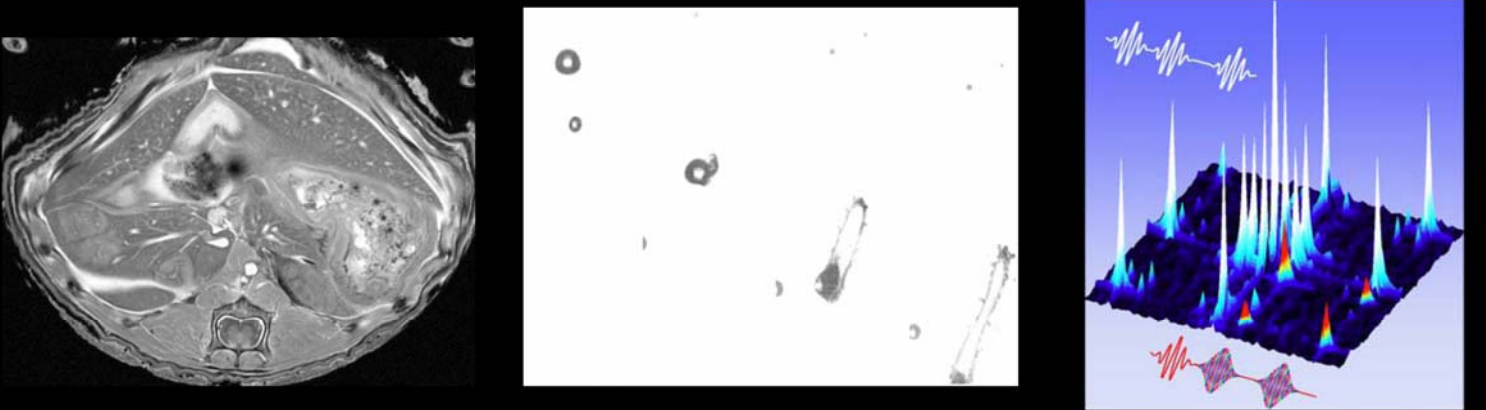


Clinical Directions for Molecular Imaging

The French Family Science Center
and the Searle Center, Duke University

March 12-13, 2009

<http://www.cmbi.duke.edu>



Duke University

Center for Molecular and Biomolecular Imaging

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March 12, 2009

Welcome to the annual meeting of the Center for Molecular and Biomolecular Imaging. The theme this year, Clinical Directions for Molecular Imaging, is intended to bridge basic and clinical research components, and to highlight the potential of a rapidly developing discipline.

Recent developments in molecular imaging have validated its transformative potential in enabling a revolution in molecular medicine. The time is ripe to seriously examine the issues associated with translation from benchtop to clinic. Over the course of this meeting, we will explore new developments in basic and preclinical science, review ongoing clinical trials of next generation contrast agents, preview new capabilities for clinical imaging, and survey both the challenges and opportunities for clinical practice. We have intentionally divided the meeting between basic science space (the French Family Science Center, dedicated at the end of 2007) and medical school space (the Searle Center) to reflect the importance of both components.

It is not coincidental that most of the invited speakers for this meeting have appointments in Radiology departments, here at Duke and elsewhere. Around the country, radiology departments have recognized that their core clinical mission is enhanced by the development of next-generation methods, which promise to image function as opposed to just structure. You will see some amazing new tools (in optical imaging, in radiochemistry, and in magnetic resonance) presented at this meeting. Much of this work you will see is still at the preclinical level (usually in mouse or rat models), in part because new contrast agents can take a very long time to get through the FDA approval process. But you will see clinical trials as well.

Keep in mind that the crucial problem is often matching technologies to real needs. The old saying "If all you have is a hammer, everything looks like a nail" has some truth to it; but I think we have chosen speakers who know how to pick the right tool for the right job. More generally, clinical faculty are kept very busy delivering quality care to patients; research faculty often do not have either the expertise or the perspective to identify real clinical needs. Thus development of a translational infrastructure is essential to realize the promise of many of these methods, and we will explore these issues in the panel discussion on Friday.

