VCIP 2015 Technical Program
(Preliminary)

Sunday, 13 December 2015

09:00  Tutorial 1 (Lecture Room 1)
       High Efficiency Video Coding - Coding Tools and Specification: HEVC Version 2 and Beyond
12:00  Mathias Wien, RWTH Aachen University, Germany

Tutorial 2 (Lecture Room 2)
Regularities of Visual Data and Their Applications
Shenghua Gao, ShanghaiTech University, China
Kui Jia, Advanced Digital Sciences Center, Singapore
Tianzhu Zhang, Chinese Academy of Sciences, China
Weisheng Dong, Xidian University, China

14:00  Tutorial 3 (Lecture Room 1)
       HEVC Screen Content Coding (SCC) - Standardization and Technologies
17:00  Ji-Zheng Xu, Microsoft Research Asia, China
       Wen-Hsiao Peng, National Chiao Tung University, Taiwan

Tutorial 4 (Lecture Room 2)
Cloud Communications for Highly Interactive Multimedia Communications
Anil Fernando, University of Surrey, UK

Monday, 14 December 2015

08:30  Opening Ceremony (Auditorium)

09:00  Keynote Speech I (Auditorium)
Design and Implementation of Stereo Matching for Depth Estimation in Computer Vision Applications
Professor Liang-Gee Chen, National Taiwan University, Taiwan

10:00  Coffee/Tea Break

10:30  Oral Session MO1A: Image and Video Processing I (Auditorium)

1. Registration of Undersampled Images via Higher Resolution Spectrum Restoration
   Qiang Song¹, Ruiqin Xiong¹, Xinfeng Zhang², Siwei Ma¹, Wen Gao¹
   ¹Peking University
   ²Nanyang Technological University

2. 2D Nonlocal Sparse Representation for Image Denoising
   Na Qi¹, Yunhui Shi¹, Xiaoyan Sun², Wenpeng Ding¹, Baocai Yin²
   ¹Beijing University of Technology
   ²Microsoft Research
3. Perceptually-aware Distributed Compressive Video Sensing  
   Jin Xu¹, Soufiene Djahel¹, Yuansong Qiao², Zhizhong Fu³  
¹University College of Dublin (UCD)  
²Athlone Institute of Technology  
³University of Electronic Science and Technology of China

4. Merge Mode Based Fast Inter Prediction for HEVC  
   Zhengxue Cheng, Heming Sun, Dajiang Zhou, Shinji Kimura  
   Waseda University

5. Weighted Rate-Distortion Optimization for Screen Content Intra Coding  
   Wei Xiao¹, Bin Li², Jizheng Xu², Guangming Shi³, Feng Wu³  
¹Xidian University  
²Microsoft  
³University of Science and Technology of China

10:30 Oral Session MO1B: Systems and Techniques for Human Interaction (Lecture Room 1)

1. Fixation Prediction through Multimodal Analysis  
   Xiongkuo Min, Guangtao Zhai, Chunjia Hu, Ke Gu  
   Shanghai Jiao Tong University

2. A Robust Facial Landmark Detection Method in Multi-views  
   Xinran Liu, Fei Su  
   Beijing University of Posts and Telecommunications

3. Fusion of Submanifold and Local Texture Features for Palmprint Authentication  
   Asha Rani, Manisha Verma, Balasubramanian Raman  
   Indian Institute of Technology Roorkee

4. Encoding Scale into Fisher Vector for Human Action Recognition  
   Bowen Zhang, Hanli Wang  
   Tongji University

5. Spatio-temporal Quality Pooling Adaptive to Distortion Distribution and Visual Attention  
   Yichen Li, Xiaojiang Guo, Haiying Wang  
   Beijing University of Posts and Telecommunications

12:00 Lunch Break

13:00 Oral Session MO2A: Cloud Multimedia Systems, Applications and Services (Auditorium)

1. 3View Deep Canonical Correlation Analysis for Cross-modal Retrieval  
   Jie Shao, Zhicheng Zhao, Fei Su, Ting Yue  
   Beijing University of Posts and Telecommunications

2. Improving Tag Matrix Completion for Image Annotation and Retrieval  
   Zhen Qin, Chunguang Li, Honggang Zhang, Jun Guo  
   Beijing University of Posts and Telecommunications
3. QCCE: Quality Constrained Co-saliency Estimation for Common Object Detection  
   Koteswar Jerripothula, Jianfei Cai, Junsong Yuan  
   Nanyang Technological University

4. Hierarchical Video Summarization with Loitering Indication  
   Ruipeng Lu, Hua Yang, Ji Zhu, Shuang Wu, Jia Wang, Dave Bull  
   Shanghai Jiaotong University

