Human Vision and Electronic Imaging (HVEI) 2016

Conference grouping: Human Perception and Cognition for Emerging Technologies
Conferences in this grouping discuss human visual, auditory and tactile perception, and cognition related to electronic imaging algorithms, methods, and applications; texture and material perception; image understanding; task-based visualization; other topics. Special topics this year include: high-level adaptation, psychophysiological measures of image quality, cross-sensory perception, and visual aesthetics, art and emotion in electronic media.

Conference overview
The conference on Human Vision and Electronic Imaging explores the role of human perception and cognition in the design, analysis, and use of electronic media systems. Over the years, it has brought together researchers, technologists and artists, from all over the world, for a rich and lively exchange of ideas. We believe that understanding the human observer is fundamental to the advancement of electronic media systems, and that advances in these systems and applications drive new research into the perception and cognition of the human observer. Every year, we introduce new topics through our Special Sessions, centered on areas driving innovation at the intersection of perception and emerging media technologies. The HVEI website (http://hvei.eecs.northwestern.edu) includes additional information and updates.

Awards: Student Best Paper/Poster Award

Joint Sessions: Perception and Quality with the Image Quality and System Performance Conference and **Retinex at 50** with the Color Imaging: Displaying, Processing, Hardcopy, and Applications Conference.

Events: Monday evening HVEI Banquet and Talk; Museum Field Trip; End-of-Day Discussions; and Panel Discussions.

Photo: Stephan Keith.

Conference Chairs: Bernice E. Rogowitz, Visual Perspectives (USA); **Thrasyvoulos N. Pappas,** Northwestern Univ. (USA); and **Huib de Ridder,** Technische Univ. Delft (the Netherlands)

Program Committee: Albert J. Ahumada, NASA Ames Research Ctr. (USA); **Jan P. Allebach,** Purdue Univ. (USA); **Erhardt Barth,** Univ. zu Lübeck (Germany); **Walter R. Bender,** Sugar Labs (USA); **Michael H. Brill,** Datacolor (USA); **Kjell Brunnstrom,** ACREO (Sweden); **Damon M. Chandler,** Oklahoma State Univ. (USA); **John C. Dalton,** Synthetik Software (USA); **Scott J. Daly,** Dolby Labs., Inc. (USA); **Ulrich Engelke,** Commonwealth Scientific and Industrial Research Organisation (Australia); **Elena A. Fedorovskaya,** Rochester Institute of Technology (USA); **James A. Ferwerda,** Rochester Institute of Technology (USA); **Jennifer L. Gille,** Qualcomm Technologies Inc. (USA); **Sergio R. Goma,** Qualcomm Technologies Inc. (USA); **Sheila S. Hemami,** Northeastern Univ. (USA); **Hari Kalva,** Florida Atlantic Univ. (USA); **Stanley A. Klein,** Univ. of California, Berkeley (USA); **Patrick Le Callet,** Univ. de Nantes (France); **Lora T. Likova,** The Smith-Kettlewell Eye Research Institute (USA); **Monica Lopez-Gonzalez,** La Petite Noiseuse Productions (USA); **John J. McCann,** McCann Imaging (USA); **Mark E. McCourt,** North Dakota State Univ. (USA); **Jeffrey B. Mulligan,** NASA Ames Research Ctr. (USA); **Karol Myszkowski,** Max-Planck-Institut für Informatik (Germany); **Adar Pelah,** The Univ. of York (UK); **Eliezer Peli,** Schepens Eye Research Institute (USA); **Judith A. Redi,** Technische Univ. Delft (the Netherlands); **Hawley K. Rising,** Consultant (USA); **Sabine Süsstrunk,** École Polytechnique Fédérale de Lausanne (Switzerland); **Christopher W. Tyler,** The Smith-Kettlewell Eye Research Institute (USA); **Andrew B. Watson,** NASA Ames Research Ctr. (USA); and **Michael A. Webster,** Univ. of Nevada, Reno (USA)

