







## **General Schedule Learning Days 2022 EGAP LATAM Regional Hub - November 2022**

Venue: Univ	Venue: Universidad del Rosario, Facultad de Economía, Calle 12C Nº 6-25 - Bogotá, Casa Pedro Fermín, Auditorio 3								
Time	Monday 28	Tuesday 29	Wednesday 30	Thursday 01	Friday 02				
9:00 AM	Signing up	Day 1 Recap quiz	Days 1 & 2 Recap quiz	Days 1 - 3 Recap quiz					
	Welcome and Introductions  Causal inference	Randomization (+ different types of designs, include encouragement design) R session (randomize!)	Estimation/Statistical Inference, with R exercise	Threats - problems you can anticipate & design for; problems that happen despite your planning and you have to react to	Design Presentations				
	Coffee break	Coffee break	Coffee break	Coffee break	Coffee break				
11:00 AM 11:30 AM	Causal inference Example of Study	Hypothesis Testing, followed with R exercise	Statistical Power	Example of Study Group work	Design Presentations				
12:30 PM	Lunch time	Lunch time	Lunch time	Lunch time	Lunch time				
2:00 PM	Confirm R is set up	Guided tour to URos Museum	Research Presentations	Research Presentations	Data collection				
2:30 PM	study	Design clinic	Design clinic	Design clinic	Measurement				
3:00 PM					Éthics & transparency				
3:30 PM 4:00 PM					Other Topics Feedback and Next Steps				
4:30 PM		Recap	Recap	Recap					
5:30 PM	Shuttle to hotel	Shuttle to hotel	Shuttle to hotel	Shuttle to hotel	Shuttle to hotel				
7:30 PM				Group dinner					











# Agenda

# **EGAP LATAM Regional Hub Learning Days 11** Universidad del Rosario

Facultad de Economía Calle 12C Nº 6-25 Casa Pedro Fermín - Bogotá D.C. Bogotá, Colombia November 28th - December 2nd, 2022

Intro	2	
Topics per day	3	
Study material	4	
Monday Nov. 28: Getting Started, Causal Inference and Research Design	5	
Tuesday Nov. 29: Identification and Randomization	7	
Wednesday Nov. 30: Estimation of Causal Effects and Statistical Power	8	
Thursday Dec. 01: Threats to Causal Inference		
Friday Dec. 02: Ethics, Design presentations and Remaining Topics		
List of participants	11	











## Intro

This five-day meeting will consist of a combination of design clinics and teach-ins on topics critical for designing impact evaluations and field experiments intended to measure the effects of policies, interventions, and programs on policy outcomes. The focus of the workshop is on experimental methods. Teach-in topics will include randomization, statistical power, and threats to the estimation of treatment effects. Throughout the week participants will work to develop their own research designs together with peers and the teaching team.

Workshop Venue: Universidad del Rosario, Facultad de Economía, Calle 12C Nº 6-25 - Bogotá D.C. Colombia, Casa Pedro Fermín, Auditorio 3

Timing: The workshop starts on Monday Nov 28th at 9AM and closes Friday Dec 2nd at 5PM

**Organization:** Juan Vargas (URosario) and Rachid Laajaj (UniAndes).

## **EGAP Training & Methods co-directors:**

Nahomi Ichino Graeme Blair

#### **Instructors:**

Lilv Medina Julia Seither Juan Vargas Michael Weintraub Rachid Laajaj Rafael Piñeiro

## **Teaching Assistants:**

Cecilia Suescún Yaritza Zambrano Douglas Newball Ramírez

#### **EGAP COVID-19 Vaccination Policy for In-Person Events**

In order to enhance safety for all attendees and to increase equity by creating an environment that enables more individuals to participate, EGAP will require all meeting attendees (including EGAP members, workshop participants, and EGAP/Regional Hub staff planning to attend the full event) to be fully vaccinated against COVID-19. This requires that all attendees everyday do the SARS-CoV-2 Antigen Rapid Self-Testing that EGAP has provided prior each session and communicate immediately any positive result as well as wear masks at all times possible, especially while in indoor activities. More Info.

