

SSIAI 2016—PROGRAM SCHEDULE

IEEE SOUTHWEST SYMPOSIUM ON IMAGE ANALYSIS AND INTERPRETATION

March 6-8, 2016 | [La Fonda on the Plaza](#) | [Santa Fe, New Mexico USA](#)
<http://www.ssi.ai.org>

Sunday, March 6, 2016

4:30-5:45pm Registration

5:30-7:00pm Reception

Santa Fe Room at the La Fonda Hotel (appetizers provided)

Monday, March 7, 2016

7:30-8:00 Registration and
Continental Breakfast

8:00-8:05 Opening

8:05-9:05 Plenary

9:05-10:20 MA1 (5 talks)

10:20-10:40 Break

10:40-11:40 MA2 (4 talks)

11:40-1:20 Lunch

1:20-2:20 Plenary

2:20-3:50 MP1 (12 posters) w/Break

3:50-5:05 MP2 (5 talks)

6:15 Banquet

La Cantina at La Casa Sena

Tuesday, March 8, 2016

8:00-8:30 Registration and
Continental Breakfast

8:30-9:30 Plenary

9:30-10:45 TA1 (5 talks)

10:45-11:05 Break

11:05-12:05 TA2 (4 talks)

12:05-1:45 Lunch

1:45-3:00 TP1 (5 talks)

3:00-3:20 Break

3:20-4:35 TP2 (5 talks)

4:35-4:45 Closing

Oral sessions will be held in the **New Mexico Room**.
Poster session will be held in the **Santa Fe Room**.

Plenary Speakers

- Alan Bovik, *The University of Texas at Austin*
- Aggelos Katsaggelos, *Northwestern University*
- Ed Delp, *Purdue University*

Monday, March 7, 2016

7:30 – 8:00 Registration and Continental Breakfast

8:00 – 8:05 Opening

8:05 – 9:05 Plenary: Prof. Alan Bovik, University of Texas, Austin

9:05 – 10:20 MA1, Session Chair: Charles Creusere

MA1.1 1099: **MULTIMODAL FUSION OF BRAIN STRUCTURAL AND FUNCTIONAL IMAGING WITH A DEEP NEURAL MACHINE TRANSLATION APPROACH**
9:05 – 9:20

Md Fajul Amin, *The Mind Research Network, United States*
Sergey M. Plis, *The Mind Research Network, United States*
Eswar Damaraju, *The Mind Research Network, United States*
Devon Hjelm, *The Mind Research Network, United States*
KyungHyun Cho, *The Mind Research Network, United States*
Vince Calhoun, *The Mind Research Network, United States*

MA1.2 1008: **SEGMENTATION AND EXTRACTION OF THE SPINAL CANAL IN SAGITTAL MR IMAGES**
9:20 – 9:35

Christos Bampis, *University of Texas at Austin, United States*
Alan Bovik, *University of Texas at Austin, United States*
Mia Markey, *University of Texas at Austin, United States*
Michael Webb, *NeuroTexas Institute, St' Davids Medical Institute, United States*

MA1.3 1108: **TOWARDS AUTOMATIC 3D BONE MARROW SEGMENTATION**
9:35 – 9:50

Chuong Nguyen, *University of Oklahoma, United States*
Joseph Havlicek, *University of Oklahoma, United States*
Jennifer Holter Chakrabarty, *University of Oklahoma Health Sciences Center, United States*
Quyên Duong, *University of Oklahoma Health Sciences Center, United States*
Sara Vesely, *University of Oklahoma Health Sciences Center, United States*

MA1.4 1061: **A THERMOREGULATION MODEL TO DETECT DIABETIC PERIPHERAL NEUROPATHY**
9:50 – 10:05

Carla Agurto, *VisionQuest Biomedical LLC, United States*
Viktor Chekh, *University of New Mexico, United States*;
Ana Edwards, *VisionQuest Biomedical LLC, United States*
Zyden Jarry, *VisionQuest Biomedical LLC, United States*
Simon Barriga, *VisionQuest Biomedical LLC, United States*
Janet Simon, *Foot and Ankle Associates of New Mexico Clinic United States*
Peter Soliz, *VisionQuest Biomedical LLC, United States*

