Ioannis Gkioulekas

Smith Hall Rm 225
Robotics Institute, Carnegie Mellon University
5000 Forbes Avenue
Pittsburgh, PA 15213

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https://www.cs.cmu.edu/~igkioule/
https://imaging.cs.cmu.edu/

Research Interests	I work broadly in computer vision and computer graphics, but I focus on computational imaging: this is the joint design of optics, electronics, and computation to create imaging systems with unprecedented capabilities. Some examples include: imaging systems that can see around corners or through skin; passive 3D sensing systems with extreme resolution; ultrafast programmable lenses; imaging systems that adapt to their environments. Technical keywords that often show up in my research include: non-line-of-sight imaging, single-photon imaging, LiDAR, SONAR, interferometry, speckle, acousto-optics, physics-based rendering, differentiable rendering, Monte Carlo simulation, probabilistic modeling.

Education

Harvard University — September 2009 - August 2016
PhD in Engineering Sciences
Advisor: Prof. Todd Zickler

Harvard University — September 2009 - March 2014
Master in Engineering Sciences
Advisor: Prof. Todd Zickler

National Technical University of Athens — September 2004 - July 2009
Diploma in Electrical and Computer Engineering
Thesis supervisor: Prof. Petros Maragos

Professional Experience

Associate Professor — July 2023 - present
Robotics Institute, Carnegie Mellon University

Assistant Professor — February 2017 - June 2023
Robotics Institute, Carnegie Mellon University

Postdoctoral Fellow — September 2016 - January 2017
Harvard School of Engineering and Applied Sciences
Advisor: Prof. Todd Zickler

Graduate Research Assistant — September 2009 - August 2016
Harvard School of Engineering and Applied Sciences
Advisor: Prof. Todd Zickler

Undergraduate Research Assistant — September 2008- July 2009
Computer Vision, Speech Communication and Signal Processing Group, NTUA
Supervisor: Prof. Petros Maragos

Undergraduate Research Assistant — September 2007 - August 2008
Intelligent Robotics and Automation Laboratory, NTUA
Supervisor: Prof. Costas Tzafestas

Publications

Pre-prints

Journal Publications

Optimized Virtual Optical Waveguides Enhance Light Throughput in Scattering Media
Nature Communications, 2023 (to appear)
A. Pediredla*, M. Scopelliti*, S. Narasimhan, M. Chamanzar, **I. Gkioulekas**

Walk on Stars: A Grid-Free Monte Carlo Method for PDEs with Neumann Boundary Conditions
ACM Transactions on Graphics, 2023
R. Sawhney*, B. Miller*, **I. Gkioulekas**[†], K. Crane[†]

Boundary Value Caching for Walk on Spheres
ACM Transactions on Graphics, 2023
B. Miller*, R. Sawhney*, K. Crane[†], **I. Gkioulekas**[†]

Fluorescent wavefront shaping using incoherent iterative phase conjugation
Optica, 2023
D. Aizik, **I. Gkioulekas**, A. Levin

Physics-Based Inverse Rendering using Combined Implicit and Explicit Geometries
Computer Graphics Forum, 2022
G. Cai, K. Yan, Z. Dhong, **I. Gkioulekas**, S.Zhao

Adjoint Nonlinear Ray Tracing
ACM Transactions on Graphics, 2022
A. Teh, M. O'Toole, **I. Gkioulekas**

Reply to: The overwhelming role of ballistic photons in ultrasonically guided light through tissue
Nature Communications, 2022
M. Chamanzar, M. Scopelliti, A. Pediredla, H. Huang, S. Narasimhan, **I. Gkioulekas**, M. Alam, M. Maharbiz

Kaleidoscopic Structured Light
ACM Transactions on Graphics, 2021
B. Ahn, **I. Gkioulekas**, A. Sankaranarayanan

Imaging with Local Speckle Intensity Correlations: Theory and Practice
ACM Transactions on Graphics, 2021
M. Alterman, C. Bar, **I. Gkioulekas**, A. Levin

