SSIAI 2012—Program Schedule

IEEE Southwest Symposium on Image Analysis and Interpretation

April 22-24, 2012 | La Fonda on the Plaza | Santa Fe, New Mexico, USA
http://www.ssiai.org

General Chair
Mary Comer
Purdue University

Technical Program Co-Chair
Chuck Creusere
New Mexico State University

Technical Program Co-Chair
Damon Chandler
Oklahoma State University

Finance Chair
Jeff Rodriguez
University of Arizona

Local Arrangements Chair
Marios Pattichis
University of New Mexico

Publicity/Publications Chair
Brian Nutter
Texas Tech University

Conference Management
Billene Mercer
Conference Management Services, Inc.

Sunday, April 22, 2012
5:30-7:00pm Reception
***Santa Fe Room* at the La Fonda Hotel** (appetizers provided)

Monday, April 23, 2012	Tuesday, April 24, 2012
7:30-8:00 Registration and Continental Breakfast	**7:30-8:00 Registration and Continental Breakfast**
8:00-8:05 Opening	**8:00-9:00 Plenary**
8:05-9:05 Plenary	**9:00-10:15 TA1 (5)**
9:05-10:20 MA1 (5)	**10:15-10:35 Break**
10:20-10:40 Break	**10:35-11:50 TA2 (5)**
10:40-11:55 MA2 (5)	**11:50-1:30 Lunch**
11:55-1:35 Lunch	**1:30-2:30 Plenary**
1:35-2:35 Plenary	**2:30-3:45 TP1 (5)**
2:35-4:05 Posters/Break	**3:45-4:05 Break**
4:05-5:35 MP1 (6)	**4:05-5:20 TP2 (5)**
6:30-8:00 Banquet	**5:20-5:25 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*
- Vince Calhoun, *The Mind Research Institute & U. of New Mexico*
- Ed Delp, *Purdue University*
- Sheila Hemami, *Cornell University*

IEEE

IEEE computer society
Technical Committee on Computational Life Sciences

Monday, April 23, 2012

7:30 – 8:00 Registration and Continental Breakfast

8:00 – 8:05 Opening New Mexico Room

8:05 – 9:05 Plenary: Vince Calhoun, *The Mind Research Institute and The University of New Mexico* New Mexico Room

9:05 – 10:20 MA1 (5) New Mexico Room

MA1.1 *9:05 – 9:20*	1012: **DETECTION OF BREAST TUMOR CANDIDATES USING MARKER-CONTROLLED WATERSHED SEGMENTATION AND MORPHOLOGICAL ANALYSIS** Samuel Lewis, *Hood College* Aijuan Dong, *Hood College*
MA1.2 *9:20 – 9:35*	1021: **ADAPTIVE KERNEL LEARNING FOR DETECTION OF CLUSTERED MICROCALCIFICATIONS IN MAMMOGRAMS** Chang Yao, *Beijing Jiaotong University* Yongyi Yang, *Illinois Institute of Technology* Houjin Chen, *Beijing Jiaotong University* Tao Jing, *Beijing Jiaotong University* Xiaoli Hao, *Beijing Jiaotong University* Hongjun Bi, *Beijing Jiaotong University*
MA1.3 *9:35 – 9:50*	1017: **USING SEGMENTATION IN CT METAL ARTIFACT REDUCTION** Seemeen Karimi, *University of California, San Diego* Pamela C. Cosman, *University of California, San Diego* Harry Martz, *Lawrence Livermore National Laboratory* Christoph Wald, *Lahey Clinic*
MA1.4 *9:50 – 10:05*	1043: **DETECTION OF HARD EXUDATES AND RED LESIONS IN THE MACULA USING A MULTISCALE APPROACH** Carla Agurto, *University of New Mexico* Honggang Yu, *VisionQuest Biomedical LLC* Victor Murray, *University of New Mexico* Marios Pattichis, *University of New Mexico* Simon Barriga, *VisionQuest Biomedical LLC* Peter Soliz, *VisionQuest Biomedical LLC*
MA1.5 *10:05 – 10:20*	1081: **AUTOMATED NUCLEI TRACKING IN C. ELEGANS BASED ON SPHERICAL MODEL FITTING WITH MULTIPLE TARGET TRACKING** Sukryool Kang, *University of California at San Diego* Claudiu A. Giurumescu, *University of California at San Diego* Andrew D. Chisholm, *University of California at San Diego* Pamela C. Cosman, *University of California at San Diego*

