

# Sanjeev J. Koppal

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## EXPERIENCE AND EDUCATION

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<b>Associate Professor (IEEE Senior Member)</b> <i>University of Florida, Electrical and Computer Engineering</i> Director of the Florida Optics and Computational Sensor (FOCUS) Lab	2021-present
<b>Assistant Professor</b> <i>University of Florida, Electrical and Computer Engineering</i>	2014-2021
<b>Member of Technical Staff</b> <i>Texas Instruments Imaging R&amp;D Group</i>	2012-2014
<b>Post-doctoral Research Associate</b> <i>Harvard University</i> Mentor: Prof. Todd Zickler	2009-2012
<b>Graduate Research Assistant</b> <i>Robotics Institute, Carnegie Mellon University</i> <i>Ph.D. Robotics Aug 2009</i> Advisor: Prof. Srinivasa Narasimhan	2003-2009
<b>Undergraduate Research Assistant</b> <i>University of Southern California</i> <i>B.S. Computer Science May 2003</i> Mentor: Prof. Gaurav Sukhatme	1999-2003

## JOURNALS

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**J22** Dense Lissajous Sampling and Interpolation for Dynamic Light-Transport  
Optics Express 2021

X. Liu, K. Henderson, J. Rego, S. Jayasuriya and **S. J. Koppal**

**J21** A Miniature LiDAR with a Detached MEMS Scanner for Micro-robotics  
IEEE Sensors Journal 2021

D. Wang, H. Xie, L. Thomas and **S. J. Koppal**

**J20** Fast Foveating Cameras for Dense Adaptive Resolution  
IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2021

B. Tilmon, E. Jain, S. Ferrari and **S. J. Koppal**

**J19** Adaptive Fovea for Scanning Depth Sensors  
International Journal of Robotics Research, 2020

Z. Tasneem, C. Adhivarahan, D. Wang, H. Xie, K. Dantu and **S. J. Koppal**

- J18** Design and Calibration of a Fast Flying-Dot Projector for Dynamic Light Transport Acquisition  
Transactions on Computational Imaging, 2020  
K. Henderson, X. Liu, J. Folden, B. Tilmon, S. Jayasuriya and **S. J. Koppal**
- J17** Proximity-based Sensor Fusion of Depth Cameras and Isotropic Rad-detectors  
Transactions on Nuclear Science, 2020  
K. Henderson, X. Liu, K. Stadnikia, A. Martin, A. Enqvist and **S. J. Koppal**
- J16** A low-voltage, low-current, digital-driven MEMS mirror for low-power LiDAR  
IEEE Sensors Letters, 2020  
D. Wang, L. Thomas, **S. J. Koppal**, Y. Ding and H. Xie
- J15** A Monolithic Forward-View MEMS Laser Scanner With Decoupled Raster Scanning and Enlarged Scanning Angle for Micro LiDAR Applications  
Journal of Microelectromechanical Systems, 2020  
D. Wang, **S. J. Koppal** and H. Xie
- J14** The Security-Utility Trade-off for Iris Authentication and Eye Animation for Social Virtual Avatars  
IEEE VR 2020 (in the proceedings of TVCG 2020)  
B. John, S. Joerg, **S. J. Koppal** and E. Jain
- J13** A Silicon Optical Bench with Vertically-oriented Micromirrors for Active Beam Steering  
Sensors and Actuators A: Physical, 2019  
D Wang, C Watkins, **S. J. Koppal** and H Xie
- J12** Data Fusion for a Vision-Aided Radiological Detection System: Calibration Algorithm Performance  
Nuclear Instruments and Methods in Physics A, 2018  
K. Stadnikia, K. Henderson, A. Martin, P. Riley, **S. J. Koppal** and Andreas Enqvist
- J11** Focal Flow: Velocity and Depth from Differential Defocus through Motion  
International Journal on Computer Vision (IJCV), 2017  
E. Alexander, Q. Guo, **S. J. Koppal**, S.J. Gortler, and T. Zickler
- J10** Leveraging gaze data for segmentation and effects on comics  
Transactions on Multimedia Computing (TOMM), 2017  
I. Thirunarayanan, K. Khetarpal, **S. J. Koppal**, O. LeMeur, J. Shea and E. Jain
- J09** Pre-capture privacy for small vision sensors  
Transactions on Pattern Analysis and Machine Intelligence (PAMI) 2016  
F. Pittaluga and **S. J. Koppal**
- J08** A survey on computational photography in the small  
IEEE Signal Processing Magazine, 2016  
**S. J. Koppal**

