Curriculum Vitae of Dr. Kristin J. Dana

Electrical and Computer Engineering
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Education

Ph.D. Columbia University, NY 1999
Thesis Advisor: Shree Nayar
Major*:* Electrical Engineering
Thesis*:* Models and Measurements of 3D Texture
GPA: 4.0/4.0

MS Massachusetts Institute of Technology 1992
Major: Electrical Engineering and Computer Science
Thesis: Image reconstruction using Nomarski DIC microscopy
GPA: 4.8/5.0

BS Cooper Union and New York University 1990
GPA: 3.8/4.0

Academic Positions

- **Full Professor,** Department of Electrical and Computer Engineering (ECE), Rutgers University (2016-present)
- **Associate Professor**, ECE Department, Rutgers University (2006-2016)
- **Assistant Professor**, ECE Department, Rutgers University (1999-2006)
- **Adjunct Assistant Professor of Clinical Medicine**, University of Medicine and Dentistry of New Jersey **UMDNJ** (2004-2013)
  Member of:
- **Graduate Faculty**, **Computer Science Department**, Rutgers University (2002-present)
- **Rutgers Center for Cognitive Science**, Rutgers University (2002- present)
- **Center for Advanced Information Processing**, Rutgers University (1999-2012)

Previous Employment

- **Columbia University** Graduate Research Assistant, *Advisor*: Shree Nayar, 1995-1999
- **Sarnoff Corporation** Technical Staff, *Supervisor*: Peter Burt, 1992-1995
- **MIT Graduate** Research Assistant**,** *Advisor*: Dennis M. Freeman, 1990-1992
- **Bell Laboratories** Technical Associate**,** 1989-1990
- **Cooper Union Research Foundation** Research Intern, Spring 1989
- **NYU Robotics Lab** Research Assistant**,** Summer 1988

Awards

- Advisor for Eric Wengrowski, **Steg AI 2019 LDV Summit** Entrepreneurial Computer Vision Challenge Winner
- EarthVision 2019, CVPR workshop, **Best Paper Presentation** *Urban Semantic 3D Reconstruction from Multiview Satellite Imagery, Matt Leotta (Kitware), Chengjiang Long (Kitware), Bastien Jacquet (Kitware), Matthieu Zins (Kitware), Dan Lipsa (Kitware), Jie Shan (Purdue), Bo Xu (Purdue), Zhixin Li (Purdue), Xu Zhang (Columbia University), Shih-Fu Chang (Columbia University), Matthew Purri (Rutgers University), Jia Xue (Rutgers University), Kristin Dana (Rutgers University)*
- **Charles Pankow National Award for Engineering Innovation-** American Society of Civil Engineering (ASCE) – Robotic Bridge Assessment Tool, lead role in computer vision component, 2014
- **ASCE NJ Section Award: Project of the Year.** RABIT Bridge Deck Inspection Tool, Rutgers Center for Advanced Infrastructure and Transportation (CAIT)- ASCE New Jersey Section Award, 2014
- **Advisor for Eric Wengrowski Rutgers University ECE Student Research Award** 2016
- **Advisor for Wenjia Yuan Rutgers University ECE Student Research Award** 2013
- **Rutgers Electrical and Computer Engineering Departmental Service Award** 2011
- **NSF Faculty Early Career (CAREER)** Surface Science for Vision and Graphics 2001
- **IEEE Best Paper in Session Award** CVPR Computer Vision and Pattern Recognition 1997
- Sarnoff Corporation **Team Award** 1995
- Sarnoff Corporation **Technical Achievement Award** 1994
- General Electric **Faculty of the Future Fellowship** for MIT 1990
- New York University **Computer Science and Engineering Award** 1990

Grants

- **National Science Foundation,** *NRT-FW-HTF: Socially Cognizant Robotics for a Technology Enhanced Society (SOCRATES)*, 9/1/2020-8/31/2024, **$3M,** PI: Kristin Dana, co-PI: Kostas Bekris, Clinton Andrews, Jacob Feldman, Jingang Yi, Senior Personnel: Pernille Hemmer, Aaron Mazzeo, Hal Salzman, Matthew Stone
- **National Science Foundation,** *CNS Core: Medium: Collaborative: Reality-Aware Networks,* October 2019-September 2023, $800K PIs: Kristin Dana, Marco Gruteser, Narayan Mandayam
- **USDA United States Department of Agriculture**, *FACT: Deep Learning for Image-based Agriculture Evaluation,* October 2018, $500K PI: Kristin Dana, with co-PI Peter Oudemans (Rutgers, Plant Biology), co-PI Aditi Roy (Siemens)
- **IARPA DANESFIELD**, *Data Nexus for Estimating Semantics and Inferring Exterior Layers in 3D,* 9/2017-3/2019 $230,798 (subcontract from Kitware, Rutgers PI: Kristin Dana
- **Lockheed Martin Research Contract**, *Multiscale Deep Learning For Temporal Patterns*, 12/17/2018-8/31/2020, (PI-Kristin Dana) $120,000

- **NSF Icorp, PI,** Kristin Dana, Entrepreneurial Lead: Eric Wengrowski, Industrial Mentor: Rhone Baldwin, **C/S NSF Invisible Light field Messaging, 2019 Winter Cohort, Bay Area, $50K 2019-2020**
- **NSF,** *Robust Intelligence: Small: Collaborative Research: Seeing Surfaces: Actionable Surface Properties from Vision*, **PI:** Kristin Dana, Rutgers University **2017-2020, $250K**
- **Industry Research Grant,** *Pattern Recognition and Classification Phase II* **$50k, 2017-2018, PI:** Kristin Dana, Rutgers University
- **Industry Research Grant,** *Pattern Recognition and Classification* **$100k, 2015-2016, PI:** Kristin Dana, Rutgers University
- **Industry Research Grant,** *Computational Skin Appearance* **$200K 2014-2016, PI:** Kristin Dana, Rutgers University
- **NSF,** *Robust Intelligence: MatCam: A Camera that Sees Materials,* **PI:** Kristin Dana and Ko Nishino *September 2014-2017*, **$500K: $250K Rutgers, $250K Drexel University**
- **NSF,** *NeTS: Medium: Visual MIMO Networks,* Marco Gruteser, Narayan Mandayam, Kristin Dana, *July 2011-June 2015*, **$650K**
- **FHWA, Federal Highway Administration,** Funding for 2 years Student Research Assistants 2011-2013, approx. **$150K**
- **J&J** Funding for *Statistical Evaluation of Skin Appearance* 2013 $**35,000**
- **J&J** Funding for Student Support 2009-2010**, $75,000**
- **PPG (Pittsburgh Plate and Glass)** Grant for Coatings Research February 2008, 1 year, **$90,000.**
- **J&J** Gift Fund January 2008**, $50,000**
- **Rutgers Collaborative Computing Research Program, seed funding,** *"Inter-glider Coordination for Underwater Image and Video Acquisition*, D. Pompili, M. Parashar, K. Dana, S. Glenn, R. Chant and D. Metaxas, **$50,000** 2008.
- **NSF CAREER** Faculty Early Career Development, Kristin J. Dana, *Surface Science for Vision and Graphics*, March 2001, 5 year, **$375,000**
- **NSF ITR/HCI Information Technology Research**, *Complex Interactions with the Visual World: Capturing, Understanding and Predicting Appearance*, September 2000 - September 2005, Shree Nayar (Columbia University), Jitendra Malik (U.C. Berkeley), Pat Hanrahan (Stanford University), Peter Belhumeur (Yale University), Elli Angelopoulou (Stevens Institute), Kristin J. Dana (Rutgers University), Total: **3.5 million**, co-PI subtotal: **$435,000**
- **Rutgers University SROA** Strategic Resource and Opportunity, Kristin J. Dana, *Advanced Imaging Device and Methods for Diagnosis and Evaluation of Skin Disorders*, 2000-2001, **$50,000**