10:20 – 10:40 Break (Refreshments Provided)

10:40 – 11:55 MA2 (5)	New Mexico Room
MA2.1 *10:40 – 10:55*	1078: **A MAXIMUM-LIKELIHOOD APPROACH FOR ADC ESTIMATION OF LESIONS IN VISCERAL ORGANS** Abhinav Jha, *University of Arizona* Jeffrey Rodriguez, *University of Arizona*
MA2.2 *10:55 – 11:10*	1018: **GENERATING A STATISTICAL SHAPE MODEL OF THE AIDS VIRUS SPIKE** Ajay Gopinath, *University of Texas at Austin* Alan Bovik, *University of Texas at Austin*
MA2.3 *11:10 – 11:25*	1072: **A HYBRID WATERSHED METHOD FOR CELL IMAGE SEGMENTATION** Jingqi Ao, *Texas Tech Univeristy* Sunanda Mitra, *Texas Tech Univeristy* Rodney Long, *National Library of Medicine* Brian Nutter, *Texas Tech Univeristy* Sameer Antani, *National Library of Medicine*
MA2.4 *11:25 – 11:40*	1083: **CELL SPLITTING USING DYNAMIC PROGRAMMING** Jose Rosado-Toro, *University of Arizona* Jeffrey Rodriguez, *University of Arizona*
MA2.5 *11:40 – 11:55*	1082: **SIZE-INVARIANT CELL NUCLEUS SEGMENTATION IN 3-D MICROSCOPY** Sundaresh Ram, *The University of Arizona* Jeffrey Rodriguez, *The University of Arizona* Giovanni Bosco, *The University of Arizona*

11:55 – 1:35 Lunch (Attendees are responsible for lunch at their own expense; local dining options will be announced.)

1:35 – 2:35 Plenary: Al Bovik, *The University of Texas at Austin* New Mexico Room

2:35 – 4:05 Posters/Break	Santa Fe Room
Poster 1	1027: **A METHOD OF COMPENSATING INTER-REFLECTIONS IN COLOR PHOTOMETRIC STEREO** Osamu Ikeda, Takushoku University Ye Duan, University of Missouri at Columbia
Poster 2	1091: **A CYTOSKELETON LINEARITY MEASURE** Deborah Sturm, *College of Staten Island (CUNY)* Mahdi Jawad, *College of Staten Island (CUNY)* Alejandra Alonso, *College of Staten Island (CUNY)* Christopher Corbo, *College of Staten Island (CUNY)*
Poster 3	1079: **COMBINING MULTIPLE VISUAL PROCESSING STREAMS FOR LOCATING AND CLASSIFYING OBJECTS IN VIDEO** Dylan Paiton, *Los Alamos National Laboratory* Steven Brumby, *Los Alamos National Laboratory* Garrett Kenyon, *Los Alamos National Laboratory* Gerd Kunde, *Los Alamos National Laboratory* Kris Peterson, *New Mexico Consortium* Michael Ham, *Los Alamos National Laboratory* Pete Schultz, *New Mexico Consortium* John George, *Los Alamos National Laboratory*