https://egap.org/











## **Topics per day**

Day 1 Monday: Getting Started, Causal Inference and Research Design

Morning: Welcome, introductions and causal inference

Afternoon: Research Design and Design Clinic

Evening (optional): Office hours

Day 2 Tuesday: Identification and Randomization

Morning: Randomization strategies and Hypothesis testing

Afternoon: Design Workshop Evening (optional): Office hours

Day 3 Wednesday: Estimation of Causal Effects and Statistical Power

Morning: Estimation and Testing of Causal Effects

Afternoon: Research presentation and Design Workshop

Evening (optional): Office hours

Day 4 Thursday: Measurement and Threats to Causal Inference

Morning Threats to Inference Afternoon: Design Workshop Evening (optional): Group dinner

Day 5 Friday: Ethics, Design presentations and Remaining Topics

**Morning:** Design Presentations

Afternoon: Other Topics: Data collection, Measurement, Ethics & Transparency, etc.

4-5 PM: Feedback and Next Steps











## **Study material**

- Please bring a laptop. Make sure you have R and Rstudio<sup>1</sup> installed.
- Lectures will be based on the curriculum in The Theory and Practice of Field Experiments: An Introduction from the EGAP Learning Days by Bowers, Voors, and Ichino, which is available in both English and Spanish.
- During the workshop materials will be shared via Dropbox.

#### Preparation before the workshop

- Please prepare a brief (1 minute) statement to introduce yourself (who you are, where you work, what are your expectations for the Learning Days) and to present your research question and general idea of your project that you will work on during the workshop. Every participant must have a project to work on throughout the week. Ideally this is a project you are implementing, or are hoping to implement and fits closely with your research interests. During the workshop we will focus mostly on experimental methods, i.e., where an intervention (program, project) is implemented using randomization. The workshop does not focus on non-experimental methods (i.e., regression models, PSM, DD, RD, etc.). If you would like to discuss potential research project options with us in advance of the training, please send Rachid Laajaj (r.laajaj@uniandes.edu.co) us an email. We are happy to discuss!
- Make sure you have R and Rstudio installed. Appendix B of The Theory and Practice of Field Experiments: An Introduction from the EGAP Learning Days provides information on how to download R and RStudio. Please download both programs prior to the workshop and familiarize yourself with the material provided in the guide. In particular, we provide lines of code that you should execute to download several auxiliary files ("packages") that we will use during Learning Days. If you have difficulty downloading R, RStudio, or the packages, please email: TA Yaritza Zambrano varitza.zambrano@urosario.edu.co for assistance.
- Complete the following pre-Learning Days assignment in R: https://goo.gl/forms/Arxye5kJEfz3bfek2. All R code is included so it should not take long to complete.

Download from http://www.rstudio.com/products/rstudio/download/. If you already prefer using R with an editor other than RStudio, you do not need to install RStudio.











## Monday Nov. 28: Getting Started, Causal Inference and Research Design

Morning: Welcome, introductions and causal inference

09:00-09:30 am: Signing up for the workshop

09:30-10:00 am: Welcome (All)

- 09:30-09:35 AM: Welcome and Introduction, Objectives of Learning Days EGAP LATAM Regional Hub, Director of Training & Methods, Rachid Laajaj
- 09:35-09:40 AM: Introduction of URosario Dean of School of Economics, Carlos Sepúlveda
- 09:40-09:50 AM: Introduction of EGAP, what is + types of projects Co-Directors of Training & Methods, Nahomi Ichino & Graeme Blair
- 09:50-10:10 AM: Brief (1-min) introduction by participants your name, your home institution, and the research question and motivation behind your research project.
- 10:10-10:15 AM: Expectations for collaboration: Ask questions (when you ask questions you are helping everyone, including the professors!)
  - Note: It is ok to sit or stand during lectures and discussions (just not in front of other people).

