

HOTEL ACCOMODATIONS:

Please check the website for the room block information and car rental information. <http://mips.stanford.edu/public/workshop.adp>

Transportation to the Clark Center will only be provided from the Palo Alto Westin Hotel.

Recreation, Activities and Attractions:

- www.stanford.edu
- <http://www.paloaltoonline.com/>
- <http://www.sfvisitor.org/>

ACCREDITATION:

NO CME offered.

REGISTRATION:

- Fee:**
- Early Bird Tuition Postmarked by October 5, 2008
 - Full Course - 4 Days of Lectures and Small Animal Demos (Breakfast/Lunch each day) - \$545
 - Lectures only - 2 days (breakfast/lunch day one and two only) - \$250
 - After October 5, 2008
 - Full Course - 4 Days of Lectures and Small Animal Demos (Breakfast/Lunch each day) - \$595
 - Lectures only - 2 days (breakfast/lunch day one and two only) - \$275

CANCELLATION POLICY:

Full refunds, less a \$75 administrative service charge, will be made to those providing written notification of withdrawal by October 5, 2008. After that date, no refunds will be given.

Website: Please go to <http://radiologycme.stanford.edu/> to register and sign up for the Small Animal Imaging Demonstrations.

Questions regarding the course and registration please call Stanford Radiology Continuing Medical Education Program at 888-556-2230 or email

radiologycme@med.stanford.edu.

Due to space limitations in the Small Animal Imaging Center, the imaging demonstration portion is limited to a maximum of 65 participants.

Acknowledgements:

We gratefully appreciate the generous support from...

ART- Advanced Research Technologies	Olympus America, Inc.
Caliper	Philips Medical Systems
Carestream Molecular Imaging	Resonance Research, Inc.
CRI, Inc.	Siemens Medical Solutions
GE Healthcare	Summit Anesthesia Solutions
Leica Microsystems, Inc.	VisualSonics
LI-COR Bioscience	VisEn Medical, Inc.

For complete program, registration and accommodation details, click on:

<http://radiologycme.stanford.edu>

SMALL ANIMAL IMAGING WORKSHOP

AT STANFORD

Clark Center, Stanford University,
Stanford, California
November 5-8, 2008



MIPS

Molecular Imaging
Program at Stanford

Who will benefit:

Physicians and scientists interested in pre-clinical molecular imaging research and applications in biomedicine.

Objectives:

- Learn how researchers use small animal imaging systems to study disease non-invasively and aid in the discovery, development, and monitoring of novel treatments.
- Participate in *in vivo* small animal imaging demonstrations using the latest modalities installed at Stanford's Clark Center Small Animal Imaging Facility.

Program:

- Day 1: All Day: Lectures by Select Industry Representatives**
Lectures will be held at the Clark Auditorium, Stanford, CA DAY 1&2
- Day 2: All Day: Lectures by Stanford and Other University Faculty**
- Day 3/4: All Day: In Vivo/Small Animal Imaging Demonstrations**
Small animal demonstrations will be held at the Clark Imaging Center DAY 3&4
Located on Stanford campus

Key Topics:

- Small Animal Imaging Instrumentation
- Molecular Imaging Probes, Targets, Assays, and Applications
- Small Animal Handling
- Optical Imaging
 - Bioluminescence and fluorescence imaging/tomography
- Radionuclide Imaging
 - PET
 - SPECT
- X-ray CT
- Magnetic Resonance
- Ultrasound

Imaging Systems:



Stanford University
School of Medicine

Course Director:

Craig Levin, Ph.D.

Associate Professor of Radiology

Stanford University

Molecular Imaging Program at Stanford

Stanford Faculty:

Helen M. Blau, PhD

Professor of Microbiology & Immunology- Baxter Laboratory
Stanford University School of Medicine

Matthew Bogyo, PhD

Assistant Professor of Pathology, Microbiology & Immunology
& Immunology
Assistant Professor (By courtesy), Chemical and Systems Biology
Stanford University School of Medicine

Zhen Cheng, PhD

Assistant Professor of Radiology
Stanford University School of Medicine

Timothy Doyle, PhD

Scientific Director
Imaging Facility, MIPS
Stanford University School of Medicine

Rebecca Fahrig, PhD

Assistant Professor of Radiology
Stanford University School of Medicine

Steve Felt, DVM, MPH, DACLAM, DACVPM

Assistant Professor of Comparative Medicine
Stanford University School of Medicine

Sanjiv Sam Gambhir, MD, PhD

Director, Molecular Imaging Program at Stanford (MIPS)
Professor, Department of Radiology and Bioengineering
Division Chief, Nuclear Medicine
Stanford University School of Medicine

Dennis Leveson-Gower, PhD

postdoctoral fellow under Robert Negrin
Division: Blood and Marrow Transplantation
Stanford University School of Medicine



Clark Center

Kim Butts Pauly, PhD

Associate Professor of Radiology (Diagnostic Radiology)
Stanford University School of Medicine

Daniel M. Spielman, PhD

Associate Professor of Radiology
Stanford University School of Medicine

Juergen K. Willmann, MD

Assistant Professor of Radiology
Stanford University School of Medicine

Guest Faculty:

Carolyn Bertozzi, PhD

Professor of Chemistry
University of California, Berkeley

Alexander D. Borowsky, PhD

Assistant Professor of Pathology and Laboratory Medicine
University of California, Davis

