

**Curriculum Vitae**  
Andrew P. Neilson, PhD  
Associate Professor  
Plants for Human Health Institute  
Department of Food, Bioprocessing and Nutrition Sciences  
North Carolina State University

**Public Profiles**

Google Scholar bibliography: <https://scholar.google.com/citations?user=qIXsJxgAAAAJ&hl=en>

PubMed bibliography:

<https://www.ncbi.nlm.nih.gov/myncbi/browse/collection/48121393/?sort=date&direction=descending>

Publons reviewer profile: <https://www.publons.com/a/1351378/>

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Foreign Languages: Spanish (conversational)

**Education and Training**

- 2005 BS, Food Science (minor: Chemistry)  
Brigham Young University, Provo, UT
- 2009 PhD, Food Science  
Purdue University, West Lafayette, IN  
Dissertation: "Digestive Behavior and Bioavailability of Flavan-3-ols"
- 2009-2011 Postdoctoral Fellow and NIH National Cancer Institute Training Fellow  
University of Michigan Medical School, Ann Arbor, MI  
Research area: Diet and colon cancer

**Academic Appointments**

- 2011-2017 Assistant Professor (80% research, 20% teaching appointment)  
Department of Food Science and Technology  
Virginia Polytechnic Institute and State University
- 2017-2018 Associate Professor (80% research, 20% teaching appointment)  
Department of Food Science and Technology  
Virginia Polytechnic Institute and State University
- 2019-present Associate Professor (100% research appointment)  
Plants for Human Health Institute  
Department of Food, Bioprocessing and Nutrition Sciences  
North Carolina State University

**Professional Society Memberships**

- 2005-present Member, American Society for Nutrition (ASN)

2021-present Institute of Food Technologists  
2021-present Phytochemical Society of North America

### **Center/Institute Affiliations**

2021-present Full member, Center for Gastrointestinal Biology and Disease (CGIBD), an NIH-funded collaborative GI research center (P30 DK034987) at UNC Chapel Hill and North Carolina State University

### **Research Interests and Expertise**

1. Interaction of poorly-absorbed dietary phytochemicals with gut microbiota
2. Bioactivities of gut microbial metabolites (trimethylamine N-oxide, polyphenol metabolites, etc.)
3. Dietary strategies for prevention of obesity, type-2 diabetes, cardiovascular disease and cancer
4. Digestion, bioavailability, and metabolism of polyphenols
5. Polyphenols from cocoa, grapes, apples, and berries
6. Analytical methods including UPLC, HPLC and mass spectrometry

### **Peer-reviewed Journal Articles**

1. Iglesias-Carres L\*, LA Essenmacher\*, KC Racine\*, **AP Neilson**, Development of a high throughput method to study the inhibitory effect of phytochemicals on trimethylamine formation, *Nutrients* 2021; 13(5)1466. [Preprint DOI: 10.20944/preprints202104.0154.v1](https://doi.org/10.20944/preprints202104.0154.v1). [DOI: 10.3390/nu13051466](https://doi.org/10.3390/nu13051466). [PMID: 33925806](https://pubmed.ncbi.nlm.nih.gov/33925806/).
2. Brunt VE, AG Casso, RA Gioscia-Ryan, ZJ Sapinsley, BP Ziemba, ZS Clayton, AE Bazzoni, NS VanDongen, JJ Richey, DA Hutton, MC Zigler, AP Neilson, KP Davy, **DR Seals**, The gut microbiome-derived metabolite trimethylamine N-oxide induces aortic stiffening and increases systolic blood pressure with aging in mice and humans, *Hypertension* 2021; In press. Manuscript ID: HYPE/2020/16895R1. [DOI: 10.1161/HYPERTENSIONAHA.120.16895](https://doi.org/10.1161/HYPERTENSIONAHA.120.16895). [PMID: 33966451](https://pubmed.ncbi.nlm.nih.gov/33966451/).
3. Jin Q, SF O'Keefe, AC Stewart, AP Neilson, YT Kim, **H Huang**, Techno-economic analysis of a grape pomace biorefinery: production of oil, polyphenols, and biochar. *Food Bioprod Process* 2021, In press. Manuscript Number: FBP-D-20-00989R1; [DOI: 10.1016/j.fbp.2021.02.002](https://doi.org/10.1016/j.fbp.2021.02.002).
4. Iglesias-Carres L\*, MD Hughes\*, CN Steele, MA Ponder, KP Davy, **AP Neilson**, Use of dietary phytochemicals for inhibition of trimethylamine N-oxide formation, *J Nutr Biochem* 2021, In press. Manuscript ID: JNB-D-20-00494R2. [DOI: 10.1016/j.jnutbio.2021.108600](https://doi.org/10.1016/j.jnutbio.2021.108600). [PMID: 33577949](https://pubmed.ncbi.nlm.nih.gov/33577949/).
5. Virdee M, N Saini, SC Kwan, AP Neilson, CD Kay, KK Helfrich, SM Mooney, **SM Smith**, An enriched biosignature of gut microbiota-dependent metabolites characterizes maternal plasma in a mouse model of fetal alcohol spectrum disorder, *Sci Rep* 2021; 11:248. [DOI: 10.1038/s41598-020-80093-8](https://doi.org/10.1038/s41598-020-80093-8). [PMID: 33420159](https://pubmed.ncbi.nlm.nih.gov/33420159/).
6. Griffin LE\*, SE Kohrt, A Rathore, CD Kay, MM Grabowska **AP Neilson**, Microbial metabolites of flavanols in urine are associated with enhanced anti-proliferative activity in bladder cancer cells *in vitro*, *Nutr Cancer* 2021; In press. [DOI: 10.1080/01635581.2020.1869277](https://doi.org/10.1080/01635581.2020.1869277). [PMID: 33522303](https://pubmed.ncbi.nlm.nih.gov/33522303/). Preprint (bioRxiv) [DOI: 10.1101/2020.09.22.308056](https://doi.org/10.1101/2020.09.22.308056).
7. **Bruno RS**, AP Neilson, JD Lambert, N Moustaid-Moussa, Journal of Nutritional Biochemistry Special Issue: Polyphenols, Obesity, and Cardiometabolic Health, *J Nutr Biochem* 2021; 89:108565. [DOI: 10.1016/j.jnutbio.2020.108565](https://doi.org/10.1016/j.jnutbio.2020.108565). [PMID: 33321186](https://pubmed.ncbi.nlm.nih.gov/33321186/).
8. Griffin LE\*, LA Essenmacher\*, KC Racine\*, L Iglesias-Carres\*, J Tessem, SM Smith, **AP Neilson**, Diet-Induced obesity in genetically diverse collaborative cross mouse founder strains reveals diverse phenotype response and amelioration by quercetin treatment in 129S1/SvImJ, PWK/EiJ, CAST/PhJ and WSB/EiJ mice, *J Nutr Biochem* 2021; 87:108521. [DOI: 10.1016/j.jnutbio.2020.108521](https://doi.org/10.1016/j.jnutbio.2020.108521). [PMID: 33039581](https://pubmed.ncbi.nlm.nih.gov/33039581/).
9. Brunt VE, TJ LaRocca, AE Bazzoni, ZJ Sapinsley, J Miyamoto-Ditmon, R. Gioscia-Ryan, AP Neilson, CD Link, **DR Seals**, The gut microbiome-derived metabolite trimethylamine N-oxide modulates neuroinflammation and cognitive function with aging, *GeroScience* 2020; In press. Manuscript ID: JAAA-D-20-00180R2. [DOI: 10.1007/s11357-020-00257-2](https://doi.org/10.1007/s11357-020-00257-2). [PMID: 32862276](https://pubmed.ncbi.nlm.nih.gov/32862276/).

10. Li M, LE Griffin\*, SA Corbin, AP. Neilson, **MG Ferruzzi**, Modulating phenolic bioaccessibility and glycemic response of starch-based food models by physical complexation between starch and phenolic acid, *J Agric Food Chem* 2020, 68:13257–13266. DOI: [10.1021/acs.jafc.0c01387](https://doi.org/10.1021/acs.jafc.0c01387). PMID: 32689794.
11. Brunt VE, RA Gioscia-Ryan, AG. Casso, NS VanDongen, BP Ziemba, ZJ Sapinsley, JJ Richey, MC Zigler, AP Neilson, KP Davy, **DR Seals**, Trimethylamine N-oxide promotes age-related vascular oxidative stress and endothelial dysfunction in mice and healthy humans, *Hypertension* 2020, 76:101–112. DOI: [10.1161/HYPERTENSIONAHA.120.14759](https://doi.org/10.1161/HYPERTENSIONAHA.120.14759). PMID: 32520619.
12. Jin Q, Z Wang, Y Feng, YT Kim, AC Stewart, SF O'Keefe, AP Neilson, Z He, **H Huang**, Grape pomace and its secondary waste management: biochar production for a broad range of lead (Pb) removal from water. *Environmental Research* 2020, 186:109442. DOI: [10.1016/j.envres.2020.109442](https://doi.org/10.1016/j.envres.2020.109442). PMID: 32302873.
13. Baugh ME, SM Bowser, RP McMillan, LA Essenmacher\*, BM Davy, MW Hulver, AP Neilson, **KP Davy**, Postprandial skeletal muscle metabolism following a high fat diet in sedentary and endurance trained males. *J Appl Physiol* 2020, 128:872-883. DOI: [10.1152/jappphysiol.00576.2019](https://doi.org/10.1152/jappphysiol.00576.2019). PMID: 32163335.
14. Wang Y, A Wang, H Alkhalidy, J Luo, E Moomaw, AP. Neilson, K Zhou, **D Liu**, Flavone hispidulin stimulates glucagon-like peptide-1 secretion and ameliorates hyperglycemia in streptozotocin-induced diabetic mice, *Mol Nutr Food Res* 2020; 64:1900978. DOI: [10.1002/mnfr.201900978](https://doi.org/10.1002/mnfr.201900978). PMID: 31967385.
15. Jin Q, J O'Hair, AC Stewart, SF O'Keefe, AP Neilson, Y Kim, M McGuire, A Lee, G Wilder, **H Huang**, Compositional characterization of different industrial white and red grape pomaces in Virginia and the potential valorization of the major components, *Foods* 2019; 8:667. DOI: [10.3390/foods8120667](https://doi.org/10.3390/foods8120667). PMID 31835812.
16. Racine KC\*, BD Wiersema LE Griffin\*, LA Essenmacher\*, AH Lee, H Hopfer, JD Lambert, AC Stewart, **AP Neilson**, Flavanol polymerization is a superior predictor of  $\alpha$ -glucosidase inhibitory activity compared to flavanol or total polyphenol concentrations in cocoas prepared by variations in controlled fermentation and roasting of the same raw cocoa beans, *Antioxidants* 2019; 8:635. DOI: [10.3390/antiox8120635](https://doi.org/10.3390/antiox8120635). PMID 31835748.
17. Bowser SM, RP McMillan, NE Boutagy, MD Tarpey, AT Smithson\*, KL Osterberg, MI Frisard, AP Neilson, BM Davy, KP Davy, **MW Hulver**, Serum endotoxin, gut permeability and skeletal muscle metabolic adaptations following a short-term high fat diet in humans, *Metabolism* 2020; 103:154041. DOI: [10.1016/j.metabol.2019.154041](https://doi.org/10.1016/j.metabol.2019.154041). PMID: 31785256.
18. Griffin LE\*, C Diako, LE Miller, AP Neilson, CF Ross, **AC Stewart**, Preference for and sensitivity to flavanol mean degree of polymerization in model wines is correlated with body composition. *Appetite* 2020; 144:104442. DOI: [10.1016/j.appet.2019.104442](https://doi.org/10.1016/j.appet.2019.104442). PMID: 31494153.
19. Yu D, Y Sun, W Wang, SF O'Keefe, AP Neilson, H Feng, Z Wang, **H Huang**. 2019. Recovery of protein hydrolysates from brewer's spent grain using enzyme and ultrasonication. *Int J Food Sci Tech* 2020; 55, 357–368. DOI: [10.1111/ijfs.14314](https://doi.org/10.1111/ijfs.14314).
20. Ma S, C Kim, LE Griffin\*, AP. Neilson, GM Peck, SF O'Keefe, **AC Stewart**, Comparison of common analytical methods for the quantification of total polyphenols and flavanols in fruit juices and ciders, *J Food Sci* 2019; 84:2147-2158. DOI: [10.1111/1750-3841.14713](https://doi.org/10.1111/1750-3841.14713). PMID: 31313833.
21. Farzad R, **DD Kuhn**, SA Smith, SF O'Keefe, NVC Ralston, AP Neilson, DM Gatlin, Trace minerals in tilapia fillets: status in the united states marketplace and selenium supplementation strategy for improving consumer's health, *PLoS ONE* 2019; 14(6): e0217043. DOI: [10.1371/journal.pone.0217043](https://doi.org/10.1371/journal.pone.0217043). PMID: 31170189.
22. Griffin LE\*, Z Djuric, CJ Angiletta, C Mitchell, ME Baugh, KP Davy, **AP Neilson**, A Mediterranean diet does not alter plasma trimethylamine N-oxide concentrations in healthy adults at risk for colon cancer, *Food Funct* 2019; 10: 2138-2147. DOI: [10.1039/C9FO00333A](https://doi.org/10.1039/C9FO00333A). PMID: 30938383.
23. Griffin LE\*, DW Fausnacht, JL Tuzo, AK Addington, KC. Racine\*, H Zhang, MD Hughes\*, KM England, RS Bruno, SF O'Keefe, **AP Neilson, AC Stewart**, Flavanol supplementation protects against obesity-associated increases in systemic IL-6 levels without inhibiting body mass gain in mice fed a high-fat diet, *Nutr Res* 2019; 66:32-47. DOI: [10.1016/j.nutres.2019.03.011](https://doi.org/10.1016/j.nutres.2019.03.011). PMID: 31051320.
24. Racine KC\*, AH Lee, B Wiersema, H Huang, JD Lambert, **AC Stewart, AP Neilson**, Development and characterization of a pilot-scale model cocoa fermentation system suitable for studying the impact of fermentation on phenolic compounds and quality of cocoa, *Foods* 2019; 8:102. DOI: [10.3390/foods8030102](https://doi.org/10.3390/foods8030102). PMID: 30893898.

