

Lattice 2023

Monday, 31 July 2023

Algorithms and Artificial Intelligence - Ramsey Auditorium (13:30 - 15:30)

-Conveners: Chulwoo Jung

time	[id] title	presenter
13:30	[251] A Neural Network Approach to Lattice Field Theory	SHENG, Andy
13:50	[334] MLMC: Machine Learning Monte Carlo for Lattice Gauge Theory	Dr FOREMAN, Sam
14:10	[282] Sampling Nambu-Goto theory using Normalizing Flows	CELLINI, Elia
14:30	[174] Out-of-equilibrium simulations to fight topological freezing	NADA, Alessandro
14:50	[166] Fixed point actions from convolutional neural networks	WENGER, Urs

Algorithms and Artificial Intelligence - Ramsey Auditorium (16:00 - 17:40)

-Conveners: Sam Foreman

time	[id] title	presenter
16:00	[52] Decimation map in 2D for accelerating HMC	MATSUMOTO, Nobuyuki
16:20	[355] Multiscale Normalizing Flows for Gauge Theories	ABBOTT, Ryan
16:40	[363] Fine grinding localized updates via gauge equivariant flows in the 2D Schwinger model	FINKENRATH, Jacob
17:00	[71] Gauge-equivariant multigrid neural networks	WETTIG, Tilo
17:20	[204] HISQy Business	WEINBERG, Evan

Tuesday, 1 August 2023

Algorithms and Artificial Intelligence - Ramsey Auditorium (13:30 - 15:30)

-Conveners: Christopher Kelly

time	[id] title	presenter
13:30	[238] Three simple tricks for better Trotterization	OSTMEYER, Johann
13:50	[380] Tuning HMC parameters with gradients	OSBORN, James
14:10	[365] Unfreezing topology with nested sampling	HOYING, Daniel
14:30	[263] Fourier Acceleration of SU(3) Pure Gauge Theory at Weak Coupling	HUO, Yikai
14:50	[40] On the geometric convergence of HMC on Riemannian manifolds	YU, Xinhao
15:10	[374] Riemannian manifold HMC with fermions	JUNG, Chulwoo

Algorithms and Artificial Intelligence - Ramsey Auditorium (16:20 - 18:00)

-Conveners: Balint Joo

time	[id] title	presenter
16:20	[138] Teaching to extract spectral densities from lattice correlators to a broad audience of learning-machines	DE SANTIS, Alessandro
16:40	[150] Sparse modeling approach to extract spectral functions with covariance of Euclidean-time correlators of lattice QCD	TAKAHASHI, Junichi
17:00	[178] Efficient computations of correlators with local distillation	LANG, Nicolas
17:20	[225] Performance of two-level methods for the glueball spectrum in pure gauge theory	BARCA, Lorenzo
17:40	[277] Bayesian interpretation of Backus-Gilbert methods	LUPO, Alessandro

Wednesday, 2 August 2023

Algorithms and Artificial Intelligence - Ramsey Auditorium (09:00 - 10:40)

-Conveners: Evan Weinberg

time	[id] title	presenter
09:00	[15] Density of States for Observables. A derivative method.	LARSEN, Rasmus
09:20	[118] A solution for infinite variance problem of fermionic observables	OH, Hyunwoo
09:40	[189] The dependence of observables on action parameters	CATUMBA, Guilherme
10:00	[151] Application of the projective truncation and randomized singularvalue decomposition to a higher dimension.	NAKAYAMA, Katsumasa
10:20	[121] Equivariant transformer is all you need	Prof. TOMIYA, Akio

Thursday, 3 August 2023

Algorithms and Artificial Intelligence - Ramsey Auditorium (13:30 - 15:30)

-Conveners: Akio Tomiya

time	[id] title	presenter
13:30	[35] Machine Learning Trivializing Flows	ALBANDEA, David
13:50	[265] Trivializing Flow in 2D-O(3) model	CHAMNESS, Christopher
14:10	[271] Constructing approximate semi-analytic and machine-learned trivializing maps for lattice gauge theory	URBAN, Julian
14:30	[364] Neural Network Gauge Field Transformation for 4D SU(3) gauge fields	JIN, Xiaoyong
14:50	[377] Enhancing Expressivity in Machine Learning: Application of Normalizing Flows in lattice QCD Simulations	BOYDA, Denis
15:10	[361] Practical applications of machine-learned flows on gauge fields	HACKETT, Daniel

Algorithms and Artificial Intelligence - Ramsey Auditorium (16:00 - 18:00)

-Conveners: Urs Wenger

time	[id] title	presenter
16:00	[212] Reducing the Sign Problem with simple Contour Deformation	GÄNTGEN, Christoph
16:20	[14] From Theory to Practice: Applying Neural Networks to Simulate Real Systems with Sign Problem	RODEKAMP, Marcel
16:40	[239] Neural network contour deformation for 3d SU(2) gauge theory	LIN, Yin
17:00	[337] Lattice real-time simulations with machine learned optimal kernels	ALVESTAD, Daniel
17:20	[54] Quantum Monte Carlo for Gauge Fields and Matter without the Fermion Determinant	HUFFMAN, Emilie
17:40	[369] Meron-Cluster Algorithms for Quantum Link Models	PINTO BARROS, Joao Carlos

Friday, 4 August 2023

Algorithms and Artificial Intelligence - Ramsey Auditorium (09:00 - 10:40)

-Conveners: Stefan Krieg

time	[id] title	presenter
09:00	[347] Bayesian Inference for Contemporary Lattice Quantum Field Theory	FRISON, Julien
09:20	[91] Methods for Bayesian model averaging	NEIL, Ethan
09:40	[88] Multi-Polynomial Monte Carlo for Trace Estimation in Lattice QCD	Prof. WILCOX, Walter
10:00	[295] Hutch++ and XTrace to improve stochastic trace estimation	COTELLUCCI, Alessandro
10:20	[335] Scalar content of nucleon with the gradient flow using machine learning	PEDERIVA, Giovanni KIM, Jangho