Poster 4	1050: **SINGLE IMAGE SUPER-RESOLUTION IN FREQUENCY DOMAIN** Mohammad Islam, *Old Dominion University* Vijayan Asari, *University of Dayton* Mohammed Islam, *Farmingdale State University of New York* Mohammad Karim, *Old Dominion University*
Poster 5	1059: **SPATIALLY ADAPTIVE SUPERRESOLUTION USING THE OPTIMAL RECOVERY FRAMEWORK** Abdul Jabeer Shaik, *The University of Texas at El Paso* Sergio D. Cabrera, *The University of Texas at El Paso*
Poster 6	1015: **IMPROVING STABILITY AND INVARIANCE OF CARTESIAN ZERNIKE MOMENTS** Yanjun Zhao, *Georgia State University* Saeid Belkasim, *Georgia State University*
Poster 7	1064: **SEGMENTATION-FREE WORD SPOTTING USING SIFT** Duk-Ryong Lee, *Chonbuk National University* WonJu Hong, *Chonbuk National University* Il-Seok Oh, *Chonbuk National University*
Poster 8	1026: **ON THE SENSITIVITY OF SPATIO-TEMPORAL INTEREST POINTS TO PERSON IDENTITY** Mouna SELMI, *Institut Telecom, Telecom SudParis, Intermedia Lab* Mounim EL YACOUBI, *Institut Telecom, Telecom SudParis, Intermedia Lab* Bernadette DORIZZI, *Institut Telecom, Telecom SudParis, Intermedia Lab*
Poster 9	1042: **TEMPORAL MULTI-MODAL MEAN** Shoaib Azmat, *Georgia Institute of Technology* Linda Wills, *Georgia Institute of Technology* Scott Wills, *Georgia Institute of Technology*
Poster 10	1068: **IMPROVED IMAGE INPAINTING USING MAXIMUM VALUE EDGE DETECTOR** Chandralekha De, *New Jersey Institute of Technology* Frank. Y Shih, *New Jersey Institute of Technology*
Poster 11	1092: **PERFORMANCE-ANALYSIS-BASED ACCELERATION OF IMAGE QUALITY ASSESSMENT** Thien Phan, *Oklahoma State University* Eric Larson, *University of Washington* Sohum Sohoni, *Oklahoma State University* Damon Chandler, *Oklahoma State University*
Poster 12	1075: **GRADIENT-BASED TEXTURE CARTOON DECOMPOSITION** Chuong Nguyen, *University of Oklahoma* Joseph Havlicek, *University of Oklahoma*
Poster 13	1084: **A SYMMETRY-BREAKING GENERATIVE MODEL OF A SIMPLE-CELL/COMPLEX-CELL HIERARCHY** Peter F. Schultz, *New Mexico Consortium* Luis M. Bettencourt, *Santa Fe Institute* Garrett T. Kenyon, *Los Alamos National Laboratory*
Poster 14	1099: **CONNECTIVITY IN MATH-GIFTED ADOLESCENTS: COMPARING STRUCTURAL EQUATION MODELING, GRANGER CAUSALITY, AND DYNAMIC CAUSAL MODELING** Mary Baker, *Texas Tech University* Kushal Kapse, *Texas Tech University* Allison McMahon, *Texas Tech University* Michael O'Boyle, *Texas Tech University*