5. Salient Object Detection using HOS Based L0 Smoothing and Shape-Aware Region Merging  
   Hyunjun Eun, Jonghee Kim, Changick Kim  
   Korea Advanced Institute of Science and Technology

13:00 Special Session MO2B: Human-Centric Visual Computing (Lecture Room 1)  

Organizers: Weihong Deng, Beijing University of Posts and Telecommunications, China  
   Xiuzhuang Zhou, Capital Normal University, China

   Weihong Deng, Jiani Hu, Shuo Zhang, Jun Guo  
   Beijing University of Posts and Telecommunications

2. Active Appearance Model Search Using Partial Least Squares Regression  
   Yongxin Ge¹, Chen Min¹, Martin Jagersand², Dan Yang¹  
   ¹Chongqing University  
   ²University of Alberta

3. Neighborhood Repulsed Correlation Metric Learning for Kinship Verification  
   Haibin Yan¹, Xiuzhuang Zhou², Yongxin Ge³  
   ¹Beijing University of Posts and Telecommunications  
   ²Capital Normal University  
   ³Chongqing University

4. Face Recognition Based on Random Feature  
   Shasha Li, Weihong Deng  
   Beijing University of Posts and Telecommunications

5. Improving Golf Swing Skills Using Intelligent Glasses  
   Hua-Tsung Chen, Tzu-Wei Huang, Chien-Li Chou, Hou-Chun Tsai, Suh-Yin Lee  
   National Chiao Tung University

14:30 Coffee/Tea Break
1. A Novel Depth Motion Vector Coding Exploiting Spatial and Inter-component Clustering Tendency
   Shampa Shahriyar\textsuperscript{1}, Manzur Murshed\textsuperscript{2}, Mortuza Ali\textsuperscript{2}, Manoranjan Paul\textsuperscript{2}
   \textsuperscript{1}Monash University
   \textsuperscript{2}Federation University Australia
   \textsuperscript{3}Charles Sturt University

2. Invariant Image Recognition under Projective Deformations: An Image Normalization Approach
   Xue Wei\textsuperscript{1}, Son Lam Phung\textsuperscript{2}, Abdesselam Bouzerdoum\textsuperscript{1}, Amine Bermak\textsuperscript{2}
   \textsuperscript{1}University of Wollongong;
   \textsuperscript{2}Hong Kong University of Science and Technology

3. An Adaptive Search Range Method for HEVC with the K-Nearest Neighbor Algorithm
   Yucheng Li, Yitong Liu, Hongwen Yang, Dacheng Yang
   Beijing University of Posts and Telecommunications

4. Detail-Preserving Tone Mapping for Low Dynamic Range Displays with Adaptive Gamma Correction
   Cheolkon Jung, Xiaoke Wang
   Xidian University

5. Perceptual Block Merging for Quadtree-Based Partitioning in HEVC Using Disorderly Concealment Effect
   Cheolkon Jung, Yao Chen, Qiaozhou Lin
   Xidian University

6. Image Denoising via Sparse Approximation Using Eigenvectors of Graph Laplacian
   Yibin Tang\textsuperscript{1}, Ying Chen\textsuperscript{2}, Ning Xu\textsuperscript{3}, Aimin Jiang\textsuperscript{3}, Yuan Gao\textsuperscript{3}
   \textsuperscript{1}College of Internet of Things
   \textsuperscript{2}Southeast University
   \textsuperscript{3}Hohai University

7. Weighted Transformable Spatial Pyramid and Scalable Query for Object Retrieval
   Ziou Zheng, Wenmin Wang, Ronggang Wang
   Peking University

8. Centroid Adapted Frequency Selective Extrapolation for Reconstruction of Lost Image Areas
   Wolfgang Schnurrer, Markus Jonscher, Jürgen Seiler, Thomas Richter, Michel Bätz, Andre Kaup
   Friedrich-Alexander-Universität Erlangen-Nürnberg

9. Power-Constrained Backlight Scaling Using Brightness Compensated Contrast-Tone Mapping Operation
   Cheolkon Jung, Lu Wang
   Xidian University

10. Rate Control for Screen Content Coding Based on Picture Classification
    Yaoyao Guo\textsuperscript{1}, Bin Li\textsuperscript{2}, Songlin Sun\textsuperscript{1}, Jizheng Xu\textsuperscript{2}
     \textsuperscript{1}Beijing University of Posts and Telecommunications
     \textsuperscript{2}Microsoft
11. A Novel SSIM Index for Image Quality Assessment using a New Luminance Adaptation Effect Model in Pixel Intensity Domain  
   Sung-Ho Bae, Munchurl Kim  
   Korea Advanced Institute of Science and Technology

12. Enhanced Inter Prediction with Localized Weighted Prediction in HEVC  
   Na Zhang¹, Yiran Lu¹, Xiaopeng Fan¹, Ruiqin Xiong¹, Debin Zhao¹, Wen Gao²  
   ¹Harbin Institute of Technology;  
   ²Peking University