CMBI gratefully acknowledges funding for this meeting by the Office of the Provost at Duke, through Duke's Imaging Initiative. The Imaging Initiative bridges the major schools at Duke (Trinity College of Arts and Science, the Pratt School of Engineering, the Nicholas School of the Environment and the School of Medicine), coordinating efforts and clarifying opportunities at the frontiers of basic, applied and clinical science. I also want to take this opportunity to thank Dan Sullivan for his efforts in helping to organize this meeting, and to particularly thank Carlus Walters and Michael Conti for their fine efforts in making this event actually happen!

Sincerely,



Warren S. Warren

Duke University

Clinical Directions for Molecular Imaging Agenda

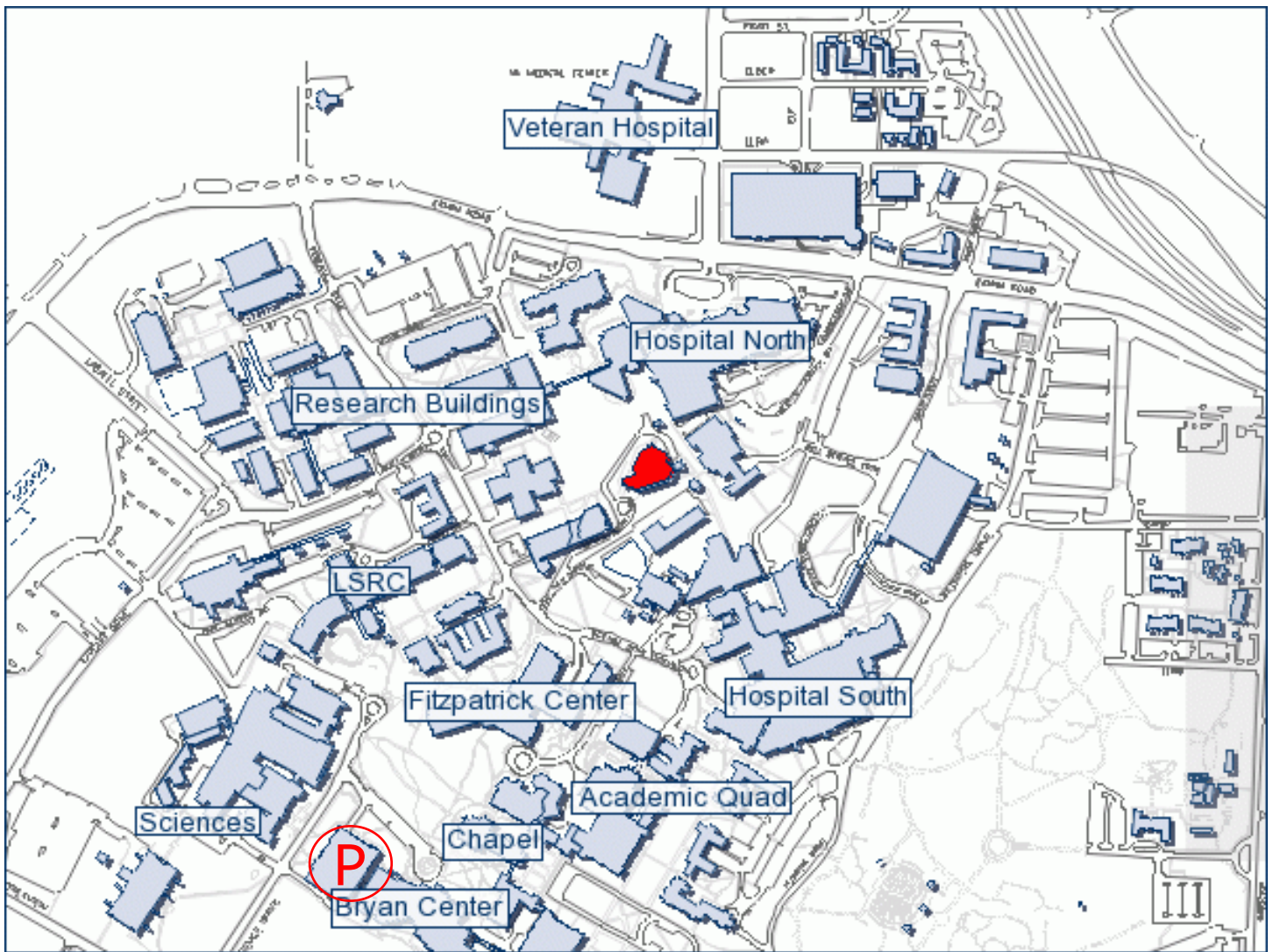
Thursday, March 12, 2009 – 2231 French Family Science Center

