

# SSIAI 2026 — Program Schedule

## IEEE SOUTHWEST SYMPOSIUM ON IMAGE ANALYSIS AND INTERPRETATION

March 22 – 24, 2026 | [La Fonda on the Plaza](#) | [Santa Fe, New Mexico USA](#)

<http://www.ssiai.org>

### Sunday, March 22, 2026

4:30pm – 5:45pm: Registration

6:00pm – 7:30pm: Reception

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

### Monday, March 23, 2026

7:30am – 8:00am: Registration

8:00am – 8:05am: Opening

8:05am – 9:10am: Plenary

9:10am – 10:25am: MA1 (5 talks)

10:25am – 10:45am: Break

10:45am – 12:00pm: MA2 (5 talks)

12:00pm – 1:25pm: Lunch

1:25pm – 2:30pm: Plenary

2:30pm – 3:30pm: MP1 (4 talks)

3:30pm – 3:50pm: Break

3:50pm – 4:50pm: MP2 (4 talks)

6:30pm: Banquet  
[Osteria D' Assisi](#)

### Tuesday, March 24, 2026

7:30am – 8:00am: Registration

8:05am – 9:10am: Plenary

9:10am – 10:10am: TA1 (4 talks)

10:10am – 10:30am: Break

10:30am – 11:30am: TA2 (4 talks)

11:30am – 1:00pm: Lunch

1:00pm – 2:05pm: Plenary

2:05pm – 3:05pm: TP1 (4 talks)

3:05pm – 3:25pm: Break

3:25pm – 4:25pm: TP2 (4 talks)

4:25pm – 4:30pm: Closing

### Plenary Speakers

**Alan Bovik**, University of Colorado Boulder

**Edward Delp**, Purdue University

**Aggelos Katsaggelos**, Northwestern University

**Amanda Ziemann**, Los Alamos National Laboratory

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**MONDAY, MARCH 23, 2026 (SANTA FE ROOM)**

7:30 am – 8:00 am	Registration
8:00 am – 8:05 am	Opening Remarks
8:05 am – 9:10 am	Alan Bovik — “A Perceptual View of GenAI Distortions”
<b>MA1</b> 9:10 am – 10:25 am	<b>DETECTION, SEGMENTATION, AND OBJECT RECOGNITION</b> Session Chair: <i>Joseph Havlicek, University of Oklahoma</i>

MA1.1 9:10 am – 9:25 am	<b>P1003 — FINE-TUNING PRE-TRAINED FASTER R-CNN TO REDUCE FALSE POSITIVES IN GUARDRAIL DAMAGE DETECTION FROM DASHCAM IMAGES</b> <i>Sonny Jones — University of Utah</i> <i>Anthony Le — University of Utah</i> <i>Rohit Raj — University of Utah</i> <i>David Sacharny — University of Utah</i> <i>Ziad Al-Halah — University of Utah</i> <i>Thomas Henderson — University of Utah</i> <i>Sridhar Kundur — Bentley Systems</i>
MA1.2 9:25 am – 9:40 am	<b>P1009 — AN INTEGRATED DEEP LEARNING ARCHITECTURE FOR ILLUMINATION-AWARE OBJECT DETECTION</b> <i>Mostafa Habibi — The University of Texas at Dallas</i> <i>Mehrdad Nourani — The University of Texas at Dallas</i>
MA1.3 9:40 am – 9:55 am	<b>P1014 — INSTANCE CAMERA FOCUS PREDICTION FOR CRYSTAL AGGLOMERATION CLASSIFICATION</b> <i>Xiaoyu Ji — Purdue University</i> <i>Chenhao Zhang — Purdue University</i> <i>Tyler Downard — Purdue University</i> <i>Zoltan Nagy — Purdue University</i> <i>Ali Shakouri — Purdue University</i> <i>Fengqing Zhu — Purdue University</i>
MA1.4 9:55 am – 10:10 am	<b>P1022 — EVENT-TRIGGERED YOLO SEGMENTATION FOR MEASURING DROP-INDUCED CAVITIES OVER SUBMERGED SEDIMENTS</b> <i>Fnu Rishikesh — Texas Tech University</i> <i>Arian Iqbal — Texas Tech University</i> <i>Hossein Haghou — Texas Tech University</i> <i>Brian Nutter — Texas Tech University</i> <i>Hadis Matinpour — Texas Tech University</i> <i>Hamed Sari-Sarraf — Texas Tech University</i>
MA1.5 10:10 am – 10:25 am	<b>P1037 — EXPLORATIONS AND CHALLENGES IN EXTENDING DATASET CONDENSATION TO THE OBJECT DETECTION PARADIGM</b> <i>Harshavardhini Bagavathyraj — The University of Texas at El Paso</i> <i>Daniel Grollman — Plus One Robotics</i>

