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G. Groot Gregory
Editors

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Introduction

This year in San Diego, California, we held the Tenth Conference of Novel Optical Systems Design and Optimization. The conference was well attended, with papers ranging from optical design to education and history to mobile optics. This year there were seven oral sessions and one poster session. The primary focus of the conference was "reduced optics" and optics education. The seven oral sessions had the following titles: optical design, 'reduced' optics, optics education I and II, historical perspective in optical design, optical systems and applications, and optics for mobile systems. These oral sessions ranged over one and a half days of the entire 2007 Optics and Photonics Symposium.

The conference started with a session of optical design, presenting such topics as freeform surfaces for imaging design, CAD and mathematical analysis software integration into optical codes, and laser beam shaping. The next session on reduced optics presented how to reduce the size of an optical system while maintaining performance. This year there were two sessions on optics education ranging the whole gamut from primary school to graduate education, continuing education, and outreach. Sandwiched between the two education sessions was a session on the history of optical design. On the second day were two sessions. The first presented specific optical systems and how they were applied to solve challenging problems such as imaging in harsh radiation environments. Novel optical system design and optimization ended with three papers on mobile optics – i.e., optical systems in cell phones and smart cards.

There were a number of invited papers over the duration of the conference:

- A discussion by Andrew Hicks from Drexel University about direct method for determining freeform imaging surfaces;
- A paper given by Eric Tremblay of the University of California, San Diego, about the ability to fold optical systems in an arc-sectioned annual pattern to reduce the overall length of the optical system (see paper 6668-08);
- Judy Donnelly of Three Rivers Community College gave a paper on professional development in photonics, with a project under the auspices of the New England Board of Education funded by the National Science Foundation;
- A history talk by Andrew Rakich of EOS Space Systems about Joseph Petzval and how he may have been the originator of aberration theory, and;
- A second history talk by Kevin Thompson of Optical Research Associates about the classified optical design of James Baker in the 40s and 50s. He was the first user of large computers for such work.

As can be seen, the invited topics covered a large range of the field of optical design and engineering. It indicates that the optical design community is still working on challenging problems, and also that the range of fields calling on optical engineering is increasing. This breadth led to lively and interesting discussions following each paper. Additionally, these discussions were carried into the hallways following each session. In conclusion, the Novel Optical Systems Design and Optimization Conference continues building upon previous years. It is expected that next year's conference will maintain this growth.

Our thanks go to those who helped make this conference a success, especially the authors, audience, SPIE staff, and program committee. The authors alone made this conference an unqualified success. The audience built upon this success by being active and asking engaging questions. 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. It was composed of Jyh-Long Chern, Alexander Epple, Joseph Howard, Scott Lerner, Rongguang Liang, Andrew Locke, Paul Manhart, Richard Pfisterer, Andrew Rakich, Jannick Rolland, Jose Sasian, David Shealy, Donn Silbermann, Marija Strojnik-Scholl, Kevin Thompson, and Mary Turner.

Next year we will return for the eleventh iteration of this conference. The chairs will remain for only one more iteration as Groot Gregory and John Koshel – at least one new chair will be part of the twelfth Novel Optical Conference. The planning for Novel Optical Systems Design and Optimization XI in 2008 is already underway, so please start planning submissions, questions, and attendance. The planned focus topics are optical design with software post-processing of the images, a look back and forward at zoom systems, and liquid optics. If you would like to assist with the 2008 or later conference please contact one of us. We look forward to seeing you in 2008!

R. John Koshel
G. Groot Gregory