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14. ABSTRACT Imaging Systems and Applications (IS) Meeting was a four-day conference specializing in imaging system design and components, imaging modalities and systems, and applications of military, industrial, medical and consumer imaging. It exposed attendees to in-depth learning of optical sensing and imaging and their applications from internationally recognized academic and industry leaders in the field. Invited speakers from the military, academic, and commercial imaging sectors addressed the current status and future of imaging technologies and capabilities in their organizations.					
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a. REPORT UU	b. ABSTRACT UU	c. THIS PAGE UU	UU		Thomas Giallorenzi
					19b. TELEPHONE NUMBER 202-416-1458

## Report Title

Final Report: OSA Imaging and Applied Optics Congress-IS conference

### ABSTRACT

Imaging Systems and Applications (IS) Meeting was a four-day conference specializing in imaging system design and components, imaging modalities and systems, and applications of military, industrial, medical and consumer imaging. It exposed attendees to in-depth learning of optical sensing and imaging and their applications from internationally recognized academic and industry leaders in the field. Invited speakers from the military, academic, and commercial imaging sectors addressed the current status and future of imaging technologies and capabilities in their organizations.

The goal of this Meeting was to highlight how different materials, components, and processing combine to create imaging systems and determine their performance. IS captured the state-of-the-art in unique light gathering optics, image sensor architectures and technology, on and off chip digital image processing, and methods for compression and transmission. The meeting highlighted the leading-edge use of imaging systems in microscopy, invasive and non-invasive surgery, remote sensing, astronomical observations and imaging from nearby planets to outer space, digital cinematography capture and projection, computational photography and consumer imaging.

The Meeting convened 41 attendees, hosted 19 invited speakers and featured 37 contributed presentations, including 9 poster presentations.

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**Enter List of papers submitted or published that acknowledge ARO support from the start of the project to the date of this printing. List the papers, including journal references, in the following categories:**

**(a) Papers published in peer-reviewed journals (N/A for none)**

<u>Received</u>	<u>Paper</u>
-----------------	--------------

**TOTAL:**

**Number of Papers published in peer-reviewed journals:**

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**(b) Papers published in non-peer-reviewed journals (N/A for none)**

<u>Received</u>	<u>Paper</u>
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**TOTAL:**

**Number of Papers published in non peer-reviewed journals:**

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**(c) Presentations**

Number of Presentations: 0.00

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**Non Peer-Reviewed Conference Proceeding publications (other than abstracts):**

Received      Paper

**TOTAL:**

Number of Non Peer-Reviewed Conference Proceeding publications (other than abstracts):

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**Peer-Reviewed Conference Proceeding publications (other than abstracts):**

Received      Paper

**TOTAL:**

Number of Peer-Reviewed Conference Proceeding publications (other than abstracts):

---

**(d) Manuscripts**

Received      Paper

**TOTAL:**

Number of Manuscripts:

---

**Books**

Received      Book

**TOTAL:**

Received

Book Chapter

**TOTAL:**

---

**Patents Submitted**

---

**Patents Awarded**

---

**Awards**

---

**Graduate Students**

<u>NAME</u>	<u>PERCENT SUPPORTED</u>
<b>FTE Equivalent:</b>	
<b>Total Number:</b>	

---

**Names of Post Doctorates**

<u>NAME</u>	<u>PERCENT SUPPORTED</u>
<b>FTE Equivalent:</b>	
<b>Total Number:</b>	

---

**Names of Faculty Supported**

<u>NAME</u>	<u>PERCENT SUPPORTED</u>
<b>FTE Equivalent:</b>	
<b>Total Number:</b>	

---

**Names of Under Graduate students supported**

<u>NAME</u>	<u>PERCENT SUPPORTED</u>
<b>FTE Equivalent:</b>	
<b>Total Number:</b>	

**Student Metrics**

This section only applies to graduating undergraduates supported by this agreement in this reporting period

The number of undergraduates funded by this agreement who graduated during this period: ..... 0.00

The number of undergraduates funded by this agreement who graduated during this period with a degree in science, mathematics, engineering, or technology fields:..... 0.00

The number of undergraduates funded by your agreement who graduated during this period and will continue to pursue a graduate or Ph.D. degree in science, mathematics, engineering, or technology fields:..... 0.00