25. Racine KC\*, AH Lee, AC Stewart, KW Blakeslee, **AP Neilson**, Development of a rapid ultraperformance hydrophilic interaction liquid chromatography tandem mass spectrometry method for procyanidins with enhanced ionization efficiency, *J Chromatogr A* 2019; 1594:54-64. [DOI: 0.1016/j.chroma.2019.02.007](#). PMID: 30857739.
26. Brunt VE, RA Gioscia-Ryan, JJ Richey, MC Zigler, LM Cuevas, A Gonzalez, Y Vázquez-Baeza, ML Battson, AT Smithson\*, AD Gilley\*, G Ackermann, AP Neilson, T Weir, KP Davy, R Knight, **DR Seals**, Suppression of the gut microbiome ameliorates age-related arterial dysfunction and oxidative stress in mice, *J Physiol* 2019; 597: 2361-2378. [DOI: 10.1113/JP277336](#). PMID: 30714619.
27. Jin Q, AP Neilson, AC Stewart, SF O'Keefe, YT Kim, M McGuire, G Wilder, **H Huang**, An integrated approach for the valorization of red grape pomace: production of oil, polyphenols, and acetone-butanol-ethanol, *ACS Sustain Chem Eng* 2018; 6:16279–16286. [DOI: 10.1021/acssuschemeng.8b03136](#).
28. Ewing BL, GM Peck, S Ma, AP Neilson, **AC Stewart**, Management of apple maturity and post-harvest storage conditions to increase polyphenols in cider, *Sci Hortic-Amsterdam* 2019; 245: 511–519. [DOI: 10.1007/s00217-018-3171-8](#).
29. Mitchell M, BM Davy, MW Hulver, AP Neilson, BJ Bennett, **KP Davy**, Does exercise alter gut microbial composition? A systematic review, *Med Sci Sport Exer* 2019; 51:160–167. [DOI: 10.1249/MSS.0000000000001760](#). PMID: 30157109.
30. Lee AH, SF O'Keefe, AP Neilson, JA Ogejo, H Huang, MA Ponder, HSS Chu, Q Jin, G Pilot, **AC Stewart**, A laboratory-scale model cocoa fermentation using dried, unfermented beans and artificial pulp can simulate the microbial and chemical changes of on-farm cocoa fermentation, *Eur Food Res Technol* 2018; 245: 511-519. [DOI: 10.1007/s00217-018-3171-8](#).
31. Angiletta CJ, LE Griffin\*, CN Steele, DJ Baer, JA Novotny, KP Davy, **AP Neilson**, Impact of short-term flavanol supplementation on fasting plasma trimethylamine N-oxide concentrations in obese adults, *Food Funct* 2018; 9:5350-5361. [DOI: 10.1039/C8FO00962G](#). PMID: 30264073.
32. Bitner BF, JD Ray, KB Kener, JA Herring, JA Tueller, DK Johnson, CM Tellez Freitas, DW Fausnacht, ME Allen, AH Thomson, KS Weber, RP McMillan, MW Hulver, DA Brown, JS Tessem, **AP Neilson**, Common gut microbial metabolites of dietary flavonoids exert potent anti-diabetes activities in  $\beta$ -cell and skeletal muscle cell models, *J Nutr Biochem* 2018; 62:95-107. [DOI:10.1016/j.jnutbio.2018.09.004](#). PMID: 30286378.
33. Ma S, **AP Neilson**, J Lahne, GM Peck, SF O'Keefe, EK Hurley, A Sandbrook, AC Stewart, Juice clarification with pectinase reduces yeast assimilable nitrogen in apple juice without affecting the polyphenol composition in cider, *J Food Sci* 2018; 83: 2772-2781. [DOI: 10.1111/1750-3841.14367](#). PMID: 30347443.
34. Ma S, AP Neilson, J Lahne, GM Peck, SF O'Keefe, **AC Stewart**, Free amino acid composition of apple juices with potential for cidermaking as determined by UPLC-PDA, *J I Brewing* 2018; 124: 467–476. [DOI: 10.1002/jib.519](#).
35. KKHY Ho, Haufe TC\*, MG Ferruzzi, **AP Neilson**, Production and polyphenolic composition of tea, *Nutr Today* 2018; 53:268-278. [DOI: 10.1097/NT.0000000000000304](#).
36. TC Haufe\*, KKHY Ho, MG Ferruzzi, **AP Neilson**, Potential health effects of tea, *Nutr Today* 2018; 53:213–228. [DOI: 10.1097/NT.0000000000000294](#).
37. Wu J, KM Goodrich\*, **JD Eifert**, ML Jahncke, SF O'Keefe, GE Welbaum, AP Neilson, Inhibiting food-borne pathogen *Vibrio parahaemolyticus* and *Listeria monocytogenes* using extracts from selected traditional medicine Chinese gallnut (*Galla chinensis*), pomegranate (*Punica granatum L.*) peel, Baikal skullcap (*Scutellaria baicalensis*) root and forsythia fruit (*Forsythia suspensa*), *Open Agric* 2018; 3:163-170. [DOI: 10.1515/opag-2018-0017](#).
38. Baugh ME, CN Steele, CJ Angiletta, CM Mitchell, AP Neilson, BM Davy, MW Hulver, **KP Davy**, Inulin supplementation does not reduce plasma trimethylamine N-oxide concentrations in individuals at risk for type 2 diabetes, *Nutrients* 2018; 10:793. [DOI: 10.3390/nu10060793](#). PMID: 29925775.
39. Stoneham TR, **DD Kuhn**, DP Taylor, AP Neilson, SA Smith, DM Gatlin, HSS Chu, SF O'Keefe, Production of omega-3 enriched tilapia through the dietary use of algae meal or fish oil: improved nutrient value of fillet and offal, *PLoS ONE* 2018; 13(4):e0194241. [DOI: 10.1371/journal.pone.0194241](#). PMID: 29641539.

40. Winslow CJ\*, BLB Nichols, DC Novo, LI Mosquera-Giraldo, LS Taylor, KJ Edgar, **AP Neilson**, Cellulose-based amorphous solid dispersions enhance rifapentine delivery characteristics *in vitro*, *Carb Pol* 2018; 182:149-158. DOI: [10.1016/j.carbpol.2017.11.024](https://doi.org/10.1016/j.carbpol.2017.11.024). PMID: 29279109.
41. Moore LB, SV Liu, TM Halliday, AP Neilson, V Hedrick, **BM Davy**, Urinary excretion of sodium, nitrogen, and sugar are valid biomarkers of dietary sodium, protein, and sugar intake in non-obese adolescents, *J Nutr* 2017; 147:2364-2373 DOI: [10.3945/jn.117.256875](https://doi.org/10.3945/jn.117.256875). PMID: 28931586.
42. Griffin LE\*, KA Witrick\*, C Klotz, MR Dorenkott\*, KM Goodrich\*, G Fundaro, RP McMillan, MW Hulver, MA Ponder, **AP Neilson**, Alterations to metabolically active bacteria in the mucosa of the small intestine predict anti-obesity and anti-diabetic activities of grape seed extract in mice, *Food Funct* 2017; 8:3510-3522. DOI: [10.1039/C7FO01236E](https://doi.org/10.1039/C7FO01236E). PMID: 28875188.
43. Rowley IV TJ, BF Bitner, JD Ray, DR Lathen, AT Smithson\*, BW Dallon, CJ Plowman, BT Bikman, JM Hansen, MR Dorenkott\*, KM Goodrich\*, L Ye, SF O'Keefe, AP Neilson, **JS Tessem**, Monomeric cocoa catechins enhance  $\beta$ -cell function by increasing mitochondrial respiration, *J Nutr Biochem* 2017; 49:30-41. DOI: [10.1016/j.jnutbio.2017.07.015](https://doi.org/10.1016/j.jnutbio.2017.07.015). PMID: 28863367.
44. Levy J, **RR Boyer**, AP Neilson, SF O'Keefe, HSS Chu, RC Williams, MR Dorenkott\*, KM Goodrich, Evaluation of Peanut Skin and Grape Seed Extract to Inhibit Growth of Foodborne Pathogens, *Food Sci Nutr*, 2017; 5: 1130–1138. DOI: [10.1002/fsn3.503](https://doi.org/10.1002/fsn3.503). PMID: 29188040.
45. Smiljanec K, C Mitchell, O Privitera, K Davy, A Neilson, **B Davy**, Pre-meal inulin consumption does not affect acute energy intake in overweight and obese middle-aged and older adults: A randomized controlled crossover pilot trial, *Nutr Health* 2017; 23:75-81. DOI: [10.1177/0260106017699632](https://doi.org/10.1177/0260106017699632). PMID: 28413905.
46. Bacon K, **RR Boyer**, C Denbow, SF O'Keefe, AP Neilson, RC Williams, Antibacterial Activity of Jalapeño pepper (*Capsicum annuum* var. *annuum*) extract fractions against select foodborne pathogens, *Food Sci Nutr* 2017; 5:730–738. DOI: [10.1002/fsn3.453](https://doi.org/10.1002/fsn3.453). PMID: 28572963.
47. Ryan CM\*, W Khoo, AC Stewart, SF O'Keefe, JD Lambert, **AP Neilson**, Flavanol concentrations do not predict dipeptidyl peptidase-IV inhibitory activities of four cocoas with different processing histories, *Food Funct* 2017; 8:746-756. DOI: [10.1039/C6FO01730D](https://doi.org/10.1039/C6FO01730D). PMID: 28106217.
48. Bowser SM, WT Moore, RP McMillan, MR Dorenkott\*, KM Goodrich\*, L Ye, SF O'Keefe, MW Hulver, **AP Neilson**, High molecular weight cocoa procyanidins possess enhanced insulin-enhancing and insulin mimetic activities in human primary skeletal muscle cells compared to smaller procyanidins, *J Nutr Biochem* 2016; 39:48-58. DOI: [10.1016/j.jnutbio.2016.10.001](https://doi.org/10.1016/j.jnutbio.2016.10.001). PMID: 27816760.
49. Gilley AD\*, HC Arca, BLB Nichols, LI Mosquera-Giraldo, LS Taylor, KJ Edgar, **AP Neilson**, Novel cellulose-based amorphous solid dispersions enhance quercetin solution concentrations in vitro, *Carbohydr Polym* 2016; 157:86–93. DOI: [10.1016/j.carbpol.2016.09.067](https://doi.org/10.1016/j.carbpol.2016.09.067). PMID: 27988001.
50. SL Glisan, CM Ryan\*, AP Neilson, **JD Lambert**, Cranberry extract attenuates hepatic inflammation in high fat-fed obese mice. *J Nutr Biochem* 2016; 37:60-66. DOI: [10.1016/j.jnutbio.2016.07.009](https://doi.org/10.1016/j.jnutbio.2016.07.009). PMID: 27619543.
51. Bacon K, **RR Boyer**, C Denbow, SF O'Keefe, AP Neilson, RC Williams, Evaluation of different solvents to extract antibacterial compounds from jalapeño peppers, *Food Sci Nutr* 2017; 5:497–503. DOI: [10.1002/fsn3.423](https://doi.org/10.1002/fsn3.423). PMID: 28572934.
52. Haufe TC\*, AD Gilley\*, KM Goodrich\*, CM Ryan\*, AT Smithson\*, MW Hulver, D Liu, **AP Neilson**, Grape powder attenuates the negative effects of GLP-1 receptor antagonism by exendin-3 (9-39) in a normoglycemic mouse model. *Food Funct* 2016; 7:2692 - 2705. DOI: [10.1039/C6FO00122J](https://doi.org/10.1039/C6FO00122J). PMID: 27189193.
53. Ryan CM\*, W Khoo, L Ye, SF O'Keefe, JD Lambert, **AP Neilson**, Loss of native flavanols during fermentation and roasting does not necessarily reduce digestive enzyme inhibiting bioactivities of cocoa, *J Agric Food Chem* 2016; 64:3616-3625. DOI: [10.1021/acs.jafc.6b01725](https://doi.org/10.1021/acs.jafc.6b01725). PMID: 27094258.
54. Ye L, AP Neilson, P Sarnoski, WK Ray, SE Duncan, RR Boyer, **SF O'Keefe**. Comparison of A-type procyanidins in cranberry and peanut skin extracts using matrix assisted laser desorption ionization-time of flight mass spectrometry. *J Mol Genet Med* 2016; 10:209. DOI: [10.4172/1747-0862.1000209](https://doi.org/10.4172/1747-0862.1000209).
55. Baek N, AP Neilson, WN Eigel, **SF O'Keefe**, Antioxidant properties of a dihydromyricetin-rich extract from vine tea (*Ampelopsis grossedentata*) in menhaden oil. *Res Rev J Bot Sci* 2016; 4:3. [PDF Link](#).