**J07** Wide-angle structured light with a scanning MEMS mirror in liquid  
Optics Express, 2016

X. Zhang, **S. J. Koppal**, R. Zhang, L. Zhou, E. Butler and H. Xie

**J06** Beyond perspective dual photography with illumination masks  
Transactions on Image Processing (TIP), 2015

**S. J. Koppal** and S. G. Narasimhan

**J05** Generalized assorted camera arrays: robust cross-channel registration and applic.  
Transactions on Image Processing (TIP), 2015

J. Holloway and K. Mitra and **S. J. Koppal** and A. Veeraraghavan

**J04** Towards wide-angle micro vision sensors

Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2013

**S. J. Koppal**, I. Gkioulekas, T. Young, H. Park, K. Crozier, G. Barrows and T. Zickler

**J03** Exploiting DLP illumination dithering for reconstruction and  
photography of high-speed scenes

International Journal on Computer Vision (IJCV), 2011.

**S. J. Koppal**, S. Yamazaki and S. G. Narasimhan

**J02** A viewer-centric editor for stereoscopic cinema

IEEE Computer Graphics and Applications (CG&A), 2011.

**S. J. Koppal**, L. Zitnick, M. Cohen, S. Kang, B. Ressler and A. Colburn

**J01** Appearance derivatives for iso-normal clustering of scenes

Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2008.

**S. J. Koppal** and S. G. Narasimhan

## **CONFERENCES**

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**C30** SaccadeCam: Adaptive Visual Attention for Monocular Depth Sensing  
International Conference on Computer Vision (ICCV) 2021

B. Tilmon and **S. J. Koppal**

**C29** Design and Fabrication of a Forward View Scanner on SIOB with Latch Structure  
for Improved Vertical Orientation

IEEE MEMS 2021

D. Wang, D. Zheng, **S. J. Koppal**, B. Sun and H. Xie

**C28** Towards a MEMS-based Adaptive LIDAR

3DV 2020

F. Pittaluga, Z. Tasneem, J. Folden, B. Tilmon, A. Chakrabarti and **S. J. Koppal**

**C27** FoveaCam: A MEMS Mirror-Enabled Foveating Camera

ICCP 2020

B. Tilmon, E. Jain, S. Ferrari, and **S. J. Koppal**

**C26** Revealing Scenes by Inverting Structure from Motion Reconstructions

CVPR 2019 *Best Paper Finalist*

F. Pittaluga, **S. J. Koppal**, S. Kang and S. Sinha

- C25** A Large Aperture 2-Axis Electrothermal MEMS Mirror for Compact 3-D LiDAR  
2019 International Conference on Optical MEMS and Nanophotonics  
D. Wang, C. Watkins, M. Aradhya, **S. J. Koppal** and H. Xie
- C24** A Compact Omnidirectional Laser Scanner Based on an Electrothermal Tripod MEMS Mirror for LiDAR  
Transducers 2019  
D. Wang, C. Watkins, **S. J. Koppal**, M. Li, Y. Ding and H. Xie
- C23** EyeVEIL: Degrading Iris Authentication in Eye-Tracking Headsets  
ETRA 2019  
B. John, **S. J. Koppal** and E. Jain
- C22** Learning Privacy Preserving Encodings through Adversarial Training  
IEEE Winter Conference on Applications in Vision (WACV), 2019  
F. Pittaluga, **S. J. Koppal** and A. Chakrabarti
- C21** Directionally Controlled Time-of-Flight Ranging for Mobile Sensing Platforms  
Robotics Science and Systems (RSS), 2018  
Z. Tasneem, D. Wang, H. Xie and **S. J. Koppal**
- C20** An Integrated Forward-View 2-Axis MEMS Scanner for Compact 3D LIDAR  
NEMS 2018 *Best Student Paper Award*  
D. Wang, S. Rojas, A. Shuping, Z. Tasneem, **S. J. Koppal** and H. Xie
- C19** A Compact 3D LIDAR Based on an Electrothermal Two-Axis MEMS Scanner for Small UAV  
SPIE 2018  
D. Wang, S. Strassle, A. Stainsby, Y. Bai, **S. J. Koppal** and H. Xie
- C18** Designing Light Filters to Detect Skin Using a Low-powered Sensor  
SoutheastCon 2018  
M. Tariq, A. Ghosh, K. Badillo-Urquiola, A. Jha, **S. J. Koppal**, and P. J. Wisniewski
- C17** Tracking Radioactive Sources through Sensor Fusion of Omnidirectional LIDAR and Isotropic Rad-detectors  
3DV 2017  
K. Henderson, K. Stadnikia, A. Enqvist and **S. J. Koppal**
- C16** A Compact MEMS-Based Wide-Angle Optical Scanner  
International Conference on Optical MEMS and Nanophotonics (OMN), 2017  
B. Yang, L. Zhou, X. Zhang, D. Wang, **S. J. Koppal** and H. Xie
- C15** Situational Information Guidance for Revised Detection Limits  
Nuclear Science Symposium / Medical Imaging Conference 2017  
K. Stadnikia, K. Henderson, **S. J. Koppal** and A. Enqvist
- C14** A Wide-angle Immersed MEMS Mirror and Its Application in OCT  
International Conference on Optical MEMS and Nanophotonics, 2016  
X. Zhang, L. Zhou, C. Duan, D. Zheng, **S. J. Koppal**, and H. Xie