Teaching

- Convex Optimization for Engineering Applications (new graduate class 2010-present)
- Capstone Design in Robotics and Computer Vision ECE 438
- Robotics and Vision ECE 471, ECE 472 (40+ students)
- Machine Vision ECE 561
- Digital Logic Design, Fall 2015, large course (200+ students), ½ course
- Digital Logic Design, Fall 2007 (large course 120+ students)
- Digital Logic Design, Fall 2014 (large course 210+ students)
- Computer Graphics ECE 474, 1999-2006 (large course 60+ students)

Curriculum Development

- New Course: Convex Optimization for Engineering Applications ECE 509
- Major Revision of ECE 472 (Robotics and Vision) and ECE 561 (Machine Vision) *Revision Summary*: Design lab was developed to incorporate hands-on learning of robot vision concepts.

PhD Degrees Supervised

- Jia, Xue, **Phd** in Electrical and Computer Engineering, *Reflectance and Angular Luminance for Material Recognition and Segmentation,* January 2020
- Eric Wengrowski, **Phd** in Electrical and Computer Engineering, *Photographic Steganography,* May 2019
- Hang Zhang, **Phd** in Electrical and Computer Engineering, *Reflectance and Texture Encoding for Material Recognition and Synthesis*, October 2017
- Parneet Kaur, **Phd** in Electrical and Computer Engineering, *Computational Appearance Models for Quantitative Dermatology,* October 2017
- Wenjia Yuan, **PhD** in Electrical and Computer Engineering, *Computational Photography for Visual MIMO*, October 2014
- Ashwin Ashok **PhD** in Electrical and Computer Engineering, co-advisor, *Visual MIMO for Visible Light Communications,* May 2014
- Siddarth Madan, **PhD** in Electrical and Computer Engineering May 2013*, Computer Vision Methods for Large-scale Online Clustering and Quantitative Dermatology*, 2008-2013
- Oana G. Cula, **PhD** in Computer Science, May 2005, *Bidirectional Imaging and Modeling of Real World Surfaces*, 2000-2005
- Jing Wang, **PhD** in Electrical and Computer Engineering, October 2005, *Modeling Surface Geometry*, 2001-2005

MS Degrees Supervised

- Yaqin Tang, **Master of Science** in Electrical Engineering, January 2016, co-advisor, *Content Adaptive Encoding Method for High Frame Rate Screen-Camera Communication,* 2014-2016
- Eli Rosen, **Master of Science** in Electrical Engineering, May 2015, *Classifying Ground Terrain Using Multiview Methods* 2013-2015
- Parneet Kuar, **Master of Science** in Electrical Engineering, October 2013, *Automated Bridge Deck Evaluation using Ground Penetrating Radar Scans,* 2011-2013
- Prateek Prasanna, **Master of Science** in Electrical Engineering, May 2013, *Computer Vision for Automated Surface Evaluation of Concrete Bridge Decks,* 2011-2013
- Jayant Silva, **Master of Science** in Electrical Engineering, 2010, *Measuring and Rendering Automotive Coatings with a Novel Texture Camera*, 2008-2010
- Siddharth Madan, **Master of Science** in Electrical Engineering, May 2008, *Measuring 3D Face Geometry for Integration with Appearance Models*, 2005-2008
- Alex Wu, **Master of Science** in Electrical Engineering, October 2006, *Appearance with Geometry and Image Acquisition*, 2004-2006

- Raghunand Makonahalli, **Master of Science** in Electrical Engineering, October 2005, *Optical Encryption via Advanced Watermarking*, 2003- 2005
- Jayant Susikumar **Master of Science** in Electrical and Computer Engineering, January 2004, *Analysis, Synthesis and Visualization of 3D Textures*, 2002-2004
- Jasvinder Singh **Master of Science** in Electrical and Computer Engineering, October 2003, *Texture Synthesis and Measurements*, 2000-2002
- Oana Cula **Master of Science** in Computer Science May 2001, *Texture Recognition Methods,* 2000-2001

Current Graduate Students

- Matthew Purri
- Faith Johnson
- Thomas Shyr
- Peri Akiva

Patents

- US/IPTO Patent: *Advanced Watermarking Using Optical Pattern Encryption*, April 2010, Inventors: Kristin J. Dana, Gabriela Livescu, Yicheng Lu
- US/IPTO Patent : *Apparatus and Method for Measuring Spatially Varying Bidirectional Reflectance Distribution Function*, Number: 6,987,568, Issue Date January 17, 2006, Inventor: Kristin J. Dana

Books

- Computational Texture and Patterns: *From Textons to Deep Learning,* Kristin J. Dana, Morgan Claypool Synthesis Lectures on Computer Vision, September 2018

Journal Publications

1. J. Xue, H. Zhang, K. Nishino and K. Dana, "Differential Viewpoints for Ground Terrain Material Recognition," in *IEEE Transactions on Pattern Analysis and Machine Intelligence PAMI*, September 2020.
2. Wengrowski, E., Purri, M., Dana, K., & Huston, A. (2019). Deep Convolutional Neural Networks as a Method to Classify Rotating Objects based on Monostatic Radar Cross Section. *IET Radar, Sonar & Navigation*, vol. 13, no. 7, pp. 1092-1100, June 2019
3. Hung La, Nenad Gucunski, Kristin Dana, Seong-Hoon Kee. “Development of an autonomous bridge deck inspection robotic system”. *Journal Of Field Robotics* December 1, 2017; 34(8):1489-1504
4. Kristin Dana, “Capturing Computational Appearance: More than Meets the Eye”, *IEEE Signal Processing Magazine*, 33 (5), pp. 70-80, September 2016
5. Ashwin Ashok, Chenren Xu, Tam Vu, Marco Gruteser, Richard Howard, Yanyong Zhang, Narayan Mandayam, Wenjia Yuan, Kristin Dana, “What Am I Looking At? Low-Power Radio-Optical Beacons For In-View Recognition Using Smart-Glasses,” *IEEE Transactions on Mobile Computing*, 15 (12), 3185-3199, 2016
6. Ashwin Ashok, Shubham Jain, Marco Gruteser, Narayan Mandayam,Wenjia Yuan, Kristin Dana, “Capacity of Screen-Camera Communications Under Perspective

