ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΕΙΡΑΙΩΣ

ΣΧΟΛΗ ΧΡΗΜΑΤΟΟΙΚΟΝΟΜΙΚΗΣ ΚΑΙ ΣΤΑΤΙΣΤΙΚΗΣ

ΤΜΗΜΑ ΣΤΑΤΙΣΤΙΚΗΣ ΚΑΙ ΑΣΦΑΛΙΣΤΙΚΗΣ ΕΠΙΣΤΗΜΗΣ

ΠΡΟΣΚΛΗΣΗ

Σας προσκαλούμε στην **ομιλία** της **Dr. Meral Şimşek, Institute of Applied Mathematics, Middle East Technical University (METU), Ankara, Turkey**, η οποία θα διεξαχθεί τη **Δευτέρα 9 Νοεμβρίου 2026, ώρα 14:00** στην **Αίθουσα 108** (1ος όροφος, Κεντρικό Κτίριο Παν. Πειραιώς), με θέμα:

Fluctuations of Omega-Killed Reflected Level Dependent Lévy Processes

Abstract/Περίληψη: Reflected level-dependent Lévy processes arise as solutions to stochastic differential equations (SDE) driven by a spectrally negative Lévy process, with a non-decreasing reflection term that pushes the process upward whenever it attempts to fall below zero, and a state-dependent drift. In this talk, we show the existence of solution to the above SDE. In addition, assuming that the process is killed exponentially at a rate depending on its current state, we solve exit problems and potential measures by means of new scale functions. These scale functions are characterised as the solution of the Volterra integral equation (which solution exists).

Joint work with: Zbigniew Palmowski, Apostolos Papaioannou

Short Bio: Dr. Meral Şimşek is a Research Assistant at the Institute of Applied Mathematics, Middle East Technical University (METU) in Ankara, Turkey, and a registered Intern Actuary. She holds a Ph.D. in Statistics and an M.Sc. in Actuarial Sciences from METU, and recently completed a postdoctoral research at the Institute for Financial and Actuarial Mathematics (IFAM), University of Liverpool. Her primary research focuses on applied probability, stochastic processes with a focus on the fluctuation theory and exit problems of Lévy processes and their applications in insurance and finance.