

# David B. Lindell

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## Current Appointments

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<b>Assistant Professor</b> <i>Dept. of Computer Science, University of Toronto</i>	2022–present
<b>Faculty Affiliate</b> <i>Vector Institute</i>	2022–present
<b>Faculty Affiliate</b> <i>AXL</i>	2025–present

## Education

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<b>Stanford University</b> <i>Ph.D. Electrical Engineering</i> Committee: Gordon Wetzstein, Bernd Girod, Mark Horowitz, Vivek Goyal, James Harris	<b>Stanford, CA</b> 2016–2021
<b>Brigham Young University</b> <i>M.Sc. Electrical Engineering</i> Advisor: David G. Long	<b>Provo, UT</b> 2015–2016
<b>Brigham Young University</b> <i>B.Sc. Electrical Engineering</i> Advisors: David G. Long, Aaron Hawkins	<b>Provo, UT</b> 2009–2015

## Previous Professional Experience

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<b>Stanford University</b> <i>Postdoctoral Scholar</i> Advisor: Gordon Wetzstein	<b>Stanford, CA</b> 2021–2022
<b>Intelligent Systems Lab, Intel Corporation</b> <i>Intern</i> Advisor: Vladlen Koltun	<b>Santa Clara, CA</b> 2018
<b>Rincon Research Corporation</b> <i>Intern</i>	<b>Tucson, AZ</b> 2016

## Awards

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CVPR Best Student Paper Award	2025
Ontario Early Researcher Award	2025
Google Research Scholar Award	2024
Sony Focused Research Award	2023
Sony Faculty Innovation Award	2023
Marr Prize	2023
Connaught New Researcher Award	2023
ACM SIGGRAPH Outstanding Doctoral Dissertation Honorable Mention	2021
ACM SIGGRAPH Thesis Fast Forward Honorable Mention	2020
CVPR Outstanding Reviewer	2020
Stanford Graduate Research Fellowship	2016–2020
BYU Office of Research & Creative Activities Grant	2015
Tau Beta Pi Scholarship	2014

## Conference Organization/Editorial Positions

<b>Area Chair:</b> Neural Information Processing Systems (NeurIPS)	2023–2025
<b>Area Chair:</b> IEEE Conference on Computer Vision and Pattern Recognition (CVPR)	2023–2025
<b>Associate Editor:</b> ACM Transactions on Graphics	2025–
<b>Associate Editor:</b> IEEE Transactions on Computational Imaging	2023–
<b>Computational Imaging Technical Committee:</b> IEEE Signal Processing Society	2025–
<b>Finance Co-Chair:</b> Int. Conference on Computational Photography (ICCP)	2022
<b>Organizer:</b> 2nd Workshop on Neural Fields Beyond Conventional Cameras (CVPR)	2025
<b>Program Co-Chair:</b> Int. Conference on Computational Photography (ICCP)	2025
<b>Program Co-Chair:</b> IEEE Workshop on Computational Cameras and Displays (CCD)	2020,2021,2023
<b>Program Committee:</b> Int. Conference on Computational Photography (ICCP)	2019–2024
<b>Technical Papers Committee:</b> SIGGRAPH Asia	2023
<b>Technical Papers Committee:</b> SIGGRAPH	2025

## Referee Service

CVPR	2020–
ECCV	2020–
ICCV	2021–
ICCP	2019–
ICLR	2021–
NeurIPS	2021–
SIGGRAPH	2020–
SIGGRAPH Asia	2022–
WACV	2024–
Nature	
Nature Communications	
Nature Photonics	
Optica	
Optics Express	
Science Advances	
IEEE Transactions on Computational Imaging	
IEEE Transactions on Pattern Analysis and Machine Intelligence	

## University Service

<b>AI Curriculum Committee:</b> Computer Science Department, University of Toronto	2023–2024
<b>Outreach Committee:</b> Computer Science Department, University of Toronto	2023–2025
<b>Undergraduate Affairs Committee:</b> Computer Science Department, University of Toronto	2022–2024
<b>Faculty Search Committee:</b> Computer Science Department, University of Toronto	2024–2025