Distortions", *Pervasive and Mobile Computing Journal,* Volume 16, pp. 239-250, January 2015

7. Siddharth Madan and Kristin Dana, "Modified Balanced Iterative Reducing and Clustering Using Hierarchies (m-BIRCH) for Visual Clustering", Pattern Analysis and Applications Journal, Springer, April 2015
8. Parneet Kaur, Kristin J. Dana, Francisco A. Romero, Nenad Gucunski, "Automated GPR Rebar Analysis for Robotic Bridge Deck Evaluation", *IEEE Transactions in Cybernetics*, October 2015
9. Prateek Prasanna, Kristin Dana, Nenad Gucunski, Basily Basily, Hung La, Ronny Lim, "Automated Crack Detection on Concrete Bridges", *IEEE Transactions in Automation Science*, pp. 1-9, October 2014
10. S.K. Madan, K.J. Dana, and O.G. Cula. "Multimodal and Time-lapse Skin Registration", *Skin Research and Technology*, November 2014
11. Kristin Dana, "3D Texture", in Encyclopedia of Computer Vision, Springer Major Reference Work, Katsushi Ikeuchi (Ed.), 2014
12. Jayant Silva, Kristin J. Dana, "Matching for Metallic Coatings", *Advances in Visual Computing*
    Lecture Notes in Computer Science, volume 5876, *International Symposium on Visual Computing,* pp. 335-344, December 2009
13. Oana G. Cula and Kristin J. Dana, "Texture for Appearance Models in Computer Vision and Graphics", *Book Chapter in Handbook of Texture Analysis*. Majid Mirmehdi, Xianghua Xie, Jasjit Suri, (eds.). Imperial College Press. ISBN 978-1-84816-115-3. December 2008
14. K. J. Dana, Oana G. Cula, Jing Wang, "Surface detail in computer models", *Image and Vision Computing*, Volume 25, Issue 7, pp. 1037-1049, July 2007
15. Oana G. Cula, Kristin J. Dana, Dinesh K. Pai, and Dongsheng Wang, "Polarization Multiplexing and Demultiplexing for Appearance-based Modeling", *IEEE Transactions Transactions on Pattern Analysis and Machine Intelligence*, Volume 29, Issue 2, pp. 362-367, February 2007
16. Jing Wang and Kristin J. Dana, "Relief Texture Shape from Specularities", *IEEE Transactions on Pattern Analysis and Machine Intelligence,* vol. 28, no. 3, pp. 446-457, March 2006
17. Oana G. Cula, Kristin J. Dana, Frank P. Murphy and Babar K. Rao, "Skin Texture Modeling", *International Journal of Computer Vision*, vol. 62, no. 1-2, pp. 97-119, April-May 2005
18. Oana G. Cula, Kristin J. Dana, Frank P. Murphy and Babar K. Rao, "Bidirectional Imaging and Modeling of Skin Texture", *IEEE Transactions on Biomedical Engineering*, vol. 51, no. 12, pp. 2148-2159, December 2004
19. Oana G. Cula and Kristin J. Dana, "3D Texture Recognition using Bidirectional Feature Histograms", *International Journal of Computer Vision*, vol. 59, pp. 33-60, August 2004
20. Jasvinder Singh and Kristin J. Dana, "Clustering and blending for texture synthesis", *Pattern Recognition Letters*, pp. 619-629, vol. 25, no. 6, April 2004
21. Kristin J. Dana and Jing Wang, "Device for Convenient Measurement of spatially varying bidirectional reflectance", *Journal of the Optical Society of America A*, pp. 1-12, January 2004

22. Bram van Ginneken, Jan J. Koenderink, Kristin J. Dana, "Texture histograms as a function of irradiation and viewing direction", *International Journal of Computer Vision*, vol. 31, no. 2-3, pp. 169-84, April 1999
23. Jan J. Koenderink, Andrea J. Van Doorn, Kristin. J. Dana, Shree K. Nayar, "Bidirectional reflection distribution function of thoroughly pitted surfaces", *International Journal of Computer Vision*, vol. 31, no. 2-3, pp. 129-44, April 1999
24. Kristin J. Dana, Bram van Ginneken, Shree K. Nayar, Jan J. Koenderink, "Reflectance and texture of real world surfaces", *ACM Transactions on Graphics*, vol. 18, no. 1, pp. 1-34, January 1999

Conference Publications

25. "Shape From Sky: Polarimetric Normal Recovery Under the Sky", Ichikawa, Tomoki, Matthew Purri, Ryo Kawahara, Shohei Nobuhara, Kristin Dana, and Ko Nishino" In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, pp. 14832-14841. 2021.
26. Akiva, Peri, Benjamin Planche, Aditi Roy, Kristin Dana, Peter Oudemans, and Michael Mars. "AI on the Bog: Monitoring and Evaluating Cranberry Crop Risk." In *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision*, pp. 2493-2502. 2021.
27. Matthew Purri, Kristin Dana, "Teaching Cameras to Feel: Estimating Tactile Physical Properties of Surfaces From Images", *European Conference on Computer Vision ECCV* 2020
28. Faith Johnson, Kristin Dana, "Feudal Steering: Hierarchical Learning for Steering Angle Prediction", *Workshop on Automated Driving WAD held with IEEE CVPR 2020*
29. Peri Akiva, Kristin Dana, Peter Oudemans, Michael Mars, "Finding Berries: Segmentation and Counting of Cranberries Using Point Supervision and Shape Priors", *Vision in Agriculture, CVPR Workshops*, 2020
30. Wengrowski, Eric, and Kristin Dana. "Light Field Messaging With Deep Photographic Steganography", *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition.* 2019.
31. Matthew J. Leotta, Chengjiang Long, Bastien Jacquet, Matthieu Zins, Dan Lipsa, Jie Shan, Bo Xu, Zhixin Li, Xu Zhang, Shih-Fu Chang, Matthew Purri, Jia Xue, Kristin Dana, "Urban Semantic 3D Reconstruction from Multiview Satellite Imagery", Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshops. 2019.
32. Xue, Jia, Hang Zhang, and Kristin Dana. "Deep Texture Manifold for Ground Terrain Recognition." In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, pp. 558-567. 2018
33. Zhang, Hang, Kristin Dana, Jianping Shi, Zhongyue Zhang, Xiaogang Wang, Ambrish Tyagi, and Amit Agrawal. "Context encoding for semantic segmentation." In *The IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* 2018 **(oral presentation)**
34. Hang Zhang, and Kristin Dana. "Multi-style Generative Network for Real-time Style Transfer", *2nd International Workshop on Compact and Efficient Feature Representation and Learning in Computer Vision, in conjunction with ECCV* 2018

