FINANCIAL ECONOMICS IN CONTINUOUS-TIME

Time. 10.00am to 11.30am on Fridays.

Plan. We will meet every week and read the book "Stochastic Differential Equations." Then, we will study some economics papers in the field.

Material.

- Øksendal, *Stochastic Differential Equations*, (2003), Springer. - Electric version is available.
- Karatzas amd Shreve, *Brownian Motion and Stochastic Calculus*, (2000), Springer. - Supplementary material.

Schedule and Location.

Date	Topics	Location
Sep 7	Mathematical Preliminaries and Brownian Motion (Ch 2 & 3)	Bldg 24, Room S402
Sep 14	The Ito Integral and Stochastic Integration (Ch 3 & 4)	Bldg 24, Room S402
Sep 21	Stochastic Differential Equations (Ch 5)	Bldg 24, Room S402
Sep 28	Break	No Meeting
Oct 5	Filtering Theory (Ch 6)	Bldg 24, Room S402
Oct 12	Diffusion Theory (Ch 7 & 8)	Bldg 24, Room S402
Oct 19	Boundary Value Problem (Ch 9)	Bldg 24, Room S402
Oct 26	Optimal Stopping Time (Ch 10)	Bldg 24, Room S402
Nov 2	Application to Stochastic Control (Ch 11)	Bldg 35, Room 212
Nov 9	Back [1992], "Insider Trading in Continuous Time," Review of Financial Studies	Bldg 35, Room 212
Nov 16	Sannikov [2008], "A Continuous-Time Version of the Principal-Agent Problem," Review of Economic Studies	Bldg 35, Room 212