**Stevanovich Center
for Financial Mathematics**
at the University Of Chicago

5727 South University Avenue
Chicago, IL 60637
773-834-8563

May 2-4, 2024

Market Microstructure, Quantitative Trading,

High Frequency, and Large Data

Venue: Eckhardt Research Center (ERC), Room 161
5640 S Ellis Ave, Chicago

Program

Thursday, May 2 – Large Data and Finance I

8:30 AM	**Coffee/Pastry**		

9:00-10:10 AM	**Session 1**		
9:00 AM	Viktor Todorov	Northwestern U	Changes in the span of systematic risk exposures
9:35 AM	Xinghua Zheng	Hong Kong UST	Learning the stochastic discount factor

10:10 – 10:30 AM	Coffee Break		

10:30AM-12:15PM	**Session 2**		
10:30 AM	Mathieu Rosenbaum	École Polytechnique	The two square root laws of market impact and the role of sophisticated market participants
11:05 AM	Yong Zeng	Nat'l Science Foundation	Control and inference via filtering for partially-observed Markov processes with application to ultra-high frequency data
11:40 AM	Markus Bibinger	U Würzburg	Statistics of high-frequency data with limit order microstructure noise

12:15 – 1:45 PM	Lunch Break		

1:45-3:30 PM	**Session 3**		
1:45 PM	Carsten Chong	Hong Kong UST	The fine structure of volatility dynamics
2:20 PM	Kjell Nyborg	U Zürich	The price of money: the reserves convertibility premium over the term structure
2:55 PM	Suzanne Lee	Georgia Tech	Jump risk premiums in cryptocurrency returns

3:30 – 3:50 PM	Coffee Break		

3:50-5:00 PM	**Session 4**		
3:50 PM	Yingying Li	Hong Kong UST	Co-jump networks, mixed membership and beyond
4:25 PM	Nour Meddahi	Toulouse School of Economics	Non-linear time series models and machine learning
5:00 PM	End of Program (Thursday)		

Friday, May 3 – DeFi: Decentralized Finance in Crypto Markets

8:30 AM	**Coffee/Pastry**

9:00 AM – 10:30 AM	**Session 5:** Market Design I

9:00 AM	Agostino Capponi (Columbia) Discussant: Sarit Markovich (Kellogg)	The paradox of just-in-time liquidity in decentralized exchanges: more providers can lead to less liquidity
9:45 AM	Fayçal Drissi (Oxford) Discussant: Tarun Chitra (Gauntlet)	Automated market makers design beyond constant functions

10:30 – 10:50 AM	**Coffee Break**

10:50 AM – 12:20 PM	**Session 6:** Market Design II

10:50 AM	Ciamac Moallemi (Columbia) Discussant: Andrew Papanicolaou (NCSU)	The economics of automated market making and decentralized exchanges
11:35 AM	Geoff Ramseyer (Stanford) Discussant: Ayan Bhattacharya (Uchicago)	Scalable, frequent batch auctions with multiple numeraires

12:20 – 1:40 PM	**Lunch Break**

1:40 – 3:10 PM	**Session 7:** DeFi Math	Chair: Gina Pieters

1:40 PM	Emmanuel Gobet (École Polytechnique) Discussant: Fayçal Drissi (Oxford)	Thorough mathematical modeling and analysis of Uniswap v3
2:25 PM	Tarun Chitra (Gauntlet) Discussant: William Cottrell (Uchicago and Jump Trading)	Geometry of DeFi and maximal extractable value

3:10 – 3:30 PM	**Coffee Break**

3:30 – 5:00 PM	**Session 8:** Economics of IL, and Economics of Blockchain	Chair: Gina Pieters

3:30 PM	Andrew Papanicolaou (NCSU) Discussant: Anthony Lee Zhang (Booth)	Implied impermanent loss: a cross-sectional analysis of decentralized liquidity pools
4:15 PM	Eric Budish (Booth) Discussant: Ciamac Moallemi (Columbia)	Trust at scale: the economic limits of cryptocurrencies and blockchains

5:00 PM	**End of Program** (Friday)

Saturday, May 4 – Large Data and Finance II

8:30 AM	**Coffee/Pastry**		

9:00-10:10 AM	**Session 9**		
9:00 AM	Ruixun Zhang	Beijing U	Spectral volume models: universal high-frequency periodicities in intraday trading activities
9:35 AM	Álvaro Cartea	Oxford	Spoofing and manipulating order books with learning algorithms

10:10 – 10:30 AM	Coffee Break		

10:30AM-12:15PM	**Session 10**		
10:30 AM	Eric Renault	U Warwick	Coordinated testing for identification failure and correct model specification
11:05 AM	Dacheng Xiu	U Chicago Booth	On the theory of autoencoders
11:40 AM	Xiaohong Chen	Yale	STEEL: singularity-aware reinforcement learning

12:15 – 1:45 PM	Lunch Break		

1:45-3:30 PM	**Session 11**		
1:45 PM	Michael Sørensen	U Copenhagen	Simulation of diffusion bridges and estimation for SDEs with random effects and jumps
2:20 PM	Anders Kock	Oxford	Testing many moments by combining many norms

2:55 – 3:15 PM	Coffee Break		

3:15-4:25 PM	**Session 12**		
3:15 PM	Zhengjun Zhang	UCAS	Non-reversal normal markets meet nonexcessive regulations: quantile-based risk portfolios outperform naive strategy
3:50 PM	Rituparna Sen	ISI, Bangalore	Copula estimation for nonsynchronous financial data

4:25 PM	End of Conference		