CURRICULUM VITAE March 2020

Richard Carleton Baybutt, Ph.D.

Current Position

Professor
Nutrition Science Department
College of Allied Health Sciences
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East Carolina University
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Education

Postdoctoral Fellow Div. of Pharmacology and Experimental Therapeutics, Univ. of Kentucky, (Mentor: Dr Mark Gillespie, currently Professor and Head, Pharmacology, Univ. of Southern Alabama Medical School)
Ph.D. Nutrition, The Pennsylvania State University
M.S. Nutrition, University of Maryland
B.S. Psychology, Syracuse University

Positions

Professor* Nutrition Science Dept, East Carolina University, 2018-Present
USDA Panel Manager Agriculture and Food Research Initiative (AFRI) Competitive USDA Grants Program, 2018, 2019.
Professor and Chair*(tenured) Nutrition Science Dept., East Carolina Univ., 2016-2018
Professor and Chair (tenured) AHS Department, Wheaton College, 2008-2016
Professor Applied Health Science Department, Wheaton College, 2007
Associate Professor*(tenured) Dept. Human Nutrition, Kansas State Univ., 2000-2007
Assistant Professor* Department of Human Nutrition, KSU, 1994-2000
Instructor Dept. of Nutrition and Food Science, Univ. of Kentucky, 1994
*Graduate Faculty Status at ECU and in the Human Nutrition Department, the Interdepartmental Biochemistry Group, and the Kinesiology Dept. at KSU.

Administrative Experience

Chair, Research Interest Sect. (RIS), Diet & Cancer, Am.Soc.of Nutr., Boston, MA, 2018, 2019.
Department Chair, Nutrition Science Dept, East Carolina University, Greenville, NC, 2016-2018
Department Chair, Applied Health Science Dept, Wheaton College, Wheaton, IL, 2008-2016
Chair, Institutional Animal Care and Use Committee, Wheaton College, 2011
Chair, Provost's Office, The Big Twelve Faculty Fellowship Selection Committee, KSU, 2004
Chair, Faculty Council, College of Human Ecology, KSU, 2001-2002
Chair, College Committee on Planning (CCOP), KSU, 2001-2002
Chair, Nutrition and Exercise Faculty Search Committee, KSU, 2000
Chair, Building Space Committee, Dept. of Foods and Nutrition, KSU, 1995-1998
Chair, Extension Search Committee, KSU, 1998

Grant Proposal and Manuscript Reviewer

Panel Manager for the USDA (Agriculture and Food Research Initiative (AFRI) Competitive Grants Program), 2018, 2019.

Panel Member for the USDA (National Research Initiative (NRI) Competitive Grants Program), 2002, 2003, 2005, 2006, 2011, 2013, 2016, 2017.

External Reviewer for the Oklahoma State University Agriculture Experiment Station Research Excellence Committee for Sigma Xi to select the Master's Thesis of the year

Sarah Morrison Grant Competition, School of Medicine, Univ. of Missouri-Kansas City, KS.

Ad Hoc Reviewer for the American Diabetes Association, 2004, 2005, 2006, *The FASEB Journal, School Food Service Research Review (Published book review in vol. 20, p 37, 1996) Wadsworth Publishing Company / World Book Publishing (The World Book Encyclopedia) Clinical and Applied Immunology Review / European Journal of Clinical Nutrition European Respiratory Journal / Experimental Parasitology Journal of the American College of Nutrition / Journal of Applied Physiology Journal of Nutrition / Journal of Nutritional Biochemistry McGraw-Hill Publishing Company / Respiratory Research / Steroids / Toxicology Proceedings of the American Society of Experimental Biology and Medicine Toxicology Mechanisms and Methods / Molecular Nutrition and Food Research / Prostaglandins, Leukotrienes and Essential Fatty Acids*

Professional Society Memberships and Activity

American Society for Nutrition

Chair Elect/Chair/Outgoing Chair for Nutrition and Cancer Research Interest Section

Moderator for Webinar entitled "Can Meat Take the Heat or Should it Get Out of the Kitchen? Meat Cooked at High Temperature and Cancer Risk. 768 registered for webinar, presented on Thursday, December 12, 2019 presented by the American Society of Nutrition.

American Society for Nutritional Sciences: A constituent society of the Federation of American Societies for Experimental Biology

Gamma Sigma Delta

Sigma Xi Honor Society

Omicron Nu Honor Society

Research Experience

General Research Interests Nutrition, Toxicology, and Pathology

Specific Interests Vitamin A and Protection Against Emphysema/Cancer
Omega-3 Fatty Acids Prevents Pulmonary Fibrosis
Calorie Restriction/Exercise Inhibits Cancer Signaling Pathways
Role of Cux-1 Protein in Polycystic Kidney Disease

Patent: Provisional U.S. Patent Application: Composition and Use Thereof
PCT/US2017/049623, Filed International Patent 31 August 2017

Research and Student Development Awards

Dawley-Scholar Award for Faculty Excellence in Student Development, $2500, College of Human Ecology of Kansas State University, 2007.

Faculty Research Excellence Award, College of Human Ecology of Kansas State University, $1500, Role of vitamin A in lung cell repair, 2000.

Intercollegiate Competitive Research Award at the Pennsylvania State University, $800, The effects of fish oil on surfactant secretion by type II pneumocytes, 1990.

Research Grants

Extramural Funding

Department of Health and Human Services, **NIH R15** (National Institute of Health), $406,812, Cux1 and Cell Cycle Regulation in Kidney Development and Disease, 2014-2017. PI: G. Vanden Heuvel; Co-PI: R.C.Baybutt.

Department of Health and Human Services, **NIH R15** (National Institute of Health/National Cancer Institute), $300,000, Mechanism of Cancer Prevention by Weight Control, 2011-2014. PI: W.Wang; Co-PI: R.C.Baybutt.

Department of Health and Human Services, **NIH K-INBRE P20 RR016475** (National Institute of Health/National Cancer Institute), $50,000, Mechanism of Cancer Prevention by Weight Control, 2011. PI: W.Wang; Co-PI: R.C.Baybutt , Aims: Pilot grant for equipment purchase.

Department of Health and Human Services, **NIH R01** (National Institute of Health/National Cancer Institute), $689,849, Weight control, cell signaling and cancer prevention, 2004-2007. PI: W.Wang; Co-PI: R.C.Baybutt

US Department of Agriculture (National Research Initiative Competitive Grants Program), $170,000, Role of vitamin A in lung epithelial cell repair, 1999-2004. PI: R.C. Baybutt

American Heart Association (Kansas Affiliate), $42,817, Epidermal growth factor and surfactant preservation in lung injury, 1995-1997. PI: R.C. Baybutt.

American Heart Association Fellowship (Kentucky Affiliate), $18,000, Regulation of alveolar type II phenotype during cardiopulmonary dysfunction, 1993. PI: R.C. Baybutt.

Intramural Funding

G.W. Aldeen Faculty Development Grant, $2,336, Faculty release time for Spring 2016 to write a research paper and present research at the annual Experimental Biology meeting in San Diego, CA, Aprl 2-6, 2016.

Aldeen Faculty Development Grant, $6,750, Vitamin A protection against smoke-induced emphysema and how Flaxseed oil protects against pulmonary fibrosis, 2013-2016.

Aldeen Faculty Development Grant, $8,000, Does vitamin A effectively repair emphysema without adverse effects upon the bone? Wheaton College Memorial Fund, 2009-2010.

Aldeen Faculty Development Grant, $720 (publication costs), Decreases in bone mineral content by dietary all-trans retinoic acid precede decreases in bone mineral density in a weanling rat model of cigarette smoke-induced lung injuries, 2011.

Wheaton College Faculty Development Grant, $1600, Travel funds to present research findings with students at the national Experimental Biology'09 and '10 in April at New Orleans, LA, and Anaheim, CA, respectively, 2009-2010.

Terry C. Johnson Center for Basic Cancer Research Award, $4200, Equipment Grant (Eppendorf vacufuge concentrator), 2006. PI: R.C. Baybutt

Human Ecology Sponsored Research Overhead Award, $4000, Differential gene expression from lungs of cigarette smoke-exposed rats treated with or without retinoic acid, 2005. PI: R.C.Baybutt

Terry C. Johnson Center for Basic Cancer Research Award, $8000, Modulation of Signaling Pathways by Retinoic Acid in a Cigarette Smoke-Induced Model for Tracheal Hyperplasia, 2004-2005. PI: R.C. Baybutt

Kansas Agriculture Experiment Station, Multistate Regional Project (NC-167) N-3, Departmental Annual Allocation, Polyunsaturated Fatty Acids and Human Health and Disease, 2004-2007. PI: R.C. Baybutt.

