

# Sustaining Urban Places Research (SUPR) Lab: Usage Guide



## Overview

Welcome to the Sustaining Urban Places Research (SUPR) Lab in the College of Urban and Public Affairs at Portland State University. The SUPR lab is located in the Urban Center, room 240 and aims to support the research needs of the faculty, staff, and graduate students in the College. As a collaborative space that brings together the three schools of the College, the lab also aims to foster interdisciplinary research and community engagement.

The lab is intended for use by faculty and their respective graduate research assistants and/or staff members on externally funded research projects. Equipped with a projection screen and nine desktop computer stations including an instructor station, the SUPR Lab provides many of the tools for conducting both quantitative and qualitative research. The use of this lab is a privilege and strict adherence to the rules is required. This manual provides information about the lab usage policy, computing equipment (hardware and software), general terms for access, and the governing body of the SUPR Lab.

## Lab Usage Policy

The research lab may be used for research purposes only. It may not serve as a teaching lab. It may, however, be used for faculty demonstration of research software to students, and for SUPR Lab related research meetings.

The primary users for the research lab are faculty and graduate students. Undergraduate students may request lab use only through a faculty supervisor, and on a limited basis.

Printing in the SUPR lab adheres to the PSU per-term quota of 500 pages per student. This means that pages printed in the SUPR lab count toward this 500-page quota. If a student surpasses the 500-page quota, they will be charged \$0.02 per black and white page directly to their student account. Quotas reset every term.

Scheduling is on a first come, first serve basis with priorities breaking ties within a certain time period (see below). Following are the scheduling priorities:

- ▶ Faculty members have priority over graduate students.
- ▶ PhD students have priority over master's students.
- ▶ Master's students have priority over undergraduate students.
- ▶ Research projects and meetings have priority over faculty demonstration of research software.

Faculty and students are encouraged to schedule their research lab activities at the beginning of each term by emailing [upalabs@pdx.edu](mailto:upalabs@pdx.edu).

## **Lab Supervision, Security, and Data Policy**

### **Monitoring and Supervision**

- The PI, who must be a faculty member, will submit a SUPR Lab Access form (details below), complete with a list of authorized personnel for lab usage to the lab manager, which grants badge access. Badge activation usually takes 24-48 hours.
- Maintenance of the research lab supplies such as printing paper and other routine supplies will be the responsibility of the lab manager and lab attendant staff. Plotter and color printing may incur additional charges from grant funds.
- In the case that problems arise while using the research lab, the lab attendant on duty in room URBN 230 should be notified. The lab manager will follow through to resolve technical issues.
- Please contact CUPA Labs Manager, Monica Morillas, [morillas@pdx.edu](mailto:morillas@pdx.edu) for scheduling conflicts/questions.

### **Security and Safety Issues**

- The research lab will be secured with an authorized card activated access system. The door must remain closed at all times.
- Maintaining a current list of authorized individuals for each project will be the responsibility of the PI.
- Securing proper PSU Institutional Review Board approval and protecting the anonymity of participants and data will be the responsibility of the PI.
- Any theft or suspicious activities will be reported immediately to the proper authorities.

### **Data Storage and Acceptable Use Policy**

- The research lab will not serve as a permanent long-term data storage facility. Determining a process for data storage and backup system is the responsibility for each research project's PI. Any files saved to the local workstation will be deleted every 7 days.
- All data must be stored on network drives (I:\ or H:\ drives), Google Drives, or on other external media.
- Research project PIs are responsible for informing and assuring that other authorized management personnel follow the guidelines of the PSU's Acceptable Use Policy (<http://www.pdx.edu/oit/acceptable-use-policy>) and the Institutional Review Board's policies.

### **Research Software Available**

The SUPR Lab contains a variety of software. While not all terminals contain all software, the list below describes the specific software available in the lab as a whole. For general information about the software available at Portland State University, see the Office of Information

Technology's website at: <http://www.pdx.edu/oit/software-locations>. This list will be updated as software changes or when licenses are modified. Requests for additional software must be made to the lab manager, who will assess the feasibility of installation.

