

EDUCATIONAL AND EMPLOYMENT HISTORY

NAME: **Jay Whelan, PhD, MPH**

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EMPLOYMENT HISTORY

<u>Positions</u>	<u>Institution</u>	<u>Department</u>	<u>Effective Dates</u>
Interim Department Head	University of Tennessee	Department of Public Health	2018-present
Department Head	University of Tennessee	Department of Nutrition	2002-present
Administrative Director	University of Tennessee	JHB Animal Research Facility	2002-present
Co-Director	University of Tennessee	Genomics Core Facility	2013-2016
Administrative Head	University of Tennessee	Programs in Public Health	2008-2010
Director & Founder	University of Tennessee	Affymetrix Microarray Core Fac.	2003-2013
Professor	University of Tennessee	Department of Nutrition	2001
Associate Professor	University of Tennessee	Department of Nutrition	1996
Assistant Professor	University of Tennessee	Department of Nutrition	1991
Senior Research Associate (Res Assoc Prof)	Cornell University Ithaca, NY	Lipids Research Laboratory	1988 - 1991
Men's Gymnastics Coach	North Carolina State University, Raleigh, NC	Athletic Department	1979 - 1980
Instructor & Asst Gymnastics Coach	United States Naval Academy, Annapolis, MD	Physical Education	1976 - 1979

EDUCATIONAL HISTORY

<u>Institution</u>	<u>Program or Degree</u>	<u>Dates in Attendance</u>	<u>Degree</u>
Penn State University State College, PA	Nutritional Sciences	1982 - 1988	Ph.D.
University of North Carolina at Chapel Hill, NC	Public Health-Nutrition	1980 - 1982	M.P.H.
Southern Connecticut State University, New Haven, CT	Biochemistry	1971 - 1976	B.A.

<u>Internships</u>	<u>Program Emphasis</u>	<u>Dates in Attendance</u>	<u>Type of Experience</u>
Palm Beach County Public Health Agency, West Palm Beach, FL	Health Plus Intervention Program (fashioned after MRFIT: Multiple Risk Factor Intervention Trial)	1982	Block Field Experience
Duke University Medical Center Nutritional Support Services	Clinical Dietetics	1981	Clinical Experience
Wake County Public Health Department, Raleigh, NC	Public Health Field Experience	1981 - 1982	Public Health Experience

Dr. Whelan is a lipid biochemist by training with an expertise in lipid metabolism as it relates to acute and chronic diseases with more than 90 peer-reviewed publications. He is interested in how bioactives from botanicals and omega-3 and omega-6 polyunsaturated fats mediate health and disease, in particular cancer, vascular diseases and diabetes. Regarding cancer, he is particularly interested in the growth and development of tumors as they progress from benign forms to more advanced forms of cancer. With regards to prostate cancer, he is interested in preventing and/or delaying the regrowth of prostate tumors that have metastasized to secondary sites, like bone, using relevant cellular, preclinical models, as well as conducting clinical trials. He is also interested in establishing human equivalent dosing in rodent diets for these bioactive compounds to improve translational research in this area.

TEACHING

List of courses taught:

- Nutrition 100 Introductory Nutrition: Proteins and Energy (Undergraduate, team taught) 3 credits.
- Nutrition 314 Energy Metabolism and Metabolic Integration. (Undergraduate) 3 credits.
- BCMB 452 Cancer Biology: Colorectal Cancer. (Undergraduate, team taught) 3 credits.
- BCMB 420 Cancer Biology: From Basics to Bedside (Undergraduate, team taught) 3 credits
- Nutrition 511 Advanced Physiological Chemistry. (Graduate) 4 credits.
- Nutrition 512 Advances in Vitamins and Minerals (Graduate) 3 credits.
- Nutrition 541 Research Methods. (Graduate, team taught) 2 credits
- Nutrition 521 Physiological Basis for Diet and Disease. Pathogenesis of Atherosclerosis (Graduate) 3 credits.
- Nutrition 602 The Biology of the Arachidonic Acid Cascade. (Graduate) 3 credits.
- Nutrition 602 Biological Effects of Dietary Lipids. (Graduate) 3 credits.
- Vet. Med. 609 Mechanisms of Disease: Dietary Fats and Cancer. (Graduate, team taught) 3 credits
- Nutrition 621 Pathophysiological Basis of Diet in Atherosclerosis and Cancer. (Graduate) 3 credits.

RESEARCH, CREATIVE ACHIEVEMENTS AND SCHOLARSHIP

Articles Published in Refereed Journals

93. Puckett, D.L., Alani, D.S., Chahed, S., Frankel, V.D., Alquraishi, M., Donohoe, D.R., Voy, B.H., **Whelan, J.**, and Bettaieb, A. 2019. The cross-talk between PKA and JNK mediates the anti-adipogenic potential of Zyflamend, a unique herbal blend. (in 2nd revision)
92. Puckett, D.L., Chahed, S., Alani, D.S., Donohoe, D.R., **Whelan, J.**, and Bettaieb, A. 2019. Zyflamend Induces Apoptosis in Pancreatic Cancer Cells via Modulation of the JNK Pathway. (in review)
91. Alquraishi, M., Puckett, D.L., Humidat, A.S., Frankel, V.D., Alani, D.S., Donohoe, D.R., **Whelan, J.**, and Bettaieb, A. 2019. Pyruvate Kinase M2: Simple Molecule with Complex Actions. *Free Radic Biol Med.* 143:176-192. doi: 10.1016/j.freeradbiomed.2019.08.007.
90. Buckley, M.R., Terry, P.D., Kirkpatrick, S.S., Arnold, J.D., McNally, M.M., Grandas, O.H., Freeman, M.B., Goldman, M.H., **Whelan, J.**, Mountain, D.J.H. 2019. Dietary Supplementation with Zyflamend Poly-Herbal Extracts and Fish Oil Inhibit Intimal Hyperplasia Development Following Vascular Intervention. *Nutr Res* 68:34-44.
89. MacDonald, A.F., Bettaieb, A., Donohoe, D.R. Han, A., Zhao, Y. and **Whelan, J.** 2018. Concurrent Regulation of LKB1 and CaMKK2 in the Activation of AMPK by Zyflamend, a Polyherbal Mixture with Anticancer Properties. *BMC Altern Complem Med*, 18:188.
88. Tague, E., Voy, B.H., Campagna, S., Lookadoo, M.S., Bourdan, K., MacDonald, A., Kim, E.D., White, W.M., Terry, P.D. and **Whelan, J.** 2018. Metabolomics Approach in the Study of the Well-defined Polyherbal Preparation Zyflamend *J. Med. Food.* 21:306-316.
87. Han, A., Bennett, N, Bettaieb, A., **Whelan, J.** and Donohoe, D.R. 2018. Butyrate Decreases Its Own Oxidation Through Inhibition of Histone Deacetylases. *Oncotarget.* 9:27280-27292.
86. **Whelan, J.** 2017. Lost in Translation: Allometric Scaling of Bioactive Dietary n-3 and n-6 Fatty Acids. *Functional Foods Health Dis.* 7:314-328.
85. **Whelan J.** 2017. Interpretive Summary. In: *Omega-3 Fatty Acids: Health Benefits and Dietary Recommendations.* (Authors: Beitz, D.C., Banz, W.J., Brenna, T. and Calder, P.C.) Special Publication No. 32. Council for Agricultural Science and Technology, Ames, IA.
84. Johnstone, M., Bennett, N., Standifer, C., Smith, A., Han, A., Bettaieb, A., **Whelan, J.** and Donohoe, D.R. 2017. Characterization of the Pro-inflammatory Cytokine IL-1 β on Butyrate Oxidation in Colorectal Cancer Cells. *J Cell Biochem* 118:1614-1621.
83. **Whelan, J.**, Zhao, Y., Huang, E.-C., MacDonald, A. and Donohoe, D. 2017. Zyflamend and Prostate Cancer Therapy. In: *Complementary and Alternative Medicines in Prostate Cancer: A Comprehensive Approach.* (Sr. Ed., Hardman, R.; Ed., Harikumar, K.B.) CRC Press. Boca Raton, FL. Chapter 11, Pp. 197-220.

82. Han, A., Bennett, N., MacDonald, A., Johnstone, M., **Whelan, J.** and Donohoe, D.R. 2016. Cellular Metabolism and Dose Reveal Carnitine-Dependent and -Independent Mechanisms of Butyrate Oxidation in Colorectal Cancer Cells. *J. Cell. Physiol.* 231:1804–1813.
81. Finch, E.R., Kudva, A.K., Quickel, M.D., Kennett, M.J., **Whelan, J.**, Paulson, R.F. and Prabhu, K.S. 2015. The Role of Dietary Eicosapentaenoic Acid Supplementation in Experimental Chronic Myelogenous Leukemia. *Cancer Prev. Res* 10:989-999.
80. Zhao, Y., Donohoe, D., Huang, E.-C. and **Whelan, J.** 2015. Zyflamend, a Polyherbal Mixture, Inhibits Lipogenesis and mTORC1 Signaling via Activation of AMPK. *J Funct Foods.* 18:147-158. (<http://authors.elsevier.com/sd/article/S175646461500345X>). DOI: 10.1016/j.jff.2015.06.051.
79. Dinwiddie, M.T., Terry, P.D., **Whelan, J.** and Rachel E. Patzer. 2015. Omega-3 Fatty Acid Consumption and Prostate Cancer: A Review of Exposure Measures and Results of Epidemiological Studies. *J Am College Nutr* 23:1-17.
78. Burke, S.J., Karlstad, M.K., Conley, C.P., Reel, D., **Whelan, J.** and Collier, J.J., 2015. Dietary Polyherbal Supplementation Decreases CD3+ Cell Infiltration into Pancreatic Islets and Prevents Hyperglycemia in Non-obese Diabetic Mice. *Nutr Res* 34:328-336.
77. **Whelan, J.**, Hardy, R., Wilkes, R.S. and Valentine, H. 2014. Sustainable Production of Omega-3 Fatty Acids. In *Convergence of Food Security, Energy Security and Sustainable Agriculture*, Ed. Songstad, D.D., Hatfield, J.L., Tomes, D.T., Biotechnology in Agriculture and Forestry, Vol. 67, Springer, Germany. pp 129-169.
76. Zhao, Y., Collier, J.J., Huang, E.C. and **Whelan, J.** 2014. Turmeric and Chinese goldthread synergistically inhibit prostate cancer cell proliferation and NF-κB signaling. *J Functional Foods in Health and Disease.* 4:312-339 (<http://functionalfoodscenter.net/files/92585927.pdf>).
75. Huang, E-C, Chen, G., Baek, S.J., McEntee, M.F., Minkin, S., Biggerstaff, J.P., Zhao, Y. and **Whelan, J.** 2014. Zyflamend, a polyherbal mixture, down regulates class I and class II histone deacetylases and increases p21 levels in castrate-resistant prostate cancer cells. *BMC Complement Alternat Med* 14:68.
74. Purohit, J., Hu, P., Chen, G., **Whelan, J.**, Moustaid-Moussa, N. and Zhao, L. 2013. Activation of nucleotide-oligomerization domain protein 1 induces lipolysis through NF-κB and the lipolytic PKA activation in 3T3-L1 adipocytes. *Biochem Cell Biol* 91:428-434.
73. **Whelan, J.** and Fritsche, K.L. 2013. Linoleic Acid. *Adv Nutr* 4:311-312.
72. Huang, E-C, McEntee, M.F. and **Whelan, J.** 2012. Zyflamend, a combination of herbal extracts, attenuates tumor growth in murine xenograph models of prostate cancer. *Nutr Cancer* 64:749-760.
71. Baum, S.J., Kris-Etherton, P.M., Willet, W.C., Lichtenstein, A.H., Rudel, L.L., Maki, K.C., **Whelan, J.**, Ramsden, C.E. and Block, R.C. 2012. Fatty Acids in Cardiovascular Health and Disease: A Comprehensive Update. *J Clin Lipidology* 6:216-234.

