

Preface

This volume includes papers presented at the 14th International Conference on X-Ray Lasers that took place in the campus of Colorado State University in Fort Collins, located in the foothills of the Colorado Rocky Mountains during May 26–30, 2014. This conference is the 14th in a series of bi-annual meetings that were held in locations all over the world, starting with a meeting in Aussois, France, in 1986. Through the past 28 years this conference has been the primary international event in which the latest advances in the development of X-ray laser sources and applications is reported. The conference also covers advances in supporting technology and instrumentation, and alternative methods to generate coherent x-ray radiation.

The Fort Collins meeting was attended by more than 80 participants from 18 countries. It comprised invited and contributed talks, and a poster session. The technical content of these proceedings highlights recent achievements in the development of plasma-based X-ray lasers, the generation of coherent X-ray radiation by the generation high harmonic and free-electron lasers, and proposed new schemes for the generation of ultrashort wavelength coherent radiation. It also covers applications of compact soft X-ray sources to nano-scale imaging, lithography, photochemistry, and laser-material interactions.

A highlight of this conference was the display of 54 artistic posters illustrating the generation and application of X-ray Laser beams, that are the creative realization of students from the Arts Department at Colorado State University. Four of these posters are shown in these proceedings. Following the tradition of keeping this conference as a truly international event, the International Advisory Board of the Conference choose Japan as the location of the next conference, schedule to take place in 2016.

We would like to thank the International Advisory Board of the Conference for its role in organizing the scientific program. We also would like to thank the valuable assistance of Bob Bower, and Kaarin Goncz in organizing and helping to run the meeting smoothly, Prof. Phil Risbeck and his students for the creation of the

54 artistic posters that illustrated the Conference, to Bart Hoff for enlightening an evening pool party with his musical talent, and to Colorado State University Provost Rick Miranda for securing the modern auditorium in which the oral presentations took place.

Fort Collins, Colorado

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