НАЦИОНАЛЕН СЕМИНАР ПО СТОХАСТИКА

На 16 януари 2017 г. (вторник) от 14:15 часа в зала 403 на ИМИ – БАН, доклад на тема:

"Consecutive Subordination of Poisson Processes and Gamma Processes"

ще изнесе Пенка Майстер (ИМИ-БАН).

Abstract: Subordination by Bochner is a randomization of the time parameter in stochastic processes. There are two sources of randomness: the ground process $X(t)$ and time process $T(t)$, under the assumption of theirs independence. The time process is supposed to be subordinator - Lévy process with non decreasing sample paths. Subordinated process is defined as $Y(t) = X(T(t))$. We consider the sequences of consecutive subordination of Poisson processes and Gamma processes, starting with Poisson process and starting with Gamma process.

Poisson process subordinated by Gamma process is a Negative Binomial process. Negative Binomial process subordinated by Poisson process is a Polya-Aeppli process.

Gamma process subordinated by Poisson process is a Tweedi process - Poisson exponential Lévy process.

We prove that Tweedi process is stable by iteration. Polya-Aeppli process is stable by subordination with Tweedi process. The iteration of Negative Binomial processes leads to degeneration.

The transition probabilities of subordinated processes are expressed by special functions - Bessel function and Confluent Hypergeometric function. The asymptotic behavior is considered.

Поканват се всички интересуващи се.