MA1.5 1024: **ASSESSING CROSS FREQUENCY COUPLING IN EEG COLLECTED FROM SUBJECTS VIEWING VIDEO USING A MODIFIED METRIC**
10:05 – 10:20

Philip Davis, *New Mexico State University, United States*
Charles Creusere, *New Mexico State University, United States*
Jim Kroger, *New Mexico State University, United States*

10:20 – 10:40 Break

10:40 – 11:40 MA2, Session Chair: Marios Pattichis

- MA2.1** 1084: **VIRTUAL TOP-VIEW CAMERA CALIBRATION FOR ACCURATE OBJECT REPRESENTATION**
 10:40 – 10:55 Janice Pan, *The University of Texas at Austin, United States*
 Vikram Appia, *Texas Instruments Incorporated, United States*
 Alan C. Bovik, *The University of Texas at Austin, United States*
- MA2.2** 1085: **OPTIMAL HEVC ENCODING BASED ON GOP CONFIGURATIONS**
 10:55 – 11:10 Gangadharan Esakki, *University of New Mexico, United States*
 Venkatesh Jatla, *University of New Mexico, United States*
 Marios Pattichis, *University of New Mexico, United States*
- MA2.3** 1060: **FLICKER SENSITIVE MOTION TUNED VIDEO QUALITY ASSESSMENT**
 11:10 – 11:25 Lark Kwon Choi, *The University of Texas at Austin, United States*
 Alan Bovik, *The University of Texas at Austin, United States*
- MA2.4** 1027: **SEM RESOLUTION IMPROVEMENT USING SEMI-BLIND RESTORATION WITH HYBRID L1-L2 REGULARIZATION**
 11:25 – 11:40 Youzuo Lin, *Los Alamos National Laboratory, United States*
 Yudhishthir Kandel, *Nanojehm, Inc, United States*
 Matthew Zotta, *Colleges of Nanoscale Science and Engineering, SUNY Polytechnic Institute*
 Eric Lifshin, *Colleges of Nanoscale Science and Engineering, SUNY Polytechnic Institute*

11:40 – 1:20 Lunch**1:20 – 2:20 Plenary: Prof. Aggelos Katsaggelos****2:20 – 3:50 MP1 Poster Session w/Break, Session Chair: Peter Tay**

- MP1.1** 1025: **CONVOLUTIONAL LAPLACIAN SPARSE CODING**
 Xiyang Luo, *University of California, Los Angeles, United States*
 Brendt Wohlberg, *Los Alamos National Laboratory, United States*
- MP1.2** 1040: **FROM LINE SEGMENTS TO MORE ORGANIZED GESTALTS**
 Boshra Rajaei, *ESPCI ParisTech University, France*
 Rafael Grompone von Gioi, *CMLA, ENS Cachan, France*
 Jean-Michel Morel, *CMLA, ENS Cachan, France*
- MP1.3** 1021: **AN UNSUPERVISED OBJECT-LEVEL IMAGE SEGMENTATION METHOD BASED ON FOREGROUND AND BACKGROUND PRIORS**
 Chunlai Wang, *University of Stuttgart, Germany*
 Bin Yang, *University of Stuttgart, Germany*
- MP1.4** 1056: **CLINICAL UTILIZATION OF AUTOMATED IMAGE ANALYSIS SOFTWARE FOR IMPROVING RETINAL READER'S PERFORMANCE**
 Vinayak Joshi, *VisionQuest Biomedical LLC, United States*
 Carla Agurto, *VisionQuest Biomedical LLC, United States*
 Eduardo Simon Barriga, *VisionQuest Biomedical LLC, United States*
 Sheila Nemeth, *VisionQuest Biomedical LLC, United States*
 Peter Soliz, *VisionQuest Biomedical LLC, United States*