Human Vision and Electronic Imaging (HVEI) 2016

Monday, February 15, 2016

Welcome and Keynote Session 1:
The Neuroscience of Multisensory Processing
Session Chairs: Bernice Rogowitz, Visual Perspectives (USA); Thrasyvoulos Pappas, Northwestern University (USA); and Huib de Ridder, Delft University of Technology (Netherlands)
8:50 – 9:50 am
Continental Ballroom 4
HVEI Conference Welcome

HVEI-091

Towards a rudimentary neural model of multisensory integration in human neocortex, *John Foxe[1] and Sophie Molholm[2]; [1]University of Rochester Medical Center and [2]Albert Einstein College of Medicine (USA)*

Multisensory Interactions

Session Chairs: Mark McCourt, North Dakota State University (USA) and Lora Likova, Smith-Kettlewell Eye Research Instituite (USA)

9:50 – 10:20 am
Continental Ballroom 4

9:50 HVEI-092
Multisensory development and plasticity: From neurons to the clinic (Invited), *Mark Wallace, Vanderbilt University (USA)*

10:20 – 10:50 am   Coffee Break

Multisensory Interactions (continued)

Session Chairs: Mark McCourt, North Dakota State University (USA) and Lora Likova, Smith-Kettlewell Eye Research Instituite (USA)

10:50 – 12:30 am
Continental Ballroom 4

10:50 HVEI-093
Psychophysical investigations into Ramachandran's mirror and visual feedback for phantom limb pain: Video-based variants for unilateral and bilateral amputees, and temporal dynamics of paresthesias (Invited), *David Peterzell, John F. Kennedy University (USA)*

11:10 HVEI-094
Language processing in congenitally blind people (Invited),
Krish Sathian[1,2], Valeria Occelli[1], Simon Lacey[1], and Randall Stilla[1]; [1]Emory University and [2]Atlanta VAMC (USA)

11:30 HVEI-095
High-order multisensory mechanisms: Insights from Braille writing and reading (Invited), *Lora Likova, Christopher Tyler, Kristyo Mineff, Laura Caciamani, and Spero Nicholas, Smith-Kettlewell Eye Research Institute (USA)*

11:50 HVEI-096
Blind individuals represent the auditory space in egocentric rather than allocentric reference frame (Invited), *Tiziana Vercillo[1] and Monica Gori[2]; [1]University of Nevada, Reno (USA) and [2]Fondazione Istituto Italiano di Tecnologia (Italy)*

12:10 HVEI-097
Individual differences in multisensory integration and timing (Invited), *Elliot Freeman and Alberta Ipser, City University London (United Kingdom)*

12:30 – 2:00 pm   Lunch Break

EI 2016 Opening Plenary and Symposium Awards
Session Chair: Choon-Woo Kim (Inha University)
2:00 – 3:00 PM
Continental Ballroom 5

Illuminating a bright future for medicine, *Audrey K. Bowden, Stanford University (USA)*

3:00 – 3:30 pm   Coffee Break

Multisensory Interactions (continued)

Session Chairs: Mark McCourt, North Dakota State University (USA) and Lora Likova, Smith-Kettlewell Eye Research Instituite (USA)

3:30 – 4:30 pm
Continental Ballroom 4

3:30 HVEI-098
Beyond the predominance of the visual empire: A functional model on haptics & more (Invited), *Claus-Christian Carbon[1,2,3]; [1]University of Bamberg, [2]Forschungsgruppe EPAEG, and [3]Bamberg Graduate School of Affective and Cognitive Sciences (Germany)*

3:50 HVEI-099
Visual-tactile integration during active touch (Invited), *Cintia Martins and Qi Wang, Columbia University (USA)*

4:10 HVEI-100
Evaluating the effectiveness of auditory and tactile surface graphs for the visually impaired, *James Ferwerda[1], Vladimir Bulatov[2], and John Gardner[2]; [1]Rochester Institute of Technology and [2]ViewPlus Technologies (USA)*