Kansas Agriculture Experiment Station, Departmental Annual Allocation, The role of Vitamin A in Protecting the Lung Against Emphysema and Lung Inflammation, 2003-2008. PI: R.C. Baybutt.

College of Human Ecology (CHE) SRO Fund Research Competition, $5000, Functional Phytochemicals in Organic Vegetables for Cancer Prevention: A Pilot Study, 2003. PI: W.Wang, Co-PI: R.C. Baybutt.

Kansas Agriculture Experiment Station, $89,000, Vitamin A, polyamines and type II pneumocytes, 1995-2000. PI: R.C. Baybutt.

Travel Fellowship Program offered by the KSU Cancer Center, $354 matched funds with Departmental and Research Funds, Research Collaboration with the faculty of the University of Kentucky and the Tobacco and Health Research Institute, 2000.

Provost's Office, $1260, The Big Twelve Faculty Fellowship -- Establishing Collaborative Ties Among Faculty at the University of Missouri at Kansas City and K-State, 1997.

Dean's Office, $7200, College of Human Ecology Competition for Graduate Research Assistantships (GRAs), 1996.

Dean's Office, $3600, College of Human Ecology Competition for GRA, 1995.

International Presentations

Livingston, S., Reddy, N., Said, A., Raza, F., Kearns, D., Molteni, A., Baybutt, R.C., and Vanden Heuvel, G. Differential Collagen Deposition and Smooth Muscle Actin (SMA) Expression in the Lungs and Heart of Adult Transgenic Mice Overexpressing Cux-1. International Colloquium on Lung and Airway Fibrosis, Dublin, Ireland, Sept 24-28, 2016.

Harris, E., Andres, E., Jang, A., Petrie, A., Doo, C., Safavi, S., Herndon, B., Vanden Heuvel, G., Molteni, A., and Baybutt, R.C. Pathological and Fibrotic Changes in the Lung of Cux-1 Transgenic Mice, Mont-Tremblant, Quebec, Canada, Sept 20-24, 2014.

Molteni, A., Saettele, T., Herndon, B., Baybutt, R.C., and Standard, J. Vitamin A Deficiency and Effect on Pulmonary Fibrosis in Rats: Reversal of Effects by Retinoic Acid. 17th International Colloquium on Lung and Airway Fibrosis, Modena, Italy, Sept 29 – Oct 3, 2012.

Baybutt R.C., Lawrenz J., Standard J., Nitz J., Kamal A., Mehrer A., Dim D., Herndon B., Rawls J., Molteni A. Flaxseed Oil Protection from Bleomycin-Induced Lung Vascular Damage: A Rat Model, 16th International Colloquium on Lung and Airway Fibrosis, Busselton, Western Australia, Australia, October 30 - November 3, 2010.

Baybutt, R.C., Choi, S., Ransom, B., Herndon, B., Shaffley, S., Malburg, I., Kamal, A. Brennan, C., and Molteni, A. Protection from Bleomycin-Induced Fibrotic Damage in Rats by Flaxseed Oil Administration, 15th International Colloquium on Lung and Airway Fibrosis, Sunset Beach, North Carolina, September 28-October 4, 2008.

Baybutt, R.C., Bruening, C., Quinn, T. Herndon, B., and Molteni, A. Dietary Fatty Acids as Adjuvants in Healing Bleomycin-Induced Fibrosis, 14th International Colloquium on Lung and Airway Fibrosis, Eltville, Germany, September 7-10, 2006.

Molteni, A., van Dillen, C, Herndon, B., Quinn, T. Lindshield, B.,and Baybutt, R.C. Role of Retinoic Acid in the Pathogenesis of Cigarette Smoke-Induced Emphysema in the Rat, 13th International Colloquium on Lung and Airway Fibrosis, Banff, Canada, October 17-20, 2004.

Baybutt, R.C., Herndon, B., Latcham, S., Li, T. and Molteni, A. Effects of Retinoic Acid and Captopril on a Lung Fibrosis Model, 12th International Colloquium on Lung and Airway Fibrosis, Glion, Switzerland, October 6-9, 2002.

Baybutt, R.C., Latkowvich, P., Li, T., Rosales, C., Brady, H., and Molteni, A. Drugs, nutrients and their interaction in attenuating lung pathologies induced by monocrotoline. Lovelace Respiratory Research Institute International Symposium: Remodeling and Repair in Respiratory Diseases, Santa Fe, New Mexico, October 15-17, 2001.

Baybutt, R.C., Rosales, C., Kobbermann, S., Li, T., Veno, P. and Molteni, A. Antioxidants vs angiotensin converting enzyme inhibitors protective effect in the monocrotaline induced model of experimental fibrosis in rats. 11th International Colloquium on Lung and Airway Fibrosis, Stockholm, Sweden, September 23-26, 2000.

Graduate Student Research Advising as Major Professor

Zachary Bombstein, M.S candidate (2019-Present)
Master's Thesis Topic: Protection Against Emphysema and Bronchitis by vitamin A.

Fawziah Hammad, M.S. candidate (2017-Present)
Master's Report: Large doses of Vitamin D by Nursing Mothers as an Alternate to Supplementing their Child Directly.

Jorrie Wolff, M.S. (2017-2019)
Master's Report: Relationship between Dietary Gluten Content and Gluten-Related Disorders.

Seojin Choi, PhD (2006-2012)
Doctoral Thesis Title: Omega-3 Fatty Acids and Prevention of Pulmonary Fibrosis

Yuan Xue, PhD (2003-2006)
Doctoral Thesis Title: Precancerous lesions induced by cigarette smoke: Possible molecular mechanisms and prevention by dietary vitamin A intake but with potential osteoporotic risk

Sara Reppert, M.S. (2003-2005)
Master's Thesis Title: Cigarette smoke induced changes in vitamin A status and retinoid profile

Yuan Xue, M.S. (2001-2003)
Master's Thesis Title: Cigarette smoke components impair type II pneumocyte function: Partially restored by Vitamin A

Ting Li, M.S. (1999-2001)
Master's Thesis Title: Cigarette smoke-induced vitamin A depletion is associated with the development of emphysema.

Heather Brady, M.S. (1997-2000)
Master's Thesis Title: The effect of dietary fish oil on monocrotaline-induced pulmonary hypertension in rats.

Ling Hu, M.S. (1997-2000)
Master's Thesis Title: Vitamin A deficiency alters the morphology of lung and liver parenchyma and impairs the function of type II pneumocyte.

Vance Smith, M.S. (1997-1999)
Master's Thesis Title: Monocrotaline alters vitamins A and E concentrations in rat lung and liver.
Grace Swamidas, M.S. (1995-1997)

Master's Thesis Title: Dietary vitamin A supplementation mitigates monocrotaline-induced pulmonary hypertension.
Awarded the Home Economists in Home and Community Travel Award, (1997).

Rodrick Heger, M.S. (1995-1997)
Master's Thesis Title: Regulation of polyamine synthesis and transport by retinoic acid and epidermal growth factor in adult rat type II pneumocytes.

Elena Donskaya, M.S. (1995-1997)
Master's Thesis Title: Retinoic acid modulates DNA synthesis and epidermal growth factor receptor network in cultured adult rat type II pneumocytes.
Awarded the Home Economists in Home and Community Travel Award (1997).

Advising/Committee Member for other Graduate Students

Ph.D. students
Ping Ouyang (2006-2008)
Allisha Marie Weeden (2006-2008)
Gabriel Cook - Outside Chair of Committee (2004-2005)
Xiulian Chen (2002-2005)
Aaron F. Park – Outside Chair of Committee (2003)
Abdulaziz Al-Sahal – Outside Chair of Commit. (2003)
Wei Zou (1999-2002)
Sang-Kyu No (1997-2000)

M.S. students
Jia Lu (2004-2005)
Hongyan Qu (2003-2004)
Leonie Chenoweth (2003-04)
Helena Loest (2001-2002)
Jill Murphy (1999-2001)
Bryan Helwig (1999-2000)
Margaret Y. Jiang(1999-00)
Richard Chiang (1999-2000)
Hae-Jung Chung (1995-1997)
Sang-Kyu No (1994-1996)

Peer-Reviewed Publications

Baybutt, R.C., Standard, J., Estorge, B., Dim, D, Quinn, T., Hamdan, H., Kunz, K., Herndon, B., Zia, H., Mansour, A., Lankachandra, M., and Molteni, A. Bone Restoration by Retinoic Acid in a Vitamin A Deficient Rat Model. Revised discussion needed, then to be submitted to Journal of Biomedical Science, 2020.

