Tuesday, May 13					
7:30	Breakfast & Registration				
8:10	Welcome & Introductions				
Chair:	Kerem Camsari				
8:30	Masoud Mohseni	Towards heterogeneous quantum-probabilistic supercomputing			
8:55	Natalia Berloff	Efficient Encoding for Ising Hamiltonian minimization			
		Solving combinatorial optimization problems through stochastic Landau-Lifshitz-Gilbert			
9:20	Flaviano Morone	dynamical systems			
		HW/SW codesign of heuristics and in-memory accelerator for solving SAT problems in the			
9:45	Giacomo Pedretti	native space			
10:00	Rutger Berns	Predicting sampling advantage of Ising Machines for quantum simulations			
10:15	Seokmin Hong	Trade-offs in Network Complexity of Ising Machines			
10:30	Coffee Break				
Chair:	Pedram Khalili				
10:55	Supriyo Datta	Can p-Bits be useful for feedforward neural networks?			
11:20	Hyunsoo Yang	Computing with magnetic tunnel junctions			
11.45	Chun Kanai	Designs of the stochastic magnetic tunnel junctions for spintronics- based probabilistic			
11:45		computing			
12:10 Choirt	Lunch Natalia Darlaff				
12·20		Circuits That Solve Ontimization Broblems by Evploiting Develos Inequalities			
12.50		Accelerating continuous time solvers for bard entimization via many body interactions			
14.20		Thermodynamic Dayosian inference			
14.20		A Hybrid Approach Integrating Dynamical Systems into a Probabilistic Framework for			
14:35	Nikhat Khan	Solving Large Scale Combinatorial Optimization			
14:50	Davide Pierangeli	Ising machine based on nonlinear polarization oscillators			
15:05	POSTER Session & Coffee				
Chair:	Eleonora Raimondo				
16:00	Arthur Montanari	Designing disordered oscillator Ising machines for global optimization			
		CMOS-Compatible MOSFET-based Voltage-Controlled Oscillator Network for Low-Power			
16:15	Atiyeh Abbasi Jalal	Ising Machine			
		Reconfigurable ring oscillator-based Ising networks in 22nm CMOS: investigating design			
16:30	Ali Bazzi	space trade-offs			
		Integrated photonics and electronics chip-based Ising machine with analog feedback loop			
16:45	Biman Chattopadhyay	for high speed and low power application			
17:00	Toon Sevenants	Implementing a spatially multiplexed analog Ising machine with a spatial light modulator			
17:15	Shu Zhou	Phase analysis of Ising machines and their implications on optimization			
17:30	Conference Photo & Walk to Reception				
18:00	Conference Reception (Le Tour,	Evanston)			

Wednesday, May 14

7:30	Breakfast & Registration	
8:10	Announcements	
Chair:	Damien Querlioz	
8:15	Masanao Yamaoka	Outline and present development status of CMOS annealing
8:40	Nikhil Shukla	optimization solvers
9:05	Giovanni Finocchio	GPU-accelerated Ising Machines
9:30	Christian Duffee	Probabilistic computing with extended variables in a CMOS integrated circuit Analysis of constrained parallel tempering for circle neighborhood travelling salesman
9:45	Andrea Grimaldi	problem instances
10:00	Elisabetta Valiante	A Guide on Benchmarking Advanced Hardware for Solving Optimization Problems
10:15	Nihal Sanjay Singh	Probabilistic Bits for Generative AI: Case Study with Diffusion Models

10:30	Coffee Break	
Chair:	Johan Akerman	
10:55	Hayato Goto	Development of simulated bifurcation algorithm
11:20	Peter McMahon	Spatially multiplexed photonic Ising solving with ultra-low optical energy
11:45	Yuan Gao	50,000-Spin Count Integrated Photonic Chip Ising Solver
12:00	Kyungduk Kim	Accelerating a coherent Ising machine by XY-Ising spin transition
		Experimental and numerical demonstration of an alternating, intensity-resolved, coherent
