Schedule

Sunday, July 17, 2022 – Afternoon

13:30 – 16:00	Registration – Hall B (outside Lecture Hall 1)
14:15 – 15:45	Lecture Hall 1 **Tutorial** ***Frances Y. Kuo*** **Further applications of quasi-Monte Carlo Methods to PDEs with random coefficients** p. 34 Chair: *Alexander Keller*
15:45 – 16:00	Coffee break
16:00 – 17:30	Lecture Hall 1 **Tutorial** ***Chris J. Oates*** **Sampling with Stein Discrepancies** p. 35 Chair: *Fred J. Hickernell*

Monday, July 18, 2022 – Morning I

08:00 – 12:30	Registration – Hall B (outside Lecture Hall 1)
08:45 – 09:00	Opening Ceremony – Lecture Hall 1
09:00 – 10:00	Lecture Hall 1 **Plenary Talk** ***Aretha Teckentrup*** **Gaussian process regression in inverse problems and Markov chain Monte Carlo** p. 47 Chair: *Frances Y. Kuo*
10:00 – 10:30	Coffee break – Halls B and C

Monday, July 18, 2022 – Morning II

	Lecture Hall 1	Lecture Hall 3	Lecture Hall 4	Lecture Hall 5	Lecture Hall 6
	Special Session *Thomas Müller-Gronbach* Stochastic Computation and Complexity: Quadrature for SDEs and SPDEs, Stochastic Optimization, Neural Networks, Part 1 of 2 p. 79 Chair: *Thomas Müller-Gronbach*	**Special Session** *Damir Ferizović* and *Michelle Mastrianni* Quantifying Notions of Equidistribution on the Sphere p. 66 Chair: *Damir Ferizović*	**Special Session** *Vivekananda Roy* Developments in Markov Chain Monte Carlo p. 56 Chair: *Vivekananda Roy*	**Special Session** *Fred J. Hickernell* Developments in and Applications of MCQMC Software, Part 1 of 2 p. 55 Chair: *Dirk Nuyens*	**Technical Session** Chair: *Philipp Guth*
10:30 – 11:00	*Steffen Dereich* Optimal shallow networks p. 105	*Fátima Lizarte* Lower bounds for the logarithmic energy on $\mathbb{S}^2$ and for the Green energy on $\mathbb{S}^n$ p. 149	*Alain Durmus* The Kick-Kac teleportation algorithm: boost your favorite Markov Chain Monte Carlo using Kac formula p. 110	*Mike Giles* Progress on MATLAB and C/C++ implementations of an MLMC package p. 119	*Silvi-Maria Gurova* A Quasi-Monte Carlo method for estimation of eigenvalues using error balancing p. 124
11:00 – 11:30	*Monika Eisenmann* Randomized operator splitting schemes for abstract evolution equations p. 111	*Jordi Marzo* QMC designs and random point configurations p. 155	*James M. Flegal* Lugsail lag windows for estimating time-average covariance matrices p. 117	*Pierre L'Ecuyer* An update on Lattice Tester, LatMRG, and Lattice Builder p. 145	*Mark Huber* Improved Bernoulli mean estimation for Monte Carlo data p. 133

Monday, July 18, 2022 – Morning III

	Lecture Hall 1	Lecture Hall 3	Lecture Hall 4	Lecture Hall 5	Lecture Hall 6
	Special Session *Thomas Müller-Gronbach* Stochastic Computation and Complexity: Quadrature for SDEs and SPDEs, Stochastic Optimization, Neural Networks, Part 1 of 2 p. 79 Chair: *Thomas Müller-Gronbach*	**Special Session** *Damir Ferizović* and *Michelle Mastrianni* Quantifying Notions of Equidistribution on the Sphere p. 66 Chair: *Damir Ferizović*	**Special Session** *Vivekananda Roy* Developments in Markov Chain Monte Carlo p. 56 Chair: *Vivekananda Roy*	**Special Session** *Fred J. Hickernell* Developments in and Applications of MCQMC Software, Part 1 of 2 p. 55 Chair: *Dirk Nuyens*	**Technical Session** Chair: *Philipp Guth*
11:30 – 12:00	*Sotirios Sabanis* Recent advances of Euler-Krylovs polygonal approximations in ML and AI p. 190	*Michelle Mastrianni* The spherical cap discrepancy of HEALPix points p. 155	*Leah F. South* Monte Carlo variance reduction using Stein operators p. 203	*Fred J. Hickernell* Challenges in developing great MCQMC software p. 130	*Marcin Wnuk* Which problems can be solved by randomized algorithms? p. 234
12:00 – 12:30			*Andrej Srakar* Approximate Bayesian algorithm for tensor robust principal component analysis p. 207	*Loïs Paulin* Generator matrices by solving integer linear programs p. 171	*Bruno Tuffin* Randomized quasi-Monte Carlo methods: Central limit theorem and confidence interval p. 217
12:30 – 14:00	Lunch				