## Teaching

<b>University of Toronto</b>	<b>Instructor</b>
CSC2539: <i>Physics-Informed Neural Representations for Visual Computing</i>	2025

<b>University of Toronto</b> CSC2529: Computational Imaging	<b>Instructor</b> 2022–2024
<b>University of Toronto</b> CSC420: Introduction to Image Understanding	<b>Instructor</b> 2023–2025
<b>AAAI Conference on Artificial Intelligence</b> AI for Emerging Inverse Problems in Computational Imaging	<b>Instructor</b> 2024
<b>Stanford University</b> EE367/CS448i: Computational Imaging	<b>Instructor</b> 2022
<b>Stanford University</b> EE367/CS448i: Computational Imaging	<b>Teaching Assistant</b> 2020
<b>ACM SIGGRAPH</b> Computational Time-Resolved Imaging, Single-Photon Sensing and Non-Line-of-Sight Imaging	<b>Instructor</b> 2020

## Journal Publications

- [J14] D. Verma, I. Ruffolo, **D. B. Lindell**, K. N. Kutulakos, A. Mariakakis, “Chromaflash: Snapshot hyperspectral imaging using rolling shutter cameras,” *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (Ubicomp)*, vol. 8, no. 3, pp. 1–31, 2024.
- [J13] C. Shentu, E. Li, C. Chen, P. T. Dewi, **D. B. Lindell**, J. Burgner-Kahrs, “MoSS: Monocular shape sensing for continuum robots,” *IEEE Robotics and Automation Letters*, 2023.
- [J12] J. N. P. Martel, **D. B. Lindell**, C. Z. Lin, E. R. Chan, M. Monteiro, G. Wetzstein, “ACORN: Adaptive coordinate networks for neural scene representation,” *ACM Transactions on Graphics (SIGGRAPH)*, vol. 40, no. 4, pp. 1–13, 2021.
- [J11] **D. B. Lindell** and G. Wetzstein, “Three-dimensional imaging through scattering media based on confocal diffuse tomography,” *Nature Communications*, vol. 11, no. 4517, 2020.
- [J10] C. A. Metzler, **D. B. Lindell**, G. Wetzstein, “Keyhole imaging: Non-line-of-sight imaging and tracking of moving objects along a single optical path at long standoff distances,” *IEEE Transactions on Computational Imaging*, vol. 7, pp. 1–12, 2020.
- [J9] Z. Sun, **D. B. Lindell**, O. Solgaard, G. Wetzstein, “SPADnet: Deep RGB-SPAD sensor fusion assisted by monocular depth estimation,” *Optics Express*, vol. 28, no. 10, pp. 14 948–14 962, 2020.
- [J8] F. Heide, M. O’Toole, K. Zang, **D. B. Lindell**, S. Diamond, G. Wetzstein, “Non-line-of-sight imaging with partial occluders and surface normals,” *ACM Transactions on Graphics (ToG)*, vol. 38, no. 3, 2019.
- [J7] **D. B. Lindell**, G. Wetzstein, M. O’Toole, “Wave-based non-line-of-sight imaging using fast f-k migration,” *ACM Transactions on Graphics (SIGGRAPH)*, vol. 38, no. 4, 2019.
- [J6] F. Heide, S. Diamond, **D. B. Lindell**, G. Wetzstein, “Sub-picosecond photon-efficient 3D imaging using single-photon sensors,” *Scientific Reports*, vol. 8, no. 17726, 2018.
- [J5] **D. B. Lindell**, M. O’Toole, G. Wetzstein, “Single-photon 3D imaging with deep sensor fusion,” *ACM Transactions on Graphics (SIGGRAPH)*, vol. 37, no. 4, 2018.
- [J4] M. O’Toole, **D. B. Lindell**, G. Wetzstein, “Confocal non-line-of-sight imaging based on the light-cone transform,” *Nature*, vol. 555, no. 7696, pp. 338–341, 2018.
- [J3] **D. B. Lindell** and D. G. Long, “High-resolution soil moisture retrieval with ASCAT,” *IEEE Geoscience and Remote Sensing Letters*, vol. 13, no. 7, pp. 972–976, 2016.
- [J2] **D. B. Lindell** and D. G. Long, “Multiyear Arctic ice classification using ASCAT and SSMIS,” *Remote Sensing*, vol. 8, no. 4, p. 294, 2016.
- [J1] **D. B. Lindell** and D. G. Long, “Multiyear Arctic sea ice classification using OSCAT and QuikSCAT,” *IEEE Transactions on Geoscience and Remote Sensing*, vol. 54, no. 1, pp. 167–175, 2016.