**C13** Data Fusion for a Vision-Radiological System: Calibration Algorithm Response to Sensor Location

INMM 2016

K. Stadnikia, A. Martin, P. Riley, K. Henderson, **S. J. Koppal** and A. Enqvist

**C12** Focal flow: Measuring distance and velocity with defocus and differential motion

*ECCV 2016 Best Student Paper*

E. Alexander, Q. Guo, **S.J. Koppal**, S.J. Gortler, and T. Zickler

**C11** Sensor-level privacy for thermal cameras

International Conference on Computational Photography (ICCP), 2016

F. Pittaluga, A. Zivkovic and **S. J. Koppal**

**C10** Low-cost depth and radiological sensor fusion to detect moving sources

3DV, 2015

P. Riley, A. Enqvist and **S. J. Koppal**

**C09** Privacy preserving optics for miniature vision sensors

Conference on Computer Vision and Pattern Recognition (CVPR), 2015

F. Pittaluga and **S. J. Koppal**

**C08** Data Fusion for a Vision-Radiological System for Source Tracking and Discovery  
Advancements in Nuclear Instrumentation Measurement Methods and their Applic., 2015

A. Enqvist and **S. J. Koppal**

**C07** MEMS mirrors submerged in liquid for wide-angle scanning

International Conference on Solid-State Sensors, Actuators and Microsystems, 2015

X. Zhang, R. Zhang, **S. J. Koppal**, E. Butler, X. Cheng and H. Xie

**C06** Wide-angle micro sensors for vision on a tight budget

Conference on Computer Vision and Pattern Recognition (CVPR), 2011.

**S. J. Koppal**, I. Gkioulekas, T. Zickler and G. Barrows

**C05** Shadow cameras: Reciprocal views from illumination masks

International Conference on Computer Vision (ICCV), 2009.

**S. J. Koppal** and S. G. Narasimhan

**C04** Temporal dithering of illumination for fast active vision

European Conference on Computer Vision (ECCV), 2008.

S. G. Narasimhan, **S. J. Koppal** and S. Yamazaki

**C03** Novel depth cues from uncalibrated near-field lighting

International Conference on Computer Vision (ICCV), 2007.

**S. J. Koppal** and S. G. Narasimhan

**C02** Clustering appearance for scene analysis

Conference on Computer Vision and Pattern Recognition (CVPR), 2006.

**S. J. Koppal** and S. G. Narasimhan

**C01** Structured light from scattering media  
International Conference on Computer Vision (ICCV), 2005.  
S. G. Narasimhan, S. K. Nayar, B. Sun and **S. J. Koppal**

## **Book chapters**

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**BC02 Koppal S.J.** (2014/2019) Lambertian Reflectance. In: Ikeuchi K. (eds) Computer Vision. Springer, Boston, MA

**BC01 Koppal S.J.** (2014/2019) Diffuse Reflectance. In: Ikeuchi K. (eds) Computer Vision. Springer, Boston, MA

## **Workshops and other publications**

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**W05** Let It Snow: Adding pixel noise to protect the user's identity  
1st International Workshop on Privacy and Ethics in Eye Tracking (PrETHics), 2020  
B. John, A. Liu, L. Xia, **S. J. Koppal** and E. Jain

**W04** A low-power structured light sensor for outdoor scene reconstruction and dominant material identification  
International Workshop on Projector-Camera Systems, 2012  
C. Mertz, **S. J. Koppal**, S. Sia and S. G. Narasimhan

