1049-90-50   **Carol Meyers*** (`meyers14@llnl.gov`), 7000 East Ave., L-153, Livermore, CA 94550, and
Andreas S. Schulz (`schulz@mit.edu`), 77 Massachusetts Ave., E53-357, Cambridge, ME 02139.
Complexity and Equilibria in Congestion Games.

Congestion games are games in which the cost of a resource depends solely on the number of players using that resource. In a network setting, player strategies correspond to simple $s_i - t_i$ paths and the cost of each arc varies according to the amount of flow traversing the arc. In this talk, we examine the complexity of finding system optimal solutions to such games, which are ones in which the overall cost is minimized. We also address the existence and price of anarchy of Nash equilibria in k-splittable congestion games, a varient of network congestion games in which a player may send flow on at most k different paths. (Received February 20, 2009)