PREFACE

EIGHTEENTH TARGET FABRICATION SPECIALISTS' MEETING

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The Eighteenth Target Fabrication Specialists' Meeting was held at Lake Tahoe, California, in May 2008. The meeting brought together international experts in the design and fabrication of targets for high-energy-density experiments on large laser and pulsed-power facilities throughout the world. The attendees included scientists and engineers from national laboratories and academic institutions in Japan, Russia, France, and the United Kingdom as well as the United States. More than 130 talks and posters presented state-of-the-art advances in design, materials development, and fabrication techniques for the many diverse and intricate targets for this exciting field of research. As in the past, a major motivation for the work presented is the prospect of achieving laboratory-scale thermonuclear fusion yield from inertial confinement fusion (ICF). With the approaching completion of the U.S. Department of Energy's National Ignition Facility (NIF), as well as rapid progress toward the construction of the French Laser Megajoule (LMJ), development of ICF capsules, hohlraums, cryogenic fuel layers, and cryogenic support systems had a high visibility and emphasis.

Key papers representing this important work are included in these two special issues of *Fusion Science and Technology*. Part 1 includes papers on design; cryogenic behavior, systems, and targets; and precision fabrication. Part 2 includes papers on characterization, capsules, and developments on low-density materials. The many developments in materials and fabrication for ongoing experiments to study the properties and behavior of matter under extreme temperatures and densities will enable new realms of research results on high-energy-density platforms around the world.

An important event during this meeting was the awarding of the Larry Foreman Award for innovation and excellence in target fabrication. It was our pleasure to present this year's award to Dr. Russell Wallace of Lawrence Livermore National Laboratory (LLNL). Dr. Wallace received the award for his many contributions to our field and for making the many thousands of targets on Nova since 1987 and most of the LLNL targets on OMEGA that have demonstrated the physics basis for ignition on the NIF. He worked with AWE colleagues to bring routine backlighters online; he worked with colleagues at LLNL and General Atomics to ensure the capsules moved from one of a kind to being produced to the NIF standard; he developed the technologies for the myriad Rayleigh-Taylor experiments performed on Nova; he started the cocktail coating effort; he worked with Rand McEachern to bring spheremappers to the world.

We wish to acknowledge and express thanks to Jean Steve of the University of Rochester Laboratory for Laser Energetics for organizing and planning most of the meeting—Ms Steve was assisted by Ms. C. Isherwood of General Atomics during the meeting—and to Dr. Bob Cook for serving as guest editor for this issue.