



Potential Theory Seminar



Simion Stoilow Institute of Mathematics
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Faculty of Math. and Computer Science
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Stochastic integration of non adapted process related to sub-fractional Brownian motion

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Tuesday, October 12th, 2021, 14:00 h

Join Zoom Meeting: <https://zoom.us/j/91062136039?pwd=aUpIRVF2bIBxZThET05razNxb1I5dz09>
Meeting ID: 910 6213 6039, **Passcode:** 639704

Abstract: The aim of the presentation is to give an overview on a class of Gaussian processes which are not semi-martingales, more precisely, the class of fractional and sub-fractional Brownian motions. We present different stochastic integral approaches when dealing with this type of processes as integrators where the integrand processes are considered as deterministic functions or random processes adapted to the filtration. We define also the stochastic integral of an anticipating integrand, which is a product of instantly independent process and adapted process, with respect to sub-fractional Brownian motion based on Ayed and Kuo's approach. This provides a new concept of stochastic integration of non-adapted processes. Further, we prove that our anticipating integral is a near-martingale under some conditions.