Program Review, Day 1 - Wednesday, May 13th

9:30 - 10:00  WELCOME & STATE OF CITER
NSF EVALUATION & SURVEYS

10:00 - 14:10  NEW PROPOSALS & DISCUSSIONS
10 MIN EACH PLUS BREAKS

14:20 - 14:30  CLOSING REMARKS

Program Review, Day 2 - Thursday, May 14th

10:00 - 13:10  NEW PROPOSALS - DHS SPECIAL PROJECTS

Affiliate Advisory Board (AAB) Meeting

Friday, June 5th, 10am-12pm EDT

Summer 2020

PROGRESS REPORT Q&A SESSIONS - 10AM START, 1HR DURATION
JUNE 16TH, 18TH

DHS PROGRESS REPORT Q&A SESSION - 10AM START, 2HR DURATION
JUNE 23RD

FINAL REPORTS PRESENTATIONS - 10AM START, 1 HR DURATION
JULY 9TH, 14TH - FINAL REPORTS
# New Proposals

**Day 1**  
*Wednesday, May 13th, 2020*

Proposals session - 10 minute presentations (7 minute orals; 3 minutes for questions)

## 10:00

**START OF NEW PROJECT PRESENTATIONS**

### fingerprint

**DIGITIZATION OF 10-PRINT CARD FINGERPRINTS USING CELLPHONE CAMERAS (SPECIAL PROJECT)**  
20S-07W-SP, Jeremy Dawson (WVU), Nasser Nasrabadi (WVU)

**CONTACTLESS FINGERPRINT RECOGNITION USING SMARTPHONE CAMERAS**  
20S-01M, Anil Jain (MSU)

**FINGERPRINT SEGMENTATION FOR JUVENILES AND ADULTS**  
20S-05C, Keivan Bahmani (CU), Stephanie Schuckers (CU)

### behavioral & performance

**ENSEMBLE LEARNING ASSISTED ONE-CLASS CLASSIFIER APPROACH TOWARDS FACE CLASSIFICATION**  
20S-04C, Chen Liu (CU), Xuan Qi (CU)

**ADVERSARIAL TEACHER-STUDENT NETWORKS FOR LEARNING EFFICIENT REPRESENTATIONS OF CONVOLUTIONAL NETWORKS TOWARDS LIGHT-WEIGHT FACE RECOGNITION**  
20S-02C, Chen Liu (CU), Zhiliu Yang (CU), Zander Blasingame (CU)

**BIOMETRIC AND BIOGRAPHIC DATA CLEANUP WITH DEDUPLICATION AND QUALITY SCORING**  
20S-03W, Guodong Guo (WVU) and Xin Li (WVU)

**A STATE-OF-THE-ART SURVEY OF COMMERCIAL MOBILE BEHAVIORAL BIOMETRIC TECHNOLOGIES**  
20S-01C, Daqing Hou (CU), Stephanie Schuckers (CU)

**INVESTIGATING CARDIAC WAVEFORM AND RELATED PHYSIOLOGICAL PARAMETERS IN PERSONAL IDENTIFICATION**  
20S-08B, Jun Xia (UB)

## 11:20 – 11:50

**10 MINUTE DISCUSSION & BREAK**

## 11:50

**RESUME NEW PROPOSALS**

### vulnerabilities

**DEEP SPOOF DETECTION FOR TEXT-INDEPENDENT SPEAKER VERIFICATION**  
20S-05W, Nasser Nasrabadi (WVU), Jeremy Dawson (WVU), Sobhan Soleymani (WVU)

**DETECTING DEEPAKE VIDEOS BY ANALYZING BOTH AUDIO AND VISUAL CUES**  
20S-02M, Arun Ross (MSU), Xiaoming Liu (MSU)

**DETECTING DEEPFAKES USING PHYSIOLOGICAL, PHYSICAL, AND SIGNAL FEATURES**  
20S-02B, Siwei Lyu (UB), David Doermann (UB) and Srirangaraj Setlur (UB)

**LIVDET 2021**  
20S-07CW, Sandip Purnapatra (CU), David Yambay (CU), Stephanie Schuckers (CU), Thirimachos Bourlai (WVU)