## Conference Publications

- [C37] M. Anagh, B. Attal, A. Xie, M. O’Toole, **D. B. Lindell**, “Neural inverse rendering from propagating light,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025, (**Best Student Paper**).

- [C36] S. Bahmani, I. Skorokhodov, G. Qian, A. Siarohin, W. Menapace, A. Tagliasacchi, **D. B. Lindell**, S. Tulyakov, “AC3D: Analyzing and improving 3D camera control in video diffusion transformers,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025.
- [C35] S. Bahmani, I. Skorokhodov, A. Siarohin, W. Menapace, G. Qian, M. Vasilkovsky, H.-Y. Lee, C. Wang, J. Zou, A. Tagliasacchi, **D. B. Lindell**, S. Tulyakov, “VD3D: Taming large video diffusion transformers for 3D camera control,” in *International Conference on Learning Representations (ICLR)*, 2025.
- [C34] K. Namekata, S. Bahmani, Z. Wu, Y. Kant, I. Gilitschenski, **D. B. Lindell**, “SG-I2V: Self-guided trajectory control in image-to-video generation,” in *International Conference on Learning Representations (ICLR)*, 2025.
- [C33] S. Nousias, M. Wei, H. Xiao, M. Wu, S. Athar, K. J. Wang, A. Malik, D. A. Barmherzig, **D. B. Lindell**, K. Kutulakos, “Opportunistic single-photon time of flight,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025, **(Oral Presentation)**.
- [C32] F. Taubner, R. Zhang, M. Tuli, **D. B. Lindell**, “CAP4D: Creating animatable 4D portrait avatars with morphable multi-view diffusion models,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025, **(Oral Presentation)**.
- [C31] V. Zehtab, **D. B. Lindell**, M. A. Brubaker, M. S. Brown, “Efficient neural network encoding for 3d color lookup tables,” in *AAAI Conference on Artificial Intelligence*, 2025.
- [C30] S. Bahmani, X. Liu, Y. Wang, I. Skorokhodov, V. Rong, Z. Liu, X. Liu, J. J. Park, S. Tulyakov, G. Wetzstein, A. Tagliasacchi, **D. B. Lindell**, “TC4D: Trajectory-conditioned text-to-4D generation,” in *European Conference on Computer Vision (ECCV)*, 2024.
- [C29] S. Bahmani, I. Skorokhodov, V. Rong, G. Wetzstein, L. Guibas, P. Wonka, S. Tulyakov, J. J. Park, A. Tagliasacchi, **D. B. Lindell**, “4D-fy: Text-to-4D generation using hybrid score distillation sampling,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.
- [C28] W. Luo, A. Malik, **D. B. Lindell**, “Transientangelo: Few-viewpoint surface reconstruction using single-photon lidar,” in *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, 2024.
- [C27] A. Malik, N. Juravsky, R. Po, G. Wetzstein, K. N. Kutulakos, **D. B. Lindell**, “Flying with photons: Rendering novel views of propagating light,” in *European Conference on Computer Vision (ECCV)*, 2024, **(Oral Presentation)**.
- [C26] P. Mirdehghan, B. Buscaino, M. Wu, D. Charlton, M. E. Mousa-Pasandi, K. N. Kutulakos, **D. B. Lindell**, “Coherent optical modems for full-wavefield lidar,” in *ACM SIGGRAPH Asia*, 2024.
- [C25] P. Mirdehghan, M. Wu, W. Chen, **D. B. Lindell**, K. N. Kutulakos, “TurboSL: Dense, accurate and fast 3D by neural inverse structured light,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.
- [C24] R. Rangel, X. Sun, A. Barman, R. Gulve, S. Bajic, J. Wang, H. Wang, **D. B. Lindell**, K. N. Kutulakos, R. Genov, “23,000-exposures/s 360fps-readout software-defined image sensor with motion-adaptive spatially varying imaging speed,” in *IEEE Symposium on VLSI Technology and Circuits*, 2024.
- [C23] V. Rong, J. Chen, S. Bahmani, K. N. Kutulakos, **D. B. Lindell**, “GStex: Per-primitive texturing of 2D Gaussian splatting for decoupled appearance and geometry modeling,” in *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, 2024.
- [C22] S. Shekarforoush, **D. B. Lindell**, M. A. Brubaker, D. J. Fleet, “CryoSPIN: Improving ab-initio cryo-EM reconstruction with semi-amortized pose inference,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2024.
- [C21] K. Yin, V. Rao, R. Jiang, X. Liu, P. Aarabi, **D. B. Lindell**, “SCE-MAE: Selective correspondence enhancement with masked autoencoder for self-supervised landmark estimation,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.
- [C20] R. Gulve, R. Rangel, A. Barman, D. Nguyen, M. Wei, M. A. Sakr, X. Sun, **D. B. Lindell**, K. N. Kutulakos, R. Genov, “Dual-port CMOS image sensor with regression-based HDR flux-to-digital conversion and 80 ns rapid-update pixel-wise exposure coding,” in *IEEE International Solid-State Circuits Conference (ISSCC)*, 2023.
- [C19] A. Malik, P. Mirdehghan, S. Nousias, K. N. Kutulakos, **D. B. Lindell**, “Transient neural radiance fields for lidar view synthesis and 3d reconstruction,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2023, **(Spotlight)**.

