

## **Experimental Design as Market Design: Billions of Dollars Worth of Treatment Assignments**

**Faculty Member:** [Yusuke Narita](#)

### **Proposal Description:**

Randomized Controlled Trials (RCT) enroll hundreds of millions of people and involve many human lives. In this paper, I propose a design of RCT with high-stakes treatment. Unlike conventional RCT, my design respects subject welfare; it optimally randomly assigns each treatment to subjects predicted to experience better treatment effects, or to subjects with stronger preferences for the treatment. For preference elicitation, my design is also approximately incentive compatible. Yet this design unbiasedly estimates any causal effect estimable with standard RCT. To quantify these properties, I apply my proposal to a water cleaning experiment in Kenya (Kremer et al., 2011). Compared to usual RCT, my design substantially improves subjects' well-being while reaching almost the same treatment effect estimates.

### **Requisite Skills and Qualifications:**

This project involves many aspects (computational, econometric/statistical, empirical, and theoretical).

I am looking for an RA to help with any aspect the RA is interested in.

An ideal candidate is somebody who has done coursework in econometrics/statistics (especially causal inference) and theoretical microeconomics (especially market design).

Interests in clinical trials, social experiments, and web optimization (multi-armed bandit) are a big plus.

Please attach a transcript with your application.

Including a writing sample would be a plus though not required.

**Award:** Lydia Wickard '20

Esther Issever '19

**Tobin Application Link:** [Tobin Application](#)

**Project Type:** Tobin RA

**Project Year:** 2017

**Term:** Fall 2017

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