**ROBUST AND ATTACK-RESISTANT VOICE IDENTIFICATION TECHNOLOGY USING 5G/WIFI SENSORS**  
20S-06B, Wenyao Xu (UB), Srirangaraj Setlur (UB)
T-SNE INSPIRED RELATIVISTIC FEATURE EMBEDDINGS FOR IMPROVED FACE RECOGNITION.
20S-07B, Setlur (UB), Venugopal Govindaraju (UB), Nishant Sankaran (UB)

DEEP OFF-ANGLE IRIS IMAGE FRONTALIZATION
20S-04W, Jeremy Dawson (WVU), Nasser Nasrabadi (WVU)

BENCHMARKING VIDEO FACE SUPER-RESOLUTION ALGORITHMS
20S-02W, Nasser Nasrabadi (WVU), Jeremy Dawson (WVU), Moktari Mostofa (WVU)

UNCONSTRAINED FACE RECOGNITION: CROSS-QUALITY, CROSS-AGE, AND CROSS-FILTERING
20S-09W, Guodong Guo (WVU) and Xin Li (WVU)

COMPARATIVE DETECTION OF FACIAL IMAGE MANIPULATION TECHNIQUES
20S-03C, Zander Blasingame (CU), Chen Liu (CU)

HUMAN RECOGNITION IN FILTER-BASED IMAGES USING DEEP LEARNING
20S-06C, Faraz Hussain (CU), Stephanie Schuckers (CU), M. G. Sarwar Murshed (CU)
### New Proposals

#### DHS Special Projects

**Day 2**

*Thursday, May 14th, 2020*

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<th>Time</th>
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<td>10:00 AM</td>
<td><strong>START OF NEW PROPOSAL PRESENTATIONS - DHS SPECIAL PROJECTS</strong></td>
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<td><strong>privacy enhancing</strong></td>
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<td>FACIAL IMAGE PRIVACY VIA FACE MANIPULATIONS</td>
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<td>20S-11W-SP, Jeremy Dawson (WVU), Nasser Nasrabadi (WVU)</td>
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<td>PRIVACY ENHANCING BIOMETRIC SENSORS</td>
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<td>20S-03M-SP, Arun Ross (MSU)</td>
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<td>HOMOMORPHICALLY ENCRYPTED MATCHING AND SEARCH</td>
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<td>20S-04M-SP, Anil Jain (MSU)</td>
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<td>PRIVACY-PRESERVING BIOMETRIC-BASED AUTHENTICATION USING SECURE MULTI-PARTY COMPUTATION</td>
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<td>20S-08B-SP, Marina Blanton (UB)</td>
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<td><strong>demographics</strong></td>
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<td>REVISITING VOICE BIOMETRIC ENTROPY WITH DEMOGRAPHIC IMPACTS</td>
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<td>20S-09B-SP, Wenyao Xu (UB), Srirangaraj (Ranga) Setlur (UB)</td>
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<td>ADDRESSING THE DEMOGRAPHIC INFLUENCE ON FACE BIOMETRICS</td>
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<td>20S-15W-SP, Guodong Guo (WVU) and Xin Li (WVU)</td>
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<td>11:10</td>
<td><strong>BREAK</strong></td>
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<td>11:40</td>
<td><strong>PROPOSALS RESUME</strong></td>
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<td><strong>uniqueness &amp; face morphing</strong></td>
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<td>DETERMINING THE UNIQUENESS OF FACIAL IMAGES IN LARGE DATASETS</td>
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<td>20S-12W-SP, Jeremy Dawson (WVU), Nasser Nasrabadi (WVU)</td>
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<td>ON THE UNIQUENESS OF FACIAL IDENTITY</td>
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<td>20S-05M-SP, Xiaoming Liu (MSU), Anil Jain (MSU)</td>
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<td>UNIQUENESS AND PERMANENCE OF IRIS</td>
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<td>20S-09CW-SP, Priyanka Das (CU), Stephanie Schuckers (CU), Joseph Scufka (CU), Natalia Schmid (WVU), Matt Valenti (WVU)</td>
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<td>WAVELET-BASED MORPHED ARTIFACTS DETECTION</td>
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<td>20S-13W-SP, Nasser Nasrabadi (WVU), Jeremy Dawson (WVU)</td>
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<td>DETECTING FACE MORPHING: DATASET CONSTRUCTION AND BENCHMARK EVALUATION</td>
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<td>20S-14W-SP, Jacob Dameron (WVU), Guodong Guo (WVU), and Xin Li (WVU)</td>
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<td><strong>other</strong></td>
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<td>TOOLKIT FOR EXPLAINABLE AI IN BIOMETRIC RECOGNITION</td>
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<td>20S-10C-SP, Stephanie Schuckers (CU), Mahesh Banavar (CU), Keivan Bahmani (CU)</td>
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<td>VIDEO SERIES EXPANSION--BIOMETRIC RECOGNITION TECHNOLOGY UNDER SCRUTINITY: PUBLIC OUTREACH ON TECHNOLOGY FUNDAMENTALS</td>
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<td>A COMPREHENSIVE SURVEY ON VOICE BIOMETRICS: TECHNOLOGIES, APPLICATIONS AND CHALLENGES</td>
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<td><strong>CLOSING REMARKS</strong></td>
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**Summer 2020, June**

