**Speaker Names:** John R. Ensley and Meridith L. Bartley

**Title of the Presentation:** A model balancing cooperation and competition can explain our right-handed world and the dominance of left-handed athletes.

**Reference**:

Daniel M Abrams and Mark J Panaggio. A model balancing cooperation and competition can explain our right-handed world and the dominance of left-handed athletes. *Journal of The Royal Society Interface,* 9(75):2718-2722, 2012.

**Abstract**: It has been observed that roughly 10% of the human population is left-handed. This paper seeks to develop a model that explains this handedness asymmetry we see at the species level. We chose this paper to discuss for our ST 590 Presentation because the subject of handedness is of interest to us. Both John and Meridith are predominantly left-handed which had varying effects on our performances in high school and college athletics (basketball/cross country and lacrosse, respectfully. We will present the novel mathematical model and how it is used to test the idea that population-level hand preference represents a balance between selective costs and benefits arising from cooperation and competition in human evolutionary history. The selection of elite athletes serves as a test-bed for the evolutionary model.

**Preferred Time slot:**

2 December 4:00 – 4:20

2 December 4:20 – 4:40

2 December 4:40 – 5:00