FIRST CALL FOR PAPERS

2021 International Image Sensor Workshop

Online event
September 20-24, 2021

The 2021 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 35th 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 2021 workshop will emphasize an open exchange of information among participants.

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 (IISS) 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

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 **April 17th, 2021** (**CST**).

Please visit **http://imagesensors.org/CFP2021** for 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 **June 3th, 2021**.
Final-form 4-page paper submission date is **August 6th, 2021.**
Presentation material submission date is **September 6th, 2021**.

Location and format:
The IISW 2021 is planned to be held Sept 20-24th. Given the outlook of the pandemic situation and related travel restrictions, the workshop is expected to be an online event, which will be supported by several initiatives to preserve its interactive and open atmosphere. The workshop will not be delayed: in any case the selected papers will be presented in September 2021. More details on the format will be provided in February 2021 with the final call for papers.

Registration, workshop fee and program:
The program of the workshop and registration details will be provided in the Final Announcement of the Workshop, by June 3th, 2021

Forthcoming announcements and additional information will be posted on the **2021 Workshop page** of the International Image Sensor Society website at:

http://www.imagesensors.org/