

## Schedule

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<b>Mon, Jul 28</b>	<b>Session</b>
08:00–17:30	Conference Check-In (HH Lobby)
08:45–09:00	Opening Ceremony (HH Auditorium)
09:00–10:00	Plenary Talk by Rohan Sawhney, Nvidia Corporation, Monte Carlo Methods in Computer Graphics (HH Auditorium)
10:00–10:30	Coffee Break (HH Lobby)
10:30–12:30	Stochastic Computation and Complexity, Part I (HH Auditorium)
10:30–12:30	Domain Uncertainty Quantification (HH Ballroom)
10:30–12:30	Nested expectations: models and estimators, Part I (HH 002)
10:30–12:30	Hardware or Software for (Quasi-)Monte Carlo Algorithms, Part I (WH Auditorium)
10:30–12:30	Technical Session - Markov Chain Monte Carlo (WH 115)
12:30–14:00	Lunch Break (MTCC Commons)
14:00–15:00	Plenary Talk by Christiane Lemieux, U of Waterloo, Golden ratio nets and sequences (HH Auditorium)
15:00–15:30	Coffee Break (HH Lobby)
15:30–17:30	Stochastic Computation and Complexity, Part II (HH Auditorium)
15:30–17:30	Recent advances in optimization under uncertainty (HH Ballroom)
15:30–17:30	Computational Methods for Low-discrepancy Sampling and Applications (HH 002)
15:30–17:30	Technical Session - Quasi-Monte Carlo, Part I (WH Auditorium)
15:30–17:30	Technical Session - PDEs and SDEs (WH 115)
17:30–19:30	Welcome Reception (HH Lobby)
<b>Tue, Jul 29</b>	<b>Session</b>
08:30–17:30	Registration Desk Open (HH Lobby)
09:00–10:00	Plenary Talk by Peter Glynn, Stanford U, Combining Simulation and Linear Algebra: COSIMLA (HH Auditorium)
10:00–10:30	Coffee Break (HH Lobby)
10:30–12:30	Stochastic Computation and Complexity, Part III (HH Auditorium)
10:30–12:30	Next-generation optimal experimental design: theory, scalability, and real world impact: Part I (HH Ballroom)
10:30–12:30	Heavy-tailed Sampling (HH 002)
10:30–12:30	Frontiers in (Quasi-)Monte Carlo and Markov Chain Monte Carlo Methods, Part I (WH Auditorium)
10:30–12:30	Technical Session - Bayesian Methods (WH 115)
12:30–14:00	Lunch Break (On your own)
14:00–15:00	Plenary Talk by Roshan Joseph, Georgia Institute of Technology, Sensitivity and Screening: From Monte Carlo to Experimental Design (HH Auditorium)
15:00–15:30	Coffee Break (HH Lobby)
15:30–17:30	Stochastic Computation and Complexity, Part IV (HH Auditorium)
15:30–17:30	Next-generation optimal experimental design: theory, scalability, and real world impact: Part II (HH Ballroom)
15:30–17:30	Advances in Rare Events Simulation (HH 002)
15:30–17:30	Frontiers in (Quasi-)Monte Carlo and Markov Chain Monte Carlo Methods, Part II (WH Auditorium)
15:30–17:30	Technical Session - Quasi-Monte Carlo, Part II (WH 115)
18:00–20:00	Chicago White Sox vs. Philadelphia Phillies (must purchase tickets beforehand) (Meet in HH Lobby)

