

## VITAE

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### EDUCATION

October 1980 to December 1983	Received Doctor of Philosophy in Materials Science and Engineering, University of Florida
June 1979 to October 1980	Completed requirements for Master of Science in Materials Science and Engineering, University of Florida
September 1972 to June 1977	Received Bachelor of Science degree; Major in Microbiology, Minor in Chemistry, University of Florida.

### PROFESSIONAL WORK HISTORY

September 1987 to Present	President of MAS, LLC (previously Materials Analytical Services, Inc.) Suwanee, Georgia.
August 1987 to February 1988	President and Founder of Longo Microanalytical Services, Inc., Gainesville, Florida.
October 1983 to August 1987	President and Founder of Micro Analytical Laboratories, Inc., Gainesville, Florida.
March 1985 to December 1987	Visiting Assistant Professor; University of Florida, Department of Materials Science and Engineering.
August 1983 to March 1985	Post Doctoral Associate; University of Florida, Department of Materials Science and Engineering.

## **PATENTS**

U. S. Patent Serial No. 4671954 June 9, 1987. Goldberg, E.P., Iwata, H., and Longo, W.E., "Microspheres for Incorporation of Therapeutic Substances and Methods of Preparation Thereof."

U. S. Patent Serial No. 4871716, October 3, 1989. Goldberg, E.P., Longo, W.E., and McCluskey, R.A., "Magnetically Responsive, Hydrophilic Microspheres for Incorporation of Therapeutic Substances and Methods of Preparation Thereof."

## **PUBLICATIONS AND PRESENTATIONS**

Egilman, David, Stefen, Joan, Tran, Triet, Clancy, Kate, Rigler, Mark, Longo, William "Health Effects of Censored Elongated Mineral Particles: A Critical Review, ASTM, STP 1618, 2019

Egilman, D., Longo, W.E., "Egilman's Assessment Regarding Exposures of Auto Mechanics to "Amphiboles is Correct" *Inhalation Toxicology*, 2012: 24(9); 614-618.

Rigler, M.W., Longo, W.E. & Sauerhoff, M.W.: "Exposure to Fluoropolymers and VOCs during Spray Sealant Product Use" *Inhalation Toxicology*, 23 (11): 641-657, 2011.

Ewing, W.M., Hays, S.M., Hatfield, R., Longo, W.E. & Millette, J.R. "Zonolite Attic Insulation Exposure Studies" *Int. J. Occup. Environ. Health*, Vol. 16(3), Jul/Sep, 2010.

Rigler, M.W., Longo, W.E. Emission of Diacetyl (2,3 Butanedione) from Natural Butter, Microwave Popcorn Butter Flavor Powder, Paste, and Liquid Products", *Int. J. Occup. Environ. Health*, 16:291-302, 2010.

Rigler, M.W., Longo, W.E., "Qualitative Sulfur Gas Emission as a Specific Marker for Problematic Reactive Drywall, Proceedings of the Technical Symposium on Imported Corrosive Drywall, November 5-6, 2009, the University of Florida, Gainesville, FL.

Longo, W.E., Rigler, M.W., Russell, P.E., Vitarelli, J.P., Hoffman, E.M. & Johnson, H.M. Health Effects of Welding, "The Characterization of Welding Fume Particulates and Mn Bioavailability Studies for SMAW and FCAW Consumables" NIOSH, West Virginia, July 2005.

Harris M.D., Ewing, W.M., Longo, W.E., DePasquale, C., Mount, M.D., Hatfield, R.L. & Stapleton, R. "Manganese Exposure During Shielded Metal Arc Welding (SMAW) in an Enclosed Space" *J. Occup. & Environ. Hyg.* 2(8) 375-382, 2005.

Longo, W.E., Egeland, W.B., Hatfield, R.L., Stapleton, R., and Hubbard J., "Tremolite Analysis of Chrysotile Containing Friction and Gasket / Packing Products", ASTM Johnson Conference, Johnson Vermont, July, 2002.

Longo, W.E., Egeland, W.B., Hatfield, R.L., and Newton, L.R., "Fiber Release During the Removal of Asbestos-Containing Gaskets: A Work Practice Simulation" *Appl. Occup. Environ. Hyg.* 17(1) 55-62, 2002.

Hatfield, R.L., Krewer, J.A., and Longo, W.E., "A Study of the Reproducibility of the Micro-Vac Technique as a Tool for the Assessment of Surface Contamination in Buildings with Asbestos Containing Materials" (M.E. Beard and H.L. Rook) in *Advances in Environmental Measurement Methods for Asbestos*, ASTM #STP 1342,301, January, 2000.

Rigler, M.W., Freeman, G.B., Longo, W.E., Kyono, M. and Cai, M. "A New Rapid Method for Analyzing Single Particles", Proceedings of the Engineering Solutions to Indoor Air Quality Symposium for the United States Environmental Protection Agency (USEPA), July 21-26, 1997, Research Triangle Park, NC.

Longo, W.E., and Rigler, M.W., "Rapid Identification of Inorganic and Organic Particulate for Routine IAQ Assessment" Indoor Environment Meeting, April, 1996.

Longo, W.E., "Malignant Mesothelioma in Kent Cigarettes Smokers: Analysis of Asbestos Content in Filters, Cigarette Smoke and Lung Tissue" Society for Ultrastructural Pathology, March, 1996.

