

# PROCEEDINGS OF SPIE

[SPIDigitalLibrary.org/conference-proceedings-of-spie](https://spiedigitallibrary.org/conference-proceedings-of-spie)

## Front Matter: Volume 9971

, "Front Matter: Volume 9971," Proc. SPIE 9971, Applications of Digital Image Processing XXXIX, 997101 (2 December 2016); doi: 10.1117/12.2256427

**SPIE.**

Event: SPIE Optical Engineering + Applications, 2016, San Diego, California, United States

PROCEEDINGS OF SPIE

# ***Applications of Digital Image Processing XXXIX***

**Andrew G. Tescher**  
*Editor*

**29 August–1 September 2016**  
**San Diego, California, United States**

*Sponsored and Published by*  
SPIE

**Volume 9971**  
Part One of Two Parts

Proceedings of SPIE 0277-786X, V. 9971

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

Applications of Digital Image Processing XXXIX, edited by Andrew G. Tescher, Proc. of SPIE  
Vol. 9971, 997101 · © 2016 SPIE · CCC code: 0277-786X/16/\$18 · doi: 10.1117/12.2256427

Proc. of SPIE Vol. 9971 997101-1

The papers in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. Additional papers and presentation recordings may be available online in the SPIE Digital Library at [SPIDigitalLibrary.org](http://SPIDigitalLibrary.org).

The papers reflect the work and thoughts of the authors and are published herein as submitted. The publisher is not responsible for the validity of the information or for any outcomes resulting from reliance thereon.

Please use the following format to cite material from these Proceedings:

Author(s), "Title of Paper," in *Applications of Digital Image Processing XXXIX*, edited by Andrew G. Tescher, Proceedings of SPIE Vol. 9971 (SPIE, Bellingham, WA, 2016) Six-digit Article CID Number.

ISSN: 0277-786X  
ISSN: 1996-756X (electronic)  
ISBN: 9781510603332  
ISBN: 9781510603349 (electronic)

Published by

**SPIE**

P.O. Box 10, Bellingham, Washington 98227-0010 USA  
Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445  
[SPIE.org](http://SPIE.org)

Copyright © 2016, Society of Photo-Optical Instrumentation Engineers.

Copying of material in this book for internal or personal use, or for the internal or personal use of specific clients, beyond the fair use provisions granted by the U.S. Copyright Law is authorized by SPIE subject to payment of copying fees. The Transactional Reporting Service base fee for this volume is \$18.00 per article (or portion thereof), which should be paid directly to the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923. Payment may also be made electronically through CCC Online at [copyright.com](http://copyright.com). Other copying for republication, resale, advertising or promotion, or any form of systematic or multiple reproduction of any material in this book is prohibited except with permission in writing from the publisher. The CCC fee code is 0277-786X/16/\$18.00.

Printed in the United States of America.

Publication of record for individual papers is online in the SPIE Digital Library.

**SPIE. DIGITAL  
LIBRARY**

[SPIDigitalLibrary.org](http://SPIDigitalLibrary.org)

---

**Paper Numbering:** *Proceedings of SPIE* follow an e-First publication model. A unique citation identifier (CID) number is assigned to each article at the time of publication. Utilization of CIDs allows articles to be fully citable as soon as they are published online, and connects the same identifier to all online and print versions of the publication. SPIE uses a six-digit CID article numbering system structured as follows:

- The first four digits correspond to the SPIE volume number.
- The last two digits indicate publication order within the volume using a Base 36 numbering system employing both numerals and letters. These two-number sets start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B ... 0Z, followed by 10-1Z, 20-2Z, etc. The CID Number appears on each page of the manuscript.