- [C18] S. Sinha, J. Y. Zhang, A. Tagliasacchi, I. Gilitschenski, **D. B. Lindell**, “SparsePose: Sparse-view camera pose regression and refinement,” in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.
- [C17] M. Wei, S. Nousias, R. Gulve, **D. B. Lindell**, K. N. Kutulakos, “Passive ultra-wideband single-photon imaging,” in *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2023, (**Marr Prize**).
- [C16] A. W. Bergman, P. Kellnhofer, Y. Wang, E. R. Chan, **D. B. Lindell**, G. Wetzstein, “Generative neural articulated radiance fields,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- [C15] C. Z. Lin, **D. B. Lindell**, E. R. Chan, G. Wetzstein, “3D GAN inversion for controllable portrait image animation,” in *ECCV 2022 Workshop on Learning to Generate 3D Shapes and Scenes*, 2022.
- [C14] **D. B. Lindell**, D. Van Veen, J. J. Park, G. Wetzstein, “BACON: Band-limited coordinate networks for neural scene representation,” in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022, (**Oral Presentation**).
- [C13] S. Shekarfroush, **D. B. Lindell**, D. J. Fleet, M. A. Brubaker, “Residual multiplicative filter networks for multiscale reconstruction,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- [C12] D. Van Veen, R. Van der Sluijs, B. Ozturkler, A. D. Desai, C. Bluethgen, R. D. Boutin, M. H. Willis, G. Wetzstein, **D. B. Lindell**, S. Vasanawala, J. Pauly, A. S. Chaudhari, “Scale-agnostic super-resolution in MRI using feature-based coordinate networks,” in *Medical Imaging with Deep Learning*, 2022.
- [C11] Q. Zhao, **D. B. Lindell**, G. Wetzstein, “Learning to solve PDE-constrained inverse problems with graph networks,” in *International Conference on Machine Learning (ICML)*, 2022.
- [C10] **D. B. Lindell**, J. N. P. Martel, G. Wetzstein, “AutoInt: Automatic integration for fast neural volume rendering,” in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021.
- [C9] A. W. Bergman, **D. B. Lindell**, G. Wetzstein, “Deep adaptive LiDAR: End-to-end optimization of sampling and depth completion at low sampling rates,” in *IEEE International Conference on Computational Photography (ICCP)*, 2020.
- [C8] **D. B. Lindell**, M. O’Toole, G. Wetzstein, “Efficient non-line-of-sight imaging with computational single-photon imaging,” in *Advanced Photon Counting Techniques XIV*, SPIE, 2020.
- [C7] **D. B. Lindell** and G. Wetzstein, “Confocal diffuse tomography for single-photon 3D imaging through highly scattering media,” in *Computational Optical Sensing and Imaging (COSI)*, OSA, 2020.
- [C6] M. Nishimura, **D. B. Lindell**, C. A. Metzler, G. Wetzstein, “Disambiguating monocular depth estimation with a single transient,” in *European Conference on Computer Vision (ECCV)*, 2020.
- [C5] V. Sitzmann, J. N. P. Martel, A. W. Bergman, **D. B. Lindell**, G. Wetzstein, “Implicit neural representations with periodic activation functions,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2020, (**Oral Presentation**).
- [C4] S. I. Young, **D. B. Lindell**, B. Girod, D. Taubman, G. Wetzstein, “Non-line-of-sight surface reconstruction using the directional light-cone transform,” in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020, (**Oral Presentation**).
- [C3] **D. B. Lindell**, G. Wetzstein, V. Koltun, “Acoustic non-line-of-sight imaging,” in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019, (**Oral Presentation**).
- [C2] **D. B. Lindell**, M. O’Toole, G. Wetzstein, “Towards transient imaging at interactive rates with single-photon detectors,” in *IEEE International Conference on Computational Photography (ICCP)*, 2018.
- [C1] M. O’Toole, F. Heide, **D. B. Lindell**, K. Zang, S. Diamond, G. Wetzstein, “Reconstructing transient images from single-photon sensors,” in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2017, (**Spotlight**).

