



SUPERUSER GUIDELINES

QUEEN'S CARDIOPULMONARY UNIT (QCPU)

BACKGROUND

The Queen's CardioPulmonary Unit (QCPU) is a CFI-funded, translational research center that is part of the Translational Institute of Medicine (TIME) and housed in the Bioscience Complex building on Queen's main campus. QCPU is based within the Department of Medicine and this cutting-edge translational research center is financially supported in part by seed funding from the Department of Medicine combined with a cost recovery strategy. QCPU practices and policies are overseen by QCPU executive management team.

SERVICE MODEL

QCPU invites researchers both within and outside of Queen's University to use state-of-the-art research tools. The financial model of QCPU is based on a cost-recovery model. Discounted prices of are offered for Queen's Academic faculty (compared to external users). Members of the QCPU and members of Department of Medicine (DOM) receive a 10% discount, while young investigators in the first 5 years of their initial academic appointment receive a 15% discount.

A unique feature of QCPU is that a highly talented team of staff scientists operate the complex equipment in the unit and provide advice and technical assistance that greatly enhance the chances of obtaining optimal results. All quoted prices include their assistance in performing the experiment. Due to the complexity of certain services, such as genomic analysis, we provide customized quotations to establish the global cost of the project (rather than an hourly rate).

QCPU offers a '**SuperUser**' package that discounts services for researchers who purchase services in a bundle as part of an annual agreement. A **SuperUser** is defined as a researcher who financially commits to the use of research equipment at the **QCPU** and, in return, receives an additional 10% discounted rate off of the Queen's Academic, QCPU member or DOM member rate (versus purchasing the same services at the hourly usage). Young investigators committing to a super-user agreement receive an 15% discount.

A SUPERUSER WILL:

- Enjoy a guaranteed 208 hours (**SuperUser A**) or 104 hours (**SuperUser B**) within a 1-year period:
 - Confocal microscope (Leica SP8 Super-Resolution 2-Photon microscope),
 - Flow cytometer and sorter (Sony SH-800),
 - Histology Services (Leica cryostat, processor, embedder, microtome and special stains)
 - Small-Animal Nuclear Imaging (MILabs Tri-modality Vector⁴CT),
 - Protein array and spotter (Intavis MultiPep RSi and CelluSPOT),
 - Genomics quantification equipment (qRTPCR machine, QuantStudio 3; QuBit 4, DropSense spec and PerkinElmer LabChip), and
 - Mass Cytometry (CyTOF: Helios and Hyperion);
- Receive weekly access – guaranteed 4 hours (**SuperUser A**) or 2 hours (**SuperUser B**) per week. Additional hours will be dependent on the availability of the equipment;
- Receive an update of used hours on a quarterly basis.



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ELIGIBILITY:

- Faculty appointment within Queen's University
- Funded research project
- An IACUC or IRB approvals, as applicable

QPCU'S FEE STRUCTURE

Please refer to the Super-User rates in **Table 1**. For non-Super-User hourly fees please refer to **Table 2** (Cellular Cytometry, Imaging, Proteomics, QC & Culture) and **Table 3** (Nuclear Imaging)

SUPERUSERS:

- The SuperUser year is determined by the User in coordination with QCPU in the SuperUser Agreement start date
- If the SuperUser exceeds the usage hours in a year, additional usage will be charged based on the hourly fee
- Renewal of an agreement will occur 1 year after the agreement's start date

HOURLY USERS:

- Payments will be made within 2-3 months of service.

TABLE 1 – Super-User Fee Structure

Rates are per year

	Queen's Academic	QCPU or DOM Member Queen's Academic (-10%)	Young Investigator – Queen's Academic (-15%)	External
Super-User A (208 hours)	\$24,300	\$21,900	\$20,655	\$29,160
Super-User B (104 hours)	\$12,150	\$10,950	\$10,328	\$14,580

TABLE 2 – Cellular Cytometry, Imaging, Proteomics, QC & Culture

Rates are hourly

	Queen's Academic	QCPU or DOM Member Queen's Academic (-10%)	Young Investigator Queen's Academic (-15%)	External User	Minimum Usage
Confocal Microscope: Fixed Samples	\$100	\$90	\$85	\$120	1 hour
Confocal Microscope: Live Imaging	\$140	\$126	\$120	\$185	1 hour
Confocal Microscope: Intra-vital	\$157	\$141	\$134	\$195	1 hour
Flow Sorter	\$157	\$141	\$134	\$195	1 hour
Flow Cytometer Analyser	\$112	\$100	\$95	\$140	1 hour
Histology	\$120	\$108	\$102	\$144	-
Protein Array	\$100	\$90	\$85	\$120	-





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Cell Spotter	\$85	\$77	\$73	\$140	-
Quantification (Spec)	\$10	\$9	\$8	\$15	16 Samples
Quantification (QuBIT)	\$15	\$13	\$12	\$20	50 samples
PE LabChip	\$30	\$27	\$25	\$35	24 samples
qRT-PCR	\$25	\$22	\$21	\$30	Per run
Mass Cytometry: Helios	\$125	\$112	\$106	\$155	4 hour
Mass Cytometry: Hyperion	\$125	\$112	\$106	\$155	4 hour
Cell Culture	----- Quotes by project. -----				
Analysis	\$40	\$36	\$36	\$64	-

QCPU NUCLEAR IMAGING FACILITY

All investigators involved in performing PET/SPECT/CT animal studies must familiarize themselves with the SOP entitled “*Imaging Live Rodents by μ PET/SPECT/CT Scanner at the QCPU*”. Please complete the **Study Registration Form** (attached to this document) and e-mail to imaging specialist, Elahe Alizadeh (elahe.alizadeh@queensu.ca; 613-533-6000 x75764) to schedule a consultation for animal PET/CT studies, and study design.