- MP1.5** **1058: VIDEO FORGERY DETECTION AND LOCALIZATION USING NORMALIZED CROSS-CORRELATION OF MOMENT FEATURES**
Mareeta Mathai, *Nanyang Technological University, Singapore*
Deepu Rajan, *Nanyang Technological University, Singapore*
Sabu Emmanuel, *Kuwait University, Kuwait*
- MP1.6** **1013: VOLCANIC ASH CLOUD EXTRACTION FOR RS IMAGE BY COMBINING PCA, ICA AND SVM METHODS**
Fei Liu, *Shanghai University, China*
Cheng-fan Li, *Shanghai University, China*
Jing-yuan Yin, *Shanghai University, China*
- MP1.7** **1074: ADAPTIVE APPLICATION OF SPATIAL FILTERS ON RAW CT IMAGE**
Nisarg Patel, *High Performance Computing Center, Germany*
Ralf Schneider, *High Performance Computing Center, Germany*
Uwe Kuester, *High Performance Computing Center, Germany*
- MP1.8** **1048: INDOOR ASSISTANCE FOR VISUALLY IMPAIRED PEOPLE USING A RGB-D CAMERA**
Michiel Vlamincx, *Ghent University, Belgium*
Hiep Quang Luong, *Ghent University, Belgium*
Hoang Van Nam, *Hanoi University of Science and Technology, Viet Nam*
Hai Vu, *Hanoi University of Science and Technology, Viet Nam*
Peter Veelaert, *Ghent University, Belgium*
Wilfried Philips, *Ghent University, Belgium*
- MP1.9** **1033: A MULTISTAGE DATAFLOW IMPLEMENTATION OF A DEEP CONVOLUTIONAL NEURAL NETWORK BASED ON FPGA FOR HIGH-SPEED OBJECT RECOGNITION**
Ning Li, *Tokyo University of Agriculture and Technology, Japan*
Shunpei Takaki, *Tokyo University of Agriculture and Technology, Japan*
Yoichi Tomioka, *University of Aizu, Japan*
Hitoshi Kitazawa, *Tokyo University of Agriculture and Technology, Japan*
- MP1.10** **1022: DIFFERENCE IMAGE AND FUZZY C-MEANS FOR DETECTION OF RETINAL VESSELS**
Temtope Mapayi, *Jules-Raymond Tapamo, University of KwaZulu-Natal, South Africa*
- MP1.11** **1057: INCORPORATING SKIN COLOR FOR IMPROVED FACE DETECTION AND TRACKING SYSTEM**
Bhuvan Dahal, *Charles Sturt University, Australia*
Abeer Alsadoon, *Charles Sturt University, Australia*
P.W.C. Prasad, *Charles Sturt University, Australia*
Amr Elchouemi, *Hewlett Packard Enterprise, United States*
- MP1.12** **1063: FACE RECOGNITION TEMPLATE IN PHOTO INDEXING: A PROPOSAL OF HYBRID PRINCIPAL COMPONENT ANALYSIS AND TRIANGULAR APPROACH (PCAaTA)**
Long Giao Vu, *Charles Sturt University, Australia*
Abeer Alsadoon, *Charles Sturt University, Australia*
P.W.C. Prasad, *Charles Sturt University, Australia*
A. Monem, *University of Technology, Iraq*
Amr Elchouemi, *Hewlett Packard Enterprise*

3:50 – 5:05 MP2, Session Chair: Rudolf Mester**MP2.1** 1054: **NUCLEI SEGMENTATION OF FLUORESCENCE MICROSCOPY IMAGES BASED ON MIDPOINT ANALYSIS AND MARKED POINT PROCESS**
3:50 – 4:05

Neeraj Gadgil, *Purdue University, United States*
 Paul Salama, *Indiana University-Purdue University, United States*
 Kenneth Dunn, *Indiana University, United States*
 Edward Delp, *Purdue University, United States*

MP2.2 1023: **DEEP SEGMENTATION NETWORKS USING “SIMPLE” MULTI-LAYERED GRAPHICAL MODELS**
4:05 – 4:20

Reid Porter, *Los Alamos National Laboratory, United States*
 Beate Zimmer, *Texas A&M University – Corpus Christi, United States*

