

3DV 2016 Keynote Talks

Learning About the World by Hitting Things with a Drumstick

Bill Freeman

MIT/Google

William T. Freeman is the Thomas and Gerd Perkins Professor of Electrical Engineering and Computer Science at MIT, joining the faculty in 2001. He is currently on a partial leave from MIT, working at Google.

His current research interests include motion re-rendering, computational photography, and learning for vision. He received outstanding paper awards at computer vision or machine learning conferences in 1997, 2006, 2009 and 2012, and recently won “test of time” awards for papers written in 1991 and 1995. Previous research topics include steerable filters and pyramids, the generic viewpoint assumption, color constancy, bilinear models for separating style and content, and belief propagation in networks with loops. He holds 30 patents.

He is active in the program or organizing committees of computer vision, graphics, and machine learning conferences and was program co-chair for ICCV 2005 and CVPR 2013.

Semantic Understanding for Robot Perception

Jana Kosecka

George Mason University

Jana Kosecka is an Associate Professor in the Department of Computer Science at George Mason University, where her research explores Computer Vision and Robotics. She focuses on ‘seeing’ systems engaged in autonomous tasks and the acquisition of static and dynamic models of environments by means of visual sensors and human-computer interaction. Prof. Kosecka has published over 100 publications in refereed journals and conferences and is a co-author of a monograph titled *Invitation to 3D vision: From Images to Geometric Models*. Prof. Kosecka is a chair of the IEEE RAS Technical Committee of Robot Perception, Associate Editor of IEEE Robotics and Automation Letters and International Journal of Computer Vision, former editor of IEEE Transactions on Pattern Analysis and Machine Intelligence. She has held visiting positions at Stanford University, Google, and Nokia Research. Prior to joining George Mason, she was a postdoctoral fellow at the EECS Department at University of California, Berkeley, affiliated with Robotics Laboratory and PATH. and earned her Ph.D. in Computer Science from the University of Pennsylvania, Philadelphia. Prof. Kosecka has received the Marr Prize in Computer Vision and a National Science Foundation CAREER Award.

The Holodeck

Steve Seitz

University of Washington/Google

Steve Seitz leads “teleportation” projects for Google’s VR effort, including Google Jump and Cardboard Camera. He is also Robert E. Dinning Professor in the Department of Computer Science and Engineering at the University of Washington. He received his B.A. in computer science and mathematics at the University of California, Berkeley in 1991 and his Ph.D. in computer sciences at the University of Wisconsin in 1997. Following his doctoral work, he spent one year visiting the Vision Technology Group at Microsoft Research and the subsequent two years as an Assistant Professor in the Robotics Institute at Carnegie Mellon University. He joined the faculty at the University of Washington in July 2000. He co-authored papers that have been awarded the David Marr Prize (twice) at ICCV, and the CVPR 2015 best paper award. He has received an NSF Career Award, and ONR Young Investigator Award, an Alfred P. Sloan Fellowship, and is an IEEE Fellow. His work on Photo Tourism (joint with Noah Snavely and Rick Szeliski) formed the basis of Microsoft’s Photosynth technology. Professor Seitz is interested in problems in computer vision and computer graphics.

Object Detection in the Deep Scene

Stefano Soatto

UCLA

Professor Soatto received his Ph.D. in Control and Dynamical Systems from the California Institute of Technology in 1996; he joined UCLA in 2000 after being Assistant and then Associate Professor of Electrical and Biomedical Engineering at Washington University, and Research Associate in Applied Sciences at Harvard University. Between 1995 and 1998 he was also Ricercatore in the Department of Mathematics and Computer Science at the University of Udine - Italy. He received his D.Ing. degree (highest honors) from the University of Padova- Italy in 1992.

His general research interests are in Computer Vision and Nonlinear Estimation and Control Theory. In particular, he is interested in ways for computers to use sensory information (e.g. vision, sound, touch) to interact with humans and the environment.

Dr. Soatto is the recipient of the David Marr Prize (with Y. Ma, J. Kosecka and S. Sastry of U.C. Berkeley) for work on Euclidean reconstruction and reprojection up to subgroups. He also received the Siemens Prize with the Outstanding Paper Award from the IEEE Computer Society for his work on optimal structure from motion (with R. Brockett of Harvard). He received the National Science Foundation Career Award and the Okawa Foundation Grant. He is Associate Editor of the IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI) and a Member of the Editorial Board of the International Journal of Computer Vision (IJCV) and Foundations and Trends in Computer Graphics and Vision.

Title to Be Determined

Marc Pollefeys

ETH/Microsoft

Marc Pollefeys is a full professor and head of the Institute for Visual Computing of the Dept. of Computer Science of ETH Zurich which he joined in 2007. He leads the Computer Vision and Geometry lab. Previously he was with the Dept. of Computer Science of the University of North Carolina at Chapel Hill where he started as an assistant professor in 2002 and became an associate professor in 2005. Before he was a postdoctoral researcher at the Katholieke Universiteit Leuven in Belgium, where he also received his M.S. and Ph.D. degrees in 1994 and 1999, respectively. His main area of research is computer vision. One of his main research goals is to develop flexible approaches to capture visual representations of real world objects, scenes and events. Dr. Pollefeys has received several prizes for his research, including a Marr prize, an NSF CAREER award, a Packard Fellowship and a ERC Starting Grant. He is the author or co-author of more than 280 peer-reviewed papers. He will be a general chair for ICCV 2019, and was general chair for ECCV 2014 in Zurich, program chair for the IEEE Conf. on Computer Vision and Pattern Recognition 2009 and was co-chair of the Third Symposium on 3D Data Processing, Visualization and Transmission and has organized workshops and courses at major vision and graphics conferences and has served on the program committees of many conferences. He is a regular reviewer for most of the major vision, graphics and photogrammetry journals. Prof. Pollefeys is/was on the Editorial Board of the IEEE Transactions on Pattern Analysis and Machine Intelligence, the International Journal of Computer Vision, Foundations and Trends in Computer Graphics and Computer Vision and several other journals. He is an IEEE Fellow.

3D Reconstruction for Image-Based Rendering

Rick Szeliski

Facebook

Richard Szeliski leads computational photography group at Facebook. He was formerly the head of the Interactive Visual Media Group at Microsoft Research, which does research in digital and computational photography, video scene analysis, 3-D computer vision, and image-based rendering. He received a Ph.D. degree in Computer Science from Carnegie Mellon University, Pittsburgh, in 1988. He joined Microsoft Research in 1995. Prior to Microsoft, he worked at Bell-Northern Research, Schlumberger Palo Alto Research, the Artificial Intelligence Center of SRI International, and the Cambridge Research Lab of Digital Equipment Corporation.

Dr. Szeliski has published over 100 research papers in computer vision, computer graphics, medical imaging, and neural nets, as well as the book Bayesian Modeling of Uncertainty in Low-Level Vision. He was a Program Committee Chair for ICCV'2001 and the 1999 Vision Algorithms Workshop, and served as an Associate Editor of the IEEE Transactions on Pattern Analysis and Machine Intelligence and on the Editorial Board of the International Journal of Computer Vision.