# Contents

ix *Authors*  
xiii *Conference Committee*

## Part One

<b>SESSION 1</b>	<b>ESTIMATION AND RECONSTRUCTION I</b>
9971 02	<b>Accurate estimation of principal point using three mutually orthogonal horizon lines</b> [9971-1]
9971 03	<b>Automatic Mexican sign language and digits recognition using normalized central moments</b> [9971-3]
9971 04	<b>An effective hair detection algorithm for dermoscopic melanoma images of skin lesions</b> [9971-4]
9971 05	<b>Comparison of algorithms for automatic border detection of melanoma in dermoscopy images</b> [9971-5]
9971 06	<b>3D reconstruction from images taken with a coaxial camera rig</b> [9971-6]
<b>SESSION 2</b>	<b>HDR I</b>
9971 07	<b>High dynamic range subjective testing</b> [9971-8]
9971 08	<b>Single-layer HDR video coding with SDR backward compatibility</b> [9971-9]
9971 09	<b>FV10: an efficient single-layer approach to HDR coding, with backward compatibility options</b> [9971-10]
9971 0A	<b>Analysis of visual quality improvements provided by known tools for HDR content</b> [9971-11]
<b>SESSION 3</b>	<b>HDR II</b>
9971 0B	<b>Adaptive resampler for high dynamic range and wide color gamut video compression</b> [9971-12]
9971 0C	<b>HDR video synthesis for vision systems in dynamic scenes</b> [9971-13]
9971 0D	<b>Tone compatibility between HDR displays</b> [9971-14]
9971 0E	<b>HDR color conversion with varying distortion metrics</b> [9971-15]
9971 0F	<b>Application of field dependent polynomial model</b> [9971-102]

- 9971 OH **Evaluation of color mapping algorithms in different color spaces** [9971-18]
- 9971 OI **Expert viewing protocol performance study: the case of subjective evaluation of HDR coding** [9971-21]

---

**SESSION 4 PLENOPTIC IMAGING I**

---

- 9971 OJ **Development and deployment of a tiled full parallax light field display system** [9971-22]
- 9971 OL **Improved integral images compression based on multi-view extraction** [9971-24]
- 9971 OM **Accuracy and robustness evaluation in stereo matching** [9971-25]
- 9971 OO **Capturing the plenoptic function in a swipe** [9971-27]
- 9971 OP **Improved inter-layer prediction for light field content coding with display scalability** [9971-28]
- 9971 OQ **Impact of multi-focused images on recognition of soft biometric traits** [9971-29]
- 9971 OR **An improved enhancement layer for octree based point cloud compression with plane projection approximation** [9971-30]
- 9971 OS **Three-dimensional rendering of computer-generated holograms acquired from point-clouds on light field displays** [9971-31]
- 9971 OT **Representation and coding of large-scale 3D dynamic maps** [9971-32]
- 9971 OU **A real-time 3D end-to-end augmented reality system (and its representation transformations)** [9971-33]

---

**SESSION 5 PLENOPTIC IMAGING II**

---

- 9971 OV **Compressed digital holography: from micro towards macro** [9971-34]
- 9971 OW **Photonics-enhanced smart imaging systems** [9971-35]
- 9971 OX **A new approach to subjectively assess quality of plenoptic content** [9971-36]

---

**SESSION 6 ESTIMATION AND RECONSTRUCTION II**

---

- 9971 OZ **Asteroid detection using a single multi-wavelength CCD scan** [9971-38]
- 9971 12 **Quick probabilistic binary image matching: changing the rules of the game** [9971-41]
- 9971 13 **Anomaly detection of blast furnace condition using tuyere cameras** [9971-42]

---

**SESSION 7 ROYALTY-FREE VIDEO**

---

- 9971 14 **Novel intra prediction modes for VP10 codec** [9971-43]
- 9971 15 **Perceptually-driven video coding with the Daala video codec** [9971-44]
- 9971 16 **A large-scale video codec comparison of x264, x265 and libvpx for practical VOD applications** [9971-45]
- 9971 17 **Performance evaluation of MPEG internet video coding** [9971-46]
- 9971 18 **Recent improvements to Thor with emphasis on perceptual coding tools** [9971-47]
- 9971 19 **On transform coding tools under development for VP10** [9971-48]
- 9971 1B **Patent landscape for royalty-free video coding** [9971-50]
- 9971 1C **Performance comparison of HEVC reference SW, x265 and VPX on 8-bit 1080p content** [9971-51]
- 9971 1D **FVP10: enhancements of VPX for SDR/HDR applications** [9971-20]