56. Strat KM\*, TJ Rowley IV, AT Smithson\*, JS Tessem, MW Hulver, D Liu, BM Davy, KP Davy, **AP Neilson**, Mechanisms by which cocoa flavanols improve metabolic syndrome and related disorders, *J Nutr Biochem* 2016; 35:1-21. DOI: [10.1016/j.jnutbio.2015.12.008](https://doi.org/10.1016/j.jnutbio.2015.12.008). PMID: 27560446.
57. **Neilson AP**, BW Bolling, SF O'Keefe, High molecular weight procyanidins in foods: Overcoming analytical challenges in pursuit of novel dietary bioactive components, *Annu Rev Food Sci Technol* 2016; 7:3.1–3.22. DOI: [10.1146/annurev-food-022814-015604](https://doi.org/10.1146/annurev-food-022814-015604).
58. Boutagy NE, AP Neilson, KL Osterberg, AT Smithson\*, TR Englund, BM Davy, MW Hulver, **KP Davy**, Probiotic supplementation and trimethylamine-N-oxide production following high fat feeding, *Obesity* 2015; 23:2357–2363. DOI: [10.1002/oby.21212](https://doi.org/10.1002/oby.21212). PMID: 26465927.
59. Mitchell CM, BM Davy, TM Halliday, MW Hulver, AP Neilson, MA Ponder, **KP Davy**, The effect of prebiotic supplementation with inulin on the gut microbiome and cardio-metabolic health: Rationale, design, and methods of a controlled feeding efficacy trial in adults at risk for type 2 diabetes, *Contemp Clin Trials* 2015; 45:328-337. DOI: [10.1016/j.cct.2015.10.012](https://doi.org/10.1016/j.cct.2015.10.012). PMID: 26520413
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69. Dorenkott MR\*, LE Griffin\*, KM Goodrich\*, KA Thompson-Witrick\*, G Fundaro, L Ye, JR Stevens, M Ali, SF O'Keefe, MW Hulver, **AP Neilson**, Oligomeric cocoa procyanidins possess enhanced bioactivity compared to monomeric and polymeric cocoa procyanidins for preventing the development of obesity, insulin resistance, and impaired glucose tolerance during high-fat feeding, *J Agric Food Chem* 2014; 62:2216-2227. DOI: [10.1021/jf500333y](https://doi.org/10.1021/jf500333y). PMID: 24559282.
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81. Neilson AP, RJ Green, KV Wood, **MG Ferruzzi**, High-throughput analysis of catechins and theaflavins by high performance liquid chromatography with diode array detection, *J Chromatogr A* 2006; 1132:132. DOI: 10.1016/j.chroma.2006.07.059. PMID: 16919286.
82. Neilson AP, HF Pahulu, LV Ogden, **OA Pike**, Sensory and nutritional quality of dehydrated potato flakes in long-term storage, *J Food Sci* 2006; 71:S461. DOI: 10.1111/j.1750-3841.2006.00084.x.

\*undergraduate student, graduate student or postdoc in Dr. Neilson's lab group

Corresponding author listed in **bold**

## **Research Grants**

### Extramural

1. **A Neilson (PI)**, MA Lila  
*Screening of functional ingredients for prebiotic activity in vitro*  
 \$54,114  
 Access Business Group (Amway)  
 2020-2021
2. **A Neilson (PI)**, M Ferruzzi  
*Characterization of hydrolysable tannin*  
 \$28,793  
 Ag Chem Resources, LLC

2020

3. **K Davy (PI)**, B Davy, M Ponder, A Neilson  
*Gut microbiota-generated TMAO and glucose homeostasis in older adults*  
\$442,000  
NIH NIA  
1R21AG067380  
2020-2022
4. **A Neilson (PI)**, J Tessem, C Kay, M Ferruzzi  
*Bioavailable gut microbial metabolites potentiate the beta-cell stimulatory and anti-obesity activities of poorly-bioavailable cocoa flavanols*  
\$500,000  
USDA-NIFA AFRI (2020-67017-30846)  
2020-2023
5. **M Ferruzzi (PI)**, A Neilson  
Mechanism of color formation in potato chip frying with ascorbic acid containing an antioxidant (AOX)-oil systems  
\$74,680  
Pepsico  
2019-2020
6. **A Neilson (PI)**, J Lambert  
*Cocoa as "fiber": gut health benefits of cocoa and inulin*  
\$146,000  
The Hershey Co.  
8/18-7/20
7. **A Pon Valeyutham (PI)**, K Balagurunathan, T Jalili, J Symons, P Hopkins, U Wankhade, K Shankar, A Neilson  
*Biological signatures of blueberry derived microbial metabolites*  
\$388,829  
NIH NCCIH (R01AT010247)  
9/18-8/22
8. **J Lambert (PI)**, A Neilson, M Ferruzzi  
*Importance of poorly absorbed polyphenols for the mitigation of gastrointestinal inflammation by cocoa*  
\$499,720  
USDA-NIFA AFRI (2019-67017-29251)  
3/19-1/22
9. **A Pon Velayutham (PI)**, T Jalili, K Shankar, J Symons, U Wankhade, A Neilson  
*Strawberry-derived microbial metabolites mediate the vascular effects of strawberries*  
\$500,000  
USDA-NIFA AFRI (2019-67017-29253)  
3/19-3/23
10. **K Davy (PI)**, B Davy, M Ponder, A Neilson, B Bennett  
*Gut microbiota, trimethylamine N-oxide, and endothelial dysfunction in middle-aged adults*  
\$433,669  
NIH NIA (R21AG058931)  
9/18-5/20



11. **A Neilson (PI)**, A Stewart, J Lambert  
*Development of cocoa processing strategies to enhance and optimize anti-inflammatory activities and promotion of gastrointestinal health*  
\$505,587  
USDA-NIFA AFRI  
7/17-6/20
12. **A Neilson (PI)**, M Hulver, B Davy, K Davy  
*Dietary cocoa for inhibition of metabolic endotoxemia*  
\$345,000  
The Hershey Co.  
8/13-7-16
13. **A Neilson (PI)**, D Liu, M Hulver  
*Stimulation of GLP-1 levels by grapes: a novel approach for improving glucose control in prediabetes*  
\$30,000  
California Table Grape Commission  
8/14-7/15
14. **A Stewart (PI)**, S O'Keefe, A Neilson  
*Cider production from Virginia-grown apples: research-based processing and fermentation strategies*  
\$36,124  
USDA (Specialty Crop Block Grant)  
11/16-10/17
15. **A Stewart (PI)**, G Peck, A Neilson  
*Managing apple maturity and post-harvest regimes to increase the quality of Virginia hard ciders*  
\$69,676  
Virginia Wine Board  
6/16-5/17
16. **A Stewart (PI)**, G Peck, A Neilson  
\$34,041  
*Managing apple maturity and storage to increase the quality of Virginia's hard ciders*  
Virginia Wine Board  
6/15-5/16
17. **G Peck (PI)**, C Miles, T Bradshaw, D Conner, G Ferreira, S Galinato, A Neilson, N Rothwell, A Stewart, P Tozer  
*Creating InterDisciplinary Extension and Research (CIDER) to Redevelop the North American Hard Cider Industry (Planning Grant)*  
\$50,000  
USDA (NIFA-SCRI)  
10/14-9/15
18. **M Hulver (PI)**, B Davy, K Davy, A Neilson  
*Pro-inflammatory response and metabolic inflexibility in skeletal muscle*  
\$599,998  
American Diabetes Association  
1/13-7/16
19. **K Davy (PI)**, B Davy, M Hulver, A Neilson, M Ponder  
*Prebiotics, gut microbiota, and cardio metabolic health*

\$585,854  
NIH (NHLBI R21)  
4/13-3/15

#### Intramural

1. **A Neilson (PI)**, K Edgar  
*Amorphous polysaccharide matrices: a novel strategy to improve delivery and anti-diabetic effectiveness of dietary procyanidins*  
\$120,000  
VT Institute for Critical Technology and Applied Science, junior faculty collaborative grant  
7/14-6/16
2. **A Neilson (PI)**, K Edgar, N Sriranganathan  
*Eliminating tuberculosis via rifapentine amorphous solid dispersion (ASD) delivery systems*  
\$5,000  
VT Institute for Critical Technology and Applied Science, Drug delivery Seed Grant  
2015
3. **A Neilson (PI)**, M Ponder, M Rhoads, R Rhoads  
*Grape seed extract as a natural antimicrobial and antidiarrheal agent to replace antibiotics and zinc oxide in commercial pig feed*  
\$164,400  
VT John Lee Pratt Animal Nutrition Program  
8/13-7/15

Principal investigator listed in **bold**

#### Papers at Scientific Meetings

##### National/International, invited

1. Racine KC\*, BD Wiersema, LE Griffin\*, LA Essenmacher\*, AH Lee, H Hopfer, JD Lambert, AC Stewart, **AP Neilson**, Mean degree of flavanol polymerization is a superior predictor of  $\alpha$ -glucosidase inhibitory activity compared to flavanol or polyphenol concentrations in cocoas produced by controlled fermentation and roasting. Abstract #3428897. Presented (oral) at the "The Chemistry of Chocolate: From Bench to Market" at the 260<sup>th</sup> American Chemical Society National Meeting, August 16-20, 2020, in San Francisco, CA.<sup>†</sup>
2. **Lambert JD**, TN Seymore, KC Racine\*, AL Brown, GR Ziegler, AP Neilson, H Hopfer, Effect of genetics and post-harvest processing on the in vitro anti-inflammatory effects of cocoa. Presented (oral) at the "The Chemistry of Chocolate: From Bench to Market" at the 260<sup>th</sup> American Chemical Society National Meeting, August 16-20, 2020, in San Francisco, CA.<sup>†</sup>
3. **Neilson AP**, *Ex Vivo* Fecal Fermentations: Biotransformation of Dietary Compounds to Screen for Bioactive Microbial Metabolites. Abstract A-13. Presented (oral) at the Microbiome in Mammalian Health Symposium, 2020 World Congress on In Vitro Biology, June 6-10, 2020 in San Diego, CA. Animal Symposia and Workshops. *In Vitro Cell.Dev.Biol.-Animal* 2020, **56**: 6–10 (A-13). DOI: [10.1007/s11626-020-00462-5](https://doi.org/10.1007/s11626-020-00462-5).<sup>†</sup>
4. Racine KC\*, AH Lee, AC Stewart, JD Lambert, **AP Neilson**, Cocoa fermentation through a simulated pulp media: method verification for large scale fermentation models, Presented at the USDA-NIFA AFRI Function and Efficacy of Nutrients Project Directors Meeting, Boston, MA, 2018
5. Ryan CM\*, JD Lambert, AC Stewart, SF O'Keefe, **AP Neilson**, The effects of fermentation and roasting on cocoa products as physiological enzyme inhibitors, American Society for Nutrition Dietary Bioactive Components Research Interest Section Hot Topic Mini-symposium: Processing effects on bioactive food components and the impact on translating laboratory studies to human health outcomes. Presented at Exper. Biol., San Diego, CA, 2016