13. Parallel Intra Coding for HEVC on CPU plus GPU Platform  
   Juncheng Ma¹, Falei LUO², Shanshe Wang¹, Nan Zhang³, Siwei Ma¹  
   ¹Peking University  
   ²Institute of Computing Technology  
   ³School of Biomedical Engineering, Capital Medical University

14. Temporal Trimap Propagation using Motion-Assisted Shape Blending  
   Jubin Johnson, Deepu Rajan, Hisham Cholakkal  
   Nanyang Technological University

15. 3D Facial Clone based on Depth Patches  
   Jerome Manceau, Catherine Soladié, Renaud Ségui er  
   CentraleSupelec

16. Fast Super-Resolution Algorithm using ELBP Classifier  
   Dong-yoon Choi, Byung Cheol Song  
   Inha University

17. An Efficient All Zero Block Detection Algorithm Based on Frequency Characteristics of DCT in HEVC  
   Henglu Wei, WEI ZHOU, Xin Zhou, Zhemin Duan  
   Northwestern Polytechnical University

18. Early SKIP Mode Decision Based on Bayesian Model for HEVC  
   Qiang Hu, Zhiru Shi, Xiaoyun Zhang, Zhiyong Gao  
   Shanghai Jiao Tong University;

   Rafael Rodriguez-Sanchez¹, Maria Teresa Alonso², Jose Luis Martinez², Rafael Mayo¹, Enrique S. Quintana-Orti²  
   ¹Universitat Jaume I  
   ²Universidad de Castilla-La Mancha

20. Hybrid Angular Intra/Template Matching Prediction for HEVC Intra Coding  
   Tao Zhang¹, Haoming Chen², Ming-Ting Sun¹, Debin Zhao², Wen Gao¹  
   ¹Harbin Institute of Technology  
   ²University of Washington
21. Image Semantic Quality Assessment for Compression of Car-Plate Images
   
   *Dandan Wang, Dong Liu, Fangdong Chen*
   
   *University of Science and Technology of China*

22. Noise-aided Dynamic Range Compression using Selective Processing in a Statistics-dependent Stochastic Resonance Model
   
   *Rajlaxmi Chouhan, Prabir Biswas*
   
   *IIT Kharagpur*

23. Reducing HEVC Encoding Complexity Using Two-Stage Motion Estimation
   
   *Gabriel Cebrián Márquez¹, Chi Ching Chi², Jose Luis Martinez¹, Pedro Ángel Cuenca Castillo¹, Mauricio Álvarez Mesa², Sergio Sanz Rodríguez², EBen Juurlink²*
   
   ¹High-Performance Networks and Architectures (RAAP), Univ. of Castilla-La Mancha
   ²Embedded Systems Architecture (AES). Technische Universität Berlin

24. Reference Picture Selection Using Checkerboard Pattern for Resilient Video Coding
   
   *Joao Carreira¹, Pedro Assuncao², Sergio Faria², Erhan Ekmekcioglu², Ahmet Kondoz¹, Hyun Lim²*
   
   ¹Loughborough University in London
   ²Instituto de Telecomunicações/Instituto Politecnico de Leiria
   ³Institute for Digital Technologies, Loughborough University

25. No-Reference Video Quality Assessment by HEVC Codec Analysis
   
   *Xin Huang, Jacob Søgaard, Søren Forchhammer*
   
   *Danmarks Tekniske Universitet*

26. Fast Rate Distortion Optimized Quantization for HEVC
   
   *Yongfei Zhang, Rui Tian, Jiangang Liu, Ning Wang*
   
   *Beihang University*

27. Part-based Deep Network for Pedestrian Detection in Surveillance Videos
   
   *Qi Chen, Wenhui Jiang, Yanyun Zhao, Zhicheng Zhao*
   
   *Beijing University of Posts and Telecommunications*

**Demos**

1. Automatic Multiview Synthesis – Prototype Demo
   
   *Frank Gürkaynak¹, Hubert Kaeslin¹, Luca Benini¹, Aljosa Smolic¹, Gabriel Cebrián Márquez²*
   
   ¹Eidgenössische Technische Hochschule Zürich
   ²Disney Research Zurich

2. Kvazaar HEVC Still Image Coding on Raspberry Pi 2 for Low-Cost Remote Surveillance
   
   *Ari Koivula, Jarno Vanne, Timo Hämäläinen, Muming Zhao*
   
   *Tampere University of Tech*

3. Glasses-free Light Field 3D Display
   
   *Shizheng Wang, Xiangyu Zhang, Qijia Cheng, Rajendran Kaviya, Phil Surman, Junsong Yuan, and Xiao Wei Sun*
   
