11th International Symposium on
In Vivo Body Composition Studies

Body Composition Analysis (Structural, Functional, Kinetic): Technologies and Models for Biomedical Research and Clinical Application

Directed by Dympna Gallagher, EdD

June 25 - 27, 2018
Course Director

Dymphna Gallagher Ed.D., Professor of Nutritional Medicine (in Medicine and the Institute of Human Nutrition), Columbia University Irving Medical Center, New York, New York

Columbia University Faculty

Rudolph L. Leibel, M.D., Christopher J. Murphy Memorial Professor of Diabetes Research and Professor of Pediatrics and Medicine; Co-Director, Naomi Berrie Diabetes Center; Head, Division of Molecular Genetics at CUIMC

Xavier Pi-Sunyer, M.D., M.P.H., Professor of Medicine at CUIMC

Wei Shen M.D., M.P.H., Assistant Professor of Nutritional Pediatrics (in Pediatrics and the Institute of Human Nutrition) at CUIMC

Guest Faculty

Anja Bosy-Westphal, M.D., Ph.D., Professor in Human Nutrition, Christian-Albrechts-Universität zu Kiel, Institut für Humanernährung, Kiel, Germany

Sochung Chung, M.D., Ph.D., Professor, Department of Pediatrics, Konkuk University School of Medicine, Seoul, Korea

Lance E. Davidson, Ph.D., Assistant Professor, Department of Exercise Sciences, Brigham Young University, Provo, Utah

Abdul Dulloo, Ph.D., Professor, Department of Medicine, Division of Physiology, University of Fribourg, Fribourg, Switzerland

Carrie P. Earthman, Ph.D., R.D., Professor, Nutrition, University of Minnesota, St. Paul, Minnesota

Elisabet K. Forsum, Ph.D., Professor Emeritus, Department of Clinical and Experimental Medicine (IKE)/Division of Surgery, Orthopedics and Oncology (KOO), Linköping University, Linköping, Sweden

Steven Heymsfield, M.D., Professor, Metabolism & Body Composition Department, Pennington Biomedical Research Center, Baton Rouge, LA

Sai Krupa Das, Ph.D., Assistant Professor, Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy, Tufts University

Manfred Mueller, M.D., Professor, Christian-Albrechts-Universität zu Kiel, Institut für Humanernährung, Kiel, Germany

Tim Nagy, Ph.D., Professor and Interim Director, Department of Nutrition Sciences and the Nutrition Obesity Research Center, University of Alabama Birmingham, Birmingham, Alabama

Leanne M. Redman, Ph.D., LPFA Endowed Fellowship: Associate Professor, Reproductive Endocrinology & Women’s Health, Pennington Biomedical Research Center, Baton Rouge, LA

John Shepherd, Ph.D., Professor, University of Hawaii (Manoa), Honolulu, Hawaii

Analiza Silva, Ph.D. Professor, University of Lisbon, Lisbon, Portugal

Diana M. Thomas, Ph.D., Professor, Department of Mathematical Sciences, United States Military Academy, West Point, New York

Leigh C. Ward, Ph.D. RNUTR FNSA, Honorary Reader in Metabolic Biochemistry, School of Chemistry and Molecular Biosciences, The University of Queensland, Brisbane, Australia
3:30 p.m.  Registration

4:30 p.m.  Welcome and Introduction
Dympna Gallagher, Ed.D. & Xavier Pi-Sunyer, M.D., M.P.H.

Body Composition Analysis in Energy Homeostasis
Moderator: Rudolph L. Leibel, M.D.

5:00 p.m.  Advances in Structure-Function Organ System Energy
Expenditure Models
Steven Heymsfield, M.D.

5:30 p.m.  Can 3D Body Shape Image Measurements Predict Body
Composition? A Machine Learning Approach
Diana M. Thomas, Ph.D.

6:00 p.m.  Body Composition and its Role in the Control of Energy Intake
Abdul Dulloo, Ph.D.

6:30 p.m.  Body Composition Changes in the Human Calorie Restriction
Trial
Sai Krupa Das, Ph.D.

7:00 p.m.  Q&A

7:30 p.m.  Dinner & Adjourn

Tuesday, June 26, 2018

8:00 a.m.  Registration

Body Composition Analysis: Functional, Genomic and Translational
Moderator: TBD

8:15 a.m.  Body Composition-Related Functions:
A Problem-Oriented Approach to Phenotyping
Manfred Mueller, M.D.

