

Computational Photography and Intelligent Cameras

Wednesday February 4, 2015

- 8:00–8:50 *Check-in/Breakfast (hosted by IPAM)*
- 8:50–9:00 *Welcome and Opening Remarks*
- 9:00–9:20 **David Brady** (Duke University)
Gigapixel Videography
- 9:30–9:50 **Mohit Gupta** (Columbia University)
Time-of-Flight Revolution
- 10:00–10:45 *Break*
- 10:45–11:05 **Kristin Dana** (Rutgers University)
Reflectance Gradients for Material Recognition
- 11:15–11:35 **Patrick Llull** (Duke University)
Image-space coding of time and focus
- 11:45–1:45 *Lunch (on your own)*
- 1:45–2:05 **Paul Debevec** (USC Institute for Creative Technologies)
Computational Illumination for lighting real and virtual actors
- 2:15–2:35 **Paolo Favaro** (Universität Bern)
Total Variation Blind Deconvolution: The Devil is in the Details
- 2:45–3:30 *Break*
- 3:30–3:50 **Richard Baraniuk** (Rice University)
Everybody Must Get STOne: Video Compressive Sensing
- 4:00–4:20 **Yohann Tondero** (École Nationale Supérieure de Télécommunications)
A mathematical model of a flutter shutter camera
- 4:30–6:00 *Poster Session & Reception (Hosted by IPAM)*



Thursday February 5, 2015

- 8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*
- 9:00–9:20 **Kevin Kelly** (Rice University)
Practicalities of Imaging by Compressive Sensing
- 9:30–9:50 **William Freeman** (Massachusetts Institute of Technology)
The world of tiny motions
- 10:00–10:45 *Break*
- 10:45–11:05 **Carlos Fernandez-Granda** (Stanford University)
Optimization-based sparse recovery: Compressed sensing vs. super-resolution
- 11:15–11:35 **Matthew Noleby** (Duke University)
Information Theory and Compressive Sensing
- 11:45–1:45 *Lunch (on your own)*
- 1:45–2:05 **Ayan Chakrabarti** (Toyota Technological Institute at Chicago)
Low-level Vision by Consensus in a Spatial Hierarchy of Regions
- 2:15–2:35 **Wolfgang Heidrich** (King Abdullah Univ. of Science and Technology (KAUST))
Light Transport Analysis using Photonic Mixer Devices
- 2:45–3:30 *Break*
- 3:30–3:50 **Pauline Trouvé** (Onera)
Codesign of an 3D imaging system based on depth-from-defocus
- 4:00–4:20 **Kari Pulli** (Light)
FlexISP: A Flexible Camera Image Processing Framework
- 4:30–4:50 **Oliver Cossairt** (Northwestern University)
Motion Contrast 3D Scanning

Friday February 6, 2015

- 8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*
- 9:00–9:20 **Neus Sabater** (Technicolor)
Disparity guided demosaicking of plenoptic data
- 9:30–9:50 **Ashok Veeraraghavan** (Rice University)
Imaging for personalized health
- 10:00–10:30 *Break*

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- 10:30–10:50 **Sabine Susstrunk** (École Polytechnique Fédérale de Lausanne (EPFL))
Opponent Color Revisited
- 11:00–11:20 **Pascal Monasse** (École Nationale des Ponts-et-Chaussées)
Visualizing level lines and curvature in images
- 11:30–11:50 **Jack Tumblin** (Northwestern University)
Aggregated Light Measurements by Paired Digital Cameras and Displays
- 12:00 *Conclusion*