Number of graduating undergraduates who achieved a 3.5 GPA to 4.0 (4.0 max scale):..... 0.00

Number of graduating undergraduates funded by a DoD funded Center of Excellence grant for Education, Research and Engineering:..... 0.00

The number of undergraduates funded by your agreement who graduated during this period and intend to work for the Department of Defense ..... 0.00

The number of undergraduates funded by your agreement who graduated during this period and will receive scholarships or fellowships for further studies in science, mathematics, engineering or technology fields:..... 0.00

**Names of Personnel receiving masters degrees**

NAME  
**Total Number:**

**Names of personnel receiving PHDs**

NAME  
**Total Number:**

**Names of other research staff**

NAME                      PERCENT SUPPORTED  
**FTE Equivalent:**  
**Total Number:**

**Sub Contractors (DD882)**

**Inventions (DD882)**

**Scientific Progress**

**Technology Transfer**

## 2016 OSA Imaging and Applied Optics Congress – IS Conference

### CONFERENCE PROCEEDINGS

#### Report Submitted to:

U. S. Army Research Office  
ATTN: Dr. Liyi Dai  
P. O. Box 12211  
Research Triangle Park, NC 27709-2211

#### Submitting Institute:

Optical Society of America  
2010 Massachusetts Ave NW  
Washington, D.C. 20036  
Make the Grant to the Optical Society of America  
IRS NO. 53-0259696  
Congressional District: District of Columbia

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<b>Project Investigator:</b>	Dr. Thomas Giallorenzi, grants@osa.org, 202-416-1925
<b>Report Type:</b>	Final

## **FOREWORD**

The Optical Society of America received a grant in the amount of \$5,000 from Army Research Office (ARO) for the support of the 2016 OSA Imaging and Applied Optics Congress – IS Conference, which was held in Heidelberg, Germany on 25-28 July 2016. This support is greatly appreciated.

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## **DISTRIBUTION STATEMENT**

DISTRIBUTION A. Approved for public release: distribution unlimited.

## **ABSTRACT**

Imaging Systems and Applications (IS) Meeting was a four-day conference specializing in imaging system design and components, imaging modalities and systems, and applications of military, industrial, medical and consumer imaging. It exposed attendees to in-depth learning of optical sensing and imaging and their applications from internationally recognized academic and industry leaders in the field. Invited speakers from the military, academic, and commercial imaging sectors addressed the current status and future of imaging technologies and capabilities in their organizations.

The goal of this Meeting was to highlight how different materials, components, and processing combine to create imaging systems and determine their performance. IS captured the state-of-the-art in unique light gathering optics, image sensor architectures and technology, on and off chip digital image processing, and methods for compression and transmission. The meeting highlighted the leading-edge use of imaging systems in microscopy, invasive and non-invasive surgery, remote sensing, astronomical observations and imaging from nearby planets to outer space, digital cinematography capture and projection, computational photography and consumer imaging.

The Meeting convened 41 attendees, hosted 19 invited speakers and featured 37 contributed presentations, including 9 poster presentations.

## **GOALS AND OBJECTIVES**

Major Goals:

1. Showcase the latest advances and identify future trends in the field of imaging systems and applications. To enable this, conference chairs and committee members in consultation with industry leaders create a program that attracts distinguished experts and fosters in-depth exploration of topics, enables open dialog, and facilitates one-on-one interaction.
2. Gain recognition and share discoveries with colleagues, luminaries and industry leaders. Peer-reviewed presentations ensure high-quality presentations on important, timely and emerging topics. Accepted papers are published in OSA Publishing's Digital Library and indexed in Ei Compendex and Scopus.
3. Connect with others, meet with colleagues and thought leaders while making new contacts and forging new collaborative partnerships. The meeting is structured to maximize networking opportunities.

4. Engage with the industry and offer opportunities to meet with exhibitors. Participants can hear about the latest products and services, but more importantly, learn about entrepreneurial opportunities and how scientific innovations translate to the market.

#### Specific Objectives:

1. To organize a four-day Conference on imaging systems and applications.
2. To convene approximately 50 attendees including faculty, early career professionals, post-docs, students, industrial scientists, and exhibitors.
3. To invite approximately 20 speakers.
4. To provide opportunities, where appropriate, for training and professional development through lectures, networking events, activities for students and young professionals, poster sessions and research sharing.
5. To provide funds for students and young professionals with limited resources to travel and attend the Conference. OSA award grants to students based on a combination of diversity, financial need and quality of the students' work, as well as the award committee's evaluation of the applicant's potential for future success.
6. To accept and publish peer-reviewed papers in OSA Publishing's Digital Library and indexed in Ei Compendex and Scopus.
7. To feature approximately seven exhibits in order to help participants engage with the industry.