#### 10:15-10:30 am: Lecture 1: Causal inference (Julia Seither)

- Research questions: what are X and Y? What might it mean to say X causes Y?
- The potential outcomes framework and the fundamental problem of causal inference
- How do experiments help us learn about causality?

10:30-11:00 am: Coffee break

11:00-11:30 am: Lecture 1: Causal inference (Julia Seither) - continued.

11:30-12:00 m: Example of study 1: (Rafael Piñeiro)

12:30-02:00 pm: LUNCH: Universidad del Rosario Calle 12C No. 6-25, salón Burgos, Casa Rosarista

**Afternoon: Research Design and Design Clinic** 

02:00-02:30 pm: Confirm R is set up (Yaritza Zambrano)

02:30-03:30 pm: Lecture 2 Stages of research design process (Juan Vargas)

• Introducing the research design form

#### 03:30-04:00 pm: Design clinic

- Make sure you are set up with R (all)
- Hands-on session on simple statistics in R (Yaritza Zambrano)

## 04:00-05:00 pm: Design clinic: your project

- Break in small groups
- Work on research design form
- Small Group discussions on research ideas: What are causal drivers and what are outcomes? By what "theory of change" or "causal mechanism" should the drivers influence the outcomes?

https://egap.org/











## 05:15-05:30 pm: Recap

- Recap
- Quick go around: what did you find useful? What would you like to hear more about?

## 05:30-06:00 pm: Shuttle to Hotel HAB

#### **Evenings (optional): Office hours**

06:00-07:30 pm: Each participant may agree on office hours directly with an instructor, esp. on statistics.

#### Resources

- 10 strategies for figuring out if X causes Y
- 10 things you need to know about causal inference
- R: http://www.r-project.org/
- DeclareDesign: https://declaredesign.org









## **Tuesday Nov. 29: Identification and Randomization**

Morning: Randomization strategies and Hypothesis testing

09:00-09:30 am: Day 1 Recap, Quiz (Juan Vargas)

#### 09:30-10:30 am: Lecture 3: Randomization (Rafael Piñeiro, Cecilia Suescún)

- Strategies for randomization: simple, block, cluster, factorial, encouragement
- Mechanics of replicable randomization
- R session (randomize!)

10:30-11:00 am: Coffee break

## 11:00-12:30 am: Lecture 4: What is a hypothesis test for a randomized experiment? (Lily Medina)

• Fisher's test of the sharp null hypothesis of no effects and relationship with large sample tests.

12:30-02:00 pm: LUNCH: Universidad del Rosario Calle 12C No. 6-25, salón Burgos, Casa Rosarista

01:30-02:30 pm: Guided tour to URosario Museum

**Afternoon: Design Workshop** 

#### 02:30-04:00 pm: Design clinic: assignments and design form

- Hands-on session on statistics and hypothesis testing in R
- Work on research design form
  - Focus on strategy for hypothesis testing for each design
  - Focus on randomization strategies for each design

## 04:30-05:30 pm: Recap

- Recap
- Quick go around: what did you find useful? What would you like to hear more about?

#### 05:30-06:00 pm: Shuttle to Hotel HAB

## **Evenings (optional): Office hours**

6-730PM: Office hours

Each participant may agree on office hours directly with an instructor, esp. on statistics

#### Resources

10 things you need to know about randomization









## Wednesday Nov. 30: Estimation of Causal Effects and Statistical Power

Morning: Estimation and Testing of Causal Effects and statistical power

09:00-09:30 am: Day 1 & 2 Recap, Quiz

#### 09:30-10:30 am: Lecture 5: Estimation/Statistical Inference, with R exercise (Lily Medina)

The Average Treatment Effect: Variance, standard errors, confidence intervals, sampling distributions

