2018 International Conference on 3D Immersion (IC3D 2018)

Brussels, Belgium
5 December 2018

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stereopsia

2018 International Conference on 3D Immersion (IC3D 2018)
Final program

Technically co-sponsored by the IEEE Signal Processing Society
Archived in IEEE Xplore

Each presentation duration (e.g. 15 min) include the time for optional Q&A and
a 1 min transition to next speaker or break.
<u>Speakers</u> are underlined.

The organizers reserve the right to make changes to this program at any time.

All oral sessions are at BOZAR,
room "**Le Studio**" for all sessions
There are no posters this year;
All coffee and lunch breaks are at BOZAR, in Exhibition area.

Wedesday, 05 December 2018 – IC3D

At BOZAR

AM

08:00 - 18:00   **Welcome and registration** (at BOZAR)

09:00 - 09:02   (02 min) **Session I-0** (at BOZAR, "Le Studio")

- (02 min) Welcome address, and overview of Stereopsia, IC3D, and the day's program, <u>Jacques G. Verly</u> (University of Liège, Belgium)

09:02 - 10:32   (92 min) **Session I-1** (at BOZAR, "Le Studio")

- <u>Chairs:</u> Pouyan Ebrahimbabaie (University of Liège, Belgium),
      Jacques G. Verly (University of Liège, Belgium)

- (15 min) - An end-to-end system for real-time dynamic point cloud visualization, <u>Hansjörg Hofer</u>, Florian Seitner (emotion3D GmbH, Germany), Margrit Gelautz (Vienna University of Technology, Austria).....1
- (15 min) - The viewing conditions of light-field video for subjective quality assessment, <u>Peter A. Kara</u> (Kingston University, UK; Holografika, Hungary; Budapest University of Technology & Economics, Hungar), Roopak R. Tamboli (Holografika, Hungary; Indian Institute of Technology Hyderabad, India), Aron Cserkaszky (Holografika, Hungary), Maria G.

Martini (Kingston University, UK), Attila Barsi (Holografika, Hungary) , Laszlo Bokor (Budapest University of Technology & Economics, Hungary).....9

- (15 min) - Full reference quality assessment of DIBR-based synthesized images, Miguel Oliveira, João Ascenso, Maria Paula Queluz (Instituto Superior Técnico – Instituto de Telecomunicações, Portugal).....17
- (15 min) - Contribution of stereopsis and motion parallax to fear responses in the pit room environment,
  Siavash Eftekharifar (Queen's University in Kingston, Canada), Nikolaus F. Troje (Queen's University in Kingston, Canada; York University, Canada).....24
- (15 min) - Ranking regions of visual saliency in RGB-D content,
  Dylan Seychell, Carl J. Debono (University of Malta, Malta).....30
- (15 min) - Free navigation in natural scenery with DIBR: RVS and VSRS in MPEG-I standardization,
  Sarah Fachada, Daniele Bonatto, Arnaud Schenkel, Gauthier Lafruit (Université Libre de Bruxelles, Belgium).....38

10:30 - 11:00   (30 min) **Coffee break** (at BOZAR, Exhibition area)

11:00 - 12:33   (93 min) **Session I-2** (at BOZAR, "Le Studio")

- Chairs: Anaïs Halin (University of Liège, Belgium),
          Jacques G. Verly (University of Liège, Belgium)

- (15 min) - Estimation of global luminance for HoloVizio 3D display,
  Oleksii Doronin, Attila Barsi (Holografika, Hungary).....44
- (15 min) - Logging interactions in explorable VR/AR applications,
  Jakub Flotyński, Pawel Sobociński (Poznań University of Economics and Business, Poland).....52
- (15 min) - A fast water droplet sound simulation,
  Quentin Bolsée, Vivian Bolsée (Vrije Universiteit Brussel, Belgium).....60
- (15 min) - Objective quality assessment of 2D synthesized views for light-field visualization,
  Roopak R. Tamboli (Holografika, Hungary; Kingston University, UK), Peter A. Kara (Holografika, Hungary; Kingston University, UK), Nikita Bisht (Birla Institute of Technology & Science, India), Attila Barsi (Holografika, Hungary), Maria G. Martini (Kingston University, UK), Soumya Jana (Indian Institute of Technology Hyderabad, India).....65
- (15 min) - Multilayer RGBD-video completion for hole filling in 3D-view synthesis,
  Alexander Bokov, Dmitriy Vatolin (Lomonosov Moscow State University, Russia).....72
- (15 min) - Depth estimation and view synthesis for immersive media,
  Takanori Senoh, Nobuji Tetsutani, Hiroshi Yasuda (Tokyo Denki University, Japan).....80
- (03 min) Intro to XR4ALL, the brand-new EU H2020 project for boosting XR tech in Europe,
          XR4ALL representative (XR4ALL, Europe).....N/A

NOON

12:30 - 13:30   (60 min) **Lunch break** (at BOZAR, Exhibition area)

PM

13:30 – 15:03   (93 min) **Session I-3** (at BOZAR, "Le Studio")