12:15	Liam Quinn	Ising machine
12:30	Lunch	
Chair:	Giovanni Finocchio	
13:45	John Paul Strachan	Energy landscapes of Ising machines and hardware proposals for higher-order solvers
14:10	Dmitri Strukov	Unified Framework for Efficient High-Order Ising Machine Hardware Implementations
14:35	Stefan Boettcher	Vectorized implementation of the extremal optimization neuristic
14.50	Simon Arnold	application study of Ising. Potts and XV models
15.05	Biarke Frederiksen	Comparative study of Potts machine dynamics and performance
15.05	bjarke frederiksen	Coherent Ising machines with chaotic amplitude control: extension to quadratic
15:20	Sudeera Gunathilaka	unconstraint binary optimisation and heuristic models
15:35	Coffee Break	
Chair:	Flaviano Morone	
		Disruptive Annealing Process for Probabilistic Ising Machine and Hybrid Ising Machine
16:00	Eleonora Raimondo	Exploration
16:15	Navid Anjum Aadit	Towards Extreme Scaling of Ising Machines with Distributed p-Computers
16:30	Takuya Okuyama	Relaxed Momentum Annealing with Alternating Direction Method of Multiplier
16:45	Aditya Shukla	Relaxed dynamical Ising machine on FPGA
		Distributed framework to accelerate in-memory computing solvers: an application for the
17:00	Xiangyi Zhang	SAT problem
	67 6	
17.15	Coover Datel	Parallel Probabilistic Ising Architectures: Large scale digital Ising Machines for
17:15	Saavan Patel	Parallel Probabilistic Ising Architectures: Large scale digital Ising Machines for Optimization
17:15 18:30	Saavan Patel Conference Dinner (The Barn, I	Parallel Probabilistic Ising Architectures: Large scale digital Ising Machines for Optimization Evanston)
17:15 18:30 Thursday	Saavan Patel Conference Dinner (The Barn, I , May 15	Parallel Probabilistic Ising Architectures: Large scale digital Ising Machines for Optimization Evanston)
17:15 18:30 Thursday 7:30	Saavan Patel Conference Dinner (The Barn, I May 15 Breakfast & Registration	Parallel Probabilistic Ising Architectures: Large scale digital Ising Machines for Optimization Evanston)
17:15 18:30 Thursday 7:30 8:10	Saavan Patel Conference Dinner (The Barn, I , May 15 Breakfast & Registration Announcements	Parallel Probabilistic Ising Architectures: Large scale digital Ising Machines for Optimization Evanston)
17:15 18:30 Thursday 7:30 8:10 Chair:	Saavan Patel Conference Dinner (The Barn, I , May 15 Breakfast & Registration Announcements Hyunsoo Yang	Parallel Probabilistic Ising Architectures: Large scale digital Ising Machines for Optimization Evanston)
17:15 18:30 Thursday 7:30 8:10 Chair: 8:15	Saavan Patel Conference Dinner (The Barn, I , May 15 Breakfast & Registration Announcements Hyunsoo Yang Johan Akerman	Parallel Probabilistic Ising Architectures: Large scale digital Ising Machines for Optimization Evanston) Ising machines based on spintronic nano-oscillators, spin waves, and acoustic waves
17:15 18:30 Thursday 7:30 8:10 Chair: 8:15	Saavan Patel Conference Dinner (The Barn, I , May 15 Breakfast & Registration Announcements Hyunsoo Yang Johan Akerman	Parallel Probabilistic Ising Architectures: Large scale digital Ising Machines for Optimization Evanston) Ising machines based on spintronic nano-oscillators, spin waves, and acoustic waves Solving Combinatorial Optimization Problems and Generating Random Numbers with
17:15 18:30 Thursday 7:30 8:10 Chair: 8:15 8:40	Saavan Patel Conference Dinner (The Barn, I , May 15 Breakfast & Registration Announcements Hyunsoo Yang Johan Akerman Andrew Kent	Parallel Probabilistic Ising Architectures: Large scale digital Ising Machines for Optimization Evanston) Ising machines based on spintronic nano-oscillators, spin waves, and acoustic waves Solving Combinatorial Optimization Problems and Generating Random Numbers with Stochastic Actuated MTJs
