

EDUCATION

University of South Carolina (USC): PhD in Exercise Science

- Physical Activity & Chronic Non-communicable Disease Epidemiology, 2012

The Florida State University (FSU): M.S. in Psychology, 2010

The Florida State University (FSU): M.S. in Physiology, 2009

George Mason University: Summa cum Laude; BS. Psychology; GPA: 4.00; 2006

POST-DOCTORAL TRAINING & CURRENT RESEARCH PATHS

NIH/NIDDK Postdoctoral Fellow, 2014-present: Nutrition Obesity Research Center, University of Alabama at Birmingham. Mentor: David B. Allison

- Computational modeling & simulations
 - *In silico* reverse engineering of human energy physiology
 - Obesity and chronic non-communicable diseases (NCD) (e.g., CVD, Type-2 Diabetes Mellitus)
- Non-genetic vectors for the intergenerational transmission of obesity
- Obesity, nutrition, physical activity, and NCD epidemiology

Post-Doctoral Research Fellow, 2013-2014: University of South Carolina. Mentor: Steven N. Blair

- Nutrition, physical activity, sedentary behavior and cardiovascular disease epidemiology
- Energy physiology and chronic non-communicable diseases

SUPPLEMENTARY TRAINING

National Academies Keck Futures Initiative (NAKFI) Conference on Collective Behavior, Irvine, CA, 2014

Agent-based Modelling: Helmholtz Center for Environmental Research – UFZ. Leipzig, Germany, 2014

Physical Activity and Public Health: 8-Day Seminar, Park City, Utah, 2013

American Heart Association Epidemiology and Prevention of Cardiovascular Disease 10-Day Seminar, Lake Tahoe, CA, 2013

National Institute for Mathematical and Biological Sciences (NIMBioS) Investigative Workshop: Mathematical Models of Metabolism and Body Weight Regulation; Knoxville, TN, 2011

TEACHING EXPERIENCE

USC, Teaching (2010-2012):

- Research Designs: Randomized Clinical Trials (graduate level)
- Physical Activity Epidemiology (graduate level)
- Advanced Cardio-Pulmonary Exercise Physiology (graduate level)
- Anatomy and Physiology (undergraduate: multiple sections/semesters).
 - A&P dissection labs
- Guest Lecturer in numerous public health and exercise science classes (undergraduate/graduate)

Secondary Education Teaching experience

- General Educational Development (GED)/Adult-learning center courses
 - English and mathematics

INVITED/PAID SPEAKING/PANELS

Keynote Speaker:

International Forum Ponte al 100, Cancun, Mexico (2014)

<http://pontal100.com/foro-internacional/en/conferencias/>

<http://www.youtube.com/watch?v=-IVrzVzZFOI>

Invited Speaker:

World Sugar Research Organization (2015)

American Heart Association: Industry Nutrition Advisory Panel (2013)

Academy of Nutrition and Dietetics, Food & Nutrition Conference & Expo (2013)

- Academy Spokesperson Briefing
- Scientific Session

ShareWik Educational Video Series:

<http://www.sharewik.com/portfolio-items/energy-balance-using-those-fat-stores/>

<http://www.sharewik.com/portfolio-items/nutrient-partitioning-where-does-the-energy-go/>

<http://www.sharewik.com/portfolio-items/should-we-really-be-calling-obesity-a-disease/>

Panel Member:

International Life Sciences Institute (ILSI) Future Research Needs Panel: Sugar and Health

PROFESSIONAL PUBLICATIONS

Archer, E., Pavela, G., Lavie, C.J., Blair, S.N. The Inadmissibility of 'What We Eat In America' (WWEIA) and NHANES Dietary Data in Nutrition & Obesity Research and the Scientific Formulation of National Dietary Guidelines. (Mayo Clinic Proceedings; in press)

Archer, E., Blair, S.N. (2015). Implausible data, false memories, and the status quo in dietary assessment. *Advances in Nutrition*. 2015;6(2):229-230.

Archer, E., Blair, S.N. (2015). Reply to Freedman et al. *Advances in Nutrition*. 2015; in press.

McDonald, S.M., Liu, J., Wilcox, S. Lau, E., **Archer, E.** (2015) Does exercise dose matter? The association between exercise and weight gain during pregnancy: A systematic review of literature. *Journal of Science and Medicine in Sport* (In press).

Lavie, C.J., **Archer, E.,** Shook, R.P., Blair, S.N. (2015) "Metabolically Healthy Obesity, Fitness, and Prognosis." *The Ochsner Journal*, (In press).

Archer, E. (2015) The Mother of All Problems. *New Scientist*. London, England: Reed Business Information, Ltd.; 2015; issue 3010:32-33. (Invited: not peer-reviewed).

