

September 12th, 2016
KAP 414
2:00 P.M. – 3:00 P.M.

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“Longevity Risk: Methods, Models, and Management”

Abstract: Having appropriate estimates for the risk in mortality projections is important in many respects. For instance, a retiree’s personal financial planning decisions will be affected by her longevity prospects as well as associated uncertainties. For life insurers, pension plans, and other similar institutions, the risk in mortality projections directly translates into risk in their liabilities. And for economies, the extent and the organization of intergenerational risk sharing depend on the riskiness of aggregate mortality trends. In this presentation, I first provide an overview of some of the key aspects related to longevity risk. I introduce several stylized facts from demographic research, discuss some elementary models, and present figures that demonstrate the magnitude of the risk. I then argue that frequently, it is more appropriate to consider uncertainties in mortality projections rather than uncertainties in realized mortality rates, which is the basis for conventional approaches to modeling longevity risk. This change of perspective leads to a class of models for the entire mortality age/term surface — akin to yield curve models for the interest term structure. I discuss several aspects of this model class, including finite-dimensional realizations, estimation, and some applications.

