



FIRST CALL FOR PAPERS

ABSTRACTS DUE DEC 9, 2022

2023 International Image Sensor Workshop

Crieff Hydro Hotel, Scotland, UK
22-25 May, 2023

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University of Edinburgh, UK

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The 2023 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 will return to an in-person format. The event 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 the tradition, the 2023 workshop will emphasize an open exchange of information among participants in an informal, secluded setting beside the Scottish town of Crieff.

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 (IIS) 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 and imagers
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: LIDAR, 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
Defects & leakage current

On-chip optics and imaging process technology

Advanced optical path, Color filters, Microlens, Light guides
Nanotechnologies for Imaging
Wafer level cameras
Packaging and testing: Reliability, Yield, Cost
Stacked imagers, 3D integration
Radiation damage and radiation hard imagers

Preethi Padmanabhan

AMS-Osram, Austria

Francois Roy

STMicroelectronics, France

Andreas Suess

Omnivision Technologies, USA

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Dartmouth, USA**Nobukazu Teranishi**

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Netherlands**Submission of abstracts:**

An abstract should consist of a single page of maximum 500-words text with up to two pages of illustrations (3 pages maximum), and include authors' name(s) and affiliation, mailing address, telephone and e-mail address.

The deadline for abstract submission is **11:59pm, Friday December 9th, 2022 (GMT)**.

To submit an abstract, please go to: <https://cmt3.research.microsoft.com/IISW2023>

The first time you visit the paper submission site, 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/CFP2023> 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.

Key Dates:

Authors will be notified of the acceptance of their abstract latest by **3rd Feb 2023**.

Final-form 4-page paper submission date is **4th April 2023**.

Presentation material submission date is **3rd May 2023**.

Location:

The IISW 2023 will be held fully in-person at the Crieff Hydro Hotel in Scotland, UK. This beautiful hotel is 1 hour from Edinburgh International Airport, and in addition to excellent meeting space provides countryside walks, sporting activities, and is close to a whisky distillery.

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 **2023 Workshop page** of the International Image Sensor Society website at:

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