Smith, V.L.B., Belfi, E., Kearns, D., and Baybutt, R.C. Monocrotaline alters vitamin A and vitamin E concentrations in lung and liver of rats. *Journal of Nutrition and Food Sciences*, under review, 2020.

Livingston, S., Carlton, C., Sharma, M., Kearns, D., Baybutt, R., and Vanden Heuvel. Cux1 regulation of cyclin kinase inhibitor p27kip1 in polycystic kidney disease is attenuated by HDAC inhibitors. *Gene*: X, 2(100007): 1-7, 2019.

Porath, B., Livingston, S., Andres, E.L., Petrie, A.M., Wright, J.C, Woo, A.E., Carlton, C.G., Baybutt, R., and Vanden Heuvel, G.B. Cux1 promotes cell proliferation and polycystic kidney disease progression in an ADPKD mouse model. *American Journal of Physiology-Renal Physiology* 313(4): F1050-F1059, 2017.

Xue, Y., Harris, E., Wang, W., and Baybutt, R.C. Vitamin A depletion induced by cigarette smoke is associated with an increase in lung cancer-related molecular markers in rats. *Journal of Biomedical Science*, 22(84): 1-9, 2015.

Standard, J., Jiang, Y., Yu, M., Su, X., Zhao, Z., Xu, J., Chen, J., King, B., Lu, L., Tomich, J., Baybutt, R., and Wang, W. Reduced signaling of PI3K-Akt and RAS-MAPK is the key target for weight-loss-induced cancer prevention by dietary calorie restriction and/or physical activity. *Journal of Nutritional Biochemistry* 25:1317-1323, 2014.

Thomas, R., Meadors, E., Pilgrim, C., Johnson, H., Smith, M., Ianuzzo, C.D., and Baybutt, R.C. Two weeks of low dose fish oil supplementation followed by a single bout of exercise increases high density lipoprotein cholesterol in college-aged and middle-aged men. *Journal of Nutrition and Food Sciences* 3(5): 1-6, 2013.

Lawrenz, J.M, Herdon, B., Kamal, A., Mehrer, A., Dim, .D.C., Gasper, D, Nitz, J, Molteni, A., and Baybutt, R.C. Dietary flaxseed oil protects against bleomycin-induced pulmonary fibrosis. *Pulmonary Medicine* 2012:1-11, 2012.

Xue, Y., Meadors, E.P., Wang, W., Baybutt, R.C. Microarray Analysis Reveals that Dietary Retinoic Acid may Suppress Cancer-Related Gene Expression of the Lungs of Cigarette-Smoked Rats. *Journal of Nutrition and Food Sciences* S2:1-6, 2012.

Xue, Y., Haub, M.D., Smith, B.W., and Baybutt, R.C. Decreases in bone mineral content by dietary all-trans retinoic acid precede decreases in bone mineral density in a weanling rat model of cigarette smoke-induced lung injuries. *International Journal for Vitamin and Nutrition Research*. 81 (1): 5-11, 2011.

Baybutt, R.C., Smith, B.W., Donskaya, E.V., Hu, L., Li, T., and Wang, W. The proliferative effects of retinoic acid on primary cultures of adult rat type II pneumocytes depend upon cell density. *In Vitro Cellular & Developmental Biology*, 46: 20-27, 2010.

Weeden AM, Remig VM, Holcomb CA, Herald TJ, and Baybutt RC. Vitamin and mineral supplementation have a nutritionally significant impact on the micronutrient intakes of older adults attending senior centers. *Journal of Nutrition for the Elderly* 29 (2):241-254, 2010.

Xie, L. Doan, H., Ouyang, P., Sylvester, J., Zhang, K., Chen, J., Jiang, Y. Herndon, B., Molteni, A., Reichle, M., Haub, M.D., Baybutt, R.C., and Wang, W. Selective reduction of IGF-1 signal pathways in weight control mice by physical exercise when compared to dietary calorie restriction. *J. Biol. Chem*. 282 (38): 28025-28035, 2007.

Baybutt, R.C., Herndon, B.L., Umbehr, J., Mein, J. Xue, Y., Reppert, S., van Dillen, C., Halder, A. and Molteni, A. Effects of cytokines and histology by treatment with the ACE inhibitor captopril and the antioxidant retinoic acid in the monocrotaline model of experimentally induced lung fibrosis. *Current Pharmaceutical Design* 13: 1327-1333, 2007.

Baybutt, R.C. and Molteni, A. Vitamin A and Emphysema. In Vitamins and Hormones. Ed. Gerald Litwack, Elsevier/Academic Press, San Diego, CA, 2007.

Lu, J., Xie, L., Sylvester, J., Wang, J., Baybutt, R.C., and Wang, W. Different gene expression in weight control mice between calorie restriction and physical exercise. *Exper. Biol. Med.* 232:473-480, 2007.

Xue, Y., Williams, T., Li, T., Umbehr, J., Fang, L., Wang, W., and Baybutt, R.C. Type II pneumoytes modulate surfactant production in response to cigarette smoke constituents: Restoration by vitamin A and E. *Toxicology In Vitro* 19: 1061-1069, 2005.

Qu, H., Madl, R.L., Takemoto, D.J., Baybutt, R.C., and Wang, W. Phytochemical Lignans Associated with Cancer Prevention by Wheat Bran: Anti-cancer Characteristics in Colon Cancer SW480 Cells. *J. Nutr*. 135: 598-602, 2005.

Kamal, R., Molteni, A. Zoubine, M., Norkin, M., Reppert, S., Xue, Y., Baybutt, R., Herndon, B., and Shnyra, A. Diet high in Retinoic Acid controls M1/M2 activation phenotypes in macrophages and protects from monocrotaline-induced pulmonary fibrosis. *Nutrition Research* 24: 773-785, 2004.

Molteni, A., Herndon, B., Kamal, A., Castellani, W., Reppert, S., Xue, Y., Umbehr, J., and Baybutt, RC. Effects of the antioxidant alpha-tocopherol in an experimental model of pulmonary hypertension and fibrosis: Administration of monocrotaline. *Nutrition Research* 24: 707-720, 2004.

Li, T., Molteni, A., Latkovich, P., Castellani, W., and Baybutt, R.C. Vitamin A depletion induced by cigarette smoke is associated with the development of emphysema in rats. *J. Nutr*. 133: 2629-2634, 2003.

Baybutt, R.C., Rosales, C., Brady, H., and Molteni, A. Dietary fish oil protects against lung and liver inflammation and fibrosis in monocrotaline treated rats. *Toxicology* 175: 1-13, 2002.

Baybutt, R.C., Hu, L., and Molteni, A. Vitamin A deficiency injures lung and liver parenchyma and impairs function of rat type II pneumocytes. *J. Nutr*. 130: 1159-1165, 2000.

Baybutt, R.C., and Molteni, A. Dietary ∃-carotene protects lung and liver parenchyma of rats treated with monocrotaline. *Toxicology* 137: 69-80, 1999.

Heger, R.J., and Baybutt, R.C. Regulation of polyamine synthesis and transport by retinoic acid & epidermal growth factor in cultured rat type II pneumocytes. *J.Nutr.Bioch.*10: 518-524, 1999.

Swamidas, G.P., Basaraba, R.J., and Baybutt, R.C. Dietary retinol inhibits inflammatory response of rats treated with monocrotaline. *J. Nutr*. 129: 1285-1290, 1999.

Baybutt, RC, SM Aziz, JA Fagerland, JW Olson, and MN Gillespie. Monocrotaline alters type II pneumocyte morphology and polyamine regulation. *Toxicol. Appl. Pharmacol*. 129: 188-195, 1994.

Baybutt, R.C., J.E. Smith, M.N. Gillespie, T.G. Newcomb and Y.-Y. Yeh. Arachidonic acid and eicosapentaenoic acid stimulate type II pneumocyte surfactant secretion. *Lipids* 29: 535-539, 1994.

Baybutt, R.C., J.E. Smith, and Y.-Y. Yeh. The effect of dietary fish oil on alveolar type II cell fatty acids and lung surfactant phospholipids. *Lipids* 28:167-172, 1993.

Presentations/Abstracts

Livingston, S., Carlton, C., Sharma, M., Baybutt, R., and Vanden Heuvel, G. The homeodomain protein Cux1 regulates cell cycle progression in polycystic kidney disease through specific chromatin interactions. FASEB 31, 2017.