70. Deckelbaum, R.J., Calder, P.C., Harris, W.S., Akoh, C.C., Maki, K.C., **Whelan, J.**, Banz, W.J. and Kennedy, E. 2012. Conclusions and Recommendations from the Symposium, Heart Healthy Omega-3s for Food: Stearidonic Acid (SDA) as a Sustainable Choice. *J. Nutr.* 142: 641S-643S.
69. **Whelan, J.**, Gouffon, J. and Zhao, Y. 2012. Effects of Dietary Stearidonic Acid on Biomarkers of Lipid Metabolism. *J Nutr* 142:630S-634S.
68. Huang, E-C, Chen, G., Baek, S.J., McEntee, M.F., Collier, J.J., Minkin, S., Biggerstaff, J., and **Whelan, J.** 2011. Zyflamend Reduces the Expression of Androgen Receptor in a Model of Castrate-Resistant Prostate Cancer. *Nutr Cancer* 63:1287-1296.
67. Weldon, K.A. and **Whelan, J.** 2011. Allometric Scaling of Dietary Linoleic Acid on Changes in Tissue Arachidonic Acid using Human Equivalent Diets in Mice. *Nutr Metabol* 8:43.
66. Rett, B.S. and **Whelan, J.** 2011. Increasing Dietary Linoleic Acid Does Not Increase Tissue Arachidonic Acid Content in Adults Consuming Western-Type Diets: a Systematic Review. *Nutr Metabol* 8:36.
65. Hsueh, H.W., Zhou, Z., **Whelan, J.**, Allen, K.G.D., Moustaid-Moussa, N., Kim, H. and Claycombe, K.J. 2011. Stearidonic and Eicosapentaenoic Acids Inhibit Interleukin-6 (IL-6) Expression in 1 Mouse Adipose Stem Cells via Toll-like Receptor-2 (TLR2) Mediated Pathway. *J Nutr* 141:1260-1266.
64. **Whelan, J.**, Jahns, L. and Kavanagh-Prochaska, K. 2009. DHA: Measurements in Food and Dietary Exposure. *Prostaglandins Leukot Essent Fatty Acids.* 81:133-136.
63. Harris, W.S., Lefevre, M., Mozaffarian, D., Toner, C., Colombo, J., Cunnane, S., Holden, J.M., Klurfeld, D.M., Morris, M.C. and **Whelan, J.** 2009 Towards Establishing Dietary Reference Intakes for Eicosapentaenoic and Docosahexaenoic Acids. *J. Nutr.* 139: 804S–819S.
62. Wortman, P., Miyazaki, Y., Kalupahana, N.S., Kim, S., Fletcher, S., Hansen-Petrik, M., Saxton, A., Claycombe, K.J., Voy, B.H., **Whelan, J.** and Moustaid-Moussa, N. 2009. Polyunsaturated Fatty Acids Modulate Prostaglandin E₂ Secretion and Markers of Lipogenesis in Adipocytes. *Nutr Metab* 21:5-27.
61. **Whelan, J.** 2009. Dietary Stearidonic Acid is a Long Chain Omega-3 Polyunsaturated Fatty Acid with Potential Health Benefits. *J. Nutr.* 139: 5–10.
60. **Whelan, J.** 2008. Health Implications of Changing Linoleic Acid Intakes. *Prostaglandins Leukot Essent Fatty Acids* 79, 165-167.
59. **Whelan, J.** 2008. (n-6) and (n-3) Polyunsaturated Fatty Acids and the Aging Brain: Food for Thought. *J. Nutr.* 138: 2521–2522.
58. McEntee, M.F., Ziegler, C.C., Reel, D., Tomer, K., Shoieb, A., Ray, M., Li, X., Nielsen, N., O'Rourke, D. and **Whelan, J.**, 2008. Dietary Polyunsaturated Fatty Acids Modulate the Response of Androgen-Dependent Prostate Cancer to Hormone Ablation and Progression to Androgen-Independent Growth. *Am J Pathol.* 173:229-41.

57. Ding, S, McEntee, M.F., **Whelan, J.** and Zemel, M.B. 2007. Adiposity-Related Protection of Intestinal Tumorigenesis: Interaction with Dietary Calcium. *Nutr. Cancer* 58,153-161.
56. **Whelan, J.** and Rust, C. 2006. Innovative Dietary Sources of n-3 Fatty Acids. *Annual Review of Nutrition*, Vol 26, 75-103.
55. **Whelan, J.**, McEntee, M.F. and Baek, S.J. 2005. Dietary Polyunsaturated Fatty Acids, Eicosanoids, and Intestinal Tumorigenesis. *In: Bioactive Lipids in Cancer. Carcinogenic and Anticarcinogenic Food Components* (Ed., Sikorski, Z. E.) CRC Press. Boca Raton, FL.
54. Phipps, J.E., Enderson, B.L., Jones, L., Whelan, J. and Karlstad M. D. 2004. Enteral Nutrition with Stearidonic Acid Increases Incorporation of Antiinflammatory N-3 Fatty Acids in Liver Phospholipids in the Rat. *J Surg. Res.* 121:330-331.
53. **Whelan, J.** and McEntee, M.F. 2004. Dietary N-6 Polyunsaturated Fatty Acids and Intestinal Tumorigenesis. *J. Nutr.* 134, 3421S-3426S.
52. Ziegler, C.C., McEntee, M.F., Rainwater, L. and **Whelan, J.** 2004. Dietary Resveratrol Does Not Affect Intestinal Tumorigenesis in the *Apc^{Min/+}* Mice. *J. Nutr.* 134, 5-10.
51. **Whelan, J.** and McEntee, M.F. 2003. NSAIDs, Prostaglandins and *APC*-Driven Intestinal Tumorigenesis. *In: Cyclooxygenase-2 Blockade in Cancer Prevention and Therapy* (Ed., Harris, R.E.) Humana Press, Inc.. Totowa, NJ
50. Reddanna, P, Prabhu, K.S., **Whelan, J.** and Reddy, C.C., 2003. Carboxypeptidase A-Catalyzed Direct Conversion of Leukotriene C₄ to Leukotriene F₄. *Arch. Biochem. Biophys.* 413, 158-163.
49. McEntee, M.F. and **Whelan, J.** 2002. Dietary Polyunsaturated Fatty Acids and Colorectal Neoplasia. *Biomedicine and Pharmacotherapy* 56, 380-387.
48. Kim, S, **Whelan, J.** and Moustaid-Moussa, N. 2002. Angiotensin II Increases Leptin Secretion in Adipocytes via a Prostaglandin-Independent Mechanism. *J. Nutr.* 132, 1135-1140.
47. Petrik, M.H., McEntee, M.F., Jull, B., Shi, H., Zemel, M.B. and **Whelan, J.** 2002. Prostaglandin E₂ Protects Intestinal Tumors from Non-Steroidal Anti-inflammatory Drug-Induced Regression in *Apc^{Min/+}* Mice. *Cancer Res.* 62, 403-408, 2002.
46. Petrik, M.H., McEntee, M.F., Obukowicz, M.G., Masferrer, J., Zwiefel, B., Chiu, C.-H. and **Whelan, J.** 2002. Selective Inhibition of Δ-6 desaturase impedes *Apc*-Mediated Tumorigenesis. *Cancer Lett.* 175, 157-163.
45. **Whelan, J.** and McEntee, M.F. 2001. Dietary Fats and *APC*-Driven Intestinal Tumorigenesis. *In Nutrition and Gene Expression.* (Eds. Berdanier, C.D. and Moustaid- Moussa, N.) CRC Press. Boca Raton, FL. pp. 231-260.
44. **Whelan, J.**, Petrik, M.H., McEntee, M.F. and Obuckowicz, M. 2001. Dietary EPA Reduces Tumor Load in *Apc^{Min/+}* Mice by Altering Arachidonic Acid Metabolism, but Conjugated Linoleic Acid,

Gamma- and Alpha-Linolenic Acids Have No Effect. In *Advances in Experimental Biology and Medicine*, (Honn, K.V., Nigam, S., Marnett, L.J. and Dennis, E., Serhan, C. eds.) Plenum Publishing, NY.

43. Petrik, M.H., McEntee, M.F., Johnson, B., Obuckowicz, M. and **Whelan, J.** 2000. Highly Unsaturated Omega-3 Fatty Acids reduce Tumorigenesis in *Apc^{Min/+}* Mice while α -Linolenic Acid, Conjugated Linoleic Acid and γ -Linolenic Acid Have No Effect. *J. Nutr.* 130, 2434-2443.

42. Petrik, M.H., McEntee, M.F., Chiu, C.-H. and **Whelan, J.** 2000. Antagonism of Arachidonic Acid is Linked to the Anti-tumorigenic Effect of Dietary Eicosapentaenoic Acid in *Apc^{Min/+}* Mice. *J Nutr.* 130, 1153-1158.

41. Chiu, C.-H., McEntee, M.F. and **Whelan, J.** 2000. Discordant Effects of Nonsteroidal Anti-inflammatory Drugs on Intestinal Tumor Load in *Min/+* Mice. *Prostaglandins, Leukot. Essen. Fatty Acids* 62, 269-275.

40. **Whelan, J.**, Chiu, C.-H. and McEntee, M.F. 1999. Intestinal Tumor Load in the *Min/+* Mouse Model is not Correlated with Eicosanoid Biosynthesis. In *Advances in Experimental Biology and Medicine*, vol 469, (Honn, K.V., Nigam, S., Marnett, L.J. and Dennis, E., eds.) Plenum Publishing, NY pp 607-615.

39. McEntee, M.F., Chiu, C.-H. and **Whelan, J.** 1999. Relationship of β -Catenin and Bcl-2 Expression to Sulindac-Induced Regression of Intestinal Tumors in *Min* Mice. *Carcinogenesis.* 20, 635-640.

38. Taber, L., Chiu, C.-H. and **Whelan, J.** 1998. Assessment of the Arachidonic Acid Content in Foods Commonly Consumed in the American Diet. *Lipids* 33, 1151-1157.

37. Chiu, C.-H., McEntee, M.F. and **Whelan, J.** 1997. Sulindac Causes Rapid Regression of Preexisting Tumors in *MIN/+* Mice Independent of Prostaglandin Biosynthesis. *Cancer Res.* 57, 4267-4273.

36. Cha, Y.-S., Li, B.Y., Sachan, D. and **Whelan, J.** 1997. Dietary Docosahexaenoic Acid Decreases Plasma Triglycerides with Mixed Effects on Indices of β -Oxidation. *Korean J. Nutr.* 30, 1067-1072.

35. **Whelan, J.**, Golemboski, K.A., Broughton, K.S., Kinsella, J.E. and Dietert, R.R. 1997. Characterization of Leukotriene Production In Vivo and In Vitro in Resident and Elicited Peritoneal Macrophages in Chickens and Mice. *Prostaglandins, Leukot. Essen. Fatty Acids* 56, 41-49.

34. Mancuso, P., **Whelan, J.**, DiMichele, S.J., Snyder, C.C., Guszczka, J.A., and Karlstad, M.D. 1997. Dietary Fish Oil and Fish and Borage Oil Suppress Intrapulmonary Proinflammatory Eicosanoid Biosynthesis and Attenuate Pulmonary Neutrophil Accumulation in Endotoxic Rats. *Crit. Care Med.* 25, 1198-1206.

33. **Whelan, J.**, Li, B. and Birdwell, C. 1997. Dietary Arachidonic Acid Increases Eicosanoid Production in the Presence of Equal Amounts of Dietary Eicosapentaenoic Acid. 1997. *Adv. Exp. Med. Biol.* 400B, 897-904.