35. Hang Zhang, Jia Xue, Kristin Dana, "Deep TEN: Texture Encoding Network", In *The IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* 2017
36. Jia Xue, Hang Zhang, Kristin Dana, Ko Nishino, "Differential Angular Imaging for Material Recognition", In *The IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* 2017
37. Eric Wengrowski, Kristin Dana, Marco Gruteser, Narayan Mandayam, "Reading between the Pixels: Photographic Steganography for Camera-Display Messaging, *IEEE International Conference on Computational Photography, ICCP* 2017
38. Hang Zhang, Kristin Dana, Ko Nishino, "Friction from Reflectance: Deep Reflectance Codes for Predicting Physical Surface Properties from One-Shot In-Field Reflectance", *ECCV European Conference on Computer Vision*, October 2016
39. Parneet Kaur, Kristin Dana, Gabriela Oana Cula, Catherine Mack, "Hybrid Deep Learning for Reflectance Confocal Microscopy Skin Images", *ICCP International Conference on Pattern Recognition*, December 2016
40. Viet Nguyen, Yaqin Tang, Ashwin Ashok, Marco Gruteser, Kristin Dana, Wenjun Hu, Eric Wengrowski, Narayan Mandayam, "High-Rate Flicker-Free Screen-Camera Communication with Spatially Adaptive Embedding", *IEEE INFOCOM,* April 2016
41. Eric Wengrowski, Wenjia Yuan, Kristin Dana, Ashwin Ashok, Marco Gruteser, Narayan Mandayam, "Optimal Radiometric Calibration for Camera-Display Communication", IEEE Winter Conference on Applications of Computer Vision *WACV,* March 2016
42. Hang Zhang, Kristin Dana, Ko Nishino, "Reflectance Hashing for Material Recognition", *IEEE Conference on Computer Vision and Pattern Recognition,* pp. 3071-3080, June 2015
43. Parneet Kaur, Kristin J. Dana, "From Photography to Microbiology: Eigenbiome Models for Skin Appearance", *Bioimage Computing, held with IEEE CVPR* 2015
44. A. Ashok, C.Xu, T.Vu, M. Gruteser, R. Howard, Y. Zhang, N. Mandayam, W. Yuan, K. Dana, Low-Power Radio-Optical Beacons for In-View Recognition, (Invited Paper : Emerging Technologies: Light-based Communications and Positioning track), *IEEE Vehicular Technology Conference (VTC),* September 2015, Boston, MA
45. Siddharth K. Madan, Kristin J. Dana, "m-BIRCH: an online clustering approach for computer vision applications", SPIE Imaging and Multimedia Analytics in a Web and Mobile World, March 2015
46. A. Ashok, V. Nguyen, M. Gruteser, N. Mandayam, W. Yuan, and K. Dana, "Do Not Share! Invisible Light Beacons for Signaling Preferences to Privacy-Respecting Cameras", *Proceedings of ACM MobiCom, VLCS (Visual Light Communication Systems) Workshop*, 2014
47. Wenjia Yuan, Richard Howard, Kristin Dana, Ashwin Ashok, Ramesh Raskar, Marco Gruteser, and Narayan Mandayam, Phase Messaging Method for Time-of-flight Cameras, in *ICCP: Proceedings of IEEE International Conference on Computational Photography*, oral presentation, 2014
48. A. Ashok, S. Jain, M. Gruteser, N. Mandayam, W. Yuan, and K. Dana, Capacity of Pervasive Camera Based Communications Under Perspective Distortions, in *PerCom: Proceedings of IEEE Pervasive Computing and Communications*, 2014
49. Wenjia Yuan, Kristin Dana, Ashwin Ashok, Marco Gruteser, Narayan Mandayam, "Spatially Varying Radiometric Calibration for Camera-Display Messaging", *IEEE Conference on Global Signal and Information Processing*, Austin, Texas, December 2013

50. A. Ashok, C.Xu, T.Vu, M. Gruteser, Y.Zhang, R.Howard, N. Mandayam, W. Yuan, K. Dana, "Demo: BiFocus - Using Radio-Optical Beacons for An Augmented Reality Search Application", *Proceedings of ACM/USENIX International Conference on Mobile Systems, Applications, and Services (MobiSys),* 2013
51. Wenjia Yuan, Kristin Dana, Ashwin Ashok, Marco Gruteser, Narayan Mandayam, "Dynamic and Invisible Messaging for Visual MIMO", *Proceedings of the IEEE Workshop on Applications of Computer Vision (WACV)*, pp. 345-352, January 2012
52. Prateek Prasanna, Kristin Dana, Nenad Gucunski, Basily Basily, "Computer Vision Based Crack Detection and Analysis", *Sensors and Smart Structures Technologies for Civil, Mechanical and Aerospace Systems, Proceedings of the SPIE,* Volume 8345, 2012
53. Ashwin Ashok, Marco Gruteser, Narayan Mandayam, Kristin J. Dana, "Characterizing multiplexing and diversity in visual MIMO", *Conference on Information Sciences and Systems, CISS* pp.1-6, 2011
54. Ashwin Ashok, Marco Gruteser, Narayan Mandayam, Taekyoung Kwon, Wenjia Yuan, Michael Varga, Kristin Dana, "Rate Adaptation in Visual MIMO", *Proceedings of IEEE Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON),* pp. 583-591, 2011
55. Siddharth Madan, Kristin Dana, Gabriela Oana Cula, "Learning-Based Detection of Acne-Line Regions Using Time-Lapse Features", *IEEE Signal Processing in Medicine and Biology Symposium (SPMB11),* pp. 1-6, December 2011
56. Wenjia Yuan, Kristin Dana, Michael Varga, Ashwin Ashok, Marco Gruteser and Narayan Mandayam, "Computer Vision Methods for Visual MIMO Optical Systems", IEEE Workshop on Projector Camera Systems *(ProCams, with IEEE CVPR),* pp. 37-43, 2011
57. Michael Varga, Ashwin Ashok, Marco Gruteser, Narayan Mandayam, Wenjia Yuan, Kristin Dana, "Demo: Visual MIMO-based LED-Camera Communication Applied to Automobile Safety", Proceedings of ACM/USENIX *International Conference on Mobile Systems, Applications, and Services (MobiSys),* 2011
58. Ashwin Ashok, Marco Gruteser, Narayan Mandayam, Jayant Silva, Michael Varga, Kristin J. Dana, "Challenge: mobile optical networks through visual MIMO", *MOBICOM*, *Annual International Conference on Mobile Computing and Networking*, 105-112, 2010
59. Kristin J. Dana, Gabriella Livescu, Raghunand Makonahalli, "Transparent Watermarking using Bidirectional Imaging", *IEEE International Workshop on Projector Camera Systems, in conjunction with CVPR*, pp. 31-38, June 2009
60. Siddharth Madan, G. Oana Cula, Kristin J. Dana, "Quasiconvex Alignment of Multimodal Skin Images for Quantitative Dermatology", *MMBIA 2009: IEEE Computer Society Workshop on Mathematical Methods in Biomedical Image Analysis, in conjunction with CVPR*, pp. 117-124, June 2009
61. Alexander Wu, Siddharth Madan and Kristin Dana, "Projector-Camera Structured Light Using Photometric Ratios", *IEEE International Workshop on Systems*, pp. 1-2, New York, June 2006
62. Oana G. Cula, Kristin J. Dana, Dinesh Pai, and Dongsheng Wang, "Polarization multiplexing for bidirectional imaging", *CVPR IEEE Proceedings on Computer Vision and Pattern Recognition*, June 2005
63. Jing Wang and Kristin J. Dana, "Compression of view dependent displacement maps", *Texture 2005, The Fourth International Workshop on Texture Analysis and Synthesis, pp. 143-148, 2005*

