Project (1): Pricing Conditional Asian Options

Project description: The payoff of a traditional Asian put option is the amount by which average stock prices exceed a strike price. A new product, known as a conditional Asian option, is based on average stock prices within a certain range. We want to develop computational algorithms to price this new product and test them by Monte Carlo simulations.

Faculty leader: Runhuan Feng
Student participants (2): Ruizhe Chen, Tong Pu

Progress report:

- The research paper has now been completed. It is currently under review by an academic journal.
- The students have developed Matlab codes for option prices based on Monte Carlo simulations.
- The students are currently reading Frank Olver’s book *Asymptotics and Special Functions*, learning the technical details underlying the research paper.
- The students developed Matlab codes for the analytical method of pricing conditional Asian options.
- Matlab codes for both simulation and analytical method are to be posted on the new Actuarial Science Research website (samples currently provided).

Status: Completed. Prof. Feng’s research paper incorporating this research work has been written and is posted on the Undergraduate Research Program website.