ROSWELL PARK
COMPREHENSIVE CANCER CENTER

Summer 2025

Shared RESOURCES

www.roswellpark.org

NEWSLETTER

In This Issue

Information presented in this newsletter was current in July 2025

A Message from our Director of Biorepository and Laboratory Services Shared Resource

Exciting changes are underway in Roswell Park's biobanking efforts. With a $7.7M construction grant award from the NIH Office of the Director and a additional funds from Roswell Park, a large renovation to the Gratwick Basic Science Building (GBSB) is in the works. With the merger of three of our shared resources into one Biorepository and Laboratory Services Shared Resource (BLS), we have enlisted design and construction teams to reimagine the first and seventh floors in GBSB into a state-of-the-art facility for processing and banking of samples obtained from Roswell Park patients and from healthy controls.

Central to this modernization is the acquisition of an ultra-low temperature freezer system, the Hamilton BiOS M6. This advanced system is fully automated, using robotics for placement, handling, tracking and retrieval of samples, including blood components, bone marrow and tumor and normal tissue. With no need for opening freezer doors for migration of samples, the system will maintain stable storage conditions, thus ensuring optimal biospecimen integrity. Queries regarding sample availability and requests for these patient samples will be made through the BLS website, with rapid turnaround time from request to receipt of specimens. Additional planned upgrades include a liquid nitrogen freezer farm and improved laboratory space for the processing of blood, bone marrow, and tumor tissue.

The BLS will continue to provide investigators with de-identified patient samples, linked to clinical and epidemiological data, for their research needs. Using a 'universal consent' process, the majority of patients are approached at registration and consent for use of blood and remnant tissue. In addition to providing an outstanding resource for research with use of banked samples, the BLS can also assist in targeting specific populations for consenting for protocol-specific blood collections. If you are thinking of conducting research using human biospecimens with high-quality, well-annotated materials, the BLS is here to assist you. You can obtain more information from our website or by contacting Annmarie Nowak, Senior Director, Biorepository Operations Management for BLS.

With best regards,

Christine Ambrosone, PhD
Chair, Cancer Prevention & Control

Roswell Park Shared Resources

Advanced Tissue Imaging Shared Resource

Bioanalytics, Metabolomics & Pharmacokinetics Shared Resource (BMPK)

Bioinformatics Shared Resource (BIOINF)

Biomedical Research Informatics Shared Resource (BRISR)

Biorepository & Laboratory Services Shared Resource (BLS)

Biostatistics & Statistical Genomics Shared Resource (BSGSR)

Comparative Oncology Shared Resource (COSR)

Flow & Immune Analysis Shared Resource (FIASR)

Gene Modulation Services Shared Resource (GMSR)

Gene Targeting & Transgenic Shared Resource (GeTT)

Genomics Shared Resource (GSR)

GMP Engineering & Cell Manufacturing Facility (GEM)

Health Communications Resource (HCR)

Investigational Drug Service Shared Resource (IDS)

Nicotine & Tobacco Product Assessment Shared Resource (NICOTAR)

On-site Research Supply Center Shared Resource (ORSC)

Translational Imaging Shared Resource (TISR)

SHARED RESOURCES HIGHLIGHTS

Bioanalytics, Metabolomics & Pharmacokinetics Shared Resource (BMPK)

BMPK has been working hard to expand their capabilities and support your pre-clinical and clinical research efforts. To this end, they have completed development of an assay to measure Short Chain Fatty Acids, which includes over 10 metabolites, including acetic acid, propionic acid, and butyric acid. Further, they have worked with a group at Oregon Health Sciences University, to expand the Catecholamine Assay to include more metabolites in a wider variety biospecimen type. Additionally, to appeal to the large epigenetics group at Roswell Park, we have begun to develop an assay that measures 5-mC and 5-hmC! Please reach out to Spencer Rosario if you have any questions!

Comparative Oncology Shared Resource (COSR)

We're Growing to Serve You Better!

As of **June 30, 2025**, the Experimental Tumor Model Shared Resource has been consolidated into the Comparative Oncology Shared Resource (COSR). This integration enhances our ability to provide comprehensive, expert support for all aspects of animal research, while improving efficiency and streamlining services for our investigators.