64. Jing Wang and Kristin J. Dana, "Hybrid Textons: Modeling Surfaces with Reflectance and Geometry", CVPR *IEEE Proceedings on Computer Vision and Pattern Recognition*, June 2004
65. Oana G. Cula, Kristin J. Dana, Frank P. Murphy and Babar K. Rao, "Bidirectional Imaging and Modeling of Skin Texture", *Texture 2003, The Third International Workshop on Texture Analysis and Synthesis*, pp. 12-18, Nice, France October 2003
66. Jing Wang and Kristin J. Dana, "A Novel Approach for Texture Shape Recovery", ICCV *International Conference on Computer Vision,* pp. 1374-1380, Nice, France October 2003
67. Oana G. Cula and Kristin J. Dana, "Image-based Skin Analysis", *Texture 2002, The Second International Workshop on Texture Analysis and Synthesis* ((held with European Conference on Computer Vision 2002), pp. 35-42,Copenhagen, Denmark, June 2002
68. Oana G. Cula, Kristin J. Dana, "Compact Representations for Bidirectional Texture Functions", CVPR IEEE *Conference on Computer Vision and Pattern Recognition*, pp. 1041-7, Kauai, Hawaii, December 2001
69. Kristin J. Dana, "BRDF/BTF measurement device", ICCV *Proceedings of Eighth IEEE International Conference on Computer Vision*) vol. 2, pp. 460-6, Vancouver, British Columbia, July 2001
70. Oana G. Cula and Kristin J. Dana, "Recognition methods for 3D textured surfaces", *Proceedings of SPIE International Society for Optical Engineering*, vol. 4299, pp. 209-20. San Jose, CA, January 2001
71. Kristin J. Dana and Shree K. Nayar, "Correlation Model for 3D Texture", *ICCV Proceedings of Seventh IEEE International Conference of Computer Vision*, vol. 2, pp. 1061-66, Corfu, Greece, September 1999
72. Kristin J. Dana and Shree K. Nayar , "3D textured surface modeling", *IEEE Workshop on the Integration of Appearance and Geometric Methods in Object Recognition*, pp. 46-56, Fort Collins, CO, June 1999
73. Kristin J. Dana and Shree K. Nayar, "Histogram model of 3D textures", *CVPR IEEE Conference on Computer Vision and Pattern Recognition,* pp. 618-24, Santa Barbara, CA, June 1998
74. Kristin J. Dana, Bram van Ginneken, Shree K. Nayar and Jan J. Koenderink, "Reflectance and texture of real world surfaces", *CVPR IEEE Conference on Computer Vision and Pattern Recognition*, pp. 151-7, San Juan, Puerto Rico, June 1997
75. Kristin J. Dana and Rick Wildes, "A Dynamic energy image with applications", *ARPA Image Understanding Workshop*, vol. 2, pp. 1611-18, 1994
76. Rakesh Kumar, Kristin J. Dana, P. Anandan, Neil Okamoto and James Bergen, "Frameless registration of MR & CT 3D volumetric data sets", *IEEE Workshop on Applications of Computer Vision*, pp. 240-8, Sarasota, Florida, December 1994
77. Michael Hansen, P. Anandan, Kristin J. Dana, Gooitzen van derWaal and Peter Burt, "Real-time scene registration and mosaic construction", *IEEE Workshop on Applications of Computer Vision*, pp. 54-62, Sarasota, Florida, December 1994
78. Kristin J. Dana and P. Anandan, "Registration of visible and infrared images", *Proceedings of the SPIE Conference on Architecture, Hardware and Forward-looking Infrared Issues in Automatic Target Recognition*, pp. 1-12, Orlando, Florida, May 1993
79. Jakub Segen and Kristin J. Dana, "Parallel symbolic computation for deformable shapes", *From Pixels to Features II*, Papers from the Bonas workshop, pp. 387-400, August 27-September 1 1990, Amsterdam: North Holland 1991

Invited Plenary Talks

- Invited Plenary Speaker, 72nd Annual Scientific Meeting & Technology Showcase, Society of Cosmetic Chemists New York New York Dec 12, 2018
- Invited Plenary Speaker, Innovations in Dermatological Sciences: Harnessing the Skin Microbiome, 2017 DERM Conference, Iselin, NJ October 3, 2017
- Invited Plenary Speaker, *Huawei Visual Computing Workshop and Retreat, HVC 2016*, Talk Title: Differential Angular Imaging for Material Recognition with Reflectance Gradients, Piscataway, NJ Dec 2, 2016
- Invited Speaker for CVPR 2017 Area Chair Workshop, Talk Title: Material recognition with angular gradients, *University of Maryland,* February 27, 2017,
- Invited Speaker to Pixel Lunch Talk Series, *Princeton University*, November 9, 2015
- Lecture Series Title: *SRI International Technical Talks*, Talk Title: Material Recognition using Reflectance Disks, August 2015
- Invited Plenary Speaker to *Institute for Pure and Applied Mathematics (IPAM), Workshop on Computational Photography and Intelligent Cameras*, UCLA, Talk Title: Reflectance Gradients for Material Recognition, February 2015
- Invited Speaker to the Pigment Color Science Forum 2014, Montreal, Quebec October 2014
  Talk Title: More than meets the eye: Cameras for Capturing BRDF Patterns
- Google Talks 2014, Machine Learning Group, *Google,* New York, NY, February 2014
  Talk Title: Texture Camera for Capturing and Modeling Appearance
- Lecture Series Title: Distinguished Seminar in Multimedia, Talk Title: Imaging Skin Texture, *IBM T.J. Watson,* Yorktown Heights, NY, invited for September 2013
- Invited Speaker to the *Third Greater New York Area Vision and Multimedia Meeting*, Talk Title: Illumination Modeling for Visual MIMO, City College of New York, June 2013
- Lecture Series Title: Spring 2013 Grasp Seminar, Talk Title: Illumination Modeling for Camera-Display Communication, May 2013, *University of Pennsylvania, Philadelphia, PA*
- Lecture Series Title: AT&T Research Internal Seminar, Talk Title: Computer Vision Methods for Visual MIMO, *AT&T Research Labs, Florham Park, NJ*, Simulcast to Middletown, NJ, June 2011
- Rutgers Robotics Workshop, Talk Title: Computer Vision for Robotics, *Rutgers University*, September 2011
- Internal Technical Lecture, Talk Title, Measurement of Surface Texture Using Novel Camera, *PPG Industries Coatings Research Center*, Allison Park, PA May 2007
- Computer Science Colloquioum, Talk Title: Computational Models for Surface Texture, *Pennsylvania State University*, University Park, PA May 2007
- Lecture Series Title: The Rutgers Perceptual Science Talk Series, Talk Title: Computational Models for Skin and other Surface Texture, *Rutgers University*, December 2007
- Lecture Series Title: Princeton Graphics Group Lunchtime Talks, Talk Title: "Surface Models for Graphics and Medicine", *Princeton University*, October 2005
- Invited Plenary Speaker, Talk Title: Computational Skin Modeling and Imaging, *Thirteenth Color Imaging Conference*, *Society for Imaging Science and Technology*, Scottsdale, Arizona, Invited Talk, November 9, 2005

