

*Papers submitted to this category will be reviewed by either the RF or Wireless Subcommittees.

Firm Deadline for Electronic Submission of Papers:

Monday, September 12, 2016 • 3:00PM Eastern Daylight Time (19:00 GMT)

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Student Activities

Student-Research Preview (SRP): This session provides students with the opportunity to showcase the directions of their work, and to exchange experiences with other students and researchers from academia and industry. SRP is organized as an Evening Session consisting of a short introduction of work-in-progress followed by a poster presentation. The outstanding poster presentation(s) will be recognized at the next Conference. The abstract submission deadline for SRP is October 24, 2016. Refer to the ISSCC Website for further information. SRP presenters may apply for partial travel support.

Silkroad Award: The winner(s) are selected from first-time student-presenting authors at ISSCC whose research is conducted in an emerging region in the Far East.

Demonstration Sessions:

ISSCC 2017 will host two demonstration sessions. Authors from regular-paper sessions are eligible for consideration. The sessions will be held during the Conference social hours on Monday and Tuesday. At these sessions, authors of selected papers will employ posters to augment their demonstration. The outstanding demonstration(s) will be recognized at the next Conference. To be considered for participation in the demonstration sessions, authors must indicate their interest at the time of paper submission by including a one-page description of their potential demonstration which may include an additional illustrative figure. Refer to the ISSCC Website for further information.

ELECTRONIC SUBMISSION OF ABSTRACT, DRAFT MANUSCRIPT, AND PRE-PUBLICATION MATERIAL:

Authors should submit 3 items for review: 1) Questionnaire; 2) An informative and quanified **Title** and **Abstract**; 3) A **Draft Manuscript**.

The submission Website will be available starting July 1, 2016. You may consult the Website for instructions at any time after this date. To submit a paper go to the ISSCC Website, complete the questionnaire and upload the requested information including the Title, Abstract, Draft Manuscript, etc. Authors are encouraged to register early on the Website and complete the questionnaire, well before uploading the manuscript. This information can be updated anytime up to the September 12, 2016 deadline. During the submission process you will be asked for a suggested subject area, however this subject area may be changed by ISSCC to streamline the review process.

ADDITIONAL SUBMISSION DETAILS:

1. The **Title** and **Abstract** must be submitted to the ISSCC Website. The Abstract must not exceed 500 characters (including spaces). The Abstract must be factual and provide as complete and quantitative a description as possible, including specific and concrete performance data. Claims such as "new", "advanced", "novel", "high-performance", and "high-speed" are **NOT** acceptable! Please refer to the sample abstract on the ISSCC Website. Note that ISSCC reserves the right to modify the paper title when technically appropriate.

2. Submissions in PDF format. Two PDFs are required, as defined by templates: The first, for the draft manuscript text, is limited to 4 pages in single-column double-spaced format, using 12 pt Arial Narrow font with fewer than **7500 characters** (including spaces and 3 to 6 references in ISSCC format). Note, that this does not include the title, author list, nor affiliation list. The second, for figures, must not exceed 10 pages with one figure including caption per page. The first 7 figures, including a die photo must be referred to in the text. In addition, up to 3 optional supplementary figures can be included for review purposes. We strongly encourage you to include a comparison table as one of the figures. The manuscript text must contain all essential information, including relevant references. Papers exceeding the length limit will be immediately rejected, as requiring length editing. Complex multipart figures are not allowed (for example, Figures 2a and 2b will be counted as two figures!). Tables count, and are labeled, as figures. If a die-photo and/or comparison table is available, they can be included as part of the 7-figure limit. Supplementary figures will not be part of the final manuscript, and should not be referred to in the text of the paper, but serve ONLY as additional material for the reviewers. These 3 figures should be described with no more than 4 sentences in the captions with figures labeled as "Fig. S1, S2, S3". For further details, see the ISSCC Website.

