

## **Kostas Daniilidis**

Ruth Yalom Stone Professor  
Computer and Information Science Department  
University of Pennsylvania

<http://www.cis.upenn.edu/~kostas>  
3330 Walnut Street, Levine Hall  
Philadelphia, PA 19104  
kostas@cis.upenn.edu, (215) 898 8549

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### **Education**

- 1992 PhD in Computer Science, University of Karlsruhe, Advisor: Hans-Hellmut Nagel
- 1986 Diploma (Master's) in Electrical Engineering, National Technical University of Athens.

### **Academic Positions held**

- 2023 - **Affiliate**, Archimedes Institute, Athens, Greece
- 2009 - **Professor**, Computer and Information Science, University of Pennsylvania
- 2015 - 2017 **Director of Online Programs**, Penn Engineering
- 2012 - 2016 **Associate Dean for Graduate Education**, Penn Engineering
- 2008 - 2013 **Director** of the GRASP Laboratory
- 2003 - 2009 **Associate Professor**, Computer and Information Science, University of Pennsylvania.
- 1998 - 2003 **Assistant Professor**, Computer and Information Science, University of Pennsylvania.
- 1993 - 1997 **Assistant Professor** (non-tenure-track), Computer Science Institute, Kiel University.
- 1989 - 1992 **Graduate Research/Teaching Assistant**, Computer Science, University of Karlsruhe.

### **Honors**

- 2025 Provost's Award for Distinguished PhD Teaching and Mentoring
- 2019 Best Paper Finalist CVPR 2019
- 2018 Best Student Paper Finalist RSS 2018
- 2018 Finalist KUKA Innovation Award
- 2017 Best Conference Paper IEEE ICRA 2017
- 2016 Ruth Yalom Stone Chair
- 2015 Best Paper Finalist IEEE CASE 2015
- 2012 IEEE Fellow
- 2001 Ford Motor Company Award for Best Faculty Advising in Penn Engineering.

## Research Grants as Penn Lead Principal Investigator with \$/yr

Period	Sponsor	Title	Penn's budget
2025 - 2025	Apple	Visual-tactile Fields	300K/yr
2021 - 2027	SONY	Event-based Depth	200K/yr
2023 - 2024	IARPA	Microelectronics for AI ME4AI, sub to Purdue	166K/yr
2022 - 2025	ONR	Uncertainty-based Active Self-Learning for Perception	500K/yr
2022 - 2026	NSF	RI: Medium: Learning to Map and Navigate with Vision and Language	300K/yr
2022 - 2025	NSF	Collaborative Research: Visual Tactile Neural Fields for Active Digital Twin Generation	90K/yr
2018 - 2021	Honda	Curious Minded Machines	900K/yr
2018 - 2023	SRC-DARPA	C-BRIC: Brain Inspired Computing;	200K/yr
2017 - 2021	ONR	Active Distributed Perception PI	1.1M/4yr
2017 - 2021	NSF	RI: Medium: Collaborative Research: Closed Loop Perceptual Planning for Dynamic Locomotion	330K /3yr
2019	Google AR/VR	3D Human Pose and Shape for AR/VR	150K
2019	Amazon	Event-based Vision	75K
2016 - 2019	NSF	MRI:Development of an Observatory for Quantitative Analysis of Collective Behavior in Animals PI	339K/2yr
2010 - 2019	ARL	Robotics Collaborative Technology Alliance PI	≈\$1M/yr
2015 - 2016	GSK	Grasping of transparent objects	\$75K
2014 - 2019	NSF	I/UCRC Phase I: Robots and Sensors for the Human Well-being	\$325K total
2013 - 2014	ARO	STTR: Bio-Inspired Visual Navigation: From Landmarks via Bearing to Controls, Phase I and II, subcontract to IAI	\$ 40K
2013 - 2015	NSF	NRI: Small: Collaborative Research: Active Sensing for Robotic Cameramen	\$ 450K
2012 - 2013	DARPA	Team TROOPER, LM-UPenn-RPI participation at the Robotics Challenge	~\$600K
2012 - 2013	NSF	I-Corps: BlindNav: Indoor Navigation for the Visually Impaired	\$ 50K
2011 - 2012	ARO	R-MASTIF (Robotic Mobile Autonomous System for Threat Interrogation and Object Fetch)	\$ 200K
2010 - 2015	NSF	IGERT: Complex Scene Perception; PI	\$2.4M/5yrs
2010 - 2014	NSF	CDI-Type II: Collaborative Research: Perception of Scene Layout by Machines and Visually Impaired Users; single PI from Penn	\$325K/4yrs
2009 - 2013	NSF	CDI-Type II: Cyber enhancement of spatial cognition for the visually impaired; single PI from Penn (lead);	\$112,500/yr

