

# **2013 International Conference on 3D Imaging**

**(IC3D 2013)**

**Liege, Belgium  
3-5 December 2013**



**IEEE Catalog Number: CFP13IC3-POD  
ISBN: 978-1-4799-3204-7**

# TABLE OF CONTENTS

<b>The Oval Sphere Vs. The Flat Canvas</b> .....	1
<i>Y. Liu</i>	
<b>Robust Homography For Real-Time Image Un-Distortion</b> .....	9
<i>J. Chen, K. Benzeroual, R. Allison</i>	
<b>The Relationship Of Pixel Parallax To Audience Emotional Response</b> .....	17
<i>B. Fitter</i>	
<b>Table-Top Display Using Integral Floating Display</b> .....	23
<i>J. Hong, J. Yeom, Y. Jeong, J. Kim, S. Park, K. Hong, B. Lee</i>	
<b>Detection And Correction Of Disparity Estimation Errors Via Supervised Learning</b> .....	28
<i>C. Varekamp, K. Hinnen, W. Simons</i>	
<b>Should A Movie Have Two Different Soundtracks For Its Stereoscopic And Non-Stereoscopic Versions? A Study On The Front/Rear Balance</b> .....	35
<i>E. Hendrickx, M. Paquier, V. Koehl</i>	
<b>An Investigation Of The Effectiveness And Persuasiveness Of Stereoscopic 3D Advertising</b> .....	42
<i>S. Sonntag, N. Xing</i>	
<b>A New Validated Method For Improving The Audiovisual Spatial Congruence In The Case Of Stereoscopic-3D Video And Wave Field Synthesis</b> .....	49
<i>C. Andre, E. Cortell, J. Embrechts, J. Verly, B. Katz</i>	
<b>3D Visualization And Mapping Of Choroid Thickness Based On Optical Coherence Tomography: A Step-By-Step Geometric Approach</b> .....	57
<i>V. Kumar, T. Chandra, S. Jana, A. Richhariya, J. Chhablani</i>	
<b>Large-Scale Color Holographic Display Capable Of Steering View Window</b> .....	65
<i>H. Kim, M. Park, B. Chae, J. Hahn, H. Kim, C. Park, K. Moon, J. Kim</i>	
<b>The Range Of Fusible Horizontal Disparities Around The Empirical Horopters</b> .....	69
<i>P. Grove, A. Harrold</i>	
<b>Assessment Of Plant Leaf Area Measurement By Using Stereo-Vision</b> .....	76
<i>V. Leemans, B. Dumont, M. Destain</i>	
<b>Perceptual Compensation Mechanisms When Viewing Stereoscopic 3D From An Oblique Angle</b> .....	81
<i>P. Hands, J. Read</i>	
<b>Misperception Of Rotational Motion Images Displayed With And Without Stereoscropy</b> .....	86
<i>S. Matsuura</i>	
<b>Complete Processing Chain For 3D Video Generation Using Kinect Sensor</b> .....	92
<i>M. Joachimiak, M. Hannuksela, M. Gabbouj</i>	
<b>Performance Optimizations For Patchmatch-Based Pixel-Level Multiview Inpainting</b> .....	99
<i>S. Lu, B. Ceulemans, A. Munteanu, P. Schelkens</i>	
<b>Cyber (Motion) Sickness In Active Stereoscopic 3D Gaming</b> .....	106
<i>K. Benzeroual, R. Allison</i>	
<b>Obstacle Detection For Pedestrians With A Visual Impairment Based On 3D Imaging</b> .....	113
<i>M. Vlamincx, L. Jovanov, P. Van Hese, B. Goossens, W. Philips, A. Pizurica</i>	
<b>Bringing 3D Vision To The Web: Acquiring Motion Parallax Using Commodity Cameras And WebGL</b> .....	120
<i>P. Goorts, S. Maesen, D. Scarlino, P. Bekaert</i>	
<b>On Uniqueness In Triangulation Based Pattern For Structured Light Reconstruction</b> .....	126
<i>R. Słysz, L. Moreau, H. Borouchaki</i>	
<b>Handheld Light Field Camera For Integral Imaging With Pixel Mapping Algorithm</b> .....	132
<i>Y. Jeong, J. Kim, J. Yeom, K. Hong, B. Lee</i>	
<b>Stereo Matching Architecture For 3D Pose/Gesture Recognition And Distance-Measuring Application</b> .....	136
<i>H. Lin, P. Huang, T. Lin, T. Chang, C. Wu, C. Hsiao, C. Liao</i>	
<b>Off-Axis Complex Hologram Encoding Method For Holographic Display With Amplitude-Only Modulation</b> .....	142
<i>C. Hwang, B. Lee, J. Hahn</i>	
<b>Object Motion Description In Stereoscopic Videos</b> .....	146
<i>T. Theodoridis, K. Papachristou, N. Nikolaidis, I. Pitas</i>	
<b>Objective Bitstream Quality Metric For 3D-HD Video</b> .....	153
<i>D. Juszka, L. Janowski, Z. Papir</i>	
<b>Light Budget Study For A Multiplanar Volumetric 3D Display</b> .....	158
<i>K. Osmanis, G. Valters, I. Osmanis</i>	

<b>Pre-Processing Of Holoscopic 3D Image For Autostereoscopic 3D Displays</b> .....	163
<i>M. Swash, A. Aggoun, O. Abdulfatah, B. Li, J. Fernandez, E. Alazawi, E. Tseklevs</i>	
<b>Distributed Pixel Mapping For Refining Dark Area In Parallax Barriers Based Holoscopic 3D Display</b> .....	168
<i>M. Swash, A. Aggoun, O. Abdultafah, J. Fernandez, E. Alazawi, E. Tseklevs</i>	
<b>Author Index</b>	