   *Nanyang Technological University*
4. Head Tracked Multiview 3D Display
   Phil Surman, Shizheng Wang, Xiangyu Zhang, Lei Zhang, Xiao Wei Sun
   Nanyang Technological University

5. Omnidirectional-view Three-dimensional Displays Using Multiple Mini-projectors
   Weitao Song¹, Qiudong Zhu¹, Dongdong Weng¹, Yue Liu¹, Yongtian Wang²
   ¹Beijing Institute of Technology
   ²University of Connecticut

6. A Real-time Head Tracker for Autostereoscopic Display
   Guo Song, Phil Surman, Zhenfeng Zhuang, Xiao Wei Sun
   Nanyang Technological University

7. Viewable Floating Displays using Simple Secondary Optical Elements
   Zhenfeng Zhuang, Hongjuan Wang, Phil Surman, Xiao Wei Sun
   Nanyang Technological University

16:00 Oral Session MO3A: Visual Communications I (Auditorium)
1. A Markov Decision based Rate Adaption Approach for Dynamic HTTP Streaming
   Chao Zhou, Chia-Wen Lin
   Huawei

2. Reconstruction of Videos Taken by a Non-Regular Sampling Sensor
   Markus Jonscher, Jürgen Seiler, Michel Bätz, Thomas Richter, Wolfgang Schnurrer, Andre Kaup
   Friedrich-Alexander-Universität Erlangen-Nürnberg

3. Perceptual Video Quality Assessment for Adaptive Streaming Encoding
   Estêvão Monteiro¹, Ricardo Scholz², Carlos Ferraz², Tsang Ren², Roberto Barros²
   ¹Universidade Federal de Pernambuco
   ²Centro de Informática

4. Delay-Constrained Rate Control For Real-Time Video Streaming Over Wireless Networks
   Yufeng Geng¹, Xinggong Zhang¹, Tong Niu¹, Chao Zhou², Zongming Guo¹
   ¹Peking University
   ²Huawei

5. Classification-Aware Distortion Metric for HEVC Intra Coding
   Massimo Minervini, Sotirios Tsafaritis
   IMT Institute for Advanced Studies Lucca
16:00 **Special Session MO3B: Image Sparse Representation and Its Applications (Lecture Room 2)**

*Organizers: Jiaying Liu, Peking University, China
Xinfeng Zhang, Nanyang Technological University, Singapore
Xianming Liu, Harbin Institute of Technology, Singapore*

1. Sparsity-based Joint Gaze Correction and Face Beautification for Conference Video
   Xianming Liu, Gene Cheung, Deming Zhai, Debin Zhao
   National Institute of Informatics

2. A Dual Structured-Sparsity Model for Compressive-Sensed Video Reconstruction
   Chen Zhao, Jian Zhang, Siwei Ma, Ruiqin Xiong, Wen Gao
   Peking University

3. Image Super-Resolution via Group Structured Sparse Representation
   Wenhan Yang, Jiaying Liu, Saboya Yang, Zongming Guo
   Peking University

4. Single Image Super-resolution via 2D Nonlocal Sparse Representation
   Na Qi, Yunhui Shi, Xiaoyan Sun, Wenpeng Ding, Baocai Yin
   Beijing University of Technology
   Microsoft Research

5. Moiré Pattern Removal from Texture Images via Low-rank and Sparse Matrix Decomposition
   Fanglei Liu, Jingyu Yang, Huanjing Yue
   Tianjin University

18:30 **Welcome Reception**

| 20:30 |
Tuesday, 15 December 2014

09:00  Keynote Speech 2 (Auditorium)
      Computer Vision: From Recognition to Understanding
      Dr Yong Rui, Microsoft Research Asia, China

10:00  Coffee/Tea Break

10:30  Oral Session TO1A: Image and Video Coding (Auditorium)

1. Deblocking Strength Prediction based CTU-level SAO Category Determination in HEVC Encoder
   Gaoxing Chen¹, Zhenyu Pei¹, Zhenyu Liu², Takeshi Ikenaga²
   ¹Waseda University
   ²Tsinghua University

2. Efficient Background Picture Coding for Videos Obtained from Static Cameras
   Fangdong Chen, Li Li, Dong Liu, Houqiang Li, Zhuoyi Lv, Haitao Yang
   University of Science and Technology of China

3. An Optimized Probability Estimation Model for Binary Arithmetic Coding
   Jing Cui¹, Shanshe Wang², Nan Zhang¹, Siwei Ma¹
   ¹Seoul National University
   ²Peking University
   ³Capital Medical University

4. An Adaptive Hierarchical QP Setting for Screen Content Coding
   Jiahao Li¹, Bin Li², Jizheng Xu², Ruiqin Xiong¹
   ¹Peking University
   ²Microsoft

