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CURRICULUM VITAE

DIRECTOR OF TOXICOLOGY

2003 - Present

Burdock Group Consultants | Orlando, FL

Dr. Matulka provides the safety and toxicity evaluation of data from drugs, foods, food additives and contaminants. He imparts safety and toxicity information to various clients including corporations, law firms and individuals for regulatory petitions, Generally Recognized As Safe (GRAS) petitions and/or notifications. Dr. Matulka generates a number of technical reports as a consultant and as a scientist.

POSTDOCTORAL TOXICOLOGIST, CURRICULUM IN TOXICOLOGY

1999 - 2003

University of North Carolina-Chapel Hill | U.S.EPA / RTP, NC

Dr. Matulka determined the effects of immunosuppressive drugs on the developing immune system of pre- and post-natal subjects in a rodent model system. His responsibilities included working with ELISAs, flow cytometry, ribonuclease protection assays and *in vivo* immunoassays. He wrote both the preliminary grant application and full grant proposal to the American Chemical Council; both were accepted. Dr. Matulka also supervised a part-time employee.

SENIOR GENETIC TOXICOLOGIST

1998 - 1999

Genesys Research, Inc. | RTP, NC

Dr. Matulka conducted research on a novel variation of the Mouse Lymphoma Cell Mutagenesis Assay for a Small Business Innovation Research grant, which resulted in the submission of a Phase II grant. He was instrumental in conducting *in vivo* bone marrow mouse mutagenesis assays. He gained experience in Ames and standard mouse lymphoma mutagenesis assays, which were completed under rigorous GLP standards. Dr. Matulka supervised laboratory personnel, and reviewed study reports.

POSTDOCTORAL FELLOW

1995 - 1998

Boston University School of Medicine, Dept. of Environmental Health | Boston, MA

Dr. Matulka deciphered the effects of polycyclic aromatic hydrocarbons (PAH) on the signaling pathways leading to the apoptosis of preB (immature) lymphocytes. His primary project consisted of the determination of the effects of cytochrome P-450 inhibitors and inducers on the apoptosis of preB cells when exposed to PAH, to determine if reactive oxygen species might be involved in this specific apoptotic pathway. Dr. Matulka worked in a team setting to develop methods to determine which factors

released from stromal cells may be responsible for the apoptosis of the preB cells. This research required extensive use of immunofluorescence staining and flow cytometry, cell sorting, culturing of primary bone marrow cultures from mice, use and breeding of AhR knockout mice, extended cell culture techniques, DNA gels, Southern and Western blotting and analyzing *in situ* hybridization results.

RESEARCH TECHNICIAN

1992 - 1994

Medical College of Virginia / Virginia Commonwealth University | Richmond, VA

Supervisor: Kate Nicholson, DVM. Research focus: Mr. Matulka facilitated the determination of the effects of chemical stimuli on the behavioral studies and reaction times of large primates. His primary responsibilities included the care and maintenance of large primates, administration of study drugs and acquisition of data results.

GRADUATE RESEARCH ASSISTANT

1990 - 1995

Medical College of Virginia / Virginia Commonwealth University | Richmond, VA

Mr. Matulka's primary project was based on the determination of the neuro-immunological and toxicological effects of cocaine in a murine animal system. His research required various immunological techniques (ELISA, plaque assay, reverse plaque assay, immunofluorescence staining and flow cytometry and radioimmunoassay), functional bioassays, Western blotting, extended cell culture, histology, the handling of controlled substances and extensive rodent handling.

LABORATORY TECHNICIAN

1988 - 1990

Nebraska Department of Environmental Control | Lincoln, NE

Supervisor: Saiid Dabestani, Ph.D. Focus: Mr. Matulka analyzed environmental pollutant concentrations in effluent wastewater, drinking wells, area lakes and streams, and hazardous waste sites (Superfund Sites). Job responsibilities included utilizing an Atomic Absorption Unit, Gas Chromatograph, HPLC, Spectrometer, as well as bacterial culture of water contaminants and various extraction processes. Mr. Matulka also jointly supervised up to four undergraduate work-study students, maintaining efficient functioning of the lab.

