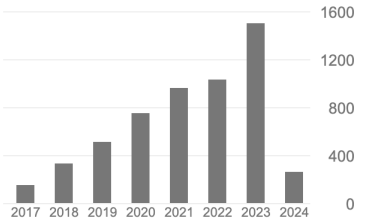
Stephan Mandt

Associate Professor of Computer Science

Citations	6008	5049
h-index	32	30
i10-index	63	57



Work Experience

2022–present **Associate Professor**, University of California, Irvine
Department of Computer Science
Department of Statistics (by courtesy)

2018–2022 **Assistant Professor**, University of California, Irvine
Department of Computer Science
Department of Statistics (by courtesy)

2016–2018 **Senior Research Scientist**, Disney Research
Sr Research Scientist and Head of Machine Learning, Los Angeles
Research Scientist, Pittsburgh/CMU Campus

2014–2016 **Postdoctoral Researcher**, Computer Science, Columbia University (w/ David Blei)

2012–2014 **Postdoctoral Fellow**, Theoretical Physics, Princeton University

2012 **Intern**, Deutsche Bank, quantitative rates trading, Frankfurt

Education

2008–2012 **PhD (Magna Cum Laude)**, Theoretical Physics, University of Cologne, Germany
Thesis: "Transport and Non-Equilibrium Dynamics in Optical Lattices"

2002–2008 **Joint M.S. and B.S. (with Distinction)**, Physics, University of Cologne, Germany
Thesis: "Superbosonization of Invariant Random Matrix Ensembles". Highest possible GPA, valedictorian of year 2008 (physics graduates)

Honors and Awards

2023 **NeurIPS Outstanding Paper Award**, Datasets and Benchmark Track

2022 **Mercator Fellow**, German Research Foundation (DFG)

2022 **Dean's Mid-Career Award for Excellence in Research**, University of California, Irvine

2022 **Qualcomm Faculty Award**

2021 **Member**, ELLIS Society

2021 **NSF CAREER Award**, National Science Foundation

2020 **Full Member**, Sigma Xi Scientific Honor Society

2019 **Kavli Fellow**, Frontiers of Science Program, National Academy of Sciences

2019 **Best Student Paper Award**, Symposium on Advances in Approximate Bayesian Inference

2018 **Disney Inventor Award**

2016 **Best Poster Award**, New York Academy of Sciences ML Symposium

2012 **Princeton Center for Complex Materials Postdoctoral Fellowship**, Princeton University

2010 **National Merit Scholar** of Germany (*Studienstiftler*, top 0.5% of university students)

Teaching Experience

Instructor **CS 178: Machine Learning and Data Mining**, Undergraduate Course, UC Irvine.
Winter 2020 (enrollment 340), Spring 2021 (enrollment 248), Winter 2022 (enrollment 180), Winter 2024 (enrollment 235).

Instructor **CS 273A: Machine Learning**, Graduate Course, UC Irvine.
Fall 2019 (enrollment 120), Fall 2020 (enrollment 75), Winter 2022 (enrollment 58).

Instructor **CS 274E/295: Deep Generative Models**, Graduate Course, UC Irvine.
Spring 2019 (enrollment 55), Spring 2020 (enrollment 55), Fall 2021 (enrollment 70), Fall 2022 (enrollment 50), Fall 2023 (enrollment 55).

Instructor **Statistical Field Theory** (Seminar), Princeton University.
Fall 2013 (enrollment 8).

Guest Lecturer
Neural Compression, University of Tübingen, Germany, Summer 2021.
CS 598: Probabilistic Graphical Models, Univ. of Illinois Urbana-Champaign, Spring 2021.
CS 295: Machine Learning for Computational Science, UC Irvine, Fall 2020.
CS 272: Statistical Natural Language Processing, UC Irvine, Fall 2019.
CS 273A: Machine Learning, UC Irvine, Fall 2018.
Foundations of Machine Learning, Humboldt University Berlin, Germany, Spring and Fall 2015.

Publications

Peer-Reviewed Conference Papers

C50 K. Pandey, M. Rudolph, and **S. Mandt**. Efficient Integrators for Diffusion Generative Models. In *International Conference on Learning Representations (ICLR), 2024.*

C49 Y. Yang, S. Eckstein, M. Nutz, and **S. Mandt**. Estimating the Rate-Distortion Function by Wasserstein Gradient Descent. In *Neural Information Processing Systems (NeurIPS), 2023.*

C48 R. Yang and **S. Mandt**. Lossy Image Compression with Conditional Diffusion Models. In *Neural Information Processing Systems (NeurIPS), 2023.*

C47 A. Li, C. Qiu, M. Kloft, P. Smyth, M. Rudolph, and **S. Mandt**. Zero-Shot Batch-Level Anomaly Detection. In *Neural Information Processing Systems (NeurIPS), 2023.*

C46 S. Yu et al.. ClimSim: An open large-scale dataset for training high-resolution physics emulators in hybrid multi-scale climate simulators. In *Neural Information Processing Systems (NeurIPS), 2023.* **Outstanding Paper Award**, Datasets and Benchmark Track.

C45 Y. Yang and **S. Mandt**. Computationally-Efficient Neural Image Compression with Shallow Decoders. In *Proceedings of the International Conference on Computer Vision (ICCV, accepted), 2023.* Acceptance rate: 26.8%.

C44 K. Pandey and **S. Mandt**. A Complete Recipe for Diffusion Generative Models. In *Proceedings of the International Conference on Computer Vision (ICCV, accepted),* ***Oral, top 3%****, 2023.* Acceptance rate: 26.8%.

C43 A. Boyd, Y. Chang, **S. Mandt**, P. Smyth. Inference for Mark-Censored Temporal Point Processes. In *Proceedings of the Thirty-Ninth Conference on Uncertainty in Artificial Intelligence (UAI), PMLR 216:226-236,* ***Spotlight****, 2023.* Acceptance rate: 31.2%.

C42 B. Tran, B. Shahbaba, **S. Mandt**, M. Filippone. Fully Bayesian Autoencoders with Latent Sparse Gaussian Processes. In *Proceedings of the 40th International Conference on Machine Learning (ICML), PMLR 202:34409-34430, 2023.* Acceptance rate: 27.9%.

C41 A. Li, C. Qiu, P. Smyth, M. Kloft, **S. Mandt***, M. Rudolph* (shared last authorship). Deep Anomaly Detection under Labeling Budget Constraints. In *Proceedings of the 40th International Conference on Machine Learning (ICML), PMLR 202:19882-19910, 2023.* Acceptance rate: 27.9%.