NEW FOR ISSCC 2017 - Double-Blind Paper Review

3. Double-blind review. Paper selection for 2017 will follow a double-blind review process, meaning that both the authors and reviewers will remain anonymous during the paper-selection process. All authors must adhere to the following guidelines to conceal their identity: (1) Eliminate names, contact information, and affiliations from the entire manuscript (including PDF metadata, logos on die photos, logos on printed-circuit-board photos, etc.). (2) Cite all relevant prior work (including your own) in the third person (for example, "It has been shown that… [1]"; do not use the words "my" or "our"). Submitted (unpublished) work that is substantially related to the submission must also be cited, but in an anonymized format. Do not cite patents. (3) Eliminate acknowledgments and references to funding sources. (4) Do not contact the program committee members to solicit input on your manuscript. The identity of authors is known to the program chair/vice-chair and the subcommittee chairs; you may contact them for questions. Manuscripts that are not properly anonymized will not be considered for review. The review process will include a software-based plagiarism check. After paper selection, a final pre-publication check (using the authors' names) is applied using the guidelines summarized below. ISSCC may withdraw any paper that violates the pre-publication guidelines. For further details, see the ISSCC Website (sample manuscript, detailed instructions and FAQ on double-blind review).

The most common reason for paper rejection is a lack of clear evidence of what is novel in the work, and the extent to which it advances the state-of-the-art. Successful submissions contain specific new results, sufficient detail and data to be understood technically, circuit schematics, measured results for key elements, and tabulated comparisons with recently published work, where appropriate.

For further details on manuscript preparation, check the ISSCC Website: http://www.isscc.org, or send an email with your questions to the Director of Publications: Laura Fujino, Email: lcfujino@aol.com.

Notification of Acceptance: Authors will be notified of acceptance by October 14, 2016. A submission may be accepted as either a regular or short paper. A regular paper is allowed 30 minutes (23 minutes presentation time). A short paper is allowed 15 minutes (12 minutes presentation time). Regular and short papers must meet the same submission and quality standards. They differ only in the determination by the Program Committee of the time required to present their key ideas.

Authors of accepted papers will have an opportunity to modify their manuscript. All information removed/anonymized following the double-blind review guidelines (logo on die photo, etc.) may be added back to the final paper upon acceptance. The Program Committee may require specific additional revisions. There will be further formatting requirements for the final Digest manuscript. The presenting author is required to register for the Conference in advance.