National/International, volunteered

6. Weikart D, V Indukuri, KC Racine\*, AP Neilson, **JD Lambert**, Impact of Processing on the Anti-inflammatory and Gastrointestinal Protective Effects of Cocoa in High Fat-Fed Obese Mice, Presented at American Society for Nutrition (ASN) 2021 (virtual meeting), *Curr Dev Nutr* 2021, 5(S2):380. DOI: [10.1093/cdn/nzab037\\_090](https://doi.org/10.1093/cdn/nzab037_090).
7. Iglesias-Carres L\*, LK Ramsue\*, P Agnello\*, KC Racine\*, **AP Neilson**, Inhibition of TMA production by (epi)catechin and their gut-derived metabolites, Presented at Society for In Vitro Biology (SIVB) 2021, (virtual conference), presentation# A-3000, Cell Biology, Cell & Tissue Models, and Infectious Diseases Interactive Posters, June 8, 2021.
8. Racine KC\*, L Iglesias-Carres\*, LA Essenmacher\*, GP Agnello\*, JS Tessem, MG Ferruzzi, CD Kay, **AP Neilson**, Evaluation of poorly-bioavailable cocoa flavanols and their gut microbial metabolites in potentiating anti-diabetic activities through BTBR.Cg-*Lep<sup>ob/ob</sup>*/WiscJ mice, Presented at American Society for Nutrition (ASN) 2021, (virtual conference), *Curr Dev Nutr* 2021, 5(S2):361. DOI: [10.1093/cdn/nzab037\\_071](https://doi.org/10.1093/cdn/nzab037_071).
9. Iglesias-Carres L\*, L Essenmacher\*, KC Racine\*, **AP Neilson**, Development of a high throughput in vitro fecal fermentation method to screen for TMA production inhibitors, Presented at American Society for Nutrition (ASN) 2021, (virtual conference), *Curr Dev Nutr* 2021, 5(S2):1160. DOI: [10.1093/cdn/nzab054\\_015](https://doi.org/10.1093/cdn/nzab054_015)
10. Casso AG, RA Gioscia-Ryan, ZJ Sapinsley, NS VanDongen, AE Bazzoni, AP Neilson, MC Zigler, KP Davy, DR Seals, **VE Brunt**, Increases in circulating trimethylamine-N-oxide contribute to the development of age-related aortic stiffness in humans and mice, Presented at Artery 2020, Nancy, France (virtual conference<sup>†</sup>), [Link](#). *Artery Res* 2020, 26:S4. DOI: [10.2991/artres.k.201209.004](https://doi.org/10.2991/artres.k.201209.004)
11. Weikart DK, VV Indukuri, KC Racine\*, AP Neilson, JD Lambert, Impact of fermentation and roasting on the gut health protective effects of cocoa in high-fat diet fed mice, Presented at Nutrition 2020, Seattle, WA.<sup>†</sup> *Curr Dev Nutr* 2020, 4(2):1542. DOI: [10.1093/cdn/nzaa068\\_027](https://doi.org/10.1093/cdn/nzaa068_027).
12. Lloyd T, LE Griffin\*, E Krueger, J Beales, A Barlow, J Sheets, I Ekpo, M Ross, P Chandra, A Rathore, C Kay, A Neilson, **JS Tessem**, Supplemental treatment options for diabetes: how flavanol metabolites improve  $\beta$ -cell function, Abstract #R5762, Presented at: Experimental Biology 2020, San Diego, CA. *FASEB J* 2020, 34(S1):05762. DOI: [10.1096/fasebj.2020.34.s1.05762](https://doi.org/10.1096/fasebj.2020.34.s1.05762).
13. Krueger E, AP Neilson, JS Tessem, Screening Phytochemicals for Alternative Diabetes Treatments, Abstract #R5911, Presented at: Experimental Biology 2020, San Diego, CA. *FASEB J* 2020, 34(S1):05911 DOI: [10.1096/fasebj.2020.34.s1.05911](https://doi.org/10.1096/fasebj.2020.34.s1.05911).
14. Steele CN, W Coffey, LE Griffin\*, AP Neilson, KP Davy, Gut microbiota-generated trimethylamine-n oxide and cardiometabolic health in humans, Presented at Microbiome: Therapeutic Implications (T1) October 6-10, 2019, Killarney, Co. Kerry, Ireland. [Meeting program](#).
15. Griffin LE\*, C Diako, AP Neilson, L Miller, C Ross, AC Stewart, Preference for and sensitivity to flavanol mean degree of polymerization in model wines is correlated with body composition, Abstract ID: P06-100-19. Presented at Nutrition 2019, Baltimore, MD. *Curr Dev Nutr* 2019, 3(S1):nzz040.FS07-04-19. DOI: [10.1093/cdn/nzz031.P06-100-19](https://doi.org/10.1093/cdn/nzz031.P06-100-19). [Abstract link](#).
16. Racine KC\*, A Lee, BD Wiersema, LE Griffin, LA Essenmacher\*, A Moore, JD Lambert, AC Stewart, **AP Neilson**, Utilization of a pilot-scale model cocoa fermentation system and roasting to assess the differences among putative bioactive compounds and bioactivity of cocoa through variable processing conditions, Abstract ID: FS07-04-19, Presented at Nutritional Microbiology (poster theater flash session), Nutrition 2019, Baltimore, MD. *Curr Dev Nutr* 2019, 3(S1):nzz040.FS07-04-19. DOI: [10.1093/cdn/nzz040.FS07-04-19](https://doi.org/10.1093/cdn/nzz040.FS07-04-19). [Abstract link](#).
17. Casso AG, RA Gioscia-Ryan, ZJ Sapinsley, JJ Richey, CJ Angiletta, LE Griffin\*, MC Zigler, NS VanDongen, AP Neilson, DR Seals, **VE Brunt**, Supplementation with the gut microbiome-derived metabolite trimethylamine N-oxide induces aortic stiffening in young mice. Presented at EB 2019, Orlando, FL. *FASEB J* 2018; 33.1 Supplement, Abstract 530.3. [Abstract link](#).
18. Steele CN, ME Baugh, LE Griffin\*, AP Neilson, BM Davy, MW Hulver, **KP Davy**, Fasting and Postprandial Trimethylamine N-oxide in Sedentary and Endurance Trained Males. Presented at EB 2019, Orlando, FL. *FASEB J* 2018; 33.1 Supplement, Abstract 536.18. [Abstract link](#).
19. Jin Q, AP Neilson, AC Stewart, SF O'Keefe, YT Kim, M McGuire, G Wilder, **HB Huang**, Integrated approach for the valorization of red grape pomace: production of oil, polyphenols, and acetone-butanol-

ethanol, Presented at: Conference of the Sustainable-Nanotechnology-Organization (SNO), Marina del Rey, CA, 05-07 Nov 2017, *ACS Sustain Chem Eng* 2018; 6:16279–16286. DOI: [10.1021/acssuschemeng.8b03136](https://doi.org/10.1021/acssuschemeng.8b03136).

20. Myers E, AP Neilson, **V Hedrick**, the development of a urinary biomarker methodology to detect non-nutritive sweetener (NNS) intake among adults. Presented at 2018 Food & Nutrition Conference & Expo (FNCE), Washington, DC.
21. Ma S, C Kim, AP Neilson, SF O'Keefe, GM Peck, **AC Stewart**, Comparison of analytical methods for the quantification of total polyphenols in juices and fermented beverages made from fruit, ID# 20691, Presented at IFT 2018, Chicago, IL.
22. Yu D, AP Neilson, SF O'Keefe, **H Huang**, Ultrasound-assisted enzymatic separation of proteins from brewer's spent grain, ID# 21422, Presented at IFT 2018, Chicago, IL.
23. Jin Q, AP Neilson, AC Stewart, SF O'Keefe, YT Kim, **H Huang**, Integrated Approach for the valorization of red grape pomace: production of oils, polyphenols, and biofuels, ID# 21392, Presented at IFT 2018, Chicago, IL.
24. Mitchell CM, BM Davy, MW Hulver, AP Neilson, BJ Bennett, **KP Davy**, Does exercise alter gut microbial composition? T-P-3254 Presented at Obesity Week (The Obesity Society Annual Meeting) 2018, Nashville, TN.
25. Griffin LE\*, AC Stewart, AP Neilson, Quantitative method validation for dietary flavanols with different degrees of polymerization at different concentrations, Poster presented at 43rd American Society for Enology and Viticulture-Eastern Section Annual Meeting, King of Prussia, PA July 9-11, 2018. [Program link](#).
26. Griffin LE\*, DW Fausnacht, JL Tuzo, AK Addington, KC Racine\*, H Zhang, M Hughes\*, SF O'Keefe, AP Neilson, **AC Stewart**, Flavanols from grape seed and pine bark protect against obesity-induced adipose inflammation, Poster presented at: Nutrition 2018, Boston, MA. *Curr Dev Nutr* 2018, 2(11): nzy035, DOI: [10.1093/cdn/nzy035](https://doi.org/10.1093/cdn/nzy035). [Abstract link](#).
27. **Tessem JS**, TJ Rowley IV, JD Ray, BF Bitner, KB Kener, JA Herring, BT Bikman, AP Neilson, Effects of epicatechin and its gut metabolites on beta cell function, survival and proliferation, *FASEB J* 2018; 32:1 Supplement, Abstract 41.8. Oral presentation at: Exper. Biol., San Diego, CA, 2018. [Abstract link](#)
28. Baugh ME, CN. Steele, C Angiletta, CM Mitchell, AP Neilson, BM Davy, MW Hulver, **KP Davy**, Prebiotic supplementation does not lower plasma trimethylamine-N-oxide concentration in individuals at risk for type 2 diabetes, Poster T-P-LB-3662, Presented at ObesityWeek: the combined annual meeting of The Obesity Society (TOS) and the American Society for Metabolic & Bariatric Surgery (ASMBS), Nov 2, 2017, Washington, DC.
29. Brunt VE, C Angiletta, LE Griffin\*, RA Gioscia-Ryan, KP Davy, AP Neilson, **DR Seals**, Higher plasma concentrations of the gut-derived metabolite trimethylamine N-oxide is correlated with impaired arterial and cognitive function in young and older healthy adults, Presented at The American Physiological Society (APS) Cardiovascular Aging Conference, Westminster CO, Aug. 11-14, 2017. [Abstract Link](#)
30. Mitchell CM, ME Baugh, TM Halliday, RP McMillan, AP Neilson, MA Ponder, MW Hulver, BM Davy, **KP Davy**, Prebiotic supplementation with inulin and metabolic health in adults at-risk for type 2 diabetes, Poster T-P-LB-367, Presented at Obesity Week: the combined annual meeting of The Obesity Society (TOS) and the American Society for Metabolic & Bariatric Surgery (ASMBS), Nov 2, 2017, Washington, DC.
31. Waldron C, **JD Eifert**, L Marr, AP Neilson, RC Williams, The survival and transmission of aerosolized listeria species, Poster P3-185, Presented at International Association for Food Protection 2017 Annual Meeting, Tampa, FL, July 12, 2017. [Abstract Link](#)
32. **Tessem JS**, TJ Rowley, JD Ray, BF Bitner, AT Smithson\*, JM Hansen, BT Bikman, AP Neilson, Monomeric cocoa procyanidins enhances beta cell function by increasing mitochondrial respiration. *FASEB J* 2017; 31:135.6. [Abstract link](#). Presented at: Exper. Biol., Chicago, IL, 2017.
33. Ma S, AP Neilson, GM Peck, SF O'Keefe, EK Hurley, A Sandbrook, **AC Stewart**, Influence of pre-fermentation apple juice clarification on the chemistry of hard cider. AGFD 258. [Abstract link](#). Presented at: 253rd American Chemical Society National Meeting & Exposition, San Francisco, CA, 2017.

