BIOGRAPHICAL SKETCH

NAME James P. DeLany	POSITION TITLE Research Associate Professor of Medicine
eRA COMMONS USER NAME: DELANYJP	

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
The Ohio State University	B.S.	1979	Human Nutrition
The Ohio State University	Ph.D.	1986	Human Nutrition
The University of Chicago	Post Doc Trainee	1987 - 1989	Stable Isotopes

A. Personal Statement

I have over 23 years of experience in the investigation of body composition, energy and macronutrient metabolism, particularly using stable isotope methodologies. Over the last 10 years I have focused more on the study of insulin resistance, applying techniques such as the frequently sampled intravenous glucose tolerance test using stable isotopically labeled glucose ([6,6,D_2]glucose), the labeled glucose hyperinsulinemic euglycemic clamp, examination of fatty acid oxidation using indirect calorimetry and ^{13}C-labeled fatty acids, examination of individual fatty acids and potential lipotoxic metabolites, and more recently, the relation between skeletal muscle characteristics such as muscle fiber type distribution, lipid accumulation, mitochondrial density and mitochondrial function in relation to insulin sensitivity.

B. Positions and Honors

Positions and Employment

1987-1989 Research Associate supported by NIH. The University of Chicago, Chicago, Illinois
1989-2005 Director, Stable Isotope Laboratory, Pennington Biomedical Research Ctr, Baton Rouge, LA
1991-1996 Assistant Professor, Department of Physiology, Louisiana State University Medical Center, New Orleans, LA
1996-1998 Associate Professor/Research, Pennington Biomedical Research Center, Louisiana State University, Baton Rouge, LA
1998-2005 Associate Professor, Pennington Biomedical Research Center, Louisiana State University, Baton Rouge, LA
2005-Present Research Associate Professor of Medicine, University of Pittsburgh, Pittsburgh, PA

Other Experience and Professional Memberships

May, 2009 Ad Hoc reviewer, NIH-NIDDK, Diabetes, Endocrinology, and Metabolic Diseases B Sub-Committee.
November, 2009 NIDDK Special emphasis panel, ZDK1 GRB-7 J3
February, 2011 ZDK1 GRB-S M1 Review Committee, review Mouse Metabolic Phenotyping Center (MMPCs) grants (U24)
February, 2012 Special Emphasis Panel/Scientific Review Group 2012/05 KNOD.

January, 2012 Invited to serve on the American Diabetes Association's Research Grant Review Committee for a three-year term beginning January 1, 2012, and extending through December 31, 2014.
January 6-7, 2012 NIDDK KNOD Special Emphasis Panel
May, 19, 2012 ADA Research Grant Review Committee (RGRC)
June 4-5, 2012 NIDDK ZDK1 Special Emphasis Panel, review of Diabetes Research Center Grants.
November, 2012 ADA Research Grant Review

May, 18, 2013 ADA grant review panel
October, 2013 Preliminary Review of ADA grants for November, 2014 RGRC review meeting.

1991-present North American Association for the Study of Obesity, Now Obesity
2001-present American Society for Nutritional Sciences
2006-present American Diabetes Association

