On KKT and M-Stationarity in Nonconvex Optimization

Speaker:

Dr. Fabián Flores-Bazán, Universidad de Concepción, Chile

Abstract:

In this talk an overview on the main optimality conditions (OC) which lie at the core of mathematical programming is outlined. Such an OC may be considered as a generalization of the classical Lagrange multiplier rule. The notion of contingent (Bouligand- Severi) cone is used to formulate the standard OC due to Karush-Kuhn-Tucker, whose validity requires constraint qualification. The concept of M-stationarity, which uses the limiting normal cone is also presented, and applied to optimization problems under the presence of a geometric constraint set being either a quadric surface or the union of two polhyedra. Various classes of optimization problems are discussed under this framework and new results are also established.

Research supported by ANID-Chile through FONDECYT1252131, BASAL FB210005 and CIN250062 SENTINET grants.