Kearns, D., Livingston, S., Baybutt, R., and Vanden Heuvel, G. Deletion of Notch Signaling in the Developing Mouse Kidney Results in a Disruption of Planar Cell Polarity in Tubule Epithelial Cells. FASEB 30, A1031.1, 2016.

Reddy, N.A., Raza, F. Said, A., Livingston, S., Jacobsen, D., Kearns, D., Baybutt, R.C., Vanden Heuvel, G., Molteni, A., and Hamidpour, S. Absence of Mast Cells in an Experimental Model of Pulmonary and Cardiac Fibrosis, the Cux-1 Mice. FASEB 30, A50.10, 2016.

Helgeson, S., Harris,E. Herndon, B., Vanden Heuvel, G., Baybutt, R., and Molteni, A. Incidence of Pulmonary Fibrosis in Lungs of Cux1 Transgenic Mice. FASEB 29, A411.8, 2015.

Vanden Heuvel, G., Wright,J. Andres,E., WooA., Baybutt, R.C., and Paul, B. The homeodomain Protein Cux1 is Required for Cyst Development in an ADPKD Mouse Model. FASEB 29, A663.3, 2015.

Dasari, S., Kesh, S., Buursma,J., Livingston,S., Kearn,D., Herndon, B., Vanden Heuvel, G., Baybutt, R., and Molteni, A. Smooth Muscle Actin (SMA1) Stain Lungs and Heart on Strains of CUX-1 Transgenic Mice. FASEB 29, 2015.

Raza, F., Fletcher, A., Buursma,J., Livingston,S., Kearn,D., Herndon, B., Vanden Heuvel, G., Baybutt, R., and Molteni, A. Pathological Changes in the Heart of Cux1 Transgenic Mice. FASEB 29, 2015.

Harris, E.D., Andres, E.L., Jang, I., Petrie, A., Doo, C., Safavi, S., Herndon, B., Vanden Heuvel, G.B., Molteni, A., and Baybutt, R.C. Pathological Changes in Lung of Cux-1 Transgenic Mice. FASEB 28, 2014.

Harris, E.D., Standard, J.M., Bellfi, E.E., Cook, K.M., Sheehy, K.G., Gevry, T.R., Andres, E.L., Pederson, K.L., Woo, A.E., Molteni, A., Vanden Heuvel, G.B., and Baybutt, R.C. Dietary

Flaxseed Oil Decreases PCNA Expression in Rat Lung Tissue in a Bleomycin-Induced Model for Pulmonary Fibrosis. FASEB 27, 2013.

H. Hamdon, J. Standard, B.L. Herndon, K. Kunz, J. Hufstedler, J. Chou, D. Dim, H. Zia, A. Mansour, M. Lankachandra, R.C. Baybutt and A. Molteni. Restoration and Bone Morphology by Retinoic Acid in a Vitamin A Deficient Model in Rats. FASEB 26, 2012.

J.M. Lawrenz, R.C. Baybutt, C. Baidoo, D. Dim, Q. Chang, B. Herndon, A. Poisner and A. Molteni. Mast Cell Role in Pulmonary Hypertension in Rat Models. FASEB 26, 2012.

S. Choi, D. Lin, A. Molteni, W. Wang and R.C. Baybutt. Protective Effect of Dietary Flaxseed Oil on Bleomycin-Induced Pulmonary Fibrosis. FASEB 26, 2012.

M.D. Fenlason, J. Kooiman, J. Standard, C. Becker, E.P. Meadors, K. Godden, A. Molteni and R.C. Baybutt. Retinoic Acid and Cod Liver Oil Replenishing Liver Vitamin A stores in Vitamin A Deficient Rats. FASEB 26, 2012.

R.C. Baybutt, J.T. Standard, K.T. Kunz, J. Chou, J. Hufstedler, R. Thompson, C. Risma, and A. Molteni. Vitamin A deficiency decreases bone mineral content in rats. Presented as an oral presentation at the Vitamin A, Carotenoid and Retionoids Minisymposiums. FASEB 25, 2011.

M.L. Dozeman, A. Lawrence, and R.C. Baybutt. Elevated fasting blood glucose levels depends on paternal history of diabetes in Wheaton College football players. FASEB 25, 2011.

S. Choi, D. Lin, B. Ransom, A. Molteni, B. Herndon, W. Wang, and R.C. Baybutt. Dietary flaxseed oil decreases interleukin-1 and alpha-smooth muscle actin in a bleomycin-induced fibrosis model in rats. FASEB 25, 2011.

Mehrer A, Kamal A, Herndon BL,, Fibuch E., Quinn, T, Molteni, A, Lawrenz, L, Smith B, Nitz J, Gasper D, and R.C. Baybutt. Flaxseed oil protection from bleomycin-induced lung vascular damage: a rat model. FASEB 24, 2010.

A. Kamal, B. Herndon, A. Molteni, J. Lawrenz, Brendon Smith, S. Addington, Brad Smith, S. Alajajian, D. Gasper, and R.C. Baybutt. Lung protection against the chemotherapeutic agent bleomycin by dietary flaxseed oil. FASEB 23, 2009.

R.M. Thomas, H. Johnson, M. Smith, and R.C. Baybutt. The short-term effects of exercise and omega-3 fatty acids on the plasma lipid profile in Wheaton College students. FASEB 23, 2009.

Malberg, I, Shaffiey, Herndon, B, Molteni, A., Choi, S., Ransom, B., and Baybutt, R.C. Flaxseed oil limits bleomycin-induced pulmonary fibrosis and related right ventricle hypertrophy in rats. FASEB 22:A108, 2008.

Baybutt, R.C., Herndon, B., Bruening, C., Quinn, T. and Molteni, A. Polyunsaturated Fatty Acids Alter Profibrotic Outcomes of Bleomycin Treatment. FASEB 21, 2007.

Doan, H., Ouyang, P., Xie, L., Vasques, D., Herndon, B., Molteni, A., Reichle, M., Haub, M.D., Baybutt, R.C., and Wang, W. Supression of PI3K by weight loss via dietary calorie restriction and/or treadmill exercise in TPA-induced mouse skin. FASEB 20:A559, 2006.

Xue,Y, Wang, W, and Baybutt, RC Microarray analysis of lung cancer-related signaling pathways in cigarette smoke-exposed rats with/without vitamin A supplementation. FASEB 20:A1013, 2006.

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Xue, Y., Herndon, B., Boyd, S., Li, T., Baybutt, R.C., and Molteni, A. Effects of retinoic acid and ACE inhibition on the monocrotaline lung fibrosis model. FASEB J. 17, A1199, 2003.

Baybutt, R.C., Herndon, B., Latcham, S., Lopez, M., and Molteni, A. Interferon gamma changes *in vivo* with retinoic acid feeding in rats. FASEB J. 16, A968, 2002.

Molteni, A., Li, T., Veno, P., Herndon, B.L., Brizio-Molteni, L., Castellani, W., Latcham S., and Baybutt, R.C. Retinoic acid stimulates ∀-smooth muscle actin (∀-SMA) in the lungs, heart, liver and kidney of normal and captopril treated rats. FASEB J. 16, A626, 2002.

Umbehr, J., Li, T., Purewall, D.K., Castellani, W., Rosales, C., Latkovich, P., Baybutt, R., and Molteni, A. Treatment with dietary retinoic acid protects cigarette smoke-exposed rats from the development of pulmonary emphysema and of chronic bronchitis. FASEB J. 16, A626, 2002.

Li, T., Molteni, A., Latkovic, P., Castellani, W., and Baybutt, R.C. Cigarette smoke-induced vitamin A depletion in rats is associated with the development of emphysema. FASEB J. 15, A628, 2001.

Zelkind, M., Baybutt, R., Veno, P., Rosales, C., Molteni, A., and Fibuch, E. Effect of different concentrations of retinoic acid and retinoic acid derivates in a rat model of experimentally induced interstitial pneumonia and fibrosis (monocrotaline administration). Resident Anesthesia Research Day, Northwestern University Medical School, Chicago, IL, March 23-25, 2000.

Rosales, C., Veno, A., Molteni, A. Brady, H., and Baybutt, R.C. Fish oil shows minimal protection of lung but prevents liver injury of monocrotaline (MCT)-treated rats. FASEB J. 14:A608, 2000.

Baybutt, R.C. and Smith, V.L. Monocrotaline decreases the concentration of retinol in the lung, but has no effect on liver concentrations in rats. FASEB J. 13:A897, 1999.

Smith, V.L., and Baybutt, R.C. Monocrotaline increases the concentration of ∀-tocopherol in the lungs and liver of rats. FASEB J. 13:A240, 1999.