---

**SESSION 8 ESTIMATION AND RECONSTRUCTION III**

---

- 9971 1E **Optical remote sensing and correlation of office equipment functional state and stress levels via power quality disturbances inefficiencies** [9971-52]
- 9971 1F **Computer-aided diagnostic approach of dermoscopy images acquiring relevant features** [9971-54]
- 9971 1G **A dehazing algorithm with multiple simultaneously captured images** [9971-55]

---

**SESSION 9 COMPRESSION AND SYSTEMS I**

---

- 9971 1I **Improved lossless intra coding for next generation video coding** [9971-57]
- 9971 1J **Scene-aware joint global and local homographic video coding** [9971-58]
- 9971 1K **Sub-block motion derivation for merge mode in HEVC** [9971-59]
- 9971 1L **Image compression algorithm using wavelet transform** [9971-60]

**Part Two**

- 9971 1M **Layer-based buffer aware rate adaptation design for SHVC video streaming** [9971-61]
- 9971 1N **High speed, low-complexity image coding for IP-transport with JPEG XS** [9971-63]

9971 1O **JPEG backward compatible coding of omnidirectional images** [9971-64]

---

**SESSION 10 COMPRESSION AND SYSTEMS II**

---

- 9971 1P **Visibility thresholds for visually lossy JPEG2000** [9971-65]
- 9971 1Q **Prediction of visual saliency in video with deep CNNs** [9971-66]
- 9971 1R **Consecutive pedestrian tracking in large scale space** [9971-67]
- 9971 1S **No-reference face image assessment based on deep features** [9971-69]
- 9971 1T **Deep RNNs for video denoising** [9971-70]
- 9971 1U **Global velocity constrained cloud motion prediction for short-term solar forecasting**  
[9971-71]
- 9971 1X **Towards an animated JPEG** [9971-74]

---

**POSTER SESSION**

---

- 9971 20 **Super-resolution reconstruction algorithm based on adaptive convolution kernel size selection** [9971-2]
- 9971 21 **Evaluation of color grading impact in restoration process of archive films** [9971-16]
- 9971 23 **Facial landmark detection in real-time with correlation filtering** [9971-76]
- 9971 24 **Effective indexing for face recognition** [9971-77]
- 9971 25 **A technique of experimental and numerical analysis of influence of defects in the intraocular lens on the retinal image quality** [9971-78]
- 9971 26 **Sparsity based target detection for compressive spectral imagery** [9971-79]
- 9971 28 **Centroids evaluation of the images obtained with the conical null-screen corneal topographer** [9971-81]
- 9971 29 **Correlation-based tracking using tunable training and Kalman prediction** [9971-82]
- 9971 2A **A robust HOG-based descriptor for pattern recognition** [9971-83]
- 9971 2B **Methods and means of laser polarimetry microscopy of optically anisotropic biological layers** [9971-84]
- 9971 2C **Polarization-correlation optical microscopy of anisotropic biological layers** [9971-85]
- 9971 2D **A modified iterative closest point algorithm for shape registration** [9971-86]

