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OVERVIEW

George A. Burdock, Ph.D. is the president of the safety and regulatory consulting firm of Burdock Group, with offices located in Orlando, Florida. Dr. Burdock is an internationally recognized authority on the safety of food ingredients, personal care products and dietary supplements. He has more than 25 years of experience dealing with regulatory issues related to product safety and risk assessment. He has over forty publications in scientific journals, over fifty invited presentations and has published three books, four editions of *Fenaroli's Handbook of Flavor Ingredients* and the *Encyclopedia of Food and Color Additives.* He is co-author of the chapter "Food Toxicology" in the 8th edition (current edition) and the previous three editions of Casarett and Doull's textbook "Toxicology," the standard graduate textbook and reference book in the field of toxicology. Dr. Burdock is a Diplomate of the American Board of Toxicology, a Fellow of the American College of Nutrition and is a member of several professional societies including, but not limited to the American Chemical Society, the Society for Regulatory Toxicology and Pharmacology, the Society of Toxicology, the American College of Toxicology and the Institute of Food Technologists (Professional Member status).

CURRICULUM VITAE

Burdock Group **1988-Present**
Orlando, FL

Founder and President

Dr. Burdock is an internationally recognized authority on the safety of food ingredients, personal care products, and dietary supplements. He has more than twenty years experience dealing with regulatory issues related to product safety and risk assessment. As the President of Burdock Group, Dr. Burdock provides safety and toxicity information on food, food and feed additives, dietary supplements, excipients, and contaminants, to a varied client list, including Fortune 100 corporations, start-up companies, law firms, and trade associations. This information may be in the form of confidential reviews, regulatory petitions, Generally Recognized As Safe (GRAS) self determinations, GRAS and new dietary ingredient notifications, product contamination, due diligence investigations prior to an

acquisition and litigation support. As a leading scientist in the food industry, Dr. Burdock is sought by scientific publishers to author journal articles and edit reference books on food additives, flavor ingredients, and regulatory matters and by clients to comment on proposed regulations or respond to communications from regulatory agencies including the FDA and the USDA.

Flavor and Extract Manufactures' Association (FEMA) **1986-1991**
Washington, D.C.

Director of Scientific Affairs

Dr. Burdock managed the FEMA scientific programs, coordinated the research activities of the testing laboratories, and communicated with external consultants and allied industry committees working with FEMA. As the primary scientific liaison, Dr. Burdock guided member companies with the preparation of submissions to the FEMA Expert Panel for GRAS review, alerted Expert Panel and Association members to scientific developments in the food and flavor industry, and identified changes in the regulatory policies as a result of these developments. He authored and edited comprehensive literature reviews on flavor additives and other topics relevant to the Association's interests.

Shulton Research Division, American Cyanamid Corporation **1984-1986**
Clifton, New Jersey

Manger of Biological Services

Dr. Burdock directed the Product Safety section, Microbiological Research Services, the Clinical Evaluation Laboratory and the Product Evaluation Center. As the senior toxicologist, he was responsible for the toxicological laboratories and microbiologic safety of products applied to the test groups in clinical evaluation laboratories and for those products released for public use. Dr. Burdock served as a corporate member of the Pharmacology/Toxicology Committee and the Cosmetic Ingredient Review Subcommittee of the Cosmetic, Toiletries and Fragrance Association. He represented the Consumer Products Division on toxicology issues within the corporation, and externally, with vendors, government agencies, and trade associations.

Hazleton Laboratories America, Inc. **1979-1984**
Vienna, Virginia

Senior Staff Scientist

As a Study Director, Dr. Burdock designed and managed toxicological oversight for compliance with regulatory requirements, quality assurance, budgetary monitoring, testing of pharmaceuticals, food additives, pesticides, and evaluated the performance of subcontractors. He negotiated program design and individual toxicity study requirements for the registration of substances with FDA, EPA, and other regulatory agencies. Dr. Burdock supervised two laboratory sections -Teratology/Reproduction and Sub-Chronic Rodent Toxicology.

EDUCATION

Ph.D. in Toxicology, School of Pharmacy, University of Mississippi, 1980
Master of Combined Sciences, Physiology and Biochemistry, University of Mississippi, 1973

Bachelor of Science, Biology, University of Mississippi, 1969

CERTIFICATIONS

Diplomate, American Board of Toxicology, 1983; Recertified, 1988, 1993, 1998, 2003, 2009, 2014
Fellow, American College of Nutrition, 2003

PROFESSIONAL ORGANIZATIONS MEMBERSHIPS

American Botanical Council
American Chemical Society
American College of Nutrition
American College of Toxicology
American Society for Nutrition
American Society for Clinical Nutrition
Council for Responsible Nutrition
Food and Drug Law Institute
Institute of Food Technologists
International Society of Regulatory Toxicology and Pharmacology
Society of Toxicology

PUBLICATIONS

Burdock, G. (2015). *The Emerging Regulatory Crisis for Pet Food Ingredients.* (http://www.petfood2.com/digital-issues/2015/07/the-science-of-food-safety.aspx)

G.A. Burdock and I.G. Carabin (2014). Breaking Down the Barriers to Functional Foods, In: *Nutraceutical And Functional Food Regulation In The United States and Around The World*, 2nd Edition, *Food Science and Technology Series*. D. Bagchi (ed). Elsevier, NY. Pp. 75-103.