32. Mancuso, P., **Whelan, J.**, DiMichele, S.J., Snyder, C.C., Guszczka, J.A., Claycombe, K.J., Smith,

- G.T., Gregory, T.J. and Karlstad, M.D. 1997. Effects of Eicosapentaenoic and gamma-Linolenic Acid on Lung Permeability and Alveolar Macrophage Eicosanoid Synthesis in Endotoxic Rats. *Crit. Care Med.* 25, 523-532.
31. Jones, B.H., Maher, M.A., Banz, W.J., Zemel, M.B., **Whelan, J.**, Smith, P.J. and Moustaid, N. 1996. Adipose Steroyl CoA Desaturase mRNA is Increased by Obesity and Decreased by Polyunsaturated Fatty Acids. *Am. J. Physiol.* 271, E44-E49.
30. **Whelan, J.** 1996. Antagonistic Effects of Dietary Arachidonic Acid and n-3 Polyunsaturated fatty acids on Lipid Metabolism. *J. Nutr.* 126, 1086S-1091S.
29. German, J. B., Dillard, C. and **Whelan, J.** 1996. The Biological Effects of Dietary Arachidonic Acid. *J. Nutr.* 126, 1076S-1080S.
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27. Surette, M.E., **Whelan, J.**, Lu, G.-P and Kinsella, J.E. 1995. Dietary n-3 Polyunsaturated Fatty Acids Modulate Peritoneal Cell and Platelet Eicosanoid Production in the Syrian Hamster. *Biochim. Biophys. Acta* 1255, 185-191.
26. **Whelan, J.**, Li, B.Y. and Birdwell, C. 1994. Dietary Arachidonic Acid Increases Eicosanoid Production Even in the Presence of Equal Amounts of Eicosapentaenoic Acid. In *Eicosanoids and other Bioactive Lipids in Cancer, Inflammation and Radiation Injury*. (Honn, K.V., Marnett, L.J. and Nigam, S., eds.) Peragom Press.
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24. **Whelan, J.**, Surette, M.E., Hardard'ottir, I., Lu, G.-P., Golemboski, K.A., Larsen, E. and Kinsella, J.E. 1993. Dietary Arachidonate Enhances Tissue Arachidonate Levels and Eicosanoid Production in Syrian Hamsters. *J. Nutr.* 123, 2174-2185.
23. Surette, M.E., **Whelan, J.**, Lu, G.-P and Kinsella, J.E. 1993. Synthesis of Arachidonic Acid Metabolites by Syrian Hamster Platelets and Peritoneal Cells. *Lipids* 28, 1131-1134.
22. Lu, G.-P., Surette, M.E., **Whelan, J.**, and Kinsella, J.E. 1993. Cardiac Lipids in Hamsters are Altered by n-3 Polyunsaturated Fatty of Sardine Oil. *Nutr. Res.* 13, 831-838.
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20. **Whelan, J.**, Broughton, K.S., Surette, M.E. and Kinsella, J.E. 1992. Dietary Arachidonate and Linoleate: Comparative Effects on Lipid Metabolism. *Lipids* 27, 85-88.

19. Hardard'ottir, I., **Whelan, J.** and Kinsella, J.E. 1992. Kinetics of Production of Tumor Necrosis Factor and Prostaglandins by Murine Resident Peritoneal Macrophages as Affected by n-3 Polyunsaturated Fatty Acids. *Immunol.* 76, 572-577.
18. Surette, M.E., **Whelan, J.**, Lu, G.-P., Broughton, K.S. and Kinsella, J.E. 1992. Evidence for Mechanisms of the Hypotriglyceridemic Effects of Dietary Fish Oils. *Biochim. Biophys. Acta* 1126, 199-205.
17. Surette, M.E., **Whelan, J.**, Lu, G.-P., Broughton, K.S. and Kinsella, J.E. 1992. Dependence of Dietary Cholesterol for Fish Oil Induced Changes in Plasma Cholesterol in the Syrian Hamster. *J. Lipid Res.* 33, 263-271.
16. **Whelan, J.**, Broughton, K.S. and Kinsella, J.E. 1991. The Comparative Effects of Increasing Dietary Alpha-Linolenic Acid and Fish Oil on 4- and 5-Series Leukotriene Formation *In Vivo*. *Lipids* 26, 119-126.
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14. Broughton, K.S., **Whelan, J.**, Hardardottir, I. and Kinsella, J.E. 1991. The Effects of Increasing Dietary n-3 to n-6 Polyunsaturated Fatty Acid Ratio on Murine Liver and Peritoneal Cell Fatty Acids and Eicosanoid Formation. *J. Nutr.* 121, 155-164.
13. Golemboski, K.A., **Whelan, J.**, Shaw, S., Kinsella, J. E. and Dietert, R.R. 1990. Avian Inflammatory Macrophage Function: Shifts in Arachidonic Acid Metabolism, Respiratory Burst, and Cell Surface Phenotype during the Response to Sephadex. *J. Leuk. Biol.* 48, 495-501.
12. Kinsella, J.E., Lokesh, B., Broughton, K.S. and **Whelan, J.** 1990. Dietary Polyunsaturated Fatty Acids and Eicosanoids: Potential Effects on the Modulation of Inflammation and Immune Cells: An Overview. *Nutrition (suppl.)* 5, 24-44.
11. Kinsella, J.E., Broughton, S. and **Whelan, J.** 1990. Dietary Polyunsaturated Fatty Acids: Interactions and Possible Needs in Relation to Eicosanoid Synthesis. *J. Nutr. Biochem.* 1, 123-141.
10. Nicolaev, V., Reddanna, P., **Whelan, J.**, Hildenbrandt, G. and Reddy C.C. 1990. Stereochemical Nature of the Products of Linoleic Acid Oxidation Catalyzed by Lipoxygenases from Potato and Soybean. *Biochem. Biophys. Res. Commun.* 170, 491-496.
9. **Whelan, J.**, Reddanna, P., Nikolaev, V., Hildenbrandt, G. and Reddy, C.C. 1990. The Unique Characteristics of the Purified 5-Lipoxygenase from Potato Tubers and the Proposed Mechanism of Formation of Leukotrienes and Lipoxins. *in Biological Oxidation Systems* (Reddy, C.C. et al., eds) pp. 765-778 Academic Press, San Diego.
8. Reddanna, P., **Whelan, J.** and Reddy, C.C. 1990. Purification of 5-Lipoxygenase from Potato Tubers. *Methods Enzymol.* 187, 268-277.
7. Reddanna, P., **Whelan, J.**, Burgess, J. R., Eskew, M. L., Hildenbrandt, G., Zarkower, A., R. W.

Scholz and Reddy, C. C. 1989. The Role of Vitamin E and Selenium on Arachidonic Acid Oxidation by Way of the 5-Lipoxygenase Pathway. *Ann. N.Y. Sci.* 570, 136-145.

6. Reddy, C.C., **Whelan, J.**, Rao, M.K. and Reddanna, P. 1989. Mechanism of Formation of Leukotrienes and Lipoxins from Arachidonic Acid Catalyzed by Homogenous Lipoxygenase from Potato Tubers. *in* *Advances in Prostaglandin, Thromboxane, and Leukotriene Research*, vol 19 (Samuelsson, B. et al., eds.) pp. 132-136, Raven Press, NY

5. Reddy, C.C., **Whelan, J.** and Scholz, R.W. 1988. The Role of Vitamin E and Selenium in the Arachidonic Cascade. *in* *Cellular Antioxidant Defense Mechanisms* (Chow, C.K., ed.) Vol. 1, pp. 140-149, CRC Press, Boca Raton, FL.

4. Reddanna, P., **Whelan, J.**, Reddy, P.S. and Reddy, C.C. 1988. Isolation and Characterization of 5-lipoxygenase from Tulip Bulbs. *Biochem. Biophys. Res. Comm.* 157, 1348-1351.

Whelan, J., Reddanna, P., Prasad, K.B.G., Maddipati, K.R. and Reddy, C.C., 1988. A New Pathway for the Biosynthesis of Leukotriene F4. *Ann. N.Y. Acad. Sci.* 524, 391-392.

3. Reddanna, P., **Whelan, J.** and Reddy, C.C. 1988. Non-Regiospecificity of the Purified Lipoxygenase from Potato Tubers. *Ann. N.Y. Acad. Sci.* 524, 393-394.

2. **Whelan, J.**, Reddanna, P., Prasad, G. and Reddy, C.C. 1987. Non-Regiospecificity of the Purified Lipoxygenase from Potato Tubers in the Oxygenation of Omega-3 and Omega-6 Fatty Acids. *in* *Polyunsaturated Fatty Acids and Eicosanoids*, (Lands, W.E.M. ed.) pp. 468-473. AOCS, Champaign, IL.

1. Reddanna, P., **Whelan, J.**, Reddy, P.S. and Reddy, C.C. 1986. Isolation and Characterization of the 5-Lipoxygenase from Tulip Bulbs. *in* *Contemporary Themes in Biochemistry* (Kon, O.L. et al., eds) pp. 668-669. Cambridge University Press, NY

Projects, Grants, Commissions, Research Gifts and Contracts

Clinical Trials

2019-21 University of Tennessee and the University of Tennessee Medical Center (01/01/2019-12/31/2021). "*Zyflamend and Percutaneous Lower Extremity Arterial Revascularization: A Clinical Trial*". PI: Michael McNally, Co-PI Jay Whelan

2011-13 University of Tennessee and the University of Tennessee Medical Center (07/01/2011-06/30/2013). "*Zyflamend and Prostate Cancer: A Clinical Trial of Tumor Progression Biomarkers*". PIs: Jay Whelan and Paul Terry

Recently Funded (extramural)

2019-22 National Institute for Food and Agriculture. Hatch Grant #W4122 (02/13/2019-09/30/2022). "*Beneficial and Adverse Effects of Natural Chemicals on Human Health and Food Safety*". PI: Jay Whelan.

Completed (extramural)

- 2014-18 National Institute for Food and Agriculture. Hatch Grant #TEN00441 (01/14/2014-12/31/2018). *“Botanicals and their Bioefficacy against Cancer”*. PI: Jay Whelan.
- 2015-16 National Science Foundation. *MRI: Acquisition of a Liquid Chromatograph-Tandem Quadrupole-Orbitrap Fourier Transform Mass Spectrometer for High-Throughput Biological Analyses*. Co-I: Jay Whelan, PI: Shawn Campagna. Total Award: \$589,204.
- 2015-16 Ironwood Pharmaceuticals, *The Effect of Celebrex and Linaclotide on Intestinal Tumorigenesis in the ApcMin/+ Mouse Model*. PI: J. Whelan, Award: \$85,504
- 2012-16 National Institutes of Health. Grant #: 1R01AT007382-01 (07/16/2012-04/30/2016). *“Effect of omega-3 fatty acids on cancer stem cells”*. Co-I: Jay Whelan, PI: K. Sandeep Prabhu. Total Award: \$1,261,188.
- 2010-11 New Chapter Inc., Brattleboro, VT. *“Development of Estrogen Receptors (ERs) Mediated Bioassay to Investigate the Potential of Zylflamend to Interfere with the Environmental Endocrine Disruptors (EDS) Induced Estrogenic Effects”* PI:Jiangang Chen; Co-PI: Jay Whelan, Total Award: \$48,020.
- 2010 Monsanto, Co. St Louis, MO. *“The Impact of Dietary Stearidonic Acid on Porcine Gene Expression Patterns”*. PI: Jay Whelan. Total Award: \$41,489.
- 2008-10 New Chapter Inc., Brattleboro, VT and MD Anderson Cancer Center, Houston, TX. *Can Zylflamend Alter the Natural Progression of Prostate Cancer?* PI: Jay Whelan Total Award: \$147,000.
- 2009 Martek Biosciences. Educational Grant, Symposium on *“DHA, Brain Development, and Neurodegenerative Disease: Models of Investigation”*. Experimental Biology ‘09 Meeting (FASEB), New Orleans, LA, April 2009. Total Award: \$9,500.
- 2008 Martek Biosciences. Educational Grant, Symposium on *“Dietary PUFA and the Brain”*. Experimental Biology ‘08 Meeting (FASEB), San Diego, CA, April 2008. Total Award: \$7,000.
- 2003-08 National Institutes of Health. *Transplacental Pancreatic Carcinogenesis by NNK.* PI: Hildegard Schuller, Co-PI: Jay Whelan and H.W.R.Wang. Total Award \$1,450,000.
- 2002-07 USDA Multistate Regional Project - NC1167. *“Achieving Dietary Polyunsaturated Fatty Acid Recommendations for the Maintenance of Health and Prevention of Disease”*. Jay Whelan and Kenneth Allen, Co-Authors and Co-Principal Investigators.
- 2002-04 American Institute for Cancer Research. Washington, D.C. *“Prostaglandin E₂ Receptors and intracellular calcium signaling in intestinal tumorigenesis”*. Total Award: \$159,692
- 2000-03 United States Department of Defense (DOD), Washington, D.C. *“Effect of N-3 and N-6 Polyunsaturated Fatty Acids on Growth and Progression of Prostatic Cancer in Vivo.”* J. Whelan, Co-Principal Investigator, M. McEntee, Principal Investigator. Total Award: \$309,700.
- 2000-02 Research Grant from Pharmacia Company, St. Louis, MO. *“Role of Cyclooxygenase-1 and/or -2 in the Mechanism of Intestinal Tumorigenesis”*. Total Award: \$245,398.
- 2000-01 Research Grant from Pharmacia Company, St. Louis, MO. *“Chemoprevention of Intestinal Tumorigenesis in the Apc^{Min/+} Mouse by Inhibition of $\alpha\beta$ 3 Integrin”*. Total Award: \$24,739.
- 1999-01 American Institute for Cancer Research. Washington, D.C. *“Role of Arachidonic Acid and PGE₂ as Key Mediators of Intestinal Tumorigenesis In Vivo”*. Total Award: \$158,484
- 1999-01 American Institute for Cancer Research. Washington, D.C. *“In Vitro Effects of Resveratrol During Early Stages of Intestinal Tumorigenesis”*. J. Whelan, Co-Principal Investigator, Michael McEntee, Principal Investigator. Award: \$75,952.
- 2000 Hill’s Pet Nutrition, Inc. Topeka, KS. Investigating the role of dietary fatty acids on injury-