C. Selected Peer-reviewed Publications (Last 10 years, from 88):

1. Hoyt RW, Buller MJ, Santee WR, Yokota M, Weyand PG, Delany JP. Total energy expenditure estimated using foot-ground contact pedometry. *Diabetes Technol Ther.* Feb 2004;6(1):71-81.
2. McDuffie JR, Adler-Wailes DC, Elberg J, et al. Prediction equations for resting energy expenditure in overweight and normal-weight black and white children. *Am.J.Clin.Nutr.* 2004;80(2):365-373.
3. Tharion WJ, Baker-Fulco CJ, Bovill ME, et al. Adequacy of Garrison feeding for Special Forces soldiers during training. *Mil Med.* Jun 2004;169(6):483-490.
4. Tharion WJ, Yokota M, Buller MJ, DeLany JP, Hoyt RW. Total energy expenditure estimated using a foot-contact pedometer. *Med Sci Monit.* Sep 2004;10(9):CR504-509.
5. Castellani JW, Francis JR, Stulz DA, et al. Body fluid regulation in a simulated disabled submarine: effects of cold, reduced O2, and elevated CO2. *Aviat Space Environ Med.* Aug 2005;76(8):753-759.
6. DeLany JP, Floyd ZE, Zvonic S, et al. Proteomic analysis of primary cultures of human adipose-derived stem cells: modulation by Adipogenesis. *Mol Cell Proteomics.* Jun 2005;4(6):731-740.
7. Frisard MI, Greenway FL, DeLany JP. Comparison of methods to assess body composition changes during a period of weight loss. *Obes Res.* May 2005;13(5):845-854.
8. Lefevre M, Lovejoy JC, Smith SR, et al. Comparison of the acute response to meals enriched with cis- or trans-fatty acids on glucose and lipids in overweight individuals with differing FABP2 genotypes. *Metabolism: clinical and experimental.* Dec 2005;54(12):1652-1658.
9. Ravussin E, Smith J, Heilbronn LK, Martin C, Most MM, DeLany JP. Adherence to a 6-mo Caloric Restriction Diet in Non-Obese Volunteers. *Obesity Research.* 2005;13 (Suppl):A143.
10. Tharion WJ, Lieberman HR, Montain SJ, et al. Energy requirements of military personnel. *Appetite.* Feb 2005;44(1):47-65.
11. Castellani JW, DeLany JP, O'Brien C, Hoyt RW, Santee WR, Young AJ. Energy Expenditure in Men and Women during 54 h of Exercise and Caloric Deprivation. *Med Sci Sports Exerc.* May 2006;38(5):894-900.
12. DeLany J, Bray G, Harsha D, Volaufova J. Energy Expenditure And Substrate Oxidation Predict Change in Body Fat In Children. *Am J Clin Nutr.* 2006;84(4):862-870.
13. Heilbronn LK, de Jonge L, Frisard MI, et al. Effect of 6-month calorie restriction on biomarkers of longevity, metabolic adaptation, and oxidative stress in overweight individuals: a randomized controlled trial. *Jama.* Apr 5 2006;295(13):1539-1548.
14. Hoyt RW, Opstad PK, Haugen AH, Delany JP, Cymerman A, Friedl KE. Negative energy balance in male and female rangers: effects of 7 d of sustained exercise and food deprivation. *Am J Clin Nutr.* May 2006;83(5):1068-1075.
15. Das SK, Gilhooly CH, Golden JK, et al. Long-term effects of 2 energy-restricted diets differing in glycemic load on dietary adherence, body composition, and metabolism in CALERIE: a 1-y randomized controlled trial. *Am J Clin Nutr.* April 1, 2007 2007;85(4):1023-1030.
16. de Jonge L, DeLany JP, Nguyen T, et al. Validation study of energy expenditure and intake during calorie restriction using doubly labeled water and changes in body composition. *Am J Clin Nutr.* Jan 2007;85(1):73-79.