Overcoming the Tradeoff Between Confinement and Focal Distance Using Virtual Ultrasonic Optical Waveguides
Optics Express, 2020
M. Scopelliti, H. Huang, A. Pediredla, S. Narasimhan, **I. Gkioulekas**, M. Chamanzar

Path Tracing Estimators for Refractive Radiative Transfer
ACM Transactions on Graphics, 2020
A. Pediredla, Y. K. Chalmiani, M. Scopelliti, M. Chamanzar, S. Narasimhan, **I. Gkioulekas**

Rendering Near-Field Speckle Statistics in Scattering Media
ACM Transactions on Graphics, 2020
C. Bar, **I. Gkioulekas**, A. Levin

Interferometric Transmission Probing with Coded Mutual Intensity
ACM Transactions on Graphics, 2020
A. Kotwal, A. Levin, **I. Gkioulekas**

Langevin Monte Carlo Rendering with Gradient-based Adaptation
ACM Transactions on Graphics, 2020
F. Luan, S. Zhao, K. Bala., **I. Gkioulekas**

Path-Space Differentiable Rendering
ACM Transactions on Graphics, 2020
C. Zhang, B. Miller, K. Yan., **I. Gkioulekas**, S. Zhao

Effect of Geometric Sharpness on Translucent Material Perception
Journal of Vision, 2020
B. Xiao, S. Zhao, **I. Gkioulekas**, W. Bi, K. Bala

A Differential Theory of Radiative Transfer
ACM Transactions on Graphics, 2019
C. Zhang, L. Wu, C. Zheng, **I. Gkioulekas**, R. Ramamoorthi, S. Zhao

Ellipsoidal Path Connections for Time-Gated Rendering
ACM Transactions on Graphics, 2019
A. Pediredla, A. Veeraraghavan, **I. Gkioulekas**

A Monte Carlo Framework for Rendering Speckle Statistics in Scattering Media
ACM Transactions on Graphics, 2019
C. Bar, M. Alterman, **I. Gkioulekas**, A. Levin

Micron-scale Light Transport Decomposition Using Interferometry
ACM Transactions on Graphics, 2015
I. Gkioulekas, A. Levin, F. Durand, T. Zickler

Looking Against the Light: How Perception of Translucency Depends on Lighting
Direction
Journal of Vision, 2014
B. Xiao, B. Walter, **I. Gkioulekas**, T. Zickler, E. Adelson, K. Bala

Inverse Volume Rendering with Material Dictionaries
ACM Transactions on Graphics, 2013
I. Gkioulekas, S. Zhao, K. Bala, T. Zickler, A. Levin

Understanding the Role of Phase Function in Translucent Appearance
ACM Transactions on Graphics, 2013
I. Gkioulekas, B. Xiao, S. Zhao, E. Adelson, T. Zickler, K. Bala

Toward Wide-Angle Microvision Sensors
IEEE Transactions on Pattern Analysis and Machine Intelligence, 2013
S. Koppal, **I. Gkioulekas**, T. Young, H. Park, K. Crozier, G. Barrows, T. Zickler

Refereed Conference Publications

Megahertz light steering without moving parts
IEEE/CVF International Conference on Computer Vision, 2023
A. Pediredla, S. Narasimhan, M. Chamanzar, **I. Gkioulekas**

Swept-Angle Synthetic Wavelength Interferometry
IEEE/CVF International Conference on Computer Vision, 2023
A. Kotwal, A. Levin, **I. Gkioulekas**

Passive Time-of-Flight Imaging with Sunlight Interferometry
IEEE/CVF International Conference on Computer Vision, 2023 (highlight)
A. Kotwal, A. Levin, **I. Gkioulekas**

Neural Kaleidoscopic Space Sculpting
IEEE/CVF International Conference on Computer Vision, 2023
B. Ahn, M. De Zeeuw, , **I. Gkioulekas**, A. Sankaranarayanan

Neural Implicit Surface Reconstruction using Imaging Sonar
IEEE International Conference on Robotics and Automation (ICRA), 2023
M. Qadri, M. Kaess, **I. Gkioulekas**

Adaptive Gating for Single-Photon 3D Imaging
IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2022 (oral presentation)
R. Po, A. Pediredla, **I. Gkioulekas**