2009 - 2010	DARPA	STTR: Labeling buildings by video activities; single PI, sub to A. Hoogs (Kitware)	\$40,000/yr
2007 - 2009	ARL	Navigation based on a snapshot graph; single PI	\$150,000/yr
2007 - 2010	NSF	Bio-inspired visual navigation; single PI	\$75,000/yr
2004 - 2007	NSF	SEIII: Computing and Retrieving 3D-Archaeological Structures from Subsurface Surveying, PI with J. Shi and G. Biros; F. Limp (U. of Arkansas)	\$350,000/yr
2003-2008	NSF	ITR: Multirobot Emergency Response; Penn PI with G. Pappas; N. Papanikolopoulos (U. Minnesota, lead), J. Burdick (Caltech)	\$110,000/yr
2001-2004	NSF	ITR:Real-time long distance terascale computation for full bandwidth tele-immersion, single Penn PI with H. Fuchs and G. Waelch (lead, UNC)	\$310,000/yr
2001-2002	DARPA	3D-Tele-immersion for the Next Generation Internet, single Penn PI with H. Fuchs (lead, UNC).	\$146,000/yr
2001-2002	NSF	Advanced Surgical Training with High-Fidelity Tele-immersion, single Penn PI with H. Fuchs (lead, UNC)	\$430,988/yr
2000-2003	NSF	Omnidirectional Vision, single PI	\$90,000 /yr
2000-2001	Penn RF	Adding the Sense of Touch to Tele-presence, PI	\$15,000 /yr
1999-2000	ANS Inc.	Scene acquisition for teleimmersion, PI	\$200,000 /yr
1999-2000	Penn RF	Augmented Reality Goes Outdoors, PI	\$15,000 /yr

**Grants where I am Co-principal investigator:**

Period	Sponsor	Title	Penn's budget
2023 - 2025	DARPA	TRIAGE	PI:Eaton
2020 - 2023	NSF	HDR TRIPODS: FINPenn: Center for the Foundations of Information Processing at the University of Pennsylvania	PI Ribeiro
2020 - 2024	NSF	CPS: Medium: Robust Learning for Perception-Based Autonomous Systems	PI Matni
2020 - 2025	ARO	MURI: Robust Concept Learning and Life-long Adaptation Against Adversarial Attacks	PI Lee
2018 - 2023	ARL	DCIST;	PI Kumar
2015 - 2018	NSF	Neural Bases of Song Preference and Reproductive Behavior in a Female Songbird co-PI with Schmidt	Pi Schmidt
2013 - 2017	ONR	Planning and Perception for Deck Operations	PI Topcu
2012 - 2013	KLA-Tencor	Accurate mapping of construction sites in progress	PI Taylor
2010 - 2011	DARPA	Autonomous Robotic Manipulation	PI Kumar
2008 - 2013	ARL	MAST CTA Autonomous multifunctional mobile microsystems	Pi Kumar
2007 - 2008	NSF	I/UCRC Safety, Security and Rescue research Center	PI Kumar
2007-2008	DARPA	Object Recognition via Brain-Inspired Technology	PI Taskar
2004 - 2005	NSF	RR:MACNet: Mobile Ad-hoc Camera Networks	Pi Shi
2002-2005	ARO	ACCLIMATE: Adaptive Coordinated Control of Intelligent Multi-Agent Teams	Pi Kumar
1998-2000	ARO	Algorithmics of motion	Pi Kumar
1998-1999	DARPA	Omnidirectional Vision for Surveillance, Tracking, and Navigation	PI Kumar

