

**January 28<sup>th</sup>, 2019**  
**KAP 414**  
**2:00 P.M. – 3:00 P.M.**

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**“Mean Field Game with Delay: A Toy Model”**

**Abstract:** We study a toy model of linear-quadratic mean field game with delay. We “lift” the delayed dynamic into an infinite dimensional space, and recast the mean field game system which is made of a forward Kolmogorov equation and a backward Hamilton- Jacobi-Bellman equation. We identify the corresponding master equation. A solution to this master equation is computed, and we show that it provides an approximation to a Nash equilibrium of the finite player game.