## Non-Refereed Publications

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- [P1] E. Y. Lin, Z. Wang, R. Lin, D. Miaou, F. Kainz, J. Chen, X. C. Zhang, **D. B. Lindell**, K. N. Kutulakos, “Learning lens blur fields,” *arXiv preprint arXiv:2310.11535*, 2023.

## Public Demonstrations

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- [D3] R. Gulve, R. Rangel, A. Barman, D. Nguyen, M. Wei, M. A. Sakr, X. Sun, **D. B. Lindell**, K. N. Kutulakos, R. Genov, “Low-cost coded-exposure pixel cameras for robust high-speed computational imaging at up to 18,000 exposures per second,” in *CVPR Demos*, 2023.
- [D2] M. O’Toole, **D. B. Lindell**, G. Wetzstein, “Real-time non-line-of-sight imaging,” in *ACM SIGGRAPH Emerging Technologies*, 2018.
- [D1] M. O’Toole, **D. B. Lindell**, G. Wetzstein, “Real-time non-line-of-sight imaging,” in *CVPR Demos*, 2018.

## Theses

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**2021:** Computational Imaging with Single-Photon Detectors. Ph.D. Thesis.

**2016:** Arctic Sea Ice Classification and Soil Moisture Estimation Using Microwave Sensors. Master’s Thesis.

## Keynotes

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**2025:** Inverse Rendering from Propagating Light, IEEE Conference on Computational Imaging Using Synthetic Apertures, College Park, Maryland

**2024:** Flying with Photons: Rendering Novel Views of Propagating Light, 1st Workshop on Neural Fields Beyond Conventional Cameras (ECCV 2024), Milan, Italy

## Invited Talks

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**2025:** Inverse Rendering from Propagating Light, SIGGRAPH TPC Workshop, Vancouver, BC

**2025:** From Pixels to Perception: Artificial Intelligence and Computer Vision, CS Academy, Toronto, ON

**2025:** Capturing Dynamic Scenes from Seconds to Picoseconds, MERL, Virtual

**2024:** Capturing Dynamic Scenes from Seconds to Picoseconds, Computer Vision Seminar, Seoul National University, Seoul, South Korea

