

Digital holography and 3-D imaging: Interactive Science Publishing

This special issue on Digital Holography and 3-D Imaging includes five articles that use OSA's Interactive Science Publishing (ISP) system. ISP allows authors to publish large 2-D and 3-D datasets with original source data that can be viewed and analyzed interactively by readers. ISP is undertaken by OSA in partnership with the U.S. National Library of Medicine, part of the National Institutes of Health, and with support from the United States Air Force Office of Scientific Research. © 2009 Optical Society of America

This feature issue on the topic of digital holography is in its third installment since its inception two years ago. The previous two issues were published after the conclusion of each Digital Holography and 3-D Imaging Topical Meeting. The topical meeting has been providing a forum for disseminating the science and technology of holographic interferometry for deformation or contour measurement, new technologies for phase unwrapping, 3-D optical remote sensing, 3-D holographic microscopy, 3-D optical image processing, 3-D display, and digital holography for life science or nanophotonics applications. This feature issue again includes a representative selection of topics that were presented at the last Digital Holography and 3-D Imaging Topical Meeting held at Vancouver, British Columbia, Canada, April 2009.

One of the key elements of the present feature issue is the inclusion of a new key feature: Interactive Science Publishing (ISP)-based papers along with regular papers. Indeed the feature issue serves as a pilot issue featuring ISP in *Applied Optics*. The five ISP papers in the issue are invited papers that feature datasets in digital holography and 3-D imaging. Regular contributed papers will appear in December.

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datasets with original source data that can be viewed and analyzed interactively by readers. ISP provides the software for authors to organize and publish source data while offering readers the viewing and analysis tools. Readers are able to interact with 2-D and 3-D image data, engage more thoroughly with research results to recreate an experiment. For instance, in the papers by Lam *et al.*, Park *et al.*, and Shaked *et al.* in this issue, holographic reconstruction at different distances away from the hologram can be easily visualized by moving the scroll bar up and down in the ISP images, thereby providing an easy visualization of a volumetric object through its depth. Finally we want to point out that ISP images and data may be viewed for free. Authors who publish their data in an ISP paper permit the use of their data for further research such as any development of new algorithms. An ISP data repository holds the image data for all ISP articles that are published by OSA.

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We wish to thank Kelly Cohen and Joseph Mait for their help and encouragement of this project.