10:25 am – 10:45 am

BREAK

MA2

APPLIED IMAGE ANALYSIS AND EDUCATIONAL METHODS

10:45 am – 12:00 pm

Session Chair: *Rudolf Mester, Norwegian University of Science & Technology*

MA 2.1

**P1042 — TWENTY-FIVE YEARS OF J-DSP ONLINE LABS FOR SIGNAL PROCESSING CLASSES AND WORKFORCE DEVELOPMENT PROGRAMS**

10:45 am – 11:00 am

*Andreas Spanias — Arizona State University*

MA 2.2

**P1044: FAST FACE RECOGNITION AND TRACKING IN COLLABORATIVE LEARNING ENVIRONMENTS**

11:00 am – 11:15 am

*Phuong Tran — The University of New Mexico**Sylvia Celedon-Pattichis — The University of Texas at Austin**Marios Pattichis — The University of New Mexico*

MA 2.3

**P1038 — ME AND CHATGPT: MAKING AN IMAGE PROCESSING CLASS DEMO SUITE**

11:15 am – 11:30 am

*Alan C. Bovik — University of Colorado Boulder*

MA 2.4

**P1045 — FOOD PORTION ESTIMATION: FROM PIXELS TO CALORIES**

11:30 am – 11:45 am

*Gautham Vinod — Purdue University**Fengqing Zhu — Purdue University*

MA 2.5

**P1028 — SPECTRAL FEATURE LEARNING FOR SOIL CARBON ESTIMATION USING A DILATED CONVOLUTIONAL NETWORK**

11:45 am – 12:00 pm

*Maowen Tang — Prairie View A&M University**Yonghui Wang — Prairie View A&M University**Raghava Kommalapati — Prairie View A&M University**Hongbo Du — Tarleton State University**Lai Jiang — Prairie View A&M University**Peter Ampim — Prairie View A&M University**Chris Dealing — Shell International Exploration and Production, Inc.**Olukayode Kuloyo — Shell International Exploration and Production, Inc.*

12:00 pm – 1:25 pm

LUNCH

1:25 pm – 2:30 pm

**Aggelos Katsaggelos — “Physics Informed Machine Learning”**

MP1

BIOMEDICAL IMAGE ANALYSIS I

2:30 pm – 3:30 pm

Session Chair: *Edward Delp, Purdue University*

MP 1.1

**P1019 — MULTIMODAL FUSION OF STRUCTURAL AND DIFFUSION MRI FOR INTELLIGENCE PREDICTION**

2:30 pm – 2:45 pm

*Ram Sapkota — Georgia State University**Bishal Thapaliya — Georgia State University**Jingyu Liu — Georgia State University*

MP 1.2  
2:45 pm – 3:00 pm

**P1033 — CELLGENNET: A KNOWLEDGE-DISTILLED FRAMEWORK FOR ROBUST CELL SEGMENTATION IN CANCER TISSUES**

Srijan Ray — *Georgia Institute of Technology*  
Bikesh Nirala — *Emory University*  
Jason Yustein — *Emory University*  
Sundaresh Ram — *Emory University & Georgia Institute of Technology*

