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Developments in X-Ray Tomography XIV

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Ge Wang**
Editors

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Introduction

Evidently the pandemic is well under control this year, and as a regular in-person event SPIE's Conference "Developments in X-ray Tomography XIV" was organized in San Diego, California, August 22-24, 2022. As always, the tradition has been maintained and enjoyed to exchange ideas and promote brainstorming among researchers from multiple disciplines. In total, 66 papers were accepted for oral and poster presentations. Besides the conference presentations and posters, 48 papers are included in the proceedings after the peer-review process. The results demonstrate the latest advances of x-ray-based tomographic characterization, especially on the micro- and nanometer scales. The organizational efforts were made by each and every of the Program Committee members including Felix Beckmann, Graham R. Davis, Francesco de Carlo, Julia Herzen, Atsushi Momose, Kaye Morgan, and Stuart R. Stock, as well as Bert Müller and Ge Wang. The conference was organized in 13 sessions covering the Three Pillars on Algorithms, Applications, and Instrumentation, in addition to the poster session. The great success of the conference and the decent quality of the proceedings are due to all participants and their peers in the field.

The conference series warmly welcomes PhD students and postdoctoral fellows active in the field. To support their career advancement, we recognize and award the best poster presented by a PhD-student as the first author, the best oral presentation and the best proceedings paper. This year, the awards were funded by Exciscope AB in Stockholm, Sweden (<https://exciscope.com/company/>), and the awardees were selected by the conference committee through a rigorous selection process. The best poster award is given to the work entitled "Mosaic microtomography of a full mouse brain with sub-micron pixel size", with Mattia Humbel, a physics Master student from ETH Zurich as the presenter and Griffin Rodgers, a physics PhD-student from University of Basel, Switzerland as the first author. The best presentation awardee is Dr. Willy Kuo, a postdoc from the University of Zurich, Switzerland, for the work entitled "Tomographic imaging of microvasculature with a purpose-designed, polymeric x-ray contrast agent". The best paper award was highly competitive. The scoring of the best three finalists was so close that the Program Committee agreed to share the award among them. The paper by the PhD-student Silvio Achilles et al. on GPU-accelerated coupled ptychographic tomography belongs to the pillar on algorithms. The PhD-student Mengzhou Li et al. successfully submitted a paper on motion correction for robot-based x-ray photon-counting CT at ultrahigh resolution, which rather belongs to the pillar on instrumentation. The more application-related paper of Griffin Rodgers et al. is on mosaic microtomography of a full mouse brain with sub-micron pixel

size. Additionally, our community is honored for two scientists, who received the SPIE awards: Dr. Bert Müller received the Biophotonics Technology Innovator Award and Dr. Ge Wang the Aden & Marjorie Meinel Technology Achievement Award. SPIE's perfect organization of the Awards Banquet is gratefully acknowledged.

Taking this opportunity, we will dedicate the next conference of this series in memory of Prof. Ulrich Bonse, who founded the conference series in 1997, chaired the first five meetings and exemplarily edited the associated proceeding volumes until 2006. He passed away in October 2022 at the age of 94 years. His pioneering contributions on x-ray phase imaging have long-lasting impact. His career path will be continued by our community.

We look forward to seeing you at the 15th conference on Developments in X-ray Tomography in August 2024.

Bert Müller
Ge Wang