- 9971 2G **Fourier-Stokes polarimetry and the spatial-frequency filtering of phase anisotropy manifestations in the diagnostic tasks** [9971-89]
- 9971 2H **An automatic registration system of multi-view 3D measurement data using two-axis turntables** [9971-90]
- 9971 2I **Fast estimate of Hartley entropy in image sharpening** [9971-91]
- 9971 2J **Fast algorithm for calculation of linear variations** [9971-92]
- 9971 2K **Mueller-matrix differentiation of fibrillar networks of biological tissues with different phase and amplitude anisotropy** [9971-93]
- 9971 2L **Mueller-matrix mapping of optically anisotropic fluorophores of molecular biological tissues in the diagnosis of death causes** [9971-94]
- 9971 2M **Meteor tracking via local pattern clustering in spatio-temporal domain** [9971-95]
- 9971 2N **Thermography based diagnosis of ruptured anterior cruciate ligament (ACL) in canines** [9971-96]
- 9971 2O **Identification of superficial defects in reconstructed 3D objects using phase-shifting fringe projection** [9971-97]
- 9971 2P **Time-space analysis in photoelasticity images using recurrent neural networks to detect zones with stress concentration** [9971-99]
- 9971 2Q **Determination of particle sizes in hydraulic liquids based on image- and subpixel processing** [9971-100]
- 9971 2R **A correlation-based algorithm for recognition and tracking of partially occluded objects** [9971-101]
- 9971 2S **Automatic optical inspection system design for golf ball** [9971-103]
- 9971 2T **Total variation regularization with bounded linear variations** [9971-104]
- 9971 2U **Sea surface target detection and recognition algorithm based on local and global salient region detection** [9971-105]
- 9971 2V **Dependences between kinetics of the human eye pupil and blood pulsation** [9971-106]
- 9971 2W **A local correlation based visual saliency model** [9971-107]
- 9971 2X **A fast preview restoration algorithm for space-variant degraded images** [9971-108]
- 9971 2Y **Clustered impulse noise removal from color images with spatially connected rank filtering** [9971-110]
- 9971 2Z **An efficient algorithm for matching of SLAM video sequences** [9971-111]



- 9971 30 **Video quality assessment based on correlation between spatiotemporal motion energies** [9971-113]
- 9971 31 **Face recognition based on matching of local features on 3D dynamic range sequences** [9971-114]
- 9971 32 **Moving object detection via low-rank total variation regularization** [9971-115]
- 9971 33 **Visual grouping under isoluminant condition: impact of mental fatigue** [9971-116]
- 9971 34 **Face detection based on multiple kernel learning algorithm** [9971-119]
- 9971 37 **Features of volume with transparent particles correlation analysis** [9971-122]
- 9971 38 **Comprehensive evaluation for fused images of multispectral and panchromatic images based on entropy weight method** [9971-123]
- 9971 3A **Derivation of PHD-TBD filter and comments on 'joint detection and estimation of multiple objects from image observations'** [9971-125]
- 9971 3B **Defect inspection in hot slab surface: multi-source CCD imaging based fuzzy-rough sets method** [9971-126]
- 9971 3E **Advances to the development of a basic Mexican sign-to-speech and text language translator** [9971-129]
- 9971 3F **A face recognition algorithm based on thermal and visible data** [9971-130]
- 9971 3G **Image processing and pattern recognition with CVItools MATLAB toolbox: automatic creation of masks for veterinary thermographic images** [9971-131]