<b>Wed, Jul 30</b>	<b>Session</b>
08:30–16:30	Registration Desk Open (HH Lobby)
09:00–10:00	Plenary Talk by Veronika Ročková, U of Chicago, AI-Powered Bayesian Inference (HH Auditorium)
10:00–10:30	Coffee Break (HH Lobby)
10:30–12:30	Stochastic Computation and Complexity, Part V (HH Auditorium)
10:30–12:30	Statistical Design of Experiments (HH Ballroom)
10:30–12:30	Advances in Adaptive Hamiltonian Monte Carlo (HH 002)
10:30–12:30	Technical Session - Simulation (WH Auditorium)
10:30–12:30	Technical Session - Sampling (WH 115)
12:30–14:00	Lunch Break (On your own)
14:00–16:00	Stochastic Optimization (HH Auditorium)
14:00–16:00	Recent Progress on Algorithmic Discrepancy Theory and Applications (HH Ballroom)
14:00–16:00	Monte Carlo Applications in High-performance Computing, Computer Graphics, and Computational Science (HH 002)
14:00–16:00	Technical Session - Statistics (WH Auditorium)
16:00–16:30	Coffee Break (HH Lobby)
18:00–20:30	Conference Banquet (Bridgeport Art Center, 1200 W 35th Street)
<b>Thu, Jul 31</b>	<b>Session</b>
08:30–17:30	Registration Desk Open (HH Lobby)
09:00–10:00	Plenary Talk by Uros Seljak, UC Berkeley, Gradient-Based MCMC Sampling: Methods and Optimization Strategies (HH Auditorium)
10:00–10:30	Coffee Break (HH Lobby)
10:30–12:30	QMC and Applications Part I (HH Auditorium)
10:30–12:30	Analysis of Langevin and Related Sampling Algorithms, Part I (HH Ballroom)
10:30–12:30	Nested expectations: models and estimators, Part II (HH 002)
10:30–12:30	Technical Session - Finance (WH Auditorium)
10:30–12:30	Technical Session - ML & Optimization (WH 115)
12:30–14:00	Lunch Break (On your own)
14:00–15:00	Plenary Talk by Nicolas Chopin, Institut Polytechnique de Paris, Saddlepoint Monte Carlo and its application to exact ecological inference (HH Auditorium)
15:00–15:30	Coffee Break (HH Lobby)
15:30–17:30	QMC and Applications Part II (HH Auditorium)
15:30–17:30	Analysis of Langevin and Related Sampling Algorithms, Part II (HH Ballroom)
15:30–17:30	Recent Advances in Stochastic Gradient Descent (HH 002)
15:30–17:30	Technical Session - Sampling (WH Auditorium)
15:30–17:30	Technical Session - SDEs (WH 115)
18:30–20:30	Steering Committee Meeting (by invitation) (Mikami Izakaya & Ramen, 1400 S Michigan Ave)
19:00–21:00	Early Career Dinner (Time Out Market, 916 W Fulton Market)
<b>Fri, Aug 1</b>	<b>Session</b>
08:30–12:15	Registration Desk Open (HH Lobby)
09:00–11:00	Forward and Inverse Problems for Stochastic Reaction Networks (HH Auditorium)
09:00–11:00	Hardware or Software for (Quasi-)Monte Carlo Algorithms, Part II (HH Ballroom)
09:00–11:00	Technical Session - Simulation (HH 002)
09:00–11:00	Technical Session - Sampling and Markov Chain Monte Carlo (WH Auditorium)
11:00–11:30	Coffee Break (HH Lobby)
11:30–12:30	Plenary Talk by Michaela Szölgyenyi, U of Klagenfurt, An optimal transport approach to quantifying model uncertainty of SDEs (HH Auditorium)
12:30–12:40	Closing Ceremony (HH Auditorium)

**Mon, Jul 28, 2025 – Morning**

08:00–17:30	Conference Check-In, HH Lobby				
08:45–09:00	Opening Ceremony by Fred Hickernell, Nicole Beebe, and Kevin Corlette, HH Auditorium				
09:00–10:00	<b>Plenary Talk:</b> <i>Rohan Sawhney, Nvidia Corporation, Monte Carlo Methods in Computer Graphics</i> , p. 43				
Chair: Michael Mascagni, HH Auditorium					
10:00–10:30	Coffee Break, HH Lobby				
	HH Auditorium <b>Special Session</b> Stochastic Computation and Complexity, Part I, p. 54 Chair: Stefan Heinrich	HH Ballroom <b>Special Session</b> Domain Uncertainty Quantification, p. 55 Chair: André-Alexander Zepernick	HH 002 <b>Special Session</b> Nested expectations: models and estimators, Part I, p. 56 Chair: Arved Bartuska	WH Auditorium <b>Special Session</b> Hardware or Software for (Quasi-)Monte Carlo Algorithms, Part I, p. 57 Chair: Mike Giles	WH 115 <b>Technical Session</b> Markov Chain Monte Carlo Chair: Philippe Gagnon
10:30–11:00	<i>Andreas Neuenkirch</i> , A strong order 1.5 boundary-preserving discretization scheme for scalar SDEs defined in a domain, p. 91	<i>André-Alexander Zepernick</i> , Domain UQ for stationary and time-dependent PDEs using QMC, p. 94	<i>Abdul Lateef Haji Ali</i> , An Adaptive Sampling Algorithm for Level-set Approximation, p. 97	<i>Pieterjan Robbe</i> , Multilevel quasi-Monte Carlo without replications, p. 100	<i>Zhihao Wang</i> , Stereographic Multi-Try Metropolis Algorithms for Heavy-tailed Sampling, p. 180
11:00–11:30	<i>Christopher Rauhögger</i> , An adaptive Milstein-type method for strong approximation of systems of SDEs with a discontinuous drift coefficient, p. 92	<i>Carlos Jerez-Hanckes</i> , Domain Uncertainty Quantification for Electromagnetic Wave Scattering via First-Order Sparse Boundary Element Approximation, p. 95	<i>Vinh Hoang</i> , Posterior-Free A-Optimal Bayesian Design of Experiments via Conditional Expectation, p. 98	<i>Irina-Beatrice Haas</i> , A nested Multilevel Monte Carlo framework for efficient simulations on FPGAs, p. 100	<i>Ruben Seyer</i> , Creating rejection-free samplers by rebalancing skew-balanced jump processes, p. 181
11:30–12:00	<i>Verena Schwarz</i> , Strong order 1 adaptive approximation of jump-diffusion SDEs with discontinuous drift, p. 93	<i>Jürgen Dölz</i> , Quantifying uncertainty in spectral clusterings: expectations for perturbed and incomplete data, p. 96	<i>Vesa Kaarnioja</i> , QMC for Bayesian optimal experimental design with application to inverse problems governed by PDEs, p. 99	<i>Mike Giles</i> , CUDA implementation of MLMC on NVIDIA GPUs, p. 101	<i>Philippe Gagnon</i> , Theoretical guarantees for lifted samplers, p. 182
12:00–12:30	<i>Toni Karvonen</i> , Approximation in Hilbert spaces of the Gaussian and related analytic kernels, p. 93	<i>Harri Hakula</i> , Model Problems for PDEs on Uncertain Domains, p. 97		<i>Chung Ming Loi</i> , Scalable and User-friendly QMC Sampling with UMBridge, p. 102	