Mikala Egeblad, PhD

Assistant Research Anatomist
University of California, San Francisco

Peter Olson, PhD

University of California, San Francisco

Julie L. Sutcliffe, PhD

Assistant Professor
Director, Cyclotron and Radiochemistry Facility, CMGI
Department of Biomedical Engineering
University of California, Davis

Program Day 1 - Wednesday, November 5

8:00-8:30 am Breakfast, Registration, Equipment Demonstration Sign-up, Vendor Check-in

Section I. Introduction

8:30-8:40 am Introduction to the Small Animal Imaging Workshop at Stanford
Craig Levin, PhD / Stanford University

8:40-8:50 am Overview of the Molecular Imaging Program at Stanford
Sanjiv Sam Gambhir, MD, PhD / Stanford University

Section II. Small Animal Imaging Instrumentation and Applications

RADIONUCLIDE IMAGING

8:50-9:10 am Radionuclide Imaging Physics and Instrumentation: Brief Overview
Craig Levin, PhD / Stanford University

9:10-9:35 am TBA; Speaker TBA / Siemens Medical Solutions

9:35-10:00 am TBA; Speaker TBA / GE Healthcare

10:00-10:20 am Coffee Break

10:20-10:45 am TBA; Speaker TBA / Gamma Medica Ideas

10:45-11:10 am TBA; Speaker TBA / Philips Healthcare

Program Day 1 - Wednesday, November 5 (continued)

ULTRASOUND IMAGING

11:10-11:30 am Ultrasound Imaging Physics and Instrumentation: Brief Overview
Kim Butts Pauly, PhD / Stanford University

11:30-11:55 am New development in Ultrasound High Resolution Imaging
Dave Bates/ Visual Sonics

12:00-1:00 pm Lunch

MAGNETIC RESONANCE IMAGING

1:00-1:20 pm Magnetic Resonance Imaging Physics & Instrumentation: Brief Overview
Laura Pisani, PhD / Stanford University

1:20-1:45 pm Recent Developments in High-Gradient Strength MRI of Mice
Piotr M. Starewicz, PhD / Resonance Research, Inc.

OPTICAL IMAGING

1:45-2:05 pm Optical Imaging Physics and Instrumentation: Brief Overview
Craig Levin, PhD / Stanford University

2:05-2:30 pm IVIS Spectrum; Speaker TBA / Caliper

2:30-2:55 pm The Maestro Imaging System; Speaker TBA / CRI

2:55-3:20 pm Enhance Your In Vivo Pre-Clinical Molecular Imaging with ART
Kelly Lundsten / ART

3:20-3:40 pm Coffee Break

3:40-4:05 pm Quantitative Tomography in Small Animal Imaging Research
Tarif Awad, PhD / VisEn Medical

4:05-4:25 pm TBA; Speaker TBA / Carestream Healthcare

4:25-4:45 pm TBA; D. Michael Olive, PhD / LI-COR

X-RAY CT

4:45-5:10 pm X-ray Computed Tomography Physics and Instrumentation: Brief Overview
Rebecca Fahrig, PhD / Stanford University

5:10-5:35 pm TBA; Speaker TBA / GE Healthcare

Program Day 2 - Thursday, November 6

8:00-8:30 am Breakfast

Section III. Small Animal Imaging Probes, Targets, Assays, and Applications

8:30-9:00 am Imaging Glycans in Living Systems; Carolyn Bertozzi, PhD / UC Berkeley

9:00-9:30 am Tracking Muscle Stem Cells by Bioluminescent Imaging

Helen M. Blau, PhD / Stanford University

9:30-10:00 am Biomedical Imaging in Drug Discovery and Development

Joane M. Greve, PhD / Genentech Inc.

10:00-10:30 am Visualizing Immune Cells in Hematopoietic Stem Cell Transplantation

Dennis Leveson-Gower, PhD / Stanford University

10:30-10:50 am Coffee Break

10:50-11:20 am Non-invasive Optical Imaging of Protease Activity Using Small Molecule Activity Based Probes;

Matthew Bogyo, PhD / Stanford University

11:20-11:50 am Protein Scaffolds Based Approach for Molecular Probe Discovery

Zhen Cheng, PhD / Stanford University

11:50 am-12:20 pm Potential of Molecular Imaging with Ultrasound

Juergen K. Willmann, MD / Stanford University

12:20-1:20 pm Lunch

1:20-1:50 pm A Random and a Rational Approach to Targeted Molecular Imaging

Julie L. Sutcliffe, PhD / UC Davis

1:50-2:20 pm Imaging Stromal Cell Dynamics in Tumor Microenvironments by

Spinning Disk Confocal Microscopy

Mikala Egeblad, PhD / UC San Francisco

2:20-2:50 pm Imaging Tumor Vasculature in Skin and Pancreatic Models

Peter Olson, PhD / UC San Francisco

2:50-3:10 pm Coffee Break

3:10-3:40 pm Super-High (Submicron) Resolution Molecular Imaging and

Coregistration.; Alexander D. Borowsky, PhD / UC Davis

3:40-4:10 pm Real-Time Metabolic Imaging of the Rat using Hyperpolarized ¹³C-

Labeled Pyruvate; Daniel Spielman, PhD / Stanford University

Section IV. Practical Issues for Running a Small Animal Imaging Research Facility

4:10-4:40 pm Running a Small Animal Imaging Facility

Timothy Doyle, PhD / Stanford University

4:40-5:05 pm Rodent Imaging: Care and Anesthesia; Steve Felt, DVM, MPH,

DACLAM, DACVPM

5:05-5:35 pm Anesthesia—It's a Gas!; Jim Houts / Summit Anesthesia Solutions