# 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.

Aaron, Anne, 16  
Aerts, Maarten, 0U  
Agarwal, Shubham, 14  
Ahanonu, Eze L., 1P  
Ainala, Khartik, 0R  
Alekshev, Fedor, 2J  
Alekshev, Mikhail, 2J  
Allan, Brahim, 07  
Alpaslan, Zahir Y., 0J  
Alshina, Elena, 0A  
Alturki, Abdulrahman S., 02  
Alvarez-Xochihua, Omar, 2Z  
Arguello Fuentes, Henry, 26  
Armengol-Cruz, Victor de Emanuel, 28  
Asbun, Eduardo, 1M  
Ashok, Amit, 1P  
Balazyuk, V. N., 2C  
Bankoski, Jim, 19  
Baroncini, Giacomo, 0I  
Baroncini, Vittorio, 0I  
Bednár, Jan, 0F  
Bednarski, Valerie R., 1E  
Belay, Gebirie Y., 0W  
Benois-Pineau, Jenny, 1Q  
Bete, Diana, 33  
Bettens, Stijn, 0V  
Bilgin, Ali, 1P  
Bist, Cambodge, 0D  
Bjontegaard, Gisle, 18  
Blinder, David, 0S, 0V  
Boada, David Alberto, 26  
Boitard, Ronan, 0H  
Branch, John W., 2O, 2P  
Briñez de León, Juan C., 2P  
Bronner, Timothée-Florian, 0H  
Brookes, Mike, 0O  
Bykov, A., 2C  
Cadena, Franklin, 1L  
Cadena, Luis, 1L  
Cagnazzo, Marco, 0L, 0V  
Cai, Zewei, 2H  
Campos-García, Manuel, 28  
Cao, Siming, 34  
Castillejos-Fernández, H., 1F  
Ceulemans, Beerend, 0S  
Chaabouni, Souad, 1Q  
Chakraborti, Damayanti, 04  
Chen, Chih-Lin, 2S  
Chen, Hailong, 2H  
Chen, Jianle, 1K  
Chen, Qian, 20  
Chen, Qian, 32  
Chen, Tao, 0B  
Chen, Xinyuan, 1T  
Chen, Yanjun, 1U  
Chen, Ying, 1K  
Chen, Yue, 19  
Chien, Wei-Jung, 1K  
Chiesa, V., 0Q  
Cho, Yushin, 15  
Choi, Kwang Pyo, 0A  
Chu, Xuhong, 2U  
Cohen, Robert A., 0T  
Conti, Caroline, 0P  
Contreras, Viridiana, 23  
Cossio-Guerrero, Cesar, 28  
Cozot, Rémi, 0D  
Daede, Thomas J., 15  
Dahal, Rohini, 2N, 3G  
Dai, Wei, 09, 1C, 1D  
Davies, Thomas, 18  
De Busser, Jeroen, 0U  
De Cock, Jan, 16  
Descampe, Antonin, 1N  
Diaz-Escobar, Julia, 2A  
Diaz-Gonzalez, G., 3E  
Díaz-Ramírez, Víctor H., 23, 2Z  
Díaz-Uribe, José Rufino, 28  
Dong, Liquan, 2U  
Doronin, A., 2C  
Dragotti, Pier Luigi, 0O  
Dricot, Antoine, 0L  
Dubolazov, A. V., 2B, 2C, 2G  
Dubolazov, A. V., 2K, 2L  
Ducla Soares, Luís, 0P  
Ducloux, Xavier, 0D  
Dufaux, Frédéric, 0L, 0V  
Dugelay, J. L., 0Q  
Ebrahimi, Touradj, 0H, 0X, 1O, 1X  
Echeagaray-Patrón, B. Adriana, 31  
Egge, Nathan E., 15  
El-Ghoroury, Hussein S., 0J  
Escalante-Torres, Manuel, 1G  
Espinosa, Oscar, 03  
Fan, Kui, 17  
Fliegel, Karel, 0F, 21, 2I, 2M  
Föbel, Siegfried, 1N  
Franco-Arcega, A., 1F