MP2.3 1026: **GENERIC TARGET RESPONSE AS A MEASURE OF REGRESSION ACCURACY IN MULTISPECTRAL BACKGROUND ESTIMATION**
4:20 – 4:35

James Theiler, *Los Alamos National Laboratory, United States*

MP2.4 1091: **DISTINCTIVE INTEREST POINT SELECTION FOR EFFICIENT NEAR-DUPLICATE DETECTION**
4:35 – 4:50

Burak Yildiz, *TOBB University of Economics and Technology, Turkey*
 M. Fatih Demirci, *TOBB University of Economics and Technology, Turkey*

MP2.5 1042: **DUAL MARCHING SQUARES: DESCRIPTION AND ANALYSIS**
4:50 – 5:05

Sui Gong, *University of Alabama in Huntsville, United States*
 Timothy Newman, *University of Alabama in Huntsville, United States*

6:15 Banquet: La Cantina at La Casa Sena, 125 East Palace Avenue, (505) 988-9232

Banquet starts at 6:15pm.

La Cantina at La Casa Sena, 125 East Palace Avenue, (505) 988-9232

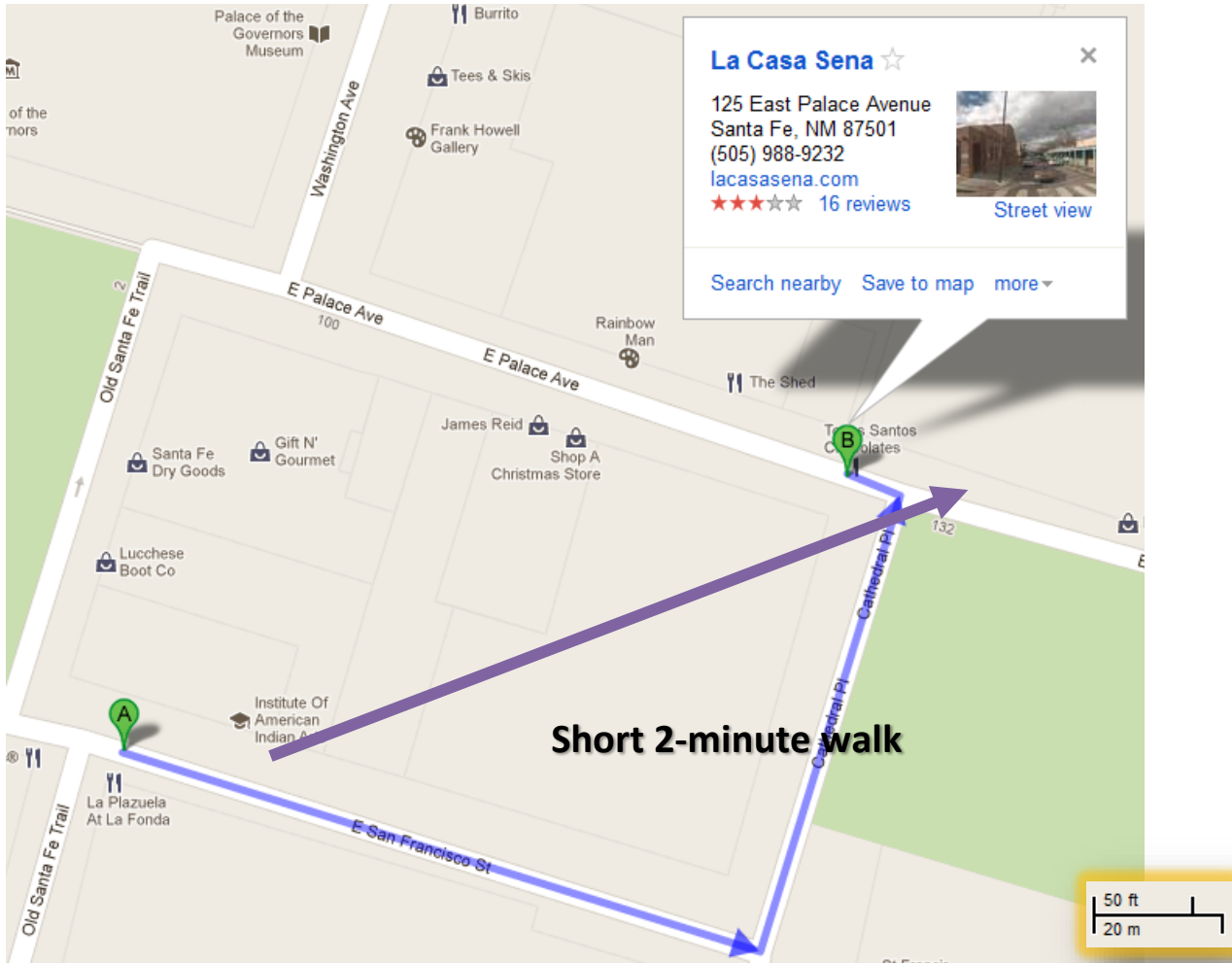
(Limited banquet tickets available for purchase during registration.)