The prices for CT and PET/SPECT/CT scanning services in the QCPU are based on the type and number of animals scanned by the scanner. For a detailed breakdown of all pricing, please see the **Table 3**. If you have any questions about costs or need guidance in estimating your needs for a study please contact Elahe Alizadeh or QCPU manager, Brooke Ring-Snetsinger (ringb@queensu.ca)

IMPORTANT NOTES:

- For new project without an establish method there is a one-time \$200 fee for pre-study activities required to get a study launched, including consultation, literature review
- To run a pilot of pre-trial experiments or scanning of phantoms there is a \$300 fee.
- Lab supplies and consumable including gloves, saline, absorbent pad, plastic bag, isoflurane, tape, syringe, catheter, tubing, and some accessories for scanner (ECG leads, temperature and respiration probes, ...), as well as services such as radio-tracer injection and catheterization are provided free of charge.
- Most scans are performed using isoflurane. If for any reason PIs want to use injectable anesthetic using controlled substances (such as ketamine/xylazine) for any scans, they should have their own exemption for controlled substances, and bring the drugs to the imaging lab to use.
- For scans with contrast agents or tracers, researchers must pay for their own contrast agents or purchase them from our imaging specialist. Radiotracers will be ordered by imaging specialist (through QCPU’s facility manager, Brooke Ring-Snetsinger, and Radiation Safety Officer, Jamie Coad).
- For scans taking longer than one hour, there will be an extra charge for each 15 min.



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TABLE 3 – Nuclear Imaging Fee Structure

If a method has not already been established, Pls must do a consult.

*Scan fees are per animal/sample

*Post-scan fees are hourly

	Queen's Academic Members	QCPU & Queen's DOM Members (-10%)	Queen's Young Investigator (-15%)	External Users (+20%)	Minimum Usage
Consult	\$200	\$180	\$170	\$240	-
Pilot / Experiment Design	\$300	\$270	\$255	\$360	-
CT-Scan					
Live Animal (M)*	\$150 / M	\$135 / M	\$128 / M	\$180 / M	-
Live Animal (R)	\$200 / R	\$180 / R	\$170 / R	\$240 / R	-
Organs/Tissues	\$100 / S	\$90 / S	\$85 / S	\$120 / S	-
PET/SPECT-Scan					
Live Animal (M)	\$160 / M	\$144 / M	\$136 / M	\$190 / M	-
Live Animal (R)	\$210 / R	\$190 / R	\$180 / R	\$250 / R	-
Organs/Tissues	\$110 / S	\$100 / S	\$95 / S	\$130 / S	-
CT/PET/SPECT-Scan					
Live Animal (M)	\$170 / M	\$150 / M	\$145 / M	\$200 / M	-
Live Animal (R)	\$220 / R	\$200 / R	\$190 / R	\$260 / R	-
Organs/Tissues	\$120 / S	\$110 / S	\$100 / S	\$145 / S	-
Data Reconstruction/Analysis by Staff	\$60 / hour	\$55 / hour	\$50 / hour	\$70 / hour	1/2 hour
Training Data Analysis	\$150 for two-hour training	\$135 for two-hour training	\$130 for two-hour training	\$180 for two-hour training	2 hours
Supervised Data Analysis **	\$30 / hour	\$27 / hour	\$25 / hour	\$40 / hour	1/2 hour
Short Scans	\$200 / hour	\$180 / hour	\$170 / hour	\$240 / hour	1/2 hour
Data Storage	----- Quotes by project. -----				

- For scans taking less than 15 minutes, there will be an option of hourly charge (for scanning, reconstruction and data analysis).

* M, R and S are representing Mouse, Rat and Sample, respectively.

** Investigator are allowed to use analyzing computers and software independently after having trained by imaging specialist.



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Queen's CardioPulmonary Unit (QCPU)
Faculty of Health Sciences, Queen's University



Study Registration Form (μ PET/SPECT/CT Scanner)

Please complete the form and e-mail to Elahe Alizadeh (elahe.alizadeh@queensu.ca). For more information on the facility and the current rates, please contact Elahe Alizadeh or QCPU's facility manager, Brooke Ring (ringb@queensu.ca).

STUDY REGISTRATION			
Date:	New Project		Renewal
Project Title:			
PI	Name:	Organization/Dept.:	
	E-mail:	Phone:	
	Address:		
Participants	Name/Title:	E-mail:	
	Name/Title:	E-mail:	
PROJECT DESCRIPTION			
Brief description of the project and the expectations on imaging data / results (3-4 lines):			
Imaging Modality:	CT	CT / PET / SPECT	PET / SPECT
Imaging Subjects:	Live Animals	Organs/Tissues	Phantoms
Animals:	Mouse	Rat	
Number of animals proposed for imaging:		Animal housing facility before imaging:	
Radioisotope / Radiotracer / Contrast Agent:			
Imaging time points (if known):			
AUP #:	Expiration Date:	PI Listed:	
Is the proposed imaging procedure included in the animal protocol?			Yes No
Data Analysis			
Need support with data analysis:			Yes No
Need any visualization software (please specify):		Need any statistical analysis (please specify):	
FUNDING INFORMATION			
Fund Code #:		Grant Agency:	
PI:		Department:	
Dept. contact name for billing:		E-mail:	