- induced arthritis in a dog model. Work in collaboration with a grant authored by Drs. Joseph Bartges and Darryl Millis, UT School of Veterinary Medicine. Award: \$6,000.
- 1999-00 Research Grant from the Monsanto Company, St. Louis, MO. *"Dietary Effects of a Variety of Fatty Acid Ethyl Esters on the Formation and Development of Intestinal Polyps in the Min/+ Mouse Model when Provided in the Context of a Western Diet"*. Award: \$71,656.
- 1999 Research Grant from the Monsanto Company, St. Louis, MO. *"Delta-6 Desaturase Inhibition and Intestinal Tumorigenesis"*. Award: \$7,150
- 1997-99 Research Award from Kellogg Company, Battle Creek, MI. *"Effects of Soluble and Insoluble Fibers on Intestinal Tumorigenesis in Min/+ Mice"*. Total Award: \$40,000
- 1997-99 American Institute for Cancer Research, Washington, D.C. *"Role of Eicosanoids as Promoting Agents in Intestinal Tumorigenesis"*. J. Whelan, Principal Investigator. Total Award: \$162,867
- 1998 Private Research Donation from the Jack Healey Insurance Agency, San Jose, CA supporting the *"Arachidonic Acid Project"*. Gift: \$2,000.
- 1997 Cell Pathways, Aurora, CO. *"Effect of the Sulphone Derivative of Sulindac on Intestinal Tumors in a Genetically Predisposed Mouse Model"*. J. Whelan, Principal Investigator. Total Award: \$4,500.
- 1995-97 Basic research: Gift from Myron Pfeifer, Knoxville, TN. in support of the research associated with the *"Arachidonic Acid Project"*. Gift: \$9,486.
- 1994-97 Ross Laboratories, Columbus, OH. *"Effect of Enteral Nutrition with Pulmocare and Reformulated Pulmocare on the Inflammatory Response and Antioxidant Status in Patients with Acute Lung Injury"*. M. Karlstad, J. Whelan, R. Langdon (Co-Principal Investigators). Award: \$223,000.
- 1994-97 Private Research Donors supporting the *"Arachidonic Acid Project"*. Gift: \$3,000.
- 1992-96 Ross Laboratories, Columbus, OH. *"Animal Studies in Acute Respiratory Distress Syndrome (ARDS): Modulation of Tissue Fatty Acid Composition, Eicosanoid Production, and Pulmonary Microvascular Permeability by Dietary Manipulation of the Ratio of Eicosapentaenoic Acid (EPA, 20:5n-3) + Docosahexaenoic Acid (DHA, 22:6n-3) to gamma-Linolenic Acid (GLA, 18:3n-6)"*. M. Karlstad, J. Whelan (Co-Principal Investigators). Total Award: \$100,261.
- 1992-94 American Heart Association, Tennessee Affiliate. *"The Effects of Arachidonic Acid on Eicosanoid Metabolism and Thrombotic Tendency"*. J. Whelan (Principal Investigator). Award: \$49,938.
- 1994 Cayman Chemical Company, Ann Arbor, MI. Gift supporting the 1995 Experimental Biology (FASEB) symposium organized and chaired by Dr. Whelan entitled *"The Biological Effects of Dietary Arachidonic Acid"*. Award: \$1,000.
- 1992 Basic research: Gift from Myron Pfeifer, Knoxville, TN. in support of the research associated with the *"Arachidonic Acid Project"*. Gift: \$10,000.

Funded support (intramural)

- 2016 Leika Fluorescent Microscope: \$78,000
- 2015 Gas Chromatograph (7890): \$40,000
- 2015 LICOR quantitative imaging system: \$55,000
- 2013 High performance Liquid Chromatograph, Matching funds: \$30,000
- 2010 CLAMS Indirect Calorimetry System for Rodents. Equipment Award: \$130,000.
- 2010 ABI RT-PCR System. Equipment Award: \$50,000.

2010 Desk top Ultra-centrifuge and rotors. Equipment Award: \$60,000.

2010 Glomax system. Equipment Award: \$30,000.

2010 BioRad Chemoluminescence Imaging System. Equipment Award: \$20,000.

2010 Laboratory Renovations: Award: \$80,000.

2009 Research Incentive Support: Affymetrix GeneArray Core Facility Award: \$140,000.

2008 Scholarly Activities Research Incentive Research Funds (SARIF), Equipment Award: Service and software support, Affymetrix GeneArray Core Facility. Award: \$33,100.

2007 Scholarly Activities Research Incentive Research Funds (SARIF), Equipment Award: Liquid Scintillation Counter. Award: \$38,000.

2006 Scholarly Activities Research Incentive Research Funds (SARIF), Travel Award, University of Tennessee, Office of Research. Award: \$1,800.

2006 Scholarly Activities Research Incentive Research Funds (SARIF), Equipment Award: DNA Analysis System Instrumentation. Award: \$17,900.

2005 CEHHS Research Support, Real-time PCR. Award: \$38,500.

2005 Scholarly Activities Research Incentive Research Funds (SARIF), Equipment Award: Nanodrop Spectrophotometer. Award: \$7,500.

2004-07 Establishment of an Affymetrix Core Gene Screening Facility, University of Tennessee. Award: \$600,000

2004-05 Scholarly Activities Research Incentive Research Funds (SARIF), Equipment Award: Cage and Bottle Washer, University of Tennessee, Office of Research. Award: \$54,618

2004-05 Scholarly Activities Research Incentive Research Funds (SARIF), Equipment Award: Floor Model Autoclave Pre-vacuum Sterilizer, University of Tennessee, Office of Research. Award: \$33,873.

2004-05 Scholarly Activities Research Incentive Research Funds (SARIF), Small Grant Award: Professional Development for Affymetrix Facility Director, University of Tennessee, Office of Research. Award: \$11,500.

2004 Scholarly Activities Research Incentive Research Funds (SARIF), Travel Award, University of Tennessee, Office of Research. Award: \$1,200.

2004 Giffel's Endowment: for Faculty development. Award: \$1,000

2003-04 Scholarly Activities Research Incentive Research Funds (SARIF) Award, University of Tennessee. *"Dietary polyunsaturated fats and their impact on gene expression"*. Award: \$5,000.

2002 Scholarly Activities Research Incentive Research Funds (SARIF), Small Grants Fund, University of Tennessee, Office of Research. Award: \$2,000.

2000-01 UT Medical Center's Center of Excellence: Center for Age-Related Disorders, *"Reduction of Joint Inflammation with Dietary N-3 Polyunsaturated Fatty Acids"*, Co-Investigator, along with Drs. M. Karlstad, J. Bartges and D. Millis. Award: \$44,000.

2000 Scholarly Activities Research Incentive Research Funds (SARIF) Award, University of Tennessee. *"In Vitro Effects of Resveratrol during Early Stages of Intestinal Tumorigenesis"*. Award: \$3,000.

1997-01 USDA Agricultural Experiment Station Grant (Tennessee) *"Role of Arachidonic Acid and its Metabolism in a Genetically Predisposed Mouse Model for Intestinal Tumorigenesis"*. Award: \$75,493.

1999-00 The University of Tennessee Professional Development Award, University of Tennessee. *"Can Prostaglandins Rescue Regressing Intestinal Adenomas?"*. Award: \$3,000

1999 Scholarly Activities Research Incentive Research Funds (SARIF) Award, University of Tennessee. *"Can Butyrate Reduce Intestinal Tumor Load in a Mouse Model with a*

- 1995-96 *Germline Mutation in the Tumor Suppressor Gene APC*". Award: \$3,000.
UT/CVM Venture Grant, University of Tennessee School of Veterinary Medicine. "*Dietary Arachidonic Acid as a Tumor Promoting Agent for Intestinal Neoplasia*". (Co-Principal Investigator) Award: \$2,700.
- 1995-96 Faculty Development Award, University of Tennessee. "*Modulation of PGH Synthase and 5-Lipoxygenase Gene Expression by Arachidonic Acid*". Award: \$4,500.
- 1995-96 Faculty Development Award, University of Tennessee Agricultural Experiment Station. Award: \$2,467.
- 1995 Faculty Development Award, College of Human Ecology, University of Tennessee, Award: \$1000.
- 1992-97 USDA Agricultural Experiment Station Grant (Tennessee) "*The Role of Dietary Arachidonic Acid as an Antagonist to n-3 Polyunsaturated Fatty Acids*". Award: \$63,850.
- 1995 Scholarly Activities Research Incentive Research Funds (SARIF) Award, University of Tennessee. Award: \$4,139.

Abstracts at Scientific Meetings

Whelan, J., Mountain, D.J.H., Buckley, M.R., Terry, P.D., Kirkpatrick, S.S., Arnold, J.D., McNally, M.M., Grandas, O.H., Freeman, M.F. and Goldman, M.H. Combination of a well-defined blend of herbal extracts plus fish oil at human doses attenuates intimal hyperplasia and proinflammatory cytokines following vascular injury. 14th Biannual ISSFAL Congress, Qingdao, China, June 2020.

Whelan, J. Conversion of dietary polyunsaturated fats between humans and rodents: A review of allometric scaling models. 14th Biannual ISSFAL Congress, Qingdao, China, June 2020.

Whelan, J., MacDonald, A.F., Bettaieb, B., Donohoe, D.R., Han, A. and Zhao, Y. LKB1 and CaMKK2, a tumor suppressor and a tumor promotor, are antithetically regulated by a well-defined blend of herbal extracts. 27th Conference of Functional Food Center on "*Functional Foods, Bioactive Compounds and Biomarkers: Health Promotion and Disease Management*". Harvard Medical School. Boston, MA. September 2019.

Whelan, J., Puckett, D., Alani, D., Chahed, S., Frankel, V.D., Alquraishi, M., Donohoe, D.R., Voy, B. and Bettaieb, A. Treatment of 3T3-MBX preadipocytes with a well-defined blend of herbal extracts mediates anti-adipogenic effects via activation of AMPK, PKA and JNK signaling. 27th Conference of Functional Food Center on "*Functional Foods, Bioactive Compounds and Biomarkers: Health Promotion and Disease Management*". Harvard Medical School. Boston, MA. September 2019.

Whelan, J., Mountain, D.J.H., Buckley, M.R., Terry, P.D., Kirkpatrick, S.S., Arnold, J.D., McNally, M.M., Grandas, O.H., Freeman, M.F. and Goldman, M.H. Combination of a well-defined blend of herbal extracts and fish oil attenuates intimal hyperplasia following vascular injury. 27th Conference of Functional Food Center on "*Functional Foods, Bioactive Compounds and Biomarkers: Health Promotion and Disease Management*". Harvard Medical School. Boston, MA. September 2019.

Whelan, J., Weldon, K. and Rett, B. Lost in Translation: Allometric Scaling of Dietary Bioactives between Species., Interdisciplinary Nutrition Sciences Symposium on *Promoting Translational Nutrition Science*, UNC-Chapel Hill, NC July 2019

Puckett, D.L., Chahed, S., Alani, D., Whelan, J. and Bettaieb, A. Zyflamend Induces Apoptosis in Pancreatic Cancer Cells via Modulation of the JNK Pathway. Experimental Biology '19 Meeting (FASEB), Orlando, FL, April 2019.