17. Frisard MI, Fabre JM, Russell RA, et al. Physical activity level and physical functionality in nonagenarians compared to individuals aged 60-74 years. *J Gerontol A Biol Sci Med Sci.* 2007;62:783-788.
18. Kostyak JC, Kris-Etherton P, Bagshaw D, Delany JP, Farrell PA. Relative fat oxidation is higher in children than adults. *Nutr J.* Aug 16 2007;6(1):19.
19. Martin CK, Heilbronn LK, de Jonge L, et al. Effect of Calorie Restriction on Resting Metabolic Rate and Spontaneous Physical Activity. *Obesity.* December 1, 2007 2007;15(12):2964-2973.
20. Toledo FG, Menshikova EV, Ritov VB, et al. Effects of physical activity and weight loss on skeletal muscle mitochondria and relationship with glucose control in type 2 diabetes. *Diabetes.* Aug 2007;56(8):2142-2147.
21. Zvonic S, Lefevre M, Kilroy G, et al. Secretome of Primary Cultures of Human Adipose-derived Stem Cells: Modulation of Serpins by Adipogenesis. *Mol Cell Proteomics.* January 1, 2007 2007;6(1):18-28.
22. Bray GA, Flatt J-P, Volaufova J, DeLany JP, Champagne CM. Corrective responses in human food intake identified from an analysis of 7-d food-intake records. *Am J Clin Nutr.* December 1, 2008 2008;88(6):1504-1510.
23. Johannsen DL, DeLany JP, Frisard MI, et al. Physical Activity in Aging: Comparison among Young, Aged, and Nonagenarian Individuals. *J Appl Physiol.* June 12, 2008 2008:90450.92008.
24. Kangani CO, Kelley DE, DeLany JP. New method for GC/FID and GC-C-IRMS analysis of plasma free fatty acid concentration and isotopic enrichment. *Journal of Chromatography B.* 2008;873(1):95-101.
25. Lefevre M, Wiles JE, Zhang X, et al. Gene expression microarray analysis of the effects of grape anthocyanins in mice: a test of a hypothesis-generating paradigm. *Metabolism: clinical and experimental.* Jul 2008;57(7 Suppl 1):S52-57.
26. Mathivanan S, Ahmed M, Ahn NG, et al. Human Proteinpedia enables sharing of human protein data. *Nat Biotech.* 2008;26(2):164-167.
27. Sun M, Liu Q, Schmidt K, et al. Determination of food portion size by image processing. *Conf Proc IEEE Eng Med Biol Soc.* 2008;1:871-874.
28. Brown JA, Hames KC, Jakicic JM, DeLany JP, Goodpaster BH. Cardiometabolic risk factors in severely obese African-American and Caucasian women. *Diabetes.* 2009;58(S):A630.
29. Das SK, Saltzman E, Gilhooly CH, et al. Low or Moderate Dietary Energy Restriction for Long-term Weight Loss: What Works Best? *Obesity (Silver Spring).* 2009 2009;17(11):2019-2024.
30. McCrory MA, Bhapkar M, Weiss EP, et al. Total energy expenditure of free-living persons assessed by three widely-used accelerometers: validation against doubly-labeled water. *Medicine & Science in Sports & Exercise.* 2009;Under Revision.
31. Redman LM, Heilbronn LK, Martin CK, et al. Metabolic and behavioral compensations in response to caloric restriction: implications for the maintenance of weight loss. *PLoS ONE.* 2009 2009; 4(2):e4377.
32. Swinburn BA, Sacks G, Lo SK, et al. Estimating the changes in energy flux that characterize the rise in obesity prevalence. *Am J Clin Nutr.* Apr 15 2009;89(6):1723-1728.
33. Goodpaster BH, DeLany JP, Otto AD, et al. Effects of Diet and Physical Activity Interventions on Weight Loss and Cardiometabolic Risk Factors in Severely Obese Adults: A Randomized Trial. *JAMA.* October 27, 2010 2010;304(16):1795-1802.
34. Mihalik SJ, Goodpaster BH, Kelley DE, et al. Increased Levels of Plasma Acylcarnitines in Obesity and Type 2 Diabetes and Identification of a Marker of Glucolipotoxicity. *Obesity.* Sept, 2010 2010;18(9):1695-1700.
35. Martin CK, Das SK, Lindblad L, et al. Effect of calorie restriction on the free-living physical activity levels of nonobese humans: results of three randomized trials. *Journal of Applied Physiology.* April 1, 2011 2011;110(4):956-963.
36. Navina S, Acharya C, Delany JP, et al. Lipotoxicity causes multisystem organ failure and exacerbates acute pancreatitis in obesity. *Sci Transl Med.* Nov 2 2011;3(107):107ra110.
37. O'Keefe SJ, Ou J, Delany JP, et al. Effect of fiber supplementation on the microbiota in critically ill patients. *World journal of gastrointestinal pathophysiology.* Dec 15 2011;2(6):138-145.

