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Editors

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8 Optics and Sound
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Introduction

The nineteenth annual conference for Novel Optical Systems Design and Optimization was held in San Diego, California this year. Our technical sessions included tracks on Displays; Optimization/Simulation; Hyperspectal/UV/IR Systems; Instrumentation and Camera Systems; Freeform and Unconventional Optics; Photonics and Lasers; Computational Imaging: and Optics and Sound. In addition, there was a poster session, a joint *Optical Engineering* Plenary Session and Technical Group Events.

The session on Displays had interesting presentations on futuristic display technologies such as glasses-free 3D displays and transparent glass display panels. Optimization and Simulation included the novel application of the instantaneous Abbe Number for athermalization; optimization of GRINs without raytracing; and the simulation of photography for a camera moving near the speed of light. In Hyperspectral/UV/IR Systems we saw new and interesting approaches to hyperspectral imaging and 3D IR imaging. The Instrumentation and Camera Systems session demonstrated progress toward fully 3D-printed optical instrumentation and contemporary methods for tracking ballistic projectiles. In Freeform and Unconventional Optics, we saw further developments in using freeform surfaces in imaging applications, helmet-mounted displays and visible-spectrum cloaking. We had our first ever presentations in the area of Novel Photonics in our Photonics and Laser session, where a promising technique for optimizing next-generation photonic structures was shown. The Computational Imaging session presented some interesting techniques for increasing the field of view of an IR camera and optics-free diffraction-limited imaging. Finally, the Optics and Sound session included some fascinating light modulation visualizations for sound and an informative look at how optics are used in various audio technologies.

Our conference had two invited papers this year. Our thanks to Uwe Chalupka from Helmut-Schmidt University for his presentation on measuring projectile trajectories. Also thanks to Udo Zölzer for a very nice summary on the state of the art of optical techniques used for sound processing.

We are very grateful to those who helped make this conference a success, especially the authors, audience, SPIE staff, and program committee. The SPIE staff ensured that everything ran smoothly before, during, and after the meeting. The program committee provided excellent assistance to ensure the quality of the content while also presiding over a number of the sessions. Our Session Chairs were Joseph Choi, Yi Chin Fang, G. Groot Gregory, Eric Herman, R. John Koshel, Craig Olson, R. Hamilton Shepard and Udo Zölzer. Thanks to them for keeping our conference running smoothly and on time. Also thanks to everyone else on our Program Committee for helping review the Abstracts and Paper Submissions: Haiyin

Sun, Bharathwaj Narasimhan, David Shealy, Jeffrey Perkins, Peter Goldstein, Jose Sasian and Scott Lerner.

Next year we will return for our twentieth conference. The chairs will be Arthur Davis, Cornelius Hahlweg and Joseph Mulley. We look forward to seeing you in 2017!

Arthur J. Davis
Cornelius F. Hahlweg
Joseph R. Mulley