



Holography: Advances and Modern Trends (OO107)

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Gabor's original paper about holographic wavefront reconstruction appeared in *Nature* on the 15th of May 1948 so we invite you to join us in celebrating the 75th birthday of this seminal work during our meeting. A new era in holography opened in 1961, when Leith and Upatnieks described the use of the off-axis reference beam to capture--on a single piece of photographic film--the complete record of the light wave, resulting for the first time in holographic images of excellent quality. What is less well appreciated is that by 1967 Goodman and Lawrence had demonstrated a digital holographic system. We recall that a previous meeting in 2017 coincided with the 90th anniversary of the births in 1927 of both Leith (March 12th) and Denisjuk (July 27th). The last two years have coincided with the 50th anniversary of Gabor's receipt of the Nobel prize and the 60th of the work mentioned above.

Today, holography in its many forms is not only alive but is thriving. It has found widespread applications throughout all fields of science and technology. While some initial expectations have not been realized, an increasing number of other applications have been discovered which have brought real practical benefits to mankind.

This year marks the eighth conference in this series since it was inaugurated in 2009. It was founded to highlight contemporary techniques of holographic recording and replay, including digital holography, holographic materials, switchable devices, computer-generated holograms, optical information processing, security, diffractive optics (Volume Holographic Optical Elements), metrology and the interferometric fabrication of photonic crystals. We intend to provide a platform which also allows those in closely related areas, (e.g. involving phase retrieval algorithms, quantitative phase microscopy, sensing, compression, data storage and 3D imaging and displays, and including art holography and Augmented/Mixed/Virtual Reality), to share ideas and concepts.

The conference is not limited to the visible parts of the electromagnetic spectrum but also the emerging area of matter waves, e.g. holographic

neutron optics. The conference accepts submission dealing with recording media and processing methods, applications and signal processing. Talks describing commercial materials, systems and applications are encouraged

While all aspects of holography (academic and commercial) are of interest we strongly encourage submissions dealing with novel application and the optical engineering aspects of holography. This conference is dedicated to bringing together a multidisciplinary and international mixture of research professionals, developers and users of holographic techniques, devices and systems including students and those in product development and senior management positions.

Topics of interest include, but are not limited to:

- advances in holographic techniques (materials, algorithms, devices and systems)
- holographic interference techniques for fabrication and metrology
- digital holography: the capture, transmission, processing and electronic storage of holograms
- computer generated holograms and diffractive optics: modelling and analysis
- digital processing of holograms and interferometric data
- holography in nanotechnology
- novel materials and their characterization methods for holographic applications
- real-time and active holographic recording (modelling, materials and processes)
- dynamically switchable holograms (implementations and applications)
- security holography
- holographic 3D imaging, microscopy, tomography, displays and wearables (Internet of Things, IoT)
- elements and systems used for the holographic storage of digital information
- holographic applications for non-electromagnetic waves
- metamaterials and holography.

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Important dates

Abstracts due	9 November 2022
Authors notified and programme posts online	16 January 2023
Registration opens	19 January 2023
Submission system opens for manuscripts and poster PDFs*	20 February 2023
Poster PDFs due for spie.org preview and publication	29 March 2023
Manuscripts due	5 April 2023
Advance upload deadline for oral presentation slides**	21 April 2023

*Contact author or speaker must register prior to uploading

**After this date slides must be uploaded onsite at Speaker Check-in

What you will need to submit

- Title
- Author(s) information
- 250-word abstract for technical review
- 100-word summary for the programme
- Keywords used in search for your paper (optional)
- Check the individual conference Call for Papers for additional requirements (for example, some conferences require 2- to 3-page extended summary for technical review, or have instructions for award competitions)

Note: Only original material should be submitted. Commercial papers, papers with no new research/development content, and papers with proprietary restrictions will not be accepted for presentation..

How to submit your abstract

- Visit the conference page: www.spie.org/OO107call
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- Click the "Submit An Abstract" button on the conference page.
- Sign in to your SPIE account or create an account if you do not already have one.
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Submission agreement

All presenting authors, including keynote, invited, oral, and poster presenters, agree to the following conditions by submitting an abstract:

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- Submit a 4-page-minimum manuscript, by the advertised due date, for publication in the Proceedings of SPIE in the SPIE Digital Library
- Obtain funding for registration fees, travel, and accommodations
- Ensure that all clearances, including government and company clearance, have been obtained to present and publish. If you are a DoD contractor in the USA, allow at least 60 days for clearance
- Attend the meeting
- Present at the scheduled time

Review and programme placement

- To ensure a high-quality conference, all submissions will be assessed by the conference chair/editor for technical merit and suitability of content
- Conference chairs/editors reserve the right to reject for presentation any paper that does not meet content or presentation expectations
- Final placement in an oral or poster session is subject to chair discretion

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