10:30-11:00 am: Coffee break

#### 11:00–12:00 m: Lecture 6: Statistical power (Julia Seither)

Power: What it is, relation to sample size, dispersion, standard methods, simulations

12:00-12:30 m: Example of study 2: (Juan Vargas)

12:30-02:00 pm: LUNCH: Universidad del Rosario Calle 12C No. 6-25, salón Burgos, Casa Rosarista

**Afternoon:** Research presentation and Design Workshop

02:00-02:30 pm: Example of study 3: (Julia Seither)

#### 02:30-04:30 pm: Design clinic

- Hands-on session on power in R
- Feedback and questions
- Figuring out the power for each study
- Work on research design

#### 4:30-5PM: Recap

- Recap
- Quick go around: what did you find useful? What would you like to hear more about?

#### 05:30-06:00 pm: Shuttle to Hotel HAB

#### **Evenings (optional): Office hours**

6-730PM: Office hours

• Each participant may agree on office hours directly with an instructor, esp. on statistics

#### Resources

- 10 things you should know about the local average treatment effect
- 10 things you need to know about spillovers in experimental analysis
- https://egap.org/resource/10-things-to-know-about-statistical-power/
- https://egap.shinyapps.io/spillover-app/











## **Thursday Dec. 01: Threats to Causal Inference**

**Morning:** Threats to Inference

09:00-09:30 am: Recap day 1-3, Quiz, Reflections & Suggestions of topics for Friday afternoon (Rachid Laajaj)

09:30-10:30 am: Lecture 7: Threats to Inference (Michael Weintraub, All)

- Reading and presenting results
- Endogenous subgroups
- Partial compliance: LATE and ITT
- Spillovers & Attrition

10:30-11:00 am: Coffee break

11:00-11:30 am: Example of study 4: (Rachid Laajaj)

#### 11:30-12:30 m: Group work

- Feedback and questions
- Work on research design

12:30-02:00 pm: LUNCH: Universidad del Rosario Calle 12C No. 6-25, salón Burgos, Casa Rosarista

**Afternoon:** Design Workshop

02:00-02:30 pm: Example of study 5: (Rafael Piñeiro)

## 02:30-04:30 pm: Design clinic

- Feedback and questions
- Work on your project with DeclareDesign
- Revise research designs
- Prepare Presentations

## 05:15-05:30 pm: Recap

- Recap
- Quick go around: what did you find useful? What would you like to hear more about?

05:30-06:00 pm: Shuttle to Hotel HAB

**Evening:** Group dinner Restaurante: Cacio & Pepe: Cra. 11a #89 38

#### Resources

- 10 things you need to know about statistical power
- 10 things you need to know about covariate adjustment
- 10 things you need to know about multiple comparisons
- <a href="https://egap.shinyapps.io/Power Calculator/">https://egap.shinyapps.io/Power Calculator/</a>
- DeclareDesign Guide

https://egap.org/









## Friday Dec. 02: Ethics, Design presentations and Remaining Topics

**Morning: Design Presentations** 

09:00-10:00 am: Individual run-through of presentations

#### 10:00-12:30 pm: Design presentations (two rooms)

- Each participant's does a 10-min presentation with 5-minutes discussion
- Addressing sampling, randomization approach, power, cluster randomized trials, potential threats

12:30-02:00 pm: LUNCH: Universidad del Rosario Calle 12C No. 6-25, salón Burgos, Casa Rosarista

**Afternoon: Other Topics** 

## 02:00-04:30 pm: Other topics

Based on demand we will discuss one or more of the following themes.

- 1. Data collection (Rafael Piñeiro)
- 2. IRB/Ethics and Transparency in research (Rachid Laajaj)
- 3. Measurement strategies
- 4. Partnerships
- 5. Workflow

#### 04:30-05:30 pm: Feedback and Next Steps

• How will we all continue to communicate and support each other after today?

05:30-06:00 pm: Shuttle to Hotel HAB











## **List of participants**

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