Longo, W.E., "The Identification of Asbestos Containing Surface Treatment Products using Standard Analytical Techniques" Florida Environmental and Asbestos Council Meeting, January, 1996.

Longo, W.E., Rigler, M.W. and Slade, J., "Crocidolite Asbestos Fibers in Smoke from Original Kent Cigarettes" *Cancer Research* 55 11, 2232, 1995.

Longo, W.E., "Occupational Exposure From In-Place Asbestos Containing Fireproofing" Environmental Information Association, April, 1995.

Keyes, D. L., Ewing, W. M., Hays, S. M., Longo, W. E. and Millette, J.R., "Baseline Studies of Asbestos Exposure During Operations and Maintenance Activities" *Appl. Occup. Environ. Hyg.* 9(11) Nov, 1994.

Goldberg, E.P., Quigg, J., Sitren, H., Hoffmann, E., Jayakrishnan, A., Longo, W. and Cantrell, J., "Microsphere Drug Carriers for Targeted Chemo Immunotherapy and for Intracellular Infections" 20th Annual Meeting of the Society for Biomaterials, 1994.

Millette, J.R., Longo, W.E. and Hubbard, J.L., "Demonstration of the Capability of Asbestos Analysis by Transmission Electron Microscopy in the 1960's" *Microscope*, 41 15, 1993.

Ewing, W. M., Chesson, J., Dawson, T. A., Ewing, E. M., Hatfield, R. L., Hays, S. M., Keyes, D. L., Longo, W. E., Millette, J. R., and Spain, W. H. "Asbestos Exposure During and Following Cable Installation in the Vicinity of Fireproofing" *Environmental Choices Technical Supplement*, Volume I, (2), 1993.

Longo, W. E., "Sampling and Analysis of Asbestos in Dust: An Update" *Environmental Information Association*, April, 1993. Nashville, Tennessee.

Keyes, D. L., Chessan, J., Hayes, S. M., Hatfield, R. L., Ewing, W. M., Longo, W. E. and Millette, J. R. "Re-Entrainment of Asbestos from Dust in a Building with Acoustical Plaster" *Environmental Choice, Technical Support*, Volume I, (6), 1992.

Longo, W. E. "A Standard Method for the Analysis of Asbestos in Settled Dust by TEM" *Asbestos Measurement Risk Assessment and Laboratory Accreditation*, ASTM Conference, July 1992. Johnson, Vermont.

Longo, W. E. and Roggli, V. L., "Mineral Fiber Content of Lung Tissue in Patients with Environmental Exposures: Household Contacts vs. Building Occupants" (B. Boland and J. Cullian EDS) in *The Third Wave of Asbestos Exposure to Asbestos in Place. Annals of The New York Academy of Sciences*, Volume 63, 1991.

Keyes, D. L., Chessan, J., Ewing, W. M., Faas, J. C., Hatfield, R. L., Hayes, S. M., Longo, W. E. and Millette, J. R. "Exposure to Airborne Asbestos Associated with Simulated Cable Installation Above and Suspended Ceiling" *Am. Ind. Hyg. Assoc. J.* (52) Nov. 1991

Longo, W. E. "Sampling and Analysis of Asbestos in Settled Dust" *EPA/A&WMA Symposium on "Measurement of Toxic and Related Air Pollutants"*, May 1991. Durham, North Carolina.

Longo, W. E. "Asbestos Wipe Sampling" *Industrial Hygiene Association*, October, 1990. West Palm Beach, Florida.

Longo, W. E. "Standard Test Method for Asbestos Concentrations in Dust Samples" *American Society of Testing Materials Subcommittee D22.05.07*, manuscript in progress.

Goldberg, E. P., Yalon, M., and Longo, W. E. "Low Voltage SEM for Unique Surface Analysis of Prosthetic Devices" *Materials Research Society Symposium Proceedings 110, Biomedical Materials and Devices*, 1989.

Longo, W. E. "Field Emission Scanning Electron Microscopy: An Alternative Technique for the Analysis of Asbestos Air Filter Samples" National Asbestos Council, September 1988. Boston, Massachusetts.

Goldberg, E. P., Yalon, M., and Longo, W. E. "Low Voltage Scanning Electron Microscopy for Improved Surface Characterization of Ocular Implants and Other Prosthetic Devices" American Chemical Society Symposium, September 1988. Los Angeles, California.

Longo, W. E. "Rinse Technique for Recovery of Air Samples for TEM Analysis" Asbestos Measurement Research and Laboratory Accreditation, ASTM Conference, July 1988. Johnson, Vermont.

Longo, W. E. "The Presence of Inorganic Fibers in Commercial Brands of Cigarettes" American Industrial Hygiene Conference, May 1988. San Francisco, California.

Longo, W. E. "Analysis of Asbestos by Transmission Electron Microscopy" Alabama Electron Microscopy Society 7th Annual Meeting, March 1988. Birmingham, Alabama.

Longo, W. E. "Asbestos Fiber Loss from Air Sampling Cassettes: A Study by Transmission Electron Microscopy" EPA/APCA Symposium on Measurement of Toxic and Related Air Pollutants, May 1987. Research Triangle Park, North Carolina.

Longo, W. E. "Asbestos Air Sample Analysis by Transmission Electron Microscopy" American Industrial Hygiene Conference Professional Development Course, May 1987. Montreal, Canada.

Longo, