CORNELL UNIVERSITY · COLLEGE OF VETERINARY MEDICINE

The Innovation Lab

Department of Clinical Sciences · VMC C1118

A lab for faculty who need bench space, a set of trained hands, or both — and don't need a full-time technician to get there.

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What is the Innovation Lab?

A shared resource to assist you with your research needs

Geared especially towards:

Those with no lab space of their own

You have the question and the samples, but nowhere to run them. The lab gives you a bench, the expertise, and the equipment already installed.

No funding for long-term staff

Hiring a technician is a multi-year commitment. Technical time by the project is not.

Junior faculty building a program

Generate the pilot data that makes the first real grant competitive before you have a lab to generate it in.

Clinical faculty with a research interest

A full caseload should not be the reason a good question never gets tested. We can carry out the bench work between your weeks on clinic.

How It Works

We run it for you

Hand off the bench work to our technical staff

- Experiments carried out to your protocol, on your timeline
- Sample receipt, processing, labeling, and record keeping
- Project-specific reagents ordered on your account
- Documentation, reporting, and basic data analysis returned to you

You run it here

Utilize the bench space and the instruments yourself.

- Bench space for you, your students, or your residents
- Access to our equipment without buying it
- Orientation and training on procedures
- Basic lab supplies stocked and maintained for you

Some projects are a mix.

You do the sample collection, we run the assay. Your student does the bench work, we manage the freezer inventory and the ordering. The split is decided at the consultation and can be updated mid-project.

Services Provided

What we offer

Project planning	Scope, feasibility, method selection, and realistic timelines — before anything is ordered or thawed.
Supply purchasing	Basic laboratory supplies (pipet tips, consumables) are bought and maintained in the lab. Unique, specific, or expensive items are purchased for you on your own account.
Experimentation	The bench work itself, including molecular, protein, imaging, cytometry, and cell culture methods. Full menu on the next slide.
Data summary & analysis	Data compilation and reporting, returned in a form you can take to a manuscript, a committee or a grant renewal.

Also included on request: training, freezer management, shipping, supplemental data storage, and advanced data analysis.

EXPERIMENTATION

Examples of what we can run for you

Nucleic acids

- RNA and DNA isolation
- Reverse-transcription PCR
- Quantitative PCR (qPCR)
- Primer design and testing
- Sequence alignment and verification
- Next-generation sequencing methods

Protein

- Protein extraction
- Protein analysis
- Western blotting
- ELISA

Tissue & cytometry

- Immunohistochemistry
- Immunofluorescence
- RNAscope
- Flow cytometry

Cell culture

- Establishing primary cell lines
- Troubleshooting established lines
- Complex and innovative culture systems and 3D cultures

Not on the list? Ask anyway — method development is part of the job, and the answer is often 'we can find out together.'

SERVICES PROVIDED

Facilitating Collaboration

Who We Work Closely With

Clinical Trials Team	We coordinate with Clinical Trials during the collection and processing of your clinical samples in the hospital
Preclinical Services Core	We work with Elizabeth Moore and the Preclinical Core to accomplish the in vitro portion of your project
Cornell Core Facilities	We've built close relationships with the Core labs in the AHDC and down campus, including the Genomics, TREx, Proteomics and Metabolomics, Flow Cytometry, Imaging, and Histology Facilities. We can communicate with them to arrange project consultation, sample preparation, sample drop-off, and more
Cornell Veterinary Biobank	We can work with the Biobank to facilitate storage of your samples, as well as request retrieval of samples currently in the Biobank

Our Lab Space

Main Laboratory

C1118 · ~770 sq ft

- 70 ft of open bench space
- Fume hood and flammable storage
- 6 ft biosafety cabinet
- 3 Refrigerators, 2 −20 °C freezers
- Dedicated molecular, protein, and ELISA workstations

Cell Culture Room

C1118B · 110 sq ft

- Adjacent to the main lab but physically isolated
- Dedicated solely to cell culture
- Its own biosafety cabinet and incubators
- Kept clean — no molecular work in here
- Separate microscope and centrifuge

Instrument Rooms

C1118D and C1118E · 220 sq ft

- Multiple imaging, multiplex, flow cytometry, and plate-based instruments
- Includes DCS shared equipment
- Can be reserved for time-sensitive projects

EQUIPMENT · C1118

Equipment available for use

QuantStudio 3

Applied Biosystems – real-time qPCR, 96-well format

NanoDrop OneC

Nucleic acid and protein quantification

Synergy H1MFD

BioTek plate reader — with both absorbance and fluorescence capability

Echo Revolve

Combo upright and inverse microscope with brightfield, phase contrast, and fluorescence capabilities

Accuri 3 Flow Cytometer

Equipped with four optical filters for simultaneous fluorescent detection

Trans-Blot Turbo

Bio-Rad – Rapid protein transfer system for Western blotting

Everything else

- Baker SterilGARD e3 biosafety cabinet (6 ft)
- Refrigerated centrifuges — Beckman Allegra X-15R, Eppendorf 5804R
- Eppendorf 5415D centrifuge plus multiple mini and microfuges
- Eppendorf Nexus GSX1 Mastercycler and ThermoMixer C
- Fume hood with flammable storage
- Gel and blot power supplies, 150–500 V, plus BTX ECM830
- Balances — Mettler Toledo DeltaRange PC2200, VWR 164AC
- Cryogen dewars — 5 L, BioCision CryoPod, Locator 6 Plus (34 L)
- Rockers, revolvers, vortexers, stirrers, hot plates, heat blocks, water baths
- Multiple sets of autopipettors and pipetting tools

EQUIPMENT · C1118B

The cell culture suite

110 sq ft, adjacent but isolated

A separate room dedicated entirely to tissue culture — nothing molecular happens in here, which is exactly why it stays clean.