HVEI Monday Author Discussion Session
Moderators: Bernice Rogowitz, Visual Perspectives (USA); Thrasyvoulos Pappas, Northwestern University (USA); and Huib de Ridder, Delft University of Technology (Netherlands)
4:30 – 5:30 pm
Continental Ballroom 4

5:00 – 6:00 pm   EI 2016 Symposium Reception

HVEI Banquet
Conference Chairs: Bernice Rogowitz, Visual Perspectives (USA); Thrasyvoulos Pappas, Northwestern University (USA); and Huib de Ridder, Delft University of Technology (Netherlands)
7:30 – 10:30 pm
TBA at Registration

HVEI-101

Bach to the blues: Color, music, emotion, and synesthesia, *Stephen Palmer, University of California (USA)*

Tuesday, February 16, 2016

COLOR/HVEI: RETINEX at 50: History `Joint Session`

Session Chair: Marcelo Bertalmio, Universitat Pompeu Fabra (Spain)

8:50 – 10:10 am
Continental Ballroom 4

This session is jointly sponsored by: Color Imaging XXI: Displaying, Processing, Hardcopy, and Applications, and Human Vision and Electronic Imaging (HVEI) 2016.

8:50   RETINEX-017
Retinexes algorithms: Many spatial processes used to solve many different problems (Invited), *John McCann, McCann Imaging (USA)*

9:30   RETINEX-018
Designator Retinex, Milano Retinex and the locality issue (Invited), *Alessandro Rizzi, Università degli Studi di Milano (Italy)*

10:10 – 10:50 am   Coffee Break

COLOR/HVEI: RETINEX at 50: Spatial Algorithms `Joint Session`

Session Chair: John McCann, McCann Imaging (USA)

10:50 am – 12:30 pm
Continental Ballroom 4

This session is jointly sponsored by: Color Imaging XXI: Displaying, Processing, Hardcopy, and Applications, and Human Vision and Electronic Imaging (HVEI) 2016.

10:50   RETINEX-019
The oriented difference of Gaussians model of brightness perception (Invited), *Mark McCourt and Barbara Blakeslee, North Dakota State University (USA)*

11:10   RETINEX-020
A center-surround framework for spatial image processing, *Vassilios Vonikakis, Advanced Digital Sciences Center (ADSC) (Singapore)*

11:30   RETINEX-021
Retinex-like computations in human lightness perception and their possible realization in visual cortex (Invited), *Michael Rudd, University of Washington (USA)*

11:50   RETINEX-022
The role of lightness perception in determining the perceived contrast of real world scenes (Invited), *David Kane and Marcelo Bertalmio, Universitat Pompeu Fabra (Spain)*

12:10   RETINEX-023
Processing astro photographs using Retinex based methods (Invited), *Daniele Marini, Alessandro Rizzi, and Cristian Bonanomi, Università degli Studi di Milano (Italy)*

12:30 – 2:00 pm   Lunch Break

EI 2016 Tuesday Plenary and Symposium Awards
Session Chair: Nitin Sampat (Rochester Institute of Technology)
2:00 – 3:00 PM
Continental Ballroom 5

Pushing computational photography deeper into imaging system design, *Ren Ng, University of California, Berkeley (USA)*

3:00 – 3:30 pm   Coffee Break

Image Quality from Threshold to Experience

Session Chairs: Thrasyvoulos Pappas, Northwestern University (USA) and Huib de Ridder, Delft University of Technology (Netherlands)

3:30 – 6:10 pm
Continental Ballroom 4

3:30   HVEI-102
The pyramid of visibility, *Andrew Watson and Albert Ahumada, NASA Ames Research Ctr. (USA)*