- Lecture Series Title: Grasp Lab Vision Talks, Talk Title: Computational Skin Texture Modeling, Date/Place: November 2005, *University of Pennsylvania*, Philadelphia, PA
- Lecture Series Title: University of Maryland Vision Seminar, Talk Title: Imaging and Modeling Surface Detail, Date/Place: Fall 2005, *University of Maryland*, College Park
- Lecture Series Title: Faculty Summer Lecture Series, Talk Title: Quantitative Photography for Measuring Skin Texture", *University of Medicine and Dentistry of New Jersey (UMDNJ)- Robert Wood Johnson Clinical Research Center*, New Brunswick, NJ, July 8, 2005
- Lecture Series Title: Yale Vision Talks, Talk Title: Capturing and Modeling Surface Detail, Date/Place: April 14, 2005, *Yale University*, New Haven, Connecticut
- Lecture Series Title: Siemens Vision Talks, Talk Title: Capturing and Modeling Surface Detail, Date/Place: Tuesday April 5, 2005, *Siemens Corporate Research*, Princeton, NJ
- Lecture Series Title: Carnegie Mellon Vision Talks, Talk Title: Models and Measurements of Skin Texture, Date/Place: Monday March 25, 2005, *Carnegie Mellon University*, Pittsburgh, PA
- Lecture Series Title: Proctor and Gamble Invited Talks, Talk Title: Computational Skin Texture, Date/Place: Wednesday February 16, 2005, *Proctor and Gamble*, Cincinnati, Ohio
- J&J Internal Technical Talks, Talk Title: "Skin Texture Modeling", Oana G. Cula and Kristin J. Dana, *Johnson & Johnson*, Skillman, NJ, February 8, 2005
- Lecture Series Title: Sarnoff Vision Talks, Talk Title: Imaging Skin Texture, Date/Place: Friday November 12 2004, *Sarnoff Corporation*, Princeton, NJ
- Lecture Series Title: Computer Vision Talk Series, Talk Title: Surface Modeling using Bidirectional Texture Functions, Date/Place: February 2002, *Columbia University*, New York, NY
- Lecture Series Title: Computer Vision Talk Series, Talk Title: Models and Measurements of 3D Texture, Date/Place: February 2000, *NEC Research Institute*, Inc. 4 Independence Way, Princeton, NJ 08540
- Lecture Series Title: The Rutgers Series on Human and Computer Vision, Talk Title: 3D texture Models, Date/Place: Monday, March 27, 2000, Dept of Psychology, *Rutgers University*
- Lecture Title: Workshop on Color and Appearance, Talk Title: Models and Measurements of 3D texture, Date/Place: March 30 2000, *NIST National Institute of Standards and Technology*, Gaithersburg, MD
- Lecture Title: Workshop on Rendering, Perception and Measurement, Optical Measurements, Talk Title: Models and Measurements of 3D texture, Date/Place: April 1999, *Cornell University*
- Lecture Title: Sarnoff Demonstration at Central Intelligence Agency Press Conference, Talk Title: "Change Detection for Mammograms", *National Photographic Interpretation Center (NPIC),* Washington D.C., April 4, 1995
- Lecture Title: Capitol Hill Briefing on Breast Cancer Detection, Talk Title: "Change Detection in Serial Mammograms", organized by Dr. Susan J. Blumenthal, Deputy Assistant Secretary for Women's Health for Director of Central Intelligence R. James Woolsey, Rayburn House Office Building, *Capitol Hill, Washington D.C.*, October 11, 1994

Posters Presentations *(refereed)*

1. W. Yuan, K. Dana, A. Ashok, M. Varga, M. Gruteser, N. Mandayam, Spatially Varying Radiometric Calibration for Camera-Display Messaging, *IEEE CVPR Workshop on Computational Cameras and Displays* (CCD/ProCams), Poster Presentation, June 2013
2. W. Yuan, K. Dana, A. Ashok, M. Varga, M. Gruteser, N. Mandayam, "Optimal Radiometric Calibration for Camera-Display Communication", Poster Presentation, *International Conference on Computational Photography ICCP*, Cambridge, MA, 2013
3. W. Yuan, K. Dana, A. Ashok, M. Varga, M. Gruteser, N. Mandayam, Photometric Modeling for Active Scenes, *IEEE CVPR Workshop on Computational Cameras and Displays,* Poster Presentation, Providence, Rhode Island, June 2012

Medical Conference Posters

- Frank P. Murphy, Babar K. Rao, Oana G. Cula and Kristin J. Dana, "Standardized Digital Photography: A Novel Approach for Directional Imaging", *61st Annual Meeting of American Academy of Dermatology,* March 21-26, 2003, San Francisco, California

Conference Courses

- Kristin J. Dana, "Surface Appearance: Texture and Reflectance", **ACM SIGGRAPH 2000** *(Association for Computing Machinery, Special Interest Group in Graphics)* Course Title: "Image-based Surface Detail", New Orleans, Louisiana, July 24, 2000

Research Workshop

- Robotics Workshop September 2015 and 2011, General Chair. The ECE department hosted a 1-day Robotics Workshop for researchers throughout the university who are interested in robotics research or in novel applications of robotics.

