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High-Power Laser Ablation VII

Claude R. Phipps

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This Volume is dedicated to
the memory of Arthur Guenther.



Art Guenther
1931–2007

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Introduction

SPIE's International Symposium High Power Laser Ablation VII followed similar symposia held in Taos, Santa Fe and Osaka, beginning in 1998.

This year's Symposium was held 20–24 April 2008 at the Sagebrush Inn, Taos, New Mexico. HPLA VII drew 119 experts in the fields of optics, lasers, and materials. These experts, from 20 countries, presented 88 papers. Two-thirds of the attendees were from outside the U.S.

There were several changes at HPLA this year. For the first time, the Proceedings papers for this conference were refereed. We also welcomed Prof. Drs. Victor Apollonov, Thomas Lippert, Klaus Sokolowski-Tinten, and Michael Tribelsky as new Program Committee members. And, at the Program Committee meeting, we also added Prof. Dr. Baerbel Rethfeld for the 2010 meeting. A hospitality suite was graciously donated for use during the entire conference by Drs. Gordon Lukesh and Susan Chandler of Nukove, Inc., Taos. A small change that the attendees appreciated was that the program ended on Thursday rather than Friday, giving more opportunity to explore New Mexico.

This year, our session topics included short-pulse laser-matter interactions, ultrashort-pulse material modification, nanoscale physics, laser space propulsion, laser-driven flyers, laser cleaning, PLD, MAPLE, high-power lasers and diagnostics, COIL, DOIL, and EOIL lasers, and a completely new session on diode-pumped alkali lasers (DPALs) organized by Gordon Hager and headlined by Bill Krupke.

This wide spectrum continues to be a unique feature of our HPLA symposium series. Our topics are selected not for their connection to a specific technology, (e.g., solid-state lasers), but rather for relevance to the phenomenon of high-power laser ablation and its applications (e.g., laser space propulsion), basic theory, and technology.

A second distinguishing feature of HPLA is the opportunity for technical and social interactions among attendees in a Gordon-like, collegial setting. To enhance this aspect, we continue to avoid parallel sessions and maintain 25-minute invited talks and two-hour lunch breaks. These conditions mean that oral papers are a distinct minority among those given. Consequently, we place great emphasis on the posters, and we continue to offer poster paper awards. A team capably led by Prof. Michaelis selected the three best poster papers, whose authors were recognized at the Wednesday evening banquet.

We enjoyed hearing our keynote speaker, Dr. Ed Moses, director of the National Ignition Facility and Principal Associate Director at Lawrence Livermore Laboratories.

In the regular program, almost every paper was a highlight in its own way. Rather than attempting to acknowledge the excellent papers in this introduction, I invite you to look over the table of contents in this volume, and read the papers that most interest you.

A highlight of the conference was the Wednesday night dinner, which featured a memorable performance by the Café Cantante Flamenco Ensemble and dance music by the Jimmy Stadler band.

The following people and organizations were crucial to the success of this conference, and deserve great thanks:

Our conference sponsor: SPIE and the very capable SPIE staff.

Our cosponsors: Photonic Associates, LLC and the European Office of Aerospace Research and Development.

Our sister conferences: ISBEP and ICPEPA, who agreed to crosslink their web pages with ours. Prof. Andrew Pakhomov and Leonid Zhigilei deserve our thanks.

Our tireless proceedings referees: Profs. and Drs. Michel Autric, Willy Bohn, Boris Chichkov, Gordon Hager, Richard Haglund, Victor Hasson, Andrei Ionin, Pete Latham, Thomas Lippert, Boris Luk'yanchuk, Max Michaelis, Minoru Obara, Gediminas Raciukaitis, James Reilly, Klaus Sokolowski-Tinten, and Mr. Mike Lander.

And, our very capable Program Committee members:

Sergei Anisimov, L. D. Landau Institute for Theoretical Physics (Russia)

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Takashi Yabe, Tokyo Institute of Technology (Japan)

Special thanks are given to those members of this committee who suggested, organized, and chaired the sessions in this year's program, ensuring that our program would be the most interesting and most technically advanced of the HPLA series, according to many of our attendees.

Claude R. Phipps