- 5:30PM Welcome
Warren Warren, PhD, Chair, Department of Chemistry
James Siedow, PhD, Vice Provost for Research
- 5:40PM *Copper-64-Labeled Biomolecules for Molecular Imaging of Cancer Metastasis*
Carolyn Anderson, PhD, Washington University
- 6:15PM *PARACEST Reporters for Imaging Metabolism by MRI*
Dean Sherry, PhD, University of Texas
- 6:50PM *Harnessing the Power of Light to See and Treat Breast Cancer*
Nimmi Ramanujam, PhD, Duke University
- 7:20PM *Imaging Skin Lesions with Nonlinear Transient Absorption Microscopy*
Ivan Piletic, PhD, Duke University
- 7:50PM Poster Session and Reception

Friday, March 13, 2009 – Searle Center Lecture Hall

- 8:00AM Continental Breakfast
- 8:30AM Welcome
Daniel Sullivan, MD, Department of Radiology
Nancy Andrews, MD, PhD, Vice Chancellor for Academic Affairs and
Dean of the Duke University School of Medicine
- 8:40AM *Molecular Imaging: Multidisciplinary Frontiers in Real-Time Systems Biology*
David Piwnica-Worms, MD, PhD, Washington University
- 9:20AM *Toward Quantitative Imaging*
Dan Sullivan, MD, Duke University
- 10:00AM Break
- 10:15AM *High Resolution Imaging of the Small Animal: A Sampler from the Duke CIVM*
Laurence Hedlund, PhD, Duke University

- 10:45AM *Immuno-PET for Tumor Imaging and Immunotherapy Planning: A Potential Clinical Direction for Molecular Imaging*
Michael Zalutsky, PhD, Duke University
- 11:25AM *Hyperpolarized Gas MRI: From Mouse to Human*
Bastiaan Driehuys, PhD, Duke University
- 12:00PM Lunch
- 1:00PM *Translational Optical Molecular Imaging Application*
Umar Mahmood, MD, PhD, Harvard University
- 1:40PM *The Biomedical Research Imaging Center at the University of North Carolina at Chapel Hill*
Etta Pisano, MD, Vice Dean for Academic Affairs, UNC School of Medicine
- 2:20PM *Hyperpolarized MR Molecular Imaging Probes of Cancer – Current Findings and Clinical Promise*
John Kurhanewicz, PhD, University of California
- 3:00PM Break
- 3:15PM *Developing Long-Lived, Hyperpolarized Reagents for in vivo MRI*
Elizabeth Jenista, Duke University
- 3:55PM *Overview and Current Applications of the in vivo Molecular Imaging and Spectroscopy Shared Resource*
Gregory Palmer, PhD, Duke University
- 4:30PM Panel
- 5:00PM Adjourn



The Searle Center is located in the Seeley G. Mudd building, shown in red. The address is 10 Bryan-Searle Drive. The nearest paid parking area (red P on the map) is located by the Bryan Center, across Science Drive from the French Family Science Center.