17:15 18:30 Thursday 7:30 8:10 Chair: 8:15 8:40	Saavan Patel Conference Dinner (The Barn, I ; May 15 Breakfast & Registration Announcements Hyunsoo Yang Johan Akerman Andrew Kent Roman Khymyn / Artem	Parallel Probabilistic Ising Architectures: Large scale digital Ising Machines for Optimization Evanston) Ising machines based on spintronic nano-oscillators, spin waves, and acoustic waves Solving Combinatorial Optimization Problems and Generating Random Numbers with Stochastic Actuated MTJs
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11:	45 Suyoun Lee	Stochastic artificial neuron based on Ovonic Threshold Switch (OTS) and its applications for Restricted Boltzmann Machine (RBM) Digital compute-in-memory Ising appealer with ferroelectric capacitor-based pySRAM for
12:	00 Yuyao Kong	travelling salesman problem
12:	15 Lunch	
Cha	ir: Andrea Grimaldi	
13:	30 Michael Huang	Scalability of dynamical system solvers: challenges and opportunities
13:	55 Warren Gross	Stochastic Computing for Fast and Scalable Ising Machines
		Revealing two new best solutions for large Gset problems and the promise of hardware-
14:	20 Kenneth Zick	friendly heuristic solvers
14:	35 Robbe De Prins	How to deal with external fields in Ising machines that use analog spins
	Fabian Böhm / Giad	como Accelerating XORSAT problems natively with in-memory computing for applications in
14:	50 Pedretti	cryptography and telecommunication
15:	05 Closing Panel & Re	marks
Poste	ers, May 13	
POST	ER Session - May 13, 15	:00
		Use of stray fields in a 2D square nanomagnet lattice for correlation and spectral engineering of
P-1	William Rogers	random binary matrix generators
		Impact of the Statistical Properties of Stochastic Magnetic Tunnel Junctions-based Random Telegraph
P-2	Haruna Kaneko	Noises on Probabilistic Computing Performance
P-3	Sam Reifenstein	Fine Tuning Annealing Schedules with Reinforcement Learning
	Biman	
P-4	Chattopadhyay	20000 variable all-to-all connected Ising machine with gain-dissipative feedback and amplitude control
P-5	Guy Verschaffelt	Examining the impact of spin amplitude resolution on the performance of analog Ising machines
P-6	Jacob Lamers	Analysing classical adiabatic annealing with continuation techniques
P-7	Matt Ellis	Probabilistic computing using stochastic magnetic domain wall neural networks for reinforcement learning
P-8	Moslem Noori	Experiment design for reliable evaluation of probabilistic optimizers
P-9	Filip Sabo	Improving the classification accuracy of Oscillatory Neural Networks with the help of Max-Cut
P-10	Jennifer Volk	The potential of flux quantum electronics for scaling Ising machines
P-11	Thomas Pluck	Swarm digital ising machines
P-12	Hanu Arava	The Role of Intermediate States in Artificial Spin Ice Inspired Computation
	Sai Sakunthala	
P-13	Guddanti	Passenger reallocation in alternate flights using quantum optimization
P-14	Hasantha Ekanayake	Engineering stability in dynamical systems models to improve Ising Hamiltonian solutions
P-15	Zezhi Wu	Ultra-low power and tuneable Ising machine built with tunnel diode- based Fitzhugh-Nagumo oscillators
P-16	Ragib Ahsan	Ultralow-power in-sensor neuronal computing in frequency domain with oscillatory retinal neurons
P-17	Ruqi Shi	Symmetry-breaking in coupled microrings: enabling on-chip photonic Ising spin realization