Monday, July 18, 2022 – Afternoon I

14:00 – 15:00	Lecture Hall 1 **Plenary Talk** ***Andrea Montanari*** **Sampling via stochastic localization** p. 43 Chair: *Art B. Owen*				
15:00 – 15:30	Coffee break – Halls B and C				
	Lecture Hall 1 **Technical Session** Chair: *Monika Eisenmann*	Lecture Hall 3 **Technical Session** Chair: *Markus Faulhuber*	Lecture Hall 4 **Technical Session** Chair: *Leah F. South*	Lecture Hall 5 **Technical Session** Chair: *Emil Løvbak*	Lecture Hall 6 **Technical Session** Chair: *Bruno Tuffin*
15:30 – 16:00	*Hassan Maatouk* High-dimension simulating hyperplane-truncated multivariate normal distributions p. 153	*Christian Weiß* Covering numbers by intervals and equistribution theory p. 229	*Charly Andral* Importance Markov chain p. 84	*Francisco Bernal* PDDSparse: a highly scalable algorithm for large-scale PDEs p. 90	*Ensieh Sharifnia* Multilevel Monte Carlo with machine learned surrogate models for resource adequacy assessment p. 198
16:00 – 16:30	*Natalia Czyżewska* Numerical approximation of solutions of delay and ordinary differential equations under nonstandard assumptions and noisy information p. 103	*Markus Weimar* Optimal approximation of break-of-scale embeddings p. 229	*André Gustavo Carlon* Adaptive stochastic gradient descent for Bayesian optimal experimental design p. 98	*Francesca R. Crucinio* Optimal scaling of proximal MCMC p. 102	*Chang-Han Rhee* Eliminating sharp minima from SGD with truncated heavy-tailed noise p. 183

Monday, July 18, 2022 – Afternoon II

	Lecture Hall 1 **Special Session** *Thomas Müller-Gronbach* Stochastic Computation and Complexity: Quadrature for SDEs and SPDEs, Stochastic Optimization, Neural Networks, Part 2 of 2 p. 79 Chair: *Steffen Dereich*	Lecture Hall 3 **Special Session** *Johann S. Brauchart* and *Peter J. Grabner* Periodic Point Configurations and Lattice Point Interactions p. 64 Chair: *Peter J. Grabner*	Lecture Hall 4 **Technical Session** Chair: *Roswitha Hofer*	Lecture Hall 5 **Special Session** *Fred J. Hickernell* Developments in and Applications of MCQMC Software, Part 2 of 2 p. 55 Chair: *Fred J. Hickernell*	Lecture Hall 6 **Technical Session** Chair: *Mark Huber*
16:30 – 17:00	*Annalena Mickel* Sharp L^1-approximation of the log-Heston SDE by Euler-type methods p. 158	*Johann S. Brauchart* Lattice points to the sphere: towards discrepancy estimates p. 95	*Nicki Holighaus* Wavelet frames with grid-like time-frequency sampling and quasi-random delays p. 132	*Emil Løvbak* Reversible random number generators and adjoint Monte Carlo simulation for tokamak divertor design p. 150	*Philipp Guth* Quasi-Monte Carlo methods for optimal control problems subject to parabolic PDE constraints under uncertainty p. 124
17:00 – 17:30	*Christoph Reisinger* A posteriori error estimates for fully coupled McKean-Vlasov FBSDEs p. 181	*Laurent Bétermin* Minimality results for the Embedded-atom model p. 92	*Aleksei Kalinov* Direct simulation Monte Carlo and oscillations in aggregation-fragmentation kinetics p. 136	*Pieterjan Robbe* Bayesian calibration for summary statistics with applications to a cluster dynamics model p. 186	*Vesa Kaarnioja* Revisiting the dimension truncation error of parametric elliptic PDEs p. 135

Monday, July 18, 2022 – Afternoon III

	Lecture Hall 1	Lecture Hall 3 **Special Session** *Johann S. Brauchart* and *Peter J. Grabner* Periodic Point Configurations and Lattice Point Interactions p. 64 Chair: *Peter J. Grabner*	Lecture Hall 4	Lecture Hall 5 **Special Session** *Fred J. Hickernell* Developments in and Applications of MCQMC Software, Part 2 of 2 p. 55 Chair: *Fred J. Hickernell*	Lecture Hall 6 **Technical Session** Chair: *Mark Huber*
17:30 – 18:00		*Markus Faulhuber* Optimal sampling strategies in time-frequency analysis p. 114		*Vince Maes* Hybrid deterministic/MC methods in SOLPS-ITER p. 154	*Andreas Rupp* Quasi-Monte Carlo methods and discontinuous Galerkin p. 189
18:30 – 20:30	Welcome Reception – Kepler Hall				