**W03** Illustrating motion through DLP Photography  
PROCAMS, 2008  
**S. J. Koppal** and S. G. Narasimhan

**W02** Leveraging Gaze Data for Segmentation and Effects on Comics  
ACM Symposium on Applied Perception Poster, 2016  
I. Thirunarayanan, **S. J. Koppal**, J. Shea and E. Jain

**W01** Taylor Series of Appearance Functions  
CMU-Robotics Institute Technical report, 2006  
**S. J. Koppal**, A. Datta, S. G. Narasimhan and K. Nishino

## **PATENTS**

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**P08 S. J. Koppal** and F. Pittaluga  
Optical privatizing device US Patent  
US10440348B2, 2019

**P07 S. J. Koppal** and Vikram Appia  
Time-of-Flight (TOF) Assisted Structured Light Imaging  
US Patent US10061028B2, 2018

**P06 S. J. Koppal**  
Controlling Image Focus in Real-Time Using Gestures and Depth Sensor Data  
US Patent US10079970B2, 2018

**P05 S. J. Koppal**

Depth sensor data with real-time processing of scene sensor data  
US Patent US9767545B2, 2017

**P04 T. Zickler, S. J. Koppal, G. L. Barrows and I. Gkioulekas**

Optical micro-sensor  
US Patent US9176263B2, 2015

**P03 S. J. Koppal, S.B. Kang, C.L. Zitnick, M.F. Cohen, and B.K. Ressler**

Stereo movie editing  
US Patent US8330802B2, 2012

**P02 Huikai Xie, S. J. Koppal, X. Zhang, L. Zhou and C. Duan**

Endoscopic oct probes with immersed mems mirrors, WO2018023010A1 (Pending)

**P01 Patrick J. Tighe, Nikolaus Gravenstein, Andre Pierre Boezaart, Sean A. Frith, Alina Zare Glenn and S. J. Koppal**

Methods and systems for using near infrared spectroscopy to detect compartment syndrome, WO2019055341A1 (Pending)

**FUNDING AWARDS (TOTAL ~ \$4.2M, PI SHARE ~ \$1.9M)**

**F09 CAREER: Fast Foveation: Bringing Active Vision into the Camera (2020-2025)**

National Science Foundation (NSF) 1942444  
Total ~ \$500,000 PI share ~ \$500,000

**F08 SITS: Hyperspectral Signals in the Soil (2020-2022)**

National Institute of Food and Agriculture FLA-AGR-006015  
Total ~ \$1,200,000 co-PI share ~ \$250,000

**F07 Elements: Cyberinfrastructure Service for IoT-Based Construction Research and Applications (2020-2022)**

National Science Foundation (NSF)  
Total ~ \$455,114.00 co-PI share ~ \$11,000

**F06 Dynamic Light Transport Acquisition and Applications to Computational Illumination (2019-2022)**

National Science Foundation (NSF) 1909729  
Total ~ \$500,000 PI share ~ \$250,000

**F05 Directionally Controlled Time-of-Flight Sensors: Algorithms, Optical and Imaging (2018-2022)**

Office of Naval Research (ONR) N00014-18-1-2663  
Total ~ \$780,000 PI share ~ \$390,000

**F04 Novel Micro-LIDAR design and sensing algorithms for flapping-wing Micro-aerial Vehicle (2015-2019)**

National Science Foundation (NSF) 1514154  
Total ~ \$400,000 PI share ~ \$200,000

**F03** Radiological Source Detection and Tracking Based on Multi-Sensor Data Fusion (2014-18)

Department of Homeland Security (DHS) 2014-DN-077-ARL083-03

Total ~ \$890,000, co-PI share ~ \$460,000

**F02** Wide-angle optics for micro-LIDAR sensor (2018-2020)

MIST Center Award, Total ~ \$100000, PI share ~ \$50000

**F01** Texas Instruments Embedded Processing University Funding Award (2013)

## **TEACHING**

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**T03** Advanced Robot Perception, Spring 2021-present

*I developed this course from scratch at UF. It teaches students effective wielding of a subset of deep learning approaches that are practically useful for building perception algorithms for robotic systems. The focus here is on data from real sensors in robotic and autonomous scenarios, such as thermal cameras (both MWIR and LWIR), event cameras, stereo cameras, high-speed cameras, LIDAR sensors and optical processors.*

**T02** Computational Photography, Fall 2014-present

Latest rating 4.3 for undergraduates and 4.5 for graduate students

*I developed this Computational Photography course from scratch at UF, and which received its official course numbers recently (EEL 4403/5406). This course contains hands-on lab activity, with simple but powerful computational photography techniques.*