## Mon, Jul 28, 2025 – Afternoon

12:30–14:00	Lunch Break, MTCC Commons				
14:00–15:00	<b>Plenary Talk:</b> <i>Christiane Lemieux, U of Waterloo, Golden ratio nets and sequences</i> , p. 44 Chair: <i>Nathan Kirk</i> , HH Auditorium				
15:00–15:30	Coffee Break, HH Lobby				
	HH Auditorium <b>Special Session</b> Stochastic Computation and Complexity, Part II, p. 59 Chair: <i>Larisa Yaroslavtseva</i>	HH Ballroom <b>Special Session</b> Recent advances in optimization under uncertainty, p. 60 Chair: <i>Phillip A. Guth</i>	HH 002 <b>Special Session</b> Computational Methods for Low-discrepancy Sampling and Applications, p. 61 Chair: <i>Nathan Kirk</i>	WH Auditorium <b>Technical Session</b> Quasi-Monte Carlo, Part I Chair: <i>Peter Kritzer</i>	WH 115 <b>Technical Session</b> PDEs and SDEs Chair: <i>Håkon Hoel</i>
15:30–16:00	<i>Michael Gnewuch</i> , Optimality of deterministic and randomized QMC-cubatures on several scales of function spaces, p. 103	<i>Tapio Helin</i> , Stability of Expected Utility in Bayesian Optimal Experimental Design, p. 106	<i>François Clément</i> , Searching Permutations for Constructing Low-Discrepancy Point Sets and Investigating the Kritzinger Sequence, p. 109	<i>Christian Weiss</i> , Halton Sequences, Scrambling and the Inverse Star-Discrepancy, p. 192	<i>Leon Wilkosz</i> , Forward Propagation of Low Discrepancy Through McKean–Vlasov Dynamics: From QMC to MLQMC, p. 212
16:00–16:30	<i>Kateryna Pozharska</i> , Optimal designs for function discretization and construction of tight frames, p. 104	<i>Karina Koval</i> , Subspace accelerated measure transport methods for fast and scalable sequential experimental design, p. 107	<i>Nathan Kirk</i> , Minimizing the Stein Discrepancy, p. 110	<i>Sifan Liu</i> , Transport Quasi-Monte Carlo, p. 192	<i>Miguel Alvarez</i> , A New Approach for Unbiased Estimation of Parameters of Partially Observed Diffusions, p. 213
16:30–17:00	<i>Leszek Plaskota</i> , Complexity of approximating piecewise smooth functions in the presence of deterministic or random noise, p. 105	<i>Johannes Milz</i> , Randomized quasi-Monte Carlo methods for risk-averse stochastic optimization, p. 108	<i>Makram Chahine</i> , Improving Efficiency of Sampling-based Motion Planning via Message-Passing Monte Carlo, p. 111	<i>Ambrose Emmett-Iwaniw</i> , Using Normalizing Flows for Efficient Quasi-Random Sampling for Copulas, p. 193	<i>Håkon Hoel</i> , High-order adaptive methods for exit times of diffusion processes and reflected diffusions, p. 213
17:00–17:30	<i>Larysa Matiukha</i> , The Quality of Lattice Sequences, p. 105	<i>Arved Bartuska</i> , Efficient expected information gain estimators based on the randomized quasi-Monte Carlo method, p. 109	<i>Gregory Seljak</i> , An Empirical Evaluation of Robust Estimators for RQMC, p. 112	<i>Claude Hall</i> , Optimization of Kronecker Sequences, p. 194	<i>Thomas Cass</i> , Generative Modelling of Levy Area for High-Order SDE Simulation, p. 214
17:30–19:30	Welcome Reception, HH Lobby				