Tuesday, July 19, 2022 – Morning I

09:00 – 10:00	Lecture Hall 1 **Plenary Talk** ***Gabriel Stoltz*** **Error estimates and variance reduction for nonequilibrium stochastic dynamics** p. 46 Chair: *Frédéric Cerou*				
10:00 – 10:30	Coffee break – Halls B and C				
	Lecture Hall 1 **Special Session** *Stefan Heinrich* Stochastic Computation and Complexity: High Dimensional Approximation, Integration, and PDEs, Part 1 of 2 p. 78 Chair: *Stefan Heinrich*	Lecture Hall 3 **Special Session** *Dmitriy Bilyk* and *Ryan W. Matzke* Energy-minimizing Point Configurations and Measures I p. 57 Chair: *Dmitriy Bilyk*	Lecture Hall 4 **Special Session** *Chris Sherlock* Robust Innovations in Gradient-Based MCMC p. 73 Chair: *Chris Sherlock*	Lecture Hall 5 **Special Session** *Pieterjan Robbe* Algorithmic Advancements in MCQMC Software p. 51 Chair: *Pieterjan Robbe*	Lecture Hall 6 **Special Session** *Andrea Bertazzi* Recent Advances in Piecewise Deterministic Monte Carlo Methods p. 71 Chair: *Andrea Bertazzi*
10:30 – 11:00	*Daniel Rudolf* Geometric convergence of polar slice sampling p. 189	*Damir Ferizović* Spherical cap discrepancy of perturbed lattices under the Lambert projection p. 115	*Jure Vogrinc* Optimal design of the Barker proposal and other locally-balanced Metropolis-Hastings algorithms p. 225	*Dirk Nuyens* An adaptive algorithm for integration on $\mathbb{R}^d$ using lattice rules p. 165	*Paul Dobson* Infinite dimensional piecewise deterministic Markov processes p. 108
11:00 – 11:30	*David Krieg* Lower bounds for integration and recovery in L_2 p. 140	*Alexey Glazyrin* Optimal spherical measures approximating the uniform distribution p. 120	*Mauro Camara Escudero* Approximate manifold sampling via the Hug sampler p. 97	*Aleksei Sorokin* Quasi-Monte Carlo for vector functions of integrals p. 202	*Sebastiano Grazzi* PDMP samplers for constrained spaces and discontinuous targets p. 123

Tuesday, July 19, 2022 – Morning II

	Lecture Hall 1	Lecture Hall 3	Lecture Hall 4	Lecture Hall 5	Lecture Hall 6
	Special Session *Stefan Heinrich* Stochastic Computation and Complexity: High Dimensional Approximation, Integration, and PDEs, Part 1 of 2 p. 78 Chair: *Stefan Heinrich*	**Special Session** *Dmitriy Bilyk* and *Ryan W. Matzke* Energy-minimizing Point Configurations and Measures I p. 57 Chair: *Dmitriy Bilyk*	**Special Session** *Chris Sherlock* Robust Innovations in Gradient-Based MCMC p. 73 Chair: *Chris Sherlock*	**Special Session** *Pieterjan Robbe* Algorithmic Advancements in MCQMC Software p. 51 Chair: *Pieterjan Robbe*	**Special Session** *Andrea Bertazzi* Recent Advances in Piecewise Deterministic Monte Carlo Methods p. 71 Chair: *Andrea Bertazzi*
11:30 – 12:00	*Winfried Sickel* s-numbers of embeddings of weighted Wiener classes p. 200	*Stefan Steinerberger* Logarithmic energy of points on $\mathbb{S}^2$ p. 211	*Lionel Riou-Durand* Metropolis adjusted Langevin trajectories: a robust alternative to Hamiltonian Monte Carlo p. 185	*Linus Seelinger* Connecting advanced models and advanced UQ: the MIT UQ library (MUQ) and a universal UQ/model interface p. 197	*Giorgos Vasdekis* Zig-Zag for approximate Bayesian computation p. 224
12:00 – 12:30	*Thomas Kühn* Approximation in periodic Gevrey spaces p. 142		*Chris Sherlock* The Apogee-to-Apogee Path Sampler p. 199	*Alexander Keller* Quasi-Monte Carlo algorithms (not only) for graphics software p. 137	*Andrea Bertazzi* Higher order approximations of piecewise deterministic Markov processes with splitting schemes p. 91
12:30 – 14:00	Lunch				

Tuesday, July 19, 2022 – Afternoon I

13:50 – 14:00	Award Ceremony of the Journal of Complexity – Lecture Hall 1				
14:00 – 15:00	Lecture Hall 1 **Plenary Talk** ***Mike Giles*** **MLMC techniques for discontinuous functions** p. 41 Chair: *Stefan Heinrich*				
15:00 – 15:30	Coffee break – Halls B and C				
	Lecture Hall 1 **Technical Session** Chair: *Thomas Kühn*	Lecture Hall 3	Lecture Hall 4 **Technical Session** Chair: *Katharina Schuh*	Lecture Hall 5 **Technical Session** Chair: *Dirk Nuyens*	Lecture Hall 6 **Technical Session** Chair: *Lorenz Richter*
15:30 – 16:00	*Jun Yang* Stereographic Markov chain Monte Carlo p. 236		*Christian Lécot* Stratified sampling for simulating multi-dimensional Markov chains p. 144	*Corentin Salaün* Robust control variates optimization for rendering p. 191	*Ardjen Pengel* Strong invariance principles for ergodic Markov processes p. 172
16:00 – 16:30	*Hannes Vandecasteele* A micro-macro Markov chain Monte Carlo method with applications in molecular dynamics p. 222		*Kislaya Ravi* Multi-fidelity no-U-turn sampling p. 180	*Wei Xu* Managing the risk of derivatives underlying portfolios p. 236	*Renato Spacek* Efficient computation of linear response of nonequilibrium stochastic dynamics p. 204