Whelan, J., Puckett, D., Frankel, V.D., Alani, D., Chahed, S., Donohoe, D.R. and Bettaieb, A. Zyflamend Attenuates High Fat Diet-Induced Obesity in Mice. Am Soc Nutr, Boston, MA June 2018

Whelan, J., MacDonald, A., Bettaieb, A., Donohoe, D., Han, A., and Zhao, Y. Cancer regulatory proteins LKB1 and CaMKK2 are antithetically regulated via the activation of PKCzeta and DAPK, respectively, by a well-defined polyherbal blend, Zyflamend. Am Soc Nutr, Boston, MA June 2018

Whelan, J. Allometric scaling of bioactive dietary n-3 and n-6 fatty acids. Presented at a Symposium on *Translating Human Diets and Nutrients to Rodent Diets for Research*. Experimental Biology '17 Meeting (FASEB), Chicago, IL, April 2017.

MacDonald, A., Donohoe, D., Bettaieb, A., Han, A., Zhao, Y., and Whelan, J. Combination of herbal extracts targets prostate cancer by upregulating AMPK thru the tumor suppressor protein LKB1. Experimental Biology '17 Meeting (FASEB), Chicago, IL, April 2017.

Whelan, J. Lost in Translation: Allometric scaling of bioactive dietary n-3 and n-6 fatty acids. 21st Functional Foods Center International Conference, San Diego, CA, March 2017.

Whelan, J., Donohoe, D., Zhao, Y. Huang, E-C., and MacDonald, A. A combination of herbal extracts increases LKB1-dependent activation of AMPK, a result not shared by CaMKK2. 20th Functional Foods Center International Conference, Harvard University, Boston, MA September 2016.

MacDonald, A., Zhao, Y., Han, A., Donohoe, D. and Whelan, J. Activation of AMP Kinase by Zyflamend, a Well-defined Blend of Herbal Extracts. Experimental Biology '16 Meeting (FASEB), San Diego, CA, April 2016.

Beckford, R., Howard, S., Das, A., Tester, A., Campagna, S., Whelan, J., Wilson, J. and Voy, B. Enriching the Maternal Diet in Long Chain N-3 Polyunsaturated Fatty Acids Alters Lipid Metabolites and Adiposity in Broiler Chicks. Experimental Biology '16 Meeting (FASEB), San Diego, CA, April 2016.

Whelan, J. Zhao, Y. and Donohoe, D. Polyherbal Supplements can Modify Energetics and Lipid Metabolism in Cancer Cells by Activating AMPK Signaling. Experimental Biology '15 Meeting (FASEB), Boston, MA. April 2015. (Oral presentation)

Zhao, Y. and Whelan, J. The interaction of botanicals and AMPK signaling in the inhibition of castrate-resistant prostate cancer. Conference on Metabolism, Diet and Disease, Washington, DC, May 2014

Zhao, Y. and Whelan, J. Why food matrices are more potent against cancer as compared to their isolated bioactives. Experimental Biology '14 Meeting (FASEB), San Diego, CA, April 2014.

Burke, S.J., Karlstad, M.D., Reel, D., McEntee, M.F., Whelan, J and J. Jason Collier, J.J. A Polyherbal

Dietary Intervention Preserves Functional Islet Beta-cell Mass in Non-obese Diabetic Mice. Experimental Biology '14 Meeting (FASEB), San Diego, CA, April 2014.

Zhao, Y. and Whelan, J. Botanicals inhibit lipid metabolism and mTOR signaling via AMPK in castrate-resistant prostate cancer. Experimental Biology '13 Meeting (FASEB), Boston, MA, April 2013.

Zhao, Y. and Whelan, J. The environment of phytonutrients may contribute to their bioefficacy against cancer. Experimental Biology '13 Meeting (FASEB), Boston, MA, April 2013.

Zhao, Y. and Whelan, J. The environment of the origin of phytonutrients may contribute to their bioefficacy against cancer. Annual Meeting of the American Institute for Cancer Research, Washington, DC, November 2012.

Whelan, J. Dietary N-6 PUFA and their Influence on Tissue Arachidonic Acid Content. 10th Congress of the International Society for the Study of Fatty Acids and Lipids (ISSFAL), Vancouver, BC May 2012. (Oral presentation)

Whelan, J. Dose translation of dietary polyunsaturated fatty acids from rodents to humans. 10th Congress of the International Society for the Study of Fatty Acids and Lipids (ISSFAL), Vancouver, BC May 2012

Zhao, Y. and Whelan, J. Medicinal herbs inhibit castrate-resistant prostate cancer via mechanisms involving AMPK. Experimental Biology '12 Meeting (FASEB), San Diego, CA, April 2012.

Zhao, Y. and Whelan, J. Enhanced effectiveness of using herbs versus their isolated bioactive compounds in a model of castrate-resistant prostate cancer. Experimental Biology '11 Meeting (FASEB), New Orleans, LA, April 2011.

Weldon, K.A. and Whelan, J. Building a better mouse diet: comparative effects of various dietary omega-6 fatty acids on tissue fatty acid composition in a mouse model. Experimental Biology '11 Meeting (FASEB), New Orleans, LA, April 2011. (Oral presentation)

Whelan, J., Huang, E-C., Chen, G., Baek, S.J. and McEntee, M.F. Zyflamend®, a novel HDAC inhibitor, inhibits advanced prostate cancer cell growth and enhances hormone ablation therapy at physiologically relevant doses and concentrations. American Institute for Cancer Research Annual Meeting, Washington, DC, October, 2010.

Huang, E-C., Chen, G., Baek, S., McEntee, M.F. and Whelan, J. Medicinal herbs inhibit prostate cancer via PI3 kinase and p21 mechanisms. Experimental Biology '10 Meeting (FASEB), Anaheim, CA, April 2010. (Oral presentation)

Rett, B.S. and Whelan, J. Systematic review of the effect of dietary linoleic acid on changes of tissue levels of arachidonic acid and docosahexaenoic acid in humans. Experimental Biology '10 Meeting (FASEB), Anaheim, CA, April 2010. (Oral presentation)

Huang, E-C., McEntee, M.F., Baek, S. and Whelan, J. Synergistic effect of Zyflamend® and hormone ablation therapy on prostate cancer regression. Experimental Biology '09 Meeting (FASEB), New

Orleans, LA, April 2009.

Huang, E-C. and Whelan, J. Effects of Dietary α -Linolenic Acid on Hepatic Gene Expression Patterns In C57BL/6J Mice When Provided at Human Equivalent Doses. 8th Congress of the International Society for the Study of Fatty Acids and Lipids (ISSFAL), Kansas City, MO May 2008. Selected as the outstanding research paper by a young investigator (Eligibility: Assist Prof or earlier in career)

Whelan, J. and Jones, L. Dietary α -Linolenic Acid is not an Effective Contributor to Tissue Content of EPA or DHA in Humans Consuming a Western Diet. 8th Congress of the International Society for the Study of Fatty Acids and Lipids (ISSFAL), Kansas City, MO May 2008. (Oral presentation)

Huang, E-C., McEntee, Michael F. and Whelan, J. Zyflamend®, a multi-herb extract with anticancer properties, inhibits prostate cancer cell growth *in vitro* and *in vivo*. Annual Meeting of the American Institute for Cancer Research, Washington, DC, June 2008.

Whelan, J. and Jones, L. Determining Human Equivalent Doses of Dietary PUFA in Rodent Diets to Improve Pre-clinical Screening for Cancer using Experimental Models. Annual Meeting of the American Institute for Cancer Research, Washington, DC, June 2008.

Whelan, J. and Jones, L. Impact of Dietary Omega-3 Polyunsaturated Fats on Tissue Changes: Are Plant Sources of Omega-3 Fats Equivalent to Dietary Sources from Fish? The American Dietetics Association's Food and Nutrition Conference and Expo (FNCE) 2006 Annual Meeting, Honolulu, Hawaii, Sept 2006. (Invited plenary speaker)

McEntee, M.F., Whelan, J. Zeigler, C., Tomer, K. Dietary Polyunsaturated Fatty Acids and progression of Prostatic Cancer to Androgen-Independent Growth", 7th Congress of the International Society for the Study of Fatty Acids and Lipids (ISSFAL), Cairns, Australia, July 2006. (Oral presentation)

Whelan, J. and Jones, L. Dietary N-3 Polyunsaturated Fatty Acids and Tissue Changers: A Systematic Review of the Human Literature, 7th Congress of the International Society for the Study of Fatty Acids and Lipids (ISSFAL), Cairns, Australia, 2006. (Oral presentation)

Whelan, J. and Jones, L., Determining Human Equivalent Doses of N-3 PUFA in Rodent Diets for Improved Pre-Clinical Screening Using Animal Models, 7th Congress of the International Society for the Study of Fatty Acids and Lipids (ISSFAL), Cairns, Australia, July 2006. (Oral presentation)

Whelan, J. The Power of the Polys: Dietary Polyunsaturated fats, from the Land, to the Lab, to the Clinic, 21st National Conference of the American Academy of Nurse Practitioners, Grapevine, TX, June 2006. (Oral presentation)

Whelan, J. and Jones, L., A systematic review of the literature: Dietary omega-3 fatty acids and tissue changes. Experimental Biology '06 Meeting (FASEB), San Francisco, CA, April 2006.

Whelan, J. and Jones, L., Allometric Scaling: Determining human equivalent doses for n-3 PUFA in rodent diets. Experimental Biology '06 Meeting (FASEB), San Francisco, CA, April 2006.

Jones, L. and Whelan, J., Human Equivalent Dose Modeling for Omega-3 Fatty Acid Supplementation

in C57BL/6J Mice. Experimental Biology '05 Meeting (FASEB), San Diego, CA, April 2005.

Whelan, J., Lee, J.S., Ding, S., McEntee, M.F., And Zemel, M.B. Diet and Calcium on Intestinal Tumorigenesis. Annual Meeting of the American Institute for Cancer Research, Washington, DC, June 2005.

Ding, S., McEntee, M.F., Whelan, J. And Zemel, M.B. Interaction of Calcium and Obesity in Modulating Intestinal Tumorigenesis. Experimental Biology '05 Meeting (FASEB), San Diego, CA, April 2005.

Lee, J.S., McEntee, M.F., Sun, X., Zemel, M.B. and Whelan, J. Dietary Calcium and Intestinal Tumorigenesis. Experimental Biology '05 Meeting (FASEB), Washington, D.C. , April 2004.

Ziegler, C., McEntee, M.F., Rainwater, L. and Whelan, J., In Vivo Effects of Trans-Resveratrol on Intestinal Tumorigenesis COX-2 Expression. Experimental Biology '02 Meeting (FASEB), New Orleans, LA, April 2002.

Whelan, J., McEntee, M.F., Petrik, M.H., Shi, H., and Zemel, M.B. Modulation of Prostaglandin E₂ and Intracellular Calcium on Intestinal Tumorigenesis. . 93rd Annual Meeting of the American Association for Cancer Research, San Francisco, CA, April 2002.

McEntee, M.F., Rainwater, L. and Whelan, J. Cyclooxygenase-2 (COX-2) and Cytosolic Phospholipase A₂ (cPLA₂) Co-localize in Stromal Cells of Apc(Min/+) Mouse Intestinal Adenomas, and Levels Change with Sulindac-Induced Tumor Regression. 93rd Annual Meeting of the American Association for Cancer Research, San Francisco, CA, April 2002.

Whelan, J., McEntee, M.F., Hansen-Petrik, M. And and Obukowicz, M.G. The Role of Arachidonic Acid and Prostaglandin E₂ as Key Mediators of Intestinal Tumorigenesis. American Institute for Cancer Research's 11th Annual Conference on "diet, Nutrition and Cancer", Washington, D.C., July. 2001.

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Kabakibi, A., Hummert, S.L., Whelan, J., McEntee, M.F., Ursin, V. and Obukowicz, M.G. Metabolic, Anti-Cancer, and Anti-inflammatory Actions of Stearidonic Acid. 92nd Annual American Oil Chemists Society Meeting, Minneapolis, MN, May 2001.