## Colloquia and Seminars at Institutions

1. WPI Robotics Seminar, Beyond Scaling: Efficient Perception Through Action and Symmetry, February 2026
2. Georgia Tech Robotics Seminar, Beyond Scaling: Efficient Perception Through Action and Symmetry, January 2026
3. George Mason University CS Colloquium, Beyond Scaling: Efficient Perception Through Action and Symmetry, October 2025
4. Lincoln Labs GraphEx Symposium, Symmetry in 3D Perception, May 2025
5. NUS, Active Exploration and Symmetry in 3D Perception, May 2025
6. University of Michigan, Robotics Colloquium, Efficient 3D Perception, February 2025
7. Chalmers University AI Seminar, November 2024
8. Oregon State AI Colloquium Equivariant Deep Learning, April 2024
9. Lehigh University Robotics Colloquium Equivariant visual Learning December 2023
10. University of Toronto Robotics Seminar: From Semantic SLAM to Semantic Navigation, October 2022
11. Booz Allen Hamilton Colloquium University of Maryland: Data Efficiency through Symmetry and Event-based Processing in Robot Perception, September 2022
12. UPenn ASSET Seminar: Equivariance in Deep Learning, September 2022
13. Archimedes Institute: Symmetry in Deep Learning, July 2022
14. Curious Minded Machines, Honda Research, July 2020
15. Event-based Vision, Samsung Strategy and Innovation Center, September 2020
16. Learning geometry-aware representations for 3D inference, UW Robotics Colloquium, November 2019.
17. Geometry-aware Representations for 3D Pose and Shape, MIT, 2019
18. Geometric Deep Learning, Brown University, 2018
19. Geometry Aware Learnt Representations, Oxford University, 2018
20. UTRC, Event-based vision, September 2018
21. SUNY Stonybrook CS Seminar, Learning 3D Geometry, March 2017
22. Niarhos Foundation Seminar Series, July 2017
23. Huawei Workshop: 3D human pose from single image
24. 3D Object and Human Pose, Linkoping University, May 2016.

25. 3D Object Recognition, Hong Kong UST Colloquium, June 2014.
26. 3D Object Shape and Pose from Single Images, UC Berkeley Vision Seminar, 2013
27. Object based localization, United Technologies Research Center, September 25, 2012.
28. 3D Object Recognition in Images and Videos, Engineering Colloquium, Lehigh University, October 17, 2011
29. 3D Object Recognition in Images and Videos, Engineering Colloquium, Harvard University, October 15, 2010
30. Shape-based recognition in point clouds, video, and single pictures, Georgia Tech RIM Colloquium, April 4, 2010.
31. Shape-based recognition in point clouds, video, and single pictures, Departmental Colloquium, Temple University, February 26, 2010.
32. 3D object recognition, CS Seminar, University of Illinois at Chicago, November 2, 2009.
33. Image Matching: Appearance, Geometry, Shape, Computer Vision Seminar, Columbia University, January 13, 2009.
34. Image Matching: Harmonic Analysis and Graph Spectral Techniques, RPI Computer Science Seminar, September 28, 2007.
35. Image Matching: Harmonic Analysis and Graph Spectral Techniques, UCLA Computer Science Colloquium, April 23, 2007.
36. Image Matching, Drexel Math Colloquium, March 20, 2007.
37. Image Matching Beyond Correspondence, Johns Hopkins Center for Imaging, February 13, 2007.
38. Visual localization and registration without matching, Institute of Computer Science, FORTH, Heraclion, Crete, May 11, 2006.
39. 3D beyond graphics, Athens Institute of Technology, April 28, 2006.
40. Localization as a Filtering Problem, University of Delaware, November 29, 2004.
41. Geometry and Signal Analysis Beyond the Projective Plane, Computer Science Department, Aristotle University of Thessaloniki, September 9, 2003.
42. Geometry and Signal Analysis Beyond the Projective Plane, Center for Automation Research, University of Maryland at College Park, February 14, 2003.
43. Signal Analysis and Geometry of Immersive Sensing, Computer Science Colloquium, Johns Hopkins University, October 24, 2002.
44. Signal Analysis and Geometry of Immersive Sensing, AI-Robotics-Vision Seminar, UC Berkeley, September 26, 2002.
45. The Geometry of Omnidirectional Views, ECE Graduate Colloquium, University of Illinois at Urbana-Champaign, September 5, 2002.

