2016 International Conference on 3D Imaging (IC3D 2016)

Liege, Belgium
13 – 14 December 2016

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2016 International Conferenceon 3D Imaging (IC3D 2016)
Program & schedule

Technically co-sponsored by the IEEE Signal Processing Society
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All presentation durations (e.g. 22 min) include the time for optional Q&A and
a 2 min transition to next speaker.
Speakers are underlined.

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

All oral sessions are at the Théâtre de Liège (Salle de l'Œil Vert);
There are no posters this year;
All coffee and lunch breaks are at Théâtre de Liège.

DAY I – Tuesday, 13 December 2016 – IC3D

At Théâtre de Liège

AM

08:30 - 18:00 **Welcome and registration** (at Théâtre de Liège)

09:00 - 09:02   (02 min) **Session I-0: Welcome address** (at Théâtre de Liège, Œil Vert)

- (02 min) Welcome address, and overview of 3D Stereo MEDIA, IC3D, and the day's program, Jacques G. Verly (University of Liège, Belgium)

09:02 - 10:30   (88 min) **Session I-1** (at Théâtre de Liège, Œil Vert)

- Chairs: Quentin Massoz (University of Liège, Belgium),
  Jacques G. Verly (University of Liège, Belgium)

  - (22 min) 03 - The effects of depth warping on perceived acceleration in stereoscopic animation,   1
    Sidrah Laldin, Laurie M. Wilcox, Robert S. Allison (York University, Canada)
  - (22 min) 05 - Body expression recognition from animated 3D skeleton,   9
    Arthur Crenn, Rizwan A. Khan, Alexandre Meyer, Saïda Bouakaz (Université Lyon 1, France)
  - (22 min) 08 - Perceived quality of angular resolution for light field displays and the validity   16
    of subjective assessment,
    Peter A. Kara (Kingston University, UK; Budapest University of Technology and Economics, Hungary), Maria G. Martini (Kingston University, UK), Peter T. Kovacs (Holografika, Hungary;

Tampere University of Technology, Finland), Samdor Imre (Budapest University of Technology and Economics, Hungary), Attila Barsi, Kristof Lackner, Tibor Balogh (Holografika, Hungary)

- o (22 min) 10 - Learning from multi metrics for stereoscopic 3D image quality assessment,   23
  Jiamei Zhan (Fuzhou University, China), Yuzhen Niu (Fuzhou University, China; Fujian Provincial Lab for the Network Computing and Intelligent Information Processing, China), Yize Huang (Fuzhou University, China)

10:30 - 11:00   (30 min) **Coffee break** (at Théâtre de Liège)

11:00 - 12:28   (88 min) **Session I-2** (at Théâtre de Liège, Œil Vert)

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

  - o (22 min) 29 - Toward fully automatic channel-mismatch detection and discomfort prediction   31
    for S3D video,
    Alexander Bokov, Sergey Lavrushkin, Mikhail Erofeev, Dmitriy Vatolin, Alexey Fedorov (Lomonosov Moscow State University, Russia)
  - o (22 min) 24 - Evaluation of variants of the SGM algorithm aimed at implementation on   38
    embedded or reconfigurable devices,
    Matteo Poggi, Stefano Mattoccia (University of Bologna, Italy)
  - o (22 min) 25 - Hierarchical covariance description for 3D face matching and recognition   46
    under expression variation,
    Walid Hariri (University of Cergy-Pontoise, CNRS, UMR 8051, France; Badji Mokhtar Annaba University, Algeria), Hedi Tabia (University of Cergy-Pontoise, CNRS, UMR 8051, France), Nadir Farah (Badji Mokhtar Annaba University, Algeria), David Declercq (University of Cergy-Pontoise, CNRS, UMR 8051, France), Abdallah Benouareth (Badji Mokhtar Annaba University, Algeria)
  - o (22 min) 23 - Interactive registration method for 3D data fusion,   53
    Arantxa Casanova, Alba Pujol-Miró, Javier Ruiz-Hidalgo, Josep R. Casas (Universitat Politècnica de Catalunya - BarcelonaTech, Spain)

NOON

12:30 - 13:30   (60 min) **Standing lunch** (at Théâtre de Liège)

PM

13:30 - 14:58   (88 min) **Session I-3** (at Théâtre de Liège, Œil Vert)

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

  - o (22 min) 26 - Multilayer semitransparent-edge processing for depth-image-based rendering,   61
    Mikhail Erofeev, Dmitriy Vatolin (Lomonosov Moscow State University, Russia)
  - o (22 min) 28 - Convergent multi-view geometric error correction with pseudo-inverse   68
    projection homography,
    Yan Li, Gauthier Lafruit (Université Libre de Bruxelles, Belgium)
  - o (22 min) 02 - Immersive visualization of geophysical data,   76
    Philippe A. Cerfontaine, Anne-Sophie Mreyen, Hans-Balder Havenith (University of Liège, Belgium)
  - o (20 min) 04 - A new design and algorithm for lenticular lenses display,   82

René de la Barré, <u>Roland Bartmann</u>, Mathias Kuhlmey, Bernd Duckstein, Silvio Jurk, Sylvain Renault (Fraunhofer Institute for Telecommunications, Heinrich-Hertz Institute, Germany)

15:00 - 15:30   (30 min) **Coffee break** (at Théâtre de Liège)

15:30 - 16:36   (66 min) **Session I-4** (at Théâtre de Liège, Œil Vert)