38. Cooper JN, Columbus ML, Shields KJ, et al. Effects of an intensive behavioral weight loss intervention consisting of caloric restriction with or without physical activity on common carotid artery remodeling in severely obese adults. *Metabolism: clinical and experimental.* Nov 2012;61(11):1589-1597.
39. DeLany JP. Measurement of energy expenditure. *Pediatr Blood Cancer.* Jan 2012;58(1):129-134.
40. Linkov F, Maxwell GL, Felix AS, et al. Longitudinal evaluation of cancer-associated biomarkers before and after weight loss in RENEW study participants: implications for cancer risk reduction. *Gynecol Oncol.* 2012;125(1):114-119.
41. Ou J, DeLany JP, Zhang M, Sharma S, O'Keefe SJ. Association between low colonic short-chain fatty acids and high bile acids in high colon cancer risk populations. *Nutrition and cancer.* 2012;64(1):34-40.
42. Ou JH, Ridlon JM, DeLany JP, Vipperla K, Newton K, O'Keefe SJ. Obesity and Colon Cancer Risk: Is it the Fat? *Gastroenterology.* May 2012;142(5):S313-S313.
43. Racette SB, Das SK, Bhapkar M, et al. Approaches for quantifying energy intake and %calorie restriction during calorie restriction interventions in humans: the multicenter CALERIE study. *Am J Physiol Endocrinol Metab.* Feb 2012;302(4):E441-E448.
44. Acharya C, Cline RA, Jaligama D, et al. Fibrosis Reduces Severity of Acute-on-Chronic Pancreatitis in Humans. *Gastroenterology.* 2013;145(2):466-475.
45. Coen PM, Hames KC, Leachman EM, et al. Reduced skeletal muscle oxidative capacity and elevated ceramide but not diacylglycerol content in severe obesity. *Obesity.* 2013;21(11):2362-2371.
46. DeLany JP, Kelley DE, Hames KC, Jakicic JM, Goodpaster BH. High energy expenditure masks low physical activity in obesity. *Int J Obes (Lond).* Jul 2013;37(7):1006-1011.
47. Ou J, Carbonero F, Zoetendal EG, et al. Diet, microbiota, and microbial metabolites in colon cancer risk in rural Africans and African Americans. *Am J Clin Nutr.* Jul 2013;98(1):111-120.
48. Sitnick MT, Basantani MK, Cai L, et al. Skeletal muscle triacylglycerol hydrolysis does not influence metabolic complications of obesity. *Diabetes.* Oct 2013;62(10):3350-3361.
49. Delany JP, Jakicic JM, Lowery JB, Hames KC, Kelley DE, Goodpaster BH. African American women exhibit similar adherence to intervention but lose less weight due to lower energy requirements. *Int J Obes (Lond).* 2013 Dec 19. doi: 10.1038/ijo.2013.240. [Epub ahead of print].
50. DeLany JP, Kelley DE, Hames KC, Jakicic JM, Goodpaster BH. Effect of physical activity on weight loss, energy expenditure and energy intake during diet induced weight loss *Obesity.* 2013 Jun 26. doi: 10.1002/oby.20525. [Epub ahead of print].

D. Research Support

Ongoing Research Support

1 R01 DK091462-01 (DeLany (PI) 06/15/11 – 05/31/14
NIH/NIDDK
Decreased Fat Oxidation - Metabolic Inflexibility in African-American Women
The goal of this project is to examine the metabolic inflexibility and insulin resistance that is observed in African-American women.