46. Multiple Omnidirectional Views, University of Washington, Graphics Seminar, February 10, 2002.
47. The Geometry of Omnidirectional Views, Columbia University, November 28, 2001.
48. Catadioptric Mappings, Stevens Institute of Technology, November 7, 2001.
49. Image Processing in the Catadioptric Plane, Third Workshop on Omnidirectional Vision, Copenhagen, June 3, 2001.
50. Omnidirectional Vision and Catadioptric Mappings, Vision Interface Conference, Ottawa, June 7, 2001.
51. Omnidirectional Vision: Theory and Algorithms, International Conference for Pattern Recognition, Barcelona, Spain, Sep. 1, 2000.
52. Omnidirectional Vision and Tele-presence, *Department of Computer Science, University of Erlangen*, October 6, 2000.
53. Omnidirectional Vision for Immersive Environments, *School of Computing, University of Utah*, July 6, 2000.
54. Omnidirectional Vision for Immersive Environments, *Center for Automation Research Seminar, University of Maryland at College Park*, May 19, 2000.
55. View-independent Scene Acquisition for Tele-immersion, *NTII-Day, Graphics Laboratory, Computer Science Department, University of North Carolina*, May 9, 2000.
56. Omnidirectional Vision for Immersive Environments, *CMU Robotics Institute Seminar*, April 21, 2000.
57. Omnidirectional Vision for Immersive Environments, *MIT AI Lab Colloquium*, April 20, 2000.
58. Catadioptric Geometry, Vision Seminar, EECS Department UC Berkeley, Aug. 16, 1999
59. Autocalibration and 3D-Reconstruction for Augmented Reality and Teleimmersion, IEEE Signal Processing Society, Philadelphia Section, June 21, 1999
60. Autocalibration and 3D-Reconstruction for Augmented Reality and Teleimmersion, Joint Heidelberg-Mannheim Vision Seminar, University of Mannheim, June 1, 1999
61. Catadioptric Visual Systems, Informatics-Colloquium, Kiel University, May 28, 1999
62. Minimally Calibrated Reconstruction for Augmented Reality, Vision Lunch Series, Computer Science Department, Yale University, Jan. 22, 1999.
63. Minimally Calibrated Reconstruction for Teleimmersion and Augmented Reality, Siemens Research Corporation, Sep. 03, 1998.
64. Dual Quaternions for Hand-Eye Calibration, Robotics Group Seminar, Computer Science Department, Stanford University, Aug. 19, 1998
65. Efficient Representations for Calibration Tasks, Robotics Seminar, EECS Department UC Berkeley, Aug. 17, 1998.

66. We move, therefore we see, Neuroinformatik-Kolloquium, Universität Ulm, Jan. 8, 1998.
67. Active visual motion analysis, Colloquium of the Computer Science Institute, FORTH, Heracleion, Crete, Jul. 22, 1997
68. Ortsvariantes aktives Bewegungssehen, Daimler-Benz, Forschungszentrum Ulm, Apr. 22, 1997.
69. We move, therefore we see, Colloquium, Department of Computer and Information Science, University of Pennsylvania, Mar. 4, 1997
70. 3D-motion estimation with active and space-variant systems, CVAP and Center for Autonomous Systems Seminars, KTH, Stockholm, Nov. 19, 1996
71. Advantages of active and space-variant sensing with respect to motion estimation, Workshop for Alternative Camera Technology ALCATECH96, Sjaellands Odde, Denmark, July 25, 1996
72. A new solution for the hand-eye calibration problem, INRIA Rocquencourt, June 28, 1996.
73. Neuere Entwicklungen in der Berechnung der 3D-Bewegung aus monokularen Bildfolgen, Fachbereich Mathematik und Informatik der Friedrich-Schiller-Universität Jena, May 15, 1996
74. Berechnung des optischen Flusses und der 3D-Bewegung in der komplex-logarithmischen Ebene, Freitagskolloquium, Max-Planck Instituts für Biologische Kybernetik, June 9, 1995.
75. Motion computations on the log-polar plane, *Computer Science Colloquium*, Computer and Information Science Department, University of Pennsylvania, Oct. 25, 1994.
76. Motion computations on the log-polar plane, *Computer Vision Laboratory Seminar*, University of Maryland at College Park, Oct. 21, 1994.
77. On error sensitivity and ambiguity of motion estimation from monocular image sequences, *Colloquium of the Computer Science Department, Technical University of Berlin*, Berlin, Germany, Jan. 19, 1993.
78. Three-dimensional motion estimation from monocular image sequences, *Colloquium of the Research Institute for Applied Knowledge Based Systems (FAW)*, Ulm, Germany, Dec. 17, 1992.