Electronic Articles and Databases

- *GTOS – Ground Terrain in Outdoor Scenes: GTOS* (Ground Terrain in Outdoor Scenes), in-scene material reflectance database, consists of over 30,000 images covering 40 classes of outdoor ground terrain under varying weather and lighting conditions. The 40 surface classes mostly have between 4 and 14 instances (samples of intra-class variability) and each instance is imaged under 19 viewing directions. (refereed as part of CVPR 2017 conference paper listed above)
- *Rutgers Skin Texture Database*: Quantitative characterization of skin appearance has potential uses in many fields and applications including realistic rendering for computer graphics, robust face models for computer vision, computer assisted diagnosis for dermatology, topical drug efficacy testing for the pharmaceutical industry and quantitative comparison for cosmetics.
  (refereed as part of Skin Texture Modeling, IJCV 2005 journal article listed above)
- *Columbia-Utrecht Reflectance and Texture Database (CUReT)*: Database of precise reflectance measurements that has become the popular standard database for algorithm testing.

(refereed as part of ACM Transactions on Graphics 1999 journal article listed above)

Editorial Duties

- Associate Editor for IEEE T-PAMI, Transactions on Pattern Analysis and Machine Intelligence, 2017 – present,

Major Conference Organizing Committees

- MICCAI Workship Organizer: ISIC Skin Image Analysis Workshop and Challenge MICCAI (The Medical Image Computing and Computer Assisted Intervention Society 2018

- IEEE WACV 2018 Program Chair – One of four Program Chairs. Duties of the program chair: organizing a well-balanced, high-quality program for the conference; handling the Call for Papers through the selection and review of every paper; advising area chairs and reviewers using Microsoft CMT (conference management toolkit).

- IEEE CVPR 2016 Expo Chair – Corporate Relations: EXPO CVPR 2016: For the first time in CVPR's history, the conference will provide a "trade-show" like atmosphere to foster maximal visibility and exposure for each on-site exhibitor. It is a unique opportunity for academics, students, budding entrepreneurs, technologists and others to cross paths and exchange the latest and newest ideas. CVPR EXPO 2016 will run at Caesar's Palace in Las Vegas next June for the duration of IEEE CVPR, co-locating with the premier academic and technical presentations. Approximately 2,500-3,000 CVPR attendees will create a one-of-a-kind opportunity for networking, recruiting, inspiration and motivation. (http://cvpr2016.thecvf.com/organizers)

IEEE CVPR Awards Committee:

- 2019 Awards Committee Member
- 2020 Awards Committee Chair

Publicity Chair

- ICCV (IEEE International Conference on Computer Vision), Publicity Chair 2015 (Santiago, Chile)
- CVPR (IEEE Computer Vision and Pattern Recognition), Publicity Chair 2014 (Columbus, Ohio) part of the main organizational group for this large premier conference (attendance 1500)
- CVPR (IEEE Computer Vision and Pattern Recognition), Publicity Chair 2015 (Boston, MA) part of the main organizational group for this large premier conference (attendance 2400)
- IEEE International Conference on Computer Vision, Publicity Chair, (Santiago, Chile)

Area Chair

- ICCV 2019 Area Chair
- CVPR 2018 Area Chair
- CVPR 2017 Area Chair
- ICCV (IEEE International Conference on Computer Vision) Area Chair 2015
- Rutgers Robotics Workshop 2015, General Chair
- WACV (Winter Conference on Applications in Computer Vision), Area Chair 2015
- ICPR (International Conference on Pattern Recognition) Associate Editor 2014
- Rutgers Robotics Workshop 2011, General Chair
- ECCV (European Conference on Computer Vision), Area Chair 2010
- CVPR (IEEE Computer Vision and Pattern Recognition), Area Chair 2009

Program Committees

Conferences:

- Computational Camera and Display, CVPR Workshop Program Committee 2015
- ICCP (International Conference on Computational Photography) Program Committee 2013
- Computational Camera and Display, CVPR Workshop Program Committee 2013
- Program Chair, 2011 First Multimedia and Vision Meeting in the Greater New York Area
- CVPR (IEEE Computer Vision and Pattern Recognition), Program Committee
- ICCV (International Conference on Computer Vision), Program Committee
- ACCV 2006, 7th Asian Conference on Computer Vision Program Committee
- ECCV (European Conference on Computer Vision), Program Committee 2004-2005
- International Workshop on Texture Analysis (Texture 2002-2005) Program Committee

Reviewer

- *Journals:* IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), SIGGRAPH, International Journal of Computer Vision, Image and Vision Computing, Journal of the Optical Society of America, IEEE Signal Processing, IEEE Transactions on Circuits and Systems, Computer Vision and Image Understanding, Computer Graphics Forum
- *Conferences:* CVPR, ICCV, ECCV, WACV, ACM SIGGRAPH (Special Interest Group in Computer Graphics), Eurographics Workshop on Rendering

Panels

- NSF Smart Health and Well Being 2017, Panelist
- NSF Robust Intelligence 2015, Panelist
- NSF IGERT 2009, Nov 15-17 2009, Panelist
- NSF Robotics and Human Augmentation (VIS04-2) Reviewer February 2004
- NSF Robotics and Human Augmentation (RHAVIS-4) Reviewer Spring 2002
- NSF Robotics and Human Augmentation (RHA) Program Panel Fall 2001

PhD Thesis Committees (not advisees)

- Wang Yao, "Approximate versions of the alternating direction method of multipliers", Advisor Jonathon Eckstein, Rutgers University Center for Operations Research, July 2016
- Stephen Lombardi, "Radiometric Scene Decomposition: Estimating Complex Reflectance and Natural Illumination from Images", Advisor: Ko Nishino, Drexel University, September 2015
- Wang Yao, Approximate Versions of the Alternating Direction Method of Multipliers, Dissertation Proposal, external committee member, advisor: Jonathan Eckstein, RUTCOR, May 2014
- Saket Anand, "Robust Methods for Multiple Model Discovery in Structured and Unstructured Data", Advisor: Peter Meer, June 2013
- Sushil Mittal, "User-Independent Robust Statistics for Computer Vision", Advisor: Peter Meer, September 2011
- Michael Loiacono, "Cross-layer performance analysis and adaptation for real-time wireless video streaming", Advisor: Wade Trappe, May 3, 2010
- Kristina Santilli Bennett, "Effective Focus+Context Visualization Through Shape-Focused Design", Advisor: Deborah Silver, July 2008
- Raghav Subbarao, "Robust Statistics over Riemannian Manifolds for Computer Vision", advisor: Peter Meer, February 2008
- External Reader of PhD Dissertation, Electrical Engineering Department, *Yale University*, Melissa L. Koudelka, "Capture, Analysis and Synthesis of Textured Surfaces with Variation in Illumination, Viewpoint and Time", Advisor: Peter Belhumeur, Fall 2004
- Haifeng Chen, PhD, Department of Electrical and Computer Engineering, *Rutgers University,* "Projection based Robust Estimators for Computer Vision", Advisor: Peter Meer, May 2004
- External Committee Member for PhD Defense, *Columbia University*, Rahul Swaminathan, "Non-perspective Imaging Systems", Advisor: Shree Nayar, August 2003
- External Committee Member for PhD Defense, *Columbia University*, Srinivas Narasimhan, "Computer Vision in Bad Weather", Advisor: Shree Nayar, December 2003

