

Who I am ...Mary Rusckowski, PhD

- Started at the Medical School in 1983 (!!)
- Degree in Biochemistry (Rutgers University)
- Located on the 6th floor -- along the cross hall

Areas I work in

- Radiochemistry
- Biomarker development
- Small animal imaging
- Biodistribution/PK evaluation

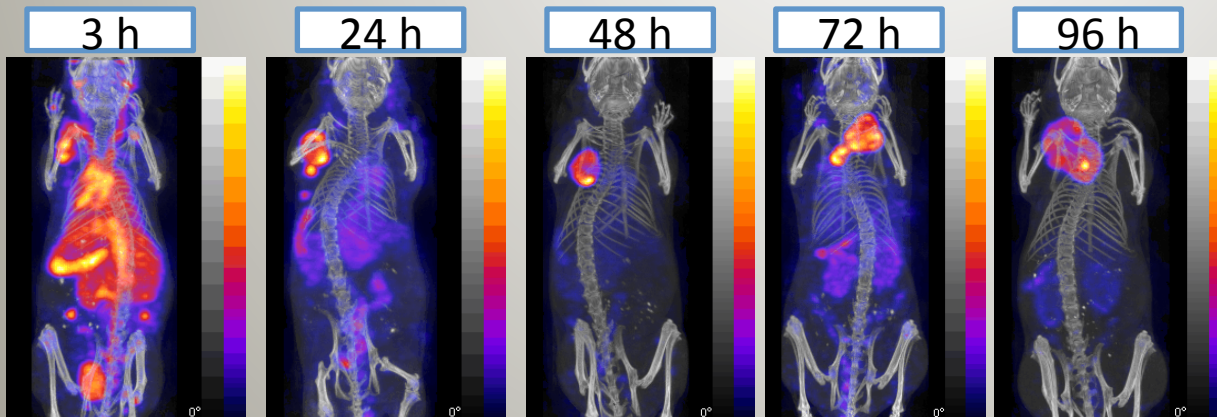
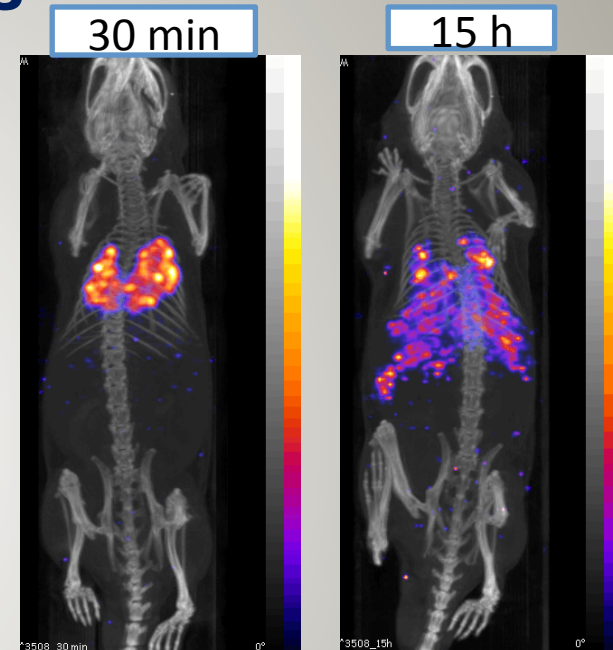
Areas of interest/projects

- Development of a streptavidin biotin targeting system for detection of infection
- Phage display screening of peptides against tumor antigens for cancer markers
- EFG and EGFR as target for cancer detection
- Stem cell tracking in vivo using dual labeled cells
- Labeled bacteriophage for detection of bacterial infection
- Radiolabeled oligomers (MORF backbone) specific for RNA of bacteria and fungi for detection of infection
- Following the fate of molecules in vivo – targeting and accessibility

In vivo preclinical -translational studies

Can provide or assist with the following:

- distribution of molecules
- targeting ability and accessibility
- measure therapeutic effect
- determine pharmacokinetics (PK)
- measure time in circulation, blood clearance
- retention, duration in target or tissues
- explore different routes of administration
- “smart” way to determine time points by minimizing mouse number



Small Animal Imaging Resources at UMMS

The **Small Animal Imaging Core** provides SPECT, PET, CT and Optical systems to follow radiolabeled and/or fluorescent tagged biomolecules of interest (ligands, proteins, peptides, oligomers, or nanoparticles) in mice, rats or rabbits.

