

## **Title: Exploring Migration Patterns Using Digital Trace Data**

### **Organizers:**

- Carolina Coimbra Vieira, MPIDR, Germany, [coimbravieira@demogr.mpg.de](mailto:coimbravieira@demogr.mpg.de)
- Ebru Şanlıtürk, MPIDR, Germany, [sanlituerk@demogr.mpg.de](mailto:sanlituerk@demogr.mpg.de)

The organizers are research scientists in the [Laboratory of Digital and Computational Demography](#) at the Max Planck Institute for Demographic Research (MPIDR) in Germany and they are all active in the research area of [Migration and Mobility](#).

Carolina is currently a PhD Student at the Max Planck Institute for Demographic Research. She holds her Master's degree in Computer Science from the Federal University of Minas Gerais in Brazil. She has been exploring the use of social media data to assess the bidirectional relation between migration and cultural diffusion as well as the use of new data and methods to study migration patterns.

Ebru holds a PhD in Public Policy and Administration from Bocconi University in Italy. During her PhD, she specialized in demography and migration, completing her dissertation on the digital and computational approaches to migration studies. Her research interests are the use of digital data in migration studies and demography, big data in migration studies, and computational methods for the analysis of migration and mobility patterns.

### **Objectives and goals:**

This workshop aims to introduce the fundamentals of data collection and analysis of digital trace data, utilizing Google Trends and Wikipedia as powerful tools for gaining insights into migration patterns.

We plan to begin the session by introducing the data format, related literature, empirical findings, advantages, and critical challenges of such data. We then plan to explore more practical aspects on how to retrieve these data.

### **What You'll Learn:**

**Understanding Digital Trace Data:** Uncover the concept of digital trace data and its significance in migration studies. Explore how online platforms like Google Trends and Wikipedia capture and reflect real-world migration trends.

**Google Trends Data:** Dive into the functionalities of Google Trends, learning how to extract valuable data related to migration keywords, regional interests, and temporal variations. Gain hands-on experience in navigating and interpreting Google Trends graphs.

**Wikipedia Data:** Explore the information available on Wikipedia and discover how to extract relevant data for migration studies. Learn to utilize Wikipedia's extensive archives to analyze migration trends and patterns.

**Data Analysis and Visualization:** Acquire skills in data analysis and visualization using tools like Python or R. Learn to interpret trends, correlations, and anomalies within the collected digital trace data, creating compelling visual representations for meaningful insights.

**Case Studies and Applications:** Explore the examples in the growing literature that focus on Google Trends and Wikipedia data. Understand how researchers have utilized these insights in academic research.

**Ethical Considerations:** Discuss the ethical implications of using digital trace data for migration studies. Gain insights into privacy concerns, data security, and responsible data usage.

### **Expected outcomes:**

By the end of this workshop, we expect the participants to learn to:

- Obtain basic knowledge of both Google Trends and Wikipedia data
- Know how to access the data from Google Trends and Wikipedia
- Know how to process Google Trends and Wikipedia data to make them suitable for research
- Extract interesting new research ideas using these data

### **Target audience:**

This workshop is ideal for researchers, academics, and professionals interested in migration studies, data analysis, and leveraging digital trace data. Whether you're a beginner or an experienced data enthusiast, this workshop will equip you with valuable skills for exploring migration patterns in the digital era.

We do not expect the participants to be familiar with accessing Google Trends and Wikipedia data in a programmatic way. However, we expect the participants to obtain basic knowledge of the two platforms, i.e., Google Trends and Wikipedia, and which type of data is available.

### **Requirements:**

The participants are required to bring their laptops to the workshop. Prior to the workshop, it is necessary to download and install R or Python. To participate in the hands-on session, it is required that the participants should have a minimum knowledge of either R or Python. They are also required to read and follow the instructions and materials that will be sent out before the workshop.

### **Format:**

- **Date and time: to be determined**
- **Venue: to be determined**
- **Duration: 2 hours**
- **Audience: around 15~20 participants**