1165-60-158 **Sveinn Olafsson*** (so2570@columbia.edu), **Agostino Capponi** and **Thaleia Zariphopoulou**.
Personalized Robo-Advising: Enhancing Investment through Client Interaction.

Automated investment managers, or robo-advisors, have emerged as an alternative to traditional financial advisors. The viability of robo-advisors crucially depends on their ability to offer personalized financial advice. We introduce a novel framework, in which a robo-advisor interacts with a client to solve an adaptive mean-variance portfolio optimization problem. The risk-return tradeoff adapts to the client's risk profile, which depends on idiosyncratic characteristics, market returns, and economic conditions. We show that the optimal investment strategy includes both a myopic term and intertemporal hedging demand, driven by the client's dynamic risk profile. We characterize portfolio personalization via a tradeoff faced by the robo-advisor between receiving client information in a timely manner and mitigating behavioral biases in the risk profile communicated by the client. We argue that the optimal portfolio's Sharpe ratio and return distribution improve if the robo-advisor counters the client's tendency to reduce market exposure during economic contractions when the market risk-return tradeoff is more favorable. This is joint work with Agostino Capponi and Thaleia Zariphopoulou. (Received January 17, 2021)