



Wetzlar Network

— OPTICS, ELECTRONICS & MECHANICS —

COMPUTATIONAL IMAGING

22 + 23.10.19 / 13h–16.30h + 9h–16.30h



ABSTRACT

Computational Imaging is a new approach for the acquisition, analysis and optimization of images. The law “perfect optical elements are the basis for perfect images” seems to be challenged. Computational power, artificial intelligence and deep learning lead to a new class of optics with a wide field of new applications.

Wetzlar Network engages in paving the way for this promising and exciting field. We are committed to support the transfer of the latest research results into industrial applications. We chose Wetzlar as the venue – one of the leading optics centres of Germany.

GOALS OF THE EVENT

We would like to give an overview on the current state-of-the-art in research, highlight the unique opportunities and show existing industrial applications. International speakers will report on their latest research and applications. This event shall transport both academic results as well as industrial applications and shall support the know-how transfer between universities and industry. The event will be an ideal platform for personal networking. A common conference dinner on the first day is included. Meeting areas and well-suited breaks will give room for discussions and exchange of experience.

VENUE

Leica World Wetzlar

1st floor / Am Leitz-Park 6
35578 Wetzlar

COMPUTATIONAL IMAGING

Expert Forum with International Specialists in Wetzlar

On October 22 and 23, 2019, international experts will be staying in Wetzlar for a two-day expert panel about Computational Imaging. Top-class speakers from Stanford University and the University of California, Berkeley, from the universities of Bern, Glasgow, and Edinburgh as well as from the development sectors of Leica Camera, Leica Microsystems, and Continental will participate.

Computational Imaging is one of the hottest topics at the moment. Compared to classical image processing, the methods applied here are based on new algorithms and statistic approaches to find a solution like Deep Learning and Artificial Intelligence. These are so sophisticated by now that they exceed earlier quality standards by far. Application scenarios are manifold, the goal is the same: to generate as much information as possible from data. In the medium to long term, Computational Imaging will create chances and opportunities in various fields reaching from photography to microscopy and three-dimensional reconstruction. The expert panel is organized by industrial network Wetzlar Network. Leica Camera AG will be hosting the event.

Since the number of participants is limited, we recommend early registration.

Tuesday, 22.10.2019			
time	speaker	from	topic
13.00h – 13.10h	M. Wagner	Major Town Wetzlar	Welcome
13.10h – 13.40h	Dr. A. Kaufmann	Chairman Leica Camera AG	Disruptive Technologies – a Challenge for Established Companies
13.40h – 13.50h	Niggemann/Chatterjee	Wetzlar Network / Uni Gießen	Welcome, Introduction
13.50h – 14.20h	Dr. Chowdhury	Univ. of California (UC) Berkeley	Computational Microscopy for Biological Imaging
14.20h – 15.00h	coffee break		
15.00h – 15.30h	Dr. E. Y. Peng	Stanford University	Co-designing Optics and Algorithms: Computational Imaging and Diffractive Optics
15.30h – 16.00h	Dr. Volchkov	MPI Tübingen	MTF estimation with Deep Learning
16.00h – 16.30h	Prof. M. Hullin	Univ. Bonn	4 D imaging through Spray on Optics
from 18.00h	dinner together		
Wednesday, 23.10.2019			
9.00h – 9.30h	Dr. Windberger	IDS Imaging	From Image to Information with on Camera Neural Networks for IDS NXT
9.30h – 10.00h	J. Huard	Mathworks	Deep Learning for Computer Vision with MATLAB
10.00h – 10.30h	Prof. P. Favaro	Universität Bern	Blind Deconvolution: A Journey from Model Based to Deep Learning Methods
10.30h – 11.15h	coffee break		
11.15h – 11.45h	Prof. D. Faccio	Univ. Glasgow	Time-of-flight Computational Imaging
11.45h – 12.15h	Prof. S. Roth	TUD, Visual inference lab	Deep learning Meets non local-methods for Image Restoration
12.15h – 12.45h	Prof. Y. Altmann	Heriot Watt Univ. Edinburgh	Bayesian Methods for scalable and robust 3D Imaging and Sensing in the Photon-starved Regime
12.45h – 14.00h	lunchtime		
14.30h – 15.00h	Dr. Kaminski	Leica Camera	The Elephant in the Room -Physical limits of Computational Imaging
15.30h – 16.00h	S. Tille	Leica Microsystems	Fusion of Optics & Digital Imaging
16.00h – 16.30h	H. Kreipe	Continental	Autonome Driving Cars
from 16.00h	conclusion, get together, optional guided tour to Leica Camera		

INFORMATION

Date: 22 + 23.10.19 / 13h–16.30h + 9h–16.30h

Venue: Leica World Wetzlar / 1st floor / Am Leitz-Park 6 / 35578 Wetzlar

Target groups: Engineers and researchers from the optical, computational imaging and machine vision industry / Academic members from research

REGISTRATION:

www.eveno.com/Computational-Imaging-Wetzlar2019

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