## Tue, Jul 29, 2025 – Morning

08:30–17:30	Registration Desk Open, HH Lobby				
09:00–10:00	<b>Plenary Talk:</b> <i>Peter Glynn, Stanford U, Combining Simulation and Linear Algebra: COSIMLA</i> , p. 45 Chair: <i>Chang-Han Rhee</i> , HH Auditorium				
10:00–10:30	Coffee Break, HH Lobby				
	HH Auditorium <b>Special Session</b> Stochastic Computation and Complexity, Part III, p. 63 Chair: <i>Leszek Plaskota</i>	HH Ballroom <b>Special Session</b> Next-generation optimal experimental design: theory, scalability, and real world impact: Part I, p. 64 Chair: <i>Alen Alexanderian</i>	HH 002 <b>Special Session</b> Heavy-tailed Sampling, p. 66 Chair: <i>Sebastiano Grazzi</i>	WH Auditorium <b>Special Session</b> Frontiers in (Quasi-)Monte Carlo and Markov Chain Monte Carlo Methods, Part I, p. 68 Chair: <i>Sou-Cheng Choi</i>	WH 115 <b>Technical Session</b> Bayesian Methods Chair: <i>Hamza Ruzayqat</i>
10:30–11:00	<i>Jean-François Chassagneux</i> , Computing the stationary measure of McKean-Vlasov SDEs, p. 113	<i>Xun Huan</i> , Optimal Pilot Sampling for Multi-fidelity Monte Carlo Methods, p. 115	<i>Sebastiano Grazzi</i> , Parallel computations for Metropolis Markov chains based on Picard maps, p. 118	<i>Jonathan Weare</i> , Functional estimation of the marginal likelihood, p. 121	<i>Lorenzo Nagar</i> , Optimizing Generalized Hamiltonian Monte Carlo for Bayesian Inference applications, p. 183
11:00–11:30	<i>Noufel Frikha</i> , On the convergence of the Euler-Maruyama scheme for McKean-Vlasov SDEs, p. 114	<i>Adrien Corenflos</i> , A recursive Monte Carlo approach to optimal Bayesian experimental design, p. 116	<i>Federica Milinanni</i> , A large deviation principle for Metropolis-Hastings sampling, p. 119	<i>Nikhil Bansal</i> , Randomized QMC Methods via Combinatorial Discrepancy, p. 122	<i>Hamza Ruzayqat</i> , Bayesian Anomaly Detection in Variable-Order and Variable-Diffusivity Fractional Mediums, p. 185
11:30–12:00	<i>Sotirios Sabanis</i> , Wasserstein Convergence of Score-based Generative Models under Semiconvexity and Discontinuous Gradients, p. 114	<i>Ayoub Belhadji</i> , Weighted quantization using MMD: From mean field to mean shift via gradient flows, p. 117	<i>Xingyu Wang</i> , Sharp Characterization and Control of Global Dynamics of SGDs with Heavy Tails, p. 120	<i>Michael Mascagni</i> , The Walk on Spheres Monte Carlo Algorithm for Solving Partial Differential Equations, p. 123	<i>Arghya Datta</i> , Theoretical Guarantees of Mean Field Variational Inference for Bayesian Principal Component Analysis, p. 186
12:00–12:30				<i>Hwanwoo Kim</i> , Enhancing Gaussian Process Surrogates for Optimization and Posterior Approximation via Random Exploration, p. 124	<i>Jimmy Lederman</i> , Bayesian Analysis of Latent Underdispersion Using Discrete Order Statistics, p. 187