5. Rearrangement Pixel Granularity Template Matching for Lossy Screen Content Picture Intra Coding
   Pin Tao, Lixin Feng, Zheng Wang
   Tsinghua University

10:30  Oral Session TO1B: Embedded Systems and Visual Information Processing (Lecture Room 1)

1. A High-Throughput and Multi-Parallel Deblocking Filter VLSI Architecture for HEVC
   Wei Zhou, Jinzhi Zhang, Xin Zhou, Tongqing Liu
   Northwestern Polytechnical University

2. Enhancing Low-light Color Images Using An RGB-NIR Single Sensor
   Hiroki Yamashita, Daisuke Sugimura, Takayuki Hamamoto
   Tokyo University of Science

3. Cross-Modal Correlation Learning with Deep Convolutional Architecture
   Yan Hua¹, Hu Tiam², Anni Cai², Ping Shi¹
   ¹Communication University of China
   ²Beijing University of Posts and Telecommunications
4. Supervised Dictionary Learning for Blind Image Quality Assessment  
   Feng Shao  
   Ningbo University

5. Subjective Rate Distortion Optimization in HEVC with Perceptual Model of Multiple Faces  
   Yufan Liu¹, Haoji Hu², Mai Xu¹  
   ¹Beihang University  
   ²Zhejiang University

12:00 Lunch Break

13:00 Oral Session TO2A: Visual Communications II (Auditorium)

1. Q-Learning Based Control Algorithm for HTTP Adaptive Streaming  
   Virginia Martín, Julián Cabrera, Narciso García  
   Universidad Politécnica de Madrid, Grupo de Tratamiento de Imágenes

2. Progressive Pseudo-Analog Transmission for Mobile Video Live Streaming  
   Cuiling Lan¹, Dongliang He², Chong Luo¹, Feng Wu², Wenjun Zeng¹  
   ¹Microsoft Research  
   ²University of Science and Technology of China (USTC)

3. Compressive Sensing based Image Transmission with Side Information at the Decoder  
   Xiaodan Song¹, Xiulian Peng², Jizheng Xu², Guangming Shi³, Feng Wu³  
   ²Xidian University  
   ³Microsoft  
   ³University of Science and Technology of China

4. On Display-Camera Synchronization for Visible Light Communication  
   Kaixuan Liu¹, Xiaolin Wu², Xiao Shu²  
   ¹Shanghai Jiao Tong University  
   ²McMaster University

5. Efficient SAO Coding Algorithm for x265 Encoder  
   Shibo Yin, Xiaoyun Zhang, Zhiyong Gao  
   Shanghai Jiaotong University

13:00 Special Session TO2B: Emerging Techniques for Glasses-Free 3D Displays (Lecture Room 1)

Organizers: Philip Surman, Shizheng Wang, Junsong Yuan, Yuanjin Zheng, and Xiao Wei Sun  
Nanyang Technological University, Singapore

Invited Talk: Omnidirectional-view Three-dimensional Displays  
   Yongtian Wang  
   Beijing Institute of Technology
1. Automatic Multiview Synthesis – Towards a Mobile System on a Chip
   Michael Schaffner¹, Frank K. Gurkanak¹, Hubert Kaeslin¹, Luca Benini¹, Aljoscha Smolic²
   ¹ETH Zurich
   ²Disney Research Zurich

2. Glasses-free 3D Display with Glasses-assisted Quality: Key Innovations for Smart Directional Back-light Autostereoscopy
   Jianying Zhou, Hang Fan, Jiahui Wang, Yangui Zhou, Haowen Liang, Peter Krebs, Daikun Lin, and Kunyang Li
   Sun Yat-Sen University

3. Region Adaptive Workload Prediction for Parallel View Synthesis
   Zhanqi Liu, Qionghai Dai, Xin Jin
   Tsinghua University

4. Multi-phase Joint Reconstruction Framework for Multi-view Video Compression using Block-based Compressive Sensing
   Mansoor Ebrahim
   Sunway University

5. Two-layer Optimized Light Field Display Using Depth Initialization
   Shizheng Wang, Zhenfeng Zhuang, Phil Surman, Junsong Yuan, Yuanjin Zheng, Xiao Wei Sun
   Nanyang Technological University

14:30 Coffee/Tea Break

15:00 Panel Session

16:00

17:00 Free & Easy @ Gardens by the Bay

18:30 Conference Banquet @ Gardens by the Bay

21:30
**Wednesday, 16 December 2015**

09:00  **Keynote Speech 3 (Auditorium)**
Content Identification  
*Professor Pierre Moulin, University of Illinois at Urbana-Champaign, USA*