**T01** Signals and Systems, Spring 2015-present

Latest rating 3.8 for undergraduates

*EEL 3135 (Signals and Systems) is a core course for an undergraduate degree in Electrical and Computer Engineering at UF. The goal of the course is to garner a practice-based understanding of time-varying information (signals) and the software/circuits needed to process these (systems). I exploit the flipped nature of the class to help students develop abstract complex number processing skills.*

## **STUDENTS**

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### **Ph.D. Students**

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**D09** Xiaoyang Zhang, graduated 2016 (co-advised)

Thesis: Robust Electrothermally Actuated Scanner for Fiberoptic Endoscopic Imaging and Wide-angle Optics

Apple (first appointment)

**D08** Francesco Pittaluga, graduated 2019

Thesis: Privacy Preserving Computational Cameras

2018 Microsoft Research Dissertation Awardee

NEC Labs (first appointment)

**D07** Kristofer Henderson, graduated 2020

Thesis: Sensor Fusion for Non-Line-of-Sight Visualization and Imaging

Lockheed Martin (first appointment)



**D06** Dingkang Wang, graduated 2021 (co-advised)  
Thesis: Quasi-static forward scanning electrothermal MEMS mirrors for LIDAR  
Texas Instruments (first appointment)

**D05** Xiaomeng Liu, expected May 2022

**D04** Justin Folden, expected May 2023

**D03** Brevin Tilmon, expected May 2024

**D02** Jackson Arnold, expected May 2026

**D01** Hannah Kirkland, expected Dec 2026

## **Thesis committees**

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Yiming Cui Electrical and Computer Engineering  
Dylan Stewart Electrical and Computer Engineering  
Taylor Harvey Nuclear Engineering Science  
Xiaohui Huang Computer Science  
Washington Garcia Computer Science  
Heng Qiao Electrical and Computer Engineering  
Guohao Yu Electrical and Computer Engineering  
Jiaqi Zhang Electrical and Computer Engineering  
Keerthiraj Nagaraj Electrical and Computer Engineering  
Rajendra Bhat Electrical and Computer Engineering  
Richard Al-Bayaty Electrical and Computer Engineering  
Manu Chandran Electrical and Computer Engineering  
Pratik Brahma Electrical and Computer Engineering  
Chiranjib Sur Computer Engineering  
Kelsey Stadniki Nuclear Engineering Sciences  
Xiaohui Huang Computer Science  
Inchul Choi Computer Science  
Xianjin Dai Biomedical Engineering  
Paul Johns Nuclear Engineering Science

## **AWARDS**

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UF Term Professorship (2021-24)  
ONR Summer Faculty Fellow <sup>1</sup> (2021)  
NSF CAREER Award (2020-5)  
Best Paper Award Finalist (CVPR 2019)  
Best Student Paper Award (NEMS 2018)  
Best Student Paper Award (ECCV 2016)  
Outstanding Reviewer Award (ECCV 2016)  
USC Computer Science Award for Outstanding Achievement (2003)  
USC Trustee Scholarship (full tuition) (1999-2003)  
USC Undergraduate Engineering Research Award (1999-2003)

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<sup>1</sup>Cancelled due to COVID-19

## **SERVICE**

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**S04** Area chair for Computer Vision and Pattern Recognition (CVPR) 2019/2020

**S03** Co-chair for Cameras and Computational Displays (CCD) 2018 workshop held in conjunction with CVPR 2018/2019

**S02** Posters/Demos co-chair for International Conference on Computational Photography (ICCP) 2018 and 2020

**S01** Reviewer for Scholarly Journals/Conferences

IEEE Pattern Analysis and Machine Intelligence (PAMI), IEEE Transactions on Image Processing (TIP), International Journal on Computer Vision (IJCV), Computer Vision and Pattern Recognition (CVPR), European Conference on Computer Vision (ECCV), International Conference on Computer Vision (ICCV), International Conference on Computational Photography (ICCP)

## **INVITED TALKS AND SEMINARS**

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**IT 28** Adaptive Attention: Bringing Active Vision into the Camera  
Kyoto University  
Kyoto, Japan (December 2021)

**IT 27** Adaptive Attention: Bringing Active Vision into the Camera  
Stevens Institute of Technology  
Hoboken, NJ (November 2021)