Defocus Map Estimation and Deblurring From a Single Dual-Pixel Image
IEEE/CVF International Conference on Computer Vision, 2021 (oral presentation)
S. Xin, N. Wadhwa, T. Xue, J. Barron, P. Srinivasan, J. Chen, **I. Gkioulekas**, R. Garg

Single Scattering Modeling of Speckle Correlation
IEEE International Conference on Computational Photography, 2021
C. Bar, M. Alterman, **I. Gkioulekas**, A. Levin

A Theory of Fermat Paths for 3-D Imaging Sonar Reconstruction
IEEE International Conference on Intelligent Robots and Systems, 2020
E. Westman, **I. Gkioulekas**, M. Kaess

Towards Reflectometry from Interreflections
IEEE International Conference on Computational Photography, 2020
K. Shem-Tov*, S.P. Bangaru*, A. Levin, **I. Gkioulekas**

Towards Learning-based Inverse Subsurface Scattering
IEEE International Conference on Computational Photography, 2020
C. Che, F. Luan, S. Zhao, K. Bala, **I. Gkioulekas**

A Volumetric Albedo Framework for 3D Imaging Sonar Reconstruction
IEEE International Conference on Robotics and Automation, 2020
E. Westman, **I. Gkioulekas**, M. Kaess

Convolutional Approximations to the General Non-Line-of-Sight Imaging Operator
IEEE/CVF International Conference on Computer Vision, 2019 (oral presentation)
B. Ahn, A. Dave, A. Veeraraghavan, **I. Gkioulekas**, A. Sankaranarayanan

Beyond Volumetric Albedo—A Surface Optimization Framework for Non-Line-of-Sight Imaging
IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2019
C.-Y. Tsai, A. Sankaranarayanan, **I. Gkioulekas**

A Theory of Fermat Paths for Non-Line-of-Sight Shape Reconstruction
IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2019 (oral presentation, best paper award)
S. Xin, S. Nousias, K. Kutulakos, A. Sankaranarayanan, S. Narasimhan, **I. Gkioulekas**

STORM: Super-resolving Transients by OveRsampled Measurements
IEEE International Conference on Computational Photography, 2019
A. Pediredla, A. Raghuram, S. Narasimhan, **I. Gkioulekas**, A. Veeraraghavan

An Evaluation of Computational Imaging Techniques for Heterogeneous Inverse Scattering
European Conference on Computer Vision, 2016 (spotlight presentation)
I. Gkioulekas, A. Levin, T. Zickler

On the Appearance of Translucent Edges
IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2015
I. Gkioulekas, B. Walter, E. Adelson, K. Bala, T. Zickler

Dimensionality Reduction Using the Sparse Linear Model
Advances in Neural Information Processing Systems, 2011
I. Gkioulekas and T. Zickler

Wide-angle Micro sensors for Vision on a Tight Budget
IEEE Conference on Computer Vision and Pattern Recognition, 2011 (oral presentation)
S. J. Koppal, **I. Gkioulekas**, T. Zickler and G. Barrows

Spatial Bayesian Surprise for Image Saliency and Quality Assessment
International Conference on Image Processing, 2010
I. Gkioulekas, G. Evangelopoulos and P. Maragos

Refereed Extended Abstract Publications

Fluorescent Wavefront Shaping Using Incoherent Iterative Phase Conjugation
Frontiers in Optics and Laser Science, 2022
D. Aizik, **I. Gkioulekas**, A. Levin

Imaging Inside Tissue Using Speckle Statistics
OSA Optical Tomography and Spectroscopy, 2022
M. Alterman, C. Bar, **I. Gkioulekas**, A. Levin

All photon analysis of ultrasonically sculpted virtual optical waveguides using a custom-designed physics-based renderer
Imaging and Sensing, 2021
M. Scopelliti, H. Huang, A. Pediredla, S. Narasimhan, **I. Gkioulekas**, M. Chamanzar

Extending the focal distance without sacrificing the spatial resolution using virtual ultrasonic optical waveguides
Imaging and Sensing, 2021
M. Scopelliti, H. Huang, A. Pediredla, S. Narasimhan, **I. Gkioulekas**, M. Chamanzar