G.A. Burdock and R.A. Matulka (2013). Regulatory Considerations and the Pet Food Market. *Supply Side Animal Nutrition Insights*, April, 2013.

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Burdock, G.A. (2012). Is GRAS the cure for the high rate of NDI rejections? *Newhope360 (digital publications)* (http://newhope360.com/regulation-and-legislation/gras-cure-high-rate-ndi-rejections)

Burdock, G.A. (2012). Staying in the claim game. *The World of Food Ingredients.* September, 2012. Pp. 58-59.

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Burdock, G.A. (2012). Forward. In: *Beneficial Effects of Propolis on Human Health and Chronic Diseases.* Volume 2. T. Farooqui and A. Farooqui (eds.) Nova Publishers, Hauppauge, NY

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Dolan, L.C., Potter, S.M. and **Burdock, G.A.** (2010). Evidence-based review on the effect of normal dietary consumption of fructose on blood lipids and body weight of overweight and obese individuals. *Critical Reviews in Food Science and Nutrition* 50:889-918.

Dolan, L.C., Matulka, R.A. and **Burdock, G.A.** (2010). Naturally Occurring Food Toxins. *Toxins* 2:2289-2332.

Williams, L.D., **Burdock, G.A.**, Shin, E., Kim, S., Jo, T.H., Jones, K.N. and Matulka, R.A. (2010) Safety Studies Conducted on a Proprietary High-Purity Aloe Vera Inner Leaf Fillet Preparation, Qmatrix® *Regulatory Toxicology and Pharmacology* 57:90-98.

Stohs, S.J., Preuss, H.G., Ohia, S.E., Kaats, G.R, Keen, C.L., Williams, L.D. and **Burdock, G.A.** (2010). Safety and efficacy of hydroxycitric acid derived from *Garcinia cambogia* – A literature review. *Herbalgram* 85:58-63.

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Matulka, R.A. and **Burdock, G.A.** (2009). A formula for preserving brand integrity during flavour innovation. *AgroFood Industry Hi-tech.* 20:70-72.

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Williams, L.D., **Burdock, G.A.**, Jiménez, G. and Castillo, M. (2009). Literature review on the safety of Toyocerin® a non-toxigenic and non-pathogenic *Bacillus cereus* var. *toyoi* preparation. *Regulatory Toxicology and Pharmacology* 55:236-246.

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Williams, L.D. and **Burdock, G.A.** (2009) Genotoxicity studies on a high-purity rebaudioside A preparation. *Food and Chemical Toxicology* 47:1831-1836.

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G.A. Burdock (2007) Safety assessment of castoreum extract as a food ingredient. *International Journal of Toxicology* 26:51 – 55.

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R.A. Isbrucker and **G.A. Burdock** (2006). Risk and safety assessment on the consumption of Licorice root (Glycyrrhiza sp.), its extract and powder as a food ingredient, with emphasis on the pharmacology and toxicology of glycyrrhizin**.** *Regulatory Toxicology and Pharmacology* 46, 167-192.

M.G. Soni, **G.A. Burdock**, M.S. Christian, C.M. Bitler and R. Crea (2006). Safety Assessment of Aqueous Olive Pulp Extract as an Antioxidant or Antimicrobial Agent in Foods. *Food Chemical Toxicology* 221, 17-27.

G.A. Burdock and B. Magnuson (2006) Small threat? *World of Food Ingredients. Pp 61-62.*

G.A. Burdock, I.G. Carabin and J.C. Griffiths (2006). The Importance of GRAS to the Functional Food and Nutriceutical Industries *Toxicology* 221: 12-27.

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M.G. Soni, I.G. Carabin, J.C. Griffiths and **G.A. Burdock** (2005). β-Nitropropionic acid in the diet: Toxicity aspects. In: *Reviews in Food and Nutrition Toxicity.* Vol. 2, (V.R. Preedy and R.R. Watson, Eds. CRC Press, Boca Raton, FL p. 127-170.

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M.G. Soni, **G.A. Burdock**, H.G. Preuss, S.J. Stohs, S.E. Ohia, D. Bagchi (2004) Safety assessment of (-)-hydroxycitric acid and Super CitriMax®, a novel calcium/potassium salt, *Food and Chemical Toxicology* 42, 1513-1529

G.A. Burdock, and I.G. Carabin. (2004) Warning letters, recalls and elixir of death. *Nutritional Outlook* p. 20 – 26.

G.A. Burdock. (2003) Sensory deception: the science of making foods more palatable. *Functional Foods and Nutraceuticals* p. 34-36.

G.A. Burdock. (2003) The GRAS process. *Food Technology* 57(5):17.

G.A. Burdock. (2002) Chapter 3: Status and safety assessment of foods and food ingredients produced by genetically modified microorganisms. In *Biotechnology and Safety Assessment.* Third Edition. (J.A. Thomas and R. Fuchs, Eds.) Elsevier Science, New York. P. 39-83.

M.G. Soni, **G.A. Burdock**, S.L. Taylor, and N. Greenberg. (2002) Evaluation of the health aspects of methyl paraben: a review of published literature. *Food and Chemical Toxicology*. 2002 10: 1335-73.

F. Kotsonis, **G.A. Burdock,** and W.G. Flamm. (2001) Chapter 31: Food Toxicology. In: *Toxicology: The Basic Science of Poisons*. 6th edition C.D. Klaassen (Ed.) Pergamon Press, New York. P. 1049-1088

G.A. Burdock. (Ed.) (2002) *Fenaroli's Handbook of Flavor Ingredients*. Fourth Edition. CRC Press, Boca Raton, FL. 1834 pp.