10:00  **Coffee/Tea Break**

10:30  **Oral Session WO1A: 3D Videos and Video Coding I (Auditorium)**

1. **A Novel Light Field Superresolution Framework Based on Hybrid Imaging System**  
   *Judong Wu, Haoqian Wang, Xingzheng Wang, Yongbing Zhang*  
   *Tsinghua University*

2. **Quad-tree based Inter-view Motion Prediction**  
   *Ji Ma, Na Zhang, Xiaopeng Fan, Ruiqin Xiong, Debin Zhao*  
   *Harbin Institute of Technology*

3. **Modeling of Packet-Loss-Induced Distortion in 3-D Synthesized Views**  
   *Pan Gao, Wei Xiang*  
   *University of Southern QLD*

4. **Virtual View Distortion Estimation for Depth Map Coding**  
   *Chao Yang, Ping An, Deyang Liu, Liquan Shen*  
   *Shanghai University*

5. **Automatic Foreground Segmentation Using Light Field Images**  
   *Xianyu Chen, Feng Dai, Yike Ma, Yongdong Zhang*  
   *Institute of Computing Tech.*

10:30  **Oral Session WO1B: Multimedia Content Analysis (Lecture Room 1)**

1. **Discriminatively-learned Global Image Representation Using CNN as a Local Feature Extractor for Image Retrieval**  
   *Wei-Lin Ku, Hung-Chun Chou, Wen-Hsiao Peng*  
   *National Chiao Tung University*

2. **Designing A Composite Dictionary Adaptively From Joint Examples**  
   *Zhangyang Wang, Yingzheng Yang, Jianchao Yang, and Thomas Huang*  
   *University of Illinois at Urbana-Champaign*

3. **Improving VLAD with Regional PCA Whitening**  
   *Mingmin Zhen, ronggang Wang, Wenmin Wang*  
   *Peking University*

4. **Residual-consensus Driven Linear Matching**  
   *Hao Wang*  
   *Shanghai Jiao Tong University*
5. Image Tag Completion and Refinement by Subspace Clustering and Matrix Completion  
   Yuqing Hou, Zhouchen Lin  
   Peking University

12:00 Lunch Break

13:00 Oral Session WO2A: 3D Videos and Video Coding II (Auditorium)

1. Image-Guided Depth Propagation Using Superpixel Matching and Adaptive Autoregressive Model  
   Cheolkon Jung, Jiji Cai  
   Xidian University

2. Accurate Image Specular Highlight Removal Based on Light Field Imaging  
   Chenxue Xu, Haoqian Wang, Xingzheng Wang, Yongbing Zhang  
   Tsinghua University

   Thomas Richter, Annelie Habermann, Andre Kaup  
   Friedrich-Alexander-Universität Erlangen-Nürnberg, Lehrstuhl für Multimediakommunikation und Signalverarbeitung

   Mohammadamin Zarshenas, Maral Mesmakhosroshahi, Joohee Kim  
   Illinois Institute of Technology

5. Structure-aware Priority Belief Propagation for Depth Estimation  
   Kuanyu Ju, Botao Wang, Hongkai Xiong  
   Shanghai Jiao Tong University

13:00 Special Session WO2B: Perceptual Visual Information Processing and Its Applications (Lecture Room 1)

Organizers: Yuming Fang, Hantao Liu, Wen-Jiin Tsai and Nevrez İmamoğlu

1. Hybrid Image Retargeting  
   Wen-Jiin Tsai, Chun-Fu Chen  
   National Chiao-Tung University

2. Quality Assessment for Out-of-Focus Blurred Images  
   Yutao Liu¹, Guangtao Zhai³, Xianming LIU², Zhao debin¹  
   ¹Harbin Institute of Technology  
   ²NII  
   ³Shanghai Jiaotong University

3. Incremental SfM Based Lossless Compression of JPEG Coded Photo Album  
   Hao Wu¹, Xiaoyan Sun², Jingyu Yang¹, Feng Wu³  
   ¹Tianjin University  
   ²Microsoft Research  
   ³University of Science and Technology of China (USTC)
4. Visual Attention on Human Face  
   Guangtao Zhai, Ke Gu  
   Shanghai Jiao Tong University

5. Local Feature Aggregation for Blind Image Quality Assessment  
   Jingtao Xu, Qiaohong Li, Tao Liu, Haiqing Du, Yong Liu  
   Beijing University of Posts and Telecommunications

14:30 Coffee/Tea Break

14:30 Poster/Demo Session WPD1 (Education Wing Atrium)

| 16:00 Posters |

1. An Efficient Probabilistic Occupancy Map-Based People Localization Approach  
   Yen-Shuo Lin, Hua-Tsung Chen, Jen-Hui Chuang  
   National Chiao Tung University