A single scattering analysis of speckle correlation
OSA Computational Optical Sensing and Imaging, 2021
C. Bar, M. Alterman, **I. Gkioulekas**, A. Levin

Near-field Imaging Inside Scattering Layers
OSA Computational Optical Sensing and Imaging, 2021
M. Alterman, C. Bar, **I. Gkioulekas**, A. Levin

Monte-Carlo Simulation of the Memory Effect in Random Media Beyond the Diffusion Limit
SPIE/OSA European Conference on Biomedical Optics, 2019
C. Bar, M. Alterman, **I. Gkioulekas**, A. Levin

Exploiting Speckle Statistics in Random Media Beyond the Diffusion Limit
OSA Computational Optical Sensing and Imaging, 2019
C. Bar, M. Alterman, **I. Gkioulekas**, A. Levin

Does Geometric Sharpness Affect Perception of Translucent Material?
Vision Science Society Annual Meeting, 2018
B. Xiao, W. Bi, S. Zhao, **I. Gkioulekas**, K. Bala

Effects of Shape and Color on the Perception of Translucency
Vision Science Society Annual Meeting, 2012
B. Xiao, **I. Gkioulekas**, A. Dunn, S. Zhao, T. Zickler, E. Adelson, K. Bala

Theses

A Framework for Inverse Scattering
Doctoral Dissertation, School of Engineering and Applied Sciences, Harvard University, 2016
I. Gkioulekas

Computational Modeling of Visual Attention
Diploma Thesis, School of Electrical and Computer Engineering, National Technical University of Athens, 2009 (in Greek)
I. Gkioulekas

Supervised Theses

Computational Interferometric Imaging
Doctor of Philosophy in Robotics, Carnegie Mellon University, 2023
Alankar Kotwal

3D Reconstruction using Differential Imaging
Doctor of Philosophy in Robotics, Carnegie Mellon University, 2023
Shumian Xin

An Angular Parameterization for Manifold Connections
Master of Science in Computer Science, Carnegie Mellon University, 2022
Oscar Dadfar

Robust 3D Reconstruction in Noisy Environments
Master of Science in Robotics, Carnegie Mellon University, 2021
Shirsendu Sukanta Halder

Towards Shape Reconstruction through Differentiable Rendering
Master of Science in Computer Science, Carnegie Mellon University, 2019
Sai Praveen Bangaru

Supervised Students and Postdoctoral Researchers	*Postdoctoral researchers*	
	Adithya Pediredla (Robotics Institute)	March 2019 - January 2023

Doctoral students

Byeongjoo Ahn (Electrical and Computer Engineering)	March 2019 - present
Chengqian Che (Robotics Institute)	September 2017 - August 2022
Bakari Hassan (Electrical and Computer Engineering)	September 2019 - present
Alankar Kotwal (Robotics Institute)	September 2017 - March 2023
Bailey Miller (Computer Science Department)	September 2020 - present
Tanli Su (Computer Science Department)	September 2022 - present
Arjun Teh (Computer Science Department)	September 2018 - present
Shumian Xin (Robotics Institute)	September 2017 - January 2023

Master students

Dakshit Agrawal (Master of Science in Computer Vision)	September 2022 - now
Sai Praveen Bangaru (Master of Science in Computer Science)	January 2018 - August 2019
Oscar Dadfar (Master of Science in Computer Science)	September 2021 - May 2022
Yuan Dong (Master of Science in Computer Vision)	January 2019 - December 2019
Shirsendu Halder (Master of Science in Robotics)	September 2019 - September 2021
Congrui Hetang (Master of Science in Computer Vision)	January 2019 - December 2019
Varun Jain (Master of Science in Computer Vision)	January 2020 - December 2020
Akankshya Kar (Master of Science in Computer Vision)	January 2020 - December 2020
George Ralph (Master of Science in Computer Science)	January 2022 - present
Simon Seo (Master of Science in Computer Vision)	January 2023 - present
Jiajie Xu (Master of Science in Computer Vision)	September 2022 - now
Will Yu (Master of Science in Computer Vision)	January 2023 - present
Cheng-Hsin Wuu (Master of Science in Computer Vision)	January 2021 - May 2022
Ningyuan Zheng (Master of Science in Computer Vision)	January 2021 - May 2022

