MONDAY, DECEMBER 16, 2019 (SUNSET ROOM)
REGISTRATION: 8:30 – 9:00

Opening Ceremony: 9:00 - 9:20

Session 1: 9:20 - 10:05 – 3D mesh and Depth Image Processing (regular papers) Chair: Harsh Sharma
9:20 – 9:35  Fused Geometry Augmented Images for Analyzing Textured Mesh
             Bilal Taha, Munawar Hayat, Stefano Berretti, Naoufel Werghi
9:35 – 9:50  Textureless Object Recognition Using an RGB-D Sensor
             Gabriel Lugo Bustillo, Nasim Hajari, Irene Cheng, Ashley Reddy
9:50 – 10:05 An Ordered Structured Resampling of Mesh Surfaces
             Claudio Tortorici, Mohamed Riahi, Stefano Berretti, Naoufel Werghi

Coffee / Snack Break: 10:05 - 10:20

Session 2: 10:20 - 11:05 – Image Understanding (regular papers) Chair: Kushal Mahalingaiah
10:20 – 10:35  Background Subtraction by Difference Clustering
              Xuanyi Wu, Xin Gao, Chenqiu Zhao, Anup Basu
10:35 – 10:50  Semantic Learning for Image Compression (SLIC)
              Kushal Mahalingaiah, Harsh Sharma, Priyanka Kaplish, Irene Cheng
10:50 – 11:05  Background Subtraction Based on Principal Motion for a Freely Moving Camera
              Ma Yingnan, Dong Guangfang, Chenqiu Zhao, Anup Basu

Session 3: 11:05 - 11:55 – Tutorial (Troy McDaniel)
   Mediated Haptic Interpersonal Communication for Smart Multimedia Applications

Session 4: 11:55 - 12:31 – Miscellaneous (short papers) Chair: Abdulmotaleb El Saddik
11:55 – 12:07  Ontology Based Framework for Tactile Internet Applications
              Hikmat Adhami, Mohammad Alja’afreh, Abdulmotaleb El Saddik
              Subhayan Mukherjee, Giuseppe Valenzise, Irene Cheng
              Hawazin Badawi, Fedwa Laamarti, Ken Brunet, Ed McNeely, Abdulmotaleb El Saddik

Lunch (on your own): 12:31 - 14:30

Session 5: 14:30 - 15:30 – Chair: Troy McDaniel
Special session: Smart Multimedia for Citizen-Centered Smart Living  (Troy McDaniel, Sethuraman Panchanathan)
14:30 – 15:00  An Interdisciplinary Framework for Citizen-Centered Smart Cities and Smart Living  (Distinguished Talk)
              Sethuraman Panchanathan, Ramin Tadayon, Troy McDaniel, Vipanchi Chacham
15:00 – 15:15  Implementing Robotic Platforms For Therapies Using Qualitative Factors In Mexico
              Pedro Ponce, Edgar Omar Lopez, Arturo Molina
15:15 – 15:30  Foveated Haptic Gaze
              Bijan Fakhri, Troy McDaniel, Heni Ben Amor, Hemanth Venkateswara, Abhik Chowdhury, Sethuraman Panchanathan

Coffee / Snack Break: 15:30 - 15:45
Session 6: 15:45 - 16:30 – Chair: Homayoun Najjaran

Special session: 3D Perception and Applications (Homayoun Najjaran)

15:45 – 16:00  Accurate Kidney Segmentation in CT Scans Using Deep Transfer Learning
John Brandon Graham-Knight, Kymora Scotland, Victor KF. Wong, Abtin Djavadifar, Dirk Lange, Ben Chew, Patricia Lasserre, Homayoun Najjaran

16:00 – 16:15  End to End Robust Point-Cloud Alignment Using Unsupervised Deep Learning
Xuzhan Chen, Youping Chen, Homayoun Najjaran

16:15 – 16:30  Homography-Based Vehicle Pose Estimation from a Single Image by Using Machine-Learning for Wheel Region and Tire-Road Contact Point Detection
Nastaran Radmehr, Mehran Mehrandezh, Christine Chan