**IT 26** Adaptive Attention: Bringing Active Vision into the Camera  
Cornell University  
Ithaca, NY (November 2021)

**IT 25** Adaptive Attention: Bringing Active Vision into the Camera  
Simon Fraser University  
Vancouver, Canada (September 2021)

**IT 24** Adaptive Attention: Bringing Active Vision into the Camera  
Oregon State University  
Corvallis, OR (September 2021)

**IT 23** Adaptive Attention: Bringing Active Vision into the Camera  
Toyota Technical Institute Chicago  
Chicago, IL (August 2021)

**IT 22** Fast Foveating Sensors  
University of Buffalo  
Buffalo, NY (April 2021)

**IT 21** Fast Foveating Cameras  
Optical Society of America (OSA) Imaging Systems and Applications  
Vancouver, Canada (June 2020)

- IT 20** Fast Foveating Cameras  
Carnegie Mellon University Vision and Autonomous Systems (VASC) Seminar  
Pittsburgh, PA (Feb 2020)
- IT 19** Fast Foveating Cameras  
Computer Vision and Pattern Recognition (CVPR) Area Chair Workshop  
La Jolla, CA (Feb 2020)
- IT 18** Fast Foveating Cameras  
Rice University  
Houston, TX (Feb 2020)
- IT 17** Fast Foveating Cameras  
Rutgers University  
New Brunswick, NJ (Oct 2019)
- IT 16** Selective Imaging with Computational Cameras  
Snap Research Lab  
New York, NY (Oct 2019)
- IT 15** Fast Foveating Cameras  
Texas Photonics Center and Center for Digital MEMS University of Texas  
Dallas, TX (April 2019)
- IT 14** Fast Foveating Cameras  
CVPR AC Workshop  
La Jolla, CA, (Feb 2019)
- IT 13** Fast Foveating Cameras  
Institute for Virtual Environments and Video Games, University of California  
Irvine, CA (Feb 2019)
- IT 12** Fast Foveating Cameras  
Banff International Research Station for Mathematical Innovation and Discovery (BIRS),  
Computational Light Transport Workshop  
Banff, Canada, (Feb 2019)
- IT 11** Optics and Sensing for Small Vision Platforms  
FAU I-SENSE  
Boca Raton, FL (Jan 2019)
- IT 10** Toward Miniature Computer Vision Sensors  
OSA Imaging Systems and Applications  
Orlando, FL (June 2018)
- IT 09** Small Vision Sensors for Phenomics  
Phenome  
Tucson, AZ (February 2018)

**IT 08** Towards Privacy Preserving Cameras  
ASU SENSIP  
Phoenix, AZ (2018)

**IT 07** Wide-FOV Sensing & Optical Processing for Small Vision Applications  
OSA Incubator on Small Eyes and Smart Minds  
Washington, DC (October 2017)

**IT 06** Towards Privacy Preserving Cameras  
IRISA-Rennes  
Rennes, France (2017)

**IT 05** Towards Privacy Preserving Cameras  
Technicolor R&D Labs  
Rennes, France (2017)

**IT 04** Towards Privacy Preserving Cameras  
INRIA-Bordeaux/LPN2  
Bordeaux, France (2017)

**IT 03** Towards Privacy Preserving Cameras  
UCF CRCV  
Orlando, FL (2017)

**IT 02** Towards Micro Vision Sensors  
UCF CREOL  
Orlando, FL (2017)

**IT 01** Privacy Preserving Sensors  
University of Miami CSD  
Miami, FL (2015)

## **MEDIA COVERAGE**

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**MC 07** "Fresh Coffee from Florida? Scientists are Brewing up the Possibility"  
freshproduce.com 2021

**MC 06** "Revealing Scenes by Inverting SFM Reconstructions"  
Computer Vision News 2020

**MC 05** "Best of ECCV: Focal Flow"  
Computer Vision News 2016

**MC 04** "RoboBees Can Fly and Swim. What's Next? Laser Vision"  
Smithsonian Magazine 2015

**MC 03** "RoboBee Lidar Useful for Robocars?"  
IEEE Spectrum 2015

**MC 02** "'RoboBees' with Laser Eyes Could Locate Disaster Victims"  
NBC News 2015

MC 01 "Scientists Are Using Lasers to Teach RoboBees to See"  
Smithsonian Magazine 2015

## **OTHER INFORMATION**

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Languages: English, Hindi, Kannada  
Citizenship: U.S.A  
Lab Website: [focus.ece.ufl.edu](http://focus.ece.ufl.edu)