Pricing American Contingent Claims by Linear Integer Programming

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In this talk I consider pricing of American contingent claims (ACC) as well as their special cases, in a multi-period, discrete time, discrete state space setting. Determining the buyer's price for ACC's requires solving an integer program unlike European contingent claims for which solving a linear program is sufficient. However, I show that a relaxation of the integer programming problem which is a linear program, can be used to get the same lower bound for the price of the ACC. Therefore, solving a linear program is essentially enough to compute the fair price to the buyer of the option. This is joint work with PhD candidate Ahmet Camci from Bilkent University.