## Invited Talks at Conferences and Workshops

1. NSF FRR PI Meeting, Inductive Biases in Manipulation, October 2025
2. CVPR 2026 Workshop on Inductive Biases in Perception, Trajectory Diffusion on Riemannian Manifolds, June 2025
3. ICRA@40 Conference Distinguished Speaker, Efficient Robot Perception, October 2024
4. NeuReps Online Series, Symmetry and Geometry in Representations, Equivariant Inertial Odometry, December 2024
5. European Summer School on AI 2024, Plenary Talk, Efficient Perception through Symmetry and Neuromorphic Sensing, July 2024

6. CPAL 2024 Invited Speaker at the inaugural Conference on Parsimonious Learning
7. CVPR 2023 Bird Tracking, CV4Animals CVPR Workshop
8. ECCV 2022 Visual Object-oriented Learning meets Interaction (VOLI): Discovery, Representations, and Applications
9. ICRA 2022 Workshop on Robotic Perception and Mapping Emerging Techniques: Beyond SLAM: Semantic Navigation
10. 3DGV Seminar: 3D Humans and Animals, September, 2021
11. RSS Robotics: Science and Systems Workshop Visual Learning and Reasoning for Robotic Manipulation, The Curious Explorer, 2020.
12. NSF Robot Learning Workshop, Lehigh University 2019
13. Plenary at the Int. Conf. on Computer Vision Systems 2019
14. ELLIS Geometric Machine Learning Workshop 2019
15. Scenes from Video Workshop 2019
16. IPAM Workshop on the Geometry of Big Data, 2019
17. Geometry Meets Deep Learning Workshop, ECCV 2018
18. LAIR Workshop, RSS 2018
19. Bridges to 3D Workshop, CVPR 2018
20. 3DHUMAN, CVPR 2018
21. Aerial Symposium, 2018.
22. Marconi Symposium, Oct 2, Murray Hill, 2017.
23. SIBGRAPI Conference on Graphics and Pattern Analysis, October 2017
24. Scenes from Video Workshop, Nov 1, 2017, Lake Garda
25. 3DV tutorial: 3D Shape and Pose from Single Image, Stanford U., Oct. 2016
26. 3D Shape and Pose of Object Categories, ICCV Workshop on 3D Representation and Recognition, Dec 2015
27. Seeing Glass, ICCV Workshop on 6D Pose, Dec 2015
28. Semantic Consensus, ARL Workshop on Distributed and Collaborative Intelligence, Dec 2015
29. 3D Object Recognition, Penn-Chinese Academy of Sciences Summer School, June 2015
30. 3D Shape and Pose of Object Categories, Robot Vision Conference, Nova Scotia, June 2015.
31. Active Vision Revisited, Workshop on Active Perception, ICRA 2015
32. Active Object Detection, Workshop on Active Learning, ICRA 2014

