Conf. 2: 3 Dimensional Image Acquisition and Display Technology and Application

Conference Chairs:

Prof. Byoungho Lee
(Seoul National University, Korea)

Prof. WANG Yongtian
(Beijing Institute of Technology, China)

Prof. CAO Liangcai
(Tsinghua University, China)

Prof. SITU Guohai
(Shanghai Institute of Optics and Fine Mechanics, CAS, China)

Program Committee:
Ayman Alfalou (ISEN-Brest, France), CHEN Linsen (Soochow University, China), CHENG Dewen (Beijing Institute of Technology, China), David J Brady (Duke University, USA), DAI Qionghai (Tsinghua University, China), LIAO Hongen (Tsinghua University, China), Partha Banerjee (University of Dayton, USA), PENG Xiang (Shenzhen University, China), SU Yikai (Shanghai Jiao Tong University, China), SANG Xinzhu (Beijing University of Posts and Telecommunication, China), Ting-Chung Poon (Virginia Tech, USA), WANG Qionghua (Sichuan University, China), WEI Sui (Anhui University, China), WEI Zhenhong (Beihang University, China), YU Jingyi (ShanghaiTech University, China), ZHAO Jianlin (Northwestern Polytechnical University, China).

Afternoon 23 May
Session 1 Chair: WANG Yongtian

14:00-14:25 Recent advances in phase retrieval using transport of intensity, Partha Banerjee (University of Dayton, USA) Invited

14:25-14:50 3D volumetric microscope systems using adaptive objective lens and depth-of-field expanding phase plate, LI Guoqiang (The Ohio State University, USA) Invited

14:50-15:15 Deep Learning on Light Fields, YU Jingyi (ShanghaiTech University, China) Invited

15:15-15:30 Computational Imaging: where optics meets deep learning, SITU Guohai (Shanghai Institute of Optics and Fine Mechanics, CAS, China) Invited

15:30-15:45 Compression of phase-only holograms with JPEG standard and deep convolutional neural network, JIAO Shuming (Shenzhen University, China) [OTA201802-006]

15:45-16:00 coffee/tea break
## Technical Program

### Session 2

**Chair: Byoungho Lee**

- **16:00-16:35**  Large-size three-dimensional light-field displays, SANG Xinzhu (Beijing University of Posts and Telecommunication, China) *Keynote*

- **16:35-17:00**  Why lens array based 3D Display not yet Commercialized? — from the perspective of optical reconstruction, WEI Sui (Anhui University, China) *Invited*

- **17:00-17:25**  Photometric 3D Reconstruction, Yasuyuki Matsushita (Osaka University, Japan) *Invited*

- **17:25-17:50**  Implementation and Assessment of Table-top Holographic Display, Jinwoong Kim (ETRI, Korea) *Invited*

- **17:50-18:05**  Single-channel Based Color Image Encryption Using Detour Cylindrical Diffraction and Color Space Converting, WANG Jun (Sichuan University, China) [OTA201802-036]

### Morning 24 May

**Session 3**  
**Chair: SITU Guohai**

- **08:30-09:05**  Ongoing Studies for Automatic Road Anomalies Detection on 2D and 3D Pavement Images, Ayman Alfalou (ISEN-Brest, France) *Keynote*

- **09:05-09:30**  Designs and evaluation of AR near eye display, CHENG Dewen (Beijing Institute of Technology, China) *Invited*

- **09:30-10:05**  Electronic holography using MEMS SLM, Yasuhiro Takaki (Tokyo University of Agriculture and Technology, Japan) *Invited*

- **10:05-10:30**  Real-time and Convenient 4D Reconstruction, LIU Yebin (Tsinghua University, China) *Invited*

- **10:30-11:00**  Innovation of 3D Spatial Information Acquisition and Autostereoscopic Display in Biomedicion, LIAO Hongen (Tsinghua University, China) *Invited*

- **11:00-11:25**  Electronic holography using MEMS SLM, Yasuhiro Takaki (Tokyo University of Agriculture and Technology, Japan) *Invited*

- **11:25-11:50**  Direct phase measuring deflectometry for 3D shape measurement of discontinuous specular objects, ZHANG Zonghua (Hebei University of Technology, China) *Invited*

- **11:50-12:05**  Depth Distortion Problem for Self-interference Incoherent Digital Holography and its Solution, Kiseung Bang (Seoul National University, Korea) [OTA201802-039]

### Afternoon 24 May

**Session 4**  
**Chair: Ayman Alfalou**

- **14:00-14:25**  Dense Light Field Reconstruction from Sparse Sampling Using Residual Network, WANG Qing (Northwestern Polytechnical University, China) *Invited*

- **14:25-14:50**  Hologram calculation and system realization in holographic display, YU Yingjie (Shanghai University, China) *Invited*

- **14:50-15:05**  Full parallax synthetic hologram based on SRTM elevation terrain data, HOU Rui (Ocean University of China, China) [OTA201802-034]

- **15:05-15:20**  Three-dimensional display based on volume holographic photopolymer doped with gold nanorods, CAO Liangcai (Tsinghua University, China)

- **15:20-15:35**  Active liquid crystal micro phase modulation device based on deep sub-grating FP oscillation, HU Heteng (Anhui University, China) [OTA201802-051]

- **15:35-15:45**  coffee/tea break
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<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker/Institution</th>
<th>Notes</th>
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<tbody>
<tr>
<td>15:45-16:10</td>
<td>Real-time integral imaging pickup system using camera array</td>
<td>DENG Huan (Sichuan University, China)</td>
<td>Invited</td>
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<td>16:10-16:35</td>
<td>Configurable cameras with MMS architecture</td>
<td>Wubin Pang (Duke University, USA)</td>
<td>Invited</td>
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<td>16:35-16:50</td>
<td>Key factors of 3-D imaging system</td>
<td>XING Qi (Ningbo Vision Display Technology Co., Ltd)</td>
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<td>16:50-17:05</td>
<td>Design and analysis of an analog signal readout circuit for SPAD</td>
<td>JIN Xiangliang (Xiangtan University, China)</td>
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<td>17:05-17:20</td>
<td>Effective speckle suppression from step processing and improvement of dual-domain de-noising approach for digital holography</td>
<td>LU Wei (Beihang University, China)</td>
<td>[OTA201802-022]</td>
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<td>17:20-17:35</td>
<td>RGB-D dense SLAM with keyframe-based method</td>
<td>FU Xingyin (Shenyang Institute of Automation, Chinese Academy of Sciences, China)</td>
<td>[OTA201802-003]</td>
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