MP 1.3  
3:00 pm – 3:15 pm

**P1034 — KRANOSDENSE: SPATIAL QUANTIFICATION OF SKULL DENSITY RATIO FOR NEUROSURGICAL PLANNING**

Samarth Singh — *University of Virginia*  
G. Wilson Miller — *University of Virginia*  
Scott T. Acton — *University of Virginia*

MP 1.4  
3:15 pm – 3:30 pm

**P1007 — T-SNE-BASED ANALYSIS OF BRAIN STATE DYNAMICS DURING READING OF AI VS HUMAN WRITING**

Harshit Parmar — *Texas Tech University*  
Eric Walden — *Texas Tech University*

3:30 pm – 3:50 pm

**BREAK**

MP2  
3:50 pm – 4:50 pm

**IMAGE MODELING AND APPLICATIONS**

Session Chair: *Gangadharan Esakki, Nvidia*

MP 2.1  
3:50 pm – 4:05 pm

**P1035 — FACTORING MULTI-CHANNEL LFPs INTO INTERPRETABLE COMPONENTS USING LOCALLY-COMPETITIVE SPARSE CODING**

Nicholas Bruns — *Los Alamos National Laboratory*  
Garrett Kenyon — *Los Alamos National Laboratory*

MP 2.2  
4:05 pm – 4:20 pm

**P1023 — LOOK OUT FOR NEW SPIDERS: ARANEAE SPECIES OOD DETECTION USING ENSEMBLE POOLING**

Zi Kang Deng — *University of Arizona*  
Jeffrey J. Rodriguez — *University of Arizona*

MP 2.3  
4:20 pm – 4:35 pm

**P1004 — GENERATIVE AI FOR DATASET ENRICHMENT IN EDGE CASE CAMOUFLAGE OBJECT DETECTION TASKS**

Nathan Bartley — *Texas Tech University*  
Ranadip Pal — *Texas Tech University*

MP 2.4  
4:35 pm – 4:50 pm

**P1024 — SIMULATING SONAR RETURNS FROM LIDAR USING BEAM PATTERN CORRELATION**

Eric Zietz — *Baylor University*  
Eugene Chabot — *University of Rhode Island / Naval Undersea Warfare Center*  
John DiCecco — *University of Rhode Island / Naval Undersea Warfare Center*  
Scott Koziol — *Baylor University*