34. Griffin LE\*, SF O'Keefe, AP Neilson, **AC Stewart**, A Closer Look at the Influence of Processing on Polyphenol Composition and Degree of Polymerization in Wine and Wine-like Products. *FASEB J* 2017; 31:974.26. [Abstract link](#). Presented at Exper. Biol., Chicago, IL, 2017.
35. Lee AH, A Moore, J Tuzo, AP Neilson, SF O'Keefe, J Arogo Ogejo, B Irish, AC Stewart, Comparison of polyphenol concentration and composition between genetically diverse cacao (*Theobroma cacao* L.) accessions selected for high yield. *FASEB J* 2017; 31:974.18. [Abstract link](#). Presented at Exper. Biol., Chicago, IL, 2017.
36. Rowley T, B Bitner, M Ballard, AT Smithson\*, AP Neilson, **JS Tessem**, Monomeric cocoa procyanidins enhance functional  $\beta$ -cell mass, *FASEB J* 2016; 30:766.12. [Abstract link](#). Presented at Exper. Biol., San Diego, CA, 2016
37. Strat KM\*, BM Davy, MW Matthew Hulver, KP Davy, **AP Neilson**, Cocoa increases postprandial GLP-1 response in adults with impaired glucose tolerance, *FASEB J* 2016; 30:428.5. [Abstract link](#). Presented at Exper. Biol., San Diego, CA, 2016
38. Gilley A\*, HC Arca, B Nichols, KJ Edgar, **AP Neilson**, Enhanced solution concentration of quercetin in amorphous solid dispersions, *FASEB J* 2016 30:690.21. [Abstract link](#). Presented at Exper. Biol., San Diego, CA, 2016
39. Ryan CM\*, L Ye, SF O'Keefe, **AP Neilson**, Unfermented and fermented cocoa extracts as inhibitors of pancreatic  $\alpha$ -amylase,  $\alpha$ -glucosidase, and pancreatic lipase, *FASEB J* April 2016 30:691.30. [Abstract link](#). Presented at Exper. Biol., San Diego, CA, 2016
40. Richey JJ, LM Cuevas, A Neilson, AT Smithson\*, AD Gilley\*, DR Seals, **RA Gioscia-Ryan**, Suppression of the gut microbiome with broad-spectrum antibiotic cocktail reverses age-related arterial dysfunction in mice, *FASEB J* 2016; 30:1b588. [Abstract link](#). Presented at Exper. Biol., San Diego, CA, 2016
41. Smithson AT\*, CJ Winslow\*, TC Haufe\*, CM Ryan\*, AD Gilley\*, KM Strat\*, RKM Ajlan\*, M Biggs, Z Zhang, L Zhao, A Harl, R Poole, ML Rhoads, RP Rhoads, **AP Neilson**, The effect of supplemental grape seed extract on pig growth performance and body composition during heat stress, *FASEB J* 2016; 30:1b370. [Abstract link](#). Presented at Exper. Biol., San Diego, CA, 2016
42. Lee A, D Steger, AP Neilson, S O'Keefe, J Ogejo, **A Stewart**, Model fermentation of cocoa (*Theobroma cacao*) can produce similar microbial and chemical quality of cocoa compared to conventional on-farm cocoa fermentation, *FASEB J* 2016 30:1b353. [Abstract link](#). Presented at Exper. Biol., San Diego, CA, 2016
43. Smiljanec K, C Mitchell, O Privitera, K Davy, A Neilson, **B Davy**, Influence of pre-meal inulin consumption on energy intake in overweight and obese middle-aged and older adults: a pilot study. [Abstract link](#). Presented at: Obesity Week 2016 [The combined annual meeting of The Obesity Society (TOS) and the American Society for Metabolic & Bariatric Surgery (ASMBS)], New Orleans, LA, 2016.
44. Stoneham TR, **DD Kuhn**, DP Taylor, SF O'Keefe, AP Neilson, DM Gatlin, Production of omega-3 enriched tilapia through the use of a commercially available *Schizochytrium sp.* additive, [Abstract link](#). Aquaculture 2016, Las Vegas, NV, 2016
45. Haufe TC\*, AD Gilley\*, KM Goodrich\*, CM Ryan\*, AT Smithson\*, **AP Neilson**, Grape Intake Reverses Deleterious Effects of GLP-1 Receptor Antagonism on Oral Glucose Tolerance in Mice, *FASEB J* 2015; 29:LB288. [Abstract link](#). Presented at Exper. Biol., Boston, MA, 2015
46. Boutagy NE, AP Neilson, KL Osterberg, BM Davy, MW Hulver, **KP Davy**, Probiotic supplementation and trimethylamine-n-oxide production following high fat feeding. [Abstract link](#). Presented at The Obesity Soc. Ann. Mtg., Boston, MA, 2014
47. Choi M, D Taylor, **D Kuhn**, S Smith, MA Ponder, AP Neilson, Direct Fed Microbes for Shrimp Feeds: Improved Disease Resistance for Shrimp. Presented at 10<sup>th</sup> Intl. Conf. on Recirculating Aquaculture, Roanoke, VA, 2014
48. L Bianchi, SF O'Keefe, AP Neilson, J Webster, **SE Duncan**, Photodegradation of chlorophyll at visible wavelengths affects soybean oil quality, *IFT Annual Meeting Technical Program* 2014; 206-34. [Abstract link](#). Presented at Inst. of Food Technologists Ann. Mtg., New Orleans, LA, 2014
49. MR Dorenkott\*, LE Griffin\*, KM Goodrich\*, KA Thompson-Witrick\*, G Fundaro, L Ye, JR Stevens, M Ali, SF O'Keefe, MW Hulver, **AP Neilson**, Oligomeric cocoa procyanidins possess enhanced bioactivity compared to monomeric and polymeric cocoa procyanidins for preventing the

- development of obesity, insulin resistance, and impaired glucose tolerance during high-fat feeding, *FASEB J* 2014; 28:LB331. [Abstract link](#). Presented at Exper. Biol., San Diego, CA, 2014
50. KM Goodrich\*, **AP Neilson**, Development of a sensitive, high-throughput UPLC-MS/MS method for detecting both native flavonoid compounds from Vitaflavan grape seed extract and their gut microbial metabolites, *FASEB J* 2013; 27:636.15. [Abstract link](#). Presented at Exper. Biol., Boston, MA, 2013
51. LE Griffin\*, MR Dorenkott\*, KM Goodrich\*, G Fundaro, R McMillan, MW Hulver, MA Ponder, **AP Neilson**, Dietary grape seed extract inhibits glucose intolerance and loss of metabolic flexibility induced by high-fat diet, *FASEB J* 2013; 27:861.14. [Abstract link](#). Exper. Biol., Boston, MA, 2013
52. Boutagy NE, AP Neilson, AT Smithson\*, KL Osterberg, BM Davy, MW Hulver, **KP Davy**, High Fat Feeding Increases Postprandial Trimethylamine-N-Oxide Production. Presented at Gut Microbiota Modulation of Host Physiology: The Search for Mechanism, Keystone, CO, 2015
53. Neilson AP, DE Brenner, WL Smith, J Ren, YH Hong, **Z Djuric**, Enantiomeric composition of putative pro- and anti-inflammatory hydroxyeicosatetraenoic acids (HETEs) in mouse colon mucosa. Presented at Colon Cancer in Murine Models and Humans III, Bar Harbor, ME, 2011
54. Neilson AP, SL Reuven, Z Djuric, J Ren, YH Hong, WL Smith, **DE Brenner**, COX-1 mediates the proliferative effects of Western-type dietary fat in normal colonic mucosa, *FASEB J* 2010; 24:207.6. [Abstract link](#). Presented at Exper. Biol., Anaheim, CA, 2010
55. Neilson AP, TN Sapper, EM Janle, RD Mattes, R Rudolph, NV Matusheski, **MG Ferruzzi**, Chocolate matrix factors modulate pharmacokinetic behavior of cocoa flavan-3-ols following oral consumption by Sprague-Dawley rats, *FASEB J* 2010; 24:540.8. [Abstract link](#). Presented at Exper. Biol., Anaheim, CA, 2010
56. Neilson AP, B Song, TN Sapper, JA Bomser, **MG Ferruzzi**, Tea catechin auto-oxidation dimers are differentially accumulated by Caco-2 human intestinal cells. Presented at 4th Intl. Conf. on Polyphenols and Health, Leeds, UK, 2009
57. Neilson AP, JC George, RD Mattes, EM Janle, N.V Matusheski, **MG Ferruzzi**, Influence of chocolate formulation factors on in vitro bioaccessibility and bioavailability of catechins in humans, *FASEB J* 2009; 23:104.2. [Abstract link](#). Presented at Exper. Biol., New Orleans, LA, 2009
58. Goering MJ, AP Neilson, MG Ferruzzi, **MT Morgan**, Chlorine dioxide treatment of whole apples does not significantly impact polyphenol content, Presented at: *IFT Annual Meeting Technical Program* 2009. [Abstract link](#). Presented at Inst. of Food Technologists Ann. Mtg., Anaheim, CA, 2009
59. Neilson AP, RJ Green, CM Peters, BR Cooper, JA Bomser, **MG Ferruzzi**, Absorption of catechin auto-oxidation dimers by confluent Caco-2 cell monolayers, *FASEB J* 2008; 22:148.3. [Abstract link](#). Presented at Exper. Biol., San Diego, CA, 2008
60. Neilson AP, A Hopf, BR Cooper, JA Bomser, **MG Ferruzzi**, Catechin degradation and concurrent formation of homo- and hetero- catechin dimers during simulated digestion, *FASEB J* 2007; 21:232.4. [Abstract link](#). Presented at Exper. Biol., Washington, DC, 2007
61. **Cooper BR**, AP Neilson, A Hopf, M Pereira, JA Bomser, MG Ferruzzi, Analysis of catechin dimer formation during simulated digestion by liquid chromatography/mass spectrometry. Presented at Am. Soc. of Mass Spectrometry Ann. Mtg., Indianapolis, IN, 2007
62. Neilson AP, Y Li, K Hannon, MG Ferruzzi, **BA Watkins**, Accumulation of catechins in bone and liver of mice fed green tea while under physical stress, *FASEB J* 2006; 20:A570. [Abstract link](#). Presented at Exper. Biol., San Francisco, CA, 2006
63. RA Mackenzie, AP Neilson, **FM Steele**, Microbial inactivation in ceviche as a function of citrus juice treatment, *IFT Annual Meeting Technical Program* 2005; 18D-23. [Abstract link](#). Presented at Inst. of Food Technologists Ann. Mtg., New Orleans, LA, 2005
64. Neilson AP, H Farnsworth, LV Ogden, **OA Pike**, Quality of dehydrated potato flakes in long-term storage, *IFT Annual Meeting Technical Program* 2004; 83E-23. [Abstract link](#). Presented at Inst. of Food Technologists Ann. Mtg., Las Vegas, NV, 2004
65. Neilson AP, B Song, TN Sapper, JA Bomser, **MG Ferruzzi**, Tea catechin auto-oxidation dimers are differentially accumulated by Caco-2 human intestinal cells. Presented at 4th Intl. Conf. on Polyphenols and Health, Leeds, UK, 2009
66. Neilson AP, JC George, EM Janle, RD Mattes, R Rudolph, NV Matusheski, **MG Ferruzzi**, Influence of food matrix on cocoa flavan-3-ol bioaccessibility in vitro and bioavailability in humans, Presented at

2009 Purdue–UAB NIH National Center for Complementary and Alternative Medicine (NCAAM) Botanicals Center for Age-related Diseases Botanicals Symposium, Birmingham, AL, 2009

67. Neilson AP, CM Peters, AS Hopf, BR Cooper, E Janle, **MG Ferruzzi**, Characterization of novel catechin dimers formed in vitro and in vivo by LC-ECD and MS/MS, Presented at 2007 Purdue–UAB NIH National Center for Complementary and Alternative Medicine (NCAAM) Botanicals Center for Age-related Diseases Botanicals Symposium, West Lafayette, IN, 2007

Regional, invited

68. Ryan CM\*, W Khoo, L Ye, JD. Lambert, SF. O'Keefe, AP Neilson, Loss of native flavanols during fermentation and roasting does not necessarily reduce digestive enzyme inhibiting bioactivities of cocoa. Abstract ID: 2822497. Presented at the "Chemistry of Fermentation: Fermented Foods" symposium, Southeastern Regional Meeting of the American Chemical Society (SERMACS) 2017, November 10, 2017, Charlotte, NC. [Abstract link.](#)

