

The Towson University Mathematics Colloquium



presents

Dr. John Chadam,
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The Optimal Strategy for Hedge Fund Investing

Monday, October 1, 2018
1:00 PM – 2:00 PM
7800 York Road, Room 123

We discuss the optimal withdrawal time for an investor in a hedge fund with a first-loss or shared-loss fee structure, given as the solution of an optimal stopping problem on the fund's assets with a piecewise linear payoff function. Assuming that the fund's wealth process follows a geometric Brownian motion, we outline a complete, closed form, solution of the problem in the infinite horizon case, showing that the continuation region is a finite interval, and that the smooth-fit condition may fail to hold at one of the endpoints. In the finite horizon case, there exists a pair of optimal exercise boundaries and we describe their properties, including smoothness and convexity. We conclude with the formulation of an optimal stopping / stochastic control game that results when, in addition, the hedge fund manager actively selects the fund's assets to optimize her fees. (Ongoing work with Xinfu Chen, University of Pittsburgh and David Saunders, University of Waterloo).

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