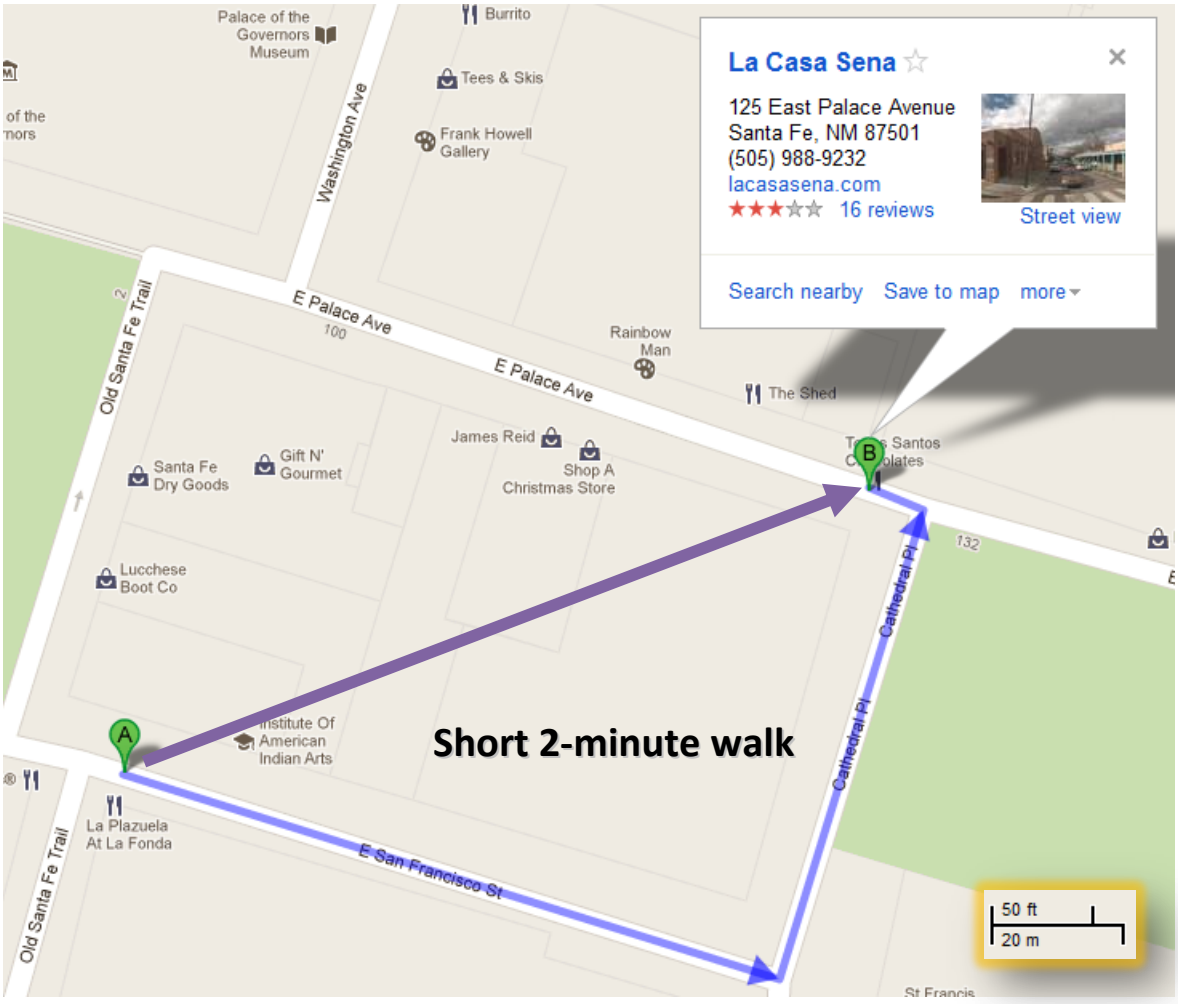
Poster 15	1056: **AUTOMATED DETECTION OF DUST CLOUDS AND SOURCES IN NOAA-AVHRR SATELLITE IMAGERY** Mohammed Alkhatib, *The University of Texas at El Paso* Sergio Cabrera, *The University of Texas at El Paso* Thomas Gill, *The University of Texas at El Paso*
Poster 16	1040: **WEAPON ONTOLOGY ANNOTATION USING BOUNDARY DESCRIBING SEQUENCES** Abdullah Arslan, *Texas A & M University - Commerce* Nikolay Sirakov, *Texas A & M University - Commerce* Salvatore Attardo, *Texas A & M University - Commerce*
Poster 17	1085: **A HYBRID APPROACH FOR A VISION BASED DRIVER ASSISTANCE SYSTEM WITH DE-WEATHERING** Achala Aponso, *Informatics Institute of Technology - University of Westminster* Naomi Krishnarajah, *Informatics Institute of Technology - University of Westminster*
Poster 18	1029: **A NEW SHOT CLASSIFICATION METHOD IN SOCCER SPORTS VIDEO BASED ON SVM CLASSIFIER** Ali Bagheri-Khaligh, *Sharif University of Technology* Ramin Raziperchikolaei, *Sharif University of Technology* Mohsen Ebrahimi Moghaddam, *Shahid Beheshti University*
Poster 19	1065: **INTEGRATED MULTIPLE BEHAVIOR MODELS FOR ABNORMAL CROWD BEHAVIOR DETECTION** Sang-Hyun Cho, *The Catholic University of Korea* Hang-Bong Kang, *The Catholic University of Korea*
Poster 20	1080: **DETECTION OF SPECTRALLY SPARSE ANOMALIES IN HYPERSPECTRAL IMAGERY** James Theiler, *Los Alamos National Laboratory* Brendt Wohlberg, *Los Alamos National Laboratory*

4:05 – 5:35 MP1 (6) — New Mexico Room

MP1.1 *4:05 – 4:20*	1055: **MULTISCALE AM-FM DECOMPOSITIONS WITH GPU ACCELERATION FOR DIABETIC RETINOPATHY SCREENING** Cesar Carranza, *University of New Mexico* Victor Murray, *University of New Mexico* Marios Pattichis, *University of New Mexico* Eduardo Simon Barriga, *University of New Mexico*
MP1.2 *4:20 – 4:35*	1037: **AUTOMATED IMAGE QUALITY EVALUATION OF RETINAL FUNDUS PHOTOGRAPHS IN DIABETIC RETINOPATHY SCREENING** Honggang Yu, *VisionQuest Biomedical* Carla Agurto, *University of New Mexico* Simon Barriga, *VisionQuest Biomedical* Sheila Nemeth, *VisionQuest Biomedical* Peter Soliz, *VisionQuest Biomedical* Gilberto Zamora, *VisionQuest Biomedical*
MP1.3 *4:35 – 4:50*	1024: **OPTICAL FLOW ESTIMATION IN GATED CARDIAC SPECT** Wenyuan Qi, *Illinois Institute of Technology* Xiaofeng Niu, *Illinois Institute of Technology* Yongyi Yang, *Illinois Institute of Technology*

