# Seminário OGTC
## Optimization, Graph Theory and Combinatorics

### 18 de maio de 2022 (15h00–16h00)
### (Sala Sousa Pinto)

# Automatic Adjoint Differentiation for special functions involving expectations

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## Abstract

We explain how to compute gradients of functions of the form $G = (1/2) \sum_{i=1}^{m}(Ey_i - C_i)^2$, which often appear in the calibration of stochastic models, using Automatic Adjoint Differentiation. We expand on the work of [DL] and give faster and easier to implement approaches. We also provide an implementation of our methods and apply the technique to calibrate European options.

[DL] D. Goloubentsev and E. Lakshtanov. Remarks on Automatic Adjoint Differentiation for gradient descent and models calibration, 2019 (https://arxiv.org/pdf/1901.04200.pdf)

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