Hu, L., Molteni, A., and Baybutt, R.C. Vitamin A deficiency alters lung and liver parenchyma and impairs function of the type II pneumocyte. FASEB J. 13:A899, 1999.

Baybutt, R.C., A. Molteni, S. Rawson, B. Moore, E.V. Donskaya, and G.P. Swamidas. β-Carotene protects the lung and liver parenchyma in a monocrotaline model of lung injury and pulmonary hypertension in rats. FASEB J. 12:A790, 1998.

Donskaya, E.V., & R.C. Baybutt. Retinoic acid increases the number of epidermal growth factor receptors and inhibits DNA synthesis in cultured type II pneumocytes. FASEB J. 11:A411, 1997.

Swamidas, G.P., and R.C. Baybutt. Dietary retinol does not attenuate pathologies associated with monocrotaline-induced pulmonary hypertension. FASEB J. 11:A141, 1997.

Molteni, A., E.V. Donskaya, and R.C. Baybutt. Expression of lactate dehydrogenase isoenzymes in normal and monocrotaline-treated cultures type II pneumocytes. FASEB J. 10:A351, 1996.

Swamidas,GP, Heger,RJ & RC Baybutt. Ascorbic acid does not attenuate monocrotaline-induced inhibition of cultured rat type II pneumocyte surfactant synthesis. FASEB J.10:A348, 1996.

Heger, R.J., G.P. Swamidas and R.C. Baybutt. Differential effects of serum upon surfactant synthesis of freshly isolated verses cultured type II pneumocytes. FASEB J. 10:A357, 1996.

Donskaya, E.V., and R.C. Baybutt. Interaction of ethanol, dimethylsulfoxide or acetone with serum on cultured rat type II pneumocyte surfactant synthesis. FASEB J. 10:A357, 1996.

Baybutt, R.C., D. Lipke, J.W. Olson, and M.N. Gillespie. Monocrotaline-induced morphological changes of cultured rat type II pneumocyte extracellular matrix. FASEB J. 9:A715, 1995.

Baybutt, R.C., J.W. Olson, and M.N. Gillespie. Surfactant regulation in monocrotaline-treated type II pneumocytes. FASEB J. 8:A140, 1994.

Pirc, K., R.C. Baybutt, J.A. Fagerland, J.W. Olson, and M.N Gillespie. Epidermal growth factor expression in rat cultured type II pneumocytes:Effect of axisymmetric stress. FASEB J. 7:A375,1993.

Baybutt, R.C., S.M. Aziz, J.W. Olson, and M.N. Gillespie. Polyamine regulation in monocrotaline-treated type II pneumocytes. FASEB J. 7:A355, 1993.

Yeh, Y.-Y. and R.C. Baybutt. Stimulation of surfactant secretion by eicosapentaenoic acid and arachidonic acid in alveolar type II cells. FASEB J. 7:A672, 1993.

Other Publication

Baybutt, R.C. Health Food (Types of Health Foods & History), World Book Encyclopedia, 2003.

Invited Presentations

Cigarette smoke, vitamin A deficiency and emphysema, presented to the Extension Nutrition Educators, 2006.

Cigarette smoke, vitamin A deficiency and emphysema, presented at the Annual AES/CES Conference at Kansas State University, 2005.

Cigarette smoke, vitamin A deficiency and emphysema. Nutritional Sciences Seminar, Department of Nutritional Sciences, the University of Connecticut, 2005.

Cigarette Smoking, Vitamin A Deficiency, and Emphysema. Biochemistry Seminar, Kansas State University, 2004.

Antioxidants as protectors from chronic lung damage, School of Pharmacy, Division of Pharmacology, Medical School Building, University of Missouri-Kansas City, November 5, 1997, supported by The Big Twelve Faculty Fellowship, K-State Provost's Office.

Monocrotaline disrupts type II pneumocyte polyamine regulation and surfactant metabolism. Interdepartmental Biochemistry Group, K-State, Manhattan, KS, 1995.

Teaching Experience

Teaching Awards:

Nominated three separate years by my students and colleagues for the College of Human Ecology Teaching Award at KSU and have consistently received high teaching evaluations.

Courses at **East Carolina University:**

NUTR 2105, **Nutrition Science** (3 credits-125 students), 2018-Present.

NUTR 3104, **Vitamins and Minerals** (3 credits-36 students), 2017-Present.

NUTR 3105, **Nutritional Biochemistry** (3 credits-36 students), Guest Lecturer (for Lipids section), 2017-Present.

Courses Taught at **Wheaton College:**

AHS101, **Wellness** (2 credits--about 35 students every semester). The purpose of the class is to teach the importance of soundness in all aspects of one's humanity.

AHS 271, **Research Methods and Statistics** (4 credits, about 50 students). This class exposes students to various types of research and statistical methods. The students write a research paper and give an oral presentation. The class introduces students to publishing and presenting their findings at national meetings. In response to our Applied Health Science ten year program review the course was divided into two classes: Research Methods (2 credits) and Biostatistics (4 credits). The intent was to increase training in statistics for professional school.

AHS 368, **Concepts in Nutrition** (4 credits—about 40 students). This is a biochemistry-based class in nutrition. The purpose of this class is to thoroughly discuss all of the nutrients with particular emphasis on how each nutrient is necessary for prevention of acute and chronic diseases, as well as for achieving optimal health. Detailed mechanisms are covered for initiation and prevention of nutrition-related diseases.

AHS 400, **Nutrition and Disease** (2 credits—9 students). In this class the students learn how nutrients protect against chronic diseases. Each student will review and critique a research article involving a nutrient that relates to a specific chronic disease.

AHS 468, **Advanced Nutrition** (2 credits—7 students) This course covers nutrient metabolism and functions of the fat soluble and water soluble vitamins. The students will learn about their bioavailability, hormonal regulation, requirements, deficiency, toxicity, and their interaction with other nutrients in more detail than in Concept in Nutrition.

AHS 495, **Independent Research --Omega-3 Fatty Acids and Fibrosis** (2-4 credits; 4-6 students) I met with students weekly for breakfast, devotions, journal club, and lab meetings throughout the year to critique current peer-reviewed papers and to plan experiments. Students presented research at the annual national Experimental Biology (EB) meeting.

AHS 495, **Independent Research –Cux-1 Protein and Polycystic Kidney Disease** (2-4 credits; 4-7 students) I meet with students weekly (Thurs 7:30-9 am) for breakfast, devotions, lab meeting and journal club throughout the year to go over our NIH grant, to critique current peer-reviewed published papers, and to plan experiments with plans to present at EB.

Courses Taught at **Kansas State University:**

HN 400, Human Nutrition (3 credits) An introductory nutrition class for majors.
Fall/Spring 1994-2002. Avg. 50 students, 48 lectures/semester.
Spr. 2004-2007. About 100 students per class.

HN 620, Nutrient Metabolism (a nutritional biochemistry class – 4 credits) An advanced nutrition class for juniors, seniors, and graduate students. Fall 2002-2007. About 70 undergraduate and 10 graduate students. Lead instructor for the team-taught course.

HN 812, Advanced Micronutrient Metabolism (vitamins and minerals–3 credits). A graduate class of about 7 graduate students. Lead instructor of this team-taught course. Offered Spring biannually, 2003-2007.

HN 499, Problems/Human Nutrition (Nutritional Toxicology Research [1-3 credits]), Fall/Spr, 1995-2007 (2-4 undergraduate students/semester). Students gain experience in laboratory research, discuss their results at laboratory meetings, and take turns leading the discussion of our weekly journal clubs in which we critique research articles. Most of the students are honors students or cancer research award recipients.

Courses Taught as **Technology Assisted Distance Education** at **K-State:**

HN 400, Human Nutrition (3 cred.)-Fall/Spr., 1998-2003. Delivered by internet with audio. Fall/Spring/Summer. In 2003-2008 the course was offered on the world-wide web. The lectures were videotaped/recorded onto CD's & power-point notes available on internet.

HN 400-Teleconferencing, Human Nutrition (3 credits) - Delivered by Live Video Conferencing, Statewide, Spring/Summer, 1997

Other Courses Taught at K-State:

HN 650, Practicum in Nutrition (1-3 credits), Spring, 1997
HN 912, Advanced Nutrition: Minerals (2 credits), Fall, 1996, 1998

Guest Lectures at K-State:

HN 132, Basic Nutrition (3 credits), lipids lecture, 1997
HN 550, Nutrient Metabolism (3 credits), lipids/ fat soluble vitamins lecture, 1999, 2000
HN 810, Advanced Macronutrient Metab. (carbohydrate, fat, and protein metabolism), taught lipids and lipoprotein sections of the team-taught course, every other Spring-- 2004.

