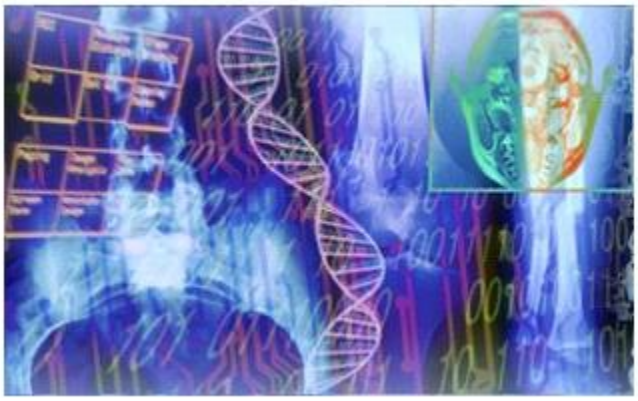
# *Symposium and Training XII:*
# PPARs and Fat Metabolism in the Heart



Thursday, April 22, 2004

*Presented by*
**The Mary Nell and Ralph B. Rogers**
**Magnetic Resonance Center**
*and*
**The National Center for Research Resources in association with**

UT SOUTHWESTERN
MEDICAL CENTER

## Program Objective

The goal of the National Institutes of Health-funded Center for Research Resources at UT Southwestern is to develop novel NMR technologies for measuring and understanding intermediary metabolism *in vivo*. One major emphasis is to use $^{2}H$ and $^{13}C$ as metabolic tracers and modern NMR methodologies to unravel the complexities of multiorgan metabolism in animals and humans. A second component of the Center is to develop novel imaging agents that respond to metabolism *in vivo*. Given the widespread interest in Peroxisome Proliferator-Activated Receptors (PPARs) and exciting recent discoveries in cardiac fat metabolism, the symposium will provide an update on these topics plus an introduction to MR methods developed in this Center for quantifying fat metabolism in the heart.

This year's program is aimed at basic researchers and clinical investigators with interest in PPARs and the physiology of fat metabolism in the heart. Although the emphasis this year will be on the heart, all of the principles in analysis of metabolic pathways are the same for other organs. The morning session will review the basics of MR analysis of metabolic fluxes and conclude with a talk from an established leader in PPARs and their role in heart metabolism. The afternoon session will begin with an overview of PPARs and LXRs, followed by discussions of current studies in clinically relevant models and in humans. The afternoon will conclude with a discussion of new methods with the potential for monitoring metabolism by conventional MRI.

## Guest Speakers

Kathleen Brown, DVM, PhD DACVIM (Cardiology), Department of Metabolic Diseases, Glaxo Smith Kline.

Kieran Clarke, PhD, Professor of Physiological Biochemistry, University of Oxford.
Daniel P. Kelly, MD, Professor of Medicine, Pediatrics, and Molecular Biology and Pharmacology, Washington University School of Medicine.
William C Stanley, PhD, Associate Professor of Physiology and Biophysics, Case Western Reserve University.

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## UT Southwestern Speakers

Craig R. Malloy, MD, Professor of Radiology and Internal Medicine.
Shawn C. Burgess, PhD, Assistant Professor of Radiology
David J. Mangelsdorf, PhD, Professor of Pharmacology and Biochemistry.
Matthew E. Merritt, PhD, Assistant Professor of Radiology.
Kimberly A. Rosaaen, PhD, Postdoctoral Researcher, Department of Radiology.
A. Dean Sherry, PhD, Professor of Radiology, UT Southwestern, and Chemistry, UT Dallas.

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## Program Schedule

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| 8:00 a.m. | **On-Site Registration - North Campus** Continental Breakfast |
| 8:30 a.m. | **Energy for the Heart in Health and Disease**<br>Craig R. Malloy, MD |
| 9:15 a.m. | **Triglyceride Turnover and Fat Oxidation in the Mouse Heart**<br>Kimberly A. Rosaaen, PhD |
| 9:45 a.m. | **Analysis of Metabolism in Transgenic Mice**<br>Shawn C. Burgess, PhD |
| 10:30 a.m. | **Break** |
| 11:00 a.m. | **PPAR Signaling in the Regulation of Myocardial Metabolism**<br>Daniel P. Kelly, MD |
| 12:00 a.m. | **Catered Lunch** |
| 1:00 p.m. | **The Role of Nuclear Receptors in Lipid Metabolism**<br>David J. Mangelsdorf, PhD |
| 1:45 p.m. | **PPAR g Activation Alters Glucose and Fatty Acid Uptake and Metabolism: Cardiac Gene Expression and Tracer Studies with [I-125]-BMIPP and [F-18]-2-FDG**<br>Kathleen Brown, PhD |
| 2:30 p.m. | **Regulation of Myocardial Energy Metabolism In Heart Failure**<br>William C. Stanley, PhD |
| 3:15 p.m. | **Discussion / Break** |
| 3:45 p.m. | **PPAR Activation Improves Cardiac & Skeletal Muscle Energetics in Type 2 Diabetic Patients**<br>Kieran Clarke, PhD |
| 4:30 p.m. | **The Potential of Molecular Imaging Agents**<br>A. Dean Sherry, PhD |
| 5:30 p.m. | **Wine and Cheese Reception at the A. W. Harris Faculty Club** South Campus |