

Interacting Particle Systems and Their Applications

Week 1: Ensemble based Algorithms

(5–8 October 2026)



ORGANIZING COMMITTEE

Jose Antonio Carrillo
University of Oxford

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Venue

IMS Executive Seminar Room
Bock S17, Level 3
10 Lower Kent Ridge Rd Singapore 119076

9 October is NUS Wellness day and it is a non-work day.

For more information: https://ims.nus.edu.sg/events/ips_applications

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Monday, 05 October 2026

Time	Title	Speaker
0900–0930	Registration	
0930–1030	Score-Based Diffusion Models: Dynamics, Geometry, and Learning	Enrique Zuazua <i>FAU Erlangen-Nürnberg, Germany</i>
1030–1045	Coffee Break	
1045–1145	Long-Time Accuracy of Ensemble Kalman Filters: Chaotic Dynamics, Learned Models, and Localization	Daniel Sanz-Alonso <i>The University of Chicago, USA</i>
1145–1400	Lunch Break	
1400–1500	Continuity Equations with Non-local Mobility and Applications to Self-attention	Daniel Kelly <i>University of Oxford, UK</i>
1500–1515	Coffee Break	
1515–1615	Stochastic Interacting Particle Field Method in the Computation of Keller-Segel Systems	Zhongjian Wang <i>NTU, Singapore</i>

Tuesday, 06 October 2026

Time	Title	Speaker
0915–0930	Registration	
0930–1030	Optimal Probability Measure Decomposition	Xin Tong <i>NUS, Singapore</i>
1030–1045	Group Photo & Coffee Break	
1045–1145	Derivative-Free Ensemble Based Algorithms for Optimization, Sampling, and Filtering	Franca Hoffmann <i>California Institute of Technology, USA</i>
1145–1400	Lunch Break	
1400–1500	A Fast Spectral Particle Method for the Landau Equation	Giacomo Borghi <i>Technical University of Munich, Germany</i>
1500–1515	Coffee Break	
1515–1615	Steering Large Language Models: Control-Theoretic, Geometric, and Learning-Theoretic Foundations	Tan Minh Nguyen <i>NUS, Singapore</i>

Wednesday, 07 October 2026		
Time	Title	Speaker
0915–0930	Registration	
0930–1030	The Stein-log-Sobolev Inequality and the Exponential Rate of Convergence for the Continuous Stein Variational Gradient Descent Method	Jakub Skrzeczkowski <i>University of Oxford, UK</i>
1030–1045	Coffee Break	
1045–1145	Opinion Dynamics: Socio-economic Factors and Social Networks	Bertram Düring <i>University of Warwick, UK</i>
1145–1400	Lunch Break	
1400–1500	Evolving Ensemble of Agents	Yang Liu <i>NUS, Singapore</i>
1500–1515	Coffee Break	
1515–1615	Transformers for Operator Learning on Probability Measures: From Theory to Scientific Workflows	Edoardo Calvella <i>Lawrence Berkeley National Laboratory, USA</i>
Thursday, 08 October 2026		
Time	Title	Speaker
0915–0930	Registration	
0930–1030	Stein Variational Gradient Descent dynamics for Highly Concentrated Kernels	Jethro Warnett <i>University of Oxford, UK</i>
1030–1045	Coffee Break	
1045–1145	Convergence of Kernelized Wasserstein Flows	Lénaïc Chizat <i>NUS, Singapore</i>
1145–1400	Lunch Break	
1400–1500	Wasserstein Gradient Flow of Maximum Mean Discrepancy with Energy Kernel	Lihan Wang <i>NUS, Singapore</i>
1500–1515	Coffee Break	
1515–1615	Uniform-in-Time Propagation of Chaos and Long-Time Asymptotics for Consensus-Based Optimization (CBO)	Dohyeon Kim <i>California Institute of Technology, USA</i>
1745	<u>Conference Dinner (by invitation only)</u> 1-way transfer is provided from Citadines Science Park to MBS. Venue: RISE @ Marina Bay Sands (Lobby 1) 10 Bayfront Avenue, Singapore 018956	

This schedule is accurate as of 06 Oct 2026 and is subjected to changes.