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Sandra G. Biedron
Editor

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Introduction

Welcome to the proceedings for the 2015 SPIE Conference: Advances in X-ray Free-Electron Lasers Instrumentation. This is the third in the series of this conference, the former being held in 2011 and 2013. This year we had 66 presentations and posters.

This year, we expanded the conference to include many wavelength regimes of free-electron lasers and electron-based coherent light sources. In addition to many exciting presentations on photon-based instrumentation, we included instrumentation for the electron portions of the machines – diagnostics, controls, synchronization, etc. We also discussed hardware advancements in the undulator systems for our light sources, heard about new machines under construction and those proposed, discussed sub-system improvements, such as electron sources, heard about exciting science on the operational machines, learned about operational challenges and successes of facilities, and were intrigued with the many novel source concepts. This compilation of 40 papers illuminates the many aspects of coherent, electron beam lased light source systems, their systems, and their uses.

The talks led to many discussions and many of the delegates continued their technical discussions into the coffee breaks and even dinners. Colleagues from related fields were introduced and new discussion groups and new collaborations were formed.

I wish to thank the SPIE staff that helped our team organize and carry out this conference. I also wish to thank the members of the conference program committee, dear friends who worked tirelessly to make this conference a success. Thank you John M. Byrd, Carlo Callegari, Enrica Chiadroni, Marie-Emmanuelle Couprie, Eugenio Ferrari, Raffaella Geometrante, Kirsten Hacker, Timothy J. Maxwell, Giuseppe Penco, Daniel F. Ratner, David A. Reis, Siegfried Schreiber, Pierpaolo Stabile, Alan M. M. Todd, and Zhentang Zhao.

I wish you informative reading!

Sandra Biedron