Archer, E., (2015) The Childhood Obesity Epidemic as a Result of Nongenetic Evolution: The Maternal Resources Hypothesis. *Mayo Clinic Proceedings*; 90(1):77-92

Archer E. (2015) In reply - Maternal, paternal, and societal efforts are needed to 'cure' child obesity [letter]. *Mayo Clin Proc*. 2015;90(4):p-p.

Archer E. (2015) In reply – Epigenetics and Childhood Obesity [letter]. *Mayo Clin Proc*. 2015;90(5):p-p.

N. Liu, **Archer, E.**, Srinivasasainagendra, V., Allison, D.B. (2015). A Statistical Framework for Testing Fetal Drive Effects: Illustration in a Human Dataset. (*Front Genet.* 2014;5:464.).

Schoeller D, **Archer E.**, Dawson JA., Heymsfield S. (2015) Implausible Results from the Use of Invalid Methods. *The Journal of Nutrition.* 2015;145(1):150.

Lau, E., Liu, J., McDonald, S.M., **Archer, E.**, (2014). Maternal weight gain in pregnancy and risk of obesity among offspring: A systematic review. *Journal of Obesity.* 2014:16.

Lau, E., Lau, W.C., Bo, C. **Archer, E.**, (2014). The effects of text message content on the use of an Internet-based physical activity intervention in Hong Kong Chinese adolescents. (In Press, *Journal of Health Communication*).

Lewis, D.W., **Archer, E.**, Allison, D.A. (2014) The plausible health benefits of nuts: associations, causal conclusions, and informed decisions. *American Journal of Clinical Nutrition* May 28;100(1):8-10.

Hardee, J.P., Porter, R.R., Sui, X., **Archer, E.**, et al. (2014). The Role of Resistance Exercise on All-cause Mortality in Cancer Survivors. *Mayo Clin Proc.* Aug;89(8):1108-1115.

Lavie, C.J., De Schutter, A., **Archer, E.** et al., (2014). Obesity and Prognosis in Chronic Diseases – Impact of Cardiorespiratory Fitness in the Obesity Paradox. *Current Sports Medicine Reports*; Jul-Aug;13(4):240-5.

Archer, E., et al. (2013). Validation of a Novel Protocol for Calculating Estimated Energy Requirements and Average Daily Physical Activity Ratio for the U.S. Population: 2005-2006. *Mayo Clinic Proceedings* 88(12): 1398-1407.

Archer, E. Carl J. Lavie., Samantha M. McDonald, Diana M. Thomas, James R. Hébert, Sharon E. Taverno Ross, Kerry L. McIver, Robert M. Malina, & Steven N. Blair. (2013) Maternal Inactivity: 45-Year Trends in Mother's Use of Time. *Mayo Clinic Proceedings* 88(12): 1368-1377.

Archer, E. (2013). A Wolf in Sheep's Clothing. *The Scientist.* (Invited editorial, not peer-reviewed)
<http://www.the-scientist.com/?articles.view/articleNo/37918/title/Opinion--A-Wolf-in-Sheep-s-Clothing/>

Archer, E., Gregory A. Hand, & Steven N. Blair. (2013) Validity of U.S. Nutritional Surveillance: National Health and Nutrition Examination Survey Caloric Energy Intake Data, 1971-2010. *PLoS ONE* 8(10): e76632.

Blair, SN., Hand, GA., & **Archer, E.** (2013) Physical Activity Has a Crucial Role in Weight Management and Determinants of Obesity. *International Journal of Epidemiology* 2013;42:1836–1838, doi:10.1093/ije/dyt160.

Schoeller DA, Thomas D, **Archer E.**, Heymsfield SB, Blair SN, et al. (2013) Self-report-based estimates of energy intake offer an inadequate basis for scientific conclusions. *Am J Clin Nutr* 97: 1413-1415.

Hebert JR, Allison DB, **Archer E**, Lavie CJ, Blair SN (2013) Scientific decision making, policy decisions, and the obesity pandemic. *Mayo Clin Proc* 88: 593-604.

Archer, E., Amanda E. Paluch, Robin P. Shook, and Steven N. Blair. (2013) Physical Activity and the Science of Successful Aging. *Kinesiology Review*, 2, 29-38.

Hand, G. A., Shook, R.A., Paluch, A., E., Baruth, M., Crowley, E., Jagers, J., Prasad, V., Hurley, T., Hebert, J.R., Connor, D., **Archer, E.**, Burgess, S. & Blair. S.N. (2013) The Energy Balance Study: The Design and Baseline Results for a Longitudinal Study of Energy Balance. *Res Q Exerc Sport* 84(3): 275-286.