- ArcGIS 10.1 (or current version): this software provides a platform for designing and managing solutions through the application of geographic knowledge. Users can create, manage, and share geographic data, maps, and analytical models. Some features of the software include planning and analysis and asset/data management.
- Atlas.ti 7.0.77.0 ([www.atlasti.com](http://www.atlasti.com)): Atlas.ti is a powerful workbench for the qualitative analysis of large bodies of textual, graphical, audio and video data. It offers a variety of tools for accomplishing the tasks associated with any systematic approach to “soft” data i.e., material which cannot be analyzed by formal, statistical approaches. For example, it provides coding functions for text, image, audio and video materials, searches for textual patterns, performs semi-automatic coding with multi-string text search and professional pattern matching, and exports project data to other programs for further analysis.
- Bayes Net Netica: this software package solves problems using Bayesian belief networks and influence diagrams to analyze the relationships between variables in the form of equations or tab-delimited data files. Netica can use networks to perform various kinds of inference using the fastest and most modern algorithms. Netica can use influence diagrams to find optimal decisions that maximize the expected values of specified variables. Variables that are no longer of interest may be removed without changing the overall relationships of other variables. Probabilistic models may be explored by such operations as reversing individual links of the network, removing or adding causal influences, optimizing one decision at a time, etc.
- Dedoose: Dedoose is a cross-platform application for analyzing text, video, and spreadsheet data using qualitative, quantitative, and mixed methods research. This intuitive software allows users or teams to effectively analyze qualitative and mixed methods research data from various research approaches when conducting surveys and interviews, simultaneously and from any location. Files from MAXQDA, Nvivo, SurveyMonkey and Atlas.ti may be imported.
- Google Earth Pro 7: the professional version of Google Earth is a 3D interactive globe that can be used to aid planning, analysis and decision-making. Users can generate data visualization, conduct site planning and use information sharing tools. Google Earth Pro provides premium high-resolution images and advanced measuring and drawing tools as well as exclusive data layers such as land parcel, demographics and historical traffic data.
- ENVI + IDL (Interface Development Language)- a software for the analysis and visualization of scientific data and imagery, including remote sensing, engineering, geology, aerospace, defense and intelligence, and medical imaging. It is commonly used by remote sensing professionals and image analysts. ENVI bundles together a number of scientific algorithms for image processing, a lot of which are contained in an automated, wizard-based approach that walks users through complex tasks.

- EXELIS Envi: this geospatial software processes and analyzes imagery so that users have the information needed to make informed decisions. It analyzes several types of imagery including multispectral, hyper-spectral, LiDAR, and SAR within an ArcGIS environment. It provides advanced image analysis, which opens in the ArcToolbox and allows results to be pushed directly to ArcMap or accessed via ArcOnline.
- Fragstats 4.2: this software is designed to compute a wide variety of landscape metrics for categorical map patterns. The current version supports ArcGIS data, cell-level metrics and surface pattern metrics.
- Geospatial Modeling Environment (GME) 0.7.2.1: integrates with R and ArcGIS to perform quantitative analysis for spatial data. It has a range of modeling tools, supports batch processing, generates graphs and automatically records workflows for future reference.
- Hierarchical Linear and Nonlinear Modeling (HLM) 7: the HLM program can fit models to outcome variables that generate a linear model with explanatory variables that account for variations at each level. HLM not only estimates model coefficients at each level, but it also predicts the random effects associated with each sampling unit. This includes longitudinal analysis, in which an individual's repeated measurements can be nested within the individuals being studied. The HLM program allows for continuous, count, ordinal, and nominal outcome variables and assumes a functional relationship between the expectation of the outcome and a linear combination of a set of explanatory variables. This relationship is defined by a suitable link function, for example, the identity link (continuous outcomes) or logit link (binary outcomes).
- i-Tree Suite 5.0: is a state-of-the-art, peer-reviewed software suite from the USDA Forest Service that provides urban forestry analysis and benefits assessment tools. It quantifies the structure of community trees and the environmental services that trees provide. i-Tree users can link urban forest management activities with environmental quality and community livability.
- Mplus 7: a latent variable modeling program with a wide variety of analysis capabilities including exploratory factor analysis, structural equation modeling, item response theory analysis, growth modeling, complex survey data analysis, Bayesian analysis, and Monte Carlo simulation, among others.
- OpenGeoDa 1.2: open source software from Arizona State University's School of Geographical Sciences and Urban Planning. This is an introductory geospatial software that allows for data input and output, spatial data manipulation, visualization and queries, mapping, EDA, ESDA, and ML spatial regression, and spatial statistics.
- Qualtrics ([www.qualtrics.com](http://www.qualtrics.com)): with Qualtrics research suite, users can create a fast and easy survey while still handling the most sophisticated questions. The Qualtrics Research Suite keeps the research process in-house and provides exceptional survey design, innovative distribution, professional analysis and real-time reports. Qualtrics offers integration among faculty, students and administration providing all areas with the functionality of the tool.

