2015 International Conference on 3D Imaging (IC3D 2015)

Liege, Belgium
14 – 15 December 2015

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2015 International Conference on 3D Imaging (IC3D 2015)
Program & schedule

3D STEREO MEDIA

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

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 University of Liège (Salle académique);
All posters are at Théâtre de Liège;
All coffee and lunch breaks are at Théâtre de Liège.
Both venues are across the street from each other.

DAY I – Monday, 14 December 2015 – IC3D

At University of Liège & Théâtre de Liège

AM

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

Poster presenters can post their posters at Théâtre de Liège from 08:30 till 18:00.
Registration desk will give them the appropriate instructions.

09:00 - 09:10   (10 min) **Session I-1: Welcome address** (at University of Liège)

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

09:10 - 10:15   (65 min) **Session I-2** (at University of Liège)

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

- o (22 min) The algorithm for parameter selection in 3D shooting, independent from stereopair registration method,
  Alexander S. Melkumov (Cinema and Photo Research Institute (NIKFI), Russia)
- o (22 min) Illumination, phase step optimization and improvements in simultaneous multiple frequency measurement for time-of-flight sensors,
  Vinh Nguyen Xuan, Wolfgang Weihs, Otmar Loffeld (University of Siegen, Germany)
- o (21 min) Optimizing camera positions for multi-view 3D reconstruction,
  Ningqing Qian, Chao-Yang Lo (Aachen University (RWTH), Germany)

10:15 - 10:55   (40 min) **Coffee break** (at Théâtre de Liège)

10:55 - 12:00   (65 min) **Session I-3** (at University of Liège)

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

  - o (22 min) Automatic generation of 3D building models from building polygons on digital maps,
    Kenichi Sugihara (Gifu Keizai University, Japan), Takahiro Murase (Chukyo Gakuin University, Japan), Xinxin Zhou (Nagoya Bunri University, Japan)
  - o (22 min) Trifocal system for high-quality inter-camera mapping and virtual view synthesis,
    Florian Seitner (emotion3D GmbH, Austria), Matej Nezveda, Margrit Gelautz (Vienna University of Technology, Austria), Georg Braun (emotion3D GmbH, Austria), Christian Kapeller (cmotion GmbH, Austria), Werner Zellinger, Bernhard Moser (Software Competence Center Hagenberg, Austria)
  - o (21 min) Automatic 3DS conversion of historical aerial photographs,
    Francesco Malapelle (Università degli Studi di Udine, Italy), Anders Hast (Upsala University, Sweden), Andrea Fusiello (Università degli Studi di Udine, Italy), Beatrice Rossi, Pasqualina Fragneto (STMicroelectronics, Italy), Andrea Marchetti (Consiglio Nazionale delle Ricerche, Italy)

12:00 - 12:30   (30 min) **Session I-4: Poster teasers** (at University of Liège)

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

  - o (03 min) Introduction
    (Posters are listed in Session I-5)
  - o (04 min) P1
  - o (04 min) P2
  - o (04 min) P3
  - o (04 min) P4
  - o (04 min) P5
  - o (04 min) P6
  - o (03 min) Conclusion

NOON

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

PM

13:30 - 14:05 (35 min) **Session I-5: Posters** (at Théâtre de Liège)

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

- **Posters**
    - P1: A watermarking scheme for DIBR images,
      Ali Al-Haj, Yazan Salman (Princess Sumaya University for Technology, Jordan)
    - P2: Study on making omnistereo images for HMD using longer focal length,
      Alaric Hamacher, Soon-Chul Kwon (Kwangwoon University, Korea), Taeg-Keun Whangbo
      (Kwangwoon University & Gachon University, Korea), Seung-Hyun Lee (Kwangwoon
      University, Korea)
    - P3: A user-controlled assessment approach to perceptual quality in autostereoscopic
      displays for mobile gaming,
      An-Che Chen (Ming Chi University of Technology, Taiwan), Yung-Hua Hou (Chicony
      Electronics, Taiwan)
    - P4: Complexity and implementation analysis of synthesized view distortion estimation
      architecture in 3D high efficiency video coding,
      Waqar Ahmad, Maurizio Martina, Guido Masera (Politecnico di Torino, Italy)
    - P5: A robust 3D mesh watermarking scheme against cropping,
      Seung-Min Mun, Han-Ul Jang, Do-Gon Kim, Heung-Kyu Lee (Korea Advanced Institute of
      Science and Technology, Republic of Korea)
    - P6: VR and the death of the screen plane,
      Bruce Fitter (University of Central Lancashire, UK)