C40 A. Boyd, Y. Chang, **S. Mandt**, and P. Smyth. Probabilistic Querying of Continuous-Time Event Sequences. In *Proceedings of The 26th International Conference on Artificial Intelligence and Statistics (AISTATS), PMLR 206:10235-10251, 2023.* Acceptance rate: 29.0%.

C39 A. Boyd, S. Showalter, **S. Mandt**, and P. Smyth. Predictive Querying for Autoregressive Neural Sequence Models. In *Advances in Neural Information Processing Systems (NeurIPS) 35, 23751–23764, 2022.* ***Oral, top*** *7%* ***among accepted papers****.* Acceptance rate: 21.6%.

C38 A. Alexos, A. Boyd, and **S. Mandt**. Structured Stochastic Gradient MCMC. In *Proceedings of the 39th International Conference on Machine Learning (ICML), PMLR 162:414-434, 2022.* Acceptance rate: 21.9%.

C37 C. Qiu, A. Li, M. Kloft, M. Rudolph, and **S. Mandt**. Latent Outlier Exposure for Anomaly Detection with Contaminated Data. In *Proceedings of the 39th International Conference on Machine Learning (ICML), PMLR 162:18153-18167, 2022.* Acceptance rate: 21.9%.

C36 C. Qiu, M. Kloft, **S. Mandt**, and M. Rudolph. Raising the Bar in Graph-level Anomaly Detection. In *Proceedings of the Thirty-First International Joint Conference on Artificial Intelligence (IJCAI), p. 2196-2203, 2022.* Acceptance rate: 15%.

C35 Y. Yang and **S. Mandt**. Towards Empirical Sandwich Bounds on the Rate-Distortion Function. In *International Conference on Learning Representations (ICLR), 2022.* Acceptance rate: 32.9%.

C34 A. Liu, **S. Mandt**, and G. v.d.Broeck. Lossless Compression with Probabilistic Circuits. In *International Conference on Learning Representations (ICLR), 2022.* Acceptance rate: 32.9%.

C33 Y. Matsubara, R. Yang, M. Levorato, and **S. Mandt**. Supervised Compression for Resource-Constrained Edge Computing Systems. In *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision, pp. 2685-2695, 2022.* Acceptance rate: 35.0%.

C32 A. Li, A. Boyd, P. Smyth, and **S. Mandt**. Adapting to Irregular Distribution Shifts in Bayesian Online Learning. In *Advances in Neural Information Processing Systems 34 (NeurIPS), 2021.* Acceptance rate: 26.0%.

C31 C. Qiu, T. Pfrommer, M. Kloft, **S. Mandt**, and M. Rudolph. Neural Transformation Learning for Deep Anomaly Detection Beyond Images. In *Proceedings of the 38th International Conference on Machine Learning, PMLR 139:8703-8714 (ICML), 2021.* Acceptance rate: 21.5%.

C30 R. Yang, Y. Yang, J. Marino, and **S. Mandt**. Hierarchical Autoregressive Modeling for Neural Video Compression. In *International Conference on Learning Representations (ICLR), 2021.* Acceptance rate: 28.7%.

C29 M. Jazbec, M. Ashman, V. Fortuin, M. Pearce, **S. Mandt**, and G. Rätsch. Scalable Gaussian Process Variational Autoencoders. In *Proceedings of The 24th International Conference on Artificial Intelligence and Statistics, PMLR 130:3511-3519 (AISTATS), 2021.* Acceptance rate: 29.8%.

C28 Y. Yang, R. Bamler, and **S. Mandt**. Improving Inference for Neural Image Compression. In *Advances in Neural Information Processing Systems 33, 573–584 (NeurIPS), 2020.* Acceptance rate: 20.1%.

C27 A. Boyd, R. Bamler, **S. Mandt**, and P. Smyth. User-Dependent Neural Sequence Models for Continuous-Time Event Data. In *Advances in Neural Information Processing Systems 33, 21488-21499 (NeurIPS), 2020.* Acceptance rate: 20.1%.

C26 Y. Yang, R. Bamler, and **S. Mandt**. Variational Bayesian Quantization. In *Proceedings of the 37th International Conference on Machine Learning, PMLR 119:10670-10680 (ICML), 2020.* Acceptance rate: 20.8%.

C25 F. Wenzel, K. Roth, B. Veeling, J. Swiatkowski, L. Tran, **S. Mandt**, J. Snoek, T. Salimans, R. Jenatton, and S. Nowozin. How Good is the Bayes Posterior in Deep Neural Networks Really?. In *Proceedings of the 37th International Conference on Machine Learning, PMLR 119:10248-10259 (ICML), 2020.* Acceptance rate: 20.8%.

C24 J. Swiatkowski, K. Roth, B. Veeling, L. Tran, J. Dillon, **S. Mandt**, J. Snoek, T. Salimans, R. Jenatton, and S. Nowozin. The k-tied Normal Distribution: A Compact Parameterization of Gaussian Mean Field Posteriors in Bayesian Neural Networks. In *Proceedings of the 37th International Conference on Machine Learning, PMLR 119:9289-9299 (ICML), 2020.* Acceptance rate: 20.8%.

C23 V. Fortuin, D. Baranchuk, G. Rätsch, and **S. Mandt**. GP-VAE: Deep Probabilistic Time Series Imputation. In *Proceedings of the Twenty-Third International Conference on Artificial Intelligence and Statistics, PMLR 108:1651-1661 (AISTATS), 2020.* Acceptance rate: ca. 30%.

C22 R. Bamler and **S. Mandt**. Extreme Classification via Adversarial Softmax Approximation. In *International Conference on Learning Representations (ICLR), 2020.* Acceptance rate: 26.5%.

C21 J. Han, S. Lombardo, C. Schroers, and **S. Mandt**. Deep Generative Video Compression. In *Advances in Neural Information Processing Systems 32, 9287-9298 (NeurIPS), 2019.* Acceptance rate: 21.1%.

C20 F. Schmidt, **S. Mandt**, and T. Hofmann. Autoregressive Text Generation Beyond Feedback Loops. In *Proceedings of the 2019 Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing, pp. 3400–3406 (EMNLP-IJCNLP), 2019.* Acceptance rate: 20.5%.

C19 R. Bamler, F. Salehi, and **S. Mandt**. Augmenting and Tuning Knowledge Graph Embeddings. In *Proceedings of the 35th International Conference on Uncertainty in Artificial Intelligence, PMLR 115:508-518 (UAI), 2020.* Acceptance rate: 27.5%.

C18 M. Helou, **S. Mandt**, A. Krause, and P. Beardsley. Mobile Robotic Painting of Texture. In *Proceedings of the IEEE International Conference on Robotics and Automation, pp. 640-647 (ICRA), 2019.* Acceptance rate: 44.0%.

