

September 18th, 2017
KAP 414
2:00 P.M. – 3:00 P.M.

Professor Yi Lu
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“Optimal Investment Strategies and
Intergenerational Risk Sharing for Target Benefit
Pension Plans”

Abstract: In this talk, I will present a stochastic model for a target benefit pension fund in continuous time, where the plan members’ contributions are set in advance while the pension payments depend on the financial situation of the plan, with risk sharing between different generations. The pension fund is invested in both a risk-free asset and a risky asset. In particular, stochastic salary rates and the correlation between salary movements and financial market fluctuations are considered. A stochastic optimal control problem is set, which minimizes the combination of benefit risk (in terms of deviating from the target) and intergenerational transfers, and closed-form solutions are obtained for optimal investment strategies as well as optimal benefit payment adjustments using the standard approach. Numerical analysis is presented to illustrate the sensitivity of the optimal strategies to parameters of the financial market and salary rates.