



# Writing a good ISSCC paper June 2019

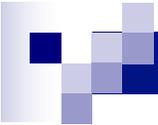
Tips on how to increase the chances of paper acceptance

These slides are originally from a presentation given at the A-SSCS in Hangzhou, China - November 2006.

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# Important

- This version has been updated (June 2019) to include the latest guidelines for submitting a paper.
- Comments in these slides assume that you have read, very carefully, the most recent Call for Papers.



# Sit back and relax

# Enjoy the presentation

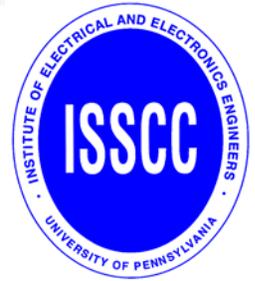




# Overview

- Background of ISSCC
- Early considerations
- General guidelines for writing an ISSCC paper
- Specific suggestions
- What to omit for the double-blind review process
- Common reasons for paper rejection
- Additional Information (appendix):
  - Suggestions for each technical area
  - ISSCC Technical-Area Descriptions

# ISSCC – its Vision



***ISSCC is the foremost global forum for presentation of advances in***

***Solid-State Circuits***

***and***

***Systems-on-a-Chip***



# Reviewers ensure the high standards of ISSCC

- Your paper will be carefully read by **Expert Reviewers** (up to 15 per paper) who are very familiar with the state-of-the-art.
- You need to convince these reviewers that your work is better than what others have done.



# International Technical Program Committee (ITPC)

Technical Program Chair  
Program Vice-Chair

FE Regional Committee

EU Regional Committee

ITPC

## 12 Subcommittees:

- 1. Analog
- 2. Data Converters
- 3. Digital Architectures & Systems
- 4. Digital Circuits
- 5. Imagers, MEMS, Medical, & Displays
- 6. Machine Learning and AI
- 7. Memory
- 8. Power Management
- 9. RF
- 10. Technology Directions
- 11. Wireless
- 12. Wireline

# Early Checklist

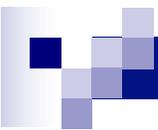


- Does my paper advance previous work or does it introduce a new concept?
- Does my paper have hardware: has a **chip** been fabricated and tested?
- Does the topic of my paper fit into the scope of ISSCC (Is it circuit-oriented)?
- In which Subcommittee does my paper fit?
- Have parts of my paper been published previously?

# Before you begin writing, ask yourself:



- What results do I want to communicate?
- How does my work improve on that previously published?
- Who are the key players in this area?
- What are the latest references?



# References are important!

- Know the latest key references related to your work:
  - Use ISSCC references whenever possible.
  - Use IEEE Journal references as next best.
  - Do not use old references, except to emphasize the time scale of the problem.
- The use of good references tells the reviewers that you are aware of the latest developments in the field.
- Refer to all references in the text of the paper, and comment briefly on each.
- Do not refer to only your own work.
- **Important:** for the initial submission (not for the accepted version) you must refrain from including any information that may reveal your identity.

# Two Key Prerequisites:



## ■ First and foremost is the technical quality of the work

- Must be original and innovative!
- Should advance state-of-the-art!
- Must fit into the ISSCC topic areas!



## ■ Write-up of the paper

- The paper must convince the reviewers of the quality of your work.
- The paper must be clearly written.
- Have the paper proof-read by a fluent-English speaker to check the English.
- Have the paper reviewed by a colleague to check the technical quality and completeness (preferably the best expert available, but not on ITPC).

# General Guidelines on writing an ISSCC paper



# Beginning to Write:



- Start by writing the **Conclusions!**
  - This forces you to think about what you want to say.
  - Be quantitative in the **Conclusions**: Summarize the important measured results, giving numerical data; relate them to previously published work.
- Once the conclusions are written, **backfill** the paper.
- Be explicit and concrete: Quantify the results.
- Put your results in context: Compare them to results of others (refer explicitly to the references).



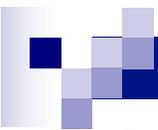
# Introducing the topic:

- **Opening or Introduction:** This should make it clear to the expert reviewer that you know your area and what others have done:
  - Discuss the state-of-the-art in terms of what others have done recently. Make use of references.
  - What is the problem you want to solve?
  - Capture the different approaches to solving the problem and show which of these approaches you have picked and why.
  - Continue with explaining your approach ...