Whelan, J., McEntee, M.F. and Hansen Petrik, M. Prostaglandin E₂ Mediates Intestinal Tumorigenesis *In Vivo*. Experimental Biology '01 Meeting (FASEB), Orlando, FL, April 2001.

Ziegler, C., McEntee, M.F., Hansen Petrik, M., Johnson, B.T. and Whelan, J. *In Vivo* Effects of Trans-Resveratrol on Intestinal Tumorigenesis. Experimental Biology '01 Meeting (FASEB), Orlando, FL, April 2001.

Whelan, J., McEntee, M.F. and Hansen Petrik, M. Prostaglandin E₂ Mediates Intestinal Tumorigenesis *In Vivo*. 92nd Annual Meeting of the American Association for Cancer Research, New Orleans, LA April 2001.

Ziegler, C., McEntee, M.F., Hansen Petrik, M., Johnson, B.T. and Whelan, J. Dietary Resveratrol Failed to Reduce Intestinal Tumors in *Apc^{Min/+}* Mice. 35th Annual Southeastern Regional Lipids Conference, Cashiers, NC, November, 2000.

Kabakibi, A. Green, S.L., Duffin, K.L., Ursin, V., Knauf, V., Whelan, J., McEntee, M.F. and Obukowicz, M.G. Profiling of Polyunsaturated Fatty Acids as Anti-Inflammatory and Anti-Cancer Dietary Agents. International Society for the Study of Fatty Acids and Lipids (ISSFAL) Conference, Tsukuba, Japan, 2000 (Oral presentation)

Hansen Petrik, M., McEntee, M.F., Johnson, B.T. and Whelan, J., Dietary N-3 Polyunsaturated Fatty Acids Reduce Intestinal Tumors *In Vivo* by Antagonizing Arachidonate. Experimental Biology '00 Meeting (FASEB), San Diego, CA, April 2000. (ASNS Graduate Student Research Award) (Oral presentation)

Hansen Petrik, M., McEntee, M.F., Johnson, B.T. and Whelan, J., Dietary Conjugated Linoleic Acid and γ -Linolenic Acid Fail to Reduce Intestinal Tumors in *Apc^{Min/+}* Mice. Experimental Biology '00 Meeting (FASEB), San Diego, CA, April 2000. (Oral presentation)

Shahnaz, S., Hansen Petrik, M., McEntee, M.F., Johnson, B.T. and Whelan, J. Effects of Butyrate on Intestinal Tumorigenesis using *In Vivo* and *In Vitro* Models with *APC* Gene Defects. Experimental Biology '00 Meeting (FASEB), San Diego, CA, April 2000.

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Hansen Petrik, M., McEntee, M.F., Chiu, C.-H., Johnson, B.T. and Whelan, J. Omega-3 Fatty Acids Reduce Intestinal Tumors in Mice with a Defect in the *Apc* Gene. Oral presentation at the 82nd Annual Meeting of the American Dietetic Association, Atlanta, GA, Oct 1999. (Oral presentation)

Hansen Petrik, M., McEntee, M.F., Chiu, C.-H. and Whelan, J. Arachidonic Acid Antagonism Linked to Anti-Tumorigenic Effect of Eicosapentaenoic Acid in *APC^{Min/+}* Mice. Experimental Biology '99 Meeting (FASEB), Washington, D.C., April 1999. (Oral presentation)

Hansen Petrik, M., McEntee, M.F., Chiu, C.-H. and Whelan, J. Anti-Tumor Effect of Dietary Eicosapentaenoic Acid is Linked to Reduced Tissue Arachidonic Acid Content in *Min/+* Mice. 33rd Annual Southeastern Regional Lipids Conference, Cashiers, NC, November, 1998. (Oral presentation)

Hansen Petrik, M., McEntee, M.F., Chiu, C.-H. and Whelan, J. Dietary Arachidonic Acid Eliminates the Anti-Tumor Effect of Eicosapentaenoic Acid in *Min/+* Mice. American Institute for Cancer Research's 8th Annual Conference on "Colon Cancer Prevention: Dietary Modulation of Cellular and Molecular

Mechanisms”, Washington, D.C., Sept. 1998.

Chiu, C.H., McEntee, M.F. and Whelan, J. Eicosanoid Biosynthesis is not Correlated with Tumor Load in the Min/+ Mouse Model. Annual Experimental Biology 1997 Meeting (FASEB), New Orleans, LA, April, 1997.

Taber, L. and Whelan, J. Determination of Arachidonic Acid Content in Foods Commonly Consumed in the American Diet. Annual Experimental Biology 1997 Meeting (FASEB), New Orleans, LA, April, 1997.

Chiu, C.H., McEntee, M.F. and Whelan, J. The Effect of Arachidonic Acid Metabolism on Intestinal Tumors in a Genetically Predisposed Mouse Model. 31st Annual Southeastern Regional Lipids Conference, Cashiers, NC, November, 1996. (Oral presentation: recipient of outstanding research award at conference).

Chiu, C.H., McEntee, M.F. and Whelan, J. Attenuation of Intestinal Tumor Load by the Non-Steroidal Antiinflammatory Drug Sulindac in Mice with a Defect in the APC Gene. American Institute for Cancer Research Annual Research Conference, Washington, D.C., August 1996.

McEntee, M.F., Chiu, C.H. and Whelan, J. Modulation of Intestinal Tumor Load in Min/+ Mice by Sulindac. Annual ACVP/ASVCP National Meetings, Seattle WA, July 1996. Vet. Pathol. 33:610, 1996. (Oral presentation)

Mancuso, P., Whelan, Snider, C.C., Guscza, J., DeMichele, S.J. and Karlstad, M.D. Effect of Dietary Fish Oil and Fish Oil and Borage Oil on Bronchoalveolar Lavage Fluid, PGE₂, TNF_{alpha}, MIP-2 and Lung Polymorphonuclear Cell Sequestration in Endotoxic Rats. Shock 5,57 1996 (Nineteenth Annual Conference on Shock, Grand Travers Island, MI, June 1996).

Mancuso, P., Whelan, Guscza, J., Snider, C.C., DeMichele, S.J. and Karlstad, M.D. Dietary Fish and Borage Oil Reduce Proinflammatory Eicosanoids in Bronchoalveolar Lavage Fluid and Pulmonary Neutrophil Sequestration in Endotoxic Rats. Am. J. Resp. Crit. Care Med.. 153, A287, 1996 (Respiratory and Critical Care Medicine International Conference, New Orleans, LA, May 1996). (Oral presentation)

Chiu, C.-H., Claycombe, K. and Whelan, J. Dietary Arachidonic Acid Elevates Platelet Thromboxane Formation without Increasing Platelet Aggregation. Annual Experimental Biology Meeting (FASEB), Atlanta, GA, April, 1995.

Mancuso, P., Whelan, J., Snider, C.C., Guscza, J., Claycombe, K., Chiu, C.-H., DeMichele, S.J. and Karlstad, M.D. Dietary Fish and Borage Oil Attenuate Proinflammatory Eicosanoid Release from Rat Alveolar Macrophages In Vitro. FASEB, Atlanta, GA, April, 1995. (Oral presentation)

Whelan, J., Golemboski, K.A., Broughton, K.S. and Diertert, R.R. Leukotriene Production *In Vivo* and *In Vitro* in the Chicken and Mouse. Annual Meeting: Society for Leukocyte Biology. Tucson, AR, September, 1994. (Oral presentation)

Mancuso, P., Snider, C., Guscza, J.A., Smith, G., DeMichele, S.J., Gregory, T., Whelan, J. and

Karlstad M.D. Dietary Fish and Borage Oil Attenuate Endotoxin Induced Lung Injury. American Lung Association/American Thoracic Society International Conference. Boston, MA, May 1994. (Oral presentation)

Li, B. and Whelan, J. The Antithetic Relationship of Dietary Arachidonic Acid and Dietary Eicosapentaenoic Acid on Eicosanoid Production *In Vivo*. FASEB J. 8, 5355.

Whelan, J., Li, B. and Surette, M.E. Evidence that Dietary Arachidonic acid Elevates Circulating Triglyceride Levels. FASEB J. 8, 4072.

Whelan, J., and Surette, M.E. Comparative Effects of Dietary Arachidonate and Eicosapentaenoate on Lipoprotein Metabolism. Scientific Conference on Omega-3 Fatty Acids in Nutrition, Vascular Biology, and Medicine. American Heart Association. Houston, TX, April, 1994.

Whelan, J., Li, B. and Surette, M.E. Evidence that Dietary Arachidonic Acid Elevates Plasma Triglycerides. Conference on Nutrition and Biotechnology in Heart Disease and Cancer. Chapel Hill, NC, December, 1993.

Whelan, J., Li, B. and Birdwell, C. Dietary Arachidonic Acid Increases Eicosanoid Production Even in the Presence of Equal Amounts of Eicosapentaenoic Acid. Third International Conference on Eicosanoids and other Bioactive Lipids in Cancer, Inflammation and Radiation Injury. Washington, D.C., October, 1993.

Kinsella, J.E., Hardard'ottir, I., Whelan, J. and German, B. Effects of Specific Polyunsaturated Fatty Acids on Indices of Immune Function: Some Observations. First International Congress of the ISSFAL. Lugano (CH), Switzerland, July 1993.

Whelan, J., Surette, M.E., Hardard'ottir, I., Lu, G.-P., Larsen, E. and Kinsella, J.E. Dietary Arachidonic Acid and Tissue Lipid Metabolism in the Syrian Hamster. FASEB J. 7:983, 1993.

Li, B., Sachan, D. and Whelan, J. Effect of Dietary Docosahexaenoic Acid on Plasma Triglyceride and Acylcarnitine Levels and Hepatic Carnitine Palmitoyl Transferase Activity in Mice. FASEB J. 7:999, 1993

Kinsella, J.E., Hardard'ottir, I., Whelan, J. and German, B. Effects of Specific Polyunsaturated Fatty Acids on Indices of Immune Function: Some Observations. First International Congress of the ISSFAL. Lugano (CH), Switzerland, July 1993. (Invited Plenary Speaker).

Hardard'ottir, I., Whelan, J. and Kinsella, J.E. Differential Effects of Dietary n-3 Fatty Acids on Tumor Necrosis Factor Production on Resident and Elicited Peritoneal Macrophages. FASEB J. 6:2514, 1992. (Oral presentation, Winner of Graduate Student Research Award)

Surette, M.E., Whelan, J., Broughton, K.S. and Kinsella, J.E. Mechanisms by which n-3 Fatty Acids Affect Plasma Lipoprotein Levels. FASEB J. 5:3347, 1991. (Oral presentation, Winner of Graduate Student Research Award)

Kinsella, J.E., Chavali, S., Whelan, J. and Hardard'ottir, I. Manipulation of Immune Cells by n-3

Polyunsaturated Fatty Acids of Fish Oils. 2nd International Conference on the Immune Consequences of Trauma, Shock and Sepsis: Mechanisms and Therapeutic Approaches. Munich, Germany, March, 1991. (Invited Plenary Speaker).

Reddy, C.C., Garkov, V.N., Whelan, J., Hildenbrandt, G. and Reddanna, P. Mechanism and Stereochemical Nature of the Potato Lipoxygenase. 2nd International Conference on Eicosanoids and other Bioactive Lipids in Cancer, Inflammation and Radiation Injury. Berlin, Germany, September, 1991. (Invited Plenary Speaker).

Broughton, K.S., Whelan, J., Hardardottir, I. and Kinsella, J.E. Effects of Altering Dietary n6/n3 Ratios on Tissue Lipids and Eicosanoid Production *In Vivo*. FASEB J. 4:3064.

Surette, M., Broughton, K.S., Whelan, J. and Kinsella, J.E. The Effect of Sardine Oil on Plasma Lipids and Eicosanoid Production in Mice Consuming Butterfat. FASEB J. 4, 3066, 1990.

Nikolaev, V., Reddanna, P., Whelan, J. and Reddy, C.C. Stereochemistry and Mechanism of the Potato Lipoxygenase. FASEB J. 4:2454, 1990.

Whelan, J., Broughton, K.S., Lokesh, B. and Kinsella, J.E. *In Vivo* Formation of Leukotriene E₅ by Murine Peritoneal Cells. International Symposium on "Biological Oxidation Systems", Bangalore, India, October, 1989.

