

PREFACE

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The Twentieth American Nuclear Society (ANS) Topical Meeting on the Technology of Fusion Energy (TOFE-2012) was held August 27–31, 2012, in Nashville, Tennessee. The general cochair of TOFE-2012 were Brad Nelson and Dave Rasmussen of Oak Ridge National Laboratory. The theme of TOFE-2012 was “Realizing New Technologies for the Age of Fusion Energy” and represented a chance for key scientists and engineers from around the world to gather and exchange ideas. Meeting sponsors included Oak Ridge National Laboratory, US ITER, Lawrence Livermore National Laboratory, Princeton Plasma Physics Laboratory, and the Naval Research Laboratory. TOFE-2012 was cosponsored by the Atomic Energy Society of Japan and the Canadian Nuclear Society and in cooperation with Institute of Electrical and Electronics Engineers. The meeting was organized with the support of the ANS Oak Ridge/Knoxville section and the ANS Fusion Energy Division. Major Tool and Machine and US ITER presented booths in the exhibit area and were critical supporters and participants. Special thanks go to the ANS student section at Vanderbilt University, which provided graduate student support of the meeting.

TOFE-2012 was attended by 185 scientists and engineers from 11 different nations and included 96 oral presentations (in 8 plenary sessions and 14 concurrent oral sessions) and 65 posters. These special issues of *Fusion Science and Technology (FS&T)* contain 94 accepted papers that were presented at TOFE-2012.

Thanks are also due the cochair of the Technical Program Committee (TPC)—L. Cadwallader (INL), S. Konishi (Kyoto U.), and D. Maisonnier (EU Commission)—who ensured a strong program with balanced international participation. All members of the TPC provided input to develop an excellent technical program, with representation from across the diverse disciplines of fusion technology. I want to thank each of the members of the TPC: M. Akiba (JAEA), S. Baidur (CNS), B. Bromley (AECL), S. Combs (ORNL), Y. Katoh (ORNL), G.-N. Luo (ASIPP), Y. Oh (NFRI), S. Reyes (LLNL), J. Sethian (NRL), M. Sawan (UW–Madison), and A. Ying (UCLA).

The success of TOFE-2012 required the generous and diligent efforts of many others, whose work should not go unnoticed. Charlie Gentile (PPPL) was the sponsors and exhibits chair, and John Creasy (BWXT Y-12) was the finance chair—jobs requiring significant detailed effort and receiving little thanks. The local organizing committee, critical to making the meeting experience positive for all participants, was chaired by Steve Combs (ORNL) and included Bob Benson (ORNL, retired), James Clarke (Vanderbilt U.), Gwen Green (ORNL), Bernadette Kirk (ORNL, retired), Kathleen Lukazik (PPPL), Trent Primm (consultant), Hanna Shapira (Techno-Info), and Debi Shepard (ORNL). Finally, thanks go to Nermin Uckan, editor of *FS&T*, who has gone above and beyond the call of duty. Without her diligent efforts, these proceedings would not be possible.