

Samir Arezki

University of Bejaia, Algeria

samir.arezki@univ-bejaia.dz

This work deals with stochastic Mann iteration under the influence of functional random errors. First, we establish an exponential Brenstien-Frechet inequality that allows to prove the almost complete convergence to the fixed point of a contracting application in a Banach space, which is the solution of the Volterra integral equation.

Then, we will study the rate of convergence of this algorithm, which represents the speed at which the algorithm converges to the fixed point.

In sum, this research work contributes to improving our understanding of stochastic Mann iteration and its behavior under specific conditions. The results of this research can be useful for optimizing the algorithm in various practical applications.

Joint work with Barache Bahia (university of Bejaia) and Zerouati Halima (university of Bejaia).