G.A. Burdock. (2002) Regulation of flavor ingredients. In: *Nutritional Toxicology*. Second Edition. Target Organ Toxicology Series. (F. Kotsonis and M. Mackey, Eds.). Taylor and Frances, New York. p. 316-339.

G.A. Burdock, I.G. Carabin, and M.G. Soni. (2001) Safety assessment of beta-nitropropionic acid: A monograph in support of an acceptable daily intake in humans. *Food Chemistry* 75(1): 1-27.

M.G. Soni, **G.A. Burdock**, S.L. Taylor, and N. Greenberg. (2001) Safety assessment of propyl paraben. *Food and Chemical Toxicology* 39:513-532.

G.A. Burdock, M.G. Soni, and I.G. Carabin. (2001) Evaluation of health aspects of kojic acid in food. *Regulatory Toxicology and Pharmacology* 33:80-101.

M.G. Soni, S.A. White, W.G. Flamm, and **G.A. Burdock.** (2001) Safety evaluation of dietary aluminum. *Regulatory Toxicology and Pharmacology* 33:66-79.

M.G. Soni, H. Kimura, and **G.A. Burdock.** (2001) Chronic studies on diacylglycerol oil in rats. *Food and Chemical Toxicology* 39:317-329.

I.G. Carabin, **G.A. Burdock,** and C. Chatzidakis. (2000) Safety assessment of *Panax* ginseng. *International Journal of Toxicology* 19:293-301.

G.A. Burdock and W.G. Flamm. (2000) Review article: Safety assessment of the mycotoxin cyclopiazonic acid. *International Journal of Toxicology* 19:195-218.

G.A. Burdock, W.G. Flamm, and I.G. Carabin. (2000) Toxicity and mutagenicity studies of DN-50000® and RP-1® enzymes. *Food and Chemical Toxicology* 38:429-442.

G.A. Burdock. (2000) Dietary supplements and lessons to be learned from GRAS. *Journal of Regulatory Toxicology and Pharmacology.* 31:68-76.

G.A. Burdock and W.G. Flamm. (1999) A review of the studies of the safety of polydextrose in food. *Food and Chemical Toxicology* 37:233-264.

G.A. Burdock. (1998) Review of the biologic properties and toxicity of bee propolis (propolis). *Food and Chemical Toxicology* 36:347-363.

G.A. Burdock. (1997) *Encyclopedia of Food and Color Additives*. Volumes I-III. CRC Press, Boca Raton, FL. 3153 pp.

G.A. Burdock. (Ed.) (1995) *Fenaroli's Handbook of Flavor Ingredients*, Volume I - Natural Flavoring Ingredients. Third. Edition. CRC Press, Boca Raton, FL. pp. 1-350

G.A. Burdock, (Ed.) (1995) *Fenaroli's Handbook of Flavor Ingredients*, Volume II - Synthetic Flavoring Ingredients. Third Edition. CRC Press, Boca Raton, FL. pp. 1-990

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G.A. Burdock and R.A. Ford. (1990) Acute oral toxicity (LD50) study in the rat with 3-methyl-4-phenyl-3-buten-2-one. *Acute Toxicology Data* 1(2): 96-97.

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J.A. Trutter, F.E. Reno, **G.A. Burdock,** and D.W. Korte, Jr. (1984). Fertility study with a candidate antimalarial drug in the rat. *Journal of the American College of Toxicology* 3:172.

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J.D. Catravas, I.W. Waters, **G.A. Burdock,** and W.M. Davis. (1975). Haloperidol and propanolol in the treatment of acute amphetamine intoxication in the dog. *Toxicology and Applied Pharmacology* 33:185.

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W.G. Flamm, P. Lombardo, A. Forbes, W. Nichols, J.B. Little, **G.A. Burdock,** and J.A. Flamm. (1992). Review of the wholesomeness of irradiated food. Report submitted to the Food Safety Unit, World Health Organization.

Dr. Burdock is the author of approximately 300 technical reports while serving as a consultant and a scientist at Burdock Group and for the Flavor and Extract Manufacturers' Association, Hazleton Laboratories and American Cyanamid. The content of these reports is proprietary and confidential to the sponsoring companies and organizations.

INVITED PRESENTATIONS AND ABSTRACTS

G.A. Burdock. *The US FDA Approach to the Regulation of Feed Ingredients.* Presented at the Management Forum Conference, London, UK, December 9, 2016.

G.A. Burdock. *Food Ingredient Safety and Regulatory Compliance*. Presented at the Food and Drug Law Institute's Introduction to Food Law course. Chicago, IL, July 28, 2016.

L. Dolan and **G.A. Burdock.** *FDA's Un-Guidelines on Medical Food - FDA's Attempts to Limit the Development of Medical Foods as Foods per se.* Presented at the Institute of Food Technology Meeting Chicago, IL, July, 19, 2016.

G.A. Burdock. *Nutraceuticals and Functional Food Regulations in the United States With a Special Emphasis on New Dietary Ingredient (NDI) and Generally Recognized as Safe (GRAS)* Presented at the Institute of Food Technology Meeting, Chicago, IL, July 18, 2016.