33. From appearance to geometry: Place and 3D object recognition, Workshop in honor of Professor Sommer's retirement, June 2012.
34. From appearance to geometry: Place and 3D object recognition, Workshop in honor of Professor Eklundh's 70th birthday, July 2009.
35. Pure vision based SLAM in large urban environments, ARL Vehicle Directorate Review Meeting, June 3, 2008.
36. Pure vision based SLAM in large urban environments, ARL/NSF Workshop on Future directions for visual navigation, Pasadena, May 19, 2008.
37. Pure visual metric and topological mapping, ARL CTA Colloquium, March 9, 2008
38. Visual Navigation for Humanoids, Invited presentation at the Workshop for Active Vision for Humanoids, November 29, 2007.
39. Visual registration without matching, ERCIM Spring Meetings, Memorial session for Stelios Orphanoudakis, Budapest, May 30, 2006.
40. Structure from motion without correspondence, Computer Vision and Pattern Recognition Colloquium, Technical University of Prague, April 6, 2006.
41. Localization without correspondence, Post-AC meeting, Courant Institute, NYU, Feb 27, 2006.
42. Localization as a Filtering Problem, York Symposium on Computational Vision, York University, June 18, 2005.
43. Geometry and Signal Analysis Beyond the Projective Plane, Colloquium, Technical University of Prague, January 14, 2004.
44. Navigation without correspondence, IROS Workshop on Visual Servoing, Sept. 30, 2004.
45. Visual navigation based on filtering instead of correspondences, ICRA 2004 - Workshop, Multi-robot Search and Rescue: Current Challenges and Future Directions, April 27, 2004.
46. Immersive Sensing, Visualization and Visual Modeling Workshop VMV 2002, Erlangen, November 22, 2002.
47. Structure from Motion from Omnidirectional Views, ICAR-Workshop on Omnidirectional Vision, Budapest, August 22, 2001.
48. Catadioptric mappings, *Workshop on shape and surface geometry, American Mathematical Society Meeting*, April 28, 2001.
49. A Unifying Theory of Imaging Systems, *Workshop on Theoretical Foundations of Computer Vision*, Schloß Dagstuhl, Mar. 18, 2000.
50. Ego-motion perception and disortion of perceptual space, Symposium Gehirn und Gestalt, Institute for Advanced Studies, Delmenhorst, June 3, 1999.
51. Attentive visual motion processing, *Workshop on Preattentive and Attentive Visual Processing, PAP*, MPI fuer biophysikalische Chemie, Göttingen, Oct. 5, 1994.

52. Issues on attentive visual motion processing, *Workshop on Theoretical Foundations of Computer Vision*, Schloss Dahstuhl, Mar. 13, 1994.
53. Modeling 3D-transformations with dual quaternions: The case of hand-eye calibration, *Workshop on Theoretical Foundations of Computer Vision*, Schloß Dagstuhl, Mar. 18, 1996.
54. Ortsvariantes Bewegungssehen, Workshop *Kognitive Robotik*, Zentrum für Kognitionswissenschaften, Universität Bremen, Mar. 2, 1995.
55. On the relation between instability in motion estimation and critical surfaces, *ESPRIT BRA Insight Meeting*, Nice, France, June 19-21, 1991.
56. On error sensitivity of motion estimation from two views, *The 1989 Stockholm Workshop on Computational Vision*, Stockholm, Sweden, Aug. 7-10, 1989.

## Professional Activities, only leadership positions are shown

2025 CVPR Workshop on Event-Based Vision  
2025 CVPR Workshop Equivariance in Computer Vision  
2024 IROS Workshop Symmetry in Dynamical Systems and Robotics  
2024 CVPR Workshop Equivariance in Computer Vision  
2023 CVPR Workshop on Event-Based Cameras  
2020 One Day Equivariance Workshop with Edgar Dobriban (Wharton)  
2016-2018 ECCV , ICCV, Workshop Geometry meets Deep Learning  
2015 Workshop and Tutorials Chair ICCV 2015  
2010 **Program Cochair of ECCV 2010**  
2008 Short Courses Organizer for IEEE CVPR 2007  
2003 - 2007 **Associate Editor of the IEEE Transactions  
on Pattern Analysis and Machine Intelligence**  
2006 with Marc Pollefeys, Conference Chair of 3rd International  
Symposium on 3D Data Processing, Visualization, and Transmission (now 3DV)  
2000 - 2006 Co-Chair of the Computer and Robot Vision TC  
of the IEEE Robotics and Automation Society  
2000 Chair of the First IEEE Workshop on Omnidirectional Vision

## Teaching

### Undergraduate Courses at the University of Pennsylvania

CIS 107/VLST 209, Visual Culture Through the Eye of the Computer Spring 2021, Fall 2022, Fall 2025

CIS 121 Introduction to Programming Languages, Spring 2007, Spring 2008, Fall 2008, Fall 2009, Fall 2010, Fall 2011, Fall 2012, Fall 2014, Fall 2019, Fall 2020.

