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Image Reconstruction from Incomplete Data VIII

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

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Contents

v	<i>Authors</i>
vii	<i>Conference Committee</i>
ix	<i>Introduction</i>

SESSION 1	IMAGE RECOVERY
9600 02	Image reconstruction in serial femtosecond nanocrystallography using x-ray free-electron lasers (Invited Paper) [9600-1]
9600 03	Dynamic optically multiplexed imaging [9600-2]
9600 04	Restoration of defocused images using quasi-point sources which are detected with coherent light [9600-3]
9600 05	United estimation of blur distribution for space-variant rotation motion deblurring [9600-4]
SESSION 2	PHASE RETRIEVAL
9600 07	Phase estimation for magnetic resonance imaging near metal prostheses [9600-6]
9600 08	Phase retrieval for multiple objects [9600-7]
9600 09	A phase space approach to imaging from limited data [9600-8]
9600 0A	Combination of genetic algorithms and FSD applied to fringe pattern demodulation [9600-9]
SESSION 3	INVERSE SCATTERING
9600 0B	Exploiting reciprocity for imaging [9600-10]
9600 0C	Joint sparse recovery in inverse scattering [9600-11]
9600 0D	Superresolution imaging from nonlinear inverse scattering [9600-12]
SESSION 4	TOMOGRAPHY
9600 0E	Feature extraction for 3D object detection from integral imaging (Invited Paper) [9600-13]

- 9600 0F **Characterizing heterogeneity among virus particles by stochastic 3D signal reconstruction**
[9600-14]
- 9600 0G **Alternative techniques for high-resolution spectral estimation of spectrally encoded
endoscopy** [9600-15]
- 9600 0H **FPGA acceleration by asynchronous parallelization for simultaneous image reconstruction
and segmentation based on the Mumford-Shah regularization** [9600-16]
- 9600 0I **Online submillimeter three dimensional imaging of magnetic and paramagnetic
contaminants flow rate in multiphase flow pipelines using magnetic particle imaging
technique** [9600-24]

SESSION 5 IMAGING IN SCATTERING MEDIA

- 9600 0J **Imaging fields through heavily scattering random media with speckle correlations over
source position (Invited Paper)** [9600-17]

SESSION 6 SIGNAL RECOVERY

- 9600 0L **Inter-trial alignment of EEG data and phase-locking** [9600-21]
- 9600 0N **Implementation and evaluation of an interictal spike detector** [9600-23]

Authors

Numbers in the index correspond to the last two digits of the six-digit citation identifier (CID) article numbering system used in Proceedings of SPIE. The first four digits reflect the volume number. Base 36 numbering is employed for the last two digits and indicates the order of articles within the volume. Numbers start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B...0Z, followed by 10-1Z, 20-2Z, etc.

Aguilar, J. Félix, 04	Shen, Li, 0H
Aloni, Doron, 0E	Shen, Ziyi, 05
Arnal, Romain D., 02, 08	Shepard, R. Hamilton, 03
Bean, Richard J., 02	Shi, Guokai, 05
Berriel-Valdos, L. R., 04	Shih, Tina, 03
Beyerlein, Kenneth R., 02	Spence, John C. H., 02
Bin Said, K., 0I	Testorf, Markus E., 09, 0L, 0N
Bones, Philip J., 02, 07	Wang, Hongqing, 05
Chapman, Henry N., 02	Wang, Qiu, 0F
Chen, Joe P. J., 02, 08	Webb, Kevin J., 0J
Cong, Jason, 0H	Wojtas, David H., 02
Connolly, Andrew C., 0L, 0N	Xu, Nan, 0F
Davis, Kathryn A., 0N	Xu, Tingfa, 05
Doerschuk, Peter C., 0F	Ye, Jong Chul, 0C
Duan, Lian, 0G	Yefanov, Oleksandr M., 02
Ellerbee, Audrey K., 0G	Yitzhaky, Yitzhak, 0E
Fiddy, M. A., 0B, 0D	Zhang, Wentai, 0H
Gong, Yunye, 0F	Zheng, Yili, 0F
Guo, Jie, 05	
Holmes, G. L., 0L	
Horak, Peter C., 0L, 0N	
Javidi, Tara, 0G	
Jiang, Ming, 0H	
Jobst, Barbara C., 0L, 0N	
Karami, M., 0B	
King, Laura J., 07	
Kirian, Richard A., 02	
Lee, Okkyun, 0C	
Li, Peng, 0H	
Liu, Ziwei, 05	
Luo, Guojie, 0H	
Luo, Qiaoen, 0J	
Maass, Peter, 0H	
Meisenhelter, Stephen, 0N	
Meribout, M., 0I	
Millane, Rick P., 02, 07, 08	
Mora-Gonzalez, Miguel, 0A	
Morgan, Andrew J., 02	
Mousavi, Mahta, 0G	
Muñoz-Maciel, Jesus, 0A	
Newman, Jason A., 0J	
Ortiz-Sosa, R., 04	
Page, Thomas, 0H	
Rachlin, Yaron, 03	
Ramirez-del Real, Tania A., 0A	
Rao, Zhitao, 05	
Ritter, R. Shane, 0D	
Rodriguez-Marmolejo, Ulises H., 0A	
Shah, Vinay, 03	

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- 3 Inverse Scattering
Rick P. Millane, University of Canterbury (New Zealand)

- 4 Tomography
Michael A. Fiddy, The University of North Carolina at Charlotte
(United States)
- 5 Imaging in Scattering Media
Peter C. Doerschuk, Cornell University (United States)
- 6 Signal Recovery
Kevin J. Webb, Purdue University (United States)

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