EDUCATION & CERTIFICATIONS

- **Ph.D. Pharmacology and Toxicology.** Medical College of Virginia (MCV)/Virginia Commonwealth University (VCU), Richmond, VA. 1995
- **BA. Chemistry and Biology.** University of Nebraska-Lincoln, Lincoln, NE. 1990
- **Preventive Controls Qualified Individual (PCQI) Human Food**
Food Safety Preventive Controls Alliance Course, 2018
- **Preventive Controls Qualified Individual (PCQI) Animal Food**
Food Safety Preventive Controls Alliance Course, 2018

PROFESSIONAL ORGANIZATIONS MEMBERSHIPS

- Society of Toxicology
- American College of Toxicology
- Institute of Food Technologists

AWARDS & HONORS

- NIEHS Predoctoral Fellowship, MCV/VCU, 1991-1994.
- Society of Toxicology, Immunotoxicology Specialty Section Student Presentation Award, 1994.

RESEARCH PAPERS

Matulka RA, Thompson L, Corley D. Multi-Level Safety Studies of Anti Fel d 1 IgY Ingredient in Cat Food. *Frontiers in Veterinary Science*. 2020 6:477. Published 2020 Jan 8. doi:10.3389/fvets.2019.00477.

Brickel JA, Matulka RA, Burdock GA. The explosion in the use of natural substances and the need for new comprehensive risk assessments. *Current Opinion in Food Science*. Volume 24, December 2018, Pages 56-61. 2018 November 22; DOI.org/10.1016/j.cofs.2018.11.002

Brickel JA, **Matulka RA**, Steffek AE. KALGAE™ (*Klebsormidium flaccidum* var. ZIVO) dried algal biomass - 90-day dietary toxicity study and genotoxicity studies. *Toxicology Reports*. 2018;5:959–969. Published 2018 Sep 20. doi:10.1016/j.toxrep.2018.09.002

Matulka RA, Dohms J. Effects of the Consumption of *Macleaya cordata* Extract Preparation by Sows. *Open Journal of Animal Sciences*. Volume 8 No. 3, July 2018, Pages 294-302. 2018 January 24; DOI:10.4236/ojas.2018.83022.

Matulka RA, von Alvensleben S, Morlacchini M, Fusconi G. Tolerance Study for Standardized *Macleaya cordata* Extract Added to Chicken Layer Diet. *Open Journal of Animal Sciences*. Volume 8 No. 1, January 2018, Pages 104-117. 2018 January 24; DOI: 10.4236/ojas.2018.81008

LeBeau A., **Matulka R.**, Comstock B. Safety evaluation of a milk-based protein powder produced by a novel manufacturing technique. *Food and Chemical Toxicology*. 2017, 103, pp. 86-101. doi: 10.1016/j.fct.2017.02.015. Epub 2017 Feb 20.

Zhao L., **Matulka R.A.**, von Alvensleben S., Morlacchini M. Residue study for a standardized *Macleaya cordata* extract in growing-finishing swine. *Open Journal of Animal Sciences*. 2017. 7; pp. 93-104.

Dolan L.C., **Matulka R.A.**, LeBeau A.L., Boulet J.M. Two new nontoxic, non-pathogenic strains of *Sphingomonas elodea* for gellan gum production. *Regulatory Toxicology and Pharmacology*. 2016; 78: 37-44. doi: 10.1016/j.yrtph.2016.04.002. Epub 2016 Apr 11.

Dolan L., **Matulka R.**, Worn J., Nizio J. Safety studies conducted on pecan shell fiber, a food ingredient produced from ground pecan shells. *Toxicology Reports*. 2016. 3; 3, pp. 87-97.

Matulka R.A., Chan T., Green R., Carney J.R., Franklin S., Licari P. 13-week dietary study and in vitro and in vivo genotoxicity studies of a structuring fat produced through a microalgal fermentation process. *Toxicology Reports*. 2016. 3, pp. 123-134.

