

## Call for Contributions

**Inform the Chair:** with the Title of your Contribution

**Submission URL:**

<https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=SIGNAL+2017+Special>

Please select Track Preference as **DANCE**

### Special track

## DANCE: Deep Learning - The Accuracy and Efficiency Trade-offs

### Chair and Coordinator

Yanxiang Huang, imec, Belgium

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along with

**SIGNAL 2017, May 21 - 25, 2017 - Barcelona, Spain**

The Second International Conference on Advances in Signal, Image and Video Processing  
- from Sensing to Applications –

<http://www.aria.org/conferences2017/SIGNAL17.html>

We are entering a deeply-scaled CMOS era, when a lot of issues have emerged, threatening the continuity of Moore's law. On the other hands, Machine learning, especially deep-learning has emerged as one of the most promising computation driver for the future. Nevertheless, the study of deep-learning was mostly confined in the statistical and computer science community. As the benefit of Moore's law is diminishing, considerable design effort is required from signal processing and solid state circuit aspects.

This track aims to answer the trade-offs between the accuracy and efficiency trade-offs in deep learning applications, both in training phase and implementation phases. A sample design example can be signal pre-processing via DSP, data quantization, and efficient dropout. Moreover, novel solutions, that efficiently take advantage of today's hardware, e.g., GPU, DSP, FPGA, ASIC, are highly appreciated.

**Contributing papers** are suggested to cover one or more (but not limited to) of the following sub-topics:

- Digital signal pre-processing for image/audio perception
- Deep learning / Machine learning
- Efficient embedded programming for deep learning applications
- GPU/DSP/FPGA/ASIC designs for deep learning
- Deep learning, a signal processing perspective
- Fault-tolerate deep learning
- Network topology, parameters e.g. learning-rate, quantization optimizations for fast deep learning

### Important Datelines

- Inform the Chair: As soon as you decided to contribute

- Submission: ~~February 3~~ **April 13**

- Notification with comments for camera-ready: ~~March 3~~ **April 20**

- Registration: ~~March 18~~ **April 29**

- Camera ready: ~~April 9~~ **April 29**

## **Contribution Types**

- Regular papers [in the proceedings, digital library]
- Short papers (work in progress) [in the proceedings, digital library]
- Posters: two pages [in the proceedings, digital library]
- Posters: slide only [slide-deck posted on [www.iaria.org](http://www.iaria.org)]
- Presentations: slide only [slide-deck posted on [www.iaria.org](http://www.iaria.org)]
- Demos: two pages [posted on [www.iaria.org](http://www.iaria.org)]

## **Paper Format**

- See: <http://www.iaria.org/format.html>
- Before submission, please check and comply with the editorial rules: <http://www.iaria.org/editorialrules.html>

## **Publications**

- Extended versions of selected papers will be published in IARIA Journals: <http://www.iariajournals.org>
- Print proceedings will be available via Curran Associates, Inc.: <http://www.proceedings.com/9769.html>
- Articles will be archived in the free access ThinkMind Digital Library: <http://www.thinkmind.org>

## **Paper Submission**

<https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=SIGNAL+2017+Special>

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## **Registration**

- Each accepted paper needs at least one full registration, before the camera-ready manuscript can be included in the proceedings.
- Registration fees are available at <http://www.iaria.org/registration.html>

## **Contact**

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