See the following map for directions.

Banquet starts at 6:15pm on Monday

La Cantina at La Casa Sena, 125 East Palace Avenue, (505) 988-9232

(Limited banquet tickets available for purchase during registration.)



Tuesday, March 8, 2016**8:00 – 8:30 Registration and Continental Breakfast****8:30 – 9:30 Plenary: Prof. Ed Delp, Purdue University****9:30 – 10:45 TA1, Session Chair: Sundaresh Ram****TA1.1 1045: CONVOLUTIONAL SPARSE REPRESENTATION OF COLOR IMAGES**

9:30 – 9:45 Brendt Wohlberg, *Los Alamos National Laboratory, United States*

TA1.2 1064: ANALYSIS-FORM SPARSE PHASE RETRIEVAL USING VARIABLE-SPLITTING

9:45 – 10:00 Daniel Weller, *University of Virginia, United States*

TA1.3 1083: ESTIMATING HEAD POSE ORIENTATION USING EXTREMELY LOW RESOLUTION IMAGES

10:00 – 10:15 Jiawei Chen, *Boston University, United States*
Jonathan Wu, *Boston University, United States*
Kristi Richter, *Boston University, United States*
Janusz Konrad, *Boston University, United States*
Prakash Ishwar, *Boston University, United States*

TA1.4 1105: IMAGE SUPER-RESOLUTION USING GRAPH REGULARIZED BLOCK SPARSE REPRESENTATION

10:15 – 10:30 Sundaresh Ram, *The University of Arizona, United States*
Jeffrey J. Rodriguez, *The University of Arizona, United States*

TA1.5 1096: LEARNING PHASE-RICH FEATURES FROM STREAMING AUDITORY IMAGES

10:30-10:45 Mohit Dubey, *Oberlin College and Conservatory, New Mexico Consortium, United States*
Peter Schultz, *New Mexico Consortium, United States*
Garrett Kenyon, *New Mexico Consortium, Los Alamos National Laboratory, United States*

10:45-11:05 Break**11:05-12:05 TA2, Session Chair: Zeina Sinno****TA2.1 1047: LOCAL SPECTRAL UNMIXING FOR TARGET DETECTION**

11:05 – 11:20 Amanda Ziemann, *Los Alamos National Laboratory, United States*

TA2.2 1068: HYPERSPECTRAL ENDMEMBER CLASS EXTRACTION USING CLUSTERING AND VALIDITY INDEXES

Maria C. Torres-Madronero, *Instituto Tecnológico Metropolitano, Colombia*
Miguel Velez-Reyes, *The University of Texas at El Paso, United States*

TA2.3 1088: LAND COVER CLASSIFICATION IN FUSED MULTISENSOR MULTISPECTRAL SATELLITE IMAGERY

Daniela I. Moody, *Descartes Labs, United States*
Dana Bauer, *Planet Labs, United States*
Steven P. Brumby, *Descartes Labs, United States*
Eric D. Chisolm, *Descartes Labs, United States*
Michael S. Warren, *Descartes Labs, United States*
Samuel W. Skillman, *Descartes Labs, United States*
Ryan Keisler, *Descartes Labs, United States*