Tuesday, July 19, 2022 – Afternoon II

	Lecture Hall 1	Lecture Hall 3	Lecture Hall 4	Lecture Hall 5	Lecture Hall 6
	Special Session *Stefan Heinrich* Stochastic Computation and Complexity: High Dimensional Approximation, Integration, and PDEs, Part 2 of 2 p. 78 Chair: *Daniel Rudolf*	**Special Session** *Tetiana Stepaniuk* and *Oleksandr Vlasiuk* Energy-minimizing Point Configurations and Measures II p. 59 Chair: *Michelle Mastrianni*	**Special Session** *Juan Pablo Madrigal Cianci* and *Björn Sprungk* Recent Advances in MCMC Sampling Techniques p. 70 Chair: *Juan Pablo Madrigal Cianci*	**Special Session** *Nadhir Ben Rached* and *Raúl Tempone* Variance Reduction Techniques for Rare Events p. 80 Chair: *Nadhir Ben Rached*	**Special Session** *Claudia Schillings* and *Philipp Wacker* Laplace Approximation and Other Model-Based Preconditioning Methods for Monte Carlo Algorithms p. 61 Chair: *Philipp Wacker*
16:30 – 17:00	*Mathias Sonnleitner* The power of random information for recovery in ℓ_2 p. 201	*Carlos Beltrán* Energy measures in Grassmannian spaces p. 87	*Mareike Hasenpflug* Geodesic slice sampling on the sphere p. 128	*Nadhir Ben Rached* Efficient importance sampling algorithm applied to the performance analysis of wireless communication systems estimation p. 89	*Valentin De Bortoli* On quantitative Laplace-type convergence results p. 104
17:00 – 17:30	*Paweł Morkisz* Randomized Milstein algorithm for pointwise approximation of SDEs under inexact information p. 160	*Ryan W. Matzke* Optimality of harmonic ensembles on two-point homogeneous spaces p. 157	*Mikkel Bue Lykkegaard* Multilevel delayed acceptance: ergodic MCMC for model hierarchies p. 152	*Shyam Mohan* Importance sampling methods for McKean-Vlasov type stochastic differential equations p. 159	*Ilja Klebanov* Stability of MAP estimation via Γ-convergence of Onsager–Machlup functionals p. 139

Tuesday, July 19, 2022 – Afternoon III

	Lecture Hall 1	Lecture Hall 3	Lecture Hall 4	Lecture Hall 5	Lecture Hall 6
	Special Session *Stefan Heinrich* Stochastic Computation and Complexity: High Dimensional Approximation, Integration, and PDEs, Part 2 of 2 p. 78 Chair: *Daniel Rudolf*	**Special Session** *Tetiana Stepaniuk* and *Oleksandr Vlasiuk* Energy-minimizing Point Configurations and Measures II p. 59 Chair: *Michelle Mastrianni*	**Special Session** *Juan Pablo Madrigal Cianci* and *Björn Sprungk* Recent Advances in MCMC Sampling Techniques p. 70 Chair: *Juan Pablo Madrigal Cianci*	**Special Session** *Nadhir Ben Rached* and *Raúl Tempone* Variance Reduction Techniques for Rare Events p. 80 Chair: *Nadhir Ben Rached*	**Special Session** *Claudia Schillings* and *Philipp Wacker* Laplace Approximation and Other Model-Based Preconditioning Methods for Monte Carlo Algorithms p. 61 Chair: *Philipp Wacker*
17:30 – 18:00	*Tomasz Bochacik* On the properties of randomized Euler and Runge-Kutta schemes for ODEs p. 93	*Daniela Schiefeneder* On the support of minimizers of causal variational principles on the sphere p. 195	*Katharina Schuh* Convergence of unadjusted Hamiltonian Monte Carlo for mean-field models p. 196	*Kemal Dinçer Dingeç* Variance reduction techniques for right-tail probabilities of exchangeable lognormal sums p. 107	*Lorenz Richter* Optimal importance sampling of diffusions via robust variational minimization p. 184
18:00 – 18:30	*Stefan Heinrich* A stochastic discretization method and some applications in IBC p. 129		*Andi Q. Wang* Comparison of Markov chains via weak Poincaré inequalities with application to pseudo-marginal MCMC p. 228	*Karthyek Murthy* Achieving efficiency in black-box simulation of distribution tails with self-structuring importance samplers p. 162	*Philipp Wacker* Well-posedness of the MAP estimator in sequence spaces p. 227
19:00 –	Editorial Board Meeting of the Journal of Complexity (closed meeting) – RICAM, Science Park 2				