3:50   HVEI-103
Perceptual image quality assessment using a normalized Laplacian pyramid, *Valero Laparra[1,2], Johannes Ballé[2,3], Alexander Berardino[2], and Eero Simoncelli[2,3]; [1]Universitat de Valencia (Spain), [2]New York University (USA), and [3]Howard Hughes Medical Institute (USA)*

4:10   HVEI-104
A method for rapid measurement of contrast sensitivity on mobile touch-screens, *Jeffrey Mulligan, NASA Ames Research Ctr. (USA)*

4:30   HVEI-105
Subjective analysis and objective characterization of adaptive bitrate videos, *Jacob Søgaard[1], Samira Tavakoli[2], Kjell Brunnstrom[3,4], and Narciso Garcia[2]; [1]Technical University of Denmark (Denmark), [2]Universidad Politécnica de Madrid (Spain), [3]Acreo Swedish ICT, and [4]Mid Sweden University (Sweden)*

4:50   HVEI-106
Assessing visibility of individual transmission errors in networked video, *Jari Korhonen and Claire Mantel, Technical University of Denmark (Denmark)*

5:10   HVEI-107
Visual saliency in HEVC video stream, *Marwa Ammar[1], Mihai Mitrea[1], Ismail Boujelben[1], and Patrick Le Callet[2]; [1]Telecom Sud Paris and [2]Polytech Nantes/Université de Nantes (France)*

5:30   HVEI-108
Perceptual flicker visibility prediction model, *Lark Kwon Choi and Alan Bovik, The University of Texas at Austin (USA)*

5:50   HVEI-109
Does visual quality depend on semantics? A study on the relationship between impairment annoyance and image semantics at early attentive stages, *Judith Redi, Ernestasia Siahaan, and Alan Hanjalic, Technische Universiteit Delft (Netherlands)*

EI 2016 Symposium Demonstration Session and Exhibit Hall Happy Hour
5:30 – 7:00 PM
Continental Ballroom Foyer

HVEI Tuesday Author Discussion Session
Moderators: Bernice Rogowitz, Visual Perspectives (USA); Thrasyvoulos Pappas, Northwestern University (USA); and Huib de Ridder, Delft University of Technology (Netherlands)
6:10 – 7:10 pm
Continental Ballroom 4

Wednesday, February 17, 2016

IQSP/HVEI: Keynote: Perception and Quality `Joint Session`

Session Chair: Chaker Larabi, Université de Poitiers (France)

8:50 – 9:40 am
Continental Ballroom 4

This session is jointly sponsored by: Image Quality and System Performance XIII, and Human Vision and Electronic Imaging (HVEI) 2016.

8:50   IQSP-029
Up Periscope! Designing a new perceptual metric for imaging system performance, *Andrew Watson, NASA Ames Research Center (USA)*

Perceptual Image Analysis

Session Chair: Bernice Rogowitz, Visual Perspectives (USA)

9:40 – 10:20 am
Continental Ballroom 4

9:40   HVEI-110
Hierarchical Manifold Sensing with foveation and adaptive partitioning of the dataset (JIST-first), *Irina Burciu, Thomas Martinetz, and Erhardt Barth, University of Lübeck (Germany)*

10:00   HVEI-111
Comparing object recognition from binary and bipolar edge features, *Jae-Hyun Jung[1], Tian Pu[1,2], and Eliezer Peli[1]; [1]Schepens Eye Research Institute/Mass. Eye and Ear, Harvard Medical School (USA) and [2]University of Electronic Science and Technology of China (China)*

10:20 – 10:50 am   Coffee Break

Individual Differences in Perceptual Judgments

Session Chairs: Michael Webster, University of Nevada, Reno (USA) and David Peterzell, John F. Kennedy University (USA)

10:50 am – 12:40 pm
Continental Ballroom 4

10:50   HVEI-112
Discovering sensory processes using individual differences: A review and factor analytic manifesto (Invited), *David Peterzell, John F. Kennedy University (USA)*

