

Isotope Tracers in Metabolic Research

March 12-16, 2012, Little Rock, AR

Welcome to the fifth annual course which provides basic introductory and comprehensive information on performing metabolic studies using tracers labeled with radioactive or stable isotopes, in man and in animals. The course is designed for beginners as well as those with experience who wish to expand their capabilities to more sophisticated problems. The faculty is well-versed in a variety of applications and methodologies.

Techniques will be presented for investigating whole body metabolism, for metabolite balance across organs, intracellular flux rates and pathway regulation. The basic aspects of modeling will be considered, as well as specific applications in the study of carbohydrate, fat, protein metabolism and energy balance. Theoretical and practical matters related to sample analysis by mass spectrometry and NMR will be discussed, including detailed numerical examples of calculations involved in determining isotopic enrichment and basic kinetic parameters. Advanced lectures will discuss in more detail the use of positional and mass isotopomer analysis for intracellular flux rates and various aspects of protein and amino acid metabolism. Applications in humans and animal models (particularly mouse) will be considered.

Course material will be available for download from www.mmmpc.org/shared/tracers.aspx. Problems and discussion questions will highlight key concepts. In addition to organized sessions, attendees will have ample opportunities for personal interaction with faculty members to discuss issues in more depth.

5th Annual

Isotope Tracers in Metabolic Research:

Principles and Practice of Kinetic Analysis

A COURSE

www.mmmpc.org/shared/tracers.aspx

Course Directors

Robert R. Wolfe, PhD
Henri Brunengraber, MD, PhD

Faculty / Speakers

Henri Brunengraber, MD, PhD	Cleveland, OH
Shawn C. Burgess, PhD	Dallas, TX
Gary Cline, PhD	New Haven, CT
Nicolaas E. Deutz, MD, PhD	Little Rock, AR
Joanne Kelleher, PhD	Boston, MA
Craig Malloy, MD	Dallas, TX
Owen McGuinness, PhD	Nashville, TN
Bettina Mittendorfer, PhD	St. Louis, MO
Stephen Previs, PhD	Rahway, NJ
Robert Wolfe, PhD	Little Rock, AR

Sponsors

Supported by R25-DK082376 to H. Brunengraber, under the auspices of the Mouse Metabolic Phenotyping Centers



Presented by the Mouse Metabolic Phenotyping Centers

5th Annual

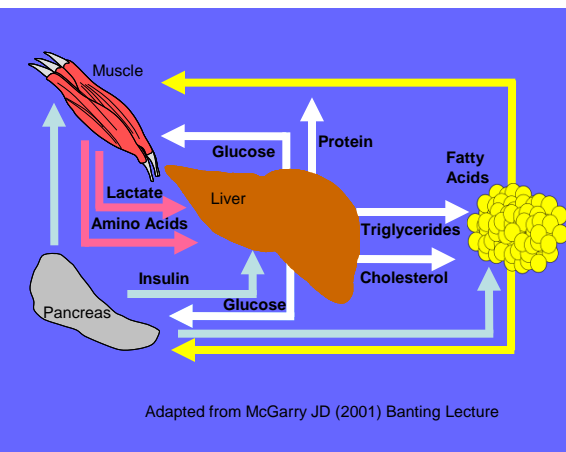
Isotope Tracers in Metabolic Research:

Principles and Practice of Kinetic Analysis

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March 12-16, 2012
The Peabody Little Rock
Little Rock, Arkansas

Information www.mmmpc.org/shared/tracers.aspx



A week-long course in the theory and practice of stable and radioactive isotopic tracers for the study of metabolism in man and animals.

Isotope Tracers in Metabolic Research

Detailed agenda available at
www.mmpc.org/shared/tracers.aspx

Monday, March 12, 2012

Basic characteristics of radioactive, stable isotope tracers
General principles of mass spectrometry
Isotopic enrichment using GC-MS
Methods of mass spectrometry analysis
Measurement of specific activity

Tuesday, March 13, 2012

Tracer kinetics - single pool models
Oxidation and synthesis rates
Glucose metabolism - clamp studies
Lipid metabolism - basic kinetics

Wednesday, March 14, 2012

Energy expenditure with doubly labeled water
Synthesis rates with deuterated water: proteins, fatty acids
sterols, glucose, nucleic acids
Mass isotopomer distribution analysis: polymer synthesis
multiple flux pathways, TCA cycle, anaplerosis,

Thursday, March 15, 2012

Pathway flux using NMR isotopomer analysis
Methods in protein metabolism

Friday, March 16, 2012

Pathway discovery
Comparison of radioactive and stable isotopes
Isotopic artifacts

Logistics

The Isotope Tracers Course is being held at



3 Statehouse Plaza
Little Rock, AR 72201
(501) 906-4000

www.peabodylittlerock.com

The Little Rock National Airport is 10-15 minutes from the hotel. Shuttle services are available through The Peabody.

Course Registration and Materials

- The number of participants is limited to 100.
- Deadline for Registration is March 1, 2012.
- Please see the registration form for list of fees.
- The Registration Fee includes daily breakfast, lunch, and snacks.
- Please bring a WI-FI capable device for downloading and viewing electronic materials for the course.
- In addition, the following book is useful: "Isotope Tracers in Metabolic Research: Principle and Practice of Kinetic Analysis" by Robert R. Wolfe and David L. Chinkes, 2nd Edition, 2005, Wiley-Liss.

Accommodations and Information

- The Peabody is offering a limited number of rooms at discounted conference rates (\$145) for reservations made prior to **February 11, 2012**.
- To receive this rate, call **1-800-Peabody** and reserve your room using the identifier: **5th Annual Isotope Course**.

Email maren.laughlin@nih.gov if you are interested in being paired with a roommate.

Other area accommodations and city information can be found by searching www.LittleRock.com.

CONTACT: Deb Viane, Course Assistant
djviane@uams.edu

REGISTRATION FORM

The Course is limited to 100 participants.

*** PAYMENT BY CREDIT CARD IS NOT AVAILABLE ***

Name _____
Degree _____
Institution _____
Position _____
Mailing Address _____

City, State, Zip _____
Phone _____
Email _____

The above personal information may be shared with other course attendees. ____ YES or ____ NO.

My experience with isotopic tracers _____

Topics I want to learn about _____

Please specify any special dietary or accessibility needs _____

Registration Fee: Payable by personal, company or institutional check only before March 1, 2012.

Make Check Payable to:

**University of Arkansas for Medical Sciences
REF T5-Wolfe**

- ☐ Student / Postdoc (\$400)
☐ Academic / Gov. Scientist (\$750)
☐ Industry Scientist (\$1,250)

Mail to:

Isotope Tracers Course
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