Whelan, J., Reddanna, P., Prasad, G. and Reddy, C.C. Non-Regiospecificity of the Purified Lipoxygenase from Potato Tubers in the Oxygenation of n-3 and n-6 Fatty Acids. AOCS, Short course on "Health Effects of n-3 and n-6 Fatty Acids", Biloxi, Miss., May, 1987.

Reddanna, P., Whelan, J., Prasad, G., Rao, M.K. and Reddy, C.C. A New Pathway for the Biosynthesis of Leukotriene F₄. NYAS, Conference on "Biology of Leukotrienes", Philadelphia, Pa., June, 1987.

Whelan, J., Reddanna, P. and Reddy, C.C. Non-Regiospecificity of the Purified Lipoxygenase from Potato Tubers. NYAS, Conference on "Biology of Leukotrienes", Philadelphia, Pa., June, 1987.

Whelan, J., Reddanna, P., Burgess, J.R. and Reddy, C.C. The Effects of Lipid Hydroperoxides on Cyclooxygenase Activity. FASEB, Fed. Proc. 45:2651. Washington, D.C., June, 1986.

Reddanna, P., Whelan, J., Prasad, G. and Reddy, C.C. Evidence for 12-Lipoxygenase Activity in Human Saliva. FASEB, Fed. Proc. 45:2647. Washington, D.C., June, 1986.

Whelan, J., Hildenbrandt, G., Reddanna, P., Rao, M.K. and Reddy, C.C. Kinetics of Inhibition of Pure Potato 5-Lipoxygenase by Glutathione Peroxidases. International Conference on Prostaglandins and Leukotrienes in Health and Disease. Tel Aviv, Israel, October, 1985.

Papers Presented at Technical and Professional Meetings

Oral Presentation of Papers Presented at Scientific Meetings:

“Combination of a well-defined blend of herbal extracts plus fish oil at human doses attenuates intimal hyperplasia and proinflammatory cytokines following vascular injury” Presented at the 14th Biannual ISSFAL Congress, Qingdao, China, June 2020. (Invited Plenary Speaker).

“Conversion of dietary polyunsaturated fats between humans and rodents: A review of allometric scaling models” Presented at the 14th Biannual ISSFAL Congress, Qingdao, China, June 2020. (Invited Plenary Speaker).

“LKB1 and CaMKK2, a tumor suppressor and a tumor promotor, are antithetically regulated by a well-defined blend of herbal extracts”. 27th Conference of Functional Food Center on “*Functional Foods, Bioactive Compounds and Biomarkers: Health Promotion and Disease Management*”. Harvard Medical School. Boston, MA. September 2019. **Keynote Address**

“Lost in Translation: Allometric Scaling of Dietary Bioactives between Species”. Presented at Interdisciplinary Nutrition Sciences Symposium on *Promoting Translational Nutrition Science*, UNC-Chapel Hill, NC July 2019

“Allometric scaling of bioactive dietary n-3 and n-6 fatty acids”. Presented at a Symposium on *Translating Human Diets and Nutrients to Rodent Diets for Research*. Experimental Biology ‘17 Meeting (FASEB), Chicago, IL, April 2017. Symposium Organizer and Chair.

“Lost in Translation: Allometric scaling of bioactive dietary n-3 and n-6 fatty acids.” Presented at a Symposium on *Allometric Scaling from Rodents to Humans*. 21st Functional Foods Center International Conference, San Diego, CA, March 2017. Symposium Organizer and Chair.

“Polyherbal Supplements can Modify Energetics and Lipid Metabolism in Cancer Cells by Activating AMPK Signaling”. Experimental Biology ‘15, Session Chair: “Mechanisms of Action and Molecular Targets of Dietary Bioactive Components”, Boston, MA, April 2015.

“Fish as a Functional Food”, Aquaculture Forum, West Virginia Aquaculture Association, Martinsburg, VA, January 24-25, 2013. (Invited Plenary Speaker).

“Dietary N-6 PUFA and their Influence on Tissue Arachidonic Acid Content”. 10th Congress of the International Society for the Study of Fatty Acids and Lipids (ISSFAL), Vancouver, BC May 2012. (Invited Plenary Speaker).

“The Use of Omega-3 Supplements for the Prevention and Treatment of Cancer”. American Dietetic Association National Tele-seminar. August 2011. (Invited Plenary Speaker).

“Dietary Omega-6 PUFA and CVD Risk”, at the Fatty Acid Summit, Annual Scientific Session of the National Lipids Association, New York, NY, May 2011. (Invited Plenary Speaker).

“Dietary Stearidonic Acid on Lipogenesis and Lipolysis Related Gene Expression”, at the EB 2011 Satellite Symposium on *Heart Healthy Omega-3s for Food: Stearidonic Acid (SDA) as a Sustainable Choice*. Washington, DC, April 2011. (Invited Plenary Speaker).

“Bioactive Nutrients in Conjunction with Hormone Ablation Treatment for Advanced Prostate Cancer”, M.D. Anderson Cancer Center, Houston, TX, October 2010. (Invited Plenary Speaker)

“Fish as a Functional Food”, Presented at the World/America Aquaculture Conference, Seattle, WA, January 2009. (Invited Plenary Speaker)

“Designing human equivalent diets for rodents when feeding n-3 PUFA”. Presented at the 8th Congress of the International Society for the Study of Fatty Acids and Lipids (ISSFAL), Kansas City, MO. May 2008. (Conference organizer)

“Dietary PUFA and the Brain: Food for Thought”. Experimental Biology ‘08 Meeting (FASEB), San Diego, CA, April 2008. Symposium Organizer.

“Can Zyflamend® Alter the Natural Progression of Prostate Cancer?”, Role of Botanicals in Health. Sponsored by NewChapter, Inc. Costa Rica, February 2008. (Invited Plenary Speaker).

“Dietary PUFAs and Cancer: The Good, the Bad, and the Ugly”. 2nd Annual Symposium of the Center for Biological Lipids on the Role of Dietary Fatty Acids in the Prevention and Treatment of Disease, October 2007. (Invited Plenary Speaker).

“Determining human equivalent doses of polyunsaturated fatty acids in rodent diets for improved pre-clinical screening for eicosanoid-related chronic diseases” Presented at the 10th International Conference on Bioactive Lipids in Cancer, Inflammation, and Related Diseases, Montreal, Canada, September 2007.

“Evidence for the Health Benefits of Omega-3 Fatty Acids”. Invited lecture at the Annual Meeting of the Georgia Dietetic Association, Athens, GA, April 2007. (Invited Plenary Speaker).

“Omega-3 Fats in Health and Disease: Implications for Education and Practice” Presented at the 2006 Food & Nutrition Conference & Expo (Annual National American Dietetics Association Meeting), Honolulu, HI, September 2006

"Dietary Polyunsaturated Fatty Acids and progression of Prostatic Cancer to Androgen-Independent Growth", Presented at the 7th Congress of the International Society for the Study of Fatty Acids and Lipids (ISSFAL), Cairns, Australia, July 2006.

"Determining Human Equivalent Doses of N-3 PUFA in Rodent Diets for Improved Pre-Clinical Screening Using Animal Models", Presented at the 7th Congress of the International Society for the Study of Fatty Acids and Lipids (ISSFAL), Cairns, Australia, July 2006.

"The Power of the Polys: Dietary Polyunsaturated fats, from the Land, to the Lab, to the Clinic...", 21st National Conference of the American Academy of Nurse Practitioners, Grapevine, TX, June 2006 (Invited Plenary Speaker).

“Allometric Scaling: Determining Human Equivalent Doses for n-3 PUFA in Rodent Diets”. Experimental Biology ‘06 Meeting (FASEB), San Francisco, CA, April 2006.

“Dietary PUFAs Modify the Progression of Prostate Cancer”. Experimental Biology ‘06 Meeting (FASEB), San Francisco, CA, April 2006.

“Dietary Omega-3 PUFAs: Does Form Matter?”, presented at the Annual meeting of the Society for Nutrition Education, Orlando, FL, July 2005. (Invited Plenary Speaker).

“Dietary N-3 PUFAs: Form, Amount and Function”, presented at the Lillian Fountain Smith Conference on “*Omega-3 Fatty Acids*”, Fort Collins, CO, June 2005. (Invited Plenary Speaker).

“Are all Dietary PUFAs the same?”, presented at the 35th Annual Experimental Biology Meeting Symposia on “*N-3 Fatty Acids, Transitioning from Research to Education*”, April 2005. (Invited Plenary Speaker).

“How Dietary N-6 Polyunsaturated Fatty Acids Can Play a Role in Intestinal Tumorigenesis.” Presented at the World Cancer Research Fund International/American Institute for Cancer Research *International Research Conference on Food, Nutrition and Cancer*, Washington, DC, July 2004. (Invited Plenary Speaker).

“Dietary n-3 and n-6 PUFA: The Ying and Yang of Intestinal Tumorigenesis”. Presented at the 6th Congress of the International Society for the Study of Fatty Acids and Lipids (ISSFAL), Brighton, UK, June 26-July 1, 2004. (Invited Speaker).

“Omega-3 Fatty Acids and Intestinal Tumorigenesis” Presented at the *Conference on Specialty Oils: Their Biochemistry and Physiology*, sponsored by the American Oil Chemists’ Society, Cincinnati, OH, May 2004. (Invited Plenary Speaker).

“Fatty Acids and Intestinal Cancer” Presented at the Federation of American Societies for Experimental Biology (FASEB) Summer Conference on Inflammation and Chronic Diseases”. Saxtons River, VT, July 2003. (Invited Plenary Speaker)

“Involvement of Arachidonate, Prostaglandin E2 and Intracellular Calcium in Intestinal Tumorigenesis In Vivo”. Presented at the 7th International Conference on Eicosanoids & Other Bioactive Lipids in Cancer, Inflammation and related Diseases, Nashville, TN, October 2001.

“Dietary Conjugated Linoleic Acid on Intestinal Tumorigenesis in Min/+ Mice”. Presented at the Symposium on *Physiological and Metabolic Aspects of CLA*, 92nd Annual American Oil Chemists Society Meeting, Minneapolis, MN, May 13-16, 2001. (Invited Plenary Speaker). “Prostaglandin E2 Mediates Intestinal Tumorigenesis *In Vivo*”. American Physiological Society and the American Association of Immunologists, Experimental Biology ‘01 Meeting (FASEB), Orlando, FL, April 2001.

“Dietary Fatty Acids and APC-Driven Intestinal Tumorigenesis”. Experimental Biology ‘01 Meeting (FASEB), Orlando, FL, April 2001. (Invited Plenary Speaker).

“Balancing Fatty Acids in the Body with Functional Foods”. Presented at an NIH, USDA, ASNS and ODS (Office of Dietary Supplements) sponsored workshop on “*Essential Fatty Acids in Health Maintenance and Disease Prevention*”. Washington, D.C. March 20, 2001. (Invited Plenary Speaker).

“Cyclooxygenase Inhibitors and Intestinal Cancer”. FASEB Summer Conference 2000 on *Cytokines and Lipid Mediators: Biosynthesis and Action in Health and Disease*. Saxton River, VT, August 2000. (Invited Plenary Speaker).

“Effects of Butyrate on Intestinal Tumorigenesis using *In Vivo* and *In Vitro* Models with *APC* Gene Defects”. Experimental Biology ‘00 Meeting (FASEB), San Diego, CA, April 2000.

“The Anti-Tumorigenic Effect of N-3 Fatty Acids: Integrating Plant Technology and Biology”. Invited Lecture at the 9th Gatlinburg Symposium on Plants, Nutrition and Human Health. Knoxville, TN. October 1999. (Invited Plenary Speaker).

“Dietary EPA Reduces Tumor Load in *Apc*^{Min/+} Mice by Altering Arachidonic Acid Metabolism, but Conjugated Linoleic Acid, Gamma- and Alpha-Linolenic Acids Have No Effect”. Presented at the 6th International Conference on *Eicosanoids and Other Bioactive Lipids in Cancer, Inflammation and Related Diseases*. Boston, MA, Sept 1999.

“Upper Limits for Intakes of Long Chain N-6 Polyunsaturated Fatty Acids”. Plenary Presentation, Presented at the USDA sponsored *Framework for Dietary Recommended Intakes of Long Chain Polyunsaturated Fatty Acids*, 89th Annual American Oil Chemists Society Meeting, Chicago, IL, May 1998. (Invited Plenary Speaker) (Conference Award: Outstanding Oral Presentation at Conference).