11:10   HVEI-113
Individual differences in perceptual preferences: The role of "good fit" (Invited), *Stephen Palmer[1], Karen Schloss[2], and William Griscom[3]; [1]University of California, Berkeley, [2]Brown University, and [3]Microsoft Corporation (USA)*

11:40   HVEI-114
Individual differences in color naming (Invited), *Delwin Lindsey and Angela Brown, Ohio State University (USA)*

12:00   HVEI-115
Using individual differences to better determine normative responses from crowdsourced transcription tasks: An application to the R. E. MacLaury Color Categorization Archive (Invited), *Kimberly Jameson, Prutha Deshpande, Sean Tauber, Stephanie Chang, Nathanial Benjamin, Yang Jiao, and Sergio Gago, University of California, Irvine (USA)*

12:20   HVEI-116
Individual differences in lifetime face exposure predict behavioral and neural responses to faces (Invited), *Benjamin Balas and Corey Grant, North Dakota State University (USA)*

12:40 – 2:00 pm   Lunch Break

EI 2016 Wednesday Plenary and Symposium Awards
Session Chair: Choon-Woo Kim (Inha University)
2:00 – 3:00 PM
Continental Ballroom 5

Intel® RealSense Technology: Adding human-like sensing and interactions to computing devices, *Achin Bhowmik, Intel Corporation (USA)*

3:00 – 3:20 pm   Coffee Break

Human Vision and Electronic Imaging (HVEI) 2016 Interactive Papers Oral Previews

Session Chair: Jeffrey Mulligan, NASA Ames Research Ctr. (USA)

3:20 – 3:30 pm
Continental Ballroom 4

In this session interactive poster authors will each provide a brief oral preview of their poster presentation, which will be presented fully in the Human Vision and Electronic Imaging (HVEI) 2016 Interactive Papers Session at 5:30 pm on Wednesday.

3:20   HVEI-117
Role of spatio-temporal distortions in the visual periphery in disrupting natural attention deployment, *Yashas Rai K, Marcus Barkowsky, and Patrick Le Callet, University of Nantes (France)*

3:21   HVEI-118
Reducing inattentional blindness using subliminal cues in visual performance tasks, *Deepti Pappusetty and Hari Kalva, Florida Atlantic University (USA)*

3:22   HVEI-119
Evaluation of aesthetic appeal with regard of user's knowledge, *Pierre Lebreton[1], Alexander Raake[1], and Marcus Barkowsky[2]; [1]Technische Universität Ilmenau (Germany) and [2]Université de Nantes (France)*

3:23   HVEI-120
Visually-based sensations: From perception to the 'wow factor', *Floris van Nes, Eindhoven University. of Technology; TU/e (Netherlands)*

3:24   HVEI-121
Image segmentation using fuzzy spatial-taxon cut: comparison of two different stage one perception based input models of color (Bayesian classifier and fuzzy constraint), *Lauren Barghout, University of California, Berkeley (USA)*

3:25   HVEI-122

Positive and negative polarity contrast sensitivity measuring app, *Alex Hwang[1,2,3] and Eliezer Peli[1,2,3]; [1]Schepens Eye Research Institute, [2]Massachusetts Eye and Eye, and [3]Harvard University (USA)*

3:26   HVEI-123

Are lab-based audiovisual quality tests reflecting what users experience at home?, *Miguel Rios Quintero[1] and Alexander Raake[1,2]; [1]Technical Universität Berlin and [2]Technische Universität Ilmenau (Germany)*

3:27   HVEI-124

Image quality of experience: A subjective test targeting the consumer's experience, *Michele Saad[1], Margaret Pinson[2], David Nicholas[1], Niels Van Kets[3], Glenn Van Wallendael[3], Ramesh Jaladi[1], and Philip Corriveau[1]; [1]Intel Corporation (USA), [2]NTIA's Institute for Telecommunication Sciences (USA), and [3]Ghent University-iMinds (Belgium)*