Archer, E., Robin P. Shook, Diana M. Thomas, Timothy S. Church, Peter T. Katzmarzyk, James R. Hébert, Kerry L. McIver, Gregory A. Hand, Carl J. Lavie & Steven N. Blair. (2012) 45-Year Trends in Women's Use of Time, Household Management Energy Expenditure and Obesity. *PLoS ONE* 8(2): e56620. doi:10.1371/journal.pone.0056620.

Lau, E.Y., Lau, P. WC., Chung, P., Ransdell, L., **Archer, E.** (2012) Evaluation of an Internet-SMS-based intervention for promoting physical activity in Hong Kong Chinese adolescent school children: A pilot study. *Cyberpsychol Behav Soc Netw* 15(8): 425-434.

Archer, E., Blair, S.N. (2012) Physical Activity, Exercise and Non-Communicable Diseases. *Res Exerc Epidemiol*, 2012; 14(1): 1-18.

Blair, S.N., Sallis, R.E., Hutber, A., **Archer, E.** (2012) Exercise therapy – the public health message. *Scand J Med Sci Sports* 22(4):e24-8.

Archer, E., Groessl, E.J., Sui, X., McClain, A., Wilcox, S., Hand, G., Blair, S.N. (2012) An Economic Analysis of Traditional and Technology-based Approaches to Weight Loss: LEAN Study Cost-effectiveness. *Am J Prev Med*, 43:176-82.

Archer, E. and S. N. Blair (2011). Physical activity and the prevention of cardiovascular disease: From evolution to epidemiology. *Prog Cardiovasc Dis* 53(6): 387-96.

Archer, E. and S. N. Blair (2011). Dr. Roy J. Shephard: A Pioneer in Physical Activity and Preventive Medicine. *The Health & Fitness Journal of Canada* 4(1): 27-29.

Beets, M.W., Paluch, A.E., **Archer, E.**, Blair, S.N. (2010). Physical Activity: The Future of Learning? *Childhood Obesity* 6(6): 345-346.

PROFESSIONAL PUBLICATIONS: UNDER REVISION & UNDER REVIEW

Chung, M., Wang, D.D., Archer, E., et al., (2015) Future Research Needs on Sugars and Health Outcomes. (Under revision: Plos One)

Archer, E., Thomas, D.M., et al., (2015). Trends in the Validity of US Nutritional Surveillance: USDA Loss-Adjusted Food Availability Data Series 1971-2010. (PlosOne: Under revision).

Singer, R. H., Stoutenberg, M., **Archer, E.**, et al. (2015) Occupational Physical Activity and Body Mass Index: Results from the Hispanic Community Health Study / Study of Latinos. (PlosOne: Under review).

BOOK CHAPTERS

Archer, E., Artero, E. G., Blair, S.N. (2015). Sedentary Behaviors and Cardiovascular Disease. In Sedentary Behavior and Health: Concepts, Assessment & Intervention. Eds: Zhu. W., Owen, N.; Human Kinetics, Champaign, Illinois. (*In Press*).

Archer E., Albrecht H., and G.A. Hand, (2013) Human Immunodeficiency Virus. In Clinical Exercise Physiology. 3rd edition. (ed. J.K. Ehrman); Human Kinetics, Champaign, Illinois.