Undergraduate students

Jessica Cao (Computer Science Department)	September 2019 - December 2019
Hanyu Chen (Computer Science Department)	August 2022 - present
Alan Jaffe (Computer Science Department)	January 2018 - August 2018
Akshath Jain (Computer Science Department)	January 2021 - present
Alice Lai (Electrical and Computer Engineering)	January 2021 - May 2022
Vaishnavi Mantha (Computer Science Department)	June 2020 - December 2020
Andre Nascimento (Computer Science Department)	August 2021 - May 2022
Jan Orlowski (Computer Science Department)	September 2019 - December 2019
Po Ryan (Computer Science Department)	June 2020 - August 2022
Max Slater (Computer Science Department)	August 2021 - December 2021
Jiatian Sun (Computer Science Department)	April 2018 - July 2020
Hang Yin (Computer Science Department)	March 2019 - August 2019
Robin Zheng (Computer Science Department)	January 2023 - May 2023

Invited Talks	"Interferometric computational imaging," SCIEN Colloquium Series, Stanford, 2023
	"Imaging with multi-bounce light," Asilomar Conference on Signals, Systems, and Computers, 2021

"Towards imaging with multi-bounce light," Samsung Research, 2020

"Towards computational interferometry," ICERM Workshop on Computational Imaging, Brown University, 2019

"Optical high-resolution imaging deep inside the body," BIRS Computational Light Transport Workshop, Banff International Research Station, 2019

"Bridging the gap between physical optics propagation and physically-based rendering," BIRS Computational Light Transport Workshop, Banff International Research Station, 2019

"Computational Photo-Scatterography," 2018 NSF Expeditions in Computing PI Meeting, 2018

"Towards imaging systems that make sense of multi-path light," Department of Electrical and Computer Engineering, Carnegie Mellon University, 2018 —"—, National Robotics Engineering Center, Carnegie Mellon University, 2018

"Computational Imaging for Inverse Scattering," SPIE BIOS, Photonics West, 2017

"Making Sense of Multi-path Light," Department of Computer Science, University of Toronto, 2016

"Making Sense of Multi-path Light," Robotics Institute, Carnegie Mellon University, 2016

"An Evaluation of Computational Imaging Techniques for Heterogeneous Inverse Scattering," ECCV, 2016

"An Evaluation of Computational Imaging Techniques for Heterogeneous Inverse Scattering," Graphics Seminar, MIT, 2016

"Computational Imaging for Inverse Scattering," IS&T Electronic Imaging, 2016

"Computational Imaging for Inverse Scattering," New England Computer Vision Workshop, 2015 —"—, Information and Systems Seminar, Harvard University, 2016

"Computational Imaging for Inverse Scattering," Graphics Seminar, Cornell University, 2015

"Computational Imaging for Inverse Scattering," International Conference on Computational Photography, 2015

"Micron-scale Light Transport Decomposition Using Interferometry," SIGGRAPH, 2015

"Micron-scale Light Transport Decomposition Using Interferometry," Camera Culture Seminar, Media Lab, MIT, 2015

"Micron-scale Light Transport Decomposition Using Interferometry," Graphics Seminar, MIT, 2015

"Understanding Translucency: Perception, Acquisition, Computer Vision," Graphics

Seminar, University of Toronto, 2014

"Inverse Volume Rendering with Material Dictionaries," SIGGRAPH Asia, 2013

"Inverse Volume Rendering with Material Dictionaries," Graphics Seminar, MIT, 2013

"Understanding the Role of Phase Function in Translucent Appearance," SIGGRAPH, 2013

"Understanding the Role of Phase Function in Translucent Appearance," Graphics Seminar, University of California Berkeley, 2013

"Understanding the Role of Phase Function in Translucent Appearance," Graphics Seminar, MIT, 2012