**2024:** Capturing Dynamic Scenes from Seconds to Picoseconds, Graphics Seminar, POSTECH University, Pohang, South Korea

**2024:** Neural Scene Reconstruction from Videos of Propagating Light, Korea AI Summit, Seoul, South Korea

**2024:** Capturing Dynamic Scenes from Seconds to Picoseconds, Computational Imaging Seminar, Sony Corporation, Tokyo, Japan

**2024:** Capturing Dynamic Scenes from Seconds to Picoseconds, Computer Vision Seminar, University of Tokyo, Tokyo, Japan

**2024:** Imaging Anytime Anywhere All at Once: Capturing Dynamic Scenes from Seconds to Picoseconds, UC Berkeley Photobears, Berkeley, CA

**2024:** Imaging Anytime Anywhere All at Once: Capturing Dynamic Scenes from Seconds to Picoseconds, Stanford Center for Image Systems Engineering (SCIEN), Stanford, CA

**2024:** Flying with Photons: Rendering Novel Views of Propagating Light, Conference on Robots and Vision, Guelph, ON

**2024:** Text-to-4D Generation Using Hybrid Score Distillation Sampling, UTMIST Immersion Night, Toronto, ON

**2024:** Passive Ultra-Wideband Single-Photon Imaging, Stanford EE367 Computational Imaging (Guest Lecture), Virtual

**2024:** From Pixels to Perception: Artificial Intelligence and Computer Vision, DGP Academy, Toronto, ON

**2024:** Passive Ultra-Wideband Single-Photon Imaging, Simon Fraser University (GrUVi Lab), Vancouver, BC

**2024:** Passive Ultra-Wideband Single-Photon Imaging, National Research Council Ultrafast Quantum Photonics Group, Ottawa, ON

**2023:** Passive Ultra-Wideband Single-Photon Imaging, 3rd International Computational Imaging Confer-

ence, Virtual

**2023:** From Pixels to Perception: Artificial Intelligence and Computer Vision, Leadership by Design Workshop, Toronto, ON

**2023:** Neural Rendering at One Trillion Frames per Second, UTMIST EigenAI ML Conference, Toronto, ON

**2023:** Passive Ultra-Wideband Single-Photon Imaging, Photons Canada, Virtual

**2023:** Neural Rendering at One Trillion Frames per Second, BIRS Workshop on Generative 3D Models, Banff, AB

**2023:** Passive Ultra-Wideband Single-Photon Imaging, Photonics North, Montreal, QC

**2023:** Physics-Based Visual Computing for Efficient 3D Vision and Sensing, University of Windsor, Windsor, ON

**2022:** Recent Advances in Non-Line-of-Sight Imaging, IEEE Signal Processing Society Webinar, Virtual

**2022:** Physics-Based Visual Computing for Efficient 3D Vision and Sensing, Purdue Computational Imaging Seminar, Virtual

**2022:** Confocal Non-Line-of-Sight Imaging and Diffuse Tomography Using Single-Photon Sensors, Imaging and Applied Optics Congress, Vancouver, BC

**2022:** Physics-Based Visual Computing for Efficient 3D Vision and Sensing, Caltech, Pasadena, CA

**2022:** Implicit Neural Representation Networks for Fitting Signals, Derivatives, and Integrals, Silicon Valley ACM SIGGRAPH Chapter, Virtual

**2021:** Implicit Neural Representation Networks for Fitting Signals, Derivatives, and Integrals, Samsung AI Centre, Virtual

**2021:** Implicit Neural Representation Networks for Fitting Signals, Derivatives, and Integrals, University of Erlangen-Nuremberg, Virtual

**2021:** Physics-Based Visual Computing for Efficient 3D Vision and Sensing, University of Michigan, Virtual

**2021:** Physics-Based Visual Computing for Efficient 3D Vision and Sensing, MIT RLE, Virtual

**2021:** Physics-Based Visual Computing for Efficient 3D Vision and Sensing, University of Chicago, Virtual

**2021:** Physics-Based Visual Computing for Efficient 3D Vision and Sensing, University of Toronto, Virtual

**2021:** Physics-Based Visual Computing for Efficient 3D Vision and Sensing, Texas A&M, Virtual

**2021:** AutoInt: Automatic Integration for Fast Neural Volume Rendering, Google, Virtual

**2020:** Implicit Neural Representation Networks for Fitting Signals, Derivatives, and Integrals, Graphics and Mixed Environment Seminar (GAMES), Virtual