Regional, volunteered

69. Dorenkott MR\*, LE Griffin\*, KM Goodrich\*, KA Thompson-Witrick\*, G Fundaro, L Ye, JR Stevens, M Ali, SF O'Keefe, MW Hulver, **AP Neilson**, Oligomeric cocoa procyanidins possess enhanced bioactivity compared to monomeric and polymeric cocoa procyanidins for preventing the development of obesity, insulin resistance, and impaired glucose tolerance during high-fat feeding. Presented at Food Manufacturing Regional Mtg., Kannapolis, NC, 2014
70. Goodrich KM\*, **AP Neilson**, Development of a sensitive, high-throughput UPLC-MS/MS method for detecting both native flavonoid compounds from Vitaflavan grape seed extract and their gut microbial metabolites. Presented at Food Manufacturing Regional Mtg., Kannapolis, NC, 2014
71. Bowser SM, RP McMillan, NE Boutagy, M Tarpey, KL Osterberg, MI Frisard, AP Neilson, BM Davy, KP Davy, **MW Hulver**, Short-term high fat diet impairs postprandial metabolic flexibility in skeletal muscle. Presented at NIH NIDDK Mid-Atlantic Diabetes Res. Symp., Bethesda, MD, 2015

72. Local, volunteered

73. Racine KC\*, AH Lee, AC Stewart, **AP Neilson**, Cocoa Fermentation Through a Simulated Pulp Media: Method Verification for Large Scale Fermentation Model, Presented at 6<sup>th</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2018
74. Griffin LE\*, DW Fausnacht, JL Tuzo, AK Addington, KC Racine\*, H Zhang, M Hughes\*, SF O'Keefe, AP Neilson, AC Stewart, Flavanols from grape seed and pine bark protect against obesity-induced adipose inflammation, Presented at 6<sup>th</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2018
75. Hughes M\*, LE Griffin\*, MA Ponder, RE Bruno, **AP Neilson**, Diurnal variations and the effect of high-fat meals on circulating post-prandial trimethylamine n-oxide levels in humans diagnosed with metabolic syndrome
76. Boyer C, G Wang, A Logan, MA Cline, AP Neilson, D Liu, **ER Gilbert**, Limiting fat deposition in broilers through dietary bioflavonoids, Presented at: Virginia-North Carolina Alliance for Minority Participation Research Symposium, Blacksburg, VA, March 24<sup>th</sup>, 2018.
77. Boyer C, G Wang, A Logan, MA Cline, AP Neilson, D Liu, **ER Gilbert**, Limiting fat deposition in broilers through dietary bioflavonoids, Presented at: Undergraduate Research and Student Experiential Learning Conference, Blacksburg, VA, April 13<sup>th</sup>, 2018
78. Boyer C, G Wang, A Logan, MA Cline, AP Neilson, D Liu, **ER Gilbert**, Limiting fat deposition in broilers through dietary bioflavonoids, Presented at: Department of Animal and Poultry Science Capstone Symposium, Blacksburg, VA, April 20<sup>th</sup>, 2018
79. Winslow C\*, B Nichols, KJ Edgar, AP Neilson, Amorphous solid dispersion protects rifapentine from release at gastric pH, Presented at 5<sup>th</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2017
80. RK Ajlan, AP Neilson, Does dietary fat independently increase trimethylamine-N-oxide?, Presented at 5<sup>th</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2017

81. Griffin LE\*, SF O'Keefe, AP Neilson, **AC Stewart**, A closer look at the influence of processing on polyphenol composition and degree of polymerization in wine and wine-like products, Presented at 5<sup>th</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2017
82. McClain LE\*, **AP Neilson**, Modeling digestive solubility and stability of rifapentine in vitro, Presented at: 2016 Virginia Tech Summer Undergraduate Research Symposium, Blacksburg, VA.
83. Winslow C\*, TC Haufe\*, CM Ryan\*, AD Gilley\*, AT Smithson\*, SF O'Keefe, **AP Neilson**, Cocoa samples of different origins have distinct polyphenol profiles. Presented at 4<sup>th</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2016
84. Lee AH, D Steger, AP Neilson, SF O'Keefe, JA Ogejo, **AC Stewart**, Model fermentation of cocoa (*Theobroma cacao*) can produce similar microbial and chemical quality of cocoa compared to conventional on-farm cocoa fermentation. Presented at 4<sup>th</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2016
85. Ewing B, GM Peck, AP Neilson, **AC Stewart**, The effect of harvest maturity and post-harvest storage on apple, juice, and cider quality. Presented at 4<sup>th</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2016
86. Ajlan RK\*, **AP Neilson**, Does dietary fat independently increase of Trimethylamine-N-oxide? Presented at 4<sup>th</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2016
87. Gilley A\*, HC Arca, BLB Nichols, KJ Edgar, **AP Neilson**, Enhanced solution concentration of quercetin in amorphous solid dispersions. Presented at 4<sup>th</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2016
88. Ryan CM\*, L Ye, SF O'Keefe, **AP Neilson**, Unfermented and fermented cocoa extracts as inhibitors of pancreatic  $\alpha$ -amylase,  $\alpha$ -glucosidase, and pancreatic lipase. Presented at 4<sup>th</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2016
89. Smithson AT\*, CJ. Winslow\*, TC Haufe\*, CM Ryan\*, AD Gilley\*, KM Strat\*, RKM Ajlan\*, M Biggs, Z Zhang, L Zhao, A Harl, R Poole, ML Rhoads, RP Rhoads, **AP Neilson**, The effect of supplemental grape seed extract on pig growth performance and body composition during heat stress. Presented at 4<sup>th</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2016
90. Waldron C, **J Eifert**, R Williams, AP Neilson, L Marr, The survival and transmission of aerosolized listeria species, Presented at 4<sup>th</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2016.
91. Goodrich KM\*, AT Smithson\*, AK Ickes\*, **AP Neilson**, Pan-colonic pharmacokinetics of catechins and procyanidins in male Sprague Dawley rats. Presented at 3<sup>rd</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2015
92. Ryan CM\*, L Ye, SF O'Keefe, **AP Neilson**, The effect of fermentation on the polyphenol composition and biological activities of cocoa (*Theobroma cacao*) beans. Presented at 3<sup>rd</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2015
93. Gilley AD\*, **AP Neilson**, HC Arca, KJ Edgar, Enhanced solution concentration of quercetin dispersed in cellulose-derived amorphous solid dispersion. Presented at 3<sup>rd</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2015
94. Haufe TC\*, AD Gilley\*, KM Goodrich\*, CM Ryan\*, AT Smithson\*, MW Hulver, Dongmin Liu, **AP Neilson**, Grape powder reverses deleterious effects of glp-1 receptor antagonism on oral glucose tolerance in mice. Presented at 3<sup>rd</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2015
95. Dorenkott MR\*, LE Griffin\*, KM Goodrich, KA Witrick, G Fundaro, L Ye, JR Stevens, M Ali, SF O'Keefe, MW Hulver, **AP Neilson**, Oligomeric procyanidins possess enhanced bioactivity compared to monomeric and polymeric cocoa procyanidins for preventing the development of obesity, insulin resistance, and impaired glucose tolerance during high-fat feeding. Presented at 2<sup>nd</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2014
96. Ickes A\*, A Smithson\*, N Boutagy, KP Davy, **AP Neilson**, Analysis of L-Carnitine and Choline Metabolites in Plasma Using Ultra Performance Liquid Chromatography-Mass Spectrometry (UPLC-MS/MS). Presented at TOUR Scholars Res. Symp., Virginia Tech, Blacksburg, VA, 2014



97. Strat KM\*, MR Dorenkott\*, MW Hulver, JM Rivero, KP Davy, **AP Neilson**, Development of a Four-Sugar Probe System as a Reliable Biomarker of Whole-Gut Permeability and Prediabetes. Presented at “How Can Translational Res. Solve the Obesity Epidemic?”. Conf., Virginia Tech, Blacksburg, VA, 2013
98. Dorenkott MR\*, LE Griffin\*, KM Goodrich, KA Witrick, G Fundaro, L Ye, JR Stevens, M Ali, SF O’Keefe, MW Hulver, **AP Neilson**, Oligomeric procyanidins possess enhanced bioactivity compared to monomeric and polymeric cocoa procyanidins for preventing the development of obesity, insulin resistance, and impaired glucose tolerance during high-fat feeding. Presented at 2<sup>nd</sup> ann. poster competition, Dept. of Food Science and Technology, Virginia Tech, Blacksburg, VA, 2014
99. Griffin LE\*, K Goodrich\*, G Fundaro, A Grant, MW Hulver, **AP Neilson**, Dietary grape seed extract administered at 10 mg/kg prevents increases in body fat percentage induced by high-fat feeding in male C57BL/6J mice, Presented at: 2012 Virginia Tech Summer Undergraduate Research Symposium, Blacksburg, VA.

\*undergraduate student, graduate student or postdoc in candidate’s lab group

†Virtual presentation due to COVID-19

Corresponding author/principal investigator is in **bold**

### **Book Chapters**

1. AP Neilson, **MG Ferruzzi**, *Bioavailability and Metabolism of Bioactive Compounds from Foods*, In: Coulston A, Boushey C, Ferruzzi M (eds): Nutrition in the Prevention and Treatment of Disease, 3<sup>rd</sup> Edition. Academic Press/Elsevier, Waltham, MA, 2012.
2. **AP Neilson**, KM Goodrich\*, MG Ferruzzi, *Bioavailability and Metabolism of Bioactive Compounds from Foods*, In: Coulston A, Boushey C, Ferruzzi M (eds): Nutrition in the Prevention and Treatment of Disease, 4th Edition. Academic Press/Elsevier, Waltham, MA, 2017. In press.
3. **AP Neilson**, SF O’Keefe, *Dilutions and Concentrations*, In: Nielsen SS (ed): Food Analysis Laboratory Manual, 3<sup>rd</sup> Edition, Springer, New York, 2017. In press
4. **AP Neilson**, SF O’Keefe, *Statistics for Food Analysis*, In: Nielsen SS (ed): Food Analysis Laboratory Manual, 3<sup>rd</sup> Edition, Springer, New York, 2017. In press
5. **AP Neilson**, D Lonnergan, SS Nielsen, *Laboratory Standard Operating Procedures*, In: Nielsen SS (ed): Food Analysis Laboratory Manual, 3<sup>rd</sup> Edition, Springer, New York, 2017. In press
6. **MG Ferruzzi**, AP Neilson, *Technological progress as a driver of innovation in infant foods*, In: Koletzko B, Koletzko S, Ruemmele F (eds): Drivers of Innovation in Pediatric Nutrition. Nestlé Nutr Inst Workshop Ser Pediatr Program, 66:81–95, Nestec Ltd., Vevey/S. Karger AG, Basel, 2010.

### **Refereed Conference Proceedings Articles**

1. MG Ferruzzi, RJ Green, CM Peters, **AP Neilson**, E Janle, The influence of food formulation on digestive behavior and bioavailability of catechin polyphenols, *ISHS Acta Horticulturae 841: II International Symposium on Human Health Effects of Fruits and Vegetables: FAVHEALTH 2007*, 2009.

### **Invited Presentations**

1. **AP Neilson**, *Trimethylamine N-oxide (TMAO): a pro-atherogenic metabolite at the intersection of nutrition, the gut microbiome and host metabolism*, Invited seminar presentation at the UNC Chapel Hill Center for Gastrointestinal Biology and Disease research seminar series, 18 Feb 2021.
2. **AP Neilson**, *Trimethylamine N-oxide (TMAO): a pro-atherogenic metabolite at the intersection of nutrition, the gut microbiome and host metabolism*, Invited seminar presentation at the NC State M3 (Microbiome Monthly Meetup) seminar series, 12 Nov 2020.

3. **AP Neilson**, *Trimethylamine N-oxide (TMAO): a pro-atherogenic metabolite at the intersection of nutrition, the gut microbiome and host metabolism*, Invited seminar presentation at the North Carolina Research Campus Chem 101 seminar series, 19 Nov 2020.
4. **AP Neilson**, AD Gilley, KJ Edgar, *Use of Novel Cellulose-Based Amorphous Solid Dispersions to Enhance Quercetin Dissolution*, Invited departmental seminar series lecture presented to the Department of Food Science, University (State College, PA), 14 Oct 2016.
5. **AP Neilson**, MR Dorenkott, MW Hulver, SF O'Keefe, *Translational Research: Anti-Diabetic Activities of Cocoa Flavanols*, Invited graduate seminar series lecture presented to the Department of Nutrition, Dietetics, and Food Science, Brigham Young University (Provo, UT), 31 Oct 2014.
6. **AP Neilson**, MR Dorenkott, MW Hulver, SF O'Keefe, *Translational Research: Anti-Diabetic Activities of Cocoa Flavanols*, Invited symposium lecture presented at the Food Manufacturing Regional Meeting (Kannapolis, NC), 23 Oct 2014.
7. **AP Neilson**, *Dietary Polyphenols: Beyond Bioavailability*, Invited lecture presented to The Hershey Center for Health and Nutrition, The Hershey Co. (Hershey, PA), 8 Mar 2012.

