

# INVITATION TO A GUEST LECTURE

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**Prof. Dr. Günter Rote**

Freie Universität Berlin, Deutschland

**“Isotonic regression by dynamic programming”**

📍 N.2.01

📅 Thursday, 19 September 2019

🕒 11:00 a.m.

## Abstract

For a given sequence of  $n$  numbers, we want to find a monotonically increasing sequence of the same length that best approximates it in the sense of minimizing the weighted sum of absolute values of the differences. A conceptually easy dynamic programming approach leads to an algorithm with running time  $O(n \log n)$ . While other algorithms with the same running time are known, our algorithm is very simple. The only auxiliary data structure that it requires is a priority queue. The approach extends to other error measures.

Andrei Asinowski and the Department of Mathematics look forward to seeing you at the talk!