

BIOGRAPHICAL SKETCH

NAME Mark Failla	POSITION TITLE Professor and Chair		
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
St. Francis College	B.S.	1970	Chemistry
Indiana University	M.S.	1975	Microbiology
Indiana University	Ph.D.	1976	Microbiology
Rutgers University	Post-doctoral	1976-1978	Nutritional Biochemistry

Professional Experience

09/2000-Present Chair and Professor, Department of Human Nutrition, Ohio State University
 10/2000-Present Director, OSU Interdisciplinary Ph.D. Program in Nutrition
 03/2005-Present Associate Director, OSU Center for Functional Food Research and Entrepreneurship

01/1995-06/1999 Chair, Department of Nutrition and Foodservice Systems, UNC-Greensboro
 07/1991-08/2000 Professor, Department of Nutrition and Foodservice Systems, UNC-Greensboro
 07/1991-08/2000 Adjunct Professor of Biology, The University of North Carolina, Greensboro, NC
 08/1985-08/1999 Research Microbiologist, Beltsville Human Nutrition Research Center, USDA
 08/1986-08/1991 Adjunct Professor of Human Nutrition, University of Maryland
 11/1978-08/1986 Assistant and Associate Professor of Biochemistry and Nutrition, Virginia Polytechnic Institute and State University

Honors, Awards

American Society of Nutrition Dannon Institute Award for Mentorship (2007); Krauss Director's Award for Excellence in Graduate Student Research Mentorship, Ohio Agr. Research and Development (2005); Department of Human Nutrition's 2005 Faculty of the Year Award, OSU College of Human Ecology (2005); Lucille Hurley Distinguished Professor Award, Dept. of Nutrition, University of California at Davis (2001); Outstanding Advisor Award, School of Human Environmental Sciences, UNCG (1997); UNCG Research Excellence Award (1995); FASEB Visiting Scientist for Minority Institutions (1991); USDA Outstanding Performance Awards (1988, 1990); USDA Special Achievement Award (1987); Gamma Sigma Delta (Elected 1984); Sigma Xi (Elected 1977); National Research Service Award (AMO 05726), NIAMD, NIH (5/77-11/78); Predoctoral Microbiology Trainee, USPHS (7/74-7/76); President's Fellowship, Amer. Soc. Microbiol. (1975); O. Beck Award for Excellence in Chemistry (1970); Who's Who in American Colleges and Universities (1969); New York City Mayor's Scholarship (1966-1970).

National Appointments

USDA National Research Initiative Competitive Grants Program Review Committee (1990-1993), Panel Manager for Human Nutrition (1993); USDA National Needs Graduate Fellowships Grant Program (1999); FASEB Consensus Conference on FY 1995 Federal Research Funding in the Biomedical Sciences; Chairman, FASEB Summer Conference on Micronutrients: Trace Elements, (1992); Nutrition Study Section, NIH (1992-1996);

Metallobiochemistry Study Section, NIH (1984, 1985); Task Force on National Resources in Human Nutrition, Food and Nutrition Board of The National Academy of Sciences (1982); USDA NRI Strengthening Grants Program (1997); USDA Western Human Nutrition Research Center Technical Review Panel, Chair (1996, 2001); USDA ARS Proposal Review Panel for Human Nutrition: Nutritional Requirements and Bioavailability, Chair (2003).

Membership and Offices in Professional Organizations

American Society of Nutrition Science (Secretary, 1996-1998; Search Committee for Director, LSRO, 1998; LSRO Advisory Committee, 1995-1997, Chair, 1996-1997; Long Range Planning Committee, 2000-04; Bioactive Dietary Compounds Research Interest Section: Program Committee Chair, 2002-03, RIS Chair, 2004-2005); FASEB Research and Education Committee (1995-1998), Chair (1996-1998); FASEB Wellcome Visiting Professors Committee (1995-1997); Society for Experimental Biology and Medicine (Publications Committee, 2005-2007; Search Committee Chair for Editor-in-Chief, *Experimental biology and Medicine*; American Association for the Advancement of Science; North Carolina Academy of Sciences (President, 1997); Association of Nutrition Department and Program Administrators (Executive Committee, 1997-1999)

Editorial Boards

The Journal of Nutrition (1990-1994); Nutrition Research (1990-present); The Journal of Nutritional Immunology (1992-1997); Nutrition Reviews (1994-1996); Experimental Biology and Medicine (1995-1997; Associate Editor, 1998-2004); Molecular Nutrition and Food Research (2007-2009).