François, E., 08  
 Fuldseth, Arild, 18  
 Gao, Hang, 20  
 Garcia-Bautista, G., 3E  
 Gavrylyak, M. S., 2G  
 Geniusz, Malwina, 25  
 González-Fraga, Jose A., 2Z  
 Goossens, Bart, 0C  
 Grygorishin, P., 2G  
 Gudumasu, Srinivas, 1M  
 Hadar, Ofer, 14, 1Q  
 Hamza, Ahmed, 1M  
 Han, Jingning, 19  
 Hanca, Jan, 0M  
 He, Dong, 2H  
 He, Jun, 34  
 He, Yong, 1M  
 He, Yuwen, 1I  
 Hirata, Takehide, 13  
 Hu, Chuanping, 1U  
 Hu, Liang, 38  
 Huang, Chao, 3B  
 Husak, Walt, 0B  
 Janout, Petr, 0F, 2I  
 Jícha, Marek, 2I  
 Joshi, Rajan, 0R  
 Jovanov, Ljubomir, 0C  
 Jung, Joel, 0L  
 Karczewicz, Marta, 1K  
 Karnaukhov, Victor, 2X  
 Kasprzak, Henryk, 2V  
 Kaur, Ravneet, 04, 05  
 Keinert, Joachim, 1N  
 Khathariya, Birendra, 0R  
 Khukhlina, O., 2C  
 Kim, Jaehwan, 0A  
 Kirby, Richard, 06  
 Klimt, Martin, 2M  
 Klysik, Anna, 2V  
 Kober, Vitaly, 1G, 29, 2A, 2R, 2T, 2X, 2Y, 2Z, 3I  
 Kong, Lingqin, 2U  
 Kornilin, Dmitriy V., 2Q  
 Krbcová, Zuzana, 2I  
 Krishnan, Madhu, 09, 1C, 1D  
 Krivokuća, Maja, 0T  
 Krumina, Gunta, 33  
 Krupinski, Elizabeth A., 1P  
 Kudryavtsev, Ilya A., 2Q  
 Kukal, Jaromír, 2I, 2M  
 Kushnerick, L. Ya., 2K  
 Kushnerik, L. Ya., 2G  
 Kuznetsov, Vladislav, 2D  
 Lama, Norsang, 2N, 3G  
 Lan, Jinpeng, 1R, 1S, 1S  
 Lanka, Chinmayi, 14  
 Lasserre, S., 08  
 Lawson, Michael, 0O  
 Le Léannec, F., 08  
 LeAnder, Robert, 04, 05  
 Lee, JongSeok, 0A  
 Li, Ge, 17  
 Li, Shunyao, 19  
 Li, Wei, 1U  
 Li, Xiang, 1K  
 Li, Yang, 2W  
 Li, Zhu, 0R  
 Lievens, Sammy, 0U  
 Lin, Yuzhang, 1P  
 Liu, Feng, 1P  
 Liu, Guirong, 1S  
 Liu, Ming, 2U  
 Liu, Xiaohua, 2U  
 Liu, Xiaoli, 2H  
 Liu, Zoe, 19  
 Loomis, John S., 02  
 López-Martínez, José L., 1G  
 López-Ortega, O., 1F  
 Lu, Shao-Ping, 0M  
 Lu, Taoran, 0B  
 Luo, Jiajia, 17  
 Macq, Jean-Francois, 0U  
 Madec, Gérard, 0D  
 Madrigal, Carlos A., 2O  
 Makovetskii, Artyom, 24, 2D, 2J, 2T, 3F  
 Marcellin, Michael W., 1P  
 Marchuk, Yu. F., 2K  
 Marino, Dominic J., 2N, 3G  
 Marquez-Flores, Jorge, 28  
 Martínez, David, 03  
 Martres, Guillaume, 15  
 Martseniak, I., 2G  
 Matsubara, Rie, 0J  
 Matthews, Tristan, 15  
 Mavlankar, Aditya, 16  
 McMillan, Alison J., 2Q  
 McNally, David, 1X  
 Meglinski, I., 2C  
 Mekuria, Rufael N., 0R  
 Melnikov, Andrey, 24, 3F  
 Melton, Jonathan, 0Z  
 Midtskogen, Steinar, 18  
 Mishra, Deependra K., 2N, 3G  
 Montgomery, Christopher, 15  
 Moorthy, Anush, 16  
 Morikawa, Yasuyuki, 13  
 Mou, Xuanqin, 2W, 30  
 Mukherjee, Debargha, 14, 19  
 Munteanu, Adrian, 0M, 0S  
 Mustafa, Adnan A. Y., 12  
 Myslík, Jiří, 2I  
 Nasiopoulos, Panos, 0H  
 Nguyen, Duc Minh, 0M  
 Nilsson, Mike, 07  
 Norkin, Andrey, 0E  
 Nunes, Paulo, 0P  
 Okhotnikov, Grigory, 1L  
 Olar, O. I., 2B  
 Olar, O. V., 2K  
 Oliinyk, I., 2G  
 Ontiveros-Gallardo, Sergio E., 29