- R ([www.r-project.org](http://www.r-project.org)): R is an integrated suite of software facilities for data manipulation, calculation and graphical display. It provides a wide variety of statistical (linear and nonlinear modeling, classical statistical tests, time-series analysis, classification, clustering, etc.) and graphical techniques, and is highly extensible.
- StarLogo 2.22: a programmable modeling environment for exploring the workings of decentralized systems such as bird flocks, traffic jams, and market economies. It is designed to help students and researchers develop new ways of thinking about and understanding decentralized systems.

### **Lab Equipment and Configuration**

The research lab is configured to enable the maximum degree of flexibility, making the lab usable for faculty members conducting surveys, experiments, focus groups and other types of research. The lab consists of individual computer workstations clustered into groups of two or four, with a large meeting table in the center.

#### **Technology Resources:**

- 9 Dell Optiplex 760 desktop computers with 4GB RAM and 19" monitors.
- Avaya multi-line telephone with speaker function for conference calls
- Ceiling-mounted Panasonic widescreen video projector
- Extron MLC A/V switching panel with VGA, RCA, and HDMI inputs
- DVD/VCR player
- HP LaserJet 4350dn
- Epson 9600 44" wide format color printer

### **Lab Scheduling**

The lab manager will be responsible for managing the lab reservation system. All faculty and students who are interested in using the research lab for his or her research projects should reserve the lab time and specific facility/equipment through the following procedure. The lab is otherwise an "open lab" for anyone with pre-authorized SUPR badge access. A weekly calendar is posted outside of the lab entrance and is also available online at <http://www.pdx.edu/cupa/labs/>.

- 1) Navigate to <http://www.pdx.edu/cupa/labs/>.
- 2) Complete the reservation form including the following information:
  - a) Title of the project.
  - b) Brief description of the project.
  - c) Name and position of the PI (e.g., faculty, Ph.D. student, etc.).
  - d) Tentative research facility/equipment and software to be used.
  - e) Anticipated beginning and end date/length of time for the project involving the lab.
  - f) Designated contact person and his/her contact information.
  - g) Names and PSU researchers authorized to use the lab. This information is needed to activate project personnel's ID cards for access to the lab.

- 3) The lab manager will respond with a confirmation and will add your reservation(s) to the room calendar. Please allow at least 24 hours for the process to complete.
  - a. If data storage is requested, you will be notified by email with the I:\ drive location as soon as IT staff set up the storage space for your project. All listed authorized personnel will have access to the storage space.
  - b. Please try out your PSU ID card to make sure that you have access to the lab at least 2-3 days before your first reserved lab time. Contact the lab manager if you have trouble accessing the lab (morillas@pdx.edu / 503-725-2935)

**Lab personnel and contact information**

Online room reservation form: <http://www.pdx.edu/cupa/labs>

Onsite lab attendant: URNB 230 (main lab) 503-725-4017

General Lab Manager: Monica Morillas; 503-725-2935; morillas@pdx.edu

**SUPR Lab Advisory Committee:**

Chair, Vivek Shandas, Associate Professor, Toulon School of Urban Studies and Planning

Thad Miller, Assistant Professor, Toulon School of Urban Studies and Planning

Alexis Dinno, Assistant Professor, School of Community Health

Brian Renauer, Associate Professor, Hatfield School of Government

This is a living document and CUPA reserves the right to change, add to, or delete policies at any time. Users are expected to keep up to date with changes by reviewing the website or the hard copy provided inside the lab.