MAIN STRONG POINTS FOR STUDENTS:

1. Students who successfully pass the program will have a strong background not only for the work in the financial industry, but for good PhD programs in Economics and Finance. Prof Levendorskiĭ who is well-known not only in Mathematical Finance, will write recommendation letters for the best students. It will be possible to extend a good MSc project into a PhD thesis in 1-2 years.

2. Students will learn up-to-date efficient methods for pricing, calibration and hedging in models with stochastic volatility and jumps, presented by high level specialists from both industry and academia who developed some of these efficient methods, e.g., pricing of derivatives by modern Fourier transform methods for affine jump-diffusion models and new efficient variations of Monte Carlo methods.

3. Market and Credit Risk Management calculation based on models with jumps, the latter especially relevant in credit risk in the context of the "margin period of risk". Advanced models in Counterparty Credit Risk Management and pricing of derivative portfolio default risk (CVA), modelling of Wrong-Way Risk, and the funding value adjustment (FVA) are also included.


5. Advanced Monte Carlo simulation methods and variance reduction techniques.

6. Sound background in necessary parts of financial economics, including several new directions.

7. Sound background in the basic theory of stochastic processes. The level and amount of the theoretical information is tailored to the needs of applied computational finance modules.