**Tue, Jul 29, 2025 – Afternoon**

12:30–14:00	Lunch Break, On your own				
14:00–15:00	<b>Plenary Talk:</b> <i>Roshan Joseph, Georgia Institute of Technology, Sensitivity and Screening: From Monte Carlo to Experimental Design</i> , p. 46 Chair: <i>Simon Mak</i> , HH Auditorium				
15:00–15:30	Coffee Break, HH Lobby				
	HH Auditorium <b>Special Session</b> Stochastic Computation and Complexity, Part IV, p. 69 Chair: <i>Thomas Müller-Gronbach</i>	HH Ballroom <b>Special Session</b> Next-generation optimal experimental design: theory, scalability, and real world impact: Part II, p. 70 Chair: <i>Xun Huan</i>	HH 002 <b>Special Session</b> Advances in Rare Events Simulation, p. 72 Chair: <i>Shyam Mohan Subbiah Pillai</i>	WH Auditorium <b>Special Session</b> Frontiers in (Quasi-)Monte Carlo and Markov Chain Monte Carlo Methods, Part II, p. 73 Chair: <i>Yuhan Ding</i>	WH 115 <b>Technical Session</b> Quasi-Monte Carlo, Part II Chair: <i>Christian Weiss</i>
15:30–16:00	<i>Larisa Yaroslavtseva</i> , Optimal strong approximation of SDEs with Hölder continuous drift coefficient, p. 124	<i>Alen Alexanderian</i> , Goal-Oriented Sensor Placement for Infinite-Dimensional Bayesian Inverse Problems, p. 127	<i>Nicola Branchini</i> , Revisiting self-normalized importance sampling: new methods and diagnostics, p. 130	<i>Takashi Goda</i> , Quasi-uniform quasi-Monte Carlo digital nets, p. 133	<i>Peter Kritzer</i> , Approximation using median lattice algorithms, p. 195
16:00–16:30	<i>Gunther Leobacher</i> , Tractability of $L_2$ -approximation and integration in weighted Hermite spaces of finite smoothness, p. 125	<i>Jacopo Iollo</i> , Diffusion-Based Bayesian Experimental Design: Advancing BED for Practical Applications, p. 128	<i>Bruno Tuffin</i> , Asymptotic robustness of smooth functions of rare-event estimators, p. 131	<i>Ziang Niu</i> , Boosting the inference for generative models by (Quasi-)Monte Carlo resampling, p. 134	<i>Yang Liu</i> , Convergence Rates of Randomized Quasi-Monte Carlo Methods under Various Regularity Conditions, p. 195
16:30–17:00	<i>Alexander Steinicke</i> , Malliavin differentiation of Lipschitz SDEs and BSDEs and an Application to Quadratic Forward-Backward SDEs, p. 126	<i>Tommie Catanach</i> , Robust Bayesian Optimal Experimental Design under Model Misspecification, p. 129	<i>Eya Ben Amar</i> , Importance Sampling Methods with Stochastic Differential Equations for the Estimation of the Right Tail of the CCDF of the Fade Duration, p. 132	<i>Chenyang Zhong</i> , A hit-and-run approach for sampling and analyzing ranking models, p. 135	<i>Jakob Dilen</i> , Use of rank-1 lattices in the Fourier neural operator, p. 196
17:00–17:30	<i>Fred J. Hickernell</i> , A Unified Treatment of Tractability for Approximation Problems Defined on Hilbert Spaces, p. 126		<i>Shyam Mohan Subbiah Pillai</i> , Estimating rare event probabilities associated with McKean–Vlasov SDEs, p. 132	<i>Raghuram Pasupathy</i> , Interior-Point Frank-Wolfe (IPFW) for Linearly Constrained Functional Optimization Over Probability Spaces, p. 136	<i>Audit Jain</i> , Investigating the Optimum RQMC Batch Size for Betting and Empirical Bernstein Confidence Intervals, p. 197
18:00–20:00	Chicago White Sox vs. Philadelphia Phillies (must purchase tickets beforehand), Meet in HH Lobby				

## Wed, Jul 30, 2025 – Morning

08:30–16:30	Registration Desk Open, HH Lobby				
09:00–10:00	<b>Plenary Talk:</b> <i>Veronika Ročková, U of Chicago, AI-Powered Bayesian Inference</i> , p. 47 Chair: <i>Art B. Owen</i> , HH Auditorium				
10:00–10:30	Coffee Break, HH Lobby				
	HH Auditorium <b>Special Session</b> Stochastic Computation and Complexity, Part V, p. 74 Chair: <i>Andreas Neuenkirch</i>	HH Ballroom <b>Special Session</b> Statistical Design of Experiments, p. 75 Chair: <i>Simon Mak</i>	HH 002 <b>Special Session</b> Advances in Adaptive Hamiltonian Monte Carlo, p. 76 Chair: <i>Art Owen</i>	WH Auditorium <b>Technical Session</b> Simulation Chair: <i>Toon Ingelaere</i>	WH 115 <b>Technical Session</b> Sampling Chair: <i>Nicola Branchini</i>
10:30–11:00	<i>Stefan Heinrich</i> , On the quantum complexity of parametric integration in Sobolev spaces, p. 137	<i>Simon Mak</i> , Respecting the boundaries: Space-filling designs for surrogate modeling with boundary information, p. 139	<i>Bob Carpenter</i> , GIST: Gibbs self-tuning for locally adapting Hamiltonian Monte Carlo, p. 143	<i>Philippe Blondeel</i> , Combining quasi-Monte Carlo with Stochastic Optimal Control for Trajectory Optimization of Autonomous Vehicles in Mine Counter Measure Simulations, p. 217	<i>Joonha Park</i> , Sampling from high-dimensional, multimodal distributions using automatically tuned, tempered Hamiltonian Monte Carlo, p. 198
11:00–11:30	<i>Bernd Käfemodel</i> , Quantum Integration in Tensor Product Besov Spaces, p. 138	<i>Andrews Boahen</i> , Active Learning for Nonlinear Calibration, p. 140	<i>Nawaf Bou-Rabee</i> , Acceleration of the No-U-Turn Sampler, p. 144	<i>Rino Persiani</i> , A Monte Carlo Approach to Designing a Novel Sample Holder for Enhanced UV-Vis Spectroscopy, p. 218	<i>Arne Bouillon</i> , Localized consensus-based sampling for non-Gaussian distributions, p. 199
11:30–12:00	<i>Nikolaos Makras</i> , Taming the Interacting Particle Langevin Algorithm – The Superlinear Case, p. 138	<i>Qian Xiao</i> , Optimal design of experiments with quantitative-sequence factors, p. 141	<i>Chirag Modi</i> , ATLAS: Adapting Trajectory Lengths and Step-Size for Hamiltonian Monte Carlo, p. 145	<i>Prasanth Shyamsundar</i> , ARCANE Reweighting: A technique to tackle the sign problem in the simulation of collider events in high-energy physics, p. 219	
12:00–12:30	<i>Iosif Lytras</i> , Sampling with Langevin Dynamics from non-smooth and non-logconcave potentials., p. 139	<i>Chaofan Huang</i> , Factor Importance Ranking and Selection using Total Indices, p. 142	<i>Trevor Campbell</i> , AutoStep: Locally adaptive involutive MCMC, p. 146	<i>Nicole Aretz</i> , Multifidelity and Surrogate Modeling Approaches for Uncertainty Quantification in Ice Sheet Simulations, p. 220	