**2020:** A Camera to See Around Corners, Playground/Akasha Imaging, Palo Alto, CA

**2019:** A Camera to See Around Corners, TEDxBeaconStreet, Boston, MA

**2019:** Computational Imaging with Single-Photon Detectors, Boston University Center for Information & Systems Engineering (CISE), Boston, MA

**2019:** Efficient Confocal Non-Line-of-Sight Imaging, MIT RLE, Cambridge, MA

**2019:** Efficient Confocal Non-Line-of-Sight Imaging, MIT Media Lab, Cambridge, MA

**2019:** Computational Imaging with Single-Photon Detectors, Berkeley Center for Computational Imaging, Berkeley, CA

**2019:** Computational Single-Photon Imaging, Silicon Valley ACM SIGGRAPH Chapter, San Jose, CA

**2019:** Computational Imaging with Single-Photon Detectors, Stanford Center for Image Systems Engineering (SCIEN), Stanford, CA

**2019:** Computational Single-Photon Imaging, Carnegie Mellon University Graphics Lab, Pittsburgh, PA

## PhD Advising

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Felix Taubner  
*University of Toronto*

Sep 2024–

Sherwin Bahmani  
*University of Toronto*

Sep 2023–

Victor Rong <i>University of Toronto</i> Co-advised with Kyros Kutulakos	Sep 2023–
Anagh Malik <i>University of Toronto</i>	Sep 2022–
Samarth Sinha <i>University of Toronto</i> Co-advised with Igor Gilitschenski	Sep 2022–
Esther Lin <i>University of Toronto</i> Co-advised with Kyros Kutulakos	Sep 2022–

## Master's Advising

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Andrew Guo <i>MSc, University of Toronto</i>	Sep 2024–
Andrew Xie <i>MSc, University of Toronto</i>	Sep 2024–
Kelly Zhu <i>MSc, University of Toronto</i>	Sep 2024–
Maxx Wu <i>MSc, University of Toronto</i> Co-advised with Kyros Kutulakos	Sep 2023–
Umar Masud <i>MScAC, University of Toronto</i> Samsung	May 2024–Dec 2024
Steven Hyun <i>MScAC, University of Toronto</i> Samsung	May 2024–Dec 2024
Faraz Ali <i>MScAC, University of Toronto</i> Samsung	May 2024–Dec 2024
Carolina Villamizar <i>MScAC, University of Toronto</i> DWave	May 2024–Dec 2024
Kartik Kumar <i>MScAC, University of Toronto</i> DNEG	May 2023–Dec 2023
Yihan (Nick) Ni <i>MScAC, University of Toronto</i> DNEG	May 2023–Dec 2023
Kejia Yin <i>MScAC, University of Toronto</i> MODIFACE	May 2023–Dec 2023
Vahid Zehtab <i>MScAC, University of Toronto</i> Samsung	May 2023–Dec 2023
EJay Guo <i>MScAC, University of Toronto</i> DNEG	May 2022–Dec 2022



## Visiting Students

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Siddharth Somasundaram <i>MIT</i> Co-advised with Kyros Kutulakos, Ramesh Raskar	Sep 2024–Dec 2024
Michael Neumayr <i>TUM</i> Co-advised with Matthias Nießner	Sep 2024–Apr 2025

