



## FINAL CALL FOR PAPERS

**ABSTRACTS DUE FEB 4, 2019**

# 2019 International Image Sensor Workshop

Snowbird, Utah (USA)

June 24-27, 2019

### **General Workshop Co-Chairs:**

**Daniel Van Blerkom**  
Forza Silicon, USA

**Yibing Michelle Wang**  
Samsung, USA

### **Technical Program Chair:**

**Vladimir Korobov**  
ON Semiconductor, USA

### **Technical Program Committee:**

**Edoardo Charbon**  
EPFL, Switzerland

**Bart Dierickx**  
Caeleste, Belgium

**Neal Dutton**  
ST Microelectronics, UK

**Bumsuk Kim**  
Samsung, South Korea

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Alexima, USA

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TowerJazz, Israel

**Jiaju Ma**  
Gigajot, USA

**Pierre Magnan**  
ISAE, France

**Shouleh Nikzad**  
JPL / CalTech, USA

**Yusuke Oike**  
Sony, Japan

The 2019 International Image Sensor Workshop (IISW) provides a biennial opportunity to present innovative work in the area of solid-state image sensors and share new results with the image sensor community. Now in its 33rd year, the workshop is intended for image sensor technologists; in order to encourage attendee interaction and a shared experience, attendance is limited, with strong acceptance preference given to workshop presenters. As is its tradition, the 2019 workshop will emphasize an open exchange of information among participants in an informal, secluded setting.

The scope of the workshop includes all aspects of electronic image sensor design and development. In addition to regular oral and poster papers, the workshop will include invited talks and announcement of International Image Sensors Society (IISW) Award winners.

Papers on the following topics are solicited:

#### **Image Sensor Design and Performance**

CMOS imagers, CCD imagers, SPAD sensors  
New and disruptive architectures  
Global shutter image sensors  
Low noise readout circuitry, ADC designs  
Single photon sensitivity sensors  
High frame rate image sensors  
High dynamic range sensors  
Low voltage and low power imagers  
High image quality; Low noise; High sensitivity  
Improved color reproduction  
Non-standard color patterns with special digital processing  
Imaging system-on-a-chip, On-chip image processing

#### **Pixels and Image Sensor Device Physics**

New devices and pixel structures  
Advanced materials  
Ultra miniaturized pixels development, testing, and characterization  
New device physics and phenomena  
Electron multiplication pixels  
Techniques for increasing QE, well capacity, reducing crosstalk, and improving angular response  
Front side illuminated, back side illuminated, and stacked pixels and pixel arrays  
Pixel simulation: Optical and electrical simulation, 2D and 3D, CAD for design and simulation, improved models

#### **Application Specific Imagers**

Image sensors and pixels for range sensing: TOF, RGBZ, Structured light, Stereo imaging, etc.  
Image sensors with enhanced spectral sensitivity (NIR, UV, IR)  
Sensors for DSC, DSLR, mobile, digital video cameras and mirror-less cameras  
Array imagers and sensors for multi-aperture imaging, computational imaging, and machine learning  
Sensors for medical applications, microbiology, genome sequencing  
High energy photon and particle sensors (X-ray, radiation)  
Line arrays, TDI, Very large format imagers  
Multi and hyperspectral imagers  
Polarization sensitive imagers

#### **Image sensor manufacturing and testing**

New manufacturing techniques  
Backside thinning  
New characterization methods  
Stacked imagers, 3D integration

#### **On-chip optics**

Advanced optical path, Color filters, Microlens, Light guides  
Nanotechnologies for Imaging  
Wafer level cameras  
Packaging and testing; Reliability, Yield, Cost  
Defects; Leakage current.  
Radiation damage and radiation hard imagers

**Hidekazu Takahashi**

Canon, Japan

**Xinyang Wang**

Gpixel, China

**Dun-Nian Yang**

TSMC, Taiwan

**IISS Board of Directors:****Eric Fossum**

Thayer School of Engineering  
at Dartmouth, USA

**Michael Guidash**

R.M. Guidash Consulting, USA

**Shoji Kawahito**

Shizuoka University, Japan

**Vladimir Koifman**

Analog Value, Israel

**Rihito Kuroda**

Tohoku University, Japan

**Guy Meynants**

ams Sensors, Belgium

**Junichi Nakamura**

BrillNics, Japan

**Johannes Solhusvik**

OmniVision Technologies,  
Norway

**Nobukazu Teranishi**

University of Hyogo, Japan

**Albert Theuwissen**

Harvest Imaging, Belgium /  
Delft University of Technology,  
The Netherlands

**Daniel Van Blerkom**

Forza Silicon, USA

**Yibing Michelle Wang**

Samsung, USA

**Submission of abstracts:**

An abstract should consist of a single page of maximum 500-words text with up to two pages of illustrations, and include authors' name(s) and affiliation, mailing address, telephone and e-mail address. The deadline for abstract submission is **February 4, 2019 (PST)**.

To submit an abstract, please go to: <https://cmt3.research.microsoft.com/IISW2019>

The first time you visit, you'll need to click on "Create Account". Once you create and verify your account with your email address, you will be able to submit abstracts by logging in and clicking "Create New Submission".

Please visit <http://imagesensors.org/CFP2019> for complete instructions and any updates to the abstract and paper submission procedures.

***Abstracts will be considered on the basis of originality and quality. High quality papers on work in progress are also welcome. Abstracts will be reviewed confidentially by the Technical Program Committee and the IISS Board.***

Authors will be notified of the acceptance of their abstract by **March 14, 2019**.

Final-form 4-page paper submission date is **May 3, 2019**.

Presentation material submission date is **June 14, 2019**.

**Location:**

The IISW 2019 will be held at the Snowbird Resort, Utah (USA). This serene mountain resort is only 40 minutes from Salt Lake City International Airport, and in addition to excellent meeting space provides summer mountain activities and a summit aerial tram.

**Registration, Workshop fee, and Hotel Reservation:**

Registration details and hotel reservation information will be provided in the Final Announcement of the Workshop.

Forthcoming announcements and additional information will be posted on the **2019 Workshop page** of the International Image Sensor Society website at:

<http://www.imagesensors.org/>