C17 C. Zhang, C. Ötzireli, **S. Mandt**, and G. Salvi. Active Mini-Batch Sampling using Repulsive Point Processes. In *Proceedings of the 33rd AAAI Conference on Artificial Intelligence, pp. 5741-5748 (AAAI), 2019.* Acceptance rate: 16.2%.

C16 A. Buchholz, F. Wenzel, and **S. Mandt**. Quasi Monte Carlo Variational Inference. In *Proceedings of the 35th International Conference on Machine Learning, PMLR 80:668-677 (ICML), 2018.* Acceptance rate: 25.1%.

C15 J. Marino, Y. Yue, and **S. Mandt**. Iterative Amortized Inference. In *Proceedings of the 35th International Conference on Machine Learning, PMLR 80:3403-3412 (ICML), 2018.* Acceptance rate: 25.1%.

C14 R. Bamler and **S. Mandt**. Improving Optimization for Models with Continuous Symmetry Breaking. In *Proceedings of the 35th International Conference on Machine Learning, PMLR 80:423-432 (ICML), 2018.* Long talk, acceptance rate 8%.

C13 Y. Li and **S. Mandt**. Disentangled Sequential Autoencoder. In *Proceedings of the 35th International Conference on Machine Learning, PMLR 80:5670-5679 (ICML), 2018.* Acceptance rate: 25.1%.

C12 T. Fu, C. Zhang, and **S. Mandt**. Continuous Word Embedding Fusion via Spectral Decomposition. In *Proceedings of the 22nd Conference on Computational Natural Language Learning, pp.11-20 (CoNLL), 2018.* Acceptance rate: 19.3%.

C11 L. Deecke, R. Vandermeulen, L. Ruff, **S. Mandt**, and M. Kloft. Image Anomaly Detection with Generative Adversarial Networks. In *Joint European Conference on Machine Learning and Knowledge Discovery in Databases pp. 3-17, Springer, Cham. (ECML), 2018.* Acceptance rate: 26.6%.

C10 P. Jähnichen, F. Wenzel, M. Kloft, and **S. Mandt**. Scalable Generalized Dynamic Topic Models. In *Proceedings of the Twenty-First International Conference on Artificial Intelligence and Statistics, PMLR 84:1427-1435 (AISTATS), 2018.* Acceptance rate: 33.2%.

C9 R. Bamler, C. Zhang, M. Opper, and **S. Mandt**. Perturbative Black Box Variational Inference. In *Advances in Neural Information Processing Systems 30, 5086-5094 (NIPS), 2017.* Acceptance rate: 20.9%.

C8 R. Bamler and **S. Mandt**. Dynamic Word Embeddings. In *Proceedings of the 34th International Conference on Machine Learning, PMLR 70:380-389 (ICML), 2017.* Acceptance rate: 25.9%.

C7 C. Zhang, H. Kjellström, and **S. Mandt**. Determinantal Point Processes for Mini-Batch Diversification. In *Proceedings of the 33rd Conference on Uncertainty in Artificial Intelligence (UAI), 2017.* Acceptance rate 10% for plenary talk.

C6 Z. Deng, R. Navarathna, P. Carr, **S. Mandt**, Y. Yue, I. Matthews, and G. Mori. Factorized Variational Autoencoders for Modeling Audience Reactions to Movies. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition, pp. 6014-6023 (CVPR), 2017.* Acceptance rate: 29.9%.

C5 M. Rudolph, F. Ruiz, **S. Mandt**, and D. Blei. Exponential Family Embeddings. In *Advances in Neural Information Processing Systems 29, 478-486 (NIPS), 2016.* Acceptance rate: 23.6%.

C4 **S. Mandt**, M. Hoffman, and D. Blei. A Variational Analysis of Stochastic Gradient Algorithms. In *Proceedings of The 33rd International Conference on Machine Learning, PMLR 48:354-363 (ICML), 2016.* Acceptance rate: 24.0%.

C3 **S. Mandt**, J. McInerney, F. Abrol, R. Ranganath, and D. Blei. Variational Tempering. In *Proceedings of the 19th International Conference on Artificial Intelligence and Statistics, PMLR 51:704-712 (AISTATS), 2016.* Acceptance rate: 30.7%.

C2 O. Zadorozhnyi, G. Benecke, **S. Mandt**, T. Scheffer, M. Kloft. Huber-Norm Regularization for Linear Prediction Models. In *Joint European Conference on Machine Learning and Knowledge Discovery in Databases, pp. 714-730, Springer, Cham. (ECML), 2016.* Acceptance rate: ca. 25%.

C1 **S. Mandt** and D. Blei. Smoothed Gradients for Stochastic Variational Inference. In *Advances in Neural Information Processing Systems 27, 2438-2446 (NIPS), 2014.* Acceptance rate: 24.7%.

Books

B1 Y. Yang, **S. Mandt**, and L. Theis. An Introduction to Neural Data Compression. In *Foundations and Trends in Computer Graphics and Vision: Vol. 15, No.2. ISBN: 978-1-63828-174-0 (2023).*

Journal Papers

J22 G. Mooers, T. Beucler, M. Pritchard, and **S. Mandt**. Understanding Precipitation Changes through Unsupervised Machine Learning. In *Environmental Data Science, Volume 3, 2024.*

J21 G. Mooers, M. Pritchard, T. Beucler, P. Srivastava, H. Mangipudi, L. Peng, P. Gentine, and **S. Mandt**. Comparing Storm Resolving Models and Climates via Unsupervised Machine Learning. In *Scientific Reports 13, 22365 (2023).*

J20 R. Yang, P. Srivastava, and **S. Mandt**. Diffusion Probabilistic Modeling for Video Generation. In *Entropy 2023, 25(10), 1469 (2023).*

J19 Y. Matsubara, R. Yang, M. Levorato, and **S. Mandt**. SC2 Benchmark: Supervised Compression for Split Computing. In *Transactions on Machine Learning Research (2023).*

J18 R. Yang, Y. Yang, J. Marino, and **S. Mandt**. Insights from Generative Modeling for Neural Video Compression. In *Transactions on Pattern Analysis and Machine Intelligence, No. 01, pp. 1-14, 5555 (2023).*

J17 J. Howard, **S. Mandt**, D. Whiteson, and Y. Yang. Learning to Simulate High Energy Particle Collisions from Unlabeled Data. In *Scientific Reports 12.1 (2022): 7567.*

J16 F. Jirasek, R. Bamler, S. Fellenz, M. Bortz, M. Kloft, **S. Mandt**, and H. Hasse. Making Thermodynamic Models of Mixtures Predictive by Machine Learning: Matrix Completion of Pair Interactions. In *Chemical Science 13.17 (2022): 4854-4862.*