HN 820, Functional Foods for Chronic Disease Prevention, taught carotenoids, omega-3 fatty acids and conjugated linoleic acid in a team-taught course, every other Fall, 2004-2007
BIOCH 910, Lipids, eicosanoid metabolism (2 credits), Fall, 1995, 1997, 1999, 2001.
Course Taught at **the University of Kentucky:**
N 510, Advanced Nutrition (gastrointestinal physiology & biochemistry, 3 credits), 1994
Courses Taught as **Teaching Assistant (Penn State University):**
N 119, Elementary Foods (3 credits)
N 452, Nutrition and Disease (a pathophysiology emphasis – 3 credits)

Completed ***The Instructional Development Program*** of the Office of the Dean for Undergraduate Programs and Vice Provost at the Penn State University. The purpose was to train graduate teaching assistants in how to effectively teach undergraduates.

Courses Taught as **Teaching Assistant (University of Maryland):**
N 450, Advanced Human Nutrition (covered cell biology – 3 credits)
C 103, General Chemistry (4 credits)

Advisor for the Applied Health Science Major at Wheaton College (2007-2016):
My advising responsibilities consist of advising 45-50 Applied Health Science majors. I wrote about 12-15 reference letters each year for Wheaton College students. Our department has an exceptionally high success rate in placing graduates in professional schools. Additionally, I meet regularly with my research group to mentor and advise. We have the fastest growing major in the natural sciences.

Advisor for the Nutrition Science Major at Kansas State University (2000-2007):
I was advisor for the science-based degree program in nutrition that prepared students for professional schools after matriculation. The year that I was tenured and promoted to Associate Professor in 2000, I became the Nutrition Science advisor and began advising about 20 students. In 2007 I had over 60 nutrition science majors. Students that were part of my research team were also mentored and advised. These students, with their projects, are listed later in the CV. The success rate for entry into medical and dental schools has been notable, about 70%.

Faculty Sponsor of Research Awards Received by Twenty-Four Undergraduate Students

Wheaton College

Summer Wheaton College Student Research Funding for housing was awarded to Ms. Safia Livingston of Applied Health Science to carry out NIH research on Polycystic Kidney Disease. The NIH grant covered the salary, 2015.

Summer Wheaton College Student Research Funding (~$3000) was awarded to Mr. Edward Meadors of Applied Health Science to carry out research and submit papers for publication in the area of vitamin A and cancer prevention and another topic in fish oil supplementation and exercise on HDL levels in men, 2012.

Summer Wheaton College Student Research Funding (~$3000) was awarded to Mr. Ricky Thompson and Mr. Joseph Standard of Applied Health Science to carry out research evaluating osteopontin expression in response to treatment of vitamin A deficiency-induced emphysema and bone development abnormalities, 2010.

Summer Wheaton College Student Research Funding (~$3000) was awarded to Mr. David Gasper of Applied Health Science to carry out research evaluating TGF-beta, IL-6 and other protein expression in response to bleomycin- treated animals that are fed a flaxseed oil versus a corn oil enriched diet in the development of pulmonary (lung) and hepatic (liver) fibrosis, 2009.

Summer Wheaton College Student Research Funding (~$3000) was awarded to Mr. Josh Lawrenz of Applied Health Science to carry out research entitled "Time Course Expression of Myofibroblast Smooth Muscle Actin in Development of Pulmonary Fibrosis, 2008.

Kansas State University

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Lindsay Podhajsky $2000 ($1000 for student and $1000 for equipment/supplies), for Spring 2007, The Impact of Dietary Flaxseed Oil on Profibrotic Interleukin-1 Induction in Response to the Anti-Cancer Drug Bleomycin. Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Linette Ngaba $2000, for Spring 2007, Is the Protective Role of Short Chain Omega-3 Fatty Acids Against the Fibrotic Side Effects of the Anti-Cancer Drug Bleomycin due to Decreased Transforming Growth Factor Beta? Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Brian Ransom $2000, for Spring 2007, Do the Short Chain Omega-3 Fatty Acids Inhibit Pulmonary Fibrosis by Decreasing the Population of Myofibroblasts as Evidenced by Decreased Smooth Muscle Actin Expression? Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Todd Heer $2000, 2006, Are the Short Chain Omega-3 Fatty Acids Found in Flaxseed Oil Sufficient to Prevent the Deleterious Side Effects of the Anti-Cancer Drug Bleomycin? Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Chelsea Wright, $2000, 2006, How do Long Chain Omega-3 Fatty Acids Protect the Lung Against the Anti-Cancer Drug Bleomycin's Deleterious Side Effects of Inducing Pulmonary Fibrosis? Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Jonathan R. Mein, $1000 ($500 for student and $500 for equipment/supplies), 2005, The Effect of Retinoic Acid on Methylation of the RARbeta P2 Promotor Gene in the lungs of Cigarette Smoke Exposed Rats. Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Emily Walker, $1000, 2004, Does Dietary Retinoic Acid Administration Protect Against the Development of Precancerous Tracheal Hyperplasia in Cigarette Smoke-Exposed Rats? Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Leah Koehn, $1000, 2004, Differential Expression of Lung Nuclear Retinoic Acid Receptors (RARs) of Cigarette Smoke-Exposed Rats Co-Treated with Retinol, ∀-Tocopherol, or Retinoic Acid, Faculty Sponsor.: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Brian Lindshield, $1000, 2003, Cigarette Smoke Exposure and Nuclear Retinoic Acid Receptor mRNA Expression and Protein Levels in Rat Lungs, Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Tiffany Bradley, $1000, 2003, Increasing Exposure of Cigarette Smoke on Lung Vitamin A Content and Pre-Cancerous Lesions in Rats, Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Sara Reppert, $1000, 2002, The Role of Vitamin A in Protecting the Function of the Type II Pneumocyte that are Exposed to Cigarette Smoke, Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Josh Umbehr, $1000, 2002, Decreasing the Severity of Emphysema Through Cigarette Smoke Cessation and Vitamin A Supplementation, Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Sarah Little, $1000, 2002, The Effect of Vitamin E on Cigarette Smoke-Induced Emphysema in Rats, Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Bart Winter, $1000, 2001, Vitamin A deficiency in rats induced by aspirated cigarette smoke causes emphysema, Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Ryan L. Nelkin, $1000, 2000, Is cigarette smoke-induced emphysema caused by vitamin A deficiency? Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Brooke E. Evans, $1000, 2000, Antioxidant protection against cigarette smoke-induced inhibition of surfactant synthesis of type II pneumocytes. Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Tracey Williams, $1000, 1998, Surfactant synthesis in cultured type II pneumocytes treated with cigarette smoke conditioned serum. Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Kristen Mehan, $1000, 1997, The interaction of ascorbic acid and benzopyrene on spermidine transport by type II pneumocytes. Faculty Sponsor: R.C. Baybutt.

Student Cancer Research Award (Center for Basic Cancer Research, KSU), Student Research Assistant: Christian Larson, $1000, 1996, The impact of retinoic acid and ascorbic acid upon type II pneumocyte spermidine transport. Faculty Sponsor: R.C. Baybutt.

Faculty Sponsor of Independent Research Projects of Fifty-Two Undergraduate Students

At Wheaton College:

Safia Livingston (2014-2017)

Research Project: Defining the role of Cux-1 protein in a transgenic mouse model for polycystic kidney disease. Summer Wheaton College Student Research Award

Donovan Kearns (2015-2016)

Research Project: Molecular mechanism for Cux-1 repression of p27 in polycystic kidney disease. Wheaton College Student Independent Research

Michael Sell (2015-2016)

Research Project: Polycystic kidney disease research. Wheaton College Student Independent Research

Donny Lee (2015-2016)

Research Project: Cryosection cyst evaluation in mouse polycystic kidneys. Wheaton College Student Independent Research

Esther Wu (2016)

Research Project: Polycystic kidney disease research. Wheaton College Student Independent Research

Julie Buursma (2014-2016)

Research Project: Regulation of p27 by Cux-1 protein. Wheaton College Student Independent Research

Kirsten Nitz (2015-2016)

Research Project: Cryosection analysis of kidney tissue in Polycystic Kidney Disease transgenic mouse model. Wheaton College Student Independent Research

Chris Laugier (2015-2016)

Research Project: Polycystic kidney disease research. Wheaton College Student Independent Research

Ade Davis (2015-2016)

Research Project: Polycystic kidney disease research. Wheaton College Student Independent Research