COSR Veterinary Services – Now Offering:

- **Study Design & Budgeting**
  Guidance and cost estimates for IACUC-approved procedures
- **Histology and Veterinary Pathology Services**
  Full-service tissue collection, processing, staining and interpretation
- **Breeding Colony Management**
  Full-service support for colony maintenance
- **Experimental Data Collection**
  Accurate and timely parameter tracking
- **Routine Experimental Treatments**
  Including dosing, monitoring, and animal care
- **Tumor Implantation**
  Subcutaneous and orthotopic models
- **Blood Sampling**
  Tailored to your study's needs
- **Radiation Services**
  Precision delivery and support
- **Imaging Services**
  IVIS Bioluminescence imaging for in vivo studies
- **Surgical Procedures**
  Including specialized procedures, tumor resections and implantations
- **Analgesic Dispensing**
  For preemptive care and animal welfare

Need to Schedule a Service?
Contact COSR Veterinary Services today to coordinate your study needs or request a consultation.

COSR's Dedication & Commitment to Science

COSR is a central resource for preclinical research, offering CCSG investigators access to advanced facilities, expert guidance on animal model usage, and skilled personnel to support all aspects of study execution.

COSR veterinary services staff has expertise in advanced technical procedures for generation, monitoring and testing of PDX models and provides training and surgical support for both small and large animal models.

COSR staff manage breeding colonies of C57BL/6, SCID, NSG, and SGM3 mice, which are maintained by COSR and available to CCSG members.

In addition, COSR now provides comprehensive histology and comparative pathology services to support disease research using animal models.

Comparative Oncology Shared Resource Leadership

Congratulations!

Dr. Sandra Sexton will be retiring from Roswell Park on September 30th. The Shared Resource Management Office would like to thank her for 22 years of service in our Comparative Oncology Shared Resource at Roswell Park. Your dedication, hard work, and passion have made a lasting impact, and your presence will truly be missed. As you step into this new chapter, may your days be filled with relaxation, adventure, and all the things you've been looking forward to.

Wishing you happiness, good health, and all the best in this exciting new journey!

Nicotine & Tobacco Product Assessment Resource (NICOTAR)

NicoTAR's mission is to create a collaborative core resource within Roswell Park Comprehensive Cancer Center that provides internal and external researchers with services to study the health effects of various tobacco, nicotine, and cannabis products. NicoTAR laboratories are located in the Basic Science Building and are equipped with several analytical systems, including GC-MS/MS, GC-QTOF, LC-MS/MS, and AAS.

Product Testing: NicoTAR provides testing of various types of tobacco and cannabis products. A wide array of assays is available to test products for nicotine, THC, CBD, respiratory toxicants, and cancer-causing agents. Clients can choose between standardized testing protocols (for example, according to International Standardization Organization [ISO] reference methods) or request a testing protocol that reflects the behavior observed among users of specific products. NicoTAR researchers have recently published the first non-industry study to compare nicotine content, release, form, and select flavoring composition in novel nicotine pouches.

Biomarkers: In addition to product testing, NicoTAR provides analysis of biomarkers of tobacco and cannabis use and exposure to second- and third-hand tobacco smoke. Available assays include analysis of metabolites of nicotine, THC, tobacco-specific nitrosamines, polyaromatic hydrocarbons, and volatile organic compounds in urine, saliva, and blood samples. NicoTAR has recently provided analytical support for the large international study that evaluated exposure to nicotine and toxicants among adolescents who vaped e-cigarettes or smoked tobacco cigarettes.

Additional Services: NicoTAR also provides the following services and resources: monitoring air quality for airborne particulates, nicotine and cannabinoids; air-liquid interface (ALI) for exposure of bronchial and lung epithelial cells to emissions from tobacco and cannabis products; small animal exposure system to tobacco and cannabis products; and negative pressure rooms for human experimental studies with participants who use tobacco and/or cannabis products.

NicoTAR is currently in the process of securing NYS and federal laboratory licenses to expand testing of cannabis products and other controlled substances. For details about the offered services and assays, please contact Maciej Goniewicz or Noel Leigh.