G.A. Burdock. *A Convulsive Change in Pet Food (and Animal Feed) Regulation.* Presented at the 1st Annual Food Litigation Insurance ExecuSummit. February 3, 2016

G.A. Burdock. *Dietary Supplements*. Presented at the Food and Drug Law Institute's Introduction to Food Law course. Washington, DC, February 24, 2015.

G.A. Burdock. *Food Ingredient Safety and Regulatory Compliance*. Presented at the Food and Drug Law Institute's Introduction to Food Law course. Washington, DC, February 23, 2015.

G.A. Burdock. *Nanotechnology and Food Safety*. Presented at the ANDP/CSFA meeting in Washington, DC, November 5, 2014.

G.A. Burdock. *Nanotechnology and Food Safety*. Presented at Virginia Tech, Blacksburg, VA September 9, 2014.

G.A. Burdock. *IADC Nanotechnology Briefing.* Presented at the American Feed Industry Association IADC meeting in Sacramento, CA, July 24, 2014. (Lecture written by GA Burdock, but presented by RA Matulka.)

G.A. Burdock. [The GRAS Process is not broken.[1]] Presented at the Food Drug Law Institute (FDLI Dialogue) *Is the GRAS Process Broken?* Presented at FDLI symposium site, Washington, DC July 23, 2014.

G.A. Burdock. *Regulatory Requirements in Sports Nutrition and Muscle Building Supplements.* Presented at the Nutraceuticals and Functional Foods in Enhanced Sports Performance, Exercise and Muscle Building Food. A course presented in conjunction with the Institute of Food Technologists annual meeting in New Orleans, LA, June 21, 2014.

G.A. Burdock. *When is a food not a drug?* Presented at A Forum on Strategic Management of Food Safety, United International College, Zhuhai, China April 19, 2014

G.A. Burdock. *The Impending Regulatory Crisis for Pet Food Ingredient Standards and Approval.* Presented at Petfood Forum, Schaumburg, IL, April 2, 2014

G.A. Burdock. *Nanotechnology: It's Importance to You.* Presented at Engredea – Ingredients and Innovation, Anaheim, CA, March 7, 2014.

G.A. Burdock. *Nanotechnology: The (NOT so) Scary Science.* Presented at the Next Innovation Summit, Anaheim, CA, March 6, 2014

G.A. Burdock. *Food Ingredient Safety and Regulatory Compliance*. Presented at the Food and Drug Law Institute's *Introduction to Food Law* course. Washington, DC, February 10, 2014.

G.A. Burdock. *Animal Feed Ingredient & Dietary Supplement Safety and Regulatory Compliance.* Presented at Supply Side (West) Animal Nutrition Insights Summit. Las Vegas, NV, November 13, 2013.

G.A. Burdock. *Regulatory Approval of Natural Antioxidants*. Presented as part of a continuing education course titled: "Antioxidants: Fundamentals, Applications and Health Effects." Institute of Food Technology, Chicago, Illinois, July 13, 2013.

G.A. Burdock. *Codex Alimentarius and the Re-listing of Magnesium Stearate*. Presented at the 2013 Consumer Health Care Products Association's Regulatory, Scientific and Quality Conference. Washington, DC, May 2-3, 2013.

G.A. Burdock. *Nanotechnology and Pet Food: What is it? Defining its importance to you*. Presented at the Pet Food Forum, Schaumburg, Illinois, April 16, 2013.

G.A. Burdock. *Food Ingredient Safety and Regulatory Compliance*. Presented at the Food and Drug Law Institute's Introduction to Food Law course. Washington, DC, February 5, 2013.

G.A. Burdock. *Breaking Down the Barriers to Functional Foods (or Functional Foods in a Dysfunctional Regulatory Setting)*. Presented as the Plenary Speech at the International Society for Neutraceuticals and Functional Foods' Annual Meeting in Kona, Hawaii, 3 December 2012.

[1] No official speech title.

G.A. Burdock. *Safety and GRAS Status of Nutritional Oils and Antioxidants, But What Should I do Next?* Presented at the pre-meeting conference at the International Society for Neutraceuticals and Functional Foods' Annual Meeting in Kona, Hawaii, 2 December 2012

G.A. Burdock. *Bringing New Food Products from the EU to USA: Case Study 1: Food Products wqith Glucomannan. Case Study 2: Food Products with β-Glucans.* Bringing New Food Products From the EU to the USA and Brazil: A Case Study Discussion. VitaFoods, Geneva, Switzerland, 24 May 2012.

G.A. Burdock. *Lessons in Feed Ingredient Approvals: An Update on the FDA Center for Veterinary Medicine (CVM) GRAS Notification Process* - Virtual Pet Food Forum, 20Oct11 (webcast).

G.A. Burdock. *Strategies for Safety Assessment of Natural Flavor Complexes (NFC) & Rationale for Safety Determination.* International Conference on Natural Products, Castres, France, 26May2011.

G.A. Burdock. *Lessons in Feed Ingredient Approvals*. *An Update on the CVM GRAS Notification Process.* Presented at the International Poultry and Feed Expo, Atlanta, GA 26 January 2011.

G.A. Burdock. *FDA's Definition of Product Categories and Claims Permitted*. Presented at the Supply Side West meeting, Las Vegas, NV, October 20, 2010.

G.A. Burdock. *An Update on the CVM GRAS Notification Process: Notice of Pilot Program (FR 75(107):31800-31803, June 4, 2010).* Presented at the Trouw Nutrition Companion Animal Summit in Nashville, TN, October 13, 2010.