Kagan M.L., **Matulka R.A.** Safety assessment of the microalgae *Nannochloropsis oculata*. Toxicology Reports. 2015. 2, pp. 617-623.

Kvistgaard A.S., **Matulka R.A.**, Dolan L.C., Ramanujam K.S. Pre-clinical in vitro and in vivo safety evaluation of bovine whey derived osteopontin, Lacprodan® OPN-10. Food and Chemical Toxicology. 2014 Jul 27. pii: S0278-6915(14)00358-5. doi: 10.1016/j.fct.2014.07.026. [Epub ahead of print]

Szabo, N.J., **Matulka, R.A.**, Marone, P.A., Bauter, M.R., Chan, T., Franklin, S., Carney, J.R., McQuaid, S.L., Rakitsky, W., Green, R., Licari, P. Safety evaluation of oleic-rich triglyceride oil produced by a heterotrophic microalgal fermentation process. Food and Chemical Toxicology 2014, 65, pp. 301-311.

Matulka R.A., von Alvensleben S., Morlacchini M. Tolerance and residue study for standardized *Macleaya cordata* extract added to chicken feed. International Journal of Poultry Science. 2014. 13; pp. 368-373.

Matulka R.A., Tardy A.-L. Global Focus: Food colours vs colouring foods in the USA, EU, China, Russia and Brazil. Agro Food Industry Hi-Tech 2014; 25 (3), pp. 7-9.

Szabo N.J., **Matulka R.A.**, Chan T. Safety evaluation of Whole Algalin Protein (WAP) from *Chlorella protothecoides* Food and Chemical Toxicology 2013; 59, pp. 34-45.

Dolan L.C., Gietl E., La Cognata U., Landschütze V., Marone P.A., **Matulka RA.** Safety evaluation of fibermalt. Food and Chemical Toxicology. 2012 Jul;50(7):2515-23. doi: 10.1016/j.fct.2012.03.081. Epub 2012 Apr 9.

Szabo NJ, **Matulka RA**, Kiss L, Licari P. Safety evaluation of a high lipid Whole Algalin Flour (WAF) from *Chlorella protothecoides*. Regulatory Toxicology and Pharmacology. 2012 Jun;63(1):155-65. doi: 10.1016/j.yrtph.2012.03.011. Epub 2012 Mar 28.

Matulka, R.A. Maintaining "freshness" in the global food market Agro Food Industry Hi-Tech 2012; 23 (3), p. 2.

Dolan L.C., **Matulka R.A.**, Burdock G.A. Naturally occurring food toxins. Toxins (Basel). 2010 Sep;2(9):2289-332. doi: 10.3390/toxins2092289. Epub 2010 Sep 20.

Dolan L.C., **Matulka R.A.** Coloring options. Prepared Foods, 2010 July issue, p. 87- 92.

Matulka, R.A. Defining nutrients. Are some antioxidants left on the sidelines? Agro Food Industry Hi-Tech 2010; 21 (6), pp. 2-3.

Williams L.D., Burdock G.A., Shin E., Kim S., Jo T.H., Jones K.N., **Matulka R.A.** Safety studies conducted on a proprietary high-purity aloe vera inner leaf fillet preparation, Qmatrix®. Regulatory Toxicology and Pharmacology. 2010 [Epub ahead of print] 2010 Jan 22.

Matulka R.A., Matsuura I., Uesugi T., Ueno T., Burdock G. Developmental and reproductive effects of SE5-OH: an equol-rich soy-based ingredient. Journal of Toxicology. 2009 Epub 2008 Dec 15.

Matulka, R.A., Burdock, G.A. A formula for preserving brand integrity during flavour innovation Agro Food Industry Hi-Tech 2009; 20 (5), pp. 70-72.