NEW EQUIPMENT

Translational Imaging Shared Resource (TISR)

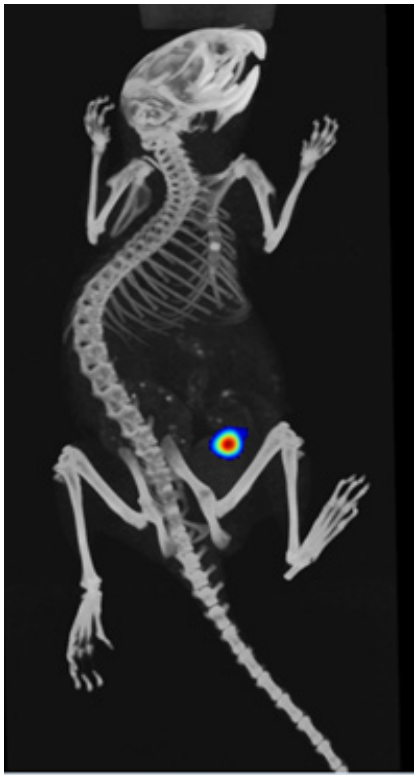
TISR's new preclinical µCT is anticipated to debut for full-time usage on September 1st, 2025. The system can image a range of animal models, from small mice to animals up to 5kg (e.g. rabbits). TISR staff will provide training on data acquisition, data conversion and analysis.

Examples of imaging studies include:

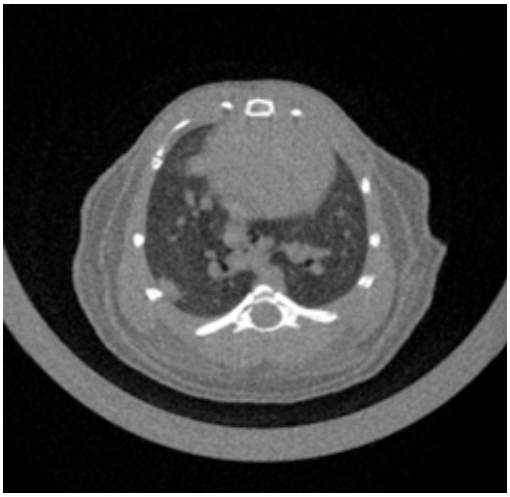
- In vivo bone imaging of osteolytic disease
- High Resolution ex vivo bone imaging
- Body Composition (Adipose vs. Lean Tissue)
- Lung disease imaging (Primary/Metastatic Disease)
- Angiography
- Co-registration of optical imaging data acquired from the IVIS Spectrum
- Contrast-assisted tumor vascularity characterization
- Creation of 3D models suitable for 3D printing

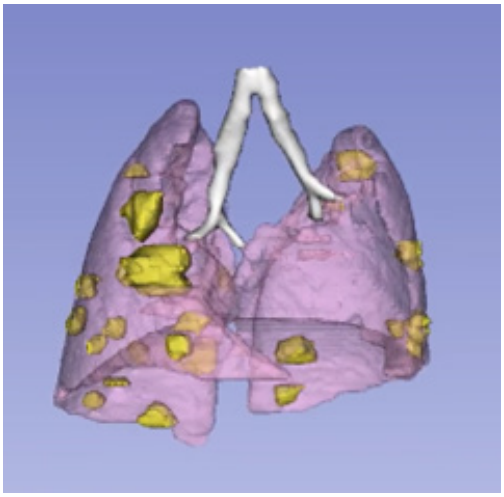
A full showcase of imaging capabilities can be found on i2 at this link: https://tinyurl.com/TISR-Quantum.

Interested parties should contact Dr. Joseph Spernyak (x1551) for more information.



Co-registration of CT data with bioluminescence signal from IVIS Spectrum.