## Writing the body of the paper (1/3):

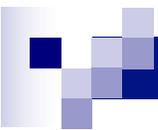
- You have only 8100 characters for the text **including spaces!** Note, this does **not** include references, title, author list, affiliations, or acknowledgements.
- Use this limited space carefully!
- Plan in advance (just as you would for a system architecture)
  - List 2-to-3 innovative aspects.
  - Explain the importance of these aspects in terms of new design, performance achievements, and how it advances the state-of-the-art.



# Writing the body of the paper

(cont' d 2/3):

- **Body of the paper:** This should focus on the key ideas and build up the paper incrementally:
  - Use a figure or diagram to show your approach.
  - Preferably, show circuit schematics and explain how the circuit works and what is new about it.
  - Show measurement results:
    - If needed, summarize results in a table format.
    - If appropriate, provide a Figure-of-Merit to prove that your work advances the state-of-the-art.



# Writing the body of the paper

(cont' d 3/3):

## ■ **Compare** your results with those of others:

- Be straightforward in the comparison.
- Do not ignore bad results; discuss and explain any shortcomings, rather than ignoring them.
- Compare your results with a paper that uses a similar test technique, and which deals with a similar system. Preferably, compare to a previous ISSCC paper.

# Concluding the paper:

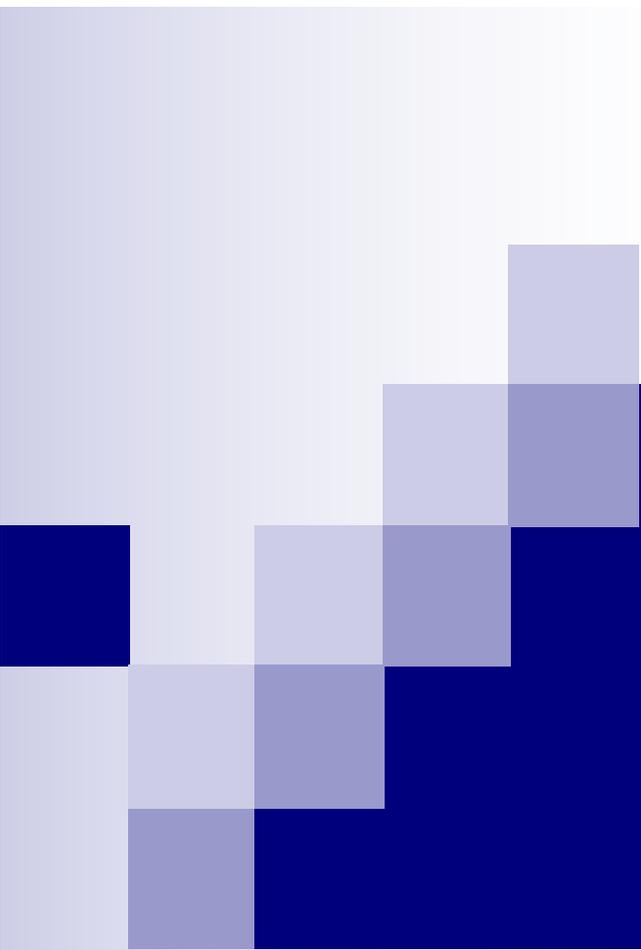


- Highlight the results.
- The final or pre-final paragraph should **list all important measured results**, give the reviewers a **complete picture of your system**, and convince them of the technical accuracy of your results.
- State how your results advance the state-of-the-art.



## Note on 3 “Extra Figures”:

- With the submission, you may include extra figures:
  - Can be used to give a brief analysis or derivation
  - Can provide Figures-of-Merit to compare your work to others
  - Can provide some additional explanation of system details
- These extra figures should not be referred to in the paper.
- These figures will be included in the electronic digest on the third page along with the die photo.



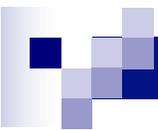
# Specific suggestions

Paper submission



# Title of the paper:

- Title: should give a good idea of the paper's contents and highlights. Do NOT make the title too broad or general, since it may appear to be a marketing or survey paper.
  - For example, when your paper talks about Cache and how the Cache is built, do NOT use a title simply “High-Speed Processors”, but use a title “*A Fast Cache for a High-Speed Processor*”
  - For example, use a title “*An 800mW 10Gb/s Ethernet Transceiver in 0.13 $\mu$ m CMOS*”, and NOT: “A novel, high-speed transceiver”



# Body of the paper: DON' Ts

- Don' t repeat too much of the abstract.
- Don' t present much theory; Refer to other sources of such material in a reference.
- Don' t give too many equations; This is not a Ph.D. thesis, and hence only relevant equations (if any) should be stated. If an equation is used, you must explain the equation. Don' t make assumptions. Everyone has a different way of interpreting such information.
- Don' t write a tutorial-type paper. Our expert reviewers do not need tutorials. ISSCC papers must be very concise and present new ideas.