G.A. Burdock. *Nanotechnology and Dietary Supplements*. Presented at the annual meeting of the Council for Responsible Nutrition in Austin, TX, September 30, 2010.

G.A. Burdock. *Regulatory Approval Process for Algae Products – Human and Animal Food and Human Dietary Supplements.* Presented at the Algae World Summit, San Diego, CA, May 17, 2010.

G.A. Burdock. *Lessons in Feed Ingredient Approvals - An Update on the CVM GRAS Notification Process*. Presented at the International Poultry and Feed Expo, Atlanta, GA 26 January 2010.

G.A. Burdock. *The Future of Dietary Supplements as Pet Food Ingredients*. Presented at the Supply Side West meeting, Las Vegas, NV, November, 2009

G.A. Burdock. *Regulations On Nutraceuticals And Functional Foods In The United States.* Presented at the Annual meeting of the American College of Nutrition, Orlando, FL, October, 2009

G.A. Burdock. *A Description of the GRAS and Food Additive Processes.* Presented as part of the symposium *Recipe for a Successful GRAS.* Presented at the Institute for Food Technology meeting Anaheim, CA, June, 2009.

G.A. Burdock. *U.S. Regulations on Nutraceuticals and Functional Foods and GRAS Status.* Presented as part of the symposium on *Nutraceutical and functional foods regulations in the world.* Presented at the Institute for Food Technology meeting Anaheim, CA, June, 2009.

G.A. Burdock. *CVM's (Center for Veterinary Medicine) GRAS Approval Process - A Work in Progress*. American Food Ingredients Association, Pet Food Forum, Chicago, IL April, 2009.

G.A. Burdock. *The Science of Nanotechnology*. *The Food and Drug Law Institute 2nd Annual Conference on Nanotechnology Law, Regulation and Policy*, Washington, DC, February, 2009.

G.A. Burdock. *Nanotechnology Safety Issues*. *The Food and Drug Law Institute 2nd Annual Conference on Nanotechnology Law, Regulation and Policy*, Washington, DC, February, 2009.

G.A. Burdock. *The Basis of a Successful NDIN. What you Need to Know Now about Emerging Dietary Supplements Issues & Trends*. The Food and Drug Law Institute. Washington, DC, January, 2009.

G.A. Burdock. *Emerging Technology and Issues in Food Industry*. *FOOD INDUSTRY OUTLOOK 2009: Challenges and Opportunities*. Southeast Asian Food and Agricultural Science and Technology (SEAFAST) Center. Bogor, Indonesia, January, 2009.

G.A. Burdock. *Novel Food Regulation in Europe*. *Industrial Technology Research Institute (ITRI)*, Taiwan, January, 2009.

G.A. Burdock. *US Regulation of Novel Food*. *Novel Food Regulation. Industrial Technology Research Institute (ITRI)*, Taiwan, January, 2009.

G.A. Burdock. *Safety and Effectiveness of Novel Food. Novel Food Regulation. Industrial Technology Research Institute (ITRI)*, Taiwan, January, 2009.

G.A. Burdock. *Practical Approaches for Bringing New Ingredients To Market. Bringing New Ingredients to Market: New Developments In The New Dietary Ingredient Notification (NDIN) Process.* Virgo Publishing Webinar, December, 2008.

G.A. Burdock. *Food & Supplement Nanotechnology Applications and Safety Considerations*. Iowa State University, Ames, Iowa, November, 2008.

G.A. Burdock. *Nanotechnology Applications and Safety Considerations for Personal Care Products and Cosmeceuticals.* Supply Side West, Las Vegas, NV, October, 2008.

G.A. Burdock. *Assessment of Safety Claims For Functional Foods And Nutraceuticals*. American College of Nutrition Annual Meeting, Arlington, VA, September, 2008.

G.A. Burdock. *Nanotechnology: General Overview*. Institute of Food Technologists (IFT), New Orleans, LA, June, 2008.

G.A. Burdock. *Safety Evaluation of Nutraceuticals and Functional Foods: U.S. Regulations and GRAS Status.* Institute of Food Technologists (IFT), New Orleans, LA, June, 2008.

G.A. Burdock and R.A. Matulka (shared podium). *Future Applications of Nanotechnology in Food and Consumer Products: Are Novel Safety Studies Necessary?* Virgo Publishing Webinar, May, 2008.

G.A. Burdock. *US Regulatory Guidance: Session I - Functional Foods and Dietary Supplements Regulations and Claims.* Pole QCA Economic Development Corp, Quebec, Canada, May 2008.

G.A. Burdock. *US Regulatory Guidance: Session II - Drivers and Processes.* Pole QCA Economic Development Corp, Quebec, Canada, May 2008.

G.A. Burdock. *US Regulatory Guidance: Session III – Costs and Timelines*. Pole QCA Economic Development Corp, Quebec, Canada, May 2008.

G.A. Burdock. *Regulations & Claims for Functional Foods & Dietary Supplements***.** *Second Annual Food Technology & Innovation Forum,* World Trade Group, Chicago, IL, April, 2008.

G.A. Burdock. *Functional Foods: Regulatory Considerations and Common Sense*. Alltech International Animal Health and Nutrition Symposium, Lexington, KY, April, 2008.

G.A. Burdock. *When Accidents Happen – Risk Assessment from a Consultant's Point of View*. 235th American Chemical Society National Meeting & Exposition, New Orleans, LA, April, 2008.