Funding   "Rapid Assessment of Wildland Fire Position and Plume Dynamics using Coordinated Multi-UAS Sensing," USDA NIFA, 2023-2025

"Student Travel Support for the International Conference on Computational Photography (ICCP) 2022", NSF RI, 2022-2023

"Workshop on Inclusive Computational Photography," ExploreCSR, 2021-2022

Gift from Amazon Web Services, 2021

"Towards Computational Interferometric Imaging," NSF CAREER, 2021-2026

"Computational Imaging with Speckle Correlations for Material Analysis," NSF CHS Small, 2021-2023

"Towards Imaging with Multi-Bounce Light," Sloan Research Fellowship, 2020-2022

"Reconstructing Model Dimensionality from Physical Parts in Noisy Machining Environments," Lockheed Martin Corporation, 2019-2022

"Physics and Learning Integration Using Differentiable Rendering," NSF CHS Medium, 2019-2022

Gift from Amazon Web Services, 2019

Gift from Berkman Faculty Development Fund, 2018

"Computational Photo-Scatterography: Unraveling Scattered Photons for Bio-imaging," NSF Expeditions, 2018-2023

"Active Illumination and Imaging across Millisecond to Picosecond Time Scales for General LOS/NLOS Scene Understanding," DARPA REVEAL Phase 2, 2018-2020

"Obtaining Multipath & Non-line-of-sight Information by Sensing Coherence & Intensity with Emerging Novel Techniques," DARPA REVEAL Phase 2, 2018-2020

"Obtaining Multipath & Non-line-of-sight Information by Sensing Coherence & Intensity with Emerging Novel Techniques," DARPA REVEAL Phase 1, 2017-2018

Awards	**NSF CAREER Award** (2021)
	Sloan Research Fellowship (2020)
	Best Paper Award (CVPR 2019)
	Outstanding Reviewer Award (CVPR 2022)
	Outstanding Reviewer Award (ICCV 2021)
	Outstanding Reviewer Award (CVPR 2021)
	Outstanding Reviewer Award with Distinction (CVPR 2019)
	Outstanding Reviewer Award (BMVC 2017)
	Outstanding Reviewer Award (CVPR 2017)
	Outstanding Reviewer Award (ECCV 2016)
	Outstanding Reviewer Award (CVPR 2016)
	Outstanding Reviewer Award (ICCV 2015)
	Harvard Certificate of Distinction in Teaching (Fall 2014)
	Harvard Certificate of Distinction in Teaching (Fall 2013)
	John A. and Elizabeth S. Armstrong Fellowship (2010)
	Harvard School of Engineering and Applied Sciences Graduate Fellowship (2009-2011)
	Greek State Scholarships' Foundation Award for Excellence in Undergraduate Studies (2008-2009)
	KARY Award, awarded to top students of the ECE Department at NTUA (2008-2009)
	Agricultural Bank of Greece Award for Excellence in Undergraduate Studies (2005-2009)
	President of the Hellenic Republic Award for Excellence in High School studies (2004)
Academic and Leadership Service	**Area Chair**, CVPR 2024
	Associate Editor, International Journal of Computer Vision (2020 - 2023)
	Technical Papers Committee, SIGGRAPH Asia 2023
	Program Committee, International Conference on Computational Photography (ICCP) 2023
	Area Chair, CVPR 2023

Program Chair, International Conference on Computational Photography (ICCP) 2022

Technical Papers Committee, SIGGRAPH 2022

Program Committee, Eurographics Symposium on Rendering (EGSR) 2022

Technical Papers Committee, SIGGRAPH 2021

Session Chair, SIGGRAPH 2021

Program Committee, Eurographics Symposium on Rendering (EGSR) 2021

Session Chair, Eurographics Symposium on Rendering (EGSR) 2021

Program Committee, International Conference on Computational Photography (ICCP) 2021

Broadcast Chair, International Conference on Computational Photography (ICCP) 2021

Program Committee, Pacific Graphics 2021

Session Chair, Pacific Graphics 2021

Program Committee, International Conference on Computational Photography (ICCP) 2020