### **Student Advising (as committee chair/co-chair)**

1. Kathryn C. Racine (PhD, expected 2022) *TBD*
2. Michael Hughes (PhD, 2020) *Inhibition of pro-atherogenic trimethylamine N-oxide production by garlic extracts*
3. Lauren E. Essenmacher (MS, 2020) *Fiber-like activities of cocoa*
4. Kathryn C. Racine (MS, 2019) *Development of cocoa processing strategies to enhance and optimize anti-inflammatory activities and promotion of gastrointestinal health* (co-advisor: Amanda Stewart)
5. Laura E. Griffin (PhD, 2018) *Correlation between bitterness and anti-obesity activities of procyanidins* (co-advisor: Amanda Stewart)
6. Reem K. Ajlan (MS, 2017) *Does dietary fat synergistically increase trimethylamine-N-oxide?*
7. Christopher J. Winslow (MS, 2017) *Cellulose-based amorphous solid dispersions enhance rifapentine delivery characteristics and dissolution kinetics in vitro*
8. Andrew D. Gilley (MS, 2016) *Novel cellulose-based amorphous solid dispersions enhance quercetin dissolution in vitro and bioavailability in vivo*
9. Karen Strat (PhD, 2016) *The effects of acute consumption and chronic supplementation of cocoa flavanols on overweight and obese adults at risk of developing diabetes* (co-advisor: Kevin Davy)
10. Caroline M. Ryan (MS, 2016) *Anti-diabetic and anti-obesity activities of cocoa (Theobroma cacao) via physiological enzyme inhibition*
11. Thomas C. Haufe (MS, 2016) *Grape powder attenuates the negative effects of GLP-1 receptor antagonism by exendin-3 (9-39) in a normoglycemic mouse model*
12. Andrew T. Smithson (MS, 2016) *The effect of supplemental grape seed extract on pig growth performance and body composition during heat stress*
13. Katheryn M. Goodrich (PhD, 2015) *Colonic metabolism of dietary grape seed extract: Analytical method development, effect on tight-junction proteins, tissue accumulation, and pan-colonic pharmacokinetics*
14. Melanie R. Dorenkott (MS, 2014) *Impact of the degree of polymerization on anti-obesity and anti-diabetic bioactivities of cocoa catechins and procyanidins*

### **Courses Taught**

1. FST/HNFE 2544-Functional Foods for Health (3 cr) Fall 2018
2. FST 3514-Food Analysis (4 cr) Spring 2018
3. FST/HNFE 2544-Functional Foods for Health (3 cr) Fall 2017
4. FST 3514-Food Analysis (4 cr) Spring 2017
5. FST/HNFE 2544-Functional Foods for Health (3 cr) Fall 2016
6. FST 3514-Food Analysis (4 cr) Spring 2016
7. FST 4524-Food Quality Assurance (3 cr) Spring 2016
8. FST 4984-Food Analysis (4 cr) Fall 2015
9. FST 4984-Food Analysis (4 cr) Fall 2014

10. FST 5004-Graduate Seminar (1 cr) Spring 2014
11. FST 4514-Food Analysis (3 cr) Fall 2013
12. FST 5004-Graduate Seminar (1 cr) Spring 2013
13. FST 5004-Graduate Seminar (1 cr) Spring 2012
14. Undergraduate Research (1 cr) Fall 2012
15. Undergraduate Research (1 cr) Spring 2012

### **Guest Lectures**

1. *Writing Goals, Objectives, and Specific Aims* (FST 5054-Grad. Professionalism in Food Science), 5 Sept 2018
2. *Anti-Obesity Activities of Cocoa Polyphenols* (GRAD 5134-Topics in Interdisciplinary Research), 14 Apr 2017
3. *The Cost of Research* (FST 5054-Grad. Professionalism in Food Science), 30 Sept 2016
4. *Writing Goals, Objectives, and Specific Aims* (FST 5054-Grad. Professionalism in Food Science), 7 Oct 2016
5. *Dietary Phytochemicals* (FST/HNFE 2544-Functional Foods for Health), 2 Sep 2015
6. *Dietary Supplements* (FST/HNFE 2544-Functional Foods for Health), 4 Sep 2015
7. *The Cost of Research* (FST 5004-Grad. Seminar), 30 Sept 2014
8. *Writing Goals, Objectives, and Specific Aims* (FST 5004-Grad. Seminar), 7 Oct 2015
9. *Basic Chemical Calculations for Food Science Research* (FST 5004-Grad. Seminar), 2 Feb 2015
10. *Dietary Phytochemicals* (FST/HNFE 2544-Functional Foods for Health), 5 Sep 2014
11. *Dietary Supplements* (FST/HNFE 2544-Functional Foods for Health), 8 Sep 2014
12. *Writing Goals, Objectives, and Specific Aims* (FST 5054-Grad. Professionalism in Food Science), 1 Oct 2014
13. *The Cost of Research* (FST 5054-Grad. Professionalism in Food Science), 8 Oct 2014
14. *Writing Goals, Objectives, and Specific Aims* (FST 5054-Grad. Professionalism in Food Science), 2 Oct 2013
15. *Overview of Dietary Supplements* (FST 2984-Food Science, Society, and Health Security), 8 Oct 2013
16. *Plant Secondary Metabolism and Natural Products: Implications for Food Science and Nutrition* (FST/HNFE 2544-Functional Foods for Health), 14 Oct 2013
17. *Overview of Dietary Supplements* (FST/HNFE 2544-Functional Foods for Health), 16 Oct 2013
18. *The Cost of Research* (FST 5054-Grad. Professionalism in Food Science), 23 Oct 2013
19. *Dietary Polyphenols: Beyond Bioavailability* (HNFE 5004-Seminar in Human Nutrition and Foods), 30 Jan 2012
20. *Writing Goals, Objectives, and Specific Aims* (FST 5054-Grad. Professionalism in Food Science), 8 Oct 2012
21. *The Cost of Research* (FST 5054-Grad. Professionalism in Food Science), 31 Oct 2012

### **Service**

#### **Professional Service**

1. Member, Student Relations Committee, Phi Tau Sigma ( $\Phi\tau\Sigma$ ), The Honor Society for Food Science and Technology Professionals (2020-2023)
2. Will organize the 2021 USDA NIFA AFRI Project Director's meeting. This is an annual meeting of all Project Directors for the Food Quality and Functional and Efficacy of Nutrients Program Priority Areas of the AFRI Foundational program. Invited by USDA Program Officer (Dierdra Chester) to organize the meeting. This meeting will be held concurrent with The Institute of Food Technologists 2021 Annual Meeting.
3. Editorial board member (current), *The Journal of Nutritional Biochemistry* (Elsevier, Editor-in-chief: Dr. Bernhard Henning, University of Kentucky). Impact Factor: 3.794; 5-Year Impact Factor: 4.67, ranked 8<sup>th</sup> out of 78 journals (top quartile) in Nutrition & Dietetics (<http://www.journals.elsevier.com/the-journal-of-nutritional-biochemistry/>)

4. Editorial board member (2021-present), Nutrition Research (Elsevier, Editor-in-chief: Dr. Richard Bruno, The Ohio State University). Impact Factor: 2.767.
5. Editorial board member (2014-2018), *Nutrition & Food Science (NFS) Journal* (Elsevier, Editor-in-chief: Dr. Jan Frank, Hohenheim Univ., Stuttgart, Germany). *NFS Journal* is a new open-access journal sponsored by the Society of Nutrition and Food Science, based in Stuttgart, Germany (<http://www.journals.elsevier.com/nfs-journal>)
6. Past-chair, Dietary Bioactive Compounds Research Interest Section, American Society for Nutrition, 2017-2018
7. Lead Judge, "Emerging Leaders in Nutrition Science" Poster Competition, Dietary Bioactive Compounds Research Interest Section, American Society for Nutrition, Experimental Biology 2017 (Chicago, IL)
8. Experimental Biology Conference 2017, American Society for Nutrition Dietary Bioactives Research Interest Section, Effects of Dietary Bioactive Components in Experimental Models of Chronic Disease Risk Mini Symposium, session chair, 2017.
9. Experimental Biology Conference 2017, American Society for Nutrition Dietary Bioactives Research Interest Section, Bioavailability, Metabolism and Biomarkers of Dietary Bioactive Components Mini Symposium, session chair, 2017.
10. Experimental Biology Conference 2016, American Society for Nutrition Dietary Bioactives Research Interest Section, session chair, 2017.
11. Chair, Dietary Bioactive Compounds Research Interest Section, American Society for Nutrition, 2016-2017
12. Lead Judge, "Emerging Leaders in Nutrition Science" Poster Competition, Dietary Bioactive Compounds Research Interest Section, American Society for Nutrition, Experimental Biology 2016 (San Diego, CA)
13. Chair-elect, Dietary Bioactive Compounds Research Interest Section, American Society for Nutrition, Chair-elect, 2015-2016
14. Experimental Biology Conference 2016, American Society for Nutrition Dietary Bioactives Research Interest Section, Processing Effects on Bioactive Food Components and The Impact on Translating Laboratory Studies to Human Health Outcomes Mini Symposium, session Co-Chair (Chair: Dr. Joshua D. Lambert, Penn State University), 2016.
15. Experimental Biology Conference 2016, American Society for Nutrition Dietary Bioactives Research Interest Section, "Human Intervention Studies with Dietary Bioactive Components" Mini Symposium, session Chair (Co-Chair: Dr. Arpita Basu, Oklahoma State University), 2016.
16. Assistant Judge, "Emerging Leaders in Nutrition Science" Poster Competition, Dietary Bioactive Compounds Research Interest Section, American Society for Nutrition, Experimental Biology 2015 (Boston, MA)
17. Experimental Biology Conference 2014, American Society for Nutrition Dietary Bioactives Research Interest Section, "Effects of Dietary Bioactive Components on Experimental Models of Chronic Disease Risk" Mini Symposium, session Chair (Co-Chair: Dr. Silvia Stan, Purdue University), 2014.
18. Experimental Biology Conference 2013, American Society for Nutrition Dietary Bioactives Research Interest Section, "Effects of Dietary Bioactive Components on Experimental Models of Chronic Disease Risk" Mini Symposium, session co-chair (Chair: Dr. K. Walsh, Mead-Johnson), 2013.
19. Experimental Biology Conference 2013, American Society for Nutrition Dietary Bioactives Research Interest Section, "Bioavailability, Metabolism and Biomarkers of Dietary Bioactive Components" Mini Symposium, session co-chair (Chair: Dr. R. Bruno, Ohio State University), 2013.
20. Experimental Biology Conference 2012, American Society for Nutrition Dietary Bioactives Research Interest Section, "Bioavailability, Metabolism and Biomarkers of Dietary Bioactive Components" Mini Symposium, session co-chair (Chair: Dr. J. Bomser, Ohio State University), 2012.
21. Institute of Food Technologists Student Association, Executive Board member and Vice-President (in charge of Competitions), 2006-2008.
22. Institute of Food Technologists Student Association, National Chair of the IFTSA College Bowl Competition, 2005-2006.

