ABSTRACT

In this talk I will present new developments in Optimization Theory motivated by recent results in Fixed Point Theory which are based on the concept of the Bregman distance.

It turns out that several results about nonexpansive operators in Fixed Point Theory can be generalized to operators of nonexpansive type with respect to Bregman distances. I will present new iterative methods for solving diverse optimization problems (such as: finding zeroes of monotone mappings, equilibrium problems and variational inequalities) in both finite and infinite dimensional Banach spaces. A first order method for finding minimal norm solutions of convex optimization problems and a portfolio optimization example are given in order to illustrate our results.