CSE 390 Robotics, Fall 2004, Fall 2003, Fall 2002, Spring 2002, Fall 2015 and 2016.

CSE 240 Introduction to Computer Architecture, Fall 2000, Fall 1999, Fall 1998.

### Graduate Courses at the University of Pennsylvania

CIS 7000 with Jean Gallier: Advanced Topics in Geometric Deep Learning

CIS 580 Machine Perception, all 2006, Fall 2007, Spring 2009, Spring 2010, Spring 2011, Spring 2012, Spring 2013, Fall 2013, Spring 2018, Spring 2019, Spring 2020, Spring 2021, Spring 2022, Spring 2023, Fall 2023, Fall 2024, Fall 2025

MEAM 620 Advanced Robotics, Spring 2013, 2014, 2015, 2016, 2017, 2018.

EMTM 695 Robotics and Automation, Fall 2007, Fall 2008, Fall 2009, Winter 2010, Winter 2011, Winter 2012.

CIS 700 Special Topics in Machine Perception (with J. Gallier), Spring 2004.

CIS 680 Advanced Topics in Machine Perception, Spring 2000, Spring 1999, Spring 2003.

CIS 700 Special Topics in Machine Perception, Spring 2001.

## PhD Dissertation supervision

### Current PhD students

1. Wentinn Liao (2026-)
2. Tim Song (2025-)
3. Boshu Lei (2025-)
4. Matthew Leonard (2024-)
5. Ioannis Asmanis (2022-)
6. Agelos Kratimenos (2021-)
7. Yufu Wang (2021-)
8. Anthony Bisulco (2021-), co-advisor
9. Katrina Ashton (2020-)
10. Stefanos Pertigiozoglou (2019-)
11. Evangelos Chatzipantazis (2018-)

### Graduated PhD students, thesis' titles, and their current positions

1. Ziyun Wang (**Johns Hopkins University**)
2. Wen Jiang (Waymo)
3. Yinshuang Xu (Apple)
4. Jiahui Lei (Berkeley Postdoc)
5. Kenneth Chaney, (Associate Director UPenn PARCC)
6. Kendall Queen (Asylum Robotics)
7. Bernadette Bucher (**University of Michigan**)
8. Karl Schmeckpeper (Boston Dynamics AI Institute)
9. Nikos Kolotouros (Google Research)
10. Oleh Rybkin (Postdoc Berkeley)
11. Carlos Esteves (Google Research)
12. Wenxin Liu (LFI)
13. Stephen Phillips (Boston Dynamics AI Institute)
14. Alex Zhu (Waymo)
15. George Pavlakos (**University of Texas, Austin**)

16. Christine Allen-Blanchette (**Princeton University**)
17. Monroe Kennedy III, co-advised with Vijay Kumar (**Stanford University**)
18. Mabel Zhang (OSRF)
19. Spyros Leonardos (Voleon)
20. Jason Owens (Aurora)
21. Nikolay Atanasov, co-advised with George Pappas (**UC San Diego**)
22. Drew Jaegle (DeepMind)
23. Cody Phillips (Meridian)
24. Roy Anati (Google)
25. Menglong Zhu (DJI)
26. Mayank Bansal (Apple)
27. Alexander Patterson (SightLogix)
28. Oleg Naroditsky (Apple)
29. Alexander Toshev (Apple)
30. Ankita Kumar (Oracle)
31. Nima Moshtagh, co-advised with Jadbabaie (JHU/APL)
32. Ameesh Makadia (Google Research)
33. Volkan Isler, co-advised with Kannan and Khanna, (**University of Minnesota**)
34. Christopher Geyer (Berkshire Gray)
35. Adnan Ansar (NASA/JPL)
36. Weichuan Yu, co-advised with Gerald Sommer (**Hong Kong UST**)

