IS&T International Symposium on
Electronic Imaging 2018
SCIENCE AND TECHNOLOGY

28 January – 2 February 2018
Hyatt San Francisco Airport, CA

Where Industry and Academia Meet

Join us

EI28: CAMERA NOISE SOURCES AND ITS CHARACTERIZATION USING INTERNATIONAL STANDARDS

Instructors: Uwe Artmann, Image Engineering GmbH & Co KG (Germany), and Kevin Matherson, Microsoft Corporation (US)

Monday January 29, 8:30 – 10:30 AM | **Course Level:** Introductory to intermediate | **Fee:** $175 / Non-member: $200 / Student: $65

(*prices for all increase by $50 after January 8, 2018)

This short course provides an overview of noise sources associated with "light in to byte out" in digital and mobile imaging cameras. The course discusses common noise sources in imaging devices, the influence of image processing on these noise sources, the use of international standards for noise characterization, and simple hardware test setups for characterizing noise.

Benefits:
- Become familiar with basic noise source in mobile and digital imaging devices.
- Learn how image processing impacts noise sources in digital imaging devices.
- Make noise measurements based on international standards: EMVA 1288, ISO 14524, ISO 15739, and visual noise measurements.
- Describe simple test setups for measuring noise based on international standards.
- Predict system level camera performance using international standards.

Intended Audience: People involved in the design and image quality of digital cameras, mobile cameras, and scanners would benefit from participation. Technical staff of manufacturers, managers of digital imaging projects, as well as journalists and students studying image technology are among the intended audience.

Instructors: **Kevin J. Matherson** is a director of optical engineering at Microsoft Corporation working on advanced optical technologies for consumer products. Prior to Microsoft, he participated in the design and development of compact cameras at HP and has more than 15 years of experience developing miniature cameras for consumer products.

Uwe Artmann studied photo technology at the University of Applied Sciences in Cologne following an apprenticeship as a photographer and finished with the German 'Diploma Engineer'. He is now the CTO at Image Engineering, an independent test lab for imaging devices and manufacturer of all kinds of test equipment for these devices.

SYMPOSIUM PLENARY TALKS

Monday: Overview of Modern Machine Learning and Deep Neural Networks – Impact on Imaging and the Field of Computer Vision, **Greg Corrado, co-founder of Google Brain and Principal Scientist at Google**

Tuesday: Fast, Automated 3D Modeling of Buildings and Other GPS Denied Environments, **Avideh Zahkor, Qualcomm Chair & Professor at UC Berkeley**

Wednesday: Ubiquitous, Consumer AR Systems to Supplant Smartphones, **Ronald T. Azuma, Intel Labs Researcher and Augmented Reality Pioneer**

SYMPOSIUM HIGHLIGHTS

- 18 conferences featuring 30 keynote talks by world reknown experts
- 3D Theatre
- Tours of Stanford University Labs
- Industry Exhibition
- Meet the Future: Showcase of Student and Young Professional Research
- Demonstration Session
- Poster Session
- Welcome Reception
- Women in Electronic Imaging Breakfast
- Human Vision in Electronic Imaging 30th Year Banquet

To register or learn more, visit
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