Publications (2003-2008)

- **Failla, M.L.** (2003) Trace elements and host defense: Recent advances and continuing challenges. *J. Nutrition* 133: 1443S-47S.
- Walsh, K.R., Zhang, Y.C., Vodovotz, Y., Schwartz, S.J. and **Failla, M.L.** (2003) Stability and bioaccessibility of isoflavonoids from soy bread during in vitro digestion. *J. Ag. Food Chem.* 51: 4603-09.
- Richards, H.A., Han, C.-T., Hopkins, R.G., **Failla, M.L.**, Ward, W.W. and Stewart, C.N. Jr. (2003) Safety assessment of recombinant green fluorescent protein orally administered to weaned rats. *J. Nutrition* 133: 1909-1912.
- **Failla, M.L.** (2003) Glucocorticoids decrease survival of immature human B cells in vitro. *Exp. Biol. Med.* 228: 879 (invited editorial)
- Chitchumroonchokchai, C., Schwartz, S.J. and **Failla, M.L.** (2004) Assessment of lutein bioavailability from meals and supplements using simulated digestion and Caco-2 human intestinal cells. *J. Nutr.* 134: 2280-2286.
- Chitchumroonchokchai, C., Bomser, J.A., Glamm, J.E. & **Failla, M.L.** (2004) Xanthophylls and α -tocopherol decrease UVB-induced lipid peroxidation and stress signaling in human lens epithelial cells. *J. Nutr.* 134: 3225-3232.
- German, B., Bauman, D.E., Burrin, D.G., **Failla, M.L.**, Freake, H.C., King, J.C., Klein, S., Milner, J.A., Peltó, G.H., Rasmussen, K.M. and Zeisel, S.H. (2004) Metabolomics in the opening decade of the 21st Century: Building the roads to individualized health. *J. Nutrition* 134: 2729-2732.
- **Failla, M.L.**, Chitchumroonchokchai, C. and Walsh, K. (2004) Bioavailability of β -carotene. *Proc. International Symposium on Biotechnology for Food & Nutritional Security*, pp.145-162.
- **Failla, M.L.** & Chitchumroonchokchai, C. (2005) In vitro models as tools for screening the relative bioavailabilities of provitamin A carotenoids in foods. *HarvestPlus Technical Monograph Series #3*, 32 pp. www.harvestplus.org/pubs.html
- **Failla, M.L.** (2005) Coupled in vitro digestion/Caco2 intestinal cell model for screening the relative bioavailability of carotenoids from foods and supplements. *Proceedings of 2005 International Symposium on Nutraceuticals and Food Safety for Well-being Life*, YongPyong, Korea. pp.14-22.
- Chitchumroonchokchai, J. & **Failla, M.L.** (2006) Hydrolysis of zeaxanthin esters by carboxyl ester lipase during digestion facilitates micellarization and uptake of the xanthophyll by Caco-2 human intestinal cells. *J.*

Nutrition 136: 588-594.

- Ferruzzi, M.G., Lumpkin, J.L., Schwartz, S.J. & **Failla, M.L.** (2006) Digestive stability, micellarization and uptake of β -carotene isomers by Caco-2 human intestinal cells. *J. Ag. Food Chem.* 54: 2780-2785
- Terjesen B.F., Lee, K-J., Zhang, Y., **Failla, M.** & Dabrowski, K. (2006) Optimization of dipeptide-protein mixtures in experimental diet formulations for rainbow trout (*Onchrhynchus mykiss*) alevins. *Aquaculture* 254: 517-525.
- Tian, Q., **Failla, M.**, Bohn, T. and Schwartz, S. (2006) High-performance liquid chromatography atmospheric pressure chemical ionization tandem mass spectrometry determination of cholesterol uptake by Caco-2 cells. *Rapid Comm. Mass Spectrometry.* 20: 3056-3060.
- Bhagavan, H.N., Chopra, R.J., Craft, N.E., Chitchumroonchokchai, C. & **Failla, M.L.** (2007) Assessment of Coenzyme Q absorption using an in vitro digestive/Caco-2 cell model. *International J. Pharmaceutics*, 333: 112-117.
- Walsh, K.R., Haak, S.J., Bohn, T., Tian, Q., Schwartz, S.J. & **Failla, M.L.** Isoflavonoid glucosides are deconjugated and absorbed in the small intestine of human subjects with ileostomies. (2007) *Am. J. Clin. Nutr.* 85: 1050-1056.
- Pullakhandam, R. & **Failla, M.L.** (2007) Micellarization and intestinal cell uptake of β -carotene and lutein from drumstick (*Moringa oleifera*) leaves. *J. Medicinal Foods* 10: 252-257.
- Bohn, T., Tian, Q.C., Chitchumroonchokchai, C., **Failla, M.L.**, Schwartz, S.J., Cotter, R., Waksman, J.A. (2007) Supplementation of test meals with fat-free phytosterol products can reduce cholesterol micellarization during simulated digestion and cholesterol accumulation by Caco-2 cells. *J. Ag. Food Chem.* 55: 267-272.
- Thakkar, S., **Failla, M.L.** (2007) β -carotene micellarization during *in vitro* digestion and uptake by Caco-2 cells is directly proportional to β -carotene content in different genotypes of cassava. *J. Nutr.* 137: 2229-2233.
- Huo, T., Ferruzzi M.G., Schwartz S.J., Failla, M.L (2007) Impact of fatty acyl composition and quantity of triglycerides on bioaccessibility of dietary carotenoids. *J. Agr. Food Chem.* 55: 8950-8957.
- Winnick, J.J., W. Michael Sherman, W.M., Diane L. Habash, D.L., Stout, M.B., **Failla, M.L.**, Belury, M.A., Schuster, D.P. (2008) Short-term aerobic exercise training in obese humans with type 2 diabetes mellitus improves whole body insulin sensitivity through gains in peripheral, not hepatic insulin sensitivity. *J Clin Endocrinol Metab* 93: 771-778.
- **Failla, M.L.**, Chitchumroonchokchai, C., Ishida, B. (2008) In vitro micellarization and intestinal cell uptake of *cis* isomers of lycopene exceed those of all-*trans* lycopene. *J. Nutrition* 138: 482-486.
- Long, A., Agler, A., Colitz, C., **Failla, M.**, Bomser, J. (2008) Isolation and characterization of primary canine lens epithelial cells. *Veterinary Ophthalmology* 11: 38-42.
- Ornelas-Paz, J., **Failla, M.L.** Yahia, E.L., Gardea-Bejar, A. (2008) The impact of stage of ripening and dietary fat on *in vitro* bioaccessibility of β -carotene in 'Ataulfo' mango. *J. Agr. Food Chem.* 56: 1511-1516.
- **Failla, M.L.**, Huo, T., Thakkar, SK. (2008) *In vitro* screening of relative bioaccessibility of carotenoids from foods. *Asian Pacific J. Clin. Nutr.* 17 (S1): 200-203.
- Walsh, K.R., Haak, S.J., Fastinger, N.D., Bohn, T., Tian, Q., Mahan, D.C., Schwartz, S.J., **Failla, M.L.** (2008) Gastrointestinal metabolism and absorption of soy isoflavonoids in ileal cannulated swine. *Molecular Nutr. Food Res.* 52: accepted.