Osanlou, Ardeshir, 2Q  
 Osorio-Infante, Arturo I., 28  
 Ottevaere, Heidi, 0W  
 Park, Youngo, 0A  
 Parker, Sarah, 19  
 Pashkovskaya, N. V., 2K  
 Páta, Petr, 0F, 21  
 Pavlyukovich, N., 2L  
 Pecák, Josef, 21  
 Peng, Xiang, 2H  
 Peng, Xiulian, 1J  
 Perez, Israel, 1E  
 Pesquet-Popescu, Béatrice, 0L, 0V  
 Petrov, Nikolay V., 37  
 Philips, Wilfried, 0C  
 Piskamin, L. Y., 2G, 2L  
 Pladere, Tatjana, 33  
 Pourazad, Mahsa T., 0H  
 Pu, Fangjun, 0B  
 Pytlarz, Jaclyn, 0B  
 Ratcliffe, Ian, 2Q  
 Reader, Cliff, 1B  
 Reĭábek, Martin, 0X, 1O  
 Restrepo M., Alejandro, 2O, 2P  
 Richter, Thomas, 1N  
 Rockway, John D., 1E  
 Rondao Alface, Patrice, 0U  
 Ruchay, Alexey, 2R, 2Y  
 Sackman, Joseph, 2N, 3G  
 Sakhnovskiy, M. Yu., 2B, 2C  
 Schelkens, Peter, 0M, 0S, 0V  
 Schretter, Colas, 0V  
 Sekiguchi, Shunichi, 0T  
 Setia, Mohit, 14  
 Shao, Na, 32  
 Shi, Zhi-guang, 3A  
 Shleifer, Ariel, 14  
 Shopovska, Ivana, 0C  
 Simonov, Konstantin, 1L  
 Skala, Petr, 0F  
 Skilters, Jurgis, 33  
 Sochenkov, Ilya, 24, 3F  
 Sochenkova, A., 24  
 Solís, Francisco, 03  
 Soltys, I. V., 2L  
 Song, Li, 1T  
 Srinivasa Raghavan, Sowmya, 05  
 Sternberg, Oren, 1E  
 Su, Hui, 19  
 Su, Jyun-Wei, 2S  
 Su, Lijuan, 38  
 Sugimoto, Kazuo, 0T  
 Sui, Xiubao, 20  
 Sullivan, Gary J., 1J  
 Sun, Bo, 34  
 Švihlík, Jan, 2I, 2M  
 Symeonidou, Athanasia, 0S  
 Szmigiel, Marta A., 2V  
 Takata, Yousuke, 13  
 Tapia-Higuera, Juan J., 2Z  
 Terribery, Timothy B., 15  
 Theytaz, Joël, 1X  
 Thienpont, Hugo, 0W  
 Tian, Dong, 0T  
 Tihonkih, Dmitrii, 2D, 3F  
 Topiwala, Pankaj, 09, 0I, 1C, 1D  
 Touzé, D., 08  
 Toxqui, Carina, 03  
 Trujillo-Romero, F., 3E  
 Tsuda, Kazuro, 13  
 Tytgat, Donny, 0U  
 Umbaugh, Scott E., 04, 2N, 3G  
 Upenik, Evgeniy, 1O  
 Ushenko, A. G., 2B, 2C, 2G, 2K, 2L  
 Ushenko, V. A., 2B, 2C, 2G, 2L  
 Ushenko, V. A., 2K  
 Ushenko, Yu. A., 2B, 2C, 2G, 2K, 2L  
 Valin, Jean-Marc, 15  
 Vanam, Rahul, 1I  
 Vetro, Anthony, 0T  
 Viligorska, K., 2C  
 Viola, Irene, 0X  
 Vítek, Stanislav, 0F, 21  
 Vokhmintsev, Aleksandr, 24, 3F  
 Voronin, Sergei, 2T  
 Vovk, Tatiana A., 37  
 Wakimoto, Koji, 0T  
 Wang, Pengcheng, 32  
 Wang, Ronggang, 17  
 Wang, Wenmin, 17  
 Wang, Ye-Kui, 0R  
 Wang, Yongzhe, 19  
 Wang, Zhenyu, 17  
 Wei, Wei, 2U  
 Wheeland, Sara, 1E  
 Whitaker, Ross, 06  
 Wu, Hsien-Huang, 2S  
 Xia, Xiaojie, 38  
 Xiao, Hong, 3B  
 Xu, Jizheng, 1J  
 Xu, Xiaodong, 3B  
 Xu, Yi, 1R, 1S  
 Yamahira, Naoshi, 13  
 Yan, Peng, 30  
 Yang, Xiaokang, 1T  
 Ye, Yan, 1I, 1M  
 Yin, Peng, 0B  
 Yu, Lejun, 34  
 Yuan, Lin, 1X  
 Yuan, Yan, 38  
 Zajac, Marek, 25  
 Zeng, Junjie, 20  
 Zhang, Chongyang, 1U  
 Zhang, Li, 1K  
 Zhang, Yan, 3A  
 Zhang, Yi, 3B  
 Zhao, Liming, 3B  
 Zhao, Yao, 20  
 Zhao, Yuejin, 2U  
 Zhou, Bingbing, 2U