G.A. Burdock. *Nanotechnology and Food Nanotoxicology*. The Food Drug Law Institute 1st Annual Conference on Nanotechnology Law, Regulation and Policy, Washington, DC, February, 2008.

G.A. Burdock. *Claims and the Future of Claims for Food and Food Ingredients*. Virgo Publishing Webinar, December, 2007.

G.A. Burdock. *Breaking down the barriers to functional foods.* Supply Side West, Las Vegas, NV, November, 2007.

G.A. Burdock. *Functional Foods: Session I – Functional Foods – What are they? Who wants them? Who regulates them?* 4th Inventages Life Venture Summit, Great Exuma, Bahamas, June, 2007.

G.A. Burdock. *Functional Foods: Session II - How can Functional Ingredients be Added to Food?* 4th Inventages Life Venture Summit, Great Exuma, Bahamas, June, 2007.

G.A. Burdock. *Functional Foods – Session IV – Getting to market: Costs, timelines and frequent mistakes*. 4th Inventages Life Venture Summit, Great Exuma, Bahamas, June, 2007.

G.A. Burdock. *Practical applications of toxicology*. University of Mississippi School of Pharmacy, University, MS, May, 2007.

G.A. Burdock. *Nanotechnology and Nanotoxicology of Food and Feed Ingredients*. Alltech International Feed Industry Symposium, Lexington, KY, May 23, 2007.

G.A. Burdock. *Food and Supplement Nanotechnology*. Nutracon, Anaheim, CA, March, 2007.

G.A. Burdock. *Food Toxicology: An Applied Science.* University of Florida, Nutritional Science Department. Gainesville, FL, February, 2007.

G.A. Burdock. *Nanotechnology: Implications for food and food ingredients.* Annual ILSI Meeting. Cancún, México, January, 2007.

G.A. Burdock. *Breaking Down the Barriers to Functional Foods*. Conventional Foods as "Functional Foods," FDA Public Hearing. Washington, DC, December, 2006.

G.A. Burdock. *Nanotechnology in Food and Nanotoxicology.* Nano4Food Conference. Atlanta, GA, 2006.

G.A. Burdock. *New Dietary Ingredient Notifications.* Council for Responsible Nutrition (CRN). Boston, Mass, 2006.

G.A. Burdock. *Nanotoxicology: a small science or the (big) science of small things?* Institute of Food Technologists (IFT). Orlando, FL, 2006.

G.A. Burdock. *Nutraceuticals & Functional Foods – Strategies for Moving Forward.* Nestlé Foods Technical Centre. Lausanne, Switzerland, June, 2006.

G.A. Burdock. *Qualified Health Claims: A Critical Juncture.* 2005 Institute of Food Technologists Annual Meeting and Food Expo. New Orleans, LA, 2005.

G.A. Burdock. *Why Efficacy Trials for Dietary Supplements?* Association of Clinical Research Professionals 2005 Conference and Exhibition – North America. Orlando, FL. 2005.

G.A. Burdock. *Dietary Supplements and a Method for Determining Safety and Efficacy. Botanical Dietary Supplements: Scientific Perspectives and Public Health Pitfalls Congressional Science Briefings.* Washington, DC. 2005.

G.A. Burdock *Approving Preservatives: Not a 'Natural' Process*. International Symposium on Natural Preservatives in Food Systems. Princeton, NJ. 2005.

G.A. Burdock. *Regulatory Issues and the Effect on Your Bottom Line*. South Florida Regional Chapter, Institute of Food Technologists. Fort Lauderdale, FL. 2004.

G.A. Burdock. *The Dichotomy of Structure Function Claims.* Food and Drug Law Institute, Qualified Health Claims Conference. 2004.

G.A. Burdock. *Qualified Health Claims and the Role of Independent Experts (and a few other items).* 2004 Institute of Food Technologists Annual Meeting and Food Expo. Las Vegas, NV. 2004.

G.A. Burdock. Dietary Supplements Public Meeting. *Dietary Supplements Public Meeting Pre-Market Notification Program For New Dietary Ingredients.* Food and Drug Administration/Center for Food Safety and Nutrition. College Park, MD. November, 2004.

G.A. Burdock. *Efficacy Assessment of Functional Ingredients by Independent Experts*. Institute of Food Technologists. Chicago, IL. 2003.

G.A. Burdock. *When Accidents Happen – Risk Assessment for the Processing Plant.* American Meat Institute. Chicago, IL. 2003.

G.A. Burdock. *The GRAS status of Pycnogenol®.* Vitafoods International. Geneva, Switzerland. 2003.

G.A. Burdock. *Risk Assessment at the Processing Plant*. Food Safety Inspection Service, U.S. Department of Agriculture. Washington, DC. 2003.

G.A. Burdock. *Hot Topics (Dietary Supplements).* Food and Drug Law Institute, Washington, DC 2003.

G.A. Burdock. *Overview: Nutraceuticals, Dietary Supplements and Functional Food Ingredients*. American College of Toxicology 23rd Annual Meeting. Hershey, PA. 2002.

G.A. Burdock. *Pycnogenol®*. SupplySide East International Trade Show and Conference. Seacacus, NJ. 2003.

G.A. Burdock. *When Accidents Happen – Risk Assessment for the Processing Plant.* American Meat Institute, Chicago, IL July, 2002.

