# October 6-8, 2022

# Big Data and Machine Learning in Econometrics, Finance, and Statistics

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

# Program

# Thursday, October 6

| 8:30 AM | Coffee/Pastry |
| 9:00 AM | Welcome from Dean Olinto |

| 9:10-11:30AM | Session T1: Prediction in Machine Learning, Tensor Learning | | |
|---|---|---|---|
| 9:10 AM | Edgar Dobriban | U Penn | T-Cal: An optimal test for the calibration of predictive models |
| 10:00AM | Rina Foygel Barber | U Chicago | Conformal prediction beyond exchangeability |
| 10:50AM | Anru Zhang | Duke U | Tensor learning in 2020s: Methodology, theory, and applications |
| 11:30 AM – 1PM | | Lunch Break | |

| 1-2:30PM | Session T2: Machine Learning in Predicting Stock Returns | | |
|---|---|---|---|
| 1:00 PM | Matt Dixon | Illinois Tech | Deep partial least squares for empirical asset pricing |
| 1:50PM | Jianqing Fan | Princeton U | How and when are high-frequency stock returns predictable? |

| 2:30 – 3:00 PM | | Coffee Break | |

| 3-4:30PM | Session T3: Factors | | |
|---|---|---|---|
| 3:00 PM | ~~Bryan Kelly~~ | ~~Yale U~~ | ~~Virtue of complexity~~ |
| ~~3:50PM~~ | Paolo Zaffaroni | Imperial College | Factor models for conditional asset pricing |

# Friday, October 7

| 8:30 AM | Coffee/Pastry |

| 9:10-11:30AM | Session T4: Causal Inference | | |
|---|---|---|---|
| 9:10 AM | Emil Stoltenberg | Oslo Business Sch | Regression discontinuity design with right-censored survival data |
| 10:00AM | Pragya Sur | Harvard U | A new central limit theorem for the classical augmented IPW estimator: variance inflation, cross-fit covariance and beyond |
| 10:50AM | Victor Veitch | U Chicago | A causal view on invariance and transportability in domain shifts |
| 11:30 AM – 1PM | | Lunch Break | |

| 1-2:30PM | **Session T5: Sparsity and Social Networks** | | |
|---|---|---|---|
| 1:00 PM | Mark Podolskij | U Luxembourg | On Lasso estimation for the drift function in diffusion models |
| 1:50PM | Tracy Ke | Harvard U | Mixed membership estimation for large social networks |

| 2:30 – 3:00 PM | Coffee Break | | |
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| 3-4:30PM | **Session T6: Inference in Financial Data** | | |
|---|---|---|---|
| 3:00 PM | Torben Andersen<br>Viktor Todorov | Northwestern U | Inference for VIX and related option portfolios |
| 3:50PM | Eric Ghysels | UNC-Chapel Hill | Three common factors |

# Saturday, October 8

| 8:30 AM | **Coffee/Pastry** | | |
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| 9:10-11:30AM | **Session T7: PCA in High Dimension** | | |
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| 9:10 AM | Zhao Ren | U Pitt | Heteroskedastic sparse PCA in high dimensions |
| 10:00AM | Dacheng Xiu | U Chicago | Prediction when factors are weak |
| 10:50AM | Per Mykland<br>Lan Zhang | U Chicago<br>UIC | Principal component analysis with asynchronous and noisy High frequency data |

| 11:30 AM – 1:30PM | Lunch and Conference Concludes | | |
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