**Abstract:** Homogeneous cone optimization (also known as linear optimization over homogeneous cones) is an extension of linear optimization where all linear inequality constraints are replaced by a linear conic constraint involving a homogeneous cone. While it is a large class of optimization that includes semidefinite optimization and convex quadratic optimization (and much more), homogeneous cone optimization is almost never used in practice for two reasons: 1) all homogeneous cone optimization problems can be modeled (hence solved) as semidefinite optimization problems, and 2) there is a lack of development of primal-dual algorithms for homogeneous cone optimization.

In this talk, the speaker will present a few interesting practical optimization problems that can be naturally modeled by homogeneous cone optimization. This will be followed with a presentation of recent research on primal-dual algorithms for homogeneous cone optimization.

**About the speaker:** Dr. Chua Chek Beng has received his B.Sc. (Hons) degree from the National University of Singapore in 1999. He continued his academic pursue in Cornell University, where he obtained his Ph.D. degree in 2003. He is currently an Assistant Professor in the Department of Combinatorics and Optimization at the University of Waterloo, Canada.

**DATE & TIME**

of Seminar : Wednesday, 25 January 2006 at 1:30pm - 2:30pm

**VENUE**

: SBS-01n-28

**SPEAKER**

: Dr. Chua Chek Beng (University of Waterloo, Canada)

*All are welcome!*