“Discordant Effects of Inhibiting Arachidonic Acid Metabolism by Nonsteroidal Anti-inflammatory Drugs on Intestinal Tumorigenesis”. Invited Lecture, Experimental Biology ‘98 (FASEB), San Francisco, CA, April, 1998.

“Intestinal tumor Load in the Min/+ Mouse Model is not Correlated with Eicosanoid Biosynthesis”. Presented at the 5th International Conference on Eicosanoids & Other Bioactive Lipids in Cancer, Inflammation and Related Diseases. La Jolla, CA, September, 1997.

“Dietary Arachidonic Acid Abrogates the Effects of Dietary N-3 Polyunsaturated Fatty Acids”. Presented at the Symposium on *Biochemistry of Lipids*, at the 86th Annual American Oil Chemists Society Meeting, San Antonio, TX, May 1995. (Invited Plenary Speaker).

“The Antithetic Relationship of Dietary Arachidonic Acid and Eicosapentaenoic Acid”. Presented at the Symposium on *The Biological Effects of Dietary Arachidonic Acid*. American Institute of Nutrition, FASEB, Atlanta, GA, April, 1995. (Symposia organizer and chair, non-referred)

“The Arachidonic Acid Cascade and the Impact of Dietary Arachidonic Acid”. Presented at the 29th Annual Southeastern Regional Lipid Conference, Cashiers, NC, October, 1994.

“Evidence that Dietary Arachidonic Acid Elevates Circulating Triglyceride Levels”. American Institute of Nutrition, FASEB, Anaheim, CA, April, 1994.

“The Antithetic Relationship of Dietary Arachidonic Acid and Dietary Eicosapentaenoic Acid on Eicosanoid Production *In Vivo*”. American Institute of Nutrition, FASEB, Anaheim, CA, April, 1994.

“The Role of Dietary Polyunsaturated Fatty Acids on Altering Risk of Chronic Diseases. Knoxville

District Dietetic Association's Annual Nutrition Update Conference. May 1993. (Invited Plenary Speaker, non-refereed)

“Arachidonic, Linoleic and Eicosapentaenoic Acids: Comparison of Dietary Effects on Lipid and Eicosanoid Metabolism in the Syrian Hamster”. Presented at the Minisymposium on Fatty acids, Eicosanoids and the Immune System, American Institute of Nutrition, FASEB, Anaheim, CA, April, 1992.

“The Impact of Low Levels of Dietary Arachidonic Acid on Eicosanoid Metabolism”. Presented at the Third International Conference on Essential Fatty Acids and Eicosanoids. Adelaide, Australia, March 1992.

“The Effect of Dietary Fish Oil and Vitamin E on Eicosanoid Metabolism *In Vivo* and Tissue Vitamin E Status”. Presented at the Third International Conference on Essential Fatty Acids and Eicosanoids. Adelaide, Australia, March 1992.

“The Influence of Dietary n-3 Polyunsaturated Fatty Acids on 4-Series and 5-Series Sulfidopeptide Leukotriene Formation. Paper presented at the Minisymposium on “N-3 Fatty Acids and Lipid Metabolism”, American Institute of Nutrition, FASEB, Atlanta, GA, April, 1991.

“*In Vivo* Formation of Leukotriene E₅ by Murine Peritoneal Cells”. Paper presented for the American Society of Pharmacology and Experimental Therapeutics, FASEB, Washington, D.C., April, 1990.

“The Effects of Dietary Alpha-Linolenic Acid and Fish Oil on 5-Series Sulfidopeptide Leukotriene Formation *In Vivo*”. Paper presented at the N-3 Fatty Acids Minisymposium, American Institute of Nutrition, FASEB, Washington, D.C., April, 1990.

“The Unique Characteristics of the 5-Lipoxygenase from Potato Tubers and its Role in Leukotriene and Lipoxin Formation from Arachidonic Acid”. Paper presented at the International Symposium on Biological Oxidation Systems, Bangalore, India, October, 1989.

“Inhibition of the 5-Lipoxygenase from Potato Tubers by Glutathione Peroxidases”. Paper presented at the International Symposium on Polyunsaturated Fatty Acids and Eicosanoids, Hyderabad, India, November, 1989.

Record of Participation in, and Description of Seminars, Symposia, Workshops, Expert Panels

- 2019 New Chapter, Summary and Review of the Biological Effects of Zyflamend. Brattleboro, VT.
- 2015 Proctor and Gamble, “The Aspirations of Zyflamend in Promoting Health”. Cincinnati, OH
- 2011-14 New Chapter, Scientific Advisory Board Meetings, “Health Promotion and Disease Prevention of Bioactive Nutrients”, Brattleboro, VT.
- 2009 Workshop sponsored by Monsanto Co, St Louis, MO on “Health and Wellness in America”. Member of Expert Panel. January 2009
- 2008 California Walnut Commission, Scientific Advisory Board. Member of Expert Panel. Lake Tahoe, CA. August 2008.
- 2008 Symposium on Dietary Reference Intakes for Docosahexaenoic Acid. Martek Biosciences. “Measurements in food, dietary exposure and other methodologies involving docosahexaenoic

- Acid". July 2008. Member of Expert Panel.
- 2008 Workshop Sponsored by the International Life Sciences Institute on Establishing DRIs for Omega-3 Polyunsaturated Fatty Acids. "Dietary N-3 PUFA and Cancer". June 2008. Member of Expert Panel.
- 2007 International Nut Council. "*Nut Consumptions in th US and Contributions to Nutrient Intakes*" Davis, CA. February 2007. Member of Expert Panel.
- 2005 Symposium on the "*Calcium, Vitamin D, Dairy, and Prostate Cancer*", National Dairy Council. Chicago, IL, January 2005. Member of Expert Panel.
- 2003 National symposium on "*Improving Human Nutrition through Genomics, Proteomics and Biotechnology*", presented at the national meeting of the Federation of American Societies for Experimental Biology (FASEB), American Society for Nutritional Sciences (ASNS). San Diego, CA, April 2003 (Co-organizer and session co-chair with Dr. Naima Moustaid-Moussa).
- 2002 Pharmacia Oncology and Pfizer, Inc., Oncology Consultants Meeting on COX-2 Specific Inhibition in Cancer Treatment and Prevention, Palm Beach, Florida, October, 2002. Member of Expert Panel.
- 2001 NIH, USDA, ASNS and ODS (Office of Dietary Supplements) sponsored workshop on "*Essential Fatty Acids in Health Maintenance and Disease Prevention*". Washington, D.C. March 20, 2001. Invited Plenary Speaker
- 2000 Federation of American Societies for Experimental Biology (FASEB) Summer Conference 2000 on "*Cytokines and Lipid Mediators: Biosynthesis and Action in Health and Disease*". Session Chair and Invited Plenary Speaker. Saxtons River, VT, August 2000.
- 1999 Invited Session Chair at the 34th Annual Southeastern Regional Lipids Conference, Cashiers, NC, November, 1999.
- 1997 National minisymposium on "*Lipid and Fatty Acid Metabolism and Transport*", presented at the national meeting of the Federation of American Societies for Experimental Biology (FASEB), American Society for Nutritional Sciences. New Orleans, LA, April 1997 (session organizer and chair).
- 1996 National minisymposium on "*Lipid Metabolism and Transport*", presented at the national meeting of the Federation of American Societies for Experimental Biology (FASEB), American Society for Nutritional Sciences. Washington, D.C. April 1996 (session co-chair).
- 1996 National workshop on "*Research Interest Sections (RIS) of AIN: What Are They and Why Should We Care?*", presented at the national meeting of the Federation of American Societies for Experimental Biology (FASEB), American Society for Nutritional Sciences. Washington, D.C. April 1996. (Workshop organizer and chair)
- 1996 Clinical Site Reviewer for the National Institutes of Health (NIH), National Center for Research Resources Office. The responsibilities of this reviewer included review of all research projects, infrastructure and administration of the General Clinical Research Center at Bowman-Gray School of Medicine, Winston-Salem, NC.
- 1995 Symposium on the "*Research Needs Relative to Meat and Meat Lipids and Heart Disease*", National Live Stock & Meat Board. Chicago, IL, May 1995. Invited participant/discussant (closed invitation).
- 1995 National symposium on "*The Biological Effects of Dietary Arachidonic Acid*", presented at the national meeting of the Federation of American Societies for Experimental Biology (FASEB), American Society for Nutritional Sciences. Atlanta, GA, April 1995. (Symposium organizer and chair)
- 1995 National workshop on "*Grantsmanship for the Nutrition Scientist*", presented at the national meeting of the Federation of American Societies for Experimental Biology (FASEB), American

- 1991 Society for Nutritional Sciences. Atlanta, GA, April 1995. (Workshop organizer and chair)
National minisymposium on "*n-3 Fatty Acids and Lipid Metabolism*", presented at the national meeting of the Federation of American Societies for Experimental Biology (FASEB), American Society for Nutritional Sciences. Atlanta, GA, April, 1991 (session co-chair).

Other Presentations Outside of the University of Tennessee

"Diet and natural products in the treatment of cancer: Hoax or Hope?" Invited lecture at Georgia State University (School of Nursing and Health Professions), October 2015.

"The role of phytonutrients in the treatment of prostate cancer", Invited lecture at Penn State University (Department of Veterinary and Biomedical Sciences), February 2014.

"Diet and cancer: Is the secret in the combination of nutrients?" Invited lecture at Penn State University (Department of Nutritional Sciences), September 2013.

"Can diet provide any hope of impacting advanced stages of prostate cancer?" Invited lecture at University of Florida, October 2010.

"The A,B,Cs of Omega-3s", Invited lecture at Virginia Tech University, January 2010.

"Can diet provide any hope for preventing advanced prostate cancer?" Invited lecture at University of Missouri, October 2009.

"Dietary PUFAs: Things They Don't Talk". Invited lecture at University of Kentucky, Lexington, KY. Feb 2008

"Evidence for the Health Benefits of Omega-3 Fatty Acids". Invited lecture at University of Georgia, Athens, GA. October 2006

"Dietary PUFAs: Things They Don't Talk". Invited lecture at Texas A&M University, College Station, TX, Feb 2006

"The Yin and Yang of Dietary PUFAs on Intestinal Tumorigenesis". Invited lecture at Ohio State University, Columbus OH, October 2004.

"The Arachidonic Acid Cascade and APC-Driven Intestinal Tumorigenesis". Invited lecture at Texas A&M University, College Station, TX, April 2001.

"Health Benefits of Omega-3 Fatty Acids: Fact or Fiction". Update Workshop sponsored by the Knoxville Dietetic Association and the American Dietetic Association, January 2001.

"The Arachidonic Acid Cascade and Intestinal Tumorigenesis in the Apc^{Min/+} Mouse Model". Invited lecture at Searle Pharmaceuticals, Monsanto Corp., St. Louis, MO, February 2000.

"Effect of Altering Eicosanoid Biosynthesis on Intestinal Tumors in a Genetically Predisposed Mouse Model". Invited lecture at Purdue University, West Lafayette, IN, February 1997.

“Effects of Nonsteroidal Antiinflammatory Drugs on Intestinal Tumors in a Genetically Predisposed Mouse Model”. Invited lecture at Searle Pharmaceuticals, Monsanto Corp., St. Louis, MO, January 1997.

“Dietary Arachidonic Acid: Concerns and Controversies”. Invited lecture at the University of Kentucky, Lexington, KY, September, 1996.

“Biology of Dietary Arachidonic Acid: A Review”. Ruth Pike Lectureship sponsored by the Penn State University Graduate Nutrition Program, University Park, PA, October 1995.

“Dietary Arachidonic Acid: New Frontier in Polyunsaturated Fatty Acid Research”. Invited lecture at the University of Missouri Inter-graduate Research Program, Columbia MO, April 1995.

“Biological Effects of Dietary Arachidonic Acid”. Invited lecture at Searle Pharmaceuticals, Monsanto Corp., St. Louis, MO, April 1995.

“The Efficacy of Adding Arachidonic Acid to Infant Formulas”. Invited lecture at Ross Laboratories, Columbus, OH, May 1993