## **Departmental Service**

## NCSU

1. Grader, FBNS graduate seminar:
  - a. Kathryn Racine, 21 Oct 2020
  - b. Alex Hernandez, 4 Nov 2020
  - c. Dylan Cadwallader, 4 Nov 2020
2. Member, FBNS strategic hiring committee (2019-present)
3. Member, FBNS graduate committee (2019-present)
4. Member, FBNS food chemistry preliminary exam committee (2019-present)

## VT

5. Co-organizer (w/ Dr. Jacob Lahne), annual departmental poster competition (2018)
6. Member, Departmental Promotion & Tenure Committee (2017-2018)
7. Peer teaching reviewer:
  - a. FST/HORT 3114: Wines and Vines, Instructor: Amanda Stewart (Fall 2016)
  - b. FST 4504: Food Chemistry, Instructor: Cristina Fernandez (Fall 2017, Fall 2018)
8. Member, Food Science & Technology department hiring plan committee (2015-2018)
9. Member, Food Science & Technology department 50th Anniversary celebration planning committee (2015-2018)
10. Member, Food Science & Technology department Teaching Peer Review Committee (2015-2018)
11. Member, Food Science & Technology department Learning Outcomes & Assessment Committee (2014-2018)
12. Member, Food Science & Technology department Curriculum Committee (2013-2018)
13. Member, Food Science & Technology department Animal Welfare Committee (2013-2018)
14. Member, Food Science & Technology department search committee (Sensory Science, tenure-track faculty position), Hire: Jacob Lahne (2016-2017)
15. Department representative, CALS "Expert Room", Hokie Focus recruitment event (11 Apr 2015)
16. Member, Food Science & Technology department search committee (Food Chemistry: carbohydrates/colloids/nanotechnology, tenure-track faculty position), Hire: Dr. Cristina Fernandez (2014-2015)
17. Member, Food Science & Technology department search committee (chemistry lab manager), Hire: Melissa Wright (2013-2014)
18. Member, Food Science & Technology department search committee (enology and fermentation tenure-track faculty position), Hire: Dr. Amanda Stewart (2013)
19. Member, Food Science & Technology department Strategic Plan committee (2013)
20. Member, Food Science & Technology department committee for departmental student poster competition (2013)
21. Member, Food Science & Technology department Graduate Committee (2011-2018)

## **College Service**

### NCSU

1. CALS review committee for proposals to Faculty Research and Professional Development (FRPD) submitted by CALS faculty (2020).
2. FBNS representative to CALS Research Committee (2019-present)

### VT

1. Member, Human Nutrition, Foods & Exercise department search committee (department head search), No hire (current head decided to stay in the position (2018)
2. Reviewer, Hatch Project review team (Dr. Haibo Huang FST, 2017-2018)
3. Member, Department of Human Nutrition, Foods & Exercise, Metabolic Phenotyping Core steering committee (2014-2018)
4. Member, Unit leader review team, Department of Crop and Soil Environmental Sciences Department Head (Dr. Tom Thompson) 5-year review (2016)
5. Past-president, CALS Faculty Association (CALSA) (2015-2016)

6. Member, Human Nutrition, Foods & Exercise department search committee (exercise science tenure-track faculty position), Hire: Dr. David Brown (2015-2016)
7. Member, CALS Andy Swiger Land Grant Award Committee (2015)
8. CALSFA representative, Presentations to CALS New Faculty Orientation: Becoming a Well-Balanced Faculty Member (24 Sept. 2014)
9. CALSFA representative, Presentations to CALS New Faculty Orientation: Becoming a Well-Rounded Faculty Member (23 Sep 2015)
10. CALS representative and discussion leader, VT Transfer Student Welcome Event, "How to Connect with Faculty" (23 Aug 2015)
11. Reviewer, Hatch Project review team (Dr. David Kuhn, FST, 2015; Dr. Sean O'Keefe, FST) (2015)
12. President, CALS Faculty Association (CALSFA) (2014-2015)
13. Vice-president, CALS Faculty Association (CALSFA) (2013-2014)
14. Member, Unit leader review team, Department of Animal and Poultry Science Department Head (Dr. David Gerrard) 5-year review (2013-2014)
15. Reviewer, Hatch Project review team (Dr. Deborah Good, HNFE) Reviewer, (2013)
16. Member, Human Nutrition, Foods & Exercise department search committee member (food science tenure-track faculty position), No hire (2012-2013)
17. Secretary-treasurer, CALS Faculty Association (CALSFA) (2012-2013)

## **University Service**

### NCSU

1. Reviewer for undergraduate summer research projects, Office of Undergraduate Research, 2020

### VT

1. Member, Institutional Animal Care and Use Committee (IACUC), Subcommittee responsible for reviewing and updating procedures for orienting new IACUC members to the IACUC and for training IACUC members for protocol and program review (2018)
2. Member, Translational Obesity Research Interdisciplinary Graduate Education Program (IGEP) advisory committee, 2018.
3. Member, committee to review nominations for the Academies of Faculty Service and Leadership, Office of the Executive Vice President and Provost (Fall 2017), [https://www.provost.vt.edu/faculty\\_affairs/faculty\\_recognition/academy\\_of\\_faculty\\_service.html](https://www.provost.vt.edu/faculty_affairs/faculty_recognition/academy_of_faculty_service.html)
4. Member, Institutional Animal Care and Use Committee (IACUC), Subcommittee responsible for preparing and reviewing IACUC Annual Facility inspection and Program Review reports (2017-2018)
5. Member, Institutional Animal Care and Use Committee (IACUC) (2016-2018)
6. CALS representative, University Council Commission on Research (2016-2019)
7. Commission on Research representative, University Governance Task Force (2016-2017)
8. Member, Integrated Life Sciences Building (ILSB) Emergency Preparedness Committee member (2016-2018)
9. Faculty panel member, Undergraduate Honor System (UHS) (2014-2018)
10. Faculty counselor for accused students, Undergraduate Honor System (UHS) (2014-2018)
11. Member, Institutional Animal Care and Use Committee (IACUC), Subcommittee responsible for recommending minimum animal rest periods between IACUC activities for VTCVM (2017)
12. Member, Institutional Animal Care and Use Committee (IACUC), Subcommittee responsible for preparing annual IACUC reports: Semi-Annual Program Review report, Facility Inspection report and Institutional Official letter (2017)
13. Reviewer, Institute for Critical Technologies and Applied Science (ICTAS) Transformative Science and Technology Seed Grants BioMed/Health Peer-Review Panel (2015)
14. Alternate member, Institutional Animal Care and Use Committee (IACUC) (2014-2016)
15. Reviewer, Institute for Critical Technologies and Applied Science (ICTAS) Transformative Science and Technology Seed Grants BioMed/Health Peer-Review Panel (2014)
16. Application reviewer, Fralin Life Science Institute Summer Undergraduate Research Fellowship (SURF) (2013)

### **Peer Reviewer (Grants, Journals, etc.)**

1. Peer reviewer for 43 different scientific journals: *The Journal of Agricultural and Food Chemistry*; *Food & Function*; *PLoS One*; *Journal of Nutritional Biochemistry*; *Nutrition Research*; *Nutrition and Cancer*; *Journal of the Science of Food and Agriculture*; *Nutrients*; *Scientific Reports*; *Phytochemistry*; *Journal of Medicinal Food*; *Molecules*; *Journal of Food Biochemistry*; *Journal of Functional Foods*; *Journal of Food Science*; *Journal of Neuroinflammation*; *Molecular Nutrition & Food Research*; *British Journal of Nutrition*; *Carbohydrate Polymers*; *Journal of Chromatography B*; *Cellular Physiology and Biochemistry*; *Food Chemistry*; *Drug Design, Development and Therapy*; *Current Drug Metabolism*; *Archives of Physiology and Biochemistry*; *Austin Journal of Pharmacology & Therapeutics*; *Journal of Nutrition, Health & Food Science*; *Diseases*; *Journal of Intercultural Ethnopharmacology*; *Clinical Interventions in Aging*; *Food Hydrocolloids*; *International Journal of Molecular Sciences*; *RSC Advances*; *Nutrition Journal*; *Trends in Food Science & Technology*; *Antioxidants*; *Plant Foods for Human Nutrition*; *Food Research International*; *Biomedicine & Pharmacotherapy*; *Food & Nutrition Research*; *Trials*; *Meat Science*; *International Journal of Obesity*
2. Lab manual chapter scientific reviewer, *Preparation of Reagents and Buffers*, C Tyl and B Ismail, In: Nielsen SS (ed): *Food Analysis Laboratory Manual*, 3<sup>rd</sup> Edition, Springer, New York, 2017 (forthcoming, review performed in 2016).
3. Textbook chapter scientific reviewer, *Determination of (Total) Phenolics and Antioxidant Capacity in Food and Ingredients*, M Bunzel and RR Schendel, In: Nielsen, SS (ed): *Food Analysis*, 5<sup>th</sup> Edition, Springer, New York, 2017 (forthcoming, review performed in 2016).
4. Experimental Biology Conference, American Society for Nutrition (ASN) Dietary Bioactives Research Interest Section (RIS), abstract reviewer, 2012-2013, 2014-2015.
5. Ohio Agricultural Research and Development Center (OARDC) SEEDS: Research Enhancement Competitive Grants Program, proposal reviewer, 2012, 2016.
6. USDA NIFA 1890 Institution Teaching, Research and Extension Capacity Building Grants (CBG) Program, research proposal review panel member, 2012.
7. USDA Small Business Innovation Research (SBIR) Program – Phase I, *ad hoc* reviewer, 2012.

### **Honors And Awards**

1. Top 1% in Field (Cross-Field), 2019 Peer Review Awards, Publons.com, <https://publons.com/awards/peer-review/2019/>
2. Top 1% in Field (Agricultural Sciences), 2019 Peer Review Awards, Publons.com, <https://publons.com/awards/peer-review/2019/>
3. Top 10 Peer Reviewer, *Food & Function*, 2019. These reviewers were selected by the editorial team (editor and associate editors) of *Food & Function* for their significant contribution to the journal in 2019 and recognized in an editorial in the journal: "Outstanding Reviewers for Food & Function in 2019", *Food Funct.*, 2020, 11, 3780-3780, <https://doi.org/10.1039/D0FO90023K>
4. Top 1% in Field (Multidisciplinary, 23<sup>rd</sup> overall), 2018 Peer Review Awards, Publons.com, [https://publons.com/awards/2018/esi/?esi=22&order\\_by=place](https://publons.com/awards/2018/esi/?esi=22&order_by=place)
5. Top 1% in Field (Agricultural Sciences, 36<sup>th</sup> overall), 2018 Peer Review Awards, Publons.com, [https://publons.com/awards/2018/esi/?esi=16&order\\_by=place](https://publons.com/awards/2018/esi/?esi=16&order_by=place)
6. Early Career Alumni Award, Purdue Food Science Department, 2018. This award recognizes Purdue Food Science Department alumni (within 10 years of graduation) who have demonstrated achievement in their careers in industry, government or academia, or who have remained engaged with the Food Science department.
7. Excellence in Review Award, *Journal of Agricultural and Food Chemistry*, 2017. This award was determined by an expert committee, and recognizes valuable contribution that you made in the year 2017 to the development of academic papers and to scholarship in agricultural and food chemistry.
8. Member, Phi Tau Sigma (ΦΤΣ), The Honor Society for Food Science and Technology Professionals (2017-present)

9. Top 10 Peer Reviewer, *Food & Function*, 2016. These reviewers were selected by the editorial team (editor and associate editors) of *Food & Function* for their significant contribution to the journal in 2016 and recognized during Peer Review Week (19-25 Sept, 2016) on the *Food & Function* blog.
10. Mentoring Project for New Tenure-track Assistant Professors, VT Office of the Senior Vice President and Provost (\$1,500). The candidate was awarded \$1500 by the Office of the Provost to visit with an external career mentor (Dr. Steven J, Schwartz, Dept. of Food Science and Technology, The Ohio St. University)(2012)
11. Selected attendee, NIH National Center for Complementary and Alternative Medicine (NCAAM)/FDA Office of Dietary Supplements (ODS) Dietary Supplements Workshop, Bethesda, MD (2011)
12. Selected attendee, Colon Cancer in Murine Models and Humans III, Jackson Laboratory, Bar Harbor, ME (2011)
13. NCI T32 Cancer Biology Training Program Fellow, University of Michigan Comprehensive Cancer Center (2009-11)
14. Liska Outstanding Teaching Assistant Award, Department of Food Science, Purdue University (2009)
15. Best graduate student poster, 2009 Purdue–UAB NIH NCAAM Botanicals Center for Age-related Diseases, Botanicals Symposium (2009)
16. Best graduate student poster, 2007 Purdue–UAB NIH NCAAM Botanicals Center for Age-related Diseases, Botanicals Symposium (2007)
17. Frederick N. Andrews College of Agriculture PhD recruitment fellowship, Purdue University (5 total awarded annually) (2005-07)
18. Institute of Food Technologists (IFT) College Bowl National Champion, team captain, Brigham Young University (2005)
19. Institute of Food Technologists Student Association (IFTSA) Achievement Award for contributions to the Brigham Young University chapter (2005)
20. Undergraduate mentored research grant, Office of Research and Creative Activities (ORCA), Brigham Young University, \$1,500 (2005)
21. B.H. Bennion Food Science undergraduate scholarship, Brigham Young University (2004-05)
22. General undergraduate scholarship, Brigham Young University (1997-98, 2003-05)