J15 C. Qiu, **S. Mandt**, and M. Rudolph. History Marginalization Improves Forecasting in Variational Recurrent Neural Networks. In *Entropy 23, 1563 (2021).*

J14 J. Marino, J. He, L. Chen, and **S. Mandt**. Improving Sequential Latent Variable Models with Autoregressive Flows. In *Machine Learning, 111(4), 1597-1620 (2021).*

J13 F. Jirasek, R. Bamler, and **S. Mandt**. Hybridizing Physical and Data-Driven Prediction Methods for Physicochemical Properties. In *Chemical Communications 56(82), 12407-12410 (2020).*

J12 F. Jirasek, R. Alves, J. Damay, R. Vandermeulen, R. Bamler, M. Bortz, **S. Mandt**, M. Kloft, and H. Hasse. Machine Learning in Thermodynamics: Prediction of Activity Coefficients by Matrix Completion. In *The Journal of Physical Chemistry Letters 11(3), 981-985 (2020).*

J11 R. Bamler, C. Zhang, M. Opper, and **S. Mandt**. Tightening Bounds for Variational Inference by Revisiting Perturbation Theory. In *Journal of Statistical Mechanics 12, 124004 (2019).*

J10 C. Zhang, J. Bütepage, H. Kjellström, and **S. Mandt**. Advances in Variational Inference. In *Transactions on Pattern Analysis and Machine Intelligence 41(8), 2008-2026 (2019).*

J9 **S. Mandt**, H. Hoffman, and D. Blei. Stochastic Gradient Descent as Approximate Bayesian Inference. In *Journal of Machine Learning Research 18, 1-35. (2017).*

J8 **S. Mandt**, F. Wenzel, S. Nakajima, J. Cunningham, C. Lippert, and M. Kloft. Sparse Probit Linear Mixed Model. In *Machine Learning, 106(9), 1621-1642 (2017).*

J7 **S. Mandt**, D. Sadri, A. Houck, and H. Tureci. Stochastic Differential Equations for Quantum Dynamics of Spin-Boson Networks. In *New Journal of Physics 17 (5), 053018 (2015).*

J6 **S. Mandt**. Damping of Bloch Oscillations: Variational Solutions of the Boltzmann Equation Beyond Linear Response. In *Physical Review A 90, 053624 (2014).*

J5 **S. Mandt**, A. Feiguin, S. Manmana. Relaxation Towards Negative Temperatures in Bosonic Systems: Generalized Gibbs Ensembles and Beyond Integrability. In *Phys. Rev. A **88**, 043643 (2013).*

J4 U. Schneider, L. Hackermüller, J. P. Ronzheimer, S. Will, S.Braun, T. Best, I. Bloch, E. Demler, **S. Mandt**, D. Rasch and A. Rosch. Fermionic Transport in a Homogeneous Hubbard Model: Out-of-Equilibrium Dynamics With Ultracold Atoms. In *Nature Physics **8**, 213-218 (2012).*

J3 **S. Mandt**, A. Rapp, A. Rosch. Interacting Fermionic Atoms in Optical Lattices Diffuse Symmetrically Upwards and Downwards in a Gravitational Potential. In *Phys. Rev. Lett. **106**, 250602 (2011).*

J2 A. Rapp, **S. Mandt**, A. Rosch. Equilibration Rates and Negative Absolute Temperatures for Ultracold Atoms in Optical Lattices. In *Phys. Rev. Lett. **105**, 220405 (2010).*

J1 **S. Mandt**, M. R. Zirnbauer. Zooming in on Local Level Statistics by Supersymmetric Extension of Free Probability. In *J. Phys. A: Math. Theor. **42** (2010) 025201 (33pp).*

Patents

P8 **S. Mandt**, A. Liu, and G.v.d. Broeck. Lossless Compression with Probabilistic Circuits. In *US Patent App. 18/141,130.*

P7 E. Doggett, A. Wolak, P.D. Tsatsoulis, N. McCarthy, and **S. Mandt**. Pixel Error Detection System. In *US Patent 11,080,835, 2021.*

P6 C. Schroers, E. Doggett, **S. Mandt**, J.Mcphillen, S. Labrozzi, R. Weber, M. Bamert. Systems and Methods for Image Compression at Multiple, Different Bitrates. In *US Patent 11,335,034, 2022.*

P5 S. Lombardo, C. Segalin, L. Chen, R. Navarathna, and **S. Mandt**. Automated Content Evaluation Using a Predictive Model. In *US Patent 10,997,476, 2021.*

P4 **S. Mandt**, C. Schroers, J. Han, and S. Lombardo. Machine Learning Based Video Compression. In *US Patent 11,544,606, 2023.*

P3 **S. Mandt** and Y. Li. Efficient Encoding and Decoding Sequences using Variational Autoencoders. In *US Patents 11,238,341 and 11,205,121, 2021.*

P2 P. Carr, Z. Deng, R. Navarathna, Y. Yue, and **S. Mandt**. Factorized Variational Autoencoders. In *US Patent 11,403,531, 2022.*

P1 R. Bamler and **S. Mandt**. Dynamic Word Embeddings. In *US Patent 11,068,658, 2021.*

Peer-Reviewed Workshop Papers (Selected)

W24 H. Mangipudi, G. Mooers, M. Pritchard, T. Beucler, **S. Mandt**. Analyzing High-Resolution Clouds and Convection using Multi-Channel VAEs. In *NeurIPS 2021 Workshop on Machine Learning and the Physical Sciences (Oral)*.

W23 Y. Yang and **S. Mandt**. Lower Bounding Rate-Distortion from Samples. In *ICLR 2021 Workshop on Neural Compression (Spotlight Talk)*.

W22 R. Yang, Y. Yang, J. Marino, and **S. Mandt**. Scale Space Flow with Autoregressive Priors. In *ICLR 2021 Workshop on Neural Compression (Spotlight Talk)*.

W21 G. Mooers, J. Tuyls, **S. Mandt**, M. Pritchard, and T. Beucler. Generative Modeling for Atmospheric Convection. In *International Conference on Climate Informatics (CI), 2020*.

W20 A. Li, A. Boyd, P. Smyth, and **S. Mandt**. Variational Beam Search for Continual Learning . In *ICML 2020 Workshop on Continual Learning*.

W19 R. Yang, Y. Yang, J. Marino, Y. Yang, and **S. Mandt**. Deep Generative Video Compression with Temporal Autoregressive Transform. In *ICML 2020 Workshop on Invertible Neural Networks, Normalizing Flows, and Explicit Likelihood Models*.

W18 J. Marino, L.Chen, J. He, and **S. Mandt**. Improving Sequential Latent Variable Models with Autoregressive Flows. In *2nd Symposium on Approximate Bayesian Inference (2019)*.