POLICY REGARDING PAPER-SUBMISSION DEADLINE

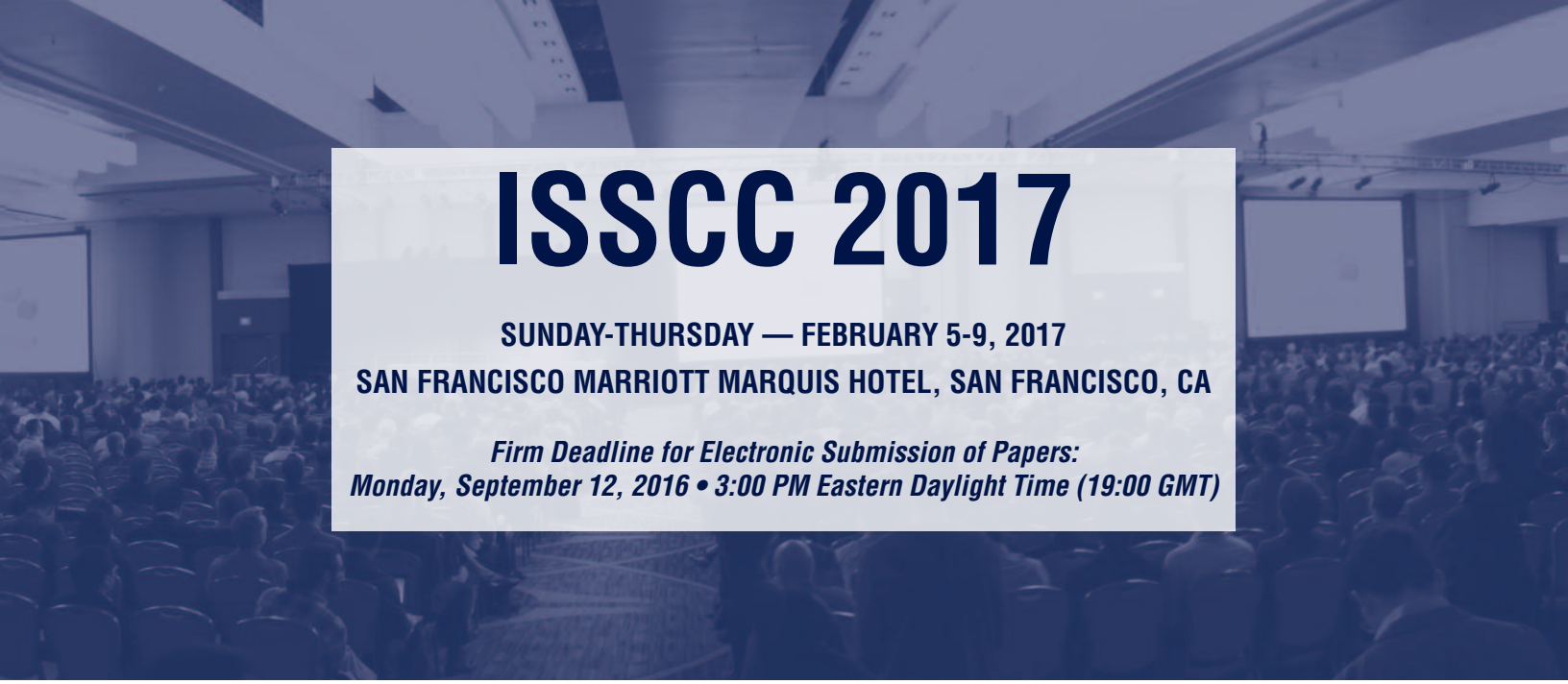
Due to the timing constraints associated with the paper review process, papers must be received by the deadline shown below to be considered by the Program Committee.

FIRM DEADLINE FOR ELECTRONIC SUBMISSION OF PAPERS:

Monday, September 12, 2016 • 3:00 PM Eastern Daylight Time (19:00 GMT)

The Conference Pre-Publication Policy: As the premier global forum for the debut of technical innovations in integrated circuits and systems, ISSCC cannot accept papers whose key innovative ideas and results have already been disclosed to the public. To assess the novelty of a paper, the program committee evaluates its content against all background or baseline information that was pre-published by the authors. Disclosures considered as pre-publication include: (1) Publicly available data in articles, manuals, data sheets, trade journals, application notes, other conferences, and press releases, which contain substantial technical information such as schematics, principles of operation, architectures, and algorithms. (2) Some previously publicly copyrighted material, such as in an IEEE publication. (3) Material submitted for which publication decision is still pending. (4) Material accepted for publication elsewhere. (5) Material available on a public website at any time up to the first day of the next ISSCC. Disclosures **not** considered pre-publication include: (1) Some situations in which a product has entered production, has been sampled, and/or has appeared in a publication under restricted conditions, with no technical description, as noted below. (2) Preliminary data sheet(s)/product announcement(s) and die photos without technical details. (3) Presentation at a limited-attendance workshop with no proceedings, nor press coverage, and no public online access (such as, a presentation to research sponsors). (4) Information provided under NDA to customers, partners, or other parties. (5) Final signed versions of Master's and PhD theses available in open access repositories (libraries), either printed or online. (But, a thesis published for profit is considered prepublication.) (6) Published patents and patent applications. Authors must disclose all material that may fall into the pre-publication category as part of the submission process.

For further details on Pre-Publication Policy, Double-Blind Review or assistance in assigning a subject area, contact the Program Chair: Boris Murmann, Tel: +1-650-725-7042, Email: murmann@stanford.edu



ISSCC 2017

SUNDAY-THURSDAY — FEBRUARY 5-9, 2017

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