2015 3DTV-Conference: The True Vision – Capture, Transmission and Display of 3D Video

(3DTV-CON 2015)

Lisbon, Portugal
8-10 July 2015

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PROGRAM OVERVIEW

Date: Wednesday, 08/Jul/2015

3DTV-Con Tutorials	Building II Floor 1 Room C1.03	**Wednesday,** **July 8th**
Processing and Media Networking Techniques for 3D Media ***Erhan Ekmekcioglu*** ***&*** ***Omar Abdul-Hmeed*** *Institute for Digital Technologies* *Loughborough University in London*	08:30 – 09:15	**3D Video Processing and Coding**
	09:15 – 10:00	**Perceptual 3D Video Processing and Coding**
	10:00 - 10:30	Coffee Break
	10:30 – 11:15	**Networked Video Concepts**
	11:15 – 12:00	**Video Delivery**
	12:00 – 12:45	**3D Media Networking Projects**
3D audio full-duplex communications – opportunities and challenges ***Karim Helwani*** *Huawei, Germany*	14:00 – 15:30	**Spatial diversity** *with multichannel audio rendering;* *Spatial diverse sound field capturing with microphone arrays*
	15:30 – 16:00	Coffee Break
	16:00 – 17:00	**Adaptive filtering for full-duplex communication** *Acoustic echo cancellation for massive multichannel systems as enabling technology*

Date: Thursday, 09/Jul/2015

8:30am - 8:35am	**Opening: Conference Opening** Chair: **Pedro Assuncao**
8:35am - 9:20am	**Plenary 1: The Evolution of Digital Media – Towards Immersive and Interactive Experiences** N/A By Oliver Grau, Intel Chair: **Pedro Assuncao**
9:20am - 10:40am	**Regular Session 1: Content Analysis and Modeling** Chair: **Carl James Debono** **FAST DEPTH ESTIMATION ON MOBILE PLATFORMS AND FPGA DEVICES 51** **Domański, Marek; Konieczny, Jacek; Kurc, Maciej; Łuczak, Adam; Siast, Jakub; Stankiewicz, Olgierd; Wegner, Krzysztof** **ESTIMATION OF TEMPORALLY-CONSISTENT DEPTH MAPS FROM VIDEO WITH REDUCED NOISE 67** **Stankiewicz, Olgierd; Domański, Marek; Wegner, Krzysztof** **A Fast Inter-Component Depth Modeling Technique for 3D High Efficiency Video Coding 5** **Ricci, Kurt; Debono, Carl James** **Parametrizations of planar models for region-merging based lossy depth-map compression 100** **Schiopu, Ionut; Tabus, Ioan**
10:40am - 11:10am	**Coffee Break**
11:10am - 12:30pm	**Regular Session 2: Scene Reconstruction and Rendering** Chair: **Olgierd Stankiewicz** **Analysis of Radial Symmetric Interpolation in Hologram Generation 9** **Lee, Seok; Chang, Hyun Sung; Nam, Dongkyung** **Multi-Camera Epipolar Plane Image Feature Detection for Robust View Synthesis 39** **Jorissen, Lode; Goorts, Patrik; Rogmans, Sammy; Lafruit, Gauthier; Bekaert, Philippe** **VIRTUAL VIEW SYNTHESIS FOR MULTI-VIEW VIDEO PLUS DEPTH SEQUENCES USING SPATIAL-TEMPORAL INFORMATION 28** **Huang, Jun-Te; Leou, Jin-Jang** **QUALITY EVALUATION OF DEPTH MAP ERROR CONCEALMENT USING A PERCEPTUALLY-AWARE OBJECTIVE METRIC 83** **Marcelino, Sylvain Antunes; Faria, Sergio; Pepion, Romuald; Le Callet, Patrick; Soares, Salviano; Assuncao, Pedro**
12:30pm - 1:30pm	**Lunch Break**