## Wed, Jul 30, 2025 – Afternoon

12:30–14:00	Lunch Break, On your own				
	HH Auditorium <b>Special Session</b> Stochastic Optimization, p. <a href="#">78</a> Chair: <i>Shane Henderson</i>	HH Ballroom <b>Special Session</b> Recent Progress on Algorithmic Discrepancy Theory and Applications, p. <a href="#">79</a> Chair: <i>Haotian Jiang</i>	HH 002 <b>Special Session</b> Monte Carlo Applications in High-performance Computing, Computer Graphics, and Computational Science, p. <a href="#">80</a> Chair: <i>Michael Mascagni</i>	WH Auditorium <b>Technical Session</b> Statistics Chair: <i>Yiming Xu</i>	
14:00–14:30	<i>Raghuram Bollapragada</i> , Monte Carlo Based Adaptive Sampling Approaches for Stochastic Optimization, p. <a href="#">147</a>	<i>Haotian Jiang</i> , Algorithmic Discrepancy Theory: An Overview, p. <a href="#">149</a>	<i>Arash Fahim</i> , Gaining efficiency in Monte Carlo policy gradient methods for stochastic optimal control, p. <a href="#">152</a>	<i>Kazeem Adeleke</i> , Empirical Statistical Comparative Analysis of SNP Heritability Estimators and Gradient Boosting Machines (GBM) Using Genetic Data from the UK Biobank, p. <a href="#">221</a>	
14:30–15:00	<i>Shane Henderson</i> , A New Convergence Analysis of Two Stochastic Frank-Wolfe Algorithms, p. <a href="#">148</a>	<i>Peng Zhang</i> , Improving the Design of Randomized Experiments via Discrepancy Theory, p. <a href="#">150</a>	<i>Sharanya Jayaraman</i> , Examining the Fault Tolerance of High-Performance Monte Carlo Applications through Simulation, p. <a href="#">153</a>	<i>Carles Domingo-Enrich</i> , Cheap permutation testing, p. <a href="#">222</a>	
15:00–15:30	<i>Akshita Gupta</i> , Stochastic Gradient with Testing Functionals, p. <a href="#">149</a>	<i>Aleksandar Nikolov</i> , Online Factorization for Online Discrepancy Minimization, p. <a href="#">151</a>	<i>Rohan Sawhney</i> , Building Monte Carlo “Renderers” for Physics, p. <a href="#">154</a>	<i>Christopher Draper</i> , Moving PCG beyond LCGs, p. <a href="#">223</a>	
15:30–16:00			<i>Silei Song</i> , WoS-NN: Collaborating Walk-on-Spheres with Machine Learning to Solve Elliptic PDEs, p. <a href="#">155</a>	<i>Yiming Xu</i> , Hybrid least squares for learning functions from highly noisy data, p. <a href="#">223</a>	
16:00–16:30	Coffee Break, HH Lobby				
18:00–20:30	Conference Banquet, Bridgeport Art Center, 1200 W 35th Street				