Psychophysiological Measures for Visual Quality

Session Chairs: Kjell Brunnstrom, Acreo Swedish ICT AB (Sweden) and Sebastian Arndt, Technische Universität Berlin (Germany)

3:30 – 5:10 pm
Continental Ballroom 4

3:30   HVEI-125

Review on using physiology in quality of experience (Invited), *Sebastian Arndt[1], Kjell Brunnstrom[2], Eva Cheng[3], Ulrich Engelke[4], Sebastian Möller[1], and Jan-Niklas Antons[1]; [1]Technische Universität Berlin (Germany), [2]Acreo (Sweden), [3]RMIT University, and [4]CSIRO (Australia)*

3:50   HVEI-126

Physiological capture of augmented viewing states: Objective impact measures of high-dynamic range and wide-color gamut viewing experiences (Invited), *Dan Darcy, Evan Gitterman, Alex Brandmeyer, and Poppy Crum, Dolby Laboratories, Inc. (USA)*

4:10   HVEI-127

Using eye tracking metrics and visual saliency maps to assess image utility (Invited), *Laura Matzen, Michael Haass, Jonathan Tran, and Laura McNamara, Sandia National Laboratories (USA)*

4:30   HVEI-128

Towards prediction of sense of presence in immersive audiovisual communications (Invited), *Anne-Flore Perrin, Martin Rerabek, and Touradj Ebrahimi, EPFL (Switzerland)*

4:50   HVEI-129

Emotion recognition by physiological signals (Invited), *Naeem Ramzan, Sebastian Palke, Thomas Cuntz, Ryan Gibson, and Abbes Amira, University of West of Scotland (United Kingdom)*

HVEI Wednesday Author Discussion Session
Moderators: Bernice Rogowitz, Visual Perspectives (USA); Thrasyvoulos Pappas, Northwestern University (USA); and Huib de Ridder, Delft University of Technology (Netherlands)
5:10 – 5:40 pm
Continental Ballroom 4

EI 2016 Symposium Interactive Papers Session
5:30 – 7:00 PM
Continental Ballroom 6

Human Vision and Electronic Imaging (HVEI) 2016 Interactive Papers Session

5:30 – 7:00 pm
Continental Ballroom 6

The HVEI interactive papers will be presented in the EI 2016 Symposium Interactive Papers Session.

Thursday, February 18, 2016

Keynote Session II: Visual Cognition
Session Chairs: Bernice Rogowitz, Visual Perspectives (USA); Thrasyvoulos Pappas, Northwestern University (USA); and Huib de Ridder, Delft University of Technology (Netherlands)
8:50 – 9:40 am
Continental Ballroom 4

8:50   HVEI-130

Optimizing for visual cognition in high performance scientific computing, *Colin Ware, University of New Hampshire (USA)*

Perceptual Coding for Visualization

Session Chair: Ulrich Engelke, CSIRO (Australia)

9:40 – 10:30 am
Continental Ballroom 4

9:40   HVEI-131

From vision science to data science: Applying perception to problems in big data (Invited), *Remco Chang, Tufts University (USA)*

10:10   HVEI-132

A grounded theory study on the language of data visualization principles and guidelines, *Eser Kandogan[1] and Hanseung Lee[2]; [1]IBM Research and [2]Google (USA)*

          10:30 – 11:00 am   Coffee Break

Perceptual Coding for Visualization (continued)

Session Chair: Ulrich Engelke, CSIRO (Australia)

11:00 am – 12:20 pm
Continental Ballroom 4

11:00   HVEI-133

Why we use bad color maps and what you can do about it (Invited), *Kenneth Moreland, Sandia National Laboratories (USA)*

11:20   HVEI-134

SwordPlots: Exploring neuron behavior within dynamic communities of brain networks (JIST-first), *Chihua Ma[1], Angus Forbes[1], Daniel Llano[2], Tanya Berger-Wolf[1], and Robert Kenyon[1]; [1]University of Illinois at Chicago and [2]University of Illinois at Urbana-Champaign (USA)*