Opening Reception: 19:00 - 20:30 (SUNSET ROOM)
Tuesday, December 17, 2019

Session 7: 9:00 - 9:45 – Video Applications (regular papers) Chair: Igor Curcio

9:00 – 9:15 Using Participatory Design to Create a User Interface for Analyzing Pivotal Response Treatment Video Probes
Corey Heath, Troy McDaniel, Hemanth Venkateswara, Sethuraman Panchanathan

Abtin Djavadifar, John Brandon Graham-Knight, Kashish Gupta, Marian Körber, Patricia Lasserre, Homayoun Najjaran

9:30 – 9:45 Tile Priorities in Adaptive 360-Degree Video Streaming
Igor Curcio, Dmitrii Monakhov, Ari Hourunranta, Emre Baris Aksu

Feature Industrial Talk: (Guan-Ming Su)
9:45 – 10:15 Improving Temporal Stability in Inverse Tone-Mapped High Dynamic Range Video
Neeraj Gadgil, Yoon Yung Lee, Guan-Ming Su

Coffee / Snack Break: 10:15 - 10:30

Session 8: 10:30 - 11:15 – Multimedia in Medicine (regular papers) Chair: Christopher West

10:30 – 10:45 Research on Low-Quality Finger Vein Image Recognition Algorithm
Jianxian Cai, Xiang Wang, Xiangheng Jiang, Shuangshuang Gao, Jin Peng

10:45 – 11:00 Assessing the Capability of Deep-Learning Models in Parkinson’s Disease Diagnosis
Christopher West, Sara Soltaninejad, Irene Cheng

11:00 – 11:15 Remote Photoplethysmography (rPPG) for Contactless Heart Rate Monitoring Using a Single Monochrome and Color Camera
Xiaocong Ma, Diana Patricia Tobon Vallejo, Abdulmotaleb El Saddik

Session 9: 11:15 - 12:00 – Industrial Panel (Future Directions in Smart Multimedia) Moderator: Anup Basu
Guan-Ming Su (Dolby), Igor Curcio (Nokia) Hossein Azari (Microsoft), Bruce Matichuk (Aidant), Abdulmotaleb El Saddik (Uottawa)

Lunch (on your own): 12:00 - 14:00

Session 10: 14:00 - 15:15 – Special session: Haptics and Applications (Chairs: Arnaud Lelevé, Carlos Rossa)

14:00 – 14:30 A Simulation Platform for Early Haptic Training in Surgical and Medical Education (Distinguished Presentation)
Sylvain Bouchigny, Julien Davrou, Christine Megard, Laurent Eck, Elie Cattan, Matthieu Nesme, François Faure, Bernard Devauchelle

14:30 – 14:45 Tissue Discrimination through Force-Feedback from Impedance Spectroscopy in Robot-Assisted Surgery
Brayden Kent, Angelica Cusipag, Carlos Rossa

14:45 – 15:00 Evaluation of Human Roughness Perception by Using Tactile MFCC
Masahiro Fukada, Taiju Shizuno, Yuichi Kurita

15:00 – 15:15 Towards a Dual-User Haptic Training System User Feedback Setup
Angel Licona Licona, Guillermo Zamora de la Pena, Oscar Diaz Cruz, Arnaud Lelevé, Damien Eberard, Minh Tu Pham

Coffee / Snack Break: 15:15 - 15:30
Session 11: 15:30 - 16:30 –

Special session: Smart Multimedia Beyond the Visible Spectrum (Chairs: Huixin Zhou, Hanlin Qin)

15:30 – 15:45  Cascaded Region Proposal Networks for Proposal-Based Tracking
Ximing Zhang, Shujuan Luo, Xuewu Fan

15:45 – 16:00  Low-rank & Sparse Matrix Decomposition and Support Vector Machine for Hyperspectral Anomaly Detection
Shangzhen Song, Huixin Zhou, Zhe Zhang, Yixin Yang, Pei Xiang, Juan Du, Jiajia Zhang

16:00 – 16:15  Infrared and Visual Image Fusion via Multi-Modal Decomposition and PCNN in Gradient Domain Fusion Measure
Wei Tan, Jiajia Zhang, Kun Qian, Juan Du, Pei Xiang, Huixin Zhou