- Chairs: Pouyan Ebrahimbabaie (University of Liège, Belgium),

Jacques G. Verly (University of Liège, Belgium)

- (15 min) – People groups analysis for AR applications,
  M. Mancas, S. Laraba, A. Bandrabur, P.-H. De Deken (University of Mons, Belgium), K. Hagihara, N. Leblanc (Université Catholique de Louvain, Belgium), S. B. Yengec Tasdemir (Abdullah Gul University, Turkey), B. Macq (Université Catholique de Louvain, Belgium), T. Dutoit (Université de Mons, Belgium).....88
- (15 min) - 3D imaging system using multi-focus plenoptic camera and tensor display,
  Mehrdad Teratani, Shu Fujita, Wenzhe Ouyang, Keita Takahashi, Toshiaki Fujii (Nagoya University, Japan).....96
- (15 min) - Towards true-to-scale 3D reconstruction of the human face using structured light projection and off-the-shelf cameras,
  Kiran K. Vupparaboina (L. V. Prasad Eye Institute, India), Roopak R. Tamboli (Holografika, Hungary; Indian Institute of Technology Hyderabad, India), Shanmukh Manne (Indian Institute of Technology Hyderabad, India), Peter A. Kara (Holografika, Hungary; Kingston University, UK), Mariana G. Martini (Kingston University, UK) , Attila Barsi (Holografika, Hungary) , Ashutosh Richhariya (L. V. Prasad Eye Institute, India) , Soumya Jana (Indian Institute of Technology Hyderabad, India).....103
- (15 min) - 3D scene modeling from dense video light fields,
  Xiaoran Jiang, Christian Galea, Laurent Guillo, Christine Guillemot (INRIA, CNRS, IRISA Rennes, France).....110
- (15 min) - Pupillary reactivity to non-photorealistic rendering: a case study of immersion in 3D cinema,
  Victor Fajnzylber, Samuel Madariaga, Rafael del Villar, Pedro Maldonado (University of Chile, Chile), Diego Vargas (National Autonomous University of Mexico, Mexico) , Aria Serra (Girona University, Spain), Milan Magdics (Budapest University of Technology & Economics, Hungary) , Mateu Sbert (Tianjin University, China; Girona University, Spain).....117
- (15 min) - DeepStereoBrush: interactive depth map creation,
  Sebastian Knorr (Trinity College Dublin, Ireland; Technische Universität Berlin, Germany), Matis Hudon (Trinity College Dublin, Ireland), Julian Cabrera (Universidad Politécnica de Madrid, Spain), Thomas Sikora (Technische Universität Berlin, Germany), Aljosa Smolic (Technische Universität Berlin, Germany).....125
- (03 min) Intro to XR4ALL, the brand-new EU H2020 project for boosting XR tech in Europe,
  XR4ALL representative (XR4ALL, Europe)

15:00 - 15:30   (30 min) **Coffee break** (at BOZAR, Exhibition area)

15:30 - 17:00   (90 min) **Session I-4** (at BOZAR, "Le Studio")

- Chairs: Anaïs Halin (University of Liège, Belgium),
  Jacques G. Verly (University of Liège, Belgium)

- (15 min) - A Novel Construction Quality Control and Management Method Based on BIM and 3D Laser Scanning Technology,
  Chen Binjin, Yao Shouyan, Yu Xin, Jiang Qichen, Li Xin (China Construction Eighth Engineering Division Corp., LTD, China).....133
- (15 min) - Objective quality evaluation of an angularly-continuous light-field format,
  Roopak R. Tamboli (Holografika, Hungary; Indian Institute of Technology Hyderabad, India), Aron Cserkaszky (Holografika, Hungary), Peter A. Kara (Holografika, Hungary; Kingston

University, UK; Budapest University of Technology & Economics, Hungary), Attila Barsi (Holografika, Hungary) , Mariana G. Martini (Kingston University, UK).....141

- (15 min) - SLAM-based 3D outdoor reconstructions from LIDAR data,
  Ivan Caminal, Josep R. Casas, Santiago Royo (Universitat Politècnica de Catalunya, Spain).....149
- (15 min) - Natural scenes datasets for exploration in 6DOF navigation,
  Arnaud Schenkel, Daniele Bonatto, Sarah Fachada, Henry-Louis Guillaume, Gauthier Lafruit (Université Libre de Bruxelles, Belgium).....157
- (15 min) - Improving residual coding of WASP light field CODEC,
  Pekka Astola, Ioan Tabus (Tampere University of Technology, Finland).....165
- (15 min) - Director's cut – analysis of VR film cuts for interactive storytelling,
  Colm 0 Fearghail, Cagri Ozcinar, Sebastian Knorr, Aljosa Smolic (Trinity College Dublin, Ireland).....173

17:00   **End of IC3D**

Thank you for your participation!

Evening (open to all IC3D attendees)

17:30 - 20:30   **XR meetup** (at BOZAR, Exhibition area)

Thank you for your participation!

END