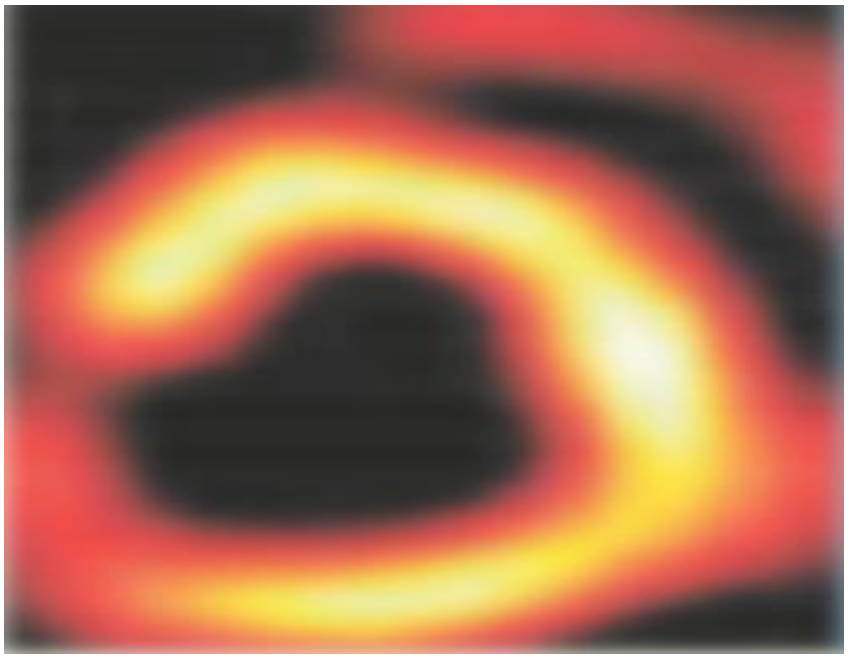
# Frontiers in Metabolic Imaging



Tuesday, April 10, 2007

*Presented by*
**The Advanced Imaging Research Center**
*and*
**The National Center for Research Resources in association with**

UT SOUTHWESTERN MEDICAL CENTER

## Program Objective

The goal of this NIH-funded National Center for Research Resources is to develop novel NMR methods for monitoring intermediary metabolism *in vivo*. A major emphasis has been the use of and $^{13}C$ -enriched tracers combined with analysis of metabolic products in plasma or urine for understanding systemic metabolic pathways. Stable isotopes are safe, and detection by NMR spectroscopy allows simultaneous use of multiple tracers in a single experiment. Furthermore, the information content of the NMR analysis is far greater than that available by classical radiotracer imaging methods. However, because of poor sensitivity, until recently it has been difficult to extend these methods to imaging.

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## Guest Speakers

Per Akeson, MD, PhD, Danish Research Center for Magnetic Resonance, Hvidovre Hospital, Copenhagen University, Copenhagen, Denmark Department of Radiology, Malmo University Hospital, Malmo, Sweden

Jan Henrik Ardenkjaer-Larsen, PhD, Principal Scientist, GE Healthcare, Amersham, United Kingdom

Bastiaan Driehuys, PhD, Assistant Professor, Department of Radiology, Duke University, Durham, North Carolina

Robert Lenkinski, PhD, Director, Experimental Radiology and 3T MR Spectroscopy Program, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts

Jeff Duyn, PhD, Senior Investigator, National Institute of Neurological Disorders and Stroke, National Institute of Health, Bethesda, Maryland

John C. Gore, PhD, Professor, Departments of Radiology, Physics & Astronomy and Biomedical Engineering, Vanderbilt University, Nashville, Tennessee

Daniel B. Vigneron, PhD, Professor, Department of Radiology, University of California, San Francisco, San Francisco, California

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## Program Schedule

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| 8:00 a.m. | **Registration and Continental Breakfast** |
| 8:30 a.m. | **Alternate Mechanisms for Spin Polarization**<br>Dr. Driehuys |
| 9:30 a.m. | **Hyperpolarization of Molecules in Solution by Solid State DNP and Dissolution**<br>Dr. Ardenkjaer-Larsen |
| 10:30 a.m. | **Discussion** |
| 10:45 a.m. | **Break** |
| 11:00 a.m. | **Oncology Applications of Hyperpolarized Carbon**<br>Dr. Vigneron |
| 12:00 a.m. | **Lunch** |
| 1:00 p.m. | **Cardiac Applications of Hyperpolarized Carbon**<br>Dr. Akeson |
| 2:00 p.m. | **Parahydrogen Induced Polarization**<br>Dr. Lenkinski |
| 3:00 p.m. | **Break** |
| 3:15 p.m. | **MRI of Human Brain at 7T**<br>Dr. Duyn |
| 4:15 p.m. | **MR Studies at 7 T: The Vanderbilt Experience**<br>Dr. Gore |
| 5:00 p.m. | **Adjourn** |
| 5:15 p.m. | **Reception** |