

Ann Marie O'Neill
Curriculum Vitae

Department of Nutrition, Dietetics, and Hospitality Management
College of Human Sciences
Auburn University
Auburn, AL 36849
Phone: (334) 844-2647
Email: oneilam@auburn.edu

Education

Ph.D Biomedical Science, December 2007.
College of Veterinary Medicine,
Auburn University,
Auburn, Alabama.

B.Sc Human Biology (with Higher Distinction) December 2002.
Edith Cowan University,
Perth, Western Australia.

Research Experience

Oct 14 – present Assistant Research Professor

Research Interests: Tumour microenvironment and cancer proliferation; Development of targeted therapy for colon cancer.

Oct 12 – Oct 14 Post-Doctoral Fellow

Laboratory of Dr Michael Greene, Department of Nutrition, Dietetics and Hospitality Management, Auburn University.
Research Area: Investigating the role of insulin resistance in obesity related cancer.

February 2008 – October 2012 Post-Doctoral Fellow

Laboratory of Dr Bruce Smith, Scott Ritchey Research Center, College of Veterinary Medicine, Auburn University.
Research Area: Targeted gene therapy for lymphoma using recombinant adenoviral vectors.

August 2003 – December 2007

PhD Student, laboratory of Dr Sandra Ewald, Department of Pathobiology, College of Veterinary Medicine, Auburn University. Dissertation Title: "Polymorphism in chicken immune response genes and resistance to disease"

Honors and Fellowships

2003 - Cellular and Molecular Biosciences Graduate Research Fellowship, Auburn University

2000 - Inducted to the Golden Key International Honors Society

Professional Memberships

Associate Member, American Association for Cancer Research

Grants Awarded

2006 -Doctoral Student Stipend Award (\$6,500), Pathobiology Graduate Advisory Committee, Auburn University

2012 American Kennel Club Canine Health Foundation: (\$118,900), Evaluation of a conditionally replicative adenoviral vector for the treatment of canine osteosarcoma.

Student Research Supervision/Instruction

Professional (DVM)

Nicole McAdams (2012): Use of an Adenoviral Vector to Deliver E Coli Purine Nucleoside Phosphorylase to Canine Melanoma and Mammary Gland Tumor Cells.

Graduate

Bulbul Ahmed (Current): Microenvironmental Stimulation of Obesity-linked Patient-derived Colon Cancer Tumor Growth

Michael Wayne (2013-2015): Biological mechanisms underlying the link induced obesity and accelerated tumour growth in animal models of human colon cancer.

Sun Yi (2010 -2011): Effect of Lactate on Cancer Cells.

Farruk ML Kabir (2009): Targeted Gene Therapy via Cell Surface Integrins for Canine Lymphoma. Won Best Poster Award, Phi Zeta Research Day, CVM, Auburn University 2009.

Undergraduate

Sydney Branum (2016): Examining proliferation of melanoma and breast cancer cells as a result of insulin resistance.

Sarah Bode and Julia Botcher (2013): Evaluation of growth of cancer cells in presence of adipocytes.

Jeffrey Haney (2011-2012): Analysis of effects of tumor specific protein on canine lymphoma cells.

Brittany Greening (2010): Transfection of Lymphoma Cell Lines to Evaluate Tumor Specific Promoters.

Matt Boothe (2010): Induction of Dendritic Cells from subset of Peripheral Blood lymphocytes.

Denise Gerrity (2009-10): Targeted Gene Therapy via CD40 for Treatment of Canine Lymphoma. Won 1st place award, Undergraduate Research Forum, Auburn University, Spring 2010.

Teaching Experience

Undergraduate Fall 2013, Spring 2014.

NTRI 2000 Nutrition and Health

This is a core class for all students in the College of Human Sciences, and is designed to provide students with a basic understanding of the relationship between nutrition and health.

Graduate Fall 2010, Fall 2011.

VBMS 7530 Experimental Techniques in Molecular and Cellular Biology

Co-taught both lecture and laboratory sections on cell culture and cell transfection.

Peer reviewed publications

Obesity induced insulin resistance contributes to increased tumor growth in mouse models of human colon cancer. O'Neill AM, Burrington CM, Gillaspie EA, Lynch DT, Horsman MJ and Greene, MW. *Cancer Lett.* 2016. (Submitted).

Greene MW, Gillaspie E, Burrington CM, **O'Neill AM**, Lynch DT, Dauchy RT, Blask DE, Tirell PC, Reis B and Horsman MJ. Development and characterization of a novel congenic rat strain for obesity and cancer research. *Mol Cancer Ther*; 2016. (Under revision).

Luo Y, Burrington C, Zhang J, Graff E, Judd R, Suksaranjit P, Kaewpoowat Q, Davenport S, **O'Neill AM**, and Greene M. Metabolic phenotype and adipose and liver features in the high fat Western diet-induced mouse model of obesity-linked NAFLD. *Am J Physiol Endocrinol Metab* 2016; 310 (6):E418-E439.