**6:30 pm BANQUET: [Osteria D' Assisi](#), 58 S Federal Pl, Santa Fe, NM, (505) 986-5858**

**Banquet starts at 6:30pm.**

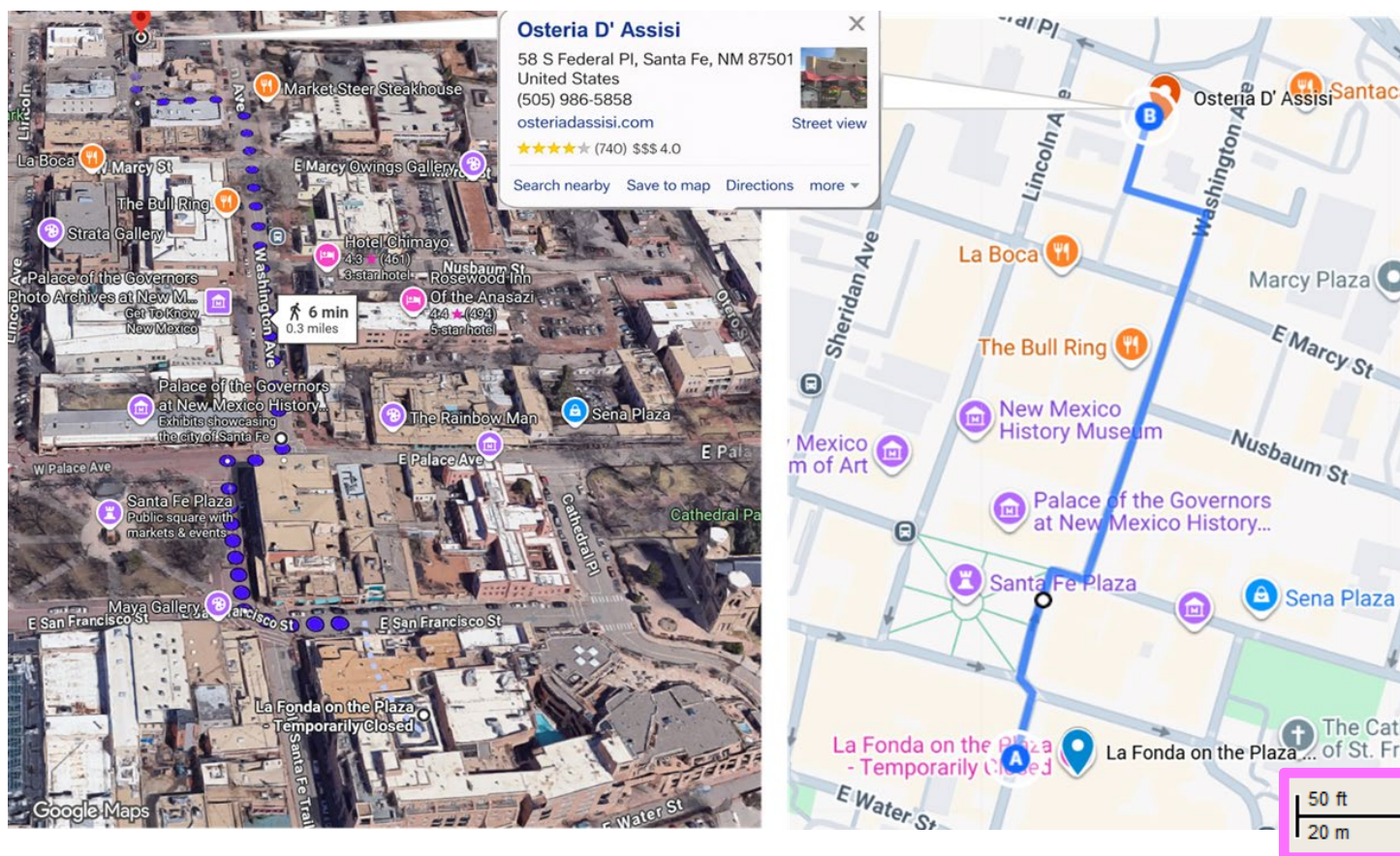
**Location: [Osteria D' Assisi](#), 58 S Federal Pl, Santa Fe, NM, (505) 986-5858**

**(Limited banquet tickets available for purchase during registration.)**

**Please bring your Banquet ticket.**

**See the following map for directions.**

## SSIAI 2026 Banquet Dinner Walking Map



**TUESDAY, MARCH 24, 2026 (SANTA FE ROOM)**

7:30 am – 8:00 am	Registration
8:05 am – 9:10 am	Edward Delp — “Forty Years of Signal Processing! The Reflections of an Old Professor”
TA1 9:10 am – 10:10 am	<b>BIOMEDICAL IMAGE ANALYSIS II</b> Session Chair: <i>Scott Acton, University of Virginia</i>

TA 1.1  
9:10 am – 9:25 am

**P1017 — IDENTIFY IMAGING-GENOMICS ASSOCIATION IN ADOLESCENTS  
VIA DECENTRALIZED PARALLEL INDEPENDENT COMPONENT ANALYSIS**

Chan Aek Panichvatana — *Georgia State University*  
 Bishal Thapaliya — *Georgia State University*  
 Vivek Benegal — *National Institute of Mental Health and Neuro Sciences*  
 Bharath Holla — *National Institute of Mental Health and Neuro Sciences*  
 Gunter Schumann — *King’s College London*  
 Nilakshi Vaidya — *Charité Universitätsmedizin Berlin*  
 Vince Calhoun — *Georgia State University*  
 Jingyu Liu — *Georgia State University*