Wednesday, July 20, 2022 – Morning I

09:00 – 10:00	Lecture Hall 1 **Plenary Talk** ***Andrea Barth*** **Uncertainty quantification with discontinuous random fields** p. 38 Chair: *Gunther Leobacher*				
10:00 – 10:30	Coffee break – Halls B and C				
	Lecture Hall 1 **Special Session** *Larisa Yaroslavtseva* Stochastic Computation and Complexity: Approximation of SDEs with Non-standard Coefficients, Part 1 of 2 p. 77 Chair: *Paweł Przybyłowicz*	Lecture Hall 3 **Special Session** *Christoph Aistleitner* What Did You Expect? Equidistribution in Number Theory p. 81 Chair: *Christoph Aistleitner*	Lecture Hall 4 **Special Session** *Celia García-Pareja* Recent Advances in Unbiased Estimation Techniques p. 72 Chair: *Celia García-Pareja*	Lecture Hall 5 **Special Session** *Frédéric Cérou* Approximate Models for Rare Event Simulation and Uncertainty Quantification p. 53 Chair: *Frédéric Cérou*	Lecture Hall 6 **Technical Session** Chair: *Leszek Plaskota*
10:30 – 11:00	*Andreas Neuenkirch* Optimal approximation of stochastic volatility models at a single point p. 164	*Bence Borda* The L^2 discrepancy of lattices revisited p. 94	*Ajay Jasra* On unbiased score estimation for partially observed diffusions p. 134	*Arnaud Guyader* Recursive estimation of a failure probability for a Lipschitz function p. 125	*Jérémy Briant* Spectral analysis of multivariate multilevel Monte Carlo methods p. 96
11:00 – 11:30	*Máté Gerencsér* Approximation of Lévy-driven SDEs p. 117	*Daniel El-Baz* Primitive rational points on expanding horospheres: effective joint equidistribution p. 111	*Karthyek Murthy* Exact simulation of multidimensional reflected Brownian motion p. 163	*Frédéric Cérou* Adaptive reduced order models for rare event simulation p. 99	*Kumar Harsha* Multilevel algorithms for L^2-approximation p. 127

Wednesday, July 20, 2022 – Morning II

	Lecture Hall 1	Lecture Hall 3	Lecture Hall 4	Lecture Hall 5	Lecture Hall 6
	Special Session *Larisa Yaroslavtseva* Stochastic Computation and Complexity: Approximation of SDEs with Non-standard Coefficients, Part 1 of 2 p. 77 Chair: *Paweł Przybyłowicz*	**Special Session** *Christoph Aistleitner* What Did You Expect? Equidistribution in Number Theory p. 81 Chair: *Christoph Aistleitner*	**Special Session** *Celia García-Pareja* Recent Advances in Unbiased Estimation Techniques p. 72 Chair: *Celia García-Pareja*	**Special Session** *Frédéric Cérou* Approximate Models for Rare Event Simulation and Uncertainty Quantification p. 53 Chair: *Frédéric Cérou*	**Technical Session** Chair: *Leszek Plaskota*
11:30 – 12:00	*Konstantinos Dareiotis* Approximation of stochastic PDEs with measurable reaction term p. 104	*Manuel Hauke* On the metric theory of approximations by reduced fractions: Quantifying the Duffin-Schaeffer conjecture p. 129	*Willem van den Boom* Unbiased approximation of posteriors via coupled particle Markov chain Monte Carlo p. 221	*Maliki Moustapha* Benchmark of active learning methods for structural reliability analysis p. 161	*Neil K. Chada* Improved efficiency of multilevel Monte Carlo for stochastic PDE through strong pairwise coupling p. 100
12:00 – 12:30	*Christopher Rauhögger* On the performance of the Euler-Maruyama scheme for multidimensional SDEs with discontinuous drift coefficient p. 179	*Oscar E. Quesada-Herrera* On the Fourier sign uncertainty principle p. 176	*Shangda Yang* Multi-index sequential Monte Carlo and randomized multi-index sequential Monte Carlo ratio estimators p. 237	*Elisabeth Ullmann* Rare event estimation with PDE-based models p. 218	*Martin Špetlík* Multilevel Monte Carlo method with meta-model for advection-diffusion problems p. 206
12:30 – 14:00	Lunch				

Wednesday, July 20, 2022 – Afternoon and Evening

	Lecture Hall 1 **Technical Session** Chair: *Andreas Neuenkirch*	Lecture Hall 3 **Technical Session** Chair: *Bence Borda*	Lecture Hall 4 **Technical Session** Chair: *Ajay Jasra*	Lecture Hall 5 **Technical Session** Chair: *Elisabeth Ullmann*	Lecture Hall 6 **Technical Session** Chair: *Winfried Sickel*
14:00 – 14:30	*Tamás Papp* Bounds on Wasserstein distances using independent samples p. 168	*Manuel Fiedler* Probabilistic discrepancy bounds for negatively dependent sequences p. 116	*Filippo Pagani* NuZZ: numerical Zig-Zag for general models p. 167	*Chiheb Ben Hammouda* Quasi-Monte Carlo and multilevel Monte Carlo combined with numerical smoothing for robust and efficient option pricing and density estimation p. 88	*Onyekachi Osisiogu* Construction methods for rank-1 lattice rules and polynomial lattice rules p. 166
14:30 – 15:00	*Pieter Vanmechelen* Multilevel Markov Chain Monte Carlo for full-field data assimilation p. 223	*Markus Passenbrunner* Extremal distributions of discrepancy functions p. 169	*Régis Santet* Ensuring unbiased sampling of HMC schemes for non separable Hamiltonian systems p. 192	*Azar Louzi* A multilevel stochastic approximation algorithm for unbiased value-at-risk and expected shortfall estimation p. 151	*Leszek Plaskota* Adaptive methods for numerical approximation: an asymptotic analysis p. 173
15:00 – 15:30	Coffee break – Halls B and C				
15:30 – 16:30	Lecture Hall 1 **Plenary Talk** ***Michael Feischl*** **A quasi-Monte Carlo data compression algorithm for machine learning** p. 40 Chair: *Josef Dick*				
16:30 – 16:45	Conference Photo				
19:00 –	Conference Dinner – “Stadtliebe”, Landstraße 31, Linz				