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

  - (22 min) 09 - Subjective quality assessment of zooming levels and image reconstructions   89
    based on region of interest for light field displays,
    Subbareddy Darukumalli (Holografika, Hungary; Pazmany Peter Catholic University,
    Hungary), <u>Peter A. Kara</u> (Kingston University, UK), Attila Barsi (Holografika, Hungary), Maria
    G. Martini (Kingston University, UK), Tibor Balogh (Holografika, Hungary)
  - (22 min) 31 - Towards an interactive navigation in large virtual microscopy images on 3D   95
    displays,
    Jonathan Sarton, <u>Nicolas Courilleau</u>, Yannick Remion, Laurent Lucas (Université de Reims
    Champagne-Ardenne, France)
  - (22 min) 07 - Variational image-based rendering with gradient constraints,   100
    <u>Grégoire Nieto</u>, Frédéric Devernay, James Crowley (Université Grenoble Alpes & INRIA,
    France)

17:00   **End of conference for DAY I**

Networking evening (by reservation only)

19:00 - 21:00   **Networking evening** (at Trésor de la Cathédrale, Liège)

DAY II − Wednesday, 14 December 2016 − IC3D

At Théâtre de Liège

AM

08:30 - 18:00 **Welcome and registration** (at Théâtre de Liège)

09:00 - 09:02   (02 min) **Session II-0: Welcome address** (at Théâtre de Liège, Œil Vert)

- (02 min) Welcome address, and overview of 3D Stereo MEDIA, IC3D, and the day's program, Jacques G. Verly (University of Liège, Belgium)

09:02 - 10:30   (88 min) **Session II-1: Master Class** (at Théâtre de Liège, Œil Vert)

- Chairs: Jacques G. Verly (University of Liège, Belgium)
  Quentin Massoz (University of Liège, Belgium)

  o (90 min) 3D VR experience creation: from Mag to Master,
     Dave Franks (Jaunt Studios, USA)
     See description in Program & Schedule on www.3dstereomedia.eu/3d-master-classes

10:30 - 11:00   (30 min) **Coffee break** (at Théâtre de Liège)

11:00 - 12:28   (88 min) **Session II-2** (at Théâtre de Liège, Œil Vert)

- Chairs: Quentin Massoz (University of Liège, Belgium),
  Jacques G. Verly (University of Liège, Belgium)

  o (22 min) 15 - Explorations for real-time point cloud rendering of natural scenes in virtual   108
     reality,
     Daniele Bonatto, Ségolène Rogge, Arnaud Schenkel, Rudy Ercek, Gauthier Lafruit (Université Libre de Bruxelles, Belgium)
  o (22 min) 21 - Improving the reliability of 3D people tracking system leveraging on deep-   115
     learning,
     Matteo Boschini, Matteo Poggi, Stefano Mattoccia (University of Bologna, Italy)
  o (22 min) 22 - Point cloud compression framework for the Web,   123
     Sylvain Renault, Thomas Ebner, Ingo Feldmann, Oliver Schreer (Fraunhofer Institute for Telecommunications, Heinrich-Hertz Institute, Germany)
  o (22 min) 27 - 3D key-frame extraction method based on visual saliency,   131
     Lino Ferreira, Pedro Assuncao (Instituto Politécnico de Leiria/ESTG, Portugal), Luis A. da Silva Cruz (Universidade de Coimbra/DEEC), Portugal)

NOON

12:30 - 13:30   (60 min) **Standing lunch** (at Théâtre de Liège)

PM

13:30 - 15:00   (90 min) **Session II-3: Master Class** (at University of Liège, Œil Vert)

- Chairs: Jacques G. Verly (University of Liège, Belgium)
  Sylvain Grain (Stereographer, France)

  o (90 min) Organizing & optimizing creative chaos 3D & 3DVR,
     Tom Mikota (Florida State University, USA)
     See description in Program & Schedule on www.3dstereomedia.eu/3d-master-classes

15:00 - 15:30   (30 min) **Coffee break** (at Théâtre de Liège)

15:30 - 16:36   (66 min) **Session II-4** (at Théâtre de Liège, Œil Vert)

- Chairs: Quentin Massoz (University of Liège, Belgium),

Jacques G. Verly (University of Liège, Belgium)

- o (22 min) 32 - Modeling the impact of spatial resolutions on perceptual quality of   138
  immersive image/video,
  Rongbing Zhou, Mingkai Huang, Shuyi Tan, Lijun Zhang, Du Chen, Jie Wu, Tao Yue,
  Xun Cao, Zhan Ma (Nanjing University, China)
- o (22 min) 34 - Beyond stereoscopic: combining spatial acquisition technologies in real-   144
  time engines to produce immersive virtual reality experiences for the dissemination
  of archaeological research,
  Frederick Baker (Cambridge University, UK), Marcel Karnapke (Bauhaus Universität
  Weimar, Germany)
- o (22 min) 33 - Impact of image brightness reduction on perceived quality of 3D   149
  experience for 3D cinema spectators,
  Séverin Loock, David Grogna, Mathieu Jaspart, Jacques G. Verly, Anne-Sophie
  Nyssen (University of Liège, Belgium)

16:36 - 16:38   (02 min) **Closing remarks**
Jacques G. Verly (University of Liège, Belgium)

16:40   **End of conference for Day II**

16:40   **End of IC3D 2016**

Thank you for your participation!

For attendees of Professional Conference (PCON)

Thursday 15 Dec 2016 - Théâtre de Liège