TA 1.2  
9:25 am – 9:40 am

**P1016 — REPAIR: A FRAMEWORK FOR AIRWAY SEGMENTATION AND  
DISCONTINUITY CORRECTION IN CT**

John M Oyer — *University of Michigan*  
 Ali Namvar — *University of Michigan*  
 Benjamin A Hoff — *University of Michigan*  
 Wassim W Labaki — *University of Michigan*  
 Ella A Kazerooni — *University of Michigan*  
 Charles R Hatt — *4DMedical*  
 Fernando J Martinez — *University of Massachusetts*  
 MeiLan K Han — *University of Michigan*  
 Craig J Galbán — *University of Michigan*  
 Sundaresh Ram — *Emory University & Georgia Institute of Technology*

TA 1.3  
9:40 am – 9:55 am

**P1008 — TOWARDS PRACTICAL AI IN NEUROIMAGING: 3D DEEP  
LEARNING FOR ALZHEIMER’S DETECTION**

Harshit Parmar — *Texas Tech University*  
 Eric Walden — *Texas Tech University*

TA 1.4  
9:55 am – 10:10 am

**P1026 — A STUDY OF NEUROIMAGING AND GENETIC NON-LINEAR  
ASSOCIATIONS FOR BRAIN DEVELOPMENT**

Bhaskar Ray — *Georgia State University / TReNDS*  
 Dawn Jensen — *TReNDS / Georgia State University*  
 Ram Sapkota — *Georgia State University*  
 Jiayu Chen — *Georgia State University*  
 Vince D. Calhoun — *Georgia State University / TReNDS*  
 Jingyu Liu — *Georgia State University / TReNDS*

10:10 am – 10:30 am

BREAK

TA2

IMAGE ENHANCEMENT AND TRANSFORM METHODS

10:30 am – 11:30 am

Session Chair: *Marios Pattichis, University of New Mexico*

TA 2.1

**P1010 — ROTATION-ROBUST RADIOMICS: DIFFERENTIABLE GLCM**

10:30 am – 10:45 am

Haoyue Chen — *Georgia Institute of Technology*  
 Rosario Corso — *Università degli Studi di Palermo*  
 Albert Comelli — *Ri.MED Foundation*  
 Anthony Yezzi — *Georgia Institute of Technology*

TA 2.2

**P1012 — LIGHTWEIGHT PHYSICS-BASED AND EVENT-GUIDED UNSUPERVISED LEARNING FOR LOW-LIGHT ENHANCEMENT**

10:45 am – 11:00 am

Trung Hoang — *Apple Inc.*  
 Anustup Choudhury — *Dolby Laboratories Inc.*  
 Dongdong Fu — *Dolby Laboratories Inc.*  
 Jonathan Miller — *Dolby Laboratories Inc.*  
 Bill Villarreal — *Dolby Laboratories Inc.*

TA 2.3

**P1020 — What's Beneath the Mask?: Implicit Maximum LIKELIHOOD ESTIMATION FOR SINGLE-STEP IMAGE RESTORATION**

11:00 am – 11:15 am

Soumee Guha — *University of Virginia*  
 Scott T. Acton — *University of Virginia*

TA 2.4

**P1043 — ON THE SPATIOSPECTRAL LOCALIZATION OPTIMALITY OF THE DISCRETE HIRSCHMAN TRANSFORM AND CONSTRUCTION OF REAL-VALUED 2D SEPARABLE BLOCK TRANSFORMS**

11:15 am – 11:30 am

Elnaz Aghdaei — *University of Oklahoma*  
 Obada Muhammad — *University of Oklahoma*  
 Tomasz Przebinda — *University of Oklahoma*  
 Murad Ozaydin — *University of Oklahoma*  
 Joseph P. Havlicek — *University of Oklahoma*

11:30 am – 1:00 pm

LUNCH

1:00 pm – 2:05 pm **Amanda Ziemann — “Going Beyond Single Sensors – Open Challenges in Modern Remote sensing”**