16:15 – 16:30  RCA-NET: Image Recovery Network With Channel Attention Group for Image Dehazing
Juan Du*, Jiajia Zhang, Zhe Zhang, Wei Tan, Shangzhen Song, Huixin Zhou

Banquet: 19:00 - 21:00 (BAY ROOM)
WEDNESDAY, DECEMBER 18, 2019

Session 12: 9:00 - 9:45 – Machine Learning for Multimedia (regular papers) Chair: Hemanth Venkateswara

9:00 – 9:15 Certain and Consistent Domain Adaptation
Bhadrinath Nagabandi, Andrew Dudley, Hemanth Venkateswara, Sethuraman Panchanathan

9:15 – 9:30 Domain Adaptive Fusion for Adaptive Image Classification
Andrew Dudley, Bhadrinath Nagabandi, Hemanth Venkateswara, Sethuraman Panchanathan

9:30 – 9:45 Human Body Fall Recognition System
Maksuda Jannatul, Ava Sehat Niaki, Priyanka Kaplish, Rupali Gupta

Session 13: 9:45 - 10:30 – Image Processing (regular papers) Chair: Hossein Azari

9:45 – 10:00 Race Classification Based Iris Image Segmentation
Xianting Ke, Lingling An, Qingqi Pei

10:00 – 10:15 Level Sets Driven by Adaptive Hybrid Region-Based Energy for Medical Image Segmentation
Bin Han

10:15 – 10:30 Traffic Image Dehazing Based on Wavelength Related Physical Imaging Model
Yibin Wang, Shibai Yin, Jia Zheng

Coffee / Snack Break: 10:30 - 10:45

Session 14: 10:45 - 11:21 – Biometrics (short papers) Chair: Bruce Matichuk

10:45 – 10:57 Fingerprint Liveness Detection Based on Fine-Grained Feature Fusion
Chengsheng Yuan, Wu Q. M. Jonathan

10:57 – 11:09 Synthetic Aerial Image Generation and Runway Segmentation
Harsh Sharma, Changjiang Liu, Irene Cheng

11:09 – 11:21 ProDeblurGAN Progressive Growing of GANs for Blind Motion Deblurring in Face Recognition
Kushal Mahalingaiah, Bruce Matichuk


11:21 – 11:33 3D Object Classification Using 2D Perspectives of Point Clouds
Jansen Leland, Nathan Liebrecht, Sara Soltaninejad, Anup Basu

11:33 – 11:45 Poisson Surface Reconstruction from LIDAR for Buttress Root Volume Estimation
Jianfei Ma, Ruoyang Song, Tao Han, Arturo Sanchez-Azofeifa, Anup Basu

11:45 – 11:57 Fog Removal of Aerial Image Based on Gamma Correction and Guided Filtering
Xinggang Liu, Changjiang Liu, Hengyou Lan

Lunch (on your own): 12:00 - 14:00

Session 16: 14:00 - 15:00 – Special session: Smart Social and Connected Household Products (Pedro Ponce Cruz)

14:00 – 14:15 3D Virtual Environments to Support New Product Development: A Mobile Platform Based on an
Open Innovation Laboratory Applied in Higher Education
José Martín Molina, Jhonattan Miranda, Daniel Cortés, Jorge Medina, Arturo Molina

14:15 – 14:30 Simulation Framework for Loads' Management Analysis in Smart Homes and Behavioral Energy
Efficiency
Manuel Avila, Pedro Ponce, Arturo Molina Gutierrez

14:30 – 14:45 S4 Product Design Framework: A Gamification Strategy based on Type 1 and 2 Fuzzy Logic
Juana Isabel Méndez, Pedro Ponce, Alan Meier, Therese Peffer, Omar Mata Juarez, Arturo Molina

14:45 – 15:00 Improving the Attention Span of Elementary School Children in Mexico through a S4 Technology
Platform
Edgar Omar Lopez, Pedro Ponce, Nancy Mazon, Luis Marquez, Ivan Mejia, Germán Baltazar

Closing Reception and Discussions: 15:15 – 16:30 (SUNSET ROOM)