MS Thesis Committees

- Mehmet Fatih Aktas, "Scheduling and Flexible Control of Wide-Area Data Transport Services for End-to-End Application Workflows", Advisor: Manish Parashar April 2015
- Yogesh Kakodkar, "Preference Prediction through feature-based collaborative filtering of textual reviews", Advisor :Ivan Marsic, May 2011
- Devdatt Lad, "Robust Feature Correspondence and Tracking for a Real-Time Novel View Synthesis System", Advisor: Richard Mammone, August 2005
- Manoj Bave, "Automatic planar patch detection and homographic transfer for real-time novel view synthesis", Advisor: Richard Mammone, June 2005
- Arpit Mathur, "A Composite Application Development Paradigm Using Java and Macromedia Flash", Advisor: Ivan Marsic, September 2004
- Tilottama Roy, "An Interactive Feature Tracking Visualization Tool", Advisor: Deborah Silver September 2001

- Arindam Bhattacharya, "Developing A Volume Animation toolkit", Advisor: Deborah Silver June 2001
- Kun Xu, "Performance Analysis in Content-based Retrieval with Textures", Advisor: Peter Meer February 2000
- Chengwei Feng, "A Methodology for Plume Visualization", Advisor: Deborah Silver, December 1999

Undergraduate Mentoring:

2020 Capstone Design: Advising 16 undergraduate students
2019 Capstone Design: Advising 28 undergraduate students
2018 Capstone Design: Advised 22 undergraduate students
2017 Capstone Design: Advised 26 undergraduate students

Independent Study

- Revan Sopher**,** *Detecting Planes in Real-Time for Camera Display Communications* Undergraduate Independent Study**, Spring 2015**
- Constantinos (Dean) Rexines**,** *FPGA Implementation of Computer Vision Tasks,* Undergraduate Independent Study**, Spring 2015**
- Nakul Nayak and Arjun Krishna, *Automated Robotic Locating System***,** Graduate Independent Study **Spring 2013**
- Alex Weiner, *Survey of ML techniques to aid in colon cancer detection*, Undergraduate Independent Study**, Spring 2012**
- Parneet Kaur and Prateek Prasanna, *Real Time Hand Gesture Recognition and Blink Detection*, Graduate Independent Study, **Spring 2011**
- Rahul Seth: Undergraduate Slade Scholar, Project Title: *Software Control and Compression for Bidirectional Reflectance Distribution Function Measurements*, Rahul is now attending Stanford University for graduate school, **Fall 2009-Spring 2010**
- Azhar Sufi, *Effect of Preprocessing Images with Various Contrast Enhancement Methods on Standard Computer Vision Algorithms,* Graduate Independent Study, **Spring 2009**
- Sahirzeeshan Ali and Savita Shetty, *Object Recognition Using Natural Image Statistics*, Undergraduate Independent Study, Presented for the Undergraduate Research Symposium at the Aresty Research Center for Undergraduates on April 25, 2008**, Fall 2007-Spring 2008**
- Michael Sverdlove, *Robust Image Registration*, Undergraduate Independent Study, Fall 2004
- Dun Zhe (Vinny) Lin, *BRDF/BTF Measurement*, Undergraduate Independent Study Fall 2001
- Chi-Wei Yung, *Image-Based Rendering*, Undergraduate Independent Study, Fall 2000
- Ben Williams, *3D Texture Synthesis*, Undergraduate Independent Study, Summer 2000
- Rob Utama, *Texture Synthesis Algorithms*, Undergraduate Independent Study, Summer 2000

Departmental/University Activities

- Chair of Deans's Committee for Academic and Promotions 2017-2018
- Chancellor's Committee on Academic Program Coordination (CCAPC), 2017-2018
- Faculty Senate 2016-2017, 2017-2018
- Faculty Search Committee 2016-2017
- Guest Lecturer for "Advanced Topics in Cognitive Science", 2016
- Outstanding Scholars Day Organizer 2016
- Rutgers Open House Organizer 2016
- ECE Department Diversity Committee Chair 2015, 2016
- ECE Freshman Orientation Lecturer, 2016, 2015, 2014, 2011, 2010, 2004, 2001, 2000
- PhD Qualifying Committee For Computational Sensing Area 2015-2016
  Lecturer for Douglas-Engineering Living Learning Community (DELLC) 2015
- Faculty Search Committee 2015-2016
- Program Coordinator: High Technology High School / Rutgers Mentorship Program 2015-2016
- Paul Panayotatos Scholarship committee 2014-2015
- ECE Faculty Search Committee 2014-2015
- Rutgers Robotics Workshop Organizer 2015
- Lecturer for Douglas-Engineering Living Learning Community)
  (Douglass-Engineering Living Learning Community (DELLC)
- ECE Department Diversity Committee 2014
- ECE Undergraduate Capstone Design Committee 2011-2013
- Robotics Workshop Organizer 2011
- Dean's Evaluation Committee, GSE, 2011
- ECE Faculty Search Committee Chair 2010-2011, 2011-2012
- ECE Strategic Planning Committee 2011-2012
- ECE Financial Engineering Committee 2011-2012
- ECE Fellowship Committee 2011-2012
- School of Engineering Educational Task Force, Summer 2011
- External Member of Civil Engineering Faculty Search Committee 2010-2011
- ECE Newsletter Founder and Editor 2007-2010
- ECE Chair Search Committee 2009-2010
- Promotions Reading Committee 2009-2010
- ECE Scholarship Committee 2009
- ECE Graduation Day Marshall, 2013, 2011, 2005, 2004, 2002, 2001, 2000
- University Applied Sciences Committee 2005-2009
- ECE Graduate Student Orientation Lecturer, August 2001
- Graduate Admissions Committee 2005, 2004, 2002, 2000
- ECE Open House student demos 2013, 2012, 2011, 2010, 2004, 2005,
- University Hearing Board (Fall 2000-2001)

Scholarly Outreach

- High Technology High School Advisory Board 2014-present
- Rutgers ECE-HTHS high school mentorship program – 2016-present

- Society of Women Engineers Shadowing Day 2015
- New Jersey Governor's School High School Scholars Tour October 2012
- Engineering Exploration Course Lecture at the Douglas-Engineering Living Learning Community (DELLC), March 2013, March 2015
- Engineering Honors Lecture: Introduction to Engineering II: Building Bridges to Research 2012
- MathCounts National Organization, 2010-2015 local team coach