

# PROGRAM

## Data Compression Conference (DCC 2018)

*Sponsored by U. Arizona, Brandeis U., Microsoft Research, IEEE Signal Processing Society  
Proceedings published by IEEE Computer Society Conference Publishing Services (CPS)*

**Snowbird, Utah, March 27 - March 30, 2018**

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### SCHEDULE OVERVIEW:

#### ***Tuesday Evening, March 27:***

Registration and Reception (7pm - 10pm)

#### ***Wednesday, March 28:***

Morning: Technical Sessions 1,2,3 (8:00am - 11:40am)  
Mid-Day: Keynote Speaker (2:00pm - 3:30pm)  
Afternoon: Technical Sessions 4,5 (4:00pm - 6:40pm)

#### ***Thursday, March 29:***

Morning: Technical Sessions 6,7,8 (8:00am - 11:40am)  
Mid-Day: Technical Session 9 (2:00pm - 3:20pm)  
Afternoon: Poster Session and Reception (4:00pm - 7:00pm)

#### ***Friday, March 30:***

Morning: Technical Sessions 10,11,12 (8:00am - 12:20pm)

## TUESDAY EVENING

Registration / Reception, 7:00-10:00pm (Golden Cliff Room)

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<sup>1</sup>Netflix, <sup>2</sup>Google

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<sup>1</sup>Universität Bremen, <sup>2</sup>University of Edinburgh

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<sup>1</sup>Federal Institute of Education, Science and Technology of Brasília,

<sup>2</sup>University of Brasília, <sup>3</sup>University of São Paulo, <sup>4</sup>Karlsruhe Institute of Technology,

<sup>5</sup>University of Chile

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<sup>1</sup>University of Erlangen-Nuremberg, <sup>2</sup>Vrije Universiteit Brussel,

<sup>3</sup>Technical University of Denmark

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<sup>1</sup>University of Almería, <sup>2</sup>European Space Agency

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MediaTek Inc.

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**WEDNESDAY MID-DAY**

## ***Keynote Speaker***

2:00pm - 3:30pm

### **Inpainting-Based Compression of Visual Data**

Joachim Weickert

*Professor, Saarland University, Saarbruecken, Germany*

Inpainting-based codecs for lossy image compression store only a small, carefully optimized subset of the pixels. In the decoding step, the discarded information is filled in with a suitable inpainting mechanism. This can be achieved with partial differential equations (PDE-based inpainting) or by copying information from patches in other image regions (exemplar-based inpainting).

A successful realization of inpainting-based codecs may offer interesting advantages over transform-based codecs: The stored pixel information is more intuitive, and it is closer to the mechanisms of human perception, if these pixels correspond to semantically relevant features.

However, to turn this temptingly simple idea into viable codecs with favorable performance, several difficult and interrelated questions must be answered first, in particular:

- What are the most useful inpainting processes?
- Which data should be kept?
- How can the selected data be encoded efficiently?
- How fast are the numerical algorithms?

This talk gives an overview of the main achievements in this emerging field, sketches practically relevant adaptations, and discusses open challenges.

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<sup>1</sup>École Polytechnique Fédérale de Lausanne, <sup>2</sup>Leibniz Universität Hannover - Institut  
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<sup>1</sup>The Hong Kong University of Science and Technology, <sup>2</sup>University of Electronic  
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4:00pm - 7:00pm

In the Golden Cliff Room

A full listing of participants is at the end this program.

For this year, the poster session will include a group to address the theme of a *next-generation international video coding standard*:

Unequal Weight Planar Prediction and Weighted Angular Prediction  
*Krit Panusopone*

Simplified Depth Intra Coding Based on Texture Feature and Spatial Correlation  
in 3D-HEVC  
*Li Song*

Hybrid Cubemap Projection Format for 360-degree Video Coding  
*Fanyi Duanmu, Yuwen He, Xiaoyu Xiu, Philippe Hanhart*

Locally Refined Motion Compensation for Future Video Coding  
*Zhao Wang, Shiqi Wang, Xinfeng Zhang, Shanshe Wang, Siwei Ma*

Low-Complexity Spatial Scalability Scheme using HEVC for 4K and VR Videos  
*Glenn Herrou, Wassim Hamidouche, Luce Morin*

The Multi-Scale Deep Decoder for the Standard HEVC Bitstreams  
*Tingting Wang, Xiao Wenhui, Mingjin Chen*

Descriptions of these works and information on author affiliations appear in the posters session portion of the DCC 2018 proceedings, and in the case of the sixth work, in the technical sessions portion of the proceedings.

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