#### **Postdoctoral research supervision**

1. Diego Patino (2020-2023, UT Arlington)
2. Georgios Georgakis (2020-2023, NASA)
3. Marc Badger (2019-2022, Aescape)
4. Bernd Pfrommer (2016-2018)
5. Xiaowei Zhou (2014 - 2017), Zhejiang University
6. Roberto Tron (2013-2015), Boston University
7. Luis Puig (2013 - 2015), Geomagical.

8. Konstantinos Derpanis (2010-2012), York University.
9. Davide Scaramuzza (2011-2012), University of Zurich.
10. Jean-Philippe Tardif (2007-2008), Researcher at Carnegie Mellon University.
11. Philippos Mordohai, Stevens Institute of Technology.
12. Irene Cheng (2006-2008), University of Alberta.
13. Gian-Luca Mariottini (2007), Draper Labs.
14. Rodrigo Carceroni (2005-2006), Google, Mountain View.
15. Thomas Buelow (2000-2002), Philips Research.
16. Xenophon Zampoulis (2002-2003), Senior Researcher at FORTH, Greece.
17. Joao Pedro Barreto (2003), University of Coimbra, Portugal.
18. Jane Mulligan (1998-2001), University of Colorado at Boulder.

## Service

- 2026 Faculty Personnel Committee
- 2025 GRASP Director Search Committee
- 2025 CIS Recruiting Committee
- 2024 Head of Faculty Recruiting Committee
- 2023 PhD Milestones Committee
- 2018-2024 FCAA Committee
- 2015 - 2017 Director of Online Programs
- 2012 - 2016 Associate Dean for Doctoral Education, Penn Engineering,
- 2008-2013 GRASP Laboratory Director
- 2008-2011 Director of the Robotics Masters Program
- 2008-2010 Engineering Honors Committee
- 2007 Department Chair Search Committee
- 2007-2008 CIS Graduate Admission Chair
- 2001 SEAS Committee on Academic Performance
- 1997 Service at the Greek Army (Mechanized Infantry).

## Patents

- US Patent 6,982,743: K. Daniilidis, E. Angelopoulou, V. Kumar, Multispectral Omnidirectional Sensor.
- US Patent 20,150,325,003: METHODS, SYSTEMS, AND COMPUTER READABLE MEDIA FOR VISUAL ODOMETRY USING RIGID STRUCTURES IDENTIFIED BY ANTIPODAL TRANSFORM; Cleveland, Daniilidis
- US Patent US-10733661-B1: Automatic mapping of store layout using soft object recognition; Walgreen Corp, and University of Pennsylvania, Bergstrom, Cleveland, Thakur, Dames, Philips, Kientz, Daniilidis, Kumar
- US Patent 20230059839: QUOTIDIAN SCENE RECONSTRUCTION ENGINE; Quidient LLC, Ackerson, Meagher, Leffingwell, Daniilidis
- US Patent 20230136306: SYSTEMS AND METHODS FOR REAL-TIME STATE ESTIMATION OF FAST-MOVING OBJECTS, Samsung and the Trustee of University of Pennsylvania, Wang et al.
- US Patent 11288818-B2 Methods, systems, and computer readable media for estimation of optical flow, depth, and egomotion using neural network trained using event-based learning; Daniilidis and Zhu
- US Patent 11138742-B2: Event-based feature tracking; Daniilidis, Zhu, Atanasov
- US Patent 11187536-B2: Probabilistic data association for simultaneous localization and mapping; Daniilidis, Pappas, Bowman, Atanasov
- US Patent US-12299899-B2: Systems and methods for real-time state estimation of fast-moving objects; Wang, Cladera, Bisulco, Lee, Taylor, Daniilidis, Hsieh, Isler

**Startups** 2012 - 2018 Co-Founder and Scientific Advisor of COSY Inc.

## References

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