## ACCOMPLISHMENTS

Imaging Systems and Applications (IS) Meeting was a four-day conference that exposed attendees to in-depth learning of optical sensing and imaging and their applications from internationally recognized academic and industry leaders in the field. The scope included all aspects of the field. IS brought together experts from many different scientific and engineering disciplines who contribute to the design and integration of optics, sensors, digital processing and displays in imaging systems. IS captured the state-of-the-art in unique light gathering optics, image sensor architectures and technology, on and off chip digital image processing, and methods for compression and transmission. The meeting highlighted the leading-edge use of imaging systems in microscopy, invasive and non-invasive surgery, remote sensing, astronomical observations and imaging from nearby planets to outer space, digital cinematography capture and projection, computational photography and consumer imaging.

IS was an "all-encompassing" topical meeting specializing in imaging system design and components, imaging modalities and systems, and applications of military, industrial, medical and consumer imaging. Its aim was to highlight how different materials, components, and processing combine to create imaging systems and determine their performance. Invited speakers from the military, academic, and commercial imaging sectors addressed the current status and future of imaging technologies and capabilities in their organizations. The conference hosted one keynote speaker Josef Bille, University of Heidelberg, Germany, 19 invited speakers, 28 contributed oral presentations, and 9 poster presentations.

The IS program consisted of plenary and technical sessions, networking events, professional development programs, poster presentations and research sharing. The curriculum structure allowed for student education, networking, and opportunities for students to interact with lecturers to enhance professional development.

Please see Appendix A. for a detailed schedule.

### Significant Results

1. 41 individuals attended IS.
2. 14 students attended the Meeting.
3. IS hosted 19 invited speakers who presented a variety of topics over the course of four days.
4. There were 37 contributed presentations, including 9 poster presentations.
5. There were IS hosted 13 participating companies
6. OSA provided the staffing and support for the planning and execution of the program throughout the whole performance period. Additional funds were sought to help lower the costs to all students and provide travel grants to ensure that deserving students in need of assistance were able to attend.
7. The ARO grant funds were used to cover travel and registration costs for 10 participants from the United States who would have been unable to attend without assistance. A portion of the funds was also used for grant management and processing.
8. There were 16 countries represented.
9. IS provided diversity in student enrollment, including 11% female students.

### ARO Grant Funds

<b>1. Participants Support</b>		<b>\$3,500</b>
Jorg Fischer	Heidelberg Engineering	\$670
Boyd Fowler	Omnivision Technologies	\$230
Guy Meynants	CMOS Image Sensor	\$230
Ori Katz	Hebrew University of Jerusalem	\$230
Demetri Psaltis	École Polytechnique Fédérale de Lausanne	\$230
Eldon Puckrin	Defence Research and Development Canada	\$230
Grover Swartzlander	Rochester Institute of Technology	\$670
Peter Saggau	Allen Institute for Brain Science	\$230

Rajesh Menon	University of Utah	\$670
Kristina Irsch	Johns Hopkins University	\$110
<b>2. Project Management Support</b>		<b>\$1,500</b>