**Thu, Jul 31, 2025 – Morning**

08:30–17:30	Registration Desk Open, HH Lobby				
09:00–10:00	<b>Plenary Talk: Uros Seljak, UC Berkeley, Gradient-Based MCMC Sampling: Methods and Optimization Strategies</b> , p. 48 Chair: Tim Hobbs, HH Auditorium				
10:00–10:30	Coffee Break, HH Lobby				
	HH Auditorium <b>Special Session</b> QMC and Applications Part I, p. 81 Chair: Michael Gnewuch	HH Ballroom <b>Special Session</b> Analysis of Langevin and Related Sampling Algorithms, Part I, p. 82 Chair: Xiaoou Cheng	HH 002 <b>Special Session</b> Nested expectations: models and estimators, Part II, p. 83 Chair: Abdul-Lateef Haji-Ali	WH Auditorium <b>Technical Session</b> Finance Chair: Aleksei Sorokin	WH 115 <b>Technical Session</b> ML & Optimization Chair: Frédéric Blondeel
10:30–11:00	<i>Felix Bartel</i> , Exact discretization, tight frames and recovery via D-optimal designs, p. 156	<i>Krishnakumar Balasubramanian</i> , Finite-Particle Convergence Rates for Stein Variational Gradient Descent, p. 159	<i>Matteo Raviola</i> , Stochastic gradient with least-squares control variates, p. 162	<i>Vincent Zhang</i> , Characterizing Efficacy of Geometric Brownian Motion Expectation-based Simulations on Low-Volatility American Common Stocks, p. 203	<i>Frédéric Blondeel</i> , Learning cooling strategies in simulated annealing through binary interactions, p. 215
11:00–11:30	<i>Mou Cai</i> , L2-approximation: using randomized lattice algorithms and QMC hyperinterpolation, p. 157	<i>Lihan Wang</i> , Convergence rates of kinetic Langevin dynamics with weakly confining potentials, p. 160	<i>Philipp Guth</i> , A one-shot method for Bayesian optimal experimental design, p. 162	<i>Hao Quan</i> , Efficient Pricing for Variable Annuity via Simulation, p. 204	<i>Du Ouyang</i> , Accuracy of Discretely Sampled Stochastic Policies in Continuous-Time Reinforcement Learning, p. 216
11:30–12:00	<i>Zhijian He</i> , High-dimensional density estimation on unbounded domain, p. 158	<i>Xiaoou Cheng</i> , Delocalization of Bias in Unadjusted Hamiltonian Monte Carlo, p. 161	<i>Sara Pérez-Vieites</i> , Langevin-based strategies for nested particle filters, p. 163		<i>Yiqing Zhou</i> , Minimizing Functions with Sparse Samples: A Fast Interpolation Approach, p. 217
12:00–12:30	<i>Frances Y. Kuo</i> , Application of QMC to Oncology, p. 158				

## Thu, Jul 31, 2025 – Afternoon

12:30–14:00	Lunch Break, On your own				
14:00–15:00	<b>Plenary Talk:</b> <i>Nicolas Chopin, Institut Polytechnique de Paris, Saddlepoint Monte Carlo and its application to exact ecological inference</i> , p. 50 Chair: <i>Bruno Tuffin</i> , HH Auditorium				
15:00–15:30	Coffee Break, HH Lobby				
	HH Auditorium <b>Special Session QMC and Applications Part II</b> , p. 84 Chair: <i>Takashi Goda</i>	HH Ballroom <b>Special Session Analysis of Langevin and Related Sampling Algorithms, Part II</b> , p. 85 Chair: <i>Yifan Chen</i>	HH 002 <b>Special Session Recent Advances in Stochastic Gradient Descent</b> , p. 86 Chair: <i>Jing Dong</i>	WH Auditorium <b>Technical Session Sampling</b> Chair: <i>Joonha Park</i>	WH 115 <b>Technical Session SDEs</b> Chair: <i>Fabio Zoccolan</i>
15:30–16:00	<i>Dirk Nuyens</i> , Approximation of multivariate periodic functions, p. 164	<i>Molei Tao</i> , Langevin-Based Sampling under Nonconvex Constraints, p. 166	<i>Jose Blanchet</i> , Inference for Stochastic Gradient Descent with Infinite Variance, p. 169	<i>Josephine Westermann</i> , Polynomial approximation for efficient transport-based sampling, p. 199	<i>Fabio Zoccolan</i> , Dynamical Low-Rank Approximation for SDEs: an interacting particle-system ROM, p. 208
16:00–16:30	<i>Art Owen</i> , Randomized QMC with one categorical variable, p. 164	<i>Yifan Chen</i> , Convergence of Unadjusted Langevin in High Dimensions: Delocalization of Bias, p. 167	<i>Chang-Han Rhee</i> , Exit-Time Analysis of Stochastic Gradient Descent via Kesten's Recursion, p. 170	<i>Soumyadip Ghosh</i> , Fast Approximate Matrix Inversion via MCMC for Linear System Solvers, p. 200	<i>Adrien Richou</i> , A probabilistic Numerical method for semi-linear elliptic Partial Differential Equations, p. 209
16:30–17:00	<i>Zixin Pan</i> , QMC confidence intervals using quantiles of randomized nets, p. 165	<i>Fuzhong Zhou</i> , Entropy methods for the delocalization of bias in Langevin Monte Carlo, p. 168	<i>Jing Dong</i> , Stochastic Gradient Descent with Adaptive Data, p. 170	<i>Ally Kwan and Lijia Lin</i> , Investigating general $L^2$ discrepancies with Message-Passing Monte Carlo, p. 201	<i>Anke Wiese</i> , A Chen-Fliess series for stochastic differential equations driven by Lévy processes, p. 210
17:00–17:30	<i>Kosuke Suzuki</i> , Quasi-uniform quasi-Monte Carlo lattice point sets, p. 166	<i>Siddharth Mitra</i> , Convergence of $\Phi$ -Divergence and $\Phi$ -Mutual Information Along Langevin Markov Chains, p. 168		<i>Jimmy Nguyen and Anders Pride</i> , Discrepancy calculation and generating vector searches for Kronecker and extensible lattice sequences, p. 202	<i>Riccardo Saporiti</i> , Comparing Probabilistic Load Forecasters: Stochastic Differential Equations and Deep Learning, p. 211
18:30–20:30	Steering Committee Meeting (by invitation), Mikami Izakaya & Ramen, 1400 S Michigan Ave				
19:00–21:00	Early Career Dinner, Time Out Market, 916 W Fulton Market				