Matulka R.A., Lyon M.R., Wood S., Marone P.A., Merkel D.J., Burdock G.A. The safety of PolyGlycopleX (PGX) as shown in a 90-day rodent feeding study. *Nutrition Journal*. 2009 Jan 16;8-1.

Matulka R.A., Thompson D.C., Burdock G.A. Lack of toxicity by medium chain triglycerides (MCT) in canines during a 90-day feeding study. *Food and Chemical Toxicology*. 2009 Jan;47(1):35-9.

Magnuson B.A., Appleton J., Ryan B., **Matulka R.A.** Oral developmental toxicity study of methyl-sulfonylmethane in rats. *Food and Chemical Toxicology*. 2007 Jun;45(6):977-84. Epub 2006 Dec 13.

Griffiths J.C., **Matulka R.A.**, Power, R. Genotoxicity studies on Sel-Plex, a standardized, registered high-selenium yeast. *International Journal of Toxicology*. 2006 Nov-Dec;25(6):477-85.

Griffiths J.C., **Matulka R.A.**, Power R. Acute and subchronic toxicity studies on Sel-Plex, a standardized, registered high-selenium yeast. *International Journal of Toxicology*. 2006 Nov-Dec;25(6):465-76.

Matulka R.A., Noguchi O., Nosaka N. Safety evaluation of a medium- and long-chain triacylglycerol oil produced from medium-chain triacylglycerols and edible vegetable oil. *Food and Chemical Toxicology*. 2006 Sep;44(9):1530-8. Epub 2006 Apr 25.

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Matulka, R.A., Hood, A.M., Griffiths, J.C. Safety Evaluation of a Natural Tomato Oleoresin Extract Derived From Food-Processing Tomatoes. *Regulatory Toxicology and Pharmacology* 39: 390-402. 2004.

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Mann K., **Matulka R.A.**, Taghizadih K., Lafleur A., Lawrence B.P. Kerkvliet, N., Sherr D.H.: The role of polycyclic aromatic hydrocarbon metabolism in dimethylbenz[a]anthracene-induced pre-B lymphocyte apoptosis. *Toxicology and Applied Pharmacology* 1999; 161(1): 10-22.

Near R.I., **Matulka R.A.**, Mann K.K., Gogate S.U., Trombino A.F., Sherr D.H.: Regulation of preB cell apoptosis by aryl hydrocarbon receptor/transcription factor-expressing stromal/adherent cells. *Proceedings of the Society for Experimental Biology and Medicine* 1999; 221(3): 242-252.

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Stanulis E.D., **Matulka R.A.**, Jordan S.D., Rosecrans J.A., Holsapple M.P.: Role of corticosterone in the enhancement of the antibody response after acute cocaine administration. *Journal of Pharmacology and Experimental Therapeutics* 1996; 280(1): 284-91.

Jeong T.C., **Matulka R.A.**, Jordan S.D., Yang K.H., Holsapple M.P.: Role of metabolism in cocaine-induced immunosuppression in splenocyte cultures from B6C3F1 female mice. *Immunopharmacology* 1995; 29(1):37-46.

Jeong, T.C., Jordan, S.D., **Matulka, R.A.**, Stanulis, E.D., Kaminski, E.J., Holsapple, M.P.: Role of metabolism by esterase and cytochrome P-450 in cocaine-induced suppression of the antibody response. *Journal of Pharmacology and Experimental Therapeutics* 1995; 272:407-416.

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CHAPTERS

Holsapple M.P., **Matulka R.A.**, Stanulis E.D., Kaminski E.J. and Jordan S.D.: Cocaine-induced changes in immunocompetence are indirect consequences of exposure. In: NIDA Research Monographs, 1994.

Holsapple M.P., **Matulka R.A.**, Stanulis E.D. and Jordan S.D.: Cocaine and immunocompetence: Possible role of reactive metabolites. In: Drugs of Abuse, Immunity and AIDS. (ed. by H. Friedman and T. Klein; Plenum Publishing Co., New York, NY). Adv. Exp. Med. Biol. 335:121-126, 1993.