#### Invited Speakers and their Presentations

- Andreas Erdmann, Fraunhofer IISB, Germany, Resolution Enhancements for Semiconductor Lithography: A Computational Perspective , Invited
- Jorg Fischer, New Ophthalmic Imaging Procedures , Invited
- Boyd Fowler, Omnivision Technologies, Highlights of 2015 International Image Sensor Workshop , Invited
- Moti Fridman, Bar Ilan University, Israel, Temporal Lens Array , Invited
- Amal Ghosh, eMagin Corp., United States, Recent Advances in High Brightness OLED Microdisplays, Invited
- Robert Henderson, University of Edinburgh, United Kingdom, Avalanche-mode High Frame Rate, Low Light CMOS Single Photon Image Sensors , Invited
- Bahram Javidi, University of Connecticut, United States, Advances in 3D Imaging with Applications to Displays, Computational Imaging, Optical Security, and Healthcare , Invited
- Achuta Kadambi, MIT, United States, Macroscopic Interferometry with Electrons, Instead of Photons , Invited
- Ori Katz, Hebrew University of Jerusalem, Israel, To be determined , Invited
- Hendrik Lensch, Eberhard Karls University Tübingen, Germany, To be determined, Invited
- Gao Liang, University of Illinois Urbana-Champaign, United States, Compressed Ultrafast Photography: Redefining the Limit of Passive Ultrafast Imaging , Invited
- John MacEachin, Sierra Nevada Corporation, United States, Optical Design Considerations for Wide Area Imaging Systems , Invited
- Guy Meynants, CMOSIS, Belgium, High Resolution and Large Format CMOS Image Sensors for Professional Applications , Invited
- Pantazis Mouroulis, Jet Propulsion Laboratory, United States, Imaging Spectroscopy Technologies and Applications, Invited
- Demetri Psaltis, Ecole Polytechnique Federale de Lausanne, Switzerland, The Memory Effect in Multicore Fibers , Invited
- Eldon Puckrin, Defence R&D Canada, Canada, Developments in Thermal HSI Sensing at Defence R&D Canada - Valcartier Research Centre , Invited
- Grover Swartzlander, Rochester Institute of Technology, United States, To be determined, Invited
- Martin Wegener, Karlsruher Institut für Technologie, Germany, To be determined, Invited
- Josef Bille, Ruprecht-Karls-Universität Heidelberg, Adaptive Optics in Vision Science and Ophthalmology, Keynote

## Other Achievements

### 1. Plenary Sessions:

- Trends, Advances and Prospects of Optical Imaging in Germany and Beyond  
Michael Totzeck, Fellow, Corporate Research and Technology, Carl Zeiss AG, Germany
- Coherent X-ray Imaging  
Keith Nugent, Deputy vice-Chancellor (Research), La Trobe University, Australia
- Fifty Years of Image Science  
Chris Dainty, Professorial Research Associate, University College London, UK

### 2. 3D & DH Joint Keynote

Real-Time and Real-Color Video Imaging System by Photonics Polymers for 8K  
Yasuhiro Koike, Professor, Keio University; Director, Keio Photonics Research Institute;  
Member of Keio University Board of Councilor, Japan

### 3. AO & IS Joint Keynote

Adaptive Optics in Vision Science and Ophthalmology  
Josef Bille, University of Heidelberg, Germany

### 4. DH Keynote

The Applications of Inverse Scattering Principles with Digital Holography  
YongKeun Park, Associate Professor, Department of Physics, Korea Advanced Inst of  
Science & Tech, South Korea

### 5. AIO and COSI Keynote

Miniaturized 3D Imaging and Sensing Modules  
Markus Rossi, Chief Innovation Officer, Heptagon Advanced MicroOptics Pte Ltd,  
Switzerland

## Training and Professional Development Opportunities

1. The Keys to a Successful Career in Optics; Student & Young Professional Career Panel  
The OSA Foundation invited the OSA Members-only career panel for students and young professionals. Hosted by 2016 OSA Ambassadors Aline Dinkelaker and Bettina Heim, the panel featured plenary speakers Chris Dainty, Keith Nugent and Michel Totzeck who discussed career options, the current job market and new technologies to look out for that might be exciting to work with in the future with participants.

### 2. Poster Sessions

Posters are an integral part of the technical program and offer a unique networking opportunity, where presenters can discuss their results one-to-one with interested parties. The Meeting featured two poster sessions.

### 3. OSA Holography and Diffractive Optics Technical Group Networking Event

Attendees were invited to the Holography and Diffractive Optics Technical Group for a chance to learn more about this group while connecting with their peers and colleagues in the community. Yunlong Sheng, who serves as the technical group's chair, and Pascal Picart, who serves as vice chair, shared their vision for the technical group and sought attendees' input on future activities and events.

### 4. OSA 100th Celebration: Light the Future with Joseph Izatt and Bernard Kress

Attendees had a chance to celebrate OSA'S 100th Anniversary! OSA's Imaging and Applied

Optics Light The Future speaker series featured Joseph Izatt, professor of Biophotonics, Duke University, Lighting up the Future of Medical Imaging and Image-guided Therapy and OSA Fellow Bernard Kress, Microsoft, USA, The Light Years Ahead: How Today's Promising Augmented and Virtual Reality Markets Help Shape New Optics Frontiers.

