1163-90-560 **Jiawang Nie** (jnie@ucsd.edu), 9500 Gilman Drive #0112, La Jolla, CA 92093-0112, and **Xindong Tang*** (xit039@ucsd.edu), 9500 Gilman Drive, La Jolla, CA. *Nash Equilibrium Problems of Polynomials.*

This talk discusses Nash equilibrium problems that are given by polynomial functions. We formulate efficient polynomial optimization problems for computing Nash equilibria. The Lasserre type Moment-SOS relaxations are used to solve them. Under genericity assumptions, the method can find a Nash equilibrium if there is one. Moreover, it can find all Nash equilibria if there are finitely many ones of them. The method can also detect nonexistence if there is no Nash equilibrium. (Received September 09, 2020)