Zhytaryuk, V. G., 2L  
Zotín, Alexander, 1L

# Conference Committee

## *Program Track Chair*

**Khan M. Iffekharuddin**, Old Dominion University (United States)

## *Conference Chair*

**Andrew G. Tescher**, AGT Associates (United States)

## *Conference Program Committee*

**Anne Margot Aaron**, Netflix, Inc. (United States)

**Vasudev Bhaskaran**, Qualcomm Inc. (United States)

**Frederic Dufaux**, Télécom ParisTech (France)

**Touradj Ebrahimi**, Ecole Polytechnique Fédérale de Lausanne  
(Switzerland)

**Arianne T. Hinds**, CableLabs (United States)

**C.-C. Jay Kuo**, The University of Southern California (United States)

**Ajay Luthra**, ARRIS Group, Inc. (United States)

**Ofer Hadar**, Ben-Gurion University of the Negev (Israel)

**Andre J. Oosterlinck**, Kuleuven R & D (Belgium)

**Sethuraman Panchanathan**, Arizona State University (United States)

**Fernando Pereira**, Instituto de Telecomunicações (Portugal)

**Yuriy A. Reznik**, InterDigital, Inc. (United States)

**Thomas Richter**, Universität Stuttgart (Germany)

**John A. Saghri**, California Polytechnic State Univ., San Luis Obispo  
(United States)

**Peter Schelkens**, Vrije University Brussel (Belgium)

**Gary J. Sullivan**, Microsoft Corporation (United States)

**Pankaj Topiwala**, FastVDO Inc. (United States)

**Mihaela van der Schaar**, University of California, Los Angeles  
(United States)

**Anthony Vetro**, Mitsubishi Electric Research Laboratories  
(United States)

## *Session Chairs*

1 Estimation and Reconstruction I  
**Andrew G. Tescher**, AGT Associates (United States)

2 HDR I  
**Pankaj Topiwala**, FastVDO Inc. (United States)

- 3 HDR II  
**Pankaj Topiwala**, FastVDO Inc. (United States)
- 4 Plenoptic Imaging I  
**Peter Schelkens**, Vrije University Brussel (Belgium)  
**Arianne T. Hinds**, CableLabs (United States)
- 5 Plenoptic Imaging II  
**Peter Schelkens**, Vrije University Brussel (Belgium)  
**Arianne T. Hinds**, CableLabs (United States)
- 6 Estimation and Reconstruction II  
**Ofer Hadar**, Ben-Gurion University of the Negev (Israel)
- 7 Royalty-free Video  
**Anne Margot Aaron**, Netflix, Inc. (United States)
- 8 Estimation and Reconstruction III  
**Sebastien Lasserre**, Technicolor (France)
- 9 Compression and Systems I  
**Gary J. Sullivan**, Microsoft Corporation (United States)
- 10 Compression and Systems II  
**Vasudev Bhaskaran**, Qualcomm Inc. (United States)