14:05 - 15:30 (85 min) **Session I-6** (at University of Liège)

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

    - (22 min) Lossy-to-lossless progressive coding of depth-map images using competing
      constant and planar models,
      Ionut Schiopu (Tampere University of Technology, Finland), Jukka P. Saarinen (Nokia
      Technologies, Finland), Ioan Tabus (Tampere University of Technology, Finland)
    - (21 min) Robust nose tip detection for face range images based on local features in scale-
      space,
      Jian Liu, Quan Zhang, Chen Zhang, Chaojing Tang (National University of Defense
      Technology, China)
    - (21 min) Perception aware coding of stereoscopic video,
      Maryam Homayouni (Tampere University of Technology, Finland), Payman Aflaki, Miska M.
      Hannuksela (Nokia Technologies, Finland), Moncef Gabbouj (Tampere University of
      Technology, Finland)
    - (21 min) Orientation selection for printing 3D models,
      Jeongho Son, Sunghee Choi (Korea Advanced Institute of Science and Technology, Korea)

15:30 - 16:10   (40 min) **Coffee break** (at Théâtre de Liège)

16:10 - 17:15   (65 min) **Session I-7** (at University of Liège)

- <u>Chairs:</u> Antoine Lejeune (University of Liège, Belgium),

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

- o (22 min) Perceptually adaptive filtering for stereoscopic video compression, Maryam Homayouni (Tampere University of Technology, Finland), Payman Aflaki, Miska M. Hannuksela (Nokia Technologies, Finland), Moncef Gabbouj (Tampere University of Technology, Finland)
- o (22 min) A distortion evaluation framework in 3D video view synthesis, Andrei I. Purica (Télécom ParisTech, Université Paris-Saclay, France) (University Politehnica of Bucharest, Romania), Marco Cagnazzo, Béatrice Pesquet-Popescu, Frédéric Dufaux (Télécom ParisTech, Université Paris-Saclay, France), Bogdan Ionescu (University Politehnica of Bucharest, Romania)
- o (21 min) Segmentation of gait cycles using foot-mounted 3D accelerometers, Mohamed Boutaayamou, Olivier Brüls, Vincent Denoël, Cédric Schwartz, Marie Demonceau (University of Liège, Belgium), Gaëtan Garraux (University of Liège & University Hospital Center of Liège, Belgium), Jacques G. Verly (University of Liège, Belgium)

17:15   **End of conference for DAY I**

Networking evening (by reservation only)

19:00 - 21:00   **Networking evening** (at Prince-Bishops' Palace of Liège)

Prince-Bishops' Palace of Liège then   Prince-Bishops' Palace of Liège now

DAY II – Tuesday, 15 December 2015 – IC3D

At University of Liège & Théâtre de Liège

AM

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

Poster presenters can post their posters at Théâtre de Liège from 8:30 till 13:30.
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09:00 - 09:10   (10 min) **Session II-1: Welcome address** (at University of Liège)

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

09:10 - 10:15   (65 min) **Session II-2** (at University of Liège)

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

  - (22 min) Ordinal judgments of depth in monocularly- and stereoscopically-viewed photographs of complex natural scenes,
    Rebecca L. Hornsey, Paul B. Hibbard (University of Essex, UK), Peter Scarfe (University of Reading, UK)
  - (22 min) Quality, quantity and precision of depth perception in stereoscopic displays,
    Alice E. Haines, Rebecca L. Hornsey, Paul B. Hibbard (University of Essex, UK)
  - (21 min) Adaptive estimates of egocentric distance from vergence angle in telestereoscopic viewing: von Hofsten's model revisited,
    Anne-Emmanuelle Priot (Institut de recherche biomédicale des armées & Lyon Neuroscience Research Center, France), Pascaline Neveu (Institut de recherche biomédicale des armées, France), Benoît Priot (Université de Toulouse, France), Claude Prablanc (Lyon Neuroscience Research Center, France), Corinne Roumes (Institut de recherche biomédicale des armées, France), Rafael Laboissière (Laboratoire de Psychologie et Neurocognition, Grenoble, France)