W17 R. Bamler and **S. Mandt**. A Quantum Field Theory of Representation Learning. In *ICML Workshop on Theoretical Physics for Deep Learning (2019)*.

W16 F. Wenzel, **S. Mandt**, and M. Kloft. Scalable Feature Extraction in Confounded Data. In *Socal Machine Learning Symposium, best paper runner-up (2019)*.

W15 J. Marino, Y. Yue, and **S. Mandt**. Learning to Infer. In *ICLR Workshop Track (2018)*.

W14 F. Salehi, R. Bamler, and **S. Mandt**. Probabilistic Knowledge Graph Embeddings. In *Symposium on Approximate Bayesian Inference (2018)*.

W13 J. Bütepage, J. He, C. Zhang, L. Sigal, G. Mori, and **S. Mandt**. Informed Priors for Deep Representation Learning. In *Symposium on Approximate Bayesian Inference (2018)*.

W12 F. Wenzel, A. Buchholz, and **S. Mandt**. Quasi Monte Carlo Flows. In *Symposium on Approximate Bayesian Inference (2018)*.

W11 J. Han, S. Lombardo, C. Schroers, and **S. Mandt**. Video Compression through Deep Bayesian Learning. In *Symposium on Approximate Bayesian Inference (2018)*.

W10 J. Marino, Y. Yue, and **S. Mandt**. Iterative Inference Models. In *NIPS Workshop on Bayesian Deep Learning (2017)*.

W9 C. Zhang, C. Öztireli, and **S. Mandt**. Diversified Mini-Batch Sampling using Repulsive Point Processes. In *NIPS Workshop on Approximate Bayesian Inference (2017)*.

W8 P. Jahnichen, F. Wenzel, M. Kloft, **S. Mandt**. Generalizing and Scaling-up Dynamic Topic Models. In *NIPS Workshop on Approximate Bayesian Inference (2017)*.

W7 G. Ji, R. Bamler, E. Sudderth, and **S. Mandt**. Bayesian Paragraph Vectors. In *NIPS Workshop on Approximate Bayesian Inference (2017)*.

W6 R. Bamler and **S. Mandt**. Structured Black Box Variational Inference for Latent Time Series Models. In *ICML Time Series Workshop. Contributed Talk. (2017)*.

W5 C. Zhang, **S. Mandt**, and H. Kjellström. Balanced Population Stochastic Variational Inference. In *NIPS Workshop on Approximate Bayesian Inference (2016)*.

W4 **S. Mandt**, F. Wenzel, S. Nakajima, C. Lippert, and M. Kloft. Separating Sparse Signals from Correlated Noise in Binary Classification. In *UAI Workshop on Causation: Foundation to Application (2016)*.

W3 **S. Mandt**, M. Hoffman, and D. Blei. Continuous-Time Limit of Stochastic Gradient Descent Revisited. In *NIPS Workshop on Optimization (2015)*.

W2 **S. Mandt**, F. Wenzel, S. Nakajima, J. Cunningham, C. Lippert, and M. Kloft. Finding Sparse Features in Strongly Confounded Medical Binary Data. In *NIPS Workshop on Machine Learning for Healthcare. Contributed Talk. (2015).*

W1 **S. Mandt**, F. Wenzel, J. Cunningham, and M. Kloft. Probit Regression with Correlated Label Noise: An EM-EP approach. In *NIPS Workshop on Variational Inference (2014).*

Theses

T2 **S. Mandt**. Transport and Non-Equilibrium Dynamics in Optical Lattices. In *Ph.D. Thesis, University of Cologne (2012).*

T1 **S. Mandt**. Superbosonization of Invariant Random Matrix Ensembles. In *M.S. Thesis, University of Cologne (2008).*

Invited and Un-Refereed Publications

U4 U. Schneider, **S. Mandt**, A. Rapp, S. Braun, H. Weimer, I. Bloch, A. Rosch. Comment on "Consistent Thermostatistics Forbids Negative Absolute Temperatures". In *arXiv:1407.4127 (2014).*

U3 **S. Mandt**. Ultrakalt und Doch Heißer als Unendlich Heiß. In *Monthly proceedings of the German Physical Society (in German), Physik Journal, vol 3 (2013).*

U2 U. Schneider, L. Hackermüller, J. P. Ronzheimer, S. Will, S.Braun, T. Best, I. Bloch, E. Demler, **S. Mandt**, D. Rasch and A. Rosch. Breakdown of Diffusion: From Collisional Hydrodynamics to a Continuous Quantum Walk in a Homogeneous Hubbard Model. In *arxiv:1005.3545 (2010).*

U1 H. Sebert and S. Mandt. Symmetric Spaces Toolkit. In *http://www.stephanmandt.com/papers/SebertMandt2007.pdf (2007).*

Grants

2024 *"Foundation Models for Generative Climate Forecasting and Downscaling".*
NSF sub-award, 01/2024-01/2027. UCI Principal Investigator. ($300K own).

2023 *"Walk-Through Rendering from Images of Varying Altitude".*
IARPA, 07/2023-07/2026. UCI Principal Investigator (with SRI). ($760K own).

2023 *"Intelligent Sensing via Neural Compression and Bayesian Learning".*
ICS grant. Principal Investigator (w/ M. Imani). ($75K total, $37.5K own).

2022 *"Qualcomm Faculty Award".*
Principal Investigator. ($75K total).

2021 *"Discovering Physically Meaningful Structures from Climate Extreme Data" (DE-SC0022331).*
Department of Energy, 09/2021-08/2024. Deputy Principal Investigator (w/ R. Yu). ($3.5M total, $1.2M as PI, $0.7M own).

2021 *"Generative Modeling of Speech under Resource Constraints"*
Walt Disney, Single Principal Investigator. (Gift funding, $50K own).

2021 *"CAREER: Variational Inference for Resource-Efficient Learning" (IIS-2047418).*
NSF, 06/2021 - 08/2026. Single Principal Investigator. ($446K own).

2021 *"Forecasting High Dimensional Sequences via Deep Probabilistic Models" (renewal).*
Qualcomm Research, Single Principal Investigator. (Gift funding, $90K own).

2020 *"Deep Variational Data Compression" (IIS-2007719).*
NSF RI Small, 07/2020 - 09/2023. Single Principal Investigator. ($425K own).

2020 *"Forecasting High Dimensional Sequences via Deep Probabilistic Models" (renewal).*
Qualcomm Research, Single Principal Investigator. (Gift funding, $90K own).

2020 *"Ultra-Reliable Collaborative Computing for Autonomous Unmanned Aerial Vehicles" (CNS-2003237).* NSF, 07/2020–06/2023. Co-Principal Investigator (w/ M. Levorato). ($450K total, $220K own).