8:45 a.m.  Translating Body Composition Related Findings in Rodents to
Humans
Tim Nagy, Ph.D.

9:15 a.m.  Genetic/Genomics Defining Molecular Mechanisms-Relation
to Body Composition
Rudolph L. Leibel, M.D.

9:45 a.m.  Structural and Functional Body Components in Athletic Health
and Performance Phenotypes
Analiza Silva, Ph.D.

10:15 a.m.  Q & A

10:30 a.m.  Refreshment Break

Concurrent Oral Sessions
Session I:

11:00 a.m.  Comparison of an iPad Application and 3D Body Scanner to
the Bod Pod for Measurement of Body Fat Percentage
Dale R. Wagner, Ph.D.
11:15 a.m.  Predicting Internal Body Composition Distribution from External 3D Body Shape
           Bennett K. Ng

11:30 a.m.  Improved Body Surface Area Prediction Equations Using a 3-Dimensional Photonic Scan
           Maxine Ashby-Thompson, MPH

11:45 a.m.  Q&A

Session II:

11:00 a.m.  Understanding Body Composition Using Stable Isotopes in Low-Middle Income Countries: The Work of the IAEA
           Alexia Alford, Ph.D.

11:15 a.m.  The Relationship between Organ-Tissue of Body Composition and Resting Energy Expenditure in Prepubertal Children
           Taishi Midorikawa, Ph.D.

11:30 a.m.  Energy Cost of Fat Mass is Elevated in Severe Obesity
           Stan Heshka, Ph.D.

11:45 a.m.  Lunch & Poster Presentations

1:15 p.m.   Triennial Meeting

Body Composition: Metabolic Disease
Moderator: TBD

2:00 p.m.   Determinants of Ectopic Fat Deposition in Metabolic Disease
           Anja Bosy-Westphal, M.D., Ph.D.

2:30 p.m.   Fitness/Adiposity and CVD
           Lance E. Davidson, Ph.D.

3:00 p.m.   Changes in Body Composition and Metabolic Disease Risk
           Xavier Pi-Sunyer, M.D., M.P.H.

3:30 p.m.   Deciphering Weight Stability: Challenges of Measuring Changing Body Composition
           Dympna Gallagher, Ed.D.

4:00 p.m.   Q&A

Concurrent Oral Sessions
Session III: Metabolic

4:15 p.m.   Is Body Composition and Hydration Status a Valid Tools in Young Adults Affected by Diabetes Types I?
           Angela Andreoli, Ph.D.

4:30 p.m.   Relationship Between Total Body Protein and Cross-Sectional Skeletal Muscle Area in Cirrhosis is Influenced by Overhydration
           Lindsay Plank, MSc, DPhil

4:45 p.m.   Body Fat: Different Descriptions
           Yungao Sun, Ph.D.

Session IV: Aging

4:15 p.m.   Effect of Aging and Adiposity on the Density of Fat-Free Mass and the Hydration Factor in Non-Caucasian Older Adults
           Rogelio González-Arellanes
4:30 p.m. Sarcopenia, Obesity, the Combination of Both and Implications for Muscle Strength and Bone Mineral Density in Brazilian Adults: The Pró-Saúde Study
Amina Chain, Dsc

4:45 p.m. Cut-off Points of Phase Angle and Its Association with Sarcopenic Obesity in Community-dwelling Mexican Older Adults
Óscar Rosas Carrasco, M.D.

5:00 p.m. Adjourn

7:00 p.m. Dinner Cruise

Wednesday, June 27, 2018

8:00 a.m. Registration

Body Composition Analysis in Early Life and Beyond
Moderator: Richard J. Deckelbaum, M.D.

8:30 a.m. Body Composition in Early Life: Validity of Current Methodologies
Elisabet K. Forsum, Ph.D.

9:00 a.m. Phenotyping: Pregnancy and Newborn
Leanne M. Redman, Ph.D.

9:30 a.m. Pediatric Body Composition References in Children: Clinical Usefulness and Limitations
Sochung Chung, M.D., Ph.D.

10:00 a.m. Q & A

10:15 a.m. Refreshment Break

Concurrent Oral Sessions
Session V: Pediatric

10:30 a.m. Total and Regional Body Fatness from Late Adolescence to Early Adulthood in a Brazilian Birth Cohort Study
Silvana Paiva Orlandi, Ph.D.