2. MI3: Multi-Intensity Infrared Illumination Video Database  
   Chia-Hsin Chan, Hua-Tsung Chen, Wen-Chih Teng, Chin-Wei Liu, Jen-Hui Chuang  
   National Chiao Tung University

3. Gradient Magnitude Similarity for Tone-Mapped Image Quality Assessment  
   Yanping Lu1, Qin Tu1, Maozheng Zhao1, Ran Gao1, Aidong Men1, Dongfei Wang2  
   1Beijing University of Posts and Telecommunications  
   2Academy of Broadcasting Science, SAPPRFT

4. A Fast Super-Resolution Method Based on Sparsity Properties  
   Yuanchao Bai, Huizhu Jia, Xiaodong Xie, Rui Chen, Ming Jiang, Wen Gao  
   Peking University

5. Joint Image Compression and Encryption Based on Alternating Transforms with Quality Control  
   Peiya Li, Kwok-Tung Lo  
   The Hong Kong Polytechnic University

6. Adaptive Motion Vector Resolution Prediction in Block-Based Video Coding  
   Zhao Wang1, Juncheng Ma1, Falei LUO2, Siwei Ma2  
   1Peking University  
   2Institute of Computing Technology

7. An Adaptive Inter CU Depth Decision Algorithm for HEVC  
   Jie Liu, Huizhu Jia, Guoqing Xiang, Xiaofeng Huang, BinBin Cai, Chuang Zhu, Xiaodong Xie  
   Peking University

8. Confidence Indicators Based Pose Estimation for High-Quality 3D Reconstruction Using Depth Image  
   Ranga Ramanujam Srinivasan, Zhengyu Xia, Joohee Kim, Young Park  
   Illinois Institute of Technology
9. Region-of-Interest Based Coding Scheme for Synthesized Video
   Wenbo Zhao¹, Jingjing Fu², Yan Lu², Shipeng Li², Debin Zhao¹
   ¹Harbin Institute of Technology
   ²Microsoft Research

10. Reducing Search Space for Fast Pedestrian Detection
    Maral Mesmakhosroshahi, Joohee Kim
    Illinois Institute of Technology

11. Graph Based Spatiotemporal Saliency Detection Incorporating Low and High Level Features
    Ran Gao¹, Qin Tu¹, Cuiwei Li¹, MaoZheng Zhao¹, Guangtao Fu², Bo Yang¹
    ¹Beijing University of Posts and Telecommunications
    ²Academy of Broadcasting Science, SAPPRFT

12. Visual Saliency Detection Based On Mutual Information In Compressed Domain
    Ran Gao¹, Qin Tu¹, Jun Xu¹, Yanping Lu¹, Wei Xie², Aidong Men¹
    ¹Beijing University of Posts and Telecommunications
    ²Academy of Broadcasting Science, SAPPRFT

13. Fast Uyghur Text Detection in Videos Based on Learning of Baseline Feature
    Chang Liu, Yi Fan Song, Zhicheng Zhao, Fei Su
    Beijing University of Posts and Telecommunications

14. Video Denoising Algorithm via Multi-scale Joint Luma–Chroma Bilateral Filter
    Yuanyuan Gao, Hai-Miao Hu, Jiawei Wu
    Beihang University

15. On Comparison of Intra Line Copy and Intra String Copy for HEVC Screen Content Coding
    Ru-Ling Liao, Chun-Chi Chen, Wen-Hsiao Peng
    National Chiao Tung University

16. Rate-Distortion Based Sparse Coding for Image Set Compression
    Xinfeng Zhang¹, Lin Weisi³, Siwei Ma³, Shiqi Wang³, Wen Gao²
    ¹Nanyang Technological University (NTU)
    ²Peking University

17. Joint Image Dehazing and Contrast Enhancement using the HSV Color Space
    Yi Wan, Qiqiang Chen
    Lanzhou University

18. Fast Parameter Estimation Algorithm for Sample Adaptive Offset in HEVC Encoder
    Sayed El Gendy, Ahmed Shalaby, Mohammed S. Sayed
    Egypt-Japan University of Science and Technology (EJUST)

19. HEVC to VP9 Transcoder
    Enrique de la Torre¹, Rafael Rodriguez-Sanchez², Jose Luis Martinez¹
    ¹Universidad de Castilla-La Mancha
    ²Universitat Jaume I
20. Decorrelation-Stretch based Cloud Detection for Total Sky Images
   Muming Zhao¹, Chongyang Zhang¹, Wenjun Zhang¹, Wei Li², Jian Zhang³
   ¹Shanghai Jiao Tong University
   ²Technology Center of Shanghai Electric Power T&D Group, Shanghai;
   ³University of Technology, Sydney

21. A HVS-Guided Approach for Real-time Image Interpolation
   Rui Chen, Huizhu Jia, Xiaodong Xie, Wen Gao
   Peking University

