MONDAY, DECEMBER 16, 2019

Opening Ceremony: 9:00 - 9:20

Session 1: 9:20 - 10:05 – 3D mesh and Depth Image Processing (regular papers) **Chair**: Stefano Berretti

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

12:07 – 12:19   **Potential of Deep Features for Opinion-Unaware, Distortion-Unaware, No-Reference Image Quality Assessment**
         Subhayan Mukherjee, Giuseppe Valenzise, Irene Cheng

12:19 – 12:31   **Non-Invasive Lactate Threshold Estimation Using Machine Learning**
         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

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

9:15 – 9:30   **Robot-Assisted Composite Manufacturing Based on Machine Learning Applied to Multi-View Computer Vision**
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 - 22:00

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

Session 15: 11:21 - 11:57 – Image Processing (short papers) **Chair**: Changjiang Liu

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