**University of Pennsylvania**

**Human Immunology Core Facility - Resources**

**Laboratory**: The Human Immunology Core facility has laboratories that are located in approximately 2,000 square feet of adjoining laboratory space on the fourth floor of the Stellar Chance Laboratory Building (rooms 407-412, including the research lab of Dr. Luning Prak) and on the 8th floor of the Smilow Translational Research Building (Bay 178 in the laboratory of Dr. Riley). The labs have 22 workstations and two dedicated tissue culture rooms. The labs contain a total of 8 sinks, three chemical fume hoods, two pre-PCR hoods, four LN2 cell storage tanks, five -80 freezers and a separate room for post-PCR amplification and sequencing work. The labs are outfitted with all of the necessary molecular biology, cellular immunology and tissue culture equipment needed to process human samples for cellular and molecular immunology experiments, including immune repertoire profiling and SARS-CoV-2 serology. The laboratory staff is extensively trained in all appropriate biosafety procedures, including enhanced BSL2 procedures.

**Clinical**: The William Pepper Laboratory at the Hospital of the University of Pennsylvania performs over 10 million diagnostic tests annually. Dr. Luning Prak is the associate director of the Clinical Immunology laboratory at HUP and oversees the implementation of serologic testing. The clinical lab has access to historical serum samples for the evaluation of interfering substances, as well as to sera from patients from known conditions, including autoimmune disorders. In addition, through a universal consent mechanism, the clinical laboratory provides discarded samples to the Penn BioBank, where samples can be accessed for research and for quality control purposes.

**Computer:** Dr. Luning Prak’s laboratories and office are equipped with Apple (including a MacPro Quad Core computer) and PC workstations for day-to-day data analysis. For processing large datasets, a Dell with a 12-core Xeon processor and 128 Gb of memory is available. All data are stored on a dedicated 200 Tb Synology network attached storage (NAS) device configured with RAID 5 for data protection. All data are also continuously backed up off-site. The laboratory primarily uses Python and R for data visualization and analysis and has licenses for various software packages (FloJo, prizm, EndNote, Word, Tableau, Adobe). All computers are connected wirelessly to a variety of University resources including the Biomedical Library’s large e-journal collection, patient databases and relational databases for research.

**Office:** Dr. Luning Prak has a 100 square foot office with an 80 square foot anteroom with computers, telephones and a facsimile machine. The HIC has additional office space (~200 square feet) for meetings to review and plan experiments with core lab staff and core lab clients. There are extensive facilities in the same and adjoining research buildings for lab meetings, seminars and teleconferences.