Lung Metastases in Mouse, 72-micron voxels, Acq. time = 4 min

NEW EQUIPMENT

Bioanalytics, Metabolomics & Pharmacokinetics Shared Resource (BMPK)

Olink Q100

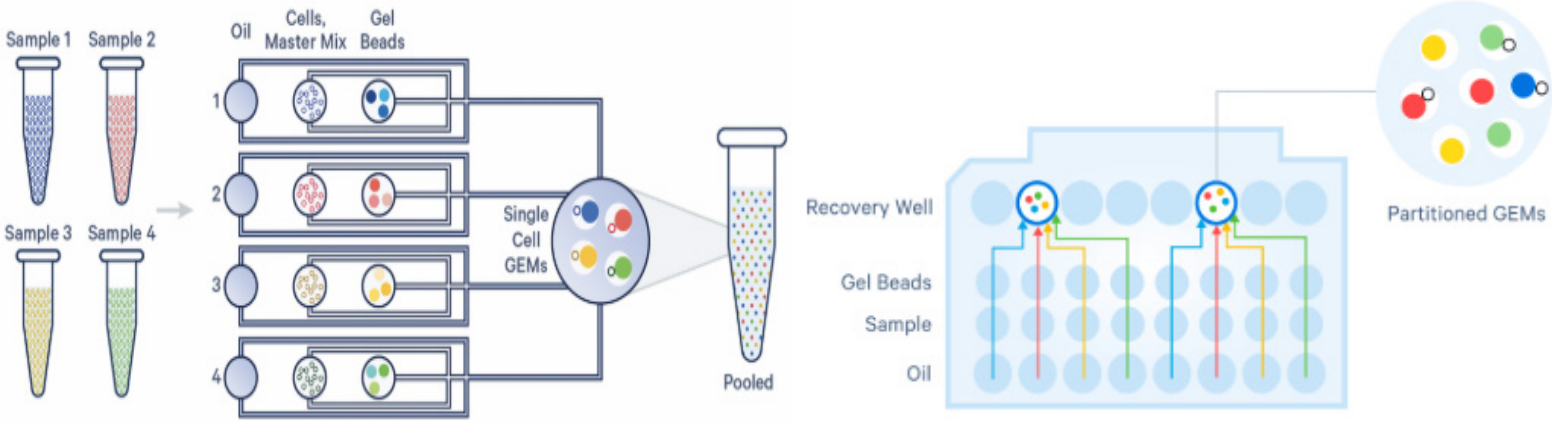
BMPK is also excited to share that they have acquired an Olink Q100, which will be going live soon! The Q100 is designed for both the Olink Target 96 and Target 48 protein biomarker panels, in addition to the Flex assays, where you can build your own personalized panels. These panels offer Proximity Extension Assay (PEA) technology, combining the best of antibody- and DNA-based methodologies to provide unique, enabling tools for protein biomarker analysis. There are multiple assays developed to support your immediate experimental needs.

COMING SOON

For a full list of available, pre-designed assays, please visit: https://olink.com/products/olink-target-96
OR
stop by the Olink poster at the 5th Translational Genomics & Epigenomics Symposium, where a field application scientist will be present.

Genomics Shared Resource (GSR)

10x Genomics' On-Chip Multiplexing (OCM) is a smarter, more streamlined solution for sample barcoding in single-cell sequencing. Traditional methods like antibody-based and CellPlex barcoding require multiple prep steps, including antibody titration, validation, and careful handling-each of which can introduce variability, affect cell viability, and limit scalability. OCM eliminates these challenges by embedding sample indexing directly into the microfluidic chip. This innovation reduces hands-on time, minimizes batch effects, and delivers consistent, high-quality data across diverse sample types. In addition to simplifying workflows, OCM can cut per-sample costs by up to 50% compared to running samples individually making it an ideal choice for high-throughput, multi-sample studies. For more information, please contact the GSR team.



Acknowledging the Cancer Center Support Grant (CCSG)

In order to meet NCI guidelines and stringent review for our Cancer Center Support Grant renewal, all publications, press releases or other documents that cite results from CCSG-supported research, including the use of CCSG-supported Shared Resources and awarded project funding, must acknowledge the CCSG and maintain compliance with NIH Public Access Policy. Example statements are provided below. NIH citation instructions are found here.

Option 1: *This work was supported by Roswell Park Comprehensive Cancer Center and National Cancer Institute (NCI) grant P30CA016056.*

Option 2*: Sample statement to be included in the acknowledgments section of a publication when citing the Cancer Center Support Grant and shared resources.* ***"This work was supported by National Cancer Institute (NCI) grant P30CA016056 involving the use of Roswell Park Comprehensive Cancer Center's Flow and Immune Analysis, Genomic, and Comparative Oncology Shared Resources".***