**UNITED STATES DEPARTMENT OF AGRICULTURE
COOPERATIVE STATE RESEARCH, EDUCATION, AND EXTENSION SERVICE
CURRENT AND PENDING SUPPORT**

Mark Failla, PhD

Instructions:

1. Record information for active and pending projects, including this proposal. (Concurrent submission of a proposal to other organizations will not prejudice its review by CSREES.)
2. All current efforts to which project director(s) and other senior personnel have committed a portion of their time must be listed, whether or not salary for the person involved is included in the budgets of the various projects.
3. Provide analogous information for all proposed work which is being considered by, or which will be submitted in the near future to, other possible sponsors including other USDA programs.

NAME (List/PD #1 first)	SUPPORTING AGENCY AND AGENCY ACTIVE AWARD/PENDING PROPOSAL NUMBER	TOTAL \$ AMOUNT	EFFECTIVE AND EXPIRATION DATES	% OF TIME COMMITTED	TITLE OF PROJECT
	Current :				
Failla, Tanumahardjo	HarvestPlus	\$200,000	1/06-12/07	10%	Comparison of the relative bioavailability of provitamin A carotenoids using <i>in vitro</i> screening methods and the Mongolian gerbil
Bomser, Failla (co-PI), Colitz	Iams Company/OARDC	\$103,000	1/06-12/07	5%	Antioxidants and canine ocular health
Failla	HarvestPlus	\$45,000	12/06-12/07	7%	In vitro screening of accessibility of β -carotene in varieties of cassava processed according to culturally distinct styles
Failla	Pharmanex	\$112,435	1/07-6/08	10%	Bioavailability of carotenoid mixtures
Failla, M. (PI) Bomser, J. Gunn, J.	OARDC	\$50,000	7/07-6/09	3%	Soy saponins and gut health
Kerem, Vodovotz, Schwartz, Failla (co-PI)	USDA BARD	\$330,000	8/07-7/09	5%	Do saponins present in model systems and legume bread modulate cholesterol absorption in vitro and in vivo?
Ferruzzi, Campbell, Failla (co-PI), Harrison	USDA/NRI	\$490,000	12/07-11/09	5%	Dietary lipids as primary modulators of carotenoid bioavailability from vegetables
Failla (PI), Bomser, Disilvestro, Gunther, Melgar-Quinonez, Smith	USDA CREES Higher Education Grant	\$84,000	1/08-6/11	2 %	Recruit, Retain, Refresh, Reward: The 4 "Rs" Multicultural Scholars Program for Enhancing Diversity and Post-Baccalaureate Success of Under-Represented Students in Nutrition Sciences at The Ohio State University.
	Pending:				