

# INTENSIVE COURSE IN TRACER METHODOLOGY IN METABOLISM

Athens, Greece

(May 28 – 29, 2011)

## Saturday May 28th

### Tracer methodology 101

- 9:00 – 9:15 Course Presentation (Labros Sidossis - Olav Rooyackers )
- 9:15 – 9:45 Introduction to the use of stable and radioactive isotopes (Olav Rooyackers)
- 9:45 – 10:30 Mass spectrometer methods to measure stable isotope tracers:  
GC-MS/ GC-IRMS/LC-MS (Dwight Matthews)
- 10.30 - 11.00 Coffee break
- 11:00 – 12:00 Basic tracer calculations (Dwight Matthews)
- 12:00 – 13:00 Isotope dilution vs isotope incorporation (Gianni Biolo)
- 13.00 – 14.00 Lunch

### Carbohydrate Metabolism – Energy Expenditure

- 14:00 – 14:45 Glucose turnover and gluconeogenesis (Olav Rooyackers)
- 14:45 – 15:15 Energy expenditure – Doubly labelled water (Dwight Matthews)
- 15:15 – 15:45 Coffee break
- 15:45 – 16:30 Workshop 1: Basic tracer and whole body glucose kinetics calculations (Dwight Matthews and Olav Rooyackers)
- 16:30 - 17.30 Workshop 2: Discussion on tracer protocols **mainly on carbohydrate and energy-related projects**. Participants present their tracer protocols and discuss them with the faculty and fellow students (Gianni Biolo – Yves Boirie- Dwight Matthews - Nicolaas Deutz – Labros Sidossis - Olav Rooyackers)
- 20.00 Dinner with the experts! Dr. Dwight Mathews will present his world famous lecture on "Lessons Learned: Problems and Pitfalls of Using Tracers"

Sunday May 29th

## Fat Metabolism – Substrate Oxidation

- 09:00– 09:45 Fatty acid kinetics – Substrate oxidation (Labros Sidossis)
- 09:45– 10:30 Lipoprotein and glycerol kinetics (Faidon Magkos)
- 10.30 - 11.00 Coffee break
- 11:00-12:00 Workshop 3: Whole body and tissue FFA - TG kinetics and oxidation calculations (Labros Sidossis – Faidon Magkos – Maria Maraki)

## Protein and Amino Acid Metabolism

- 12:00 - 12:30 Whole body protein kinetics during fasting and feeding (Yves Boirie)
- 12:30 - 13:15 Kinetics of individual amino acids on the tissue level (Gianni Biolo)
- 13:15 – 14:15 Lunch
- 14:15 – 15:00 Protein transorgan and fractional synthesis and breakdown rates (Nicolaas Deutz)
- 15:00 – 15:30 Coffee break
- 15:30 - 16:30 Workshop 4: Whole body and tissue amino acid kinetics calculations (Nicolaas Deutz – Dwight Matthews – Gianni Biolo – Yves Boirie)
- 16:30 - 17:30 Workshop 5: Discussion on tracer protocols **mainly on lipid and protein-related projects**. Participants present their tracer protocols and discuss them with the faculty and fellow students (Gianni Biolo - – Yves Boirie- Dwight Matthews - Nicolaas Deutz – Labros Sidossis - Olav Rooyackers)

## Faculty

Gianni Biolo

Dept. of Medical, Technological and Translational Sciences, Division of Internal Medicine, University of Trieste, Italy. [biolo@units.it](mailto:biolo@units.it)

Yves Boirie,

Human Nutrition Unit INRA Université d'Auvergne, 58 rue Montalembert BP321, 63009 Clermont-Ferrand Cedex 1, France. [Yves.Boirie@clermont.inra.fr](mailto:Yves.Boirie@clermont.inra.fr)

Nicolaas E.P. Deutz

Center for Translational Research in Aging & Longevity. Donald W. Reynolds Institute on Aging. University of Arkansas for Medical Sciences. Little Rock, USA. [nep.deutz@ctral.org](mailto:nep.deutz@ctral.org)

Faidon Magkos

Laboratory of Nutrition and Clinical Dietetics, Harokopio University of Athens, Greece. [faimag@hua.gr](mailto:faimag@hua.gr)

Maria Maraki

Laboratory of Nutrition and Clinical Dietetics, Harokopio University of Athens, Greece. [mmar@hua.gr](mailto:mmar@hua.gr)

Dwight E. Matthews

Depts. of Chemistry and Medicine, The University of Vermont, Burlington, VT USA. [Dwight.Matthews@uvm.edu](mailto:Dwight.Matthews@uvm.edu), <http://www.uvm.edu/~dmatthew/>

Olav Rooyackers

Dept. of Anaesthesiology and Intensive Care, Huddinge University, Hospital, Karolinska Institutet, Stockholm, Sweden. [olav.rooyackers@ki.se](mailto:olav.rooyackers@ki.se)

Labros Sidossis

Labros S. Sidossis Ph.D., Department of Internal Medicine-Geriatrics, University of Texas Medical Branch at Galveston, TX USA, and Laboratory of Nutrition and Clinical Dietetics, Harokopio University of Athens, Greece. [lsidossis@hua.gr](mailto:lsidossis@hua.gr)