Thursday, July 21, 2022 – Morning I

09:00 – 10:00	Lecture Hall 1 **Plenary Talk** ***Erich Novak*** **Optimal algorithms for numerical integration: recent results and open problems** p. 44 Chair: *Aicke Hinrichs*
10:00 – 10:30	Coffee break – Halls B and C

Thursday, July 21, 2022 – Morning II

	Lecture Hall 1	Lecture Hall 3	Lecture Hall 4	Lecture Hall 5	Lecture Hall 6
	Special Session *Larisa Yaroslavtseva* Stochastic Computation and Complexity: Approximation of SDEs with Non-standard Coefficients, Part 2 of 2 p. 77 Chair: *Larisa Yaroslavtseva*	**Special Session** *David Krieg* and *Mario Ullrich* Approximation from Random Data, Part 1 of 2 p. 54 Chair: *David Krieg*	**Special Session** *Neil K. Chada* and *Simon Weissmann* Advanced Particle Methods for Bayesian Inference p. 50 Chair: *Neil K. Chada*	**Special Session** *Chiheb Ben Hammouda* and *Raúl Tempone* Monte Carlo Methods and Variance Reduction Techniques for Forward and Inverse Problems for Stochastic Reaction Networks p. 62 Chair: *Chiheb Ben Hammouda*	**Special Session** *Art B. Owen* and *Takashi Goda* Quasi-Monte Carlo Methods of High Order and Beyond, Part 1 of 2 p. 68 Chair: *Art B. Owen*
10:30 – 11:00	*Michaela Szölgyenyi* Existence, uniqueness, and approximation for jump-driven SDEs with discontinuous drift p. 215	*Mario Ullrich* On the power of function values for L_2-approximation p. 219	*Gottfried Hastermann* Analysis of a localized non-linear ensemble Kalman–Bucy filter with sparse observations p. 128	*Muruhan Rathinam* State and parameter estimation from partial state observations in stochastic reaction networks p. 178	*Josef Dick* Quasi-Monte Carlo methods for stochastic Landau-Lifshitz-Gilbert equations p. 106
11:00 – 11:30	*Chengcheng Ling* Taming singular SDEs: A numerical method p. 147	*Felix Bartel* Constructive subsampling of finite frames with applications in optimal function recovery p. 86	*Sahani Pathiraja* Theoretical insights on a class of control based particle filters and their approximations p. 170	*Zhou Fang* Stochastic filtering for multiscale stochastic reaction networks based on hybrid approximations p. 113	*Takashi Goda* Construction-free median lattice rules p. 122

Thursday, July 21, 2022 – Morning III

	Lecture Hall 1	Lecture Hall 3	Lecture Hall 4	Lecture Hall 5	Lecture Hall 6
	Special Session *Larisa Yaroslavtseva* Stochastic Computation and Complexity: Approximation of SDEs with Non-standard Coefficients, Part 2 of 2 p. 77 Chair: *Larisa Yaroslavtseva*	**Special Session** *David Krieg* and *Mario Ullrich* Approximation from Random Data, Part 1 of 2 p. 54 Chair: *David Krieg*	**Special Session** *Neil K. Chada* and *Simon Weissmann* Advanced Particle Methods for Bayesian Inference p. 50 Chair: *Neil K. Chada*	**Special Session** *Chiheb Ben Hammouda* and *Raúl Tempone* Monte Carlo Methods and Variance Reduction Techniques for Forward and Inverse Problems for Stochastic Reaction Networks p. 62 Chair: *Chiheb Ben Hammouda*	**Special Session** *Art B. Owen* and *Takashi Goda* Quasi-Monte Carlo Methods of High Order and Beyond, Part 1 of 2 p. 68 Chair: *Art B. Owen*
11:30 – 12:00	*Paweł Przybyłowicz* Strong and weak approximation of solutions of SDEs under noisy information about coefficients and driving Wiener process p. 175	*Matthieu Dolbeault* Weighted least-squares approximation in expected L^2 norm p. 109	*Tim Roith* A kernelized consensus-based optimization method p. 188	*Sophia Wiechert* Efficient importance sampling via stochastic optimal control for stochastic reaction networks p. 231	*Yoshihito Kazashi* Density estimation in RKHS with application to Korobov spaces in high dimensions p. 137
12:00 – 12:30	*Kathrin Spendier* Convergence of the tamed Euler–Maruyama method for SDEs with discontinuous and polynomially growing drift p. 205	*Joscha Prochno* Operator norms of random matrices with structured variance profile p. 175	*Björn Sprungk* Dimension-independent Markov chain Monte Carlo on the sphere p. 207		*Marcello Longo* Rate-optimality of an adaptive quasi-Monte Carlo finite element method p. 151
12:30 – 14:00	Lunch				