MP1.4 *4:50 – 5:05*	1039: **MR IMAGES DENOISING USING DCT-BASED UNBIASED NONLOCAL MEANS FILTER** Jinrong HU, *Sichuan University* Yifei PU, *Sichuan University* Yi ZHANG, *Sichuan University* Jiliu ZHOU, *Sichuan University*
MP1.5 *5:05 – 5:20*	1060: **COMPRESSIVE SAMPLING IN FAST WAVELET-ENCODED MRI** Zheng Liu, *Texas Tech University* Brian Nutter, *Texas Tech University* Sunanda Mitra, *Texas Tech University*
MP1.6 *5:20 – 5:35*	1053: **A NOVEL BACKGROUND SUBTRACTION METHOD TO DETECT MICROCALCIFICATIONS** Peter Tay, *Western Carolina University* Hongda Shen, *Western Carolina University*

Banquet starts at 6:30pm: La Casa Sena, *125 East Palace Avenue, +1-(505)-988-9232*
(Limited banquet tickets available for purchase during registration.)



Tuesday, April 24, 2012

7:30 – 8:00 Registration and Continental Breakfast

8:00 – 9:00 Plenary: Ed Delp, *Purdue University* New Mexico Room

9:00 – 10:15 TA1 (5) New Mexico Room

TA1.1 *9:00 – 9:15*	1071: **A CONSERVATIVE SCENE MODEL UPDATE POLICY** Nick Mould, *University of Oklahoma* Joseph Havlicek, *University of Oklahoma*
TA1.2 *9:15 – 9:30*	1106: **GRAPH CUT SEGMENTATION OF SPARSELY SAMPLED IMAGES WITH APPLICATION TO INSAR-MEASURED CHANGES IN ELEVATION** Michael Stuecheli, *University of Virginia* Andrea Vaccari, *University of Virginia* Scott Acton, *University of Virginia*
TA1.3 *9:30 – 9:45*	1004: **LEAP SEGMENTATION FOR RECOVERING IMAGE SURFACE LAYOUT** Dana Forsthoefel, *Georgia Institute of Technology* D. Scott Wills, *Georgia Institute of Technology* Linda M. Wills, *Georgia Institute of Technology*
TA1.4 *9:45 – 10:00*	1063: **ILLUMINATION-INVARIANT REPRESENTATION FOR NATURAL COLOR IMAGES AND ITS APPLICATION** Abdelhameed Ibrahim, *Chiba University* Takahiko Horiuchi, *Chiba University* Shoji Tominaga, *Chiba University*
TA1.5 *10:00 – 10:15*	1030: **CURVATURE ORIENTED CLUSTERING OF SPARSE MOTION VECTOR FIELDS** Alvaro Guevara, *TU Dresden* Christian Conrad, *Goethe University Frankfurt* Rudolf Mester, *Goethe University Frankfurt*

10:15-10:35 Break (Refreshments Provided)

10:35-11:50 TA2 (5) New Mexico Room

TA2.1 *10:35 – 10:50*	1109: **CROSSTALK ANALYSIS IN LCD STEREOSCOPIC DISPLAYS WITH ACTIVE SHUTTER GLASSES (INVITED PAPER)** Menglin Zeng, *University of California, San Diego* Truong Nguyen, *University of California, San Diego*
TA2.2 *10:50 – 11:05*	1008: **STATISTICAL MODEL OF COLOR AND DISPARITY WITH APPLICATION TO BAYESIAN STEREOPSIS** Che-Chun Su, *The University of Texas at Austin* Alan Bovik, *The University of Texas at Austin* Lawrence Cormack, *The University of Texas at Austin*

