

# Decision Processes Colloquia

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**Monday, February 13, 2017**

Where: 260 JMHH

When: 12:00 – 1:15 pm

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## Collective Hormonal Profiles Predict Group Performance

**ABSTRACT:** Prior research has shown that an individual's hormonal profile can influence the individual's social standing within a group. We introduce a different construct—a collective hormonal profile—which describes a group's hormonal make-up. We test whether a group's collective hormonal profile is related to its performance. Analysis of 370 individuals randomly assigned to work in 74 groups of three to six individuals revealed that group-level concentrations of testosterone and cortisol interact to predict a group's standing across groups. Groups with a collective hormonal profile characterized by high testosterone and low cortisol exhibited the highest performance. These collective hormonal level results remained reliable when controlling for personality traits and group-level variability in hormones. These findings support the hypothesis that groups with a biological propensity toward status pursuit (high testosterone) coupled with reduced stress-axis activity (low cortisol) engage in profit-maximizing decision-making. The current work extends the dual-hormone hypothesis to the collective level and provides a neurobiological perspective on the factors that determine who rises to the top across, not just within, social hierarchies.