Li-Cor Pearl Optical Imager

NanoSPECT/CT

Mosaic PET

IVIS 100 Optical Imager

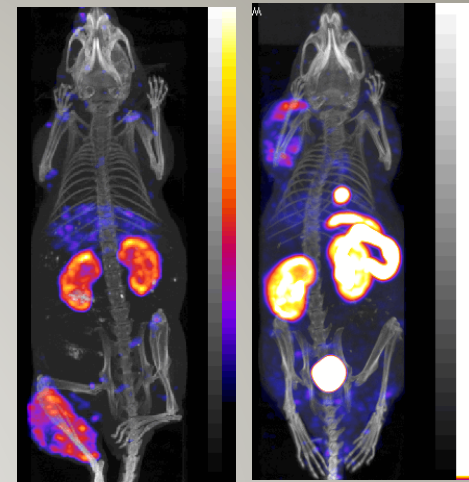
Facility is located in Medical School A-level, SA-107A

CORE SERVICES

The Small Animal Imaging Core provides complete small animal imaging services in mice, rats, rabbits, and anything in between.

Services :

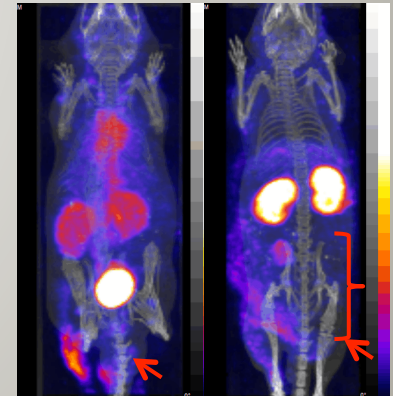
- provide complete labeling services – modify your molecule (fluorescence or radiolabel)
- advise and/or assist with radiation compliance
- assist with IACUC application and compliance
- assist in design of imaging studies
- provide image data analysis



^{111}In -oligomer

$^{99\text{m}}\text{Tc}$ -peptide

^{111}In -DOTA-Biotin/SA/
DPA-Biotin



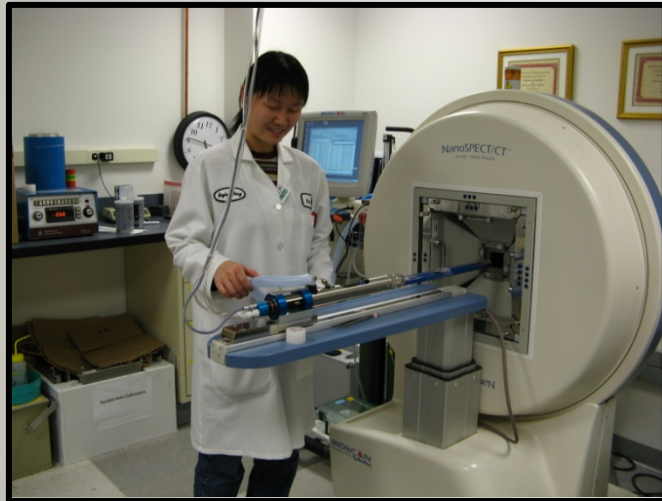
1 hr

20 hrs

Small Animal Imaging Core

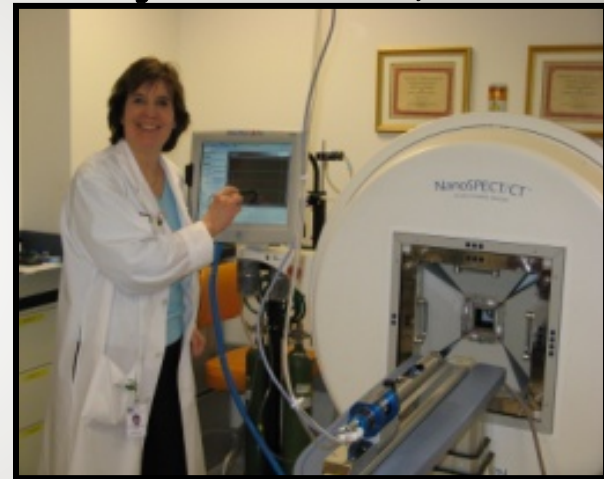
Imaging Suite SA-107A
Medical School Building

Core Manager
Yuzhen Wang, PhD



Yuzhen Wang, PhD
Department of Radiology, S6-308
Tel: (508) 334-2296
Email: yuzhen.wang@umassmed.edu

Core Director
Mary Rusckowski, PhD



Mary Rusckowski, PhD
Department of Radiology, S6-315
Tel: (508) 856-6972
Email: mary.ruskowski@umassmed.edu