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Image Reconstruction from Incomplete Data VIII

Philip J. Bones
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Editors

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Introduction

Image Reconstruction from Incomplete Data VIII was held on 11–12 August 2015. A total of 20 papers were presented.

This conference continued as those of the same name held at the SPIE Annual Meetings in San Diego in 2000, Seattle in 2002, Denver in 2004 and San Diego in 2006, 2008, 2010 and 2012. Conferences on this foundational topic of imaging and information recovery bring together researchers from a variety of different backgrounds to share their research advancements and explore underlying commonalities. Breakthroughs and insights in one application area can often have an impact on another.

SPIE has a long history of supporting meetings with this theme, originally under the auspices of the Mathematical Imaging Program. Early meetings on this subject include *Applications of Mathematics in Modern Optics* (Vol. 358), which was chaired by W.H. Carter in 1981 and had 29 papers presented, as well as *Inverse Optics I* (Vol. 413), which was edited by A. J. Devaney in 1982 and had 30 papers presented.

This year's meeting was as stimulating as ever and maintained the diversity of topics and informal atmosphere of the previous ones. Sessions were divided into the following sessions:

1. Image Recovery
2. Phase Retrieval
3. Inverse Scattering
4. Tomography
5. Imaging in Scattering Media
6. Signal Recovery

In addition, there was a plenary session shared with other conferences within the Mathematical Imaging Program and presented by Thrasyvoulos Pappas from Northwestern University on the topic of texture analysis.

We had three excellent invited talks by: Joe Chen from Arizona State University on femtosecond nanocrystallography, Yitzhak Yitzhaky from Ben Gurion University on feature extraction for 3D object detection, and Kevin Webb from Purdue University on imaging fields through strongly scattering random media. As in the past, the wide variety of backgrounds of those attending and the diverse applications presented were the conference's strength. Sharing common problems that arise in these different imaging application areas stimulated new ideas, collaborative opportunities, and multi-disciplinary research.

The chairs would like to thank the participants, authors, and program committee members for their part in making this meeting so successful. Special thanks also go to the staff at SPIE for their substantial assistance over the last year. We look forward to IRID-IX in the near future.

Philip J. Bones
Michael A. Fiddy
Rick P. Millane