

# Oberseminar Mathematische Stochastik

Mittwoch, 27. Januar 2016, 17:00 Uhr, M 1

*Georgiy Shevchenko, Kyiv, Ukraine*

## **Small ball probabilities and representations with respect to Gaussian processes**

*Abstract:*

The talk will be devoted to stochastic integral representations of the form

$$\xi = \int_0^T \psi(s) dX(s), \quad (1)$$

where  $\phi$  is an adapted process, and  $X$  is a Hölder continuous process of order  $\mu > 1/2$ . Studying such representations is motivated by applications in financial mathematics, where  $\phi$  plays a role of a risky component of self-financing portfolio.

A sufficient condition for representation (1) will be formulated in terms of the Hölder exponent  $\gamma$  and small ball exponents for  $X$ . In view of this, some new results on small ball probabilities for Gaussian processes will be given.