2019 *"Generative Expectation-based Response and Novelty Identification" (HR001120C0021).*
DARPA, 11/2019-03/2023. Principal Investigator (w/ P. Smyth). ($1.6M as PI, $0.85M own).

2019 *"Intelligent Facilitation for Teams of the Future via Longitudinal Sensing in Context" (SES-1928718).*
NSF, 10/2019–09/2022. Co-Principal Investigator (w/ G. Mark). ($462K total, $30K own).

2019 *"Forecasting High Dimensional Sequences via Deep Probabilistic Models".*
Qualcomm Research, Single Principal Investigator. (Gift funding, $90K own).

Professional Service

Leadership Roles in Major Conferences

General Chair — Conference on Artificial Intelligence and Statistics (AISTATS 2025) in Thailand. Leading the full conference organization, involving an estimated 1000 attendees and 2500 paper submissions, including venue search and appointing Program Chairs.

Program Chair — Conference on Artificial Intelligence and Statistics (AISTATS 2024) in Valencia, Spain. Responsible for the review of 2500 submissions, managing 2000 reviewers, 200 Area Chairs, and 25 Senior Area Chairs. Organizing the conference schedule involving 1000 in-person attendees. Co-organized the location search.

Sponsors. Chair — Conference on Artificial Intelligence and Statistics (2023). Acquired USD 40,000 by contacting various industry sponsors.

Editorial Roles at Journals

Action Editor — Journal of Machine Learning Research (2023–)

Action Editor — Transactions on Machine Learning Research (2022–)

Conference and Workshop Organization

Chair — Dagstuhl Workshop on Challenges and Perspectives in Deep Generative Modeling (2023)

Area Chair — Neural Information Processing Systems (2024)

Area Chair — International Conference on Machine Learning (2022)

Area Chair — Neural Information Processing Systems (2021)

Area Chair — International Conference on Machine Learning (2021)

Area Chair — International Conference on Learning Representations (2021)

Area Chair — Neural Information Processing Systems (2020)

Area Chair — International Conference on Machine Learning (2020)

Area Chair — AAAI Conference on Artificial Intelligence (2020)

Area Chair — Neural Information Processing Systems (2019)

Area Chair — International Conference on Machine Learning (2019)

Organizer — Scientific Machine Learning Symposium at UCSD (2023)

Organizer — ICML Neural Compression Workshop Workshop (2023)

Organizer — ICLR Workshop on Neural Compression: From Information Theory to Applications (2021)

Organizer — Southern California Machine Learning and NLP Symposium (2021)

Organizer — Symposium on Advances in Approximate Bayesian Inference (2020)

Organizer — NIPS Workshop on Approximate Inference (2017)

Organizer — NIPS Workshop on Approximate Inference (2016)

Organizer — NIPS Workshop on Approximate Inference (2015)

Advisor — Symposium on Advances in Approximate Bayesian Inference (2024)

Advisor — Symposium on Advances in Approximate Bayesian Inference (2023)

Advisor — Symposium on Advances in Approximate Bayesian Inference (2019)

Advisor	Symposium on Advances in Approximate Bayesian Inference (2018)
Session Chair	Artificial Intelligence and Statistics (2023)
Session Chair	Conference on Uncertainty in Artificial Intelligence (2019)
Session Chair	International Conference on Machine Learning (2017)

Reviewing

Grants	Reviewer, Dutch Research Council (2021)
	Panelist, Swiss National Science Foundation (2020)
	Panelist, National Science Foundation CISE IIS (2022)
	Panelist, National Science Foundation CISE IIS (2019)
	Panelist, National Science Foundation CISE IIS (2018)
Journals	Nature Machine Intelligence, Journal of Machine Learning Research, Digital Signal Processing, Physical Review A (atomic physics), Physical Review E (statistical physics), Data Mining and Knowledge Discovery, Transactions on Pattern Analysis and Machine Intelligence, Bernoulli.
Conferences	Neural Information Processing Systems, Artificial Intelligence and Statistics, International Conference of Machine Learning, International Conference on Learning Representations, Symposium on Advances in Approximate Bayesian Inference.

International Advisory Roles

Advisory Board	Emergent AI Research Center, University of Mainz, Germany (2019–present)
External Board Member	Requested by the hiring committee of a German R1 University seeking to fill a full professorship in machine learning, writing a comparative review on three candidates.

Memberships in Professional Organizations

2017–	Member, Institute of Electrical and Electronics Engineers (IEEE)
2021–	Lifetime member, Association for Computing Machinery (ACM)
2022–	Lifetime member, Association for the Advancement of Artificial Intelligence (AAAI)

University Service

Campus Level Service

2020–present	Member, Academic Senate, representing computer science

School Level Service

2020–present	Co-Director, Hasso Plattner Institute at UCI. Co-directing a graduate school of ICS students supported by the Hasso Plattner Foundation.

Department Level Service

Member	Faculty Hiring Committee (2024)
Member	Faculty Hiring Committee (2023)
Chair	Faculty Assistant Task Force (2022)
Member	Graduate Admissions Committee (2021)
Member	Graduate Admissions Committee (2020)

Organizer	UCI Prospective PhD Students' Day, 2019
Member	Graduate Admissions Committee (2019)

Student Committees, advised

27 Feb 2024	PhD Committee, Alex Boyd
25 Oct 2023	Advancement Committee, Prakhar Srivastava
26 May 2022	Advancement Committee, Ruihan Yang
21 Apr 2022	Advancement Committee, Aodong Li
12 May 2021	Advancement Committee, Yibo Yang
09 Dec 2021	Advancement Committee, Alex Boyd