TA2.3 *11:05 – 11:20*	1094: **STUDY OF SUBJECT AGREEMENT ON STEREOSCOPIC VIDEO QUALITY** Ming-Jun Chen, *The University of Texas at Austin* Do-Kyoung Kwon, *Texas Instruments* Alan C. Bovik, *The University of Texas at Austin*
TA2.4 *11:20 – 11:35*	1111: **CONTROL OF VIDEO PROCESSING ALGORITHMS BASED ON MEASURED PERCEPTUAL QUALITY CHARACTERISTICS (INVITED PAPER)** Kalpana Seshadrinathan, *Intel Corporation* Jorge E. Caviedes, *Intel Corporation*
TA2.5 *11:35 – 11:50*	1104: **ON THE QUALITY ASSESSMENT OF ENHANCED IMAGES: A DATABASE, ANALYSIS, AND STRATEGIES FOR AUGMENTING EXISTING METHODS** Cuong Vu, *Oklahoma State University* Thien Phan, *Oklahoma State University* Punit Banga, *Oklahoma State University* Damon Chandler, *Oklahoma State University*

11:50-1:30 Lunch (Attendees are responsible for lunch at their own expense; local dining options will be announced.)

1:30-2:30 Plenary: Sheila Hemami, *Cornell University* New Mexico Room

2:30-3:45 TP1 (5) New Mexico Room

TP1.1 *2:30 – 2:45*	1006: **A GESTURE-DRIVEN COMPUTER INTERFACE USING KINECT CAMERA AND A FEATURE COVARIANCE CLASSIFIER** Kam Lai, *Boston University* Janusz Konrad, *Boston University* Prakash Ishwar, *Boston University*
TP1.2 *2:45 – 3:00*	1069: **INTEGRATING KINECT DEPTH DATA WITH A STOCHASTIC OBJECT CLASSIFICATION FRAMEWORK FOR FORESTRY ROBOTS** Mostafa Pordel, *Umea University* Thomas Hellström, *Umea University* Ahmad Ostovar, *Umea University*
TP1.3 *3:00 – 3:15*	1089: **A DYNAMICALLY RECONFIGURABLE DCT ARCHITECTURE FOR MAXIMUM IMAGE QUALITY SUBJECT TO DYNAMIC POWER AND BITRATE CONSTRAINTS** Yuebing Jiang, *University of New Mexico* Marios Pattichis, *University of New Mexico*
TP1.4 *3:15 – 3:30*	1102: **FEATURE-BASED TRANSFER LEARNING TO TRAIN A NOVEL COTTON IMAGING SYSTEM** Muneem Shahriar, *Texas Tech University* Hamed Sari-Sarraf, *Texas Tech University* Eric Hequet, *Texas Tech University*
TP1.5 *3:30 – 3: 45*	1105: **A BAYESIAN VIEW ON MATCHING AND MOTION ESTIMATION** Rudolf Mester, Linkoping University

3:45-4:05 Break (Refreshments Provided)

4:05-5:20 TP2 (5)	New Mexico Room
TP2.1 *4:05 – 4:20*	1110: **SUBBAND CODING FOR LARGE-SCALE SCIENTIFIC SIMULATION OUTPUT USING JPEG 2000 (INVITED PAPER)** Christopher M. Brislawn, *Los Alamos National Laboratory* Jonathan Woodring, *Los Alamos National Laboratory* Susan Mniszewski, *Los Alamos National Laboratory* David DeMarle, *Kitware Inc.* James Ahrens, *Los Alamos National Laboratory*
TP2.2 *4:20 – 4:35*	1066: **AN INCREMENTAL CLUSTERING BASED CODEBOOK CONSTRUCTION IN VIDEO COPY DETECTION** Huamin Ren, *Chinese Academy of Sciences* Heri Ramampiaro, *Norwegian University of Science and Technology* Yongdong Zhang, *Chinese Academy of Sciences* Shouxun Lin, *Chinese Academy of Sciences*
TP2.3 *4:35 – 4:50*	1070: **AM-FM PICTURE CARRIER BEAT TYPE NOISE FILTERS** Sahithi Peddireddy, *University of Oklahoma* Nick Mould, *University of Oklahoma* Joseph Havlicek, *University of Oklahoma*
TP2.4 *4:50 – 5:05*	1074: **ESTIMATION OF OIL THICKNESS AND AGING FROM HYPERSPECTRAL SIGNATURE** Lin Cong, *Texas Tech University* Brian Nutter, *Texas Tech University* Daan Liang, *Texas Tech University*
TP2.5 *5:05 – 5:20*	1077: **VISIBILITY IMPROVEMENT OF AERIAL IMAGERY BY A LOCALLY TUNED NONLINEAR ENHANCEMENT TECHNIQUE** Saibabu Arigela, *University of Dayton* Vijayan Asari, *University of Dayton*

5:20-5:25 Closing New Mexico Room