This course focuses on using propensity score matching method to evaluate program treatment effect and make causal inference. Propensity score Analysis is a statistical technique that attempts to estimate the effect of a treatment, policy, or other intervention by accounting for the covariates that predict receiving the treatment. It attempts to reduce the bias due to confounding variables that could be found in an estimate of the treatment effect obtained from simply comparing outcomes among participants that received the treatment versus to those that did not.

**Course Outline**
- Observational studies and challenges
- Overview of Heckman’s model of causality
- The Rosenbaum and Rubin model (1983)
- The assumption of strongly ignorable treatment assignment
- Greedy matching; Stata-psmatch2
- Optimal matching; R-optmatch
- Post-optimal-matching analysis
- Propensity score weighting
- Matching estimators; Stata-nnmatch
- The kernel-based matching estimator; Stata-psmatch2
- Comments on both nonexperimental and experimental approaches

**Who Should Attend**
This course is designed for researchers, practitioners and policy makers who are interested in gaining an in-depth knowledge of instrumental variables and learning how to use them in their research and survey methods.

**Prerequisites**
Basic knowledge of statistics and regression analyses

**Enquiries**
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For details on schedule, course fee & registration, visit CFPR website.

Dr. Haoming Liu is Associate Professor in the Economics Department at the National University of Singapore. His research focuses on topics in income inequality and mobility, demography, and Chinese labour market. His recent paper on quality-quantity trade-off won the 2015 Kuznets price of the Journal of Population Economics. He is currently working on intergenerational mobility in China and Indonesia, and the impact of air pollution on labour productivity, health and school performance. He has taught various courses that need in-depth data analyses, such as Labour Economics, Health Economics and Topics in Econometrics in both undergraduate and graduate level.