11:40   HVEI-135

Color visualization of the phase component of complex signals, *Alfredo Restrepo, Universidad de los Andes (Colombia)*

12:00   HVEI-136

Visual performance in multidimensional data characterisation with scatterplots and parallel coordinates (Invited), *Ulrich Engelke, Jenny Vuong, and Julian Heinrich, CSIRO (Australia)*

HVEI

12:20 – 1:50 pm   Lunch Break

Keynote Session III: Perception and Aesthetics in Emerging Media
Session Chairs: Bernice Rogowitz, Visual Perspectives (USA); Thrasyvoulos Pappas, Northwestern University (USA); and Huib de Ridder, Delft University of Technology (Netherlands)
1:50 – 2:40 pm
Continental Ballroom 4
1:50   HVEI-137
Lessons learned from the colorization and 3D conversion of feature films and how they can be applied to the emerging mediums of virtual and augmented reality: A creative, consumer and neuroscience perspective, *Barry Sandrew, Augmented Vision Works (USA)*

Art, Aesthetics, and Perception

Session Chairs: Monica Lopez-Gonzalez, La Petite Noiseuse Productions (USA) and Elena Fedorovskaya, Rochester Institute of Technology (USA)

2:40 – 3:40 pm
Continental Ballroom 4

2:40   HVEI-138
Peripheral color vision and motion processing, *Christopher Tyler[1,2]; [1]Smith-Kettlewell Eye Research Institute (USA) and [2]City University (United Kingdom)*

3:00   HVEI-139
Experiencing the interestingness concept within and between pictures, *Christel Chamaret, Claire-Hélène Demarty, Vincent Demoulin, and Gwenaelle Marquant, Technicolor (France)*

3:20   HVEI-140
Enhancing visualization with expressive motion, *Matthew Lockyer[1], Lyn Bartram[1], Thecla Schiphorst[1], and Karen Studd[2]; [1]Simon Fraser University (Canada) and [2]GMU School of Dance (USA)*

3:40 – 4:00 pm   Coffee Break

Art, Aesthetics and Perception (continued)

Session Chairs: Monica Lopez-Gonzalez, La Petite Noiseuse Productions (USA) and Elena Fedorovskaya, Rochester Institute of Technology (USA)

4:00 – 6:00 pm
Continental Ballroom 4

4:00   HVEI-141
Color systems are categories that carry meaning in visualizations: A conceptual metaphor theory approach (Invited), *Jack Ox[1,2]; [1]University of Texas, Dallas and [2]University of New Mexico (USA)*

4:20   HVEI-142
Towards a computational account of art cognition: Unifying perception, visual art, and music through Bayesian inference (Invited), *Jorge Menendez, University College London (United Kingdom)*

4:40   HVEI-143
Minds in the spotlight: Using live performance art to uncover creative thinking processes (Invited), *Monica Lopez-Gonzalez, La Petite Noiseuse Productions (USA)*

5:00   HVEI-144
Swapping swatches: Adapting to and from an artist's palette (Invited), *Katie Tregillus and Michael Webster, University of Nevada Reno (USA)*

5:20   HVEI-145
Art, interpersonal comparisons of color experience, and potential human tetrachromacy (Invited), *Kimberly Jameson[1], Keith Goldfarb[2], and Vladimir Bochko[3]; [1]University of California, Irvine (USA), [2]Blackthorn Media LLC (USA), and [3]University of Vaasa (Finland)*

5:40   HVEI-146
Painting like old masters, creative algorithms for 2.5D reproduction (Invited), *Carinna Parraman, University of the West of England (United Kingdom)*

HVEI Thursday Author Discussion and Reception

Hosts: Bernice Rogowitz, Visual Perspectives (USA); Thrasyvoulos Pappas, Northwestern University (USA); and Huib de Ridder, Delft University of Technology (Netherlands)

6:00 – 7:00 pm
Continental Ballroom 4