Minicourse on

Functional change of variables formula and Itô calculus

Time: 30.5., 31.5. (and with positive probability also 1.6.) at 14-16
Place: Aalto University, Mathematics, room U322
Teacher: Heikki Tikanmäki, heikki.tikanmaki@tkk.fi

Contents

The course covers some new developments in stochastic analysis. A pathwise functional change of variables formula is introduced for non-anticipating functionals of the path. In the case of semimartingales these results yield to functional extension of the Itô formula. Some applications to path dependent options will be considered.

References

[1] R. Cont, and D.-A. Fournié. Change of variable formulas for non-anticipative functionals on path space. *J. Funct. Anal.*, 259(4): 1043-1072, 2010.

[2] R. Cont, and D.-A. Fournié. Functional Ito calculus and stochastic integral representation of martingales. *Preprint*, 2010.

[3] R. Cont, and D.-A. Fournie. A functional extension of the Ito formula. *C. R. Acad. Sci. Paris, Ser. I*, 348: 57-61, 2010.