# Technical content: innovation is key

- Highlight the INNOVATION in your paper, early on. Innovation can include one or more of the following:
  - Scalability, circuit or architecture innovation, implementation of a new system approach, use of a new technology, as well as best-performance reported.
- Address the innovation aspect clearly:
  - What is the problem
  - Solutions to the problem
  - What is new
  - Accuracy of the proposed approach, circuit, or system
  - Feasibility of implementation
  - Comparison with previously proposed techniques
- Show at least one important circuit diagram.



# More on content:

- When showing a circuit or diagram:
  - Explain what is new about it (give an explanation beyond that of a data sheet)
  - Explain its operation. Do not expect the reviewer to dissect it. Help the reviewer to understand its operation. But, be concise and brief.
  - What are the advantages, what are the shortcomings?
- Replace words like “Fastest”, “Smallest,” “Lowest power consumption”, etc, by quantitative and accurate comparisons with earlier work.
- Make sure you mention each reference. Include also pending publications at conferences or in journals that appear before ISSCC (see also blind-review process and pre-publication policy)



# Results are key:

## The paper should:

- Include a die photo, and give the chip size and technology used.
- Include measurements of the fabricated chip, I-V curves, power, etc. Be precise and quantitative.
- Compare measured results against stated requirements, and to prior art.
- Include a summary table of the design that highlights the specification and performance metrics.



## How to prepare your submission for the **double-blind review**

- Eliminate names, contact information, and affiliations from the entire paper (including PDF metadata). (Logos and other identifying information will be added back to the final paper upon acceptance.)
- Do not use words like I, we, my, or ours.
- Eliminate acknowledgments and references to funding sources.

**See [isscc.org](http://isscc.org) for FAQs and example paper.**



# How to prepare your submission for the **double-blind review**

- All authors are required to fully disclose related work; double blind review only affect how this is done (and does not eliminate this requirement!)
- When you refer to your own previous work (self-citation), it is important that you do not include any information that may reveal your identity. Refer to the work in one of the 2 formats shown on the next slides.

# Instructions for Self-Citation

- Format 1: Refer to any published work in a neutral manner:
  - “It was shown in [1] that class-AB amplifiers are more efficient than class-A amplifier.”
  - An important example is: “We re-used the bias-generator from [1].”

1

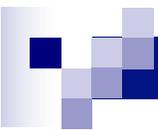
[1] J. Doe and T. Smith, “A new amplifier circuit for rocket science,” IEEE J. Solid-State Circuits, pp. 10-19, May 2010.

# Instruction of Self-Citation

- Format 2: If your related work is submitted to another publication but not yet published, and it is tightly connected to the present work, use format 2.
- Attach the related work as supporting material. This does not need to be anonymized. Supporting material will be read during final pre-pub check (after the paper selection).

