

Industrial & Systems Engineering Seminar

Margin Dynamics

Wednesday, September 14

3:15 PM - Refreshments, 3:30 - Graduate Seminar

Mechanical Engineering Room 4125 A & B



Professor Paul Glasserman

Jack R. Anderson Professor of Business

Research Director of the Program for Financial Studies

Columbia Business School, Columbia University

Regulatory reforms following the financial crisis have brought major changes to the structure and operation of markets for over-the-counter derivative securities. Standard contracts must now be traded through central counterparties, and nearly all contracts are subject to higher margin requirements. The increased use of margin (i.e., collateral) reduces counterparty credit risk in the financial system, but it may also amplify shocks through margin calls, particularly if margin requirements are proportional to market volatility. We analyze this "procyclical" effect of margin requirements in a simple GARCH model of volatility. Through a combination of theoretical and empirical results, we find that the level of margin needed to counteract procyclicality can be surprisingly high, and the historical time series required to estimate stable margin levels can be surprisingly long. We use this analysis to examine specific requirements adopted by the European Union. This is joint work with Qi Wu.

BIO:

Paul Glasserman is the Jack R. Anderson Professor of Business in the Decision, Risk, and Operations division of Columbia Business School. Since 2011, he has also been a consultant to the Office of Financial Research in the U.S. Treasury Department, conducting research on financial stability. He also has a longstanding interest in simulation methodology, and his book Monte Carlo Methods in Financial Engineering received the 2006 INFORMS Lanchester Prize. He currently co-chairs the Financial and Business Analytics center within Columbia's Data Science Institute, and he directs the Risk Management initiative within Columbia Business School's Program for Financial Studies.