G.A. Burdock. *Safety Assessment of Foods Derived From Biotech Crops*. 42nd Annual Meeting of the Society of Toxicology. Nashville, TN. 2002.

G.A. Burdock. *Dietary Supplements at a Crossroads*. Food and Drug Law Institute Food Week. Washington, DC. 2002.

G.A. Burdock. *Determining the Safety of a Dietary Supplement (Ingredient).* Food and Drug Law Institute. Washington, DC. 2002.

G.A. Burdock. *Safety Assessment of Botanicals*. Worldnutra 2002 3rd Annual International Conference and Exhibition on Nutraceuticals and Functional Foods. San Diego, CA. 2002.

G.A. Burdock. *Safety Assessment of Botanicals*. ILSI Workshop on Principles for the Safety Assessment of Botanicals and Botanical Preparations in Food and Food Supplements. Marseille, France. 2002.

G.A. Burdock. *Ephedra, Is It As Toxic As Reported?* 43rd Annual Meeting of the American College of Toxicology. San Antonio, TX. 2002.

G.A. Burdock. *DSHEA, GRAS and Functional Foods: Regulatory and Safety Criteria*. American Chemical Society. 224th ACS National Meeting. Boston, MA. 2002.

G.A. Burdock. *The Line Between Generally Recognized As Safe (GRAS) and Dietary Supplements.* Toxicology Forum, Aspen, CO. 1999.

POSTER PRESENTATIONS

L.C. Dolan and **G.A. Burdock** (2011). Safety of ginger oil and ginger oleoresin and food ingredients. Presented at the Society of Toxicology meeting, Washington, DC.

I.G. Carabin and **G.A. Burdock** (2009). Safety Assessment of Opopnax Oil as a Food Ingredient. Presented at the Institute of Food Technology meeting, Anaheim, CA.

I.G. Carabin and **G.A. Burdock** (2009). Safety Assessment of Lovage Extract as a Food Ingredient. Presented at the Institute of Food Technology meeting, Anaheim, CA.

L.C. Dolan and **G.A. Burdock** (2009). Safety of Angelica Root Oil as a Food Ingredient. Presented at the Institute of Food Technology meeting, Anaheim, CA.

R.A. Matulka and **G.A. Burdock** (2009) Risk Assessment of Oleic Acid as a Food Ingredient. Presented at the Institute of Food Technology meeting, Anaheim, CA.

I.G. Carabin and **G.A. Burdock** (2009). Prescription for Claim Substantiation (Part I). Key Ingredients for a Successful Claim Approval. Presented at the Institute of Food Technology meeting, Anaheim, CA.

I.G. Carabin and **G.A. Burdock** (2009). Prescription for Claim Substantiation (Part II). How to Develop a Successful Clinical Trial. Presented at the Institute of Food Technology meeting, Anaheim, CA.

L. Dolan, C. Crincoli and G.A. Burdock (2009). Safety of geranium oil as a food ingredient. Presented at the Society of Toxicology Meeting, Baltimore, MD.

I. Carabin and **G.A. Burdock** (2009). Safety assessment of sclareolide as a food ingredient. Resented at the Society of Toxicology Meeting, Baltimore, MD.

R.A. Matulka and **G.A. Burdock** (2009). Risk assessment of dandelion root extract solid as a food ingredient. Presented at the Society of Toxicology Meeting, Baltimore, MD.

A.C. Mozingo and **G.A. Burdock** (2008). Delivery Systems for Supplements and Functional Foods: Guidelines for Decisions. *Institute of Food Technologists Annual Meeting Poster Presentation.* June 26 – July 1, 2008, New Orleans, LA.

G.A. Burdock, A.C. Mozingo and J.W. Rochowicz (2008). Regulatory and Scientific Roadmap for Claims. *Institute of Food Technologists Annual Meeting Poster Presentation.* June 26 – July 1, 2008, New Orleans, LA.

G.A. Burdock. (1983). Diethanolamine-induced changes in liver and kidney of the neonatal rat. *The Toxicologist* 4 (1): 491.

G.A. Burdock and L.W. Masten. (1979). Diethanolamine-induced changes in the neonatal rat. *Toxicology and Applied Pharmacology* 48:A30.

EDITORIAL REVIEW

Regulatory Toxicology and Pharmacology. (1997 to present) Elsevier Science. Manuscript reviews.

Journal of Agricultural and Food Chemistry. (1998 to present) American Chemical Society.

Manuscript reviews.

Bee World. (1999 to present) International Bee Research Association. Manuscript reviews.

Italian Journal of Food Science. (1999 to present) Istituto di Industrie Agrarie, University of Perugia Manuscript reviews.

Journal of Agricultural Research. (1999 to present) Agricultural Research Service. Manuscript reviews.

Food and Chemical Toxicology. (1999 to present) Elsevier. Manuscript reviews.

International Journal of Toxicology. (2000 to present) Taylor & Francis. Manuscript reviews.

Update (2005 - 2008) Food and Drug Law Institute. Editorial Board Member.

CONTINUING EDUCATION

Society of Toxicology Nanotoxicology Webinar: *"Progress Towards Understanding the Health Effects of Carbon Nanotubes"* Dr. James Bonner, Associate Professor of Environmental and Molecular Toxicology, North Carolina State University, presenting, *"Progress Towards Understanding the Health Effects of Carbon Nanotubes"*. December 17, 2013

CRN/VIRGO Webinar: *Dietary Supplement Safety: From Mice to Men-with expert scientific legal and regulatory presenters.* December 4, 2013.