## Undergraduate Advising

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Allison Lau <i>University of Toronto</i>	Sep 2024–
Koichi Namekata <i>University of Toronto</i>	July 2024–
Howard Xiao <i>University of Toronto</i> NSERC Undergraduate Student Research Award	May 2024–
Mehar Khurana <i>IIT Madras</i> Mitacs Globalink	May 2024–
Weihan Luo <i>University of Toronto</i>	Sep 2023–
Zixin Guo <i>University of Toronto</i> University of Toronto Excellence Award	Jan 2023–
Zach Salehe <i>University of Toronto</i> NSERC Undergraduate Student Research Award	Jan 2023–May 2024
Jason Zhu <i>University of Toronto</i>	Sep 2023–May 2024
Steven Luo <i>University of Toronto</i>	Jan 2024–May 2024
Ariel Chen <i>University of Toronto</i>	Sep 2023–May 2024
Haojun Qiu <i>University of Toronto</i>	Sep 2022–May 2024
Andrew Qiu <i>University of Toronto</i>	Sep 2023–Dec 2023
Kevin Vaidyan <i>University of Toronto</i>	May 2023–May 2024
Noah Juravsky <i>University of Toronto</i>	May 2023–May 2024
Dorsa Molaverdikhani <i>University of Toronto</i>	Jan 2023–May 2024
Shahmeer Athar <i>University of Toronto</i>	Jan 2023–May 2024
Rishit Dagli <i>University of Toronto</i>	Jan 2023–Dec 2023
Roland Gao <i>University of Toronto</i>	Jan 2023–Sep 2023

## NSERC Undergraduate Student Research Award

Qing (Amy) Lyu <i>University of Toronto</i>	Jan 2023–May 2023
Louis Zhang <i>University of Toronto</i>	Jan 2023–May 2023
Junru Lin <i>University of Toronto</i>	Sep 2022–May 2023
Justin Tran <i>University of Toronto</i> Thesis: Generative 3D shape modeling using latent space diffusion	Sep 2022–May 2023
Skyler Zhang <i>University of Toronto</i> Thesis: Towards coded high-speed video acquisition using diffusion models	Sep 2022–May 2023

## Funding

NSERC Alliance <i>Generative Video Models for Controllable Digital Human Avatars</i>	Dec 2024 – Dec 2027
NSERC Alliance–Mitacs Grant <i>Implicit Representations for 4D Digital Humans</i>	Jul 2024 – July 2028
Sony Focused Research Award <i>Multiview Burst Imaging for High Dynamic Range and Low-Light Neural Radiance Fields</i>	Sep 2024 – Sep 2025
Sony Faculty Innovation Award <i>Differentiable Computational Imaging Using Coded Exposure Sensors and Flux-to-Digital Conversion</i>	Sep 2024 – Sep 2025
LG Research Grant <i>Learning Controllable 4D Avatars from Portrait Video Collections</i>	May 2024 – April 2025
Google Research Scholar Award <i>Computational Single-Photon Photography for Dynamic Vision in the Dark</i>	Apr 2024 –
Snap Inc. Research Gift <i>Camera Control in 2D Video Generators</i>	Feb 2024 –
NSERC Alliance–Mitacs Grant <i>Ultrafast Phase-Modulated Coherent Lidar Using Off-the-Shelf Optical Modems</i>	Jan 2024 – Jan 2026
CFI Infrastructure Operating Fund <i>Neural Signal Representations for Active 3D Imaging</i>	Dec 2023 – Dec 2028
NSERC Research Tools and Instruments Grant <i>Single-Photon Cameras for Extreme Computer Vision and Computational Astronomy</i>	Sep 2023 – Sep 2024
XSeed/TRANSFORM HF Grant <i>Towards Home Monitoring of Heart Failure Patients via Robust and Unbiased Spatial Frequency Domain Imaging</i>	Sep 2023 – Sep 2025
Connaught New Researcher Award <i>Neural Signal Representations for Active 3D Imaging</i>	Apr 2023 – Apr 2025
NSERC Discovery Launch Supplement <i>Neural Signal Representations for Physics-Based Machine Learning and Active 3D Imaging</i>	Apr 2022 – Apr 2027
NSERC Discovery Grant <i>Neural Signal Representations for Physics-Based Machine Learning and Active 3D Imaging</i>	Apr 2022 – Apr 2027
Canada Foundation for Innovation John R. Evans Leaders Fund <i>Neural Signal Representations for Active 3D Imaging</i>	Sep 2022 – Mar 2026