The traditional depiction of poker evokes images of rough and unsavory characters, sitting in smoke-filled rooms, reading their opponents in an ultimate test of daring and will. In reality, the poker boom of the 21st Century has made poker more mainstream and given rise to a different type of poker player – analytic individuals utilizing probability, game theory, and other mathematical concepts to hone their skills and maximize their earning potential. In fact, researchers at Carnegie Mellon University developed a poker-playing AI that defeated four of the world’s top poker professionals in January 2017.

This lecture will go over some of the core fundamental principles behind the math of Texas Hold Em poker. Using the Fundamental Theorem of Poker (as expressed by David Sklansky) as our starting point, we will discuss how to evaluate the expected value of decisions we encounter in poker, when faced with incomplete information. The lecture will also introduce some common situations that arise in Texas Hold Em and their associated probabilities, and discuss methods for applying these principles to in-game situations.

**FRIDAY, FEBRUARY 9 AT 1:30PM | SCIENCE ROOM 321**