Ethan Harris (2012-2015)

Research Project: Protection by flaxseed oil against bleomycin-induced pulmonary fibrosis. Wheaton College Student Independent Research

Edward Meadors (2012-2013)

Research Project: Vitamin A protects against cigarette smoke-induce proliferation markers for cancer. Summer Wheaton College Student Research Departmental Funding

Matthew Fenlason (2011-2012)

Research Project: Effectiveness of restoring vitamin A levels using retinoic acid or cod liver oil in vitamin A deficient rats. Wheaton College Student Independent Research

Joseph Standard (2009-2012)

Research Project: Osteopontin Expression in Response to Vitamin A Deficiency-Induced Emphysema Summer Wheaton College Student Research Award

Brendon Smith (2008-2010)

Research Project: Collagen Expression in Response to Bleomycin-Treated Rats that are fed a Flaxseed Oil Enriched Versus a Corn Oil Enriched Diet in the Development of Pulmonary (Lung) and Hepatic (Liver) Fibrosis. Summer Wheaton College Independent Study

Joshua Lawrenz (2008-2010)

Research Project: Time Course Expression of Myofibroblast Smooth Muscle Actin in Bleomycin-induced Pulmonary Fibrosis. Summer Wheaton College Student Research Award Australian Fibrosis Conference Bursary Award for Travel, $1200

David Gasper (2008-2010)

Research Project: TGFbeta-1 Expression in Response to Bleomycin-Treated Rats that are fed a Flaxseed Oil Enriched Versus a Corn Oil Enriched Diet in the Development of Pulmonary (Lung) and Hepatic (Liver) Fibrosis. Summer Wheaton College Student Research Award

Ricky Thompson (2009-2010)

Research Project: Elastin Expression in Response to Vitamin A Deficiency-Induced Emphysema Summer Wheaton College Student Research Award

Jonathan Nitz (2009-2010)

Research Project: Platelet-derived growth factor D expression in response to bleomycin-induced pulmonary fibrosis Summer Wheaton College Independent Study

At Kansas State University (15 Honor's Research Projects):

Brian Ransom (2006-2007)

Honor's Research Project: Short Chain Omega-3 Fatty Acids Inhibit Pulmonary Fibrosis by Decreasing Population of Myofibroblasts Evidenced by Decreased Smooth Muscle Actin Expression. Undergraduate Student Cancer Research Award Recipient, $1000

Lindsay Podhajsky (2006-2007)

Honor's Research Project: The Impact of Dietary Flaxseed Oil on Profibrotic Interleukin-1 Induction in Response to the Anti-Cancer Drug Bleomycin.
Undergraduate Student Cancer Research Award Recipient, $1000

Linette Ngaba (2006-2007)

Research Project: Is the Protective Role of Short Chain Omega-3 Fatty Acids Against the Fibrotic Side Effects of the Anti-Cancer Drug Bleomycin due to Decreased Transforming Growth Factor Beta? Undergraduate Student Cancer Research Award Recipient, $1000

Todd Heer (2005-2007)

Volunteer Teaching Assistant for Human Nutrition (HN400)

Cancer Research Project: Are the short chain omega-3 fatty acids found in flaxseed oil sufficient to prevent the deleterious side effects of the anti-cancer drug bleomycin?

Research was presented at the Undergraduate session for the 11th Annual Grad. Research Forum

Undergraduate Student Cancer Research Award, $2000

Chelsea Wright (2006)

Volunteer Teaching Assistant for Human Nutrition (HN400)

Honor's Research Project: How do long chain omega-3 fatty acids protect the lung against anti-cancer drug bleomycin's deleterious side effects of inducing pulmonary fibrosis? Undergraduate Student Cancer Research Award, $2000

Crystal Conner (2006)

Honor's Research Project: Evaluation of the relationship between vitamin A and osteoporosis.

Jonathan R. Mein (2004-2005)

Honor's Research Project: The effect of retinoic acid on methylation of the RARbeta P2 promotor gene in the lungs of cigarette smoke exposed rats

Undergraduate Student Cancer Research Award Recipient, $1000

Emily Walker (2003-2004)

Cancer Research Project: Does dietary retinoic acid administration protect against the development of precancerous tracheal hyperplasia in cigarette smoke-exposed rats?

Undergraduate Student Cancer Research Award Recipient, $1000

Leah Koehn (2003-2004)
Honor's Research Project: Differential expression of lung nuclear retinoic acid receptors of cigarette smoke-exposed rats co-treated with retinol, alpha-tocopherol, or retinoic acid.
Undergraduate Student Cancer Research Award Recipient, $1000

Brian Lindshield (2002-2003)
Honor's Research Project: Cigarette smoke exposure and nuclear retinoic acid receptor mRNA expression and protein levels in rat lungs.
Undergraduate Student Cancer Research Award Recipient, $1000

Sara Reppert (2002-2003)
Honor's Research Project: Type II pneumocyte and alveolar macrophage cytokine mRNA expression in response to monocrotaline with/without supplemented retinoic acid in rats: A microarray analysis. Undergraduate Student Cancer Research Award Recipient, $1000

Josh Umbehr (2001-2003)
Cancer Research Project: Decreasing the severity of emphysema through cigarette smoke cessation and vitamin A supplementation.
Paper was presented by Josh Umbehr at the Exper. Biology Meeting '02 and part of his work was published in *Nutrition Research*.
Undergraduate Student Cancer Research Award Recipient, $1000.

Sarah Little (2002)
Cancer Research Project, The effect of Vitamin E on cigarette smoke-induced emphysema in rats.
Part of this work was presented at the Experimental Biology Meeting '03 in San Diego, CA
Undergraduate Student Cancer Research Award Recipient, $1000.

Megan Meyer (2001-2002)
Honor's Research Project: Vitamin A restores proliferation of type II pneumocytes exposed to cigarette smoke-treated serum.

Leah Wilbur (2001)
Honor's Research Project: Vitamin A increases surfactant synthesis and secretion of type II pneumocytes exposed the cigarette smoke-treated serum.

Lori Bateman (2001)
Developing Scholar's Project: The role of nutrients in lung preservation and restoration.

Bret Heskett (2001)
Indep. Research Project: Lung pathology associated with high doses of cigarette smoke in rats.

Erin Phillips (2001)
Indep. Research Project: Retinoic acid prevents cigarette smoke-induced emphysema in rats.

Bart Winter (2001)
Cancer Research Project: Vitamin A deficiency in rats induced by aspirated cigarette smoke causes emphysema. Undergraduate Student Cancer Research Award Recipient, $1000.

Kari Jensen (2000-2001)
Indep. Research Project: Protective Effect of Vitamin A and Captopril Against monocrotaline toxicity in Rats: Heart, lung, and liver weights and right ventricular hypertrophy.

Michael Muth (2000)
Independent Research Project: The protective effect of Vitamin A and Captopril against monocrotaline toxicity in rats: Food/Fluid Intake and Weight gain.

Brooke E. Evans (2000)
Cancer Research Project: Antioxidant protection against cigarette smoke-induced inhibition of surfactant synthesis of type II pneumocytes.
Undergraduate Student Cancer Research Award Recipient, $1000.

Ryan L. Nelkin (2000)
Cancer Research Project: Is cigarette smoke-induced emphysema caused by vitamin A deficiency? Undergraduate Student Cancer Research Award Recipient, $1000.

Clark T. Eddy (2000)
Indep. Research Project: Food intake and body and organ weights in cigarette smoke-treated rats.

Kelly Harrington (1999)
Honor's Research Project: Regulation of type II pneumocyte ODC activity by EGF receptor.

Tracey Williams (1999)
Honor's Research / Cancer Research Award Project: Cigarette smoke-treated serum inhibits cell adherence and surfactant synthesis and secretion of cultured type II pneumocytes: Partially prevented by ascorbic acid.
Part of her work was combined with current findings and published in In Vitro Toxicology.
Undergraduate Student Cancer Research Award Recipient, $1000.

Allison Krondak (1998)
Honor's Research Project: Surfactant synthesis is inhibited in type II pneumocytes isolated from vitamin A deficient rats.

Kristen Mehan (1997)
Honor's Research Project: The effect of benzopyrene and ascorbic acid on polyamine regulation in adult rat type II pneumocytes. Undergrad Student Cancer Res Award Recipient, $1000.

Shawn Conard (1997)
Independent Research Project: Surfactant metabolism in cultured type II pneumocytes from monocrotaline treated rats.

Brian Moore (1996)
Dietetics Practicum / Research Project: ∃-carotene supplementation on monocrotaline-induced pulmonary hypertension.