## **DISSEMINATION**

The results of the IS Meeting have been disseminated to communities of interest through the following channels:

- OSA website ([http://www.osa.org/en-us/meetings/osa\\_meeting\\_archives/2016/imaging\\_systems\\_and\\_applications/](http://www.osa.org/en-us/meetings/osa_meeting_archives/2016/imaging_systems_and_applications/))
- OSA Publishing's Digital Library and indexed in Ei Compendex and Scopus (<https://www.osapublishing.org/conference.cfm?meetingid=126&yr=2016>)
- Program Book ([http://www.osa.org/osaorg/media/osa.media/Meetings/Archives/2016/2016\\_Imaging\\_Program.pdf](http://www.osa.org/osaorg/media/osa.media/Meetings/Archives/2016/2016_Imaging_Program.pdf))
- OSA Blog ([http://www.osa.org/en-us/the\\_optical\\_society\\_blog/](http://www.osa.org/en-us/the_optical_society_blog/)).

## APPENDIX

### Appendix A. Schedule at a Glance

	Sunday, 24 July	Monday, 25 July	Tuesday, 26 July	Wednesday, 27 July	Thursday, 28 July
	Registration 13:30-17:00	Registration 7:30-18:30	Registration 8:00-18:00	Registration 8:00-17:30	Registration 8:30-17:30
08:00					
09:00		Plenary Session (9:00 - 11:00)	Technical Sessions (9:00 - 10:30)	Technical Sessions (9:00 - 10:30)	Technical Sessions (9:00 - 10:30)
10:00					
11:00		Coffee Break/Exhibits	Coffee Break/Exhibits	Coffee Break/Exhibits	Coffee Break/Exhibits
12:00		Technical Sessions (11:30 - 12:30)	Technical Sessions (11:30 - 12:30)	Technical Sessions (11:30 - 12:30)	Technical Sessions (11:30 - 12:30)
13:00		Lunch 12:30 - 14:00	Poster Session with Lunch 12:30 - 14:00	Lunch 12:30 - 14:00	Lunch 12:30 - 14:00
14:00	Registration Open	Technical Sessions (14:00 - 16:00)	Free Afternoon (14:00 - 16:30)	Technical Sessions (14:00 - 15:30)	Technical Sessions (14:00 - 16:00)
15:00				Poster Session & Exhibits w/Beverage Break & Snacks (15:30 - 17:00)	
16:00		Beverage Break /Exhibits	Technical Session (16:30 - 18:00)		Beverage Break/Exhibits
17:00		Technical Sessions (17:00 - 18:00)		Technical Sessions (17:00 - 19:30)	Technical Session (17:00 - 18:30)
18:00			OSA Centennial: Light the Future Event (18:00 -19:30)		
19:00		Conference Reception River Cruise Ticket Required	Followed by Reception		
20:00					

### Appendix B. Conference Publications for IS and IS Joint Sessions

J. Fischer, "In Vivo Autofluorescence Imaging of the Human Retina: New Developments for a Well-established Imaging Modality," in *Imaging and Applied Optics 2016*, (Optical Society of America, 2016), paper IM3F.1.

V. Karitans, "Model Eye Incorporating a Manually Tunable Polymer Lens and Microfluidics Chamber for Simulation of Vitreous Floaters," in *Imaging and Applied Optics 2016*, (Optical Society of America, 2016), paper IM3F.2.

V. Mazlin, E. Dalimier, K. Grieve, K. Irsch, J. Sahel, M. Fink, and C. Boccara, "Non-Contact Full-Field Optical Coherence Tomography: A Step Towards In-Vivo Cellular-Level Imaging of the Human Cornea," in *Imaging and Applied Optics 2016*, (Optical Society of America, 2016), paper IM3F.3.

S. Nishimura, "In Vivo High-speed Visualization by 8K Technology, 2P, and Minimized Microscope," in *Imaging and Applied Optics 2016*, (Optical Society of America, 2016), paper IM3F.4.

F. PARNET, J. Fade, and m. alouini, "Polarimetric Imaging by Orthogonality Breaking: From Singlemode to Few-mode Fiber Polarimetric Endoscopy?," in *Imaging and Applied Optics 2016*, (Optical Society of America, 2016), paper IM3F.5.