Student Committees, not advised

14 Jun 2023	PhD Graduation Committee, *Thomas Sutter*, Advised by Julia Vogt, Computer Science, ETH Zurich
04 Apr 2023	PhD Graduation Committee, *Griffin Mooers*, Advised by Mike Pritchard, Earth System Science, UC Irvine
12 May 2022	PhD Graduation Committee, *Robert Logan*, Advised by Sameer Singh, UC Irvine
14 Feb 2022	PhD Graduation Committee, *Yoshimoto Matsubara*, Advised by Marco Levorato, UC Irvine
30 Nov 2021	PhD Graduation Committee, *Vincent Fortuin*, Advised by Gunnar Rätsch, ETH Zürich
18 Nov 2020	PhD Graduation Committee, *Disi Ji*, Advised by Padhraic Smyth, UC Irvine
22 Apr 2020	PhD Graduation Committee, *Florian Schmidt*, Advised by Thomas Hofmann, ETH Zürich
13 Nov 2019	PhD Graduation Committee, *Farnood Salehi*, Advised by Patrick Thiran, EPFL Lausanne
13 Nov 2019	PhD Graduation Committee, *Geng Ji*, Advised by Erik Sudderth, UC Irvine
25 Nov 2019	PhD Graduation Committee, *Florian Wenzel*, Humboldt University Berlin
13 May 2022	Thesis Proposal Committee, *Nicholas Alonso*, Advised by Emre Neftci, UC Irvine
08 Mar 2023	Advancement Committee, *Shivanshu Gupta*, Advised by Sameer Singh, UC Irvine
05 Dec 2022	Advancement Committee, *Daniel Jay Alford-Lago*, Advised by Alex Ihler, UC Irvine
05 Aug 2022	Advancement Committee, *Jerry Lin*, Advised by Michael Pritchard, UC Irvine
01 Jun 2022	Advancement Committee, *Debora Sujono*, Advised by Erik Sudderth, UC Irvine
27 May 2022	Advancement Committee, *Mike Heddes*, Advised by Prof. Nicolau, UC Irvine
05 May 2022	Advancement Committee, *Harry Bendekgay*, Advised by Prof. Sudderth, UC Irvine
29 Apr 2022	Advancement Committee, *Gavin Kerrigan*, Advised by Prof. Smyth, UC Irvine
26 Oct 2021	Advancement Committee, *Gabriel Player*, Advised by Prof. Tajima (physics), UC Irvine
05 Apr 2021	Advancement Committee, *Jordan Ott*, Advised by Pierre Baldi, UC Irvine
15 Mar 2021	Advancement Committee, *Griffin Mooers*, Advised by Mike Pritchard, UC Irvine
6 Nov 2020	Advancement Committee, *Nicholas Alonso*, Advised by Emre Neftci, UC Irvine
25 Sept 2020	Advancement Committee, *Preston Putzel*, Advised by Padhraic Smyth, UC Irvine
15 Jun 2020	Advancement Committee, *Dheeru Dua*, Advised by Sameer Singh, UC Irvine
22 Nov 2019	Advancement Committee, *Hao Tang*, Advised by Xiaohui Xie, UC Irvine
22 Nov 2019	Advancement Committee, *Bhupalee Kalita*, Advised by Kieron Burke, UC Irvine
22 Oct 2018	Advancement Committee, *Geng Ji*, Advised by Erik Sudderth, UC Irvine
22 May 2019	Advancement Committee, *Ted Grover*, Advised by Gloria Mark, UC Irvine
06 Jun 2019	Advancement Committee, *Disi Ji*, Advised by Padhraic Smyth, UC Irvine
13 Jun 2019	Advancement Committee, *Yoshimoto Matsubara*, Advised by Marco Levorato, UC Irvine
30 Sept 2019	Advancement Committee, *Robert Logan*, Advised by Sameer Singh, UC Irvine
07 Mar 2022	Master Thesis Committee, *Alex Konrad*, Advised by Roy Fox, UC Irvine

06 Sept 2019 Master Thesis Committee, *Peter Schaedler*, Advised by Sameer Singh, UC Irvine

29 May 2019 Master Thesis Committee, *Chirag Choudhary*, Advised by Sameer Singh, UC Irvine

30 May 2019 Master Thesis Committee, *Madina Abdrakhmanova*, Advised by Erik Sudderth, UC Irvine

Outreach Activities

2023 Co-Organizer, NSF REU Summer Program, Columbia University LEAP Center. Teaching a cohort of URM students on machine learning research for climate science.

2020 Judge, HackUCI, Orange County's largest hackathon, UC Irvine

2019–present Advisor, AI Club, UC Irvine

11/2019 Invited Panelist, Improving CS Graduate School Applications, UC Irvine

10/2018 Invited Panelist, AI Club: Careers in AI, UC Irvine

Mentoring and Group Leadership

Postdocs

2023 Thomas Sutter, now Postdoc at ETH Zürich

2017–2020 Robert Bamler, now Associate Professor at the University of Tübingen

2019–2020 Fabian Jirasek, now Assistant Professor at TU Kaiserslautern

2018 Salvator Lombardo, now Principal Software Engineer, Anduril

2017 Cheng Zhang, now Principal Researcher at Microsoft Research Cambridge

Advised Graduate Students

2019–2024 Alex Boyd, PhD student (with Padhraic Smyth), now Researcher at GE Research

2014–2019 Florian Wenzel, PhD student (with Marius Kloft), now Researcher at Amazon

2019–2023 Chen Qiu, PhD student (with M. Rudolph and M. Kloft), now Researcher at Bosch Research

2019– Yibo Yang, PhD student

2019– Aodong Li, PhD student

2019– Ruihan Yang, PhD student

2021– Eliot Wong-Toi, PhD student

2021– Prakhar Srivastava, PhD student

2022– Kushagra Pandey, PhD student

2022– Tuan Pham Anh, PhD student

2023– Justus Will, PhD student

2024– Yang Meng, PhD student (with Babak Shahbaba)

2020-2022 Antonios Alexos, Master's student

2021-2022 Thanasi Bakis, Master's student

Academic Visitors

2023 Thomas Specht, visiting PhD student, TU Kaiserslautern

2023 Nicolas Hayer, visiting PhD student, TU Kaiserslautern

2022 An Nguyen, visiting PhD student, Siemens Research

2019 Vincent Fortuin, visiting PhD student, ETH Zürich

2018 Florian Schmidt, visiting PhD student, ETH Zürich

Interns

2017 Yingzhen Li, now Assistant Professor at Imperial College London

2018 Lei Chen, Simon Frazier University

2018 Farnood Salehi, now Associate Research Scientist at Disney Research

2018 Jun Han, Dartmouth College

2018 Joel Castellon, now at Amazon Berlin

2017 Geng Ji, now at Facebook

2017 Judith Butepage, now Reserarcher at Spotify

2017 Joseph Marino, now Researcher at Google DeepMind

2016 Zhiwei Deng, now Postdoc at Princeton University

Undergraduate Students

2022-23 Liqin Ye, UC Irvine (1 publication in progress)

2021-22 Harshini Mangipudi, UC Irvine (2 joint publications)

2020 Zhouhang Xie, UC Irvine

2020 Chenhao Li, UC Irvine

2020 Jens Tuyls, UC Irvine (1 joint publication)

2019 Brett Taylor Galkowski, UC Irvine

Talks and Media Coverage

Tutorials at Conferences

7/2023 **UAI 2023 Tutorial**, "Data Compression with Machine Learning".
With Y. Yang and K. Ullrich.

2/2023 **AAAI 2023 Tutorial**, "Data Compression with Machine Learning".
With Y. Yang and K. Ullrich.

12/2022 **NeurIPS 2022 Tutorial**, "Data Compression with Machine Learning".
With Y. Yang and K. Ullrich.