Thursday, July 21, 2022 – Afternoon I

13:50 – 14:00	Award Ceremony of the Journal of Complexity – Lecture Hall 1				
14:00 – 15:00	Lecture Hall 1 **Plenary Talk** ***Dmitriy Bilyk*** **On some problems of L. Fejes Tóth about point distributions on the sphere** p. 39 Chair: *Friedrich Pillichshammer*				
15:00 – 15:30	Coffee break – Halls B and C				
	Lecture Hall 1 **Technical Session** Chair: *Arne Winterhof*	Lecture Hall 3 **Technical Session** Chair: *Jan Vybíral*	Lecture Hall 4 **Technical Session** Chair: *Alexander Steinicke*	Lecture Hall 5 **Technical Session** Chair: *Stefan Thonhauser*	Lecture Hall 6 **Technical Session** Chair: *Michaela Szölgyenyi*
15:30 – 16:00	*Matthew Sutton* Concave-Convex PDMP-based samplers p. 213	*Michael Gnewuch* Hermite spaces: properties, L^2-approximation, and integration p. 121	*Szymon Urbas* Exact sequential inference for a diffusion-driven Cox process p. 220	*Sascha Desmettre* Monte Carlo simulation in the mean-field LIBOR market model p. 105	*Paul B. Rohrbach* Multilevel simulation of hard sphere mixtures p. 187
16:00 – 16:30	*Pia Stammer* Using importance sampling to speed up non-intrusive uncertainty quantification for Monte Carlo simulations p. 209	*Klaus Ritter* Equivalence of integration on Gaussian spaces and Hermite spaces p. 186	*Guo-Jhen Wu* Analysis and optimization of certain parallel Monte Carlo methods in the low temperature limit p. 235	*Lea Enzi* Numerical methods for risk functionals p. 112	*Tomohiko Hironaka* An efficient estimator of nested expectations without conditional sampling p. 130

Thursday, July 21, 2022 – Afternoon II

	Lecture Hall 1	Lecture Hall 3	Lecture Hall 4	Lecture Hall 5	Lecture Hall 6
	Special Session *Alexander D. Gilbert* and *Florian Puchhammer* Smoothing and Adaptive Methods, Part 1 of 2 p. 75 Chair: *Simon Weissman*	**Special Session** *David Krieg* and *Mario Ullrich* Approximation from Random Data, Part 2 of 2 p. 54 Chair: *Mario Ullrich*	**Special Session** *Andrea Barth* and *Andreas Stein* Multilevel and Higher-Order Approximations for Stochastic Processes, Random Fields and PDEs p. 63 Chair: *Andrea Barth*	**Special Session** *Sascha Desmettre* Simulation and Monte Carlo Methods in Quantitative Finance and Insurance p. 74 Chair: *Sascha Desmettre*	**Special Session** *Art B. Owen* and *Takashi Goda* Quasi-Monte Carlo Methods of High Order and Beyond, Part 2 of 2 p. 68 Chair: *Takashi Goda*
16:30 – 17:00	*Alexander D. Gilbert* Theory and construction of lattice rules after preintegration for pricing Asian options p. 118	*Weiwen Mo* Constructing lattice-based algorithms for multivariate function approximation with a composite number of points p. 158	*Cedric Beschle* A-posteriori numerical methods for random elliptic PDEs p. 92	*Jörn Sass* Modeling a life insurers balance sheet and analyzing its long-term stability p. 193	*Zexin Pan* Super-polynomial accuracy of median-of-means p. 167
17:00 – 17:30	*Abdul-Lateef Haji-Ali* Multilevel path branching for digital options p. 126	*Paweł Siedlecki* Tractability of multivariate linear problems in the presence of noise—the worst case setting p. 201	*Robin Merkle* Subordinated random fields and elliptic PDEs p. 157	*Stefan Thonhauser* Option pricing and regularity of payoffs p. 216	*Kosuke Suzuki* Component-by-component construction of randomized rank-1 lattice rules achieving almost the optimal randomized error rate p. 214