O'Neill AM, Smith AN, Spangler EA, Whitley EM, Schleis SE, Bird RC, Curiel DT, Thacker EE, Smith BF. Resistance of canine lymphoma cells to adenoviral infection due to reduced cell surface RGD binding integrins. *Cancer Biol Ther* 2011; 11: 651-658.

O'Neill AM, Livant, EJ and Ewald, SJ. Interferon- α Induced Inhibition of Infectious Bursal Disease Virus in Chicken Embryo Fibroblast Cultures Differing in Mx Genotype *Avian Dis* 2010; 54 (2): 802-806.

Thacker EE, Nakayama M, Smith BF, Bird RC, Muminova Z, Strong T, Timares L, Korokhov N, **O'Neill AM**, de Gruijl TD, Glasgow JN, Tani K and Curiel DT. A genetically engineered adenovirus vector targeted to CD40 mediates transduction of canine dendritic cells and promotes antigen-specific immune responses *in vivo*. *Vaccine* 2009; 27(50): 7116-7124.

O'Neill AM, Livant EJ, Ewald SJ. The chicken BF1 (classical MHC class I) gene shows evidence of selection for diversity in expression and in promoter and signal peptide regions. *Immunogenetics* 2009; 61(4):: 289-302.

Book Chapters

Lutful Kabir, F, **O'Neill, AM**, Smith, BF, Bird, RC.(2013). Canine breast cancer and lymphoma as models in cancer research. In SA Murray (ed.), *Animal Models of Cancer Research*, (pp 69-86). Hauppauge NY: Nova Science Publishers.

Papers/Abstracts at International / National / State / Local professional meetings:

Reece J, Luo Y, Wayne M, Crouch I, **O'Neill AM**, Greene MW. Meal timing aids in reducing the detrimental metabolic effects of a Western Diet. 9th Annual Boshell Research Day, Auburn University, Auburn, Alabama Feb 26, 2016.

Kothari V, Tornabene T, Luo Y, **O'Neill AM**, Greene MW, Matthews S, Thangiah G, Jeganathan R. High Fat and Sugar in the mouse brain. 9th Annual Boshell Research Day, Auburn University, Auburn, Alabama Feb 26, 2016.

Greene MW, Woodie L, Luo Y, Suppiramaniam V, **O'Neill AM.** Role of Western diet in maladies of the gut, liver, adipose tissue and brain. 9th Annual Boshell Research Day, Auburn University, Auburn, Alabama Feb 26, 2016.

O'Neill AM, Greene MW, Gillaspie E Burrington CM and Horsman MJ. High fat Western diet-induced obesity contributes to colon cancer growth. AURIC Cancer Research Meeting, Auburn, Alabama, August 28-29, 2015. (Podium Presentation).

O'Neill AM, Greene MW, Gillaspie E Burrington CM and Horsman MJ. Western diet contributes to increased tumour growth in a mouse model of human colon cancer. Boshell Research Day, Auburn University, Auburn, Alabama, 28 Feb, 2014

O'Neill AM, Greene MW, Gillaspie E Burrington CM and Horsman MJ. Obesity induced insulin resistance contributes to increased tumor growth in a mouse model of human colon cancer. Diabetes Research Day , UAB, Birmingham, Alabama, May 7, 2013,

O'Neill AM, Greene MW, Gillaspie E, Burrington, CM. Obesity induced insulin resistance contributes to increased tumor growth in a mouse model of human colon cancer. Metabolic Signaling and Disease, Cold Spring Harbor Laboratory, Cold Spring NY, USA, August 13- 17 2013.

Greene MW, Gillaspie E, Burrington CM, Lynch DT, Dauchy RT, Blask DE, **O'Neill AM.** Development and characterization of a novel congenic rat strain for obesity and cancer research. Metabolic Signaling and Disease, Cold Spring Harbor Laboratory, Cold Spring NY, USA, August 13- 17 2013.

O'Neill AM, Curiel DT and Smith BF. Enhanced transduction of fiber modified Ad in Canine lymphoma cell lines. 14th Annual Meeting American Society of Gene and Cell Therapy, Seattle WA, USA, May 18-21, 2011.

O'Neill AM, Kabir FLM, Curiel DT, Timares L and Smith BF. Induction of Cell Surface Integrins in Lymphomas and Potential Applications to Gene Therapy. 13th Annual Meeting American Society of Gene and Cell Therapy, Washington DC, USA, May 19-22, 2010.

O'Neill AM, Smith AN, Bird RC, Curiel DT and Smith BF. Towards CD40 Targeted Canine Lymphoma Therapy. Genes, Dogs & Cancer: 5th International Canine Cancer Conference, Orlando, Florida, USA, February 13 - 15, 2009.

O'Neill AM, Livant EJ, Ewald SJ. Allelic polymorphisms in the BF1 (MHC1) promoter, enhancer A and signal peptide regions. 9th Avian Immunology Research Group Meeting, Paris, France, October 21-24, 2006.

Ewald SJ, Livant EJ, **O'Neill AM**. Quantitative differences in mRNA expression of the BF1 MHC I) gene among closely-related alleles. 8th Avian Immunology Research Group Meeting, Munich, Germany, Sept. 4-7, 2004.