Texas Tech University. Applied Mathematics Seminar.

Optimization over discrete sets

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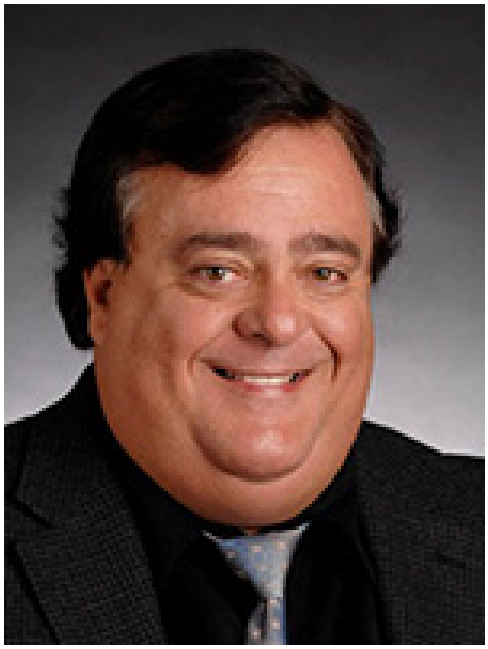
Room: MATH 109. Time: 4:00pm.



ABSTRACT. With the exception of a small number of special cases, such as flows in networks, the problem of optimizing a function over a discrete set is NP-hard, even when the function is convex. On the other hand, optimization problems of this type are at the core of our economy and welfare, arising in such fields as transportation, medical science, finance, and energy. I will start by introducing the field of mixed-integer programming and its state-of-the-art. I will then present some results of my research on polyhedral methods to tackle such problems theoretically and computationally. I will conclude with a discussion of directions for further research.