10:45 a.m. Body Fat Assessment using Bioelectrical Impedance Analysis and Deuterium Dilution among South African Children: BC-IT Study
Makama Andrie Monyeki, Ph.D.

11:00 a.m. Inter-instrument Comparison of Bioimpedance Body Composition in Russian Children’s Study
Sergey Rudnev, Ph.D.

11:15 a.m. Pregnancy Weight Gain Trajectories and Child Adiposity in African American and Dominican Dyads from Northern Manhattan and the South Bronx
Elizabeth M. Widen, Ph.D.

11:30 a.m. Increased Visceral Adipose Tissue at One-Year Postpartum
Isaiah (Francis) Janumala, M.D.

11:30 a.m. Q&A
Session VI: Methods

10:30 a.m.  A Cold Shower Accelerates the Stabilization of Impedance Parameters after Exercise Allowing the Assessment of Body Hydration Status with Bioimpedance Vector Analysis
Francesco Campa, Ph.D.

10:45 a.m.  Evaluation of Anthropometric Equations to Assess Body Fat in Adult Black South African Women
Herculina Salome Kruger, Ph.D.

11:00 a.m.  Agreement Between DXA and MRI for Body Composition Analysis
Magnus Borga, Ph.D.

11:15 a.m.  Comparison of A-Mode and B-Mode Ultrasound for Measurement of Subcutaneous Fat
Dale R. Wagner, Ph.D.

11:30 a.m.  Total Body Water Measurements from Standing, Seated, and Supine Positions using Bioimpedance Spectroscopy: A Deuterium Oxide Comparison
Jordan R. Moon, Ph.D.

11:45 a.m.  Association between Bone Mineral Content and Density with Stature, Fat and Fat-free Mass in a Large Sample of Brazilian Adults
Luiz Antonio dos Anjos, M.D., Ph.D.

12:00 p.m.  Lunch & Poster Presentations

1:30 p.m.  Triennial Meeting

Body Composition: Technologies for Biomedical Research & Clinical Applications
Moderator: TBD

2:30 p.m.  Body Composition Tools in Clinical Settings:Applications for Assessment and Monitoring
Carrie P. Earthman, Ph.D., R.D.

3:00 p.m.  Phenotypes of Body Composition Using Shape and Appearance Modeling of Deconvoluted DXA Images
John Shepherd, Ph.D.

3:30 p.m.  Bioimpedance for TBW Prediction in Health and in Fluid Abnormal States
Leigh C. Ward, Ph.D. RNUTR FNSA

4:00 p.m.  Uniqueness of Imaging in Body Composition
Wei Shen, M.D., M.P.H.

4:30 p.m.  Q&A

4:45 p.m.  Refreshment Break

Concurrent Oral Sessions
Session VII: Clinical

5:00 p.m.  Evaluation of Bedside Techniques Used to Assess Skeletal
Muscle Mass in Patients with Cirrhosis
Aidan J. Woodward, BPharm, MBBS, FRACP

5:15 p.m. Can Measures of Intracellular Water Track Changes in Muscle Protein Catabolism in Critically Ill Patients?
Lindsay Plank, MSc, DPhil

5:30 p.m. Calf Circumference As A Muscle Mass Marker: Results From NHANES Database
Maria Cristina Gonzalez, M.D., Ph.D.

Session VIII: Clinical

5:00 p.m. Body Composition in Male and Female Mexican Adults with Down Syndrome Using a Four-Compartment Model: Prediction Equation Development
Mauro E Valencia, Ph.D.

5:15 p.m. A 2-D Analysis of Body Composition in Patients with Crohn’s Disease
Phil Jakeman, Ph.D.

5:30 p.m. Evaluation of the Metabolic, Oxidative and Anthropometric Profile in Women with Breast Cancer
Mirele Savegnago Mialich, Ph.D.

5:45 p.m. Closing

Meeting Location
Roy and Diana Vagelos Education Center
104 Haven Avenue
New York, New York 10032

Parking is available at the NewYork-Presbyterian/Columbia University Medical Center parking lot, located on the southwest corner of Fort Washington Avenue and West 165th Street.

Hotel Accommodations
Blocks of rooms have been reserved at several properties in New York. These special room rates are available to the attendees from June 25 - 28, 2018. Please note, all rates quoted are subject to state and local taxes. Other rates and conditions may apply, please check with the individual properties for details.