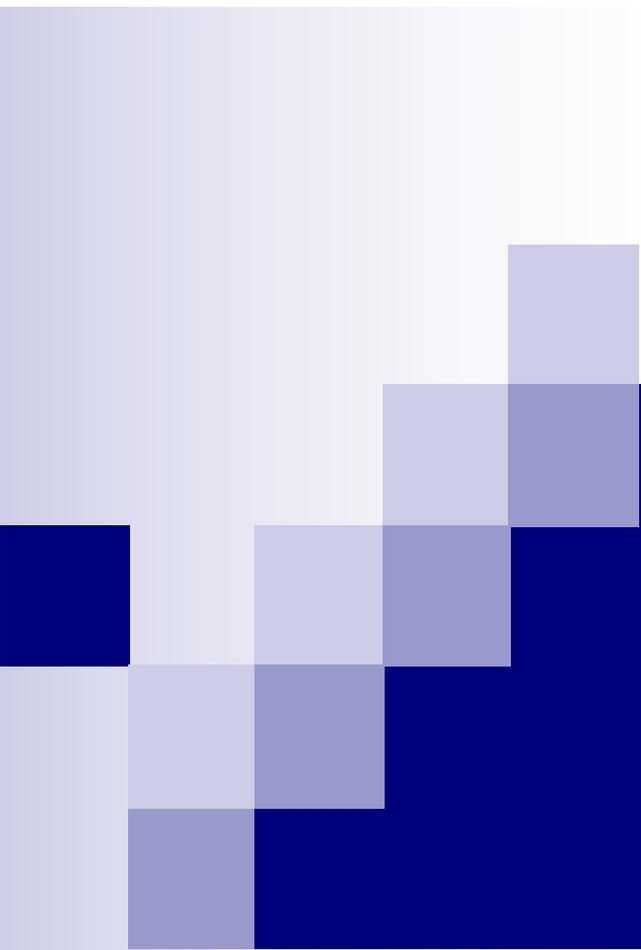
2

[1] Details withheld in accordance with the double-blind review process (paper is attached as supporting material).



## **New: How to prepare your submission for the double-blind review (cont'd 4/4)**

- Do not refer to patents or other documents that would reveal you or your company/institution's identity. You can add this information in the final version that goes into the Digest.
- For die photos and PC boards you need to black out any logos or names in order not to reveal your identity. (For the Digest version you may uncover logos, labels or names.)



# Common reasons for paper rejection

# Do NOT submit



- A paper that gives only simulations and has no silicon implementation and test results.
- A paper with only modeling and/or equations: submit these to ISCAS, ICCAD or DAC.
- A paper that is outside the scope of ISSCC topics.
- Work that has been published elsewhere.



# Common reasons for paper rejection

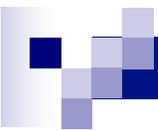
- A lack of clear evidence of what is novel in the work, and the extent to which it advances the state-of-the-art:
  - Successful submissions contain specific new results with sufficient detail and data to be understood, with schematics and measured results for key circuits, when appropriate.
- Wrong conference
- Pre-Publication.

# Pre-Publication Policy

(see also ISSCC Website) (1/4)



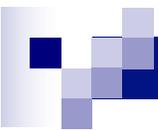
- If a substantial part of a paper has been or will be published before the upcoming ISSCC, the paper **will not be accepted**. This is the case when:
  - Disclosure of the innovative circuitry, architectures, algorithms, etc, that occurs in articles, data sheets, trade journals, or other conferences.
  - Material submitted and accepted at another conference, or for which a decision is still pending.
  - Any detailed disclosure of innovative technical ideas on the [World-Wide Web](#) before the paper presentation at the Conference will be considered pre-publication.



# Pre-Publication Policy (cont' d 2/4)

However, a paper may be acceptable in cases where:

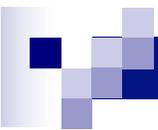
- The chip has been sampled, entered production, and/or appeared in a publication that addressed only the marketing or applications aspects of the product.
- Disclosure consisting only of abbreviated data sheets that provide only specifications, a feature list, a coarse block diagram or die photo without technical details.
- The work has been presented at a workshop or niche conference with limited attendance and **no** published proceedings or press coverage and no public online access.



# Pre-Publication Policy (cont' d 3/4)

However, a paper may also be acceptable in the following case:

- Information provided under NDA to customers, partners, or other parties.
- 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.)
- Published patents and patent applications.



# Pre-Publication Policy (cont' d 4/4)

- Authors must disclose all material that may fall into the pre-publication category as part of the submission process

After your paper has been accepted, **DO NOT** publish or reveal any details or summaries on the Web, in press releases, or in any other articles before the forthcoming ISSCC!

For questions about the pre-publication policy and double-blind review process, contact the Program Chair.



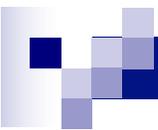
# In Summary:

- It is all about:
  - Innovation!
  - Advancing State-of-the-Art!
  - Technical quality of the results!
  - Results clearly explained!



# Disclaimer:

*These slides provide only suggestions and guidelines intended to improve the quality of your paper submission. There is no guarantee that a paper, however closely conforming to these suggestions and guidelines, will be accepted.*



# Acknowledgements for insightful suggestions:

- Qiuting Huang
- Shahriar Mirabbasi
- Un-ku Moon
- Sreedhar Natarajan
- Willy Sansen
- Albert Theuwissen
- Chorong-Kuang Wang



# ISSCC resources:

- <http://isscc.org/>
- Program Chair
- Program Vice-chair
- Subcommittee Chairs
- Chairs of the Regional Committees

**Thank you for your attention**



**See you at the next ISSCC!**

