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Mau Nam Nguyen, Sam Reynolds and Tuyen Tran* (tuyen2@pdx.edu). *Constrained clustering and multifacility location via distance function penalty methods and DC programming.*

Cluster analysis tackles an emerging class of optimization problems that have numerous applications in data science, machine learning, and multifacility location problems, to name a few. In this talk we introduce a constrained model of multifacility location and use the distance function penalty method, Nesterov's smoothing techniques and the DCA to provide an effective optimization scheme for solving the problem. In our problem, the centers to be found must lie in the intersection of some given set constraints. Different numerical examples with artificial and real data sets are provided to test our method.

(This talk is based on the joint work with Mau Nam Nguyen and Sam Reynolds.) (Received February 03, 2018)