Finance Chair, International Conference on Computational Photography (ICCP) 2020

Session Chair, International Conference on Computational Photography (ICCP) 2020

Program Committee, Pacific Graphics 2020

Program Committee, International Conference on Computational Photography (ICCP) 2019

Program Committee, Pacific Graphics 2019

Program Committee, International Conference on Computational Photography (ICCP) 2018

Chair, Workshop on Computational Cameras and Displays (CCD) 2019 (held in conjunction with CVPR)

Local Arrangements Chair, International Conference on Computational Photography (ICCP) 2018

Chair, Workshop on Computational Cameras and Displays (CCD) 2018 (held in conjunction with CVPR)

Session Chair, International Conference on Computational Photography (ICCP) 2018

Reviewer, Natural Sciences and Engineering Research Council of Canada, Computer

Science 2019

Panelist, National Science Foundation, CISE RI 2022

Panelist, National Science Foundation, CISE HCC 2022

Panelist, National Science Foundation, CISE RI 2019

Panelist, National Science Foundation, CISE CHS 2019

Panelist, National Science Foundation, CISE CHS 2018

Reviewer, IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) (2013, 2015-2022), IEEE/CVF International Conference on Computer Vision (ICCV) (2013-2023), European Conference on Computer Vision (ECCV) (2016-2022), British Machine Vision Conference (BMVC) (2017), Asian Conference on Computer Vision (ACCV) (2016), IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) (2013-2022), IEEE Transactions on Computational Imaging (TCI) (2018-2021), International Journal of Computer Vision (2012-2022), ACM SIGGRAPH (2014, 2016-2023), ACM SIGGRAPH Asia (2018-2022), ACM Transactions on Graphics (TOG) (2014-2023), Eurographics Symposium on Rendering (EGSR) (2018-2022), Computers & Graphics (2021), High-Performance Graphics (2018), Pacific Graphics (2018-2021), Journal of Optical Society of America (2017), Optics Express (2020)

Member, Institute of Electrical and Electronics Engineers (IEEE) (2007 - present)

Member, Association for Computing Machinery (ACM) (2009 - present)

Member, Technical Chamber of Greece (2010 - present)

Treasurer, IEEE NTUA Student Branch (2008-2009)

University Service	Robotics Institute, MSCV Admissions Committee	2022 - present
	Robotics Institute, Faculty Hiring Committee	2021 - present
	Robotics Institute, Ph.D. Admissions Committee	2018 - 2021
	Robotics Institute, MSCV Admissions Committee (reviewer)	2017 - present

Teaching Experience

Organizer, Tutorial: Physics-based Rendering and its Applications in Computational Photography and Imaging (CVPR), 2023

Organizer, Tutorial: Physics-based Rendering in the Service of Computational Imaging, Indian Conference on Computer Vision, Graphics, and Image Processing (ICVGIP), 2022

Organizer, Tutorial: Physics-based Differentiable Rendering, Conference on Computer Vision and Pattern Recognition (CVPR), 2021

Instructor, 15-468, 15-668, 15-868 Physics-based Rendering, Carnegie Mellon University, Spring 2021 - present

Instructor, 15-463, 15-663, 15-862 Computational Photography, Carnegie Mellon University, Fall 2017 - present

Instructor, 16-621, 16-622 MSCV Capstone I & II, Fall 2022 - present

Instructor, Computer Vision, Carnegie Mellon University Executive Education, 2021

Instructor, 16-385 Computer Vision, Carnegie Mellon University, Spring 2018 - 2020

Teaching Fellow, CS283 Computer Vision, Harvard University, Fall 2010, 2012 - 2015

Lab Assistant, National Technical University of Athens
Programming Techniques, Spring 2006
Introduction to Programming, Fall 2005, Fall 2006

Outreach Activities   **Organizer**, Gelfand Weekend Series "Introduction to Digital Photography", October 2021, July 2022, September 2022, July 2023

Co-organizer, Gelfand Summer Workshop "From Photons to Photos". July 2019

Co-instructor, Gelfand Weekend Series "Camera and Displays", April 2019

Other Information   Citizenship: Greek.
Languages: Greek (native), English (fluent), German (intermediate)