Thursday, July 21, 2022 – Afternoon III

	Lecture Hall 1	Lecture Hall 3	Lecture Hall 4	Lecture Hall 5	Lecture Hall 6
	Special Session *Alexander D. Gilbert* and *Florian Puchhammer* Smoothing and Adaptive Methods, Part 1 of 2 p. 75 Chair: *Simon Weissman*	**Special Session** *David Krieg* and *Mario Ullrich* Approximation from Random Data, Part 2 of 2 p. 54 Chair: *Mario Ullrich*	**Special Session** *Andrea Barth* and *Andreas Stein* Multilevel and Higher-Order Approximations for Stochastic Processes, Random Fields and PDEs p. 63 Chair: *Andrea Barth*	**Special Session** *Sascha Desmettre* Simulation and Monte Carlo Methods in Quantitative Finance and Insurance p. 74 Chair: *Sascha Desmettre*	**Special Session** *Art B. Owen* and *Takashi Goda* Quasi-Monte Carlo Methods of High Order and Beyond, Part 2 of 2 p. 68 Chair: *Takashi Goda*
17:30 – 18:00	*Sebastian Krumscheid* Adaptive stratified sampling for non-smooth problems p. 141	*Laurence Wilkes* A randomised lattice algorithm for integration using a fixed generating vector p. 232	*Sankarasubramanian Ragunathan* Higher-order adaptive numerical methods for computing the exit times of stochastic processes p. 177	*Jörg Wenzel* Applications of the central limit theorem for pricing cliquet-style options p. 230	*Yuya Suzuki* Scaled lattice rules for integration over $\mathbb{R}^d$ achieving higher order convergence p. 215
18:00 – 18:30	*Sifan Liu* Pre-integration via active subspaces p. 148	*Jan Vybíral* Schur's multiplication theorem and lower bounds for numerical integration p. 227	*Andreas Stein* MLMC-FEM for elliptic PDEs with Besov random tree coefficients p. 210	*Christian Laudagé* Severity modeling of extreme insurance claims for tariffication p. 143	
19:00 –	MCQMC Steering Committee Meeting (closed meeting) – Teichwerk				

Friday, July 22, 2022 – Morning I

	Lecture Hall 1 **Special Session** *Alexander D. Gilbert* and *Florian Puchhammer* Smoothing and Adaptive Methods, Part 2 of 2 p. 75 Chair: *Alexander D. Gilbert*	Lecture Hall 3 **Special Session** *Gunther Leobacher* Analysis and Simulation of SDEs in Non-Standard Settings p. 52 Chair: *Gunther Leobacher*	Lecture Hall 4 **Special Session** *Michael Gnewuch* and *Florian Pausinger* Random Points: Generation, Quality Criteria, and Applications p. 69 Chair: *Michael Gnewuch*	Lecture Hall 5 **Special Session** *László Mérai* Pseudo-Random Number Generation p. 65 Chair: *László Mérai*	Lecture Hall 6 **Technical Session** Chair: *Kosuke Suzuki*
09:00 – 09:30	*Andrea Scaglioni* Convergence of adaptive stochastic collocation with finite elements p. 194	*Gunther Leobacher* Orthogonal projection on manifolds and numerical schemes for SDEs p. 146	*François Clément* Efficient algorithms for star discrepancy subset selection p. 101	*Vishnupriya Anupindi* Linear complexity of some sequences derived from hyperelliptic curves of genus 2 p. 85	*Jonathan Spence* Hierarchical and adaptive methods for efficient risk estimation p. 205
09:30 – 10:00	*Abirami Srikumar* Approximating distribution functions in uncertainty quantification using quasi-Monte Carlo methods p. 208	*Verena Schwarz* Regular conditional distributions for semimartingale SDEs p. 196	*Ujué Etayo* A combined use of fibrations and determinantal point processes p. 112	*Domingo Gómez-Pérez* Generating pseudorandom number sequences with Gaussian distribution p. 123	*Miroslav Vořechovský* Periodic metric for distance-based criteria to achieve statistically uniform distribution of sampling points p. 226

Friday, July 22, 2022 – Morning II

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	Special Session *Alexander D. Gilbert* and *Florian Puchhammer* Smoothing and Adaptive Methods, Part 2 of 2 p. 75 Chair: *Alexander D. Gilbert*	**Special Session** *Gunther Leobacher* Analysis and Simulation of SDEs in Non-Standard Settings p. 52 Chair: *Gunther Leobacher*	**Special Session** *Michael Gnewuch* and *Florian Pausinger* Random Points: Generation, Quality Criteria, and Applications p. 69 Chair: *Michael Gnewuch*	**Special Session** *László Mérai* Pseudo-Random Number Generation p. 65 Chair: *László Mérai*	**Technical Session** Chair: *Kosuke Suzuki*
10:00 – 10:30	*Simon Weissman* A multilevel subset simulation for estimating rare events via shaking transformations p. 230	*Christoph Reisinger* Convergence of a time-stepping scheme to the free boundary in the supercooled Stefan problem p. 182	*Julian Hofstadler* Consistency of randomized integration points p. 131	*Pierre Popoli* Maximum order complexity for some automatic and morphic sequences along polynomial values p. 174	*Alessandro Mastrototaro* AdaSmooth: a fast and stable SMC algorithm for online additive smoothing p. 156
10:30 – 11:00		*Alexander Steinicke* From numerical schemes for SDEs to analysis of Lipschitz maps p. 212	*Markus Kiderlen* Stratified and jittered sampling in discrepancy theory p. 138	*Arne Winterhof* Pseudorandom sequences derived from automatic sequences p. 233	*Urbain Vaes* Mobility estimation for Langevin dynamics using control variates p. 220
11:00 – 11:30	Coffee break – Halls B and C				
11:30 – 12:30	Lecture Hall 1 **Plenary Talk** ***Ian H. Sloan*** **Periodicity oils the wheels—periodicity, QMC and uncertainty quantification** p. 45 Chair: *Peter Kritzer*				
12:30 – 12:35	Closing Remarks – Lecture Hall 1				