TP1

AI IN REMOTE SENSING, RECONSTRUCTION, AND ENVIRONMENTAL DATA

2:05 pm – 3:05 pm

Session Chair: *Jingyu Liu, Georgia State University*

TP 1.1

**P1005 — CHARACTERIZING NEURAL RADIANCE FIELD MODELS FOR 3D SCENE UNDERSTANDING OF HYPERSPECTRAL IMAGERY**

2:05 pm – 2:20 pm

Scout Jarman — *Utah State University*  
 Sophia Zorek — *Rice University*  
 Kevin Moon — *Utah State University*  
 Adra Carr — *Los Alamos National Laboratory*  
 Zigfried Hampel-Arias — *Los Alamos National Laboratory*

TP 1.2  
2:20 pm – 2:35 pm

**P1040 — ARCTIC COASTAL BOUNDARY DETECTION IN HIGH-RESOLUTION SATELLITE IMAGERY**

Harshavardhini Bagavathyraj — *The University of Texas at El Paso*  
Olac Fuentes — *The University of Texas at El Paso*  
Sergio Vargas — *The University of Texas at El Paso*  
Craig E Tweedie — *The University of Texas at El Paso*

TP 1.3  
2:35 pm – 2:50 pm

**P1047 — IMPLICIT-SCALE 3D RECONSTRUCTION FOR MULTI-FOOD VOLUME ESTIMATION FROM MONOCULAR IMAGES**

Yuhao Chen — *University of Waterloo*  
Gautham Vinod — *Purdue University*  
Siddeshwar Raghavan — *Purdue University*  
Talha Ibn Mahmud — *Purdue University*  
Bruce Coburn — *Purdue University*  
Jinge Ma — *Purdue University*  
Fengqing Zhu — *Purdue University*  
Jiangpeng He — *Indiana University Bloomington*

TP 1.4  
2:50 pm – 3:05 pm

**P1029 — EXPLORING AI-ASSISTED TRANSLATION AND CLIMATE DATA EXTRACTION FROM ALASKAN RUSSIAN MISSIONARY DIARIES: ARCTIC CLIMATE RESEARCH**

Abigail Galarza — *The University of Texas at El Paso*  
Valeria Quintero — *The University of Texas at El Paso*  
Christoph Lauter — *The University of Texas at El Paso*  
Olga Lauter — *The University of Texas at El Paso*  
Alex Mayer — *The University of Texas at El Paso*  
Benjamin Good — *The University of Texas at El Paso*

3:05 pm – 3:25 pm

**BREAK**

TP2  
3:25 pm – 4:25 pm

**MACHINE LEARNING AND ROBUST AI**

Session Chair: *Gautham Vinod, Purdue University*

TP 2.1  
3:25 pm – 3:40 pm

**P1027 — MULTISENSOR FUSION ADVERSARIAL TEXTURE ATTACKS FOR AUTONOMOUS VEHICLES**

Jonathan McGee — *University of Virginia*  
Scott T. Acton — *University of Virginia*  
Matthew Korban — *University of Virginia*

TP 2.2  
3:40 pm – 3:55 pm

**P1030 — INVERTING NEURAL NETWORKS: NEW METHODS TO GENERATE NEURAL INPUTS FROM PRESCRIBED OUTPUTS**

Rebecca Pattichis — *University of California, Los Angeles*  
Sebastian Janampa — *University of New Mexico*  
Constantinos Pattichis — *University of Cyprus*  
Marios Pattichis — *University of New Mexico*

TP 2.3  
3:55 pm – 4:10 pm

**P1011 — CAUSAL REASONING & CONTEXT-AWARE DECISION MAKING  
FOR UNMANNED AERIAL SYSTEMS**

Atul Rawal — *Research Institute for Tactical Autonomy*

Noor Ahmed — *Research Institute for Tactical Autonomy*

TP 2.4  
4:10 pm – 4:25 pm

**P1031 — ADVERSARIAL ATTACK TRANSFERABILITY AND DEFENSES FOR  
VISION TRANSFORMERS**

Adhitya Bantwal Bhandarkar — *University of New Mexico*

4:25 pm – 4:30 pm

Closing