Fakultät für Mathematik
Oskar-Morgenstern-Platz 1
A-1090 Vienna
Austria

https://owos.univie.ac.at

ONE WORLD OPTIMIZATION SEMINAR

February 15th 2021 @ 15:30 CET (Central European Time)

KATYA SCHEINBERG

(ORIE Cornell)

Complexity Analysis Framework of Adaptive Optimization Methods via Martingales

Abstract. We will present a very general framework for unconstrained adaptive optimization which encompasses standard methods such as line search and trust region methods that use stochastic function measurements and/or derivatives. In particular, methods that fall in this framework retain desirable practical features such as step acceptance criterion, trust region adjustment and ability to utilize second order models and enjoy the same convergence rates as their deterministic counterparts. The framework is based on bounding the expected stopping time of a stochastic process, which satisfies certain assumptions. Thus this framework provides strong convergence analysis under weaker conditions than alternative approaches in the literature. We will conclude with a discussion about some interesting open questions.

The link of the zoom-room of the meeting and the corresponding password will be announced the day before the talk on the mailing list of the seminar, to which one can subscribe on https://owos.univie.ac.at.