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**Progress Report Q&A**

**TUESDAY, JUNE 16TH @ 10AM EDT**

- Faster and More Accurate Mobile Touch Dynamics Via Feature Selection and Sequence Learning, 19F-03C, Daqing Hou, Mahesh Banavar, Stephanie Schuckers (CU)
- Federated Biometrics Towards a Trustworthy Solution to Data Privacy, 19F-07W, Guodong Guo (WVU)
- Age Invariant Face Recognition in Children, 19F-05C, Stephanie Schuckers (CU), Xin Li (WVU), Chen Liu (CU), Keivan Bahmani (CU)
- Biometric Aging in Children, Phase III, 19S-02C, Stephanie Schuckers (CU), Priyanka Das (CU), Laura Holsopple (CU)
- How to Assess Face Image Quality with Deep Learning, 19F-08W, Guodong Guo (WVU)
- Non-Contact Fingerprint Presentation Attacks and Detection (Gateway), 19F-08C, Stephanie Schuckers (CU), Arun Ross (MSU)
- Face inMotion for Disambiguating Doppelgangers and Twins, 19F-01M-SP Arun Ross (MSU)

**THURSDAY, JUNE 18TH @ 10AM EDT**

- Evaluation of Match Performance of Livescan vs. Contactless Mobile Phone Fingerprints, 19F-09W, Jeremy Dawson (WVU)
- Multispectral Anti-Spoofing and Liveness Detection Based on the Front-View Camera and Screen of a Smartphone, 19F-01B, Jun Xia (UB)
- Deep Fingerprint Matching from Contactless to Contact Fingerprints for Increased Interoperability (Gateway), 19F-10W-G, Jeremy Dawson, Nasser Nasrabadi, Ali Dabouei (WVU)
- Abnormality Detection from Automobile Audio using Spectrography (Gateway), 19F-05B-G, Nishant Sankaran, Deen Dayal Mohan, Srirangaraj Setlur (UB)
- Deep Cross-Spectral Iris Matching: High-Resolution Visible Iris Against Low-Resolution NIR Iris, 19F-01W, Jeremy Dawson (WVU), Nasser Nasrabadi (WVU)
- Fairness of Face Recognition against Social Covariates, 19F-01i-G, Tiago de Freitas Pereira, Sébastien Marcel (Idiap Research Institute – CH)
- LEVERAGING BIOMETRICS AND SMART CONTRACTS TO CONTROL ACCESS TO INTERNET OF THINGS (delayed Final Report) 19S-01C, Yaoqing Liu (FDU), Stephanie Schuckers (CU)
- INVESTIGATING A HARDNESS-SENSITIVE TACTILE FINGERPRINT SCANNER FOR FAKE-FINGER DETECTION (delayed Final Report) 19S-03B, Wenyao Xu (UB), Zhanpeng Jin (UB), Srirangaraj Setlur (UB)