08/2018 **Disney Data Analytics Conference Tutorial**,
"Discovering Hidden Structure in Data with Deep Probabilistic Models".

07/2017 **Disney Data Analytics Conference Tutorial**,
"Deep Learning, Far Reaching: An Introduction".

Keynotes or Equivalent

05/2023 **Deep Latent Variable Models for Compression and Natural Science**
"Cosmic Connections" Symposium, Flatiron Institute, USA

05/2023 **Deep Latent Variable Models for Compression and Natural Science**
Foundations of Data Science Seminar, ETH Zürich

01/2023 **Why Neural Compression Has Not Taken Off Yet**
I Can't Believe It's Not Better Seminar Series, Online Event

4/2022 **Deep Latent Variable Models for Sequential Data**
Artificial Intelligence for Robust Science and Engineering Workshop, Oakridge National Labs

12/2020 **ML for Thermodynamics and Thermodynamic ML.**
Workshop on AI for Earth Science, NeurIPS 2020

9/2020 **Compressing Variational Bayes.**
Laplace's Demon Lecture Series, Criteo AI

7/2020 **Deep Learning under Resource Constraints.**
CASA Distinguished Lecture, University of Bochum, Germany

3/2019 **Deep Generative Models for Structured Data.**
Kavli Frontiers of Science Workshop, National Academy of Science

9/2018 **Finding Hidden Structure in Data with Deep Probabilistic Models.**
LWDA Conference, Mannheim, Germany.

2015 **Machine Learning with Interdependent and Non-identically Distributed Data**
Schloss Dagstuhl Seminar, Leibniz Center for Informatics, Germany.

Invited Talks at Universities and Companies

02/2024 AIRA Seminar, Stanford University, Stanford, USA
10/2023 Department Seminar, UCLA, USA
09/2023 Seminar, Flatiron Institute, USA
08/2023 Seminar, Allen Institute, USA
06/2023 Department Seminar, UC San Diego, USA
05/2023 Seminar, Max Planck Institute Kaiserslautern, Germany
03/2023 Statistics Seminar, UC Irvine, USA
02/2023 Computer Vision Seminar, University of Maryland, USA
02/2023 Department Seminar, Imperial College London, GB
01/2023 SRI International, USA
01/2023 Netflix, CA
10/2022 UCLA Machine Learning for Climate Seminar, CA
10/2022 Allen Institute for AI, USA
09/2022 Nvidia, USA
07/2022 QUVA Computer Vision Seminar, University of Amsterdam, Netherlands
07/2022 Department Seminar, University of Kaiserslautern, Germany
07/2022 Amazon Research, Berlin, Germany
07/2022 Department Seminar, University of Stuttgart, Germany
07/2022 Colloquium, Hasso Plattner Institute, Germany
03/2022 Statistics Seminar, Columbia University, New York, USA
07/2021 Facebook AI Research, New York (remote), USA
04/2021 Snap Research, Santa Monica, USA
01/2021 Friday Seminar, Vector Institute, Toronto, CA
11/2020 AI Seminar, University of California San Diego
11/2020 Department Seminar, University of Washington
10/2020 Workshop "Frontiers in Machine Learning for the Physical Sciences", UC Irvine
10/2020 Department Seminar, Royal Institute of Technology, Stockholm
9/2020 Google Brain
6/2020 Physical Sciences ML Nexus, School of Physical Sciences, UC Irvine
6/2020 Mahoney Group Seminar, University of California Berkeley
4/2020 Qualcomm Research, USA (distinguished lecture award)
2/2020 Data Science Seminar, Statistics Department, UCI
8/2019 Machine Learning Colloquium, ETH Zürich, Switzerland
8/2019 Machine Learning Seminar, Technical University of Kaiserslautern, Germany
5/2019 Statistics Seminar Series, University of California, Irvine, CA, USA
2/2019 Workshop 'At the Crossroads of Physics and Machine Learning', UC Santa Barbara
2018 CS Colloquium, University of California, Santa Cruz, CA, USA
2018 CS Colloquium, University of California, Los Angeles, CA, USA
2018 CS Colloquium, University of California, Irvine, CA, USA
2017 CS Colloquium, UMass Amherst, MA, USA
2017 CS Colloquium, EPFL, Lausanne, Switzerland

2017 ML Lunch Seminar, Carnegie Mellon University, Pennsylvania, USA
2017 Disney Data Analytics Conference, Orlando, USA
2017 CS Colloquium, University of Southern California, California, USA
2017 CS Colloquium, ETH Zürich, Switzerland
2017 ML and Friends Seminar, UMass Amherst, Massachusetts, USA
2016 AI Seminar, Carnegie Mellon University, Pennsylvania, USA
2016 California Institute of Technology, Pasadena, USA
2016 Data Science Colloquium, Rutgers University, Newark, USA
2016 Google Research, Mountain View, USA
2016 Microsoft, Sunnyvale, USA
2016 Computer Science Colloquium, University of Rhode Island, USA
2016 Computer Science Colloquium, University of Colorado at Boulder, USA
2016 National Renewable Energy Laboratory (NREL), Golden, CO, USA
2015 Adobe Research, San Francisco, USA.
2015 Human Longevity Inc., Mountain View, USA.
2015 Machine Learning Seminar, Humboldt University Berlin, Germany.
2015 Machine Learning Seminar, Technical University Berlin, Germany.
2015 Machine Learning Seminar, University of British Columbia, Canada.
2015 D-Wave Systems, Burnaby, Canada.
2014 IBM Watson Research Center, Yorktown Heights, USA
2014 Emergent Phenomena in the Dynamics of Quantum Matter, New York, USA.
2013 Theoretical Physics Seminar, University of Otago, Dunedin, New Zealand.
2012 Theoretical Physics Seminar, Princeton University, Princeton, USA.
2011 Finite Temperature Non-Equilibrium Superfluid Systems, Heidelberg, Germany.
2010 Theoretical Physics Seminar, University of Colorado, Boulder, USA.
2010 Theoretical Physics Seminar, Ecole Polytechnique, Palaiseau, France.

Media Coverage

2020 **FierceVideo**, quoted on work about neural video compression, `https://www.fiercevideo.com/tech/nvidia-swaps-codecs-for-ai-to-improve-video-call-compression`

2017 **TechCrunch**, work on factorized variational autoencoders covered, `https://techcrunch.com/2017/07/25/this-facial-recognition-system-tracks-how-youre-enjoying-a-movie/`

2012 **SciTechDaily**, work on expanding atomic clouds covered, `https://scitechdaily.com/dynamics-of-a-system-of-ultracold-potassium-atoms/`

2010 **New Scientist**, work discussed in an article on thermodynamics, `https://www.newscientist.com/article/mg20827893-500-how-to-create-temperatures-below-absolute-zero/`