Efficient Sampling Algorithms for Complex Models
(14 Jul 2025–25 Jul 2025)

Name & Affiliation	Talk Title
Christophe Andrieu University of Bristol, UK	Sequential Monte Carlo with Integrator Snippets and their Adaptation
Sinho Chewi Yale University, USA	A Local Error Framework for KL Divergence via Shifted Composition
Michael Choi National University of Singapore, Singapore	Improving the Convergence of Markov Chains via Permutations and Projections
Tiangang Cui University of Sydney, Australia	Tensor Trains for Sequential State and Parameter Estimation in State-space Models
Jana de Wiljes TU Ilmenau, Germany	Long-Time Stability and Accuracy for Randomised Observations
Sergey Dolgov University of Bath, UK	Deep Tensor train Approximation of Transport Maps for Bayesian Inverse Problems
Murat Erdogdu University of Toronto, Canada	Learning Quadratic Neural Networks in High Dimensions
Georg Gottwald The University of Sydney, Australia	State-of-the-art Learning of Chaotic Dynamical Systems with Random Feature Maps A Localized Schroedinger Bridge Sampler for Generative Modelling
Jeremie Houssineau Nanyang Technological University, Singapore	Redesigning the Ensemble Kalman Filter with a Dedicated Model of Epistemic Uncertainty
Ajay Jasra The Chinese University of Hongkong, Shenzhen, China	On the Particle Approximation of Lagged Feynman-Kac Formulae
Kengo Kamatani The Institute of Statistical Mathematics, Japan	Scaling of Piecewise Deterministic Monte Carlo Methods
Holden Lee John Hopkins University, USA	Provable Guarantees for Sampling Multimodal Distributions
Matthew Tin Chun Li Massachusetts Institute of Technology, USA	The Role of Over-Parameterization and Noise in Sobolev Training

Name & Affiliation	Talk Title
Qin Li University of Wisconsin–Madison, USA	Inverse Problem over Probability Measure Space
Shuigen Liu National University of Singapore, Singapore	Localization Methods for High Dimensional Distribution Generation
Tan Minh Nguyen National University of Singapore, Singapore	Tree-Sliced Wasserstein Distance: A Geometric Perspective
Atsushi Nitanda Nanyang Technological University, Singapore	Propagation of Chaos for Mean-Field Langevin Dynamics
Sahani Pathiraja The University of Sydney, Australia	Wasserstein Fisher Rao gradient flows: Sequential Monte Carlo & Operator Splitting
Daniel Paulin Nanyang Technological University, Singapore	Sampling from Bayesian Neural Network Posteriors with Symmetric Minibatch Splitting Langevin Dynamics
Sebastian Reich University of Potsdam, Germany	McKean-Pontryagin Minimum Principle for Stochastic Optimal Control
Adil Salim Microsoft Research Lab – Redmond, USA	Theory for Diffusion Models under Minimal Data Assumption
Sumeetpal Singh University of Wollongong, Australia	On the Forgetting of Particle Filters
Taiji Suzuki The University of Tokyo, Japan	Convergence of Optimizing Distribution Methods: Strict-saddle Objective and Diffusion Model Fine-tuning
Kota Takeda Kyoto University, Japan	Uniform Error Bounds of the Ensemble Square Root Filter for Chaotic Dynamics with Multiplicative Covariance Inflation
Yanshuo Tan National University of Singapore, Singapore	Lessons on Mixing for Bayesian Additive Regression Trees
Xin Tong National University of Singapore, Singapore	Diffusion Models for High Dimensional Distributions
Jonathan Weare Courant Institute New York University, USA	Learning Predictions of Extreme Events from Time Series Data Functional Estimation of the Marginal Likelihood

Name & Affiliation	Talk Title
Andre Wibisono Yale University, USA	Mixing Time of the Proximal Sampler in Relative Fisher Information via Strong Data Processing Inequality
Karen Willcox University of Texas at Austin, USA	Multifidelity Uncertainty Quantification Methods
Denny Wu New York University, USA	Learning Shallow Neural Networks in High Dimensions: SGD Dynamics and Scaling Laws
Olivier Zahm INRIA, Laboratoire Jean Kuntzmann, France	Optimal Riemannian Metric for Poincar´e Inequalities and how to ideally precondition Langevin Dynamics
Cheng Zhang Peking University, China	Deep Variational Inference via Score Matching
Ding-Xuan Zhou The University of Sydney, Australia	Distribution Regression with Deep Neural Networks