**TUESDAY, JUNE 23RD @ 10AM EDT - DHS SPECIAL PROJECTS (2HRS)**

- Mitigation of Demographic Variability in Face Recognition using Relative Skin Reflectance Trained with a Direct Measure of Skin Reflectance, 19F-08C-SP, Stephanie Schuckers (CU), Mahesh Banavar (CU), Keivan Bahmani (CU)
- Identical Twins as a Benchmark for Human Facial Recognition, 19F-11W-SP, Jeremy Dawson & Nasser Nasrabadi (WVU)
- Evaluation of the Equitability of Speaker Recognition Algorithms, 19F-12W-SP Jeremy Dawson & Nasser Nasrabadi (WVU)
- Face Quality Index Assessment for Sensor and Subject-Based Distortions, 19F-13W-SP Nasser M. Nasrabadi and Jeremy Dawson (WVU)
- Adversarial Learning Based Approach Against Face Morphing Attacks, 19F-09C-SP Chen Liu, Stephanie Schuckers, Zander Blasingame (CU)
- Detecting Morphed faces Using Deep Siamese Network, 19F-14W-SP Nasser M. Nasrabadi and Jeremy Dawson (WVU)
- Biometric Recognition Technology Under Scrutiny: Public Outreach on Technology Fundamentals, 19F-10C-SP, Stephanie Schuckers, Laura Holsopple, Daqing Hou, Mahesh Banavar
- Understanding (and Mitigating) the Public Concerns in Biometric Authentication (DHS Special Project), 19F-07B-SP, Wehnyao Xu, Srirangaraj Setlur, Mark Frank (UB)
- FMONET: FAce MORphing with adversarial NETworksand Challenge, 19F-06B-SP David Doermann (UB AI Institute), Ranga Setlur (CUBS)

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**PROPRIETARY NDA TERMS APPLY TO ALL TECHNICAL PRESENTATIONS AT THE CITER SPRING 2020 PROGRAM REVIEW**
Final Reports - slides will be submitted prior to the sessions
20 minute presentations (15 minute orals; 5 minutes for questions)

Two 1-hour long Final Report Sessions have been scheduled and the following final reports have tentatively been assigned to a session. However, researchers can request a delay due to the COVID-19 situation, therefore, the schedule may change with some final reports being presented at the Fall 2020 meeting. Projects requesting a delay will be required to present a project progress report on Thursday, July 2nd.

THURSDAY, JULY 9TH @ 10AM EDT - FINAL REPORT SESSION 2

AN END-TO-END DEEP SUPER-RESOLUTION FACE RECOGNITION SYSTEM IN THE WILD
19S-03W, Nasser Nasrabadi (WVU), Moktari Mostofa (WVU), Nyma Ferdous (WVU)

HUMAN AGE ESTIMATION USING GENOMIC DATA
19S-01W, Don Adjeroh (WVU), Jeremy Dawson (WVU), Gianfranco Doretto (WVU), Nasser Nasrabadi (WVU)

ESTIMATION OF AGE OF CHILDREN BASED ON FINGERPRINT IMAGES
19S-05C, Chencchen Liu (CU), Jeremy Dawson (WVU), Stephanie Schuckers (CU)

TUESDAY, JULY 14TH @ 10AM EDT - FINAL REPORT SESSION 3

DEEP PROFILE-TO-FRONTAL FACE VERIFICATION IN THE WILD
19S-06W, Fariborz Taherkhani (WVU), Veeru Talreja (WVU), Jeremy Dawson (WVU), Nasser Nasrabadi (WVU)

ADAPTIVE TEMPLATE POOLING FOR SET BASED FACE RECOGNITION
19S-02B, Deen Mohan (UB), Nishant Sankaran (UB), Sergey Tulyakov (UB), Srirangaraj Setlur (UB)

MULTIMODAL DATA COLLECTION TO SUPPORT DOD TESTING AND EVALUATION PROJECTS (SPECIAL PROJECT)
19S-07W, Jeremy Dawson (WVU)