Linear Conic Programming: A New Modeling Tool for Engineering and Management

Professor Shu-Cherng Fang
Dept of Industrial and Systems Engr
North Carolina State University
Raleigh, North Carolina, USA

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ABSTRACT:
Engineers and managers often face the challenge of modeling problems for further analysis and optimal decision making. A toolbox with up-to-date methodologies may equip us with more powerful modeling capabilities for better design and analysis. Linear conic programming (LCoP) extends the popularly used linear programming (LP) models to handle complex problems with nonlinearity and nonconvexity involved. It also generalizes the modern semidefinite programming (SDP) polynomial-time computational techniques for engineering and management applications. In this talk, he will present the general model, essential concepts, state-of-the-art research and illustrative applications of linear conic programming to general audience with basic understanding of the linear programming methodology.

BIOGRAPHY:
Shu-Cherng Fang is the Walter Clark Chair and University Alumni Distinguished Graduate Professor in the Industrial and Systems Engineering Department of the North Carolina State University, Raleigh, NC. Before joining NC State, he was Senior Member of Research Staff at Western Electric Engineering Research Center, Supervisor at AT&T Bell Labs, and Department Manager at the Corporate Headquarters of AT&T Technologies. Professor Fang’s research interests include large-scale optimization, neural computing and fuzzy systems with applications to intelligent human machine decision support systems for manufacturing, logistics and telecommunications.