1:30pm - 3:10pm	**Regular Session 3: Visualization and Displays** Chair: **Arif Tanju Erdem** **A NEW APPROACH TO CREATE FIXATION DENSITY MAPS FOR STEREO IMAGE 32** **Ma, Baoyan; Zhou, Jun; Gu, Xiao; Zhang, Ya; Guo, Xiaoqiang** **FULL-PARALLAX 3D DISPLAY FROM THE HOLE-FILTERED DEPTH INFORMATION 13** **Hong, Seokmin; Dorado, Adrián; Saavedra, Genaro; Sola-Pikabea, Jorge; Martinez-Corral, Manuel** **HIGH-RESOLUTION LIGHTING OF 3D RELIEFS USING A NETWORK OF PROJECTORS AND CAMERAS 79** **Sajadi, Behzad; Abbaspour Tehrani, Mahdi; Rahimzadeh, Mehdi; Majumder, Aditi** **ELECTRONIC HOLOGRAPHY USING TILED MULTIPLE SPATIAL LIGHT MODULATORS AND ITS LUMINANCE COMPENSATION 96** **Sasaki, Hisayuki; Wakunami, Koki; Ichihashi, Yasuyuki; Oi, Ryutaro; Senoh, Takanori; Yamamoto, Kenji** **RECONSTRUCTION OF OPTICALLY-SCANNED HOLOGRAM USING AMPLITUDE-ONLY OR PHASE-ONLY SPATIAL LIGHT MODULATOR 36** **Park, Joongki; Lee, Soohyun; Yoon, Min Sung; Kim, Jaehan; Choo, Hyon-Gon; Kim, Jinwoong; Kim, Taegeun**
3:10pm - 3:40pm	**Coffee Break**
3:40pm - 5:20pm	**Regular Session 4: User Interaction and Quality of Experience** Chair: **Sergio Faria** **A FULL-REFERENCE STEREOSCOPIC IMAGE QUALITY METRIC BASED ON BINOCULAR ENERGY AND REGRESSION ANALYSIS 91** **Galkandage, Chathura; Calic, Janko; De Silva, Varuna; Dogan, Safak** **DIBR SYNTHESIZED IMAGE QUALITY ASSESSMENT BASED ON MORPHOLOGICAL PYRAMIDS 63** **Sandic-Stankovic, Dragana; Kukolj, Dragan; Le Callet, Patrick** **Blind Depth Quality Assessment using Histogram Shape Analysis 1** **Farid, Muhammad Shahid; Lucenteforte, Maurizio; Grangetto, Marco** **A study of the impact of light fields watermarking on the perceived quality of the refocused data 71** **Paudyal, Pradip; Battisti, Federica; Neri, Alessandro; Carli, Marco**

Date: Friday, 10/Jul/2015

8:30am - 9:15am	**Plenary 2: What is stereoscopic vision good for?** by Jenny Read, Newcastle University, UK Chair: **Paulo Nunes**
9:15am - 9:20am	**Break**
9:20am - 10:40am	**Special Session 1: Processing and Delivery for Novel Immersive 3D Media Formats** Chair: **Vladan Velisavljevic** **Globally optimized multiview video color correction using dense spatio-temporal matching 17** **Ceulemans, Beerend; Lu, Shao-Ping; Schelkens, Peter; Munteanu, Adrian** **3D-HEVC EXTENSION FOR CIRCULAR CAMERA ARRANGEMENTS 75** **Stankowski, Jakub; Kowalski, Łukasz; Samelak, Jarosław; Domański, Marek; Grajek, Tomasz; Wegner, Krzysztof** **Graph-based denoising for time-varying point clouds 55** **Schoenenberger, Yann Mikaël; Paratte, Johan; Vandergheynst, Pierre** **The Refocusing Distance of a Standard Plenoptic Photograph 43** **Hahne, Christopher; Aggoun, Amar; Velisavljevic, Vladan**
10:40am - 11:10am	**Coffee Break**
11:10am - 12:50pm	**Regular Session 5: Services and Applications** Chair: **Paulo Correia** **SIGNALING OF A DOWNLOADABLE HYBRID 3DTV SERVICE SYSTEM USING BROADCAST AND BROADBAND CHANNELS 25** **Lee, Jin Young; Cheong, Won-Sik; Yun, Kugjin; Lee, Gwangsoon** **EDGE-BASED DEPTH GRADIENT REFINEMENT FOR 2D TO 3D CONVERSION USING A LEARNING FRAMEWORK 47** **Herrera Conejero, José Luis; del Blanco Adán, Carlos Roberto; García Santos, Narciso** **A multi-sensor integrated head-mounted display system for AR applications 21** **Kermen, Ahmet; Aydın, Tarkan; Ercan, Ali Özer; Erdem, Tanju** **Experimental Study of Skeleton Tracking Abilities from Microsoft Kinect Non-frontal Views 59** **Wei, Tao; Lee, Brian; Qiao, Yuansong; Kitsikidis, Alexandros; Dimitropoulos, Kosmas; Grammalidis, Nikos** **Free-Hand Gesture Control with ``Touchable'' Virtual Interface for Human-3DTV Interaction 87** **Zhang, Shun; Wang, Jinjun; Gong, Yihong; Zhang, Shizhou**
12:50pm - 1:00pm	**Closing ceremony** Chair: **Pedro Assuncao** Closing remarks and announcing the best paper award.

1:00pm - 2:00pm	**Lunch Break**
2:00pm - 3:40pm	**Workshop: Third Prolight workshop on Modern Signal Processing Methods for Ultra-realistic Light-Field Displays** N/A Chair: **Erdem Sahin** A workshop on the latest results from the PROLIGHT-IAPP project. **Speed-Optimized Free-Viewpoint Rendering Based on Depth Layering 104** **Chuchvara, Aleksandra; Suominen, Olli; Georgiev, Mihail; Gotchev, Atanas** **SELF-CONTAINED SLICES IN H.264 FOR PARTIAL VIDEO DECODING TARGETING 3D LIGHT-FIELD DISPLAYS 108** **Zare, Alireza; Kovács, Péter Tamás; Gotchev, Atanas** **Depth assisted composition of synthetic and real 3D scenes N/A** **Cortes Reina, Santiago; Suominen, Olli** **Non-uniform resampling in perspective compensated large scale 3D visualization N/A** **Shcherban, Maria; Suominen, Olli** **A wave optics based approach for super-resolution plenoptic imaging N/A** **Sahin, Erdem; Katkovnik, Vladimir**