22. Reflection Removal for Stele Images via Sparse Signal Decomposition
   Jun Wang, Jingyu Yang
   Tianjin University

23. SimDSR: Simultaneous Detection and Segmentation for Repetitive Patterns
   Hao Wang
   Shanghai Jiaotong University

24. Spatial Complexity Based Optimal Initial Quantization Parameter Determination
   Xin Liu, Xiaojing Guo, Haiying Wang, Jianyi Shi
   Beijing University of Posts and Telecommunications

25. Registration-Reliability based Strategy to Enhance Multi-Frame Super-Resolution Algorithms
   Qiang Song, Ruiqin Xiong, Xiaopeng Fan, Siwei Ma, Wen Gao
   Peking University

26. Enhancing Nighttime Surveillance Video via Gradient Fusion
   Wenbo Li¹, Xiaoyan Sun², Feng Wu¹
   ¹University of Science and Technology of China (USTC)
   ²Microsoft Research

Demos

1. Kvazaar HEVC Still Image Coding on Raspberry Pi 2 for Low-Cost Remote Surveillance
   Ari Koivula, Jarno Vanne, Timo Hämäläinen, Muming Zhao
   Tampere University of Tech

2. Glasses-free Light Field 3D Display
   Shizheng Wang, Xiangyu Zhang, Qijia Cheng, Rajendran Kaviya, Phil Surman, Junsong Yuan, and
   Xiao Wei Sun
   Nanyang Technological University

3. Head Tracked Multiview 3D Display
   Phil Surman, Shizheng Wang, Xiangyu Zhang, Lei Zhang, Xiao Wei Sun
   Nanyang Technological University
4. Omnidirectional-view Three-dimensional Displays Using Multiple Mini-projectors
   Weitao Song, Qidong Zhu, Dongdong Weng, Yue Liu, Yongtian Wang
   Beijing Institute of Technology
   University of Connecticut

5. A Real-time Head Tracker for Autostereoscopic Display
   Guo Song, Phil Surman, Zhenfeng Zhuang, Xiao Wei Sun
   Nanyang Technological University

6. Viewable Floating Displays using Simple Secondary Optical Elements
   Zhenfeng Zhuang, Hongjuan Wang, Phil Surman, Xiao Wei Sun
   Nanyang Technological University

16:00 Oral Session WO3A: Image and Video Processing II (Auditorium)

1. Optimized Truncation Model for Adaptive Compressive Sensing Acquisition of Images
   Xiangwei Li, Xuguang Lan, Meng Yang, Jianru Xue, Nanning Zheng
   Xi'an Jiaotong University

   Yulun Zhang1, Yongbing Zhang2, Jian Zhang2, Haoqian Wang1, Xingzheng Wang1, Qionghai Dai1
   1Tsinghua University
   2Peking University

3. A Novel Image Quality Assessment based on an Adaptive Feature for Image Characteristics and Distortion Types
   Sung-Ho Bae, Munchurl Kim
   Korea Advanced Institute of Science and Technology

4. Ant Colony Optimization Inspired Saliency Detection Using Compressed Video Information
   Cuiwei Li1, Qin Tu1, Jun Xu1, Ran Gao1, Qiang Wang1, Yongyu Chang1
   1Beijing University of Posts and Telecommunications
   2Academy of Broadcasting Science, SAPPRFT

5. Vegetation Coverage Detection from Very High Resolution Satellite Imagery
   Jiayuan Fan, Tao Chen, Shijian Lu
   Institute for Infocomm Research, A*STAR, Singapore

16:00 Special Session WO3B: Video Analysis and Understanding (Lecture Room 1)

Organizers: Yongxin Ge, Chongqing University
            Xin Feng, Chong University of Technology

1. Image-set Querying Based Localization
   Lei Deng, Siyuan Huang, Baohua Chen, Jie Zhou
   Tsinghua University
2. On Video Source Format of Screen Content Compression  
   Xin Feng¹, Feng Yang¹, Hao Zhang², Ningning Shi³, Zhan Ma³  
   ¹Chongqing University of Technology  
   ²Central South University  
   ³Nanjing University  

3. On Fast and Accurate Block-Matching Metric for Motion Estimation  
   Min Xu, Yuanyuan Shang, Kai Jin  
   Capital Normal University  

4. View and Time-invariant Action Recognition Based on Depth Videos  
   Zhi Liu¹, Yingli Tian⁴, Xin Feng¹  
   ¹Chongqing University of Technology  
   ²City University of New York  

5. Efficient Image Retrieval Based Mobile Indoor Localization  
   Ruoyun He¹, Yitong Wang², Qingyi Tao¹, Jianfei Cai¹, Ling-yu Duan²  
   ¹Nanyang Technological University  
   ²Peking University  

17:30 End of Program