- Baker SterilGARD III Advance biosafety cabinet (6 ft)
- Two VWR Symphony air-jacketed CO_2 incubators
- Leica DMIL LED inverted phase-contrast microscope
- Eppendorf 5702 centrifuge
- Life Technologies Countess II FL automated cell counter
- Fisher Scientific Isotemp 205 digital water bath

What we can do in here

- Basic cell culture work, including growing, treating, and troubleshooting established lines
- Complex and innovative culture systems, including three-dimensional and organoid formats
- Establishing primary lines from fresh tissue
- Training students and residents in sterile technique

EQUIPMENT · C1118E

Additional instruments we've acquired

Bio-Rad ChemiDoc MP

Gel and blot imaging with multiple sample trays — chemiluminescence and multiplex fluorescence

CTL ImmunoSpot S6

Universal analyzer for ELISpot and FluoroSpot plates

Bio-Rad MagPix

Bead-based multiplex — many analytes from one small sample volume

Molecular Devices SpectraMax L

Single-channel luminometer for luminescence-based assays

Quantimetrix Lipoprint

LDL subfraction analysis

Diagenode Bioruptor Plus

Sonication with chiller-circulator — shearing and lysis at controlled temperature

We can also connect you with additional equipment owned by individual PIs and available to share on request — ask before assuming something isn't here.

WHAT IT COSTS

Innovation Lab Rates

Initial consultation

Tour of the lab, discussion of services, and a recommendation for your project.

No charge

Technical support

Consultation, project management, training, experimentation, sample processing, record keeping, reporting, and data analysis.

$75 per hour

Long-term sample storage

Assigned space and location, tracked.

$10 per box / month	**$5** per box / month	**$20** per box / month	**TBD** by space required
Ultralow, –80 °C	**Standard, –20 °C**	**Liquid Nitrogen Dewar**	**Room temperature**

Three things about billing worth hearing

General training that makes the technical staff better is not charged to the PI.

Training specific to your project is charged, and is quoted at the initial consultation.

Work required during university holidays is billed at an increased rate.

Information to know

1

The first conversation costs nothing.

The initial consultation — a tour of the lab, a walk through the services, and an honest recommendation about which one fits — is free. There is no obligation attached, and no minimum project size.

2

You don't have to hand over the whole project.

Most people use the lab for one bottleneck step: just the qPCR, just the culture work, just the storage. Picking a single piece is a completely normal way to start.

3

We can be written into your grant.

Ready-made facilities language for the lab lives on the DCS web page, and technical time can be budgeted as a line item like any other core service.

While you are planning

1

Short-duration projects are ok.

A six-month aim may not justify hiring, training and then losing a technician. It fits our lab almost perfectly — that is what the model is designed around.

2

Talk to us before you buy anything.

Basic supplies are already stocked and shared. The instrument you were about to write into a budget may be sitting in a shared lab. That expensive reagent may be in the fridge.

3

Troubleshooting is our specialty.

Contaminated cultures, genomic DNA in your no-RT controls, primers that refuse to amplify, a primary line that will not attach — these can be a normal and expected part of research. We have the expertise to help figure things out and advance your project past it.

4

Clinical faculty are not an afterthought.

The lab partly exists so that a full clinical caseload is not the reason a good question never gets tested. Bench work can continue while you are on service.

BEYOND THE LAB

If we're not the right resource, we can help you find who is

DCS Research Drop-In

First Wednesday of each month, 1:00–2:00 PM. Informal discussion of your idea — contact Maria Hopko for the Zoom link.

DCS Research Committee

Committee on Research and Graduate Education — members are listed on the departmental intranet.

Preclinical Services Core

For work that needs preclinical models and infrastructure the Innovation Lab does not provide.

Clinical Trials Coordinators

Four coordinators supporting client-owned animal studies, recruitment, and regulatory work.

Cornell Veterinary Biobank

Banked, characterized samples — may be faster than collecting your own cohort from scratch.

Cornell Core Facilities

The university-wide network of cores and programs beyond the veterinary college.

GETTING STARTED

01

Send me an email

What are you trying to find out, roughly when, and what you already have.

02

Take a tour of the Lab

We can meet, take a look at the lab space and the instruments, and find out whether this is the right resource for you.

03

Agree on the scope

We figure out the training and technical staffing that's needed, and I can provide an estimate of the cost and a timeline for the work.

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Research Drop-In Session

First Wednesday, 1:00–2:00 PM