PRESENTATIONS

- Archer, E.** (2014). "The Obesity Epidemic as a Result of Maternal Effects and Phenotypic Evolution." Poster presented at the 2014 National Academies Keck Futures Initiative, Irvine, CA.
- Archer, E.** (2014). "Reverse Engineering of Human Energy Metabolism and Lipogenic Postprandial Nutrient Partitioning using Agent-Based Modeling." Abstract presented at the 2014 Alabama Modeling and Simulation Conference Huntsville, AL.
- Archer, E.** (2014). "The Obesity Epidemic as a Result of Maternal Effects and Phenotypic Evolution." Abstract presented at the 2014 Experimental Biology Conference Sand Diego, CA.
- Archer, E., et al.**, (2013). "Validation of a Novel Protocol for Calculating Estimated Energy Requirements and Average Daily Physical Activity Ratio for the U.S. Population: 2005-2006." Abstract to be presented at the 2013 American College of Sports Medicine, Indianapolis, IN.
- Archer, E.,** Groessl, E.J., Sui, X., McClain, A., Wilcox, S., Hand, G., Blair, S.N. (2012) "An Economic Analysis of Traditional and Technology-based Approaches to Weight Loss: LEAN Study Cost-effectiveness." Abstract to be presented at the 2012 American College of Sports Medicine, San Francisco, CA.
- Archer, E.,** M. Beets, G.A. Hand (2011). Hyper-Sedentary Behavior, Energy Balance, Adipogenic Nutrient Partitioning and the Etiology of Obesity. Abstract presented at the National Institute for Mathematical and Biological Synthesis (NIMBioS) Investigative Workshop: Mathematical Models of Metabolism and Body Weight Regulation. Knoxville, TN.
- Archer, E.,** M. Beets, G.A. Hand (2011). Hyper-Sedentary Behavior, Energy Balance, Adipogenic Nutrient Partitioning and the Etiology of Obesity. Abstract presented at the American College of Sports Medicine, Denver, Colorado.
- Archer, E.,** J.R. Jagers, G.W. Lyerly, W. D. Dudgeon, and G.A. Hand (2011) Physical Activity, HIV, and Cardiovascular Disease Risk. Abstract presented at the American College of Sports Medicine, Denver, Colorado.
- Archer, E.** (2010) "No Brain, No Gain: an introduction to mental skills training. Presentation at the Applied Performance Sports Psychology Workshop. University of Western Florida, Pensacola, Florida.
- Archer, E.,** S. Grant, B. Arjmandi, C. Levenson, J.M. Wilson, K. Leonard, C. Ugrinowitsch, and J-S. Kim (2009). Lean Body Mass, Age, and Anxiety-related Behavior in F344 Rats. Abstract presented at the American College of Sports Medicine, Seattle, Washington.
- Lee, S-R., **E. Archer,** J.M. Wilson, K.P. Leonard, C. Ugrinowitsch, Y-M. Park, P.C. Henning, S. Hooshmand, B. Neema, and J-S. Kim (2009). DXA-determined Body Composition is Not Sensitive Enough to Predict Age-related Strength and Sensorimotor Function Decrements. Abstract presented at the American College of Sports Medicine, Seattle, Washington.

SELECTED GRANTS AND AWARDS

National Academies of Science Keck Futures Initiative (NAKFI) Grant: The In Silico Reverse Engineering of Human Nutrient-Energy Physiology using the "Body-as-Ecosystem" Framework and Agent-Based Modeling. \$100K; under review, PI: **E. Archer**

National Academies of Science Keck Futures Initiative (NAKFI) Grant: The Development of a Heterodox Theoretical Framework of Inheritance, Evolution, and Human Health. \$25K; under review, PI: **E. Archer**

National Institute of Diabetes and Digestive and Kidney Diseases Postdoctoral Fellowship T32 DK062710; University of Alabama at Birmingham, Office of Energetics, Nutrition & Obesity Research Center University Fellow (FSU): three consecutive years, 2006-09

The Graduate School & Arnold School of Public Health Student Travel Grants (USC), 2011-12

McDonald Endowed Scholarship (FSU) 2007, 2008

RESEARCH AND OTHER WORK EXPERIENCE

USC, Research (2010-2012)

- **Energy Balance Study:** A multi-year observational study of weight gain in 425 normal, overweight and obese participants. Developed non-radioactive isotope (doubly-labeled water) protocols; designed Energy Balance Study logo; co-developed and presented study orientation; performed laboratory assessments of cardiorespiratory fitness w/ EKG, anthropometrics, blood pressure, serum glucose, etc. (Industry funded)
- **HIV and Resistance Training study:** Conducted laboratory fitness assessments and exercise prescription. (NIH funded)
- **Dietary Trends Study:** Responsible for critical literature review and analysis of trends in dietary measurement and reported outcomes. (Industry funded)

National High Magnetic Field Laboratory, FSU (2007-2009)

- **Research assistant:** Assessments of sarcopenia, body composition, and psycho-motor behavior using rodent models

Other work experience

- **Wiley & Sons Publishers, Research and Editorial Assistant, 2006-2010**
- **Sporting Goods Product Research and Design, 1995-2010**
 - R&D: equine performance enhancement products
- **Hyperkinesis Fitness Consulting, 1998-2001:** Ocean View, Delaware, USA
 - Owner/manager of a lifestyle consulting company (3 employees).
- **Polo Professional, 1991-1998.**
 - Played in US, France, Australia and Argentina. Video consultant for US Open Championship, 1994.
- **Builder/Project Manager:** 30's Design Construction, Bridgehampton, N.Y., USA; 1985-1991
 - Managing partner of residential housing construction company.

PROFESSIONAL MEMBERSHIPS

2012- Present APS: American Physiological Society

2008 - Present ACSM: American College of Sports Medicine

2006 - 2009 AASP: Association for Applied Sport Psychology

2004 - 2012 NCBTMB: National Certification Board for Therapeutic Massage and Bodywork

PERSONAL INTERESTS: Competitive martial artist, natural bodybuilding, Yoga, private pilot, classical figurative sculptor and painter.

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