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Introduction

The field of x-ray tomography, with emphasis on micro- and nano-scale 3D imaging, continues to develop rapidly. Many more laboratory and storage-ring-based Computed Tomography (CT) systems are in operation, churning out data sets, than there were in August 2010 when the last Developments conference was held. Spectral CT is one example of a rapidly developing modality.

A clear indication that a field (e.g. tomography by all techniques) has reached critical mass is when graduate and post-doctoral fellows band together in a self-help society. At Northwestern University, for example, Tomographers Annonymous has met monthly for over one year and acts, independently of faculty, as a center of analysis expertise, advice, and brainstorming (http://www.tomographers.northwestern.edu/). Perhaps eventually, there will be an international tomography society. With many more than 10^3 papers on x-ray microCT published annually, there is certainly the activity level to warrant such an organization. Further, the third generation of tomographers is coming into their own (e.g., students of students of faculty such as Prof. Ulrich Bonse who established this conference).

The eighth conference in the Developments series filled three entire days (oral presentations) and an evening poster session. There was a stimulating balance between mathematical treatment of reconstructions and of artifact reduction on the one hand, and experimental studies and instrumentation development on the other.

The diversity of applications underlined the mature interdisciplinary scope of the conference. Established groups continued the trend of more detailed and sophisticated analyses than in previous meetings, and new contributors (both early career and senior investigators) brought fresh ideas to the meeting.

I would like to thank the authors for their excellent talks and papers, invited and contributed; over 50 manuscripts from 68 presentations appear in the conference volume. I also thank the program committee for their very important help. Last, but not least, the SPIE staff provided exemplary support with the program development, the meeting itself, and the proceedings.

Stuart R. Stock