Center for Veterinary Medicine. *Webinar on data quality.* June 4, 2013.

Natural Products Association Webinar. *Review of the basic laws and regulations for manufacturing dietary supplements.* May 22, 2013.

Virgo Publications Webinar. *Complex structure function claims: A case study of inflammation claims.* May 7, 2013.

K.L. Gates Webinar. *Regulation of medical food and nutritionals in the European Union, China and the United States.* April 4, 2013.

Steptoe and Johnson Webinar. *Food Labeling Claims in the US and EU: The Regulations and the Science.* March 21, 2013.

CRN Webinar. *Adverse Event Reporting (AER) for the Dietary Supplement Industry: Key Considerations from the Experts*. February 5, 2013.

Kelly, Drye and Warren Webinar. *How "competent and reliable" is your scientific evidence?.* December 15, 2011

Natural Products Insider Webinar. *Global strategies to substantiate ad support supplement claims.* August 31, 2011.

Society of Toxicology Webinar. *Workplace and environmental exposure assessment for engineered nanomaterials.* July 25, 2011.

Charles River Preclinical Services Webinar. *Metabolism and Toxicology: Two sides of the same coin?* June 30, 2011.

AFIA (American Feed Industry Association) Course on Animal Food Laws and Regulations. October, 2010, Arlington, VA.

Society of Toxicology 2009, Baltimore: *Free Radiacls for Toxicologists – From the basics to Inflammation and Disease.* Sunday 15March2009. Chairpersons: Lin L. Mantell & Judith T. Zelikoff. Presenters: Garry Buettner, Matthew Grisham, Michael A. Lynes and Any Ghio.

Nanotoxicology: The Science of Developing a Safe Technology. Society of Toxicology Continuing Education Course, March 16, 2008.

Keller and Heckman LLP – 8th Annual Food Packaging Law Seminar. Washington, DC. 3-4 October 2007

2007 Nestlé Purina Nutrition Forum "Focus on Felines", St. Louis Ballpark Hilton Hotel in St. Louis, MO, September 20 – 23, 2007.

Introduction of Nanobiotechnology IFT Knowledge and Learning Center. Chicago Hilton Hotel, Chicago, IL. July 2-28, 2007.

CRN/CHPA Adverse Event Reporting Seminar. Bethesda, MD, June 20, 2007.

Introduction to Quantitative Risk Analysis, presented by Vose Consulting, Philadelphia, PA October 2-4, 2006.

Nanotechnology in Food and Agriculture (assessing the commercial potential of nanotech, generating investment and examining the prospects for future regulation). Agra Information Ltd. Washington, DC. June 6-7, 2006.

Celebrating the Centennial of the 1906 Pure Food and Drugs Act. Food and Drug Law Institute 49th Annual Conference, Washington, DC, April 6-7, 2006.

Clinical Pathology-The Granddaddy of Biomarkers. Society of Toxicology 44th Annual Meeting and Toxexpo. New Orleans, LA. March, 2005

Herbals and Dietary Supplements in Athletic Performance Enhancement: Fact vs. Fiction. Society of Toxicology 43rd Annual Meeting and Toxexpo. Baltimore, MD. March, 2004.

The Safety Assessment of Proteins: Applications to Agricultural Biotechnology. Society of Toxicology 43rd Annual Meeting and Toxexpo. Baltimore, MD. March, 2004.

Strategic Decision Making and Critical Thinking. The Johnson School of Executive Education, Cornell University, September 7-12, 2003.

International Regulatory Approval of Ingredients and Dietary Supplements. Institute of Food Technologists Annual Meeting. Chicago, IL. July, 2003

Choice and Application of Classical, Population or Physiologically-Based PK for Chemical Assessment and Pharmaceutical Development. Society of Toxicology 42nd Annual Meeting and Toxexpo. Salt Lake City, UT, March, 2003.

Medicinal Herbals and Dietary Supplements. Society of Toxicology 42nd Annual Meeting and Toxexpo. Salt Lake City, UT, March, 2003.

Dietary Supplements…At a Crossroads. Food and Drug Law Institute, Washington, DC, January 16-17, 2003.

Dietary Supplement Use in the Elderly. American College of Nutrition Continuing Education Program. NIH Campus, Bethesda, MD. January, 2003.

International Regulatory Approval of Ingredients and Dietary Supplements. Institute of Food Technologists Annual Meeting. Chicago, IL. July, 2003.

Labeling of FDA Regulated Foods. Institute of Food Technologists. Orlando, FL. February, 2001.

Dietary Ingredients or Drugs? Food and Drug Law Institute. Washington, DC. July, 2000.

Reproductive Toxicology. American College of Toxicology – 20th Annual Meeting, Washington, DC. November, 1999

PROFESSIONAL ACHIEVEMENT AND RECOGNITION

Institute of Food Technologists (2006) Bernard L. Oser Food Ingredients Safety Award. Institute of Food Technologists, *Toxicology and Safety Evaluation Division*

Society of Toxicology, *Food Safety Specialty Section*, (2005 – 2006 Vice President, 2004 – 2005 Vice President-Elect).

International Society of Regulatory Toxicology and Pharmacology (2005 - 2006 President; 2004 – 2005 Past Vice-President; Councilor)

FDA Advisory Committee Member, *Additives and Ingredients Subcommittee*. 2004.