Reservations must be made directly with the property of your choice. To receive the room rates quoted remember to mention that you are a registrant of 11th International Symposium on In Vivo Body Composition Studies conference. Space at the properties will be held until the cut-off dates listed or until the room blocks have been exhausted, whichever comes first. Reservations received after the cut off dates are subject to availability and prevailing rates.

Lucerne Hotel
201 West 79th Street
New York, New York 10024
Group # 241200
Rate: $245/per night

Edge Hotel
514 West 168th Street
New York, New York 10024
Rate: $199/per night
Complimentary Bus Service

Complimentary bus service will be provided between the medical center and the Lucerne for each day of the program. Please check the box on the registration form to reserve space for this service.

Accreditation Statement

The College of Physicians and Surgeons of Columbia University is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

AMA Credit Designation Statement

The College of Physicians and Surgeons designates this live activity for a maximum of 16.75 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Program Description & Objectives

The event would allow the learner to acquire an understanding of how current capabilities in human phenotyping can be used for the following: population studies relating to adiposity/fatness; interpreting body mass index based reference data bases; defining adiposity and fat distribution cut-off values; body composition in clinical applications (sarcopenia, cachexia, obesity, diabetes, electrolyte and fluid disturbances, weight loss); body composition in nutrition research; body composition in the evaluation of physical performance and exercise; body composition in human biology across lifecourse.

The program is designed for physicians, clinicians, public health professionals (eg, registered dietitians), postdoctoral fellows, students and researchers with an interest in acquiring a more thorough understanding of measurement of body composition, limitations of currently available measurement methods, clinical implications of specific body composition phenotypes, and gaps in knowledge.

At the conclusion of this activity, participants will be better able to:

• Demonstrate a working knowledge of methods used to assess body composition and the strengths and limitations of each.

• Demonstrate an understanding of the use of body composition when monitoring change in patient outcomes in order to help patients improve their health. This will be achieved through active learning that requires the practitioner to integrate the experience with knowledge mastered during the course.
Tuition

Early registration fee (postmarked, faxed or e-mailed on or before March 31, 2018): Standard Tuition: $400; Post-doc Fellows: $200. Registration after March 31, 2018: Standard Tuition: $450; Post-doc Fellows: $250. The fee includes the plenary presentations, continental breakfasts, lunches, refreshment breaks and an electronic course syllabus. Confirmation of registration will be sent upon receipt of the registration form. Refund of registration fee, less a $25 administrative charge, will be made if written notice of cancellation is received by May 1, 2018. No refunds can be made thereafter.

Registration

Space is Limited. Early Registration is Encouraged.

By Mail:

Complete the registration form and mail with full payment to:

Columbia University  
College of Physicians & Surgeons  
Center for Continuing Medical Education  
630 West 168th Street, Unit 39  
New York, NY 10032

On-Line: www.columbiacme.org  
Telephone registrations and/or cancellations are not accepted.

Americans with Disabilities Act

The Columbia University College of Physicians and Surgeons fully complies with the legal requirements of the ADA and the rules and regulations thereof. Any participant with special needs must submit a written request to our office at least one month prior to the course date.

Additional Information

Contact: Center for Continuing Medical Education  
Columbia University  
College of Physicians & Surgeons  
630 West 168th Street, Unit 39  
New York, NY 10032  
Telephone: (212) 305-3334  
Fax: (212) 305-5740  
e-mail: cme@columbia.edu  
www.columbiacme.org
## Registration Form

### COLUMBIA UNIVERSITY  
**Body Composition**  
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Please note: Your e-mail address is used for critical information about the course including: registration confirmation, course evaluation and certificate. Please be sure to include an e-mail address you check daily or frequently.

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**IHN PM 35**  
June 25 - 27, 2018  
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**Registration on or before 3/31/18:**
- $400 Standard Tuition
- $200 Post-doc Fellows

**Registration after 3/31/18:**
- $450 Standard Tuition
- $250 Post-doc Fellows

- Enclosed is a check or money order made payable to Columbia University.
- Checks must be in U.S. Dollars drawn on a U.S. bank.
- Money orders must be in U.S. Dollars.

For security purposes, credit card payments cannot be accepted by mail or fax. Please visit [www.columbiacme.org](http://www.columbiacme.org) to register and pay by credit card. American Express, Discover, MasterCard and Visa only.
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