Scott Rawson (1996)
Dietetics Practicum / Research Project: Monocrotaline induces anorexia, promotes weight reduction, and alters type II pneumocyte metabolism in rats.

Christian Larson (1996)
Cancer Research Project: The effect of ascorbic acid on isolated type II pneumocyte proliferation. Undergraduate Student Cancer Research Award Recipient, $1000.

Dena Goble (1995)
Independent Research Project: Effects of vitamin A on the specific and nonspecific transport of spermidine in the type II pneumocyte.

LaShon Valle (1995)
Honor's Research Project: Uptake of chylomicron remnants by the type II pneumocyte.

High School Student

Rebecca McMahan (1997)
Summer Research Project: The effect of tomato diet on monocrotaline-induced pulmonary hypertension in rats.

University, College, Department, Public, and Professional Service

For East Carolina University:
Served as a judge for ECU RCAW-University undergraduate research competition, 2017-present
Faculty Senate alternate, 2019-present
College Representative for the ECU Intellectual Property Committee, 2018-2019
College Representative for the Honor's College, 2017-2018
Member of the Academic Resources and Diversity, 2017-2018

For Wheaton College:
Member of the Global Health Internship Fund, 2016
Member of the Post Tenure Review PRC committee for evaluation of faculty, 2015-2016
Preventing Sexual Assault Committee, 2015-2016
External Reviewer for the Oklahoma Agriculture Experiment Station, 2015
Provost's Office, Post Tenure Review Committee, 2015
Institutional Biosafety Committee, 2014-2016
Institutional Animal Care and Use Committee, Wheaton College, 2009-2016
Organized the Wheaton College Science Symposium, 2009
Institutional Review Board, Wheaton College, 2007-2008
Applied Health Science Faculty Search Committee for two faculty, Wheaton College, 2008

In addition to my **Chair** responsibilities and service to the department, I organized and invited two outstanding speakers to talk about their research and clinical work.

The first speaker was world renowned **Dr. Jorn Dyerberg,** a Danish physician who did the pioneer work in the Greenland Eskimos to discover the healthful benefits of the omega-3 fatty acids, which led to the mushrooming fish oil industry. His talk was attended by students, staff, and community members and was well received.

The second speaker was a **thoracic surgeon, Dr. Douglas Adams** and father of one of my advisees. He spoke about his use of robotics in thoracic surgery. He showed video clips of his surgeries with the use of robotic arms and the surgeon in front of a computer. The recovery times for the robotic surgical procedures were significantly less than that which was done by conventional surgery.

For KSU:
College Dean's Search Committee, 2006-2007
Human Nutrition Departmental Promotion and Tenure Committee, 2000-2007
Undergraduate Curriculum Committee, 2005-2007
Information Resource Management Council, 2006-2007
Department Head's Five-Year Administrative Review, 2004
Nutrition Science Student Advisor (avg. 60 students/yr), 2000-2007
Provost's Office, The Big Twelve Faculty Fellowship Selection Committee Chair, 2004
Honors Program Faculty Mentor, College of Human Ecology, 1995-2007
Presidential Lecture Series (lectures to the community on various topics), 1995-2007
Research Advisor for Cancer Research Award Recipients, 1996-2007
Institutional Animal Care and Use Committee, Kansas State University, 1995-2003
Dean's Five-Year Administrative Review, 2002
Sigma Xi Research Excellence Committee, 1996-2001
Radiation Safety, Kansas State University, 2001
Developing Scholars Program, Mentor, 2001
Gave Graduation Charge to the Graduating College Graduates, 2001
Undergraduate Scholarship Award Committee for the Division of Continuing Education, 2000
Department Head Search Committee for Hotel, Restaurant, Instit. Mngt. and Dietetics, 2000
Committee on Research Involving Human Subjects (Institutional Review Board), 2000.
Course Curriculum Committee, Dept. of Foods and Nutrition, 1994-2000
Facilities Committee, 1998-2000
Department Head Search Committee, 1996 and 1998
University Task Force for General Education, 1997-1999
Academic Affairs Committee, Kansas State University, 1996-1999, 2004-2005

Public Presentations

Friday night featured speaker for the **Illinois Emergency Medical Technician (EMT) Association** annual meeting in Springfield, IL. The talk was entitled "*Take Care of Yourself so You Can Take Care of Others: "Nutrition and Exercise.*"" I gave two talks Friday evening, March 13th, 2015. The first talk was 1 hour and the second was 1.5 hours.

KSU Presidential Lecture Series and Community Seminars:

Antioxidants & Cancer, Manhattan High School, Biology Class, Manh,KS, Spring, 2004, 2005.
Antioxidants & Cancer, Coffeyville Community College, Presentation to the Phi Theta Kappa Honor Society and the Chemistry and Nutrition class, Coffeyville, KS, October, 2003.
Antioxidants & Heart Disease and Nutrition and Weight Control, Lawrence West Junior High School Students, Lawrence, KS, April, 2001.
Weight Control & Dieting, Gifted Students, Silver Lake High School, Silver Lake, KS,2000.
Weight Control and Dieting, Alpha Phi Delta Sorority, Manhattan, KS, 1999.
Weight Control and Dieting, Jardine Women's Grp, Frith Commun. Cntr, Manhattan, KS, 1998.
Antioxidants, Cancer and Heart Disease, Nutr. class, Cowley Comm. College, Ark., KS,1998.
A Radical Move Against Cancer, adv. placement chem., Manh. High Sch., Manhattan, KS, 1998.
Nutrition Program at K-State, career day, Linn High School, Linn, KS, 1997.
Nutrition, Health and Wt. Control, Phys. Ed. classes, Sumner Academy, Kansas City, KS, 1996.
Weight Control and Dieting, psychology class, Wabaunsee High School, Alma, KS, 1996.
Nutrient Impact on Lung Repair, Better Breathing Club, Am. Lung Assoc., Manhattan, KS, 1995.
Energy Balance, Fluffy Club, a Weight Watchers Club, Junction City, KS, 1995.
A Radical Move Against Cancer, workshop for Kansas Community College and four-year Colleges, K-State Union, Manhattan, KS, 1995.

Media Presentations and Interviews

Cigarette smoke, vitamin A deficiency and emphysema. Articles related to this were published at a number web sites:
Medical News Today at the United Kingdom;
Science Daily
Food Ingredients First: Nutrition, Ingredients, and Foods; and Science Blog, 2005, 2006.
Good and Bad Cholesterol, K-State news services, August, 2000.
Vitamins Necessary for Good Health, *Topeka Capitol-Journal*, July 25, 1999
Seven Pills Series, ***KSNT Chan. 27 News***, interview by Ms. Jody Shields, 10 pm, Feb. 5, 1998. Advice to Fight the Battle of the Bulge, Radio Report Line-KSU, 2 pm, January 8, 1998 and 2 pm, Jan.12, 1998. Reports obtained by calling News Source Line at 1-800-NEWS-KSU.
Losing Weight in the New Year, *Manhattan Mercury*, page D9, January 4, 1998.
Losing Weight in the New Year, ***Fox 6 News***, channel 6 at 6 and 10 pm, January 2, 1998.
New Year's Resolutions: Losing Weight is not a Quick Fix but a Lifetime Process--New Year's resolution to trim down can lead to failure if done wrong, *Salina Journal*, interviewed by Angela Hall, December 25, 1997.
Losing Weight in the New Year, K-State News (Angela Hall), news release Dec. 11, 1997.
Ginseng, Garlic, Extra Vitamins or Minerals: Natural Health Aids are not all Scientifically Sound, guest speaker for a ***radio Call-In Talk Show on KMAN (1350 am)*** 8:30-9 A.M. by David Lewis aired on August 18, 1997.
Some Natural Health Aids, Benefits Yet to be Proven, *Manhattan Mercury*, p 2, Aug. 12, 1997.
Nutrition, Vitamins, and Health, ***KKSU, radio talk show*** with Assistant Radio Producer, Caroline S. Tetschner, aired December 30, 1996.

Community, Civic, and Church Activities

Gold Orchestra (youth orchestra) chaperone for road trips
High school graduation speaker
4-H volunteer
Member of the Presidential Lecture Series (give nutrition lectures to the community, community colleges, and to high schools throughout the state of Kansas)
Organizing committee for the national Experimental Biology Christian Fellowship meeting
Banquet organizer and speaker for the West Suburban Homeschool Band
Adult and High School Sunday School Teacher
Elder in Presbyterian Church of America
Active in the Wayside Cross Ministries for homeless men