10:15 - 10:55   (40 min) **Coffee break** (at Théâtre de Liège)

10:55 - 12:20   (85 min) **Session II-3** (at University of Liège)

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

  - (22 min) Evaluation of observers sensitivity to lens distortion discrepancies in stereoscopic moving pictures,
    Nikolaus Hottong, S. Becker, S. Beuck (Hochschule Furtwangen University, Germany)
  - (21 min) Television viewing distance in British households,
    Paul Hands, Jenny C.A. Read (Newcastle University, UK)
  - (21 min) A 3D virtual tour of the Santa Maria della Scala Museum complex in Siena, Italy, based on the use of the Oculus Rift HMD,
    A. Fineschi, Alessandro Pozzebon (University of Siena, Italy)
  - (21 min) Robust stereo matching using census cost, discontinuity-preserving disparity computation and view-consistent refinement,
    Duc Minh Nguyen, Jan Hanca, Shao-Ping Lu, Adrian Munteanu (Vrije Universiteit Brussel (VUB), Belgium), (iMinds V.Z.W., Belgium)

12:20 - 12:30 (10 min) **Session II-4: Posters** (at Théâtre de Liège)

Posters are listed in Session I-5

NOON

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

PM

13:30 - 13:45 (15 min) **Session II-5: Posters** (at Théâtre de Liège)

Posters are listed in Session I-5

13:45 - 15:10   (85 min) **Session II-6** (at University of Liège)

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

  - (22 min) Interactive view point transition on synchronised video streams,
    Rajesh Chenchu, Lode Jorissen, Sammy Rogmans, Philippe Bekaert (Hasselt University, Belgium)
  - (21 min) A premixed autostereoscopic OptiX-based volume rendering,
    Benjamin Battin, Gilles Valette, Julien Lehuraux, Yannick Remion, Laurent Lucas (Université de Reims Champagne-Ardennes, France)
  - (21 min) Limits of brightness and color distortions based on subjective evaluation of stereoscopic images,
    Xiangdong Deng, Guanwen Zheng, Xun Cao (Academy of Broadcasting Planning, China), kindly presented by Tao Jia (Academy of Broadcasting Planning, China)
  - (21 min) Accurate 3D UWB radar super-resolution imaging for a bi-static antenna configuration,
    Rahmi Salman (HF Systems Engineering GmbH & Co. KG, Germany), Abdelmoumen Norrdine (RWTH Aachen University, Germany), Dilyan Damyanov, Thorsten Schultze, Ingolf Willms (University of Duisburg-Essen, Germany), Jörg Blankenbach (RWTH Aachen University, Germany)

<mark>15:10 - 15:45   (35 min) **Coffee break** (at Théâtre de Liège)</mark>

15:45 - 16:50   (65 min) **Session II-7** (at University of Liège)

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

  - (22 min) Detection of stuck-to-background objects in converted S3D movies,
    Stanislav Dolganov, Mikhail Erofeev, Dmitriy Vatolin, Yury Gitman (Lomonosov Moscow State University, Russia)
  - (22 min) Subpixel area based simulation for autostereoscopic displays with lenticular arrays,
    Mathias Kuhlmey, Roland Bartmann (Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute, Germany)
  - (21 min) Sparse based adaptive non separable vector lifting scheme for holograms compression,
    Yafei Xing (Université Catholique de Louvain, Belgium), Mounic Kaaniche (Université Paris 13, France), Béatrice Pesquet-Popescu, Frédéric Dufaux (Télécom ParisTech, Université Paris-Saclay, France)

16:50 - 16:55   (05 min) **Closing remarks**
  Jacques G. Verly (University of Liège, Belgium)

16:55   **End of conference for Day II**

16:55   **End of IC3D 2015**