M. Theuring, N. Dimitriadis, B. Grychtol, and N. Deliolanis, "Simultaneous Color Imaging and



Fluorescence Detection using a Single Camera Sensor," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IM3F.6.

P. Xiu, Y. Fang, Y. Wang, J. Fan, C. Kuang, Y. Xu, and X. Liu, "High Resolution Tomographic Phase Microscopy," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IM3F.7.

M. Wegener, "3D Optical Laser Lithography: Recent Progress," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IM4F.1.

A. Jehle, "Spatial Light Modulators in Laser Lithography Systems," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IM4F.2.

A. Erdmann, "Resolution Enhancements for Semiconductor Lithography: A Computational Perspective," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IM4F.3.

A. Majumder, X. Wan, B. Pollock, T. Andrew, and R. Menon, "Modelling the Performance of Photochromic Thin Films to Achieve Super-resolution Nanopatterning by Absorbance Modulation at Low Light Intensity," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IM4F.4.

T. Stenau and K. Brenner, "Diffractive Lenses with Overlapping Aperture A New Tool in Scanning Microscopy," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IT1F.1.

Y. Zhou, S. Feng, Q. Ma, and C. Yuan, "Image edge enhancement using Airy spiral filter," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IT1F.2.

Y. Fang, C. Kuang, Q. Liu, and X. Liu, "Saturated pattern-illuminated Fourier ptychography microscopy," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IT1F.3.

W. Wang and Y. Wang, "Dual-color super-resolution imaging by fluorescence emission difference microscopy," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IT1F.4.

M. Fridman, "Temporal Lens Array," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IT1F.5.

B. Fowler, "Highlights of 2015 International Image Sensor Workshop," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IT2F.1.

G. Meynants, "High Resolution and Large Format CMOS Image Sensors for Professional Applications," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IT2F.2.

N. Dutton, I. Gyongy, L. Parmesan, and R. Henderson, "Avalanche-mode High Frame Rate, Low

Light CMOS Single Photon Image Sensors," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IT4E.1.

R. Warburton, S. Chan, G. Gariepy, Y. Altmann, S. McLaughlin, J. Leach, and D. Faccio, "Real-Time Tracking of Hidden Objects with Single-Pixel Detectors," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IT4E.2.

J. Leach, "Observation of Laser Pulse Propagation in Optical Fibers with a SPAD Camera," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IT4E.3.

M. Agnew, "Imaging Quantum Correlations with a Single-Photon Detector Array," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper IT4E.4.

N. Stasio, D. Conkey, C. Moser, and D. Psaltis, "The Memory Effect in Multicore Fibers," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper ITh1F.1.

A. Shanker, A. Wojdyla, G. Gunjala, J. Dong, M. Benk, A. Neureuther, K. Goldberg, and L. Waller, "Off-axis Aberration Estimation in an EUV Microscope Using Natural Speckle," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper ITh1F.2.

A. Kanaev, K. Judd, P. Lebow, and A. Watnik, "Imaging Through Turbid Media Using Time-Gating Holographic Detection," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper ITh1F.3.

O. Katz, "To be determined," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper ITh1F.4.

A. Ghosh, E. Donoghue, I. Khayrullin, T. Ali, I. Wacyk, K. Tice, F. Vazan, L. Sziklas, D. Fellowes, and R. Draper, "Recent Advances in High Brightness OLED Microdisplays," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper ITh2F.1.

J. MacEachin and M. Janosky, "Optical Design Considerations for Wide Area Imaging Systems," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper ITh2F.2.

H. Lensch, "To be determined," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper ITh3D.2.

A. Lyons, M. Clerici, G. Spalding, R. Warburton, C. Aniculaesei, J. Richards, J. Leach, and D. Faccio, "Imaging of Superluminal Scattering Sources: Time Reversal, Pair Creation and Annihilation," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper ITh3D.3.

P. Saggau, "LARGE-SCALE HIGH-THROUGHPUT APPROACHES FOR OPTICAL IMAGING AND STIMULATION OF THE BRAIN," in Imaging and Applied Optics 2016, (Optical Society of America, 2016), paper ITh3D.4.

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## Appendix C. List of IS Committee Members

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