## Fri, Aug 1, 2025

08:30–12:15	Registration Desk Open, HH Lobby				
	HH Auditorium <b>Special Session</b> Forward and Inverse Problems for Stochastic Reaction Networks, p. <a href="#">87</a> Chair: <i>Sophia Münker</i>	HH Ballroom <b>Special Session</b> Hardware or Software for (Quasi-)Monte Carlo Algorithms, Part II, p. <a href="#">88</a> Chair: <i>Pieterjan Robbe</i>	HH 002 <b>Technical Session</b> Simulation Chair: <i>Nicole Aretz</i>	WH Auditorium <b>Technical Session</b> Sampling and Markov Chain Monte Carlo Chair: <i>Soumyadip Ghosh</i>	
09:00–09:30	<i>Zhou Fang</i> , Fixed-budget simulation method for growing cell populations, p. <a href="#">171</a>	<i>Niklas Baumgarten</i> , A High-performance Multi-level Monte Carlo Software for Full Field Estimates and Applications in Optimal Control, p. <a href="#">175</a>	<i>Yashveer Kumar</i> , Monte Carlo simulation approach to solve distributed order fractional mathematical model, p. <a href="#">188</a>	<i>Daniel Yukimura</i> , Quantitative results on sampling from quasi-stationary distributions, p. <a href="#">205</a>	
09:30–10:00	<i>Sophia Münker</i> , Dimensionality Reduction for Efficient Rare Event Estimation, p. <a href="#">172</a>	<i>Aleksei Sorokin</i> , Fast Gaussian Processes, p. <a href="#">176</a>	<i>Reuben Cohn-Gordon</i> , Gradient-based MCMC in high dimensions, p. <a href="#">189</a>	<i>Toon Ingelaere</i> , Multilevel simulation of ensemble Kalman methods: interactions across levels, p. <a href="#">206</a>	
10:00–10:30	<i>Maksim Chupin</i> , Filtered Markovian Projection: Dimensionality Reduction in Filtering for Stochastic Reaction Networks, p. <a href="#">173</a>	<i>Johannes Krotz</i> , Hybrid Monte Carlo methods for kinetic transport, p. <a href="#">177</a>	<i>Serena Fattori</i> , Benchmarking the Geant4-DNA 'UHDR' Example for Monte Carlo Simulation of pH Effects on Radiolytic Species Yields Using a Mesoscopic Approach, p. <a href="#">190</a>	<i>Annabelle Carrell</i> , Low-Rank Thinning, p. <a href="#">207</a>	
10:30–11:00	<i>Muruhan Rathinam</i> , State and parameter inference in stochastic reaction networks, p. <a href="#">174</a>	<i>Joseph Farmer</i> , Flow-Based Monte Carlo Transport Simulation, p. <a href="#">178</a>	<i>Chi-Ok Hwang</i> , First-passage-based Last-passage Algorithm for Charge Density on a Conducting Surface, p. <a href="#">191</a>	<i>Hongmei Chi</i> , Randomness in the quantum age: A Comparative Study of Classical and Quantum Random Number Generators, p. <a href="#">207</a>	
11:00–11:30	Coffee Break, HH Lobby				
11:30–12:30	<b>Plenary Talk:</b> <i>Michaela Szölgyenyi</i> , U of Klagenfurt, An optimal transport approach to quantifying model uncertainty of SDEs, p. <a href="#">52</a> Chair: <i>Gunther Leobacher</i> , HH Auditorium				
12:30–12:40	Closing Ceremony by Fred Hickernell, HH Auditorium				