2 R01 AG021961-05A1 (Goodpaster) 9/01/11 – 8/30/16
NIH/NIDDK
Skeletal Muscle Lipid and Insulin Resistance in Aging
The overall objectives are to employ highly innovative methods in muscle biopsy specimens in order to determine the functional and clinically relevant consequences of these interventions as well as alterations in several novel biochemical and molecular factors potentially underlying these intervention effects on human skeletal muscle.
Role: Co-Investigator

5 R01 FD003895-03 (Gillingham, Oregon) 5/01/2012 – 4/30/2014

Ph 2 Study of Triheptanoin for Tx of Long-Chain Fatty Acid Oxidation Disorder

Before and after treatment, total daily energy expenditure is being assessed by doubly labeled water, and total fatty acid oxidation is being evaluated in subjects using a ^{13}C-labeled oleic acid tracer and measuring breath samples for enrichment of $^{13}CO_2$.
Role: Co-Investigator

5 R01 DK072507-06 (Gallagher) 9/1/2013 – 6/30/2016
St. Luke's Roosevelt Institute for Health Sci

Body Composition & REE Responses to Bariatric Surgeries
The study site in Pittsburgh will maintain contact with LABS study participants and will contact and schedule for further follow up assessments of body composition, resting energy expenditure and physical activity.
Role: Co-Investigator

7-13-TS-29 (Toledo, PI) 07/01/13 - 06/30/16
American Diabetes Association
Rediscovering Hydroxychloroquine as a Novel insulin sensitizer in humans

The goal of this project is to identify the mechanisms and target tissues behind the insulin sensitizer effects of hydroxycholoroquine in humans.
Role: Co-Investigator

Completed Research Support

UO1 CA130784-01 (Boushey, Purdue/Hawaii; DeLany, Pittsburgh) 08/01/07 – 07/31/13
Improving dietary assessment methods using the cell phone and digital imaging
The primary goal of this proposal is to develop, implement and evaluate the use of a mobile phone to record dietary intake information. Portion size estimations will be facilitated through the use of imaging techniques from pictures taken before and after consumption. We will utilize doubly labeled water to validate the new system.
Role: PI Pittsburgh Subcontract

R01 CA132901-01A1: Dr. K Ness St. Jude Children's; DeLany, Pitt) 04/01/09 – 02/28/13
NIH/NCI
Motor proficiency, physical activity and energy expenditure in adult survivors of childhood ALL
We are conducting a study that includes a comprehensive, direct, and objective evaluation of musculoskeletal function, sensory capacity, fitness, motor proficiency, energy expenditure and physical activity patterns among adult survivors of childhood acute lymphoblastic leukemia (ALL).
Role: Co-Investigator/ PI Pitt Subcontract - doubly labeled water protocol design, isotope analyses and data interpretation

ADA: 1-11-CT-17 (DeLany (PI)
Decreased fat oxidation - metabolic inflexibility in African-American women 1/1/2011– 12/31/2013
This Research Award was returned after 6 months, due to the fact that I received an award from NIH which included everything that was planned for this project, as well as additional measures.

CA130769-01: Dr. Mingui Sun (PI) 07/01/07 – 06/30/11
A Unified Sensor System for Ubiquitous Assessment of Diet and Physical Activity
The primary goal of this proposal is development of an electronic pendant that houses a video camera and several physiological sensors for collection of food intake and physical activity data.
Role: Co-Investigator

Goodpaster, PI (PI) 6/1/06 – 5/31/10
Pennsylvania Department of Health
Preventing Adverse Effects of Class II and Class III Obesity

The goal of this project is to examine new metabolic concepts regarding causes for severe obesity, looking at factors regulating energy metabolism and burning fat.
Role: Co-Investigator

5P30DK046204-13: Dr. John Jakicic (PI) 7/1/05 –3/31/09
Obesity/Nutrition Research Center
The Obesity and Nutrition Research Center at the University of Pittsburgh comprised 5 cores in the support of obesity investigators, with an emphasis on patient-oriented research.
Role: Director of Mass Spectrometry Lab