TA2.4 1073: **RELATING SPATIAL AND SPECTRAL MODELS OF ORIENTED BANDPASS NATURAL IMAGES**
11:50 – 12:05

Zeina Sinno, *University of Texas-Austin, United States*
Alan Bovik, *University of Texas-Austin, United States*

12:05-1:45 Lunch

1:45-3:00 TP1, Session Chair: Joebob Havlicek

TP1.1 1092: **DILATION-3 PR QMF FOR IMAGE PROCESSING**

1:45 – 2:00
Jian-ao Lian, *Prairie View A&M University, United States*
Yonghui Wang, *Prairie View A&M University, United States*

TP1.2 1010: **CONTENT BASED IMAGE RETRIEVAL SYSTEM USING WAVELET TRANSFORMATION AND MULTIPLE INPUT MULTIPLE TASK DEEP AUTOENCODER**

2:00 – 2:15

Xiangyuan Zhao, *Texas Tech University, United States*
Brian Nutter, *Texas Tech University, United States*

TP1.3 1086: **A FILTERBANK METHOD TO DETERMINE OCEAN WAVE FREQUENCY**

2:15 – 2:30

Kyle Bailey, *Western Carolina University, United States*
Peter Tay, *Western Carolina University, United States*
H. Bora Karakaya, *Western Carolina University, United States*

TP1.4 1041: **ACCELERATED PARALLEL MAGNETIC RESONANCE IMAGE RECONSTRUCTION WITH DICTIONARY LEARNING**

2:30 – 2:45

Daniel Weller, *University of Virginia, United States*

TP1.5 1107: **A STATE VECTOR AUGMENTATION TECHNIQUE FOR INCORPORATING INDIRECT VELOCITY INFORMATION INTO THE LIKELIHOOD FUNCTION OF THE SIR VIDEO TARGET TRACKING FILTER**

2:45 – 3:00

Jesyca Fuenmayor Bello, *University of Oklahoma, United States*
Joseph Havlicek, *University of Oklahoma, United States*

3:00-3:20 Break

3:20-4:35 TP2, Session Chair: Scott Acton

TP2.1 1089: **HISTOGRAM ORIENTED GRADIENTS AND MAP SEEKING CIRCUITS PATTERN RECOGNITION WITH COMPRESSED IMAGERY**

3:20 – 3:35

Kathy Newton, *Johns Hopkins University Applied Physics Lab, United States*
Charles Creusere, *New Mexico State University, United States*

TP2.2 1035: **PROPAGATION BASED TRACKING WITH UNCERTAINTY MEASUREMENT IN AUTOMOTIVE APPLICATION**

3:35 – 3:50

Nolang Fanani, *Goethe University, Frankfurt/M., Germany*
Rudolf Mester, *Goethe University, Frankfurt/M., Germany*

TP2.3 1087: **SPARSE ENCODING OF BINOCULAR IMAGES FOR DEPTH INFERENCE**

3:50 – 4:05

Sheng Lundquist, *Portland State University, United States*
Dylan Paiton, *University of California, Berkeley, United States*
Peter Schultz, *New Mexico Consortium, United States*
Garrett Kenyon, *Los Alamos National Laboratory, United States*

TP2.4 1103: **A PERFORMANCE COMPARISON OF AUTOMATIC DETECTION SCHEMES IN WIDE-AREA
4:05 – 4:20 AERIAL IMAGERY**

Xin Gao, *The University of Arizona, United States*
Sundares Ram, *The University of Arizona, United States*
Jeffrey J. Rodriguez, *The University of Arizona, United States*

TP2.5 1094: **LAWECO: ACTIVE REGION DETECTION IN NON-UNIFORMLY SAMPLED DATA USING
4:20 – 4:35 LAPLACIAN-WEIGHTED COVARIANCE**

Tamal Batabyal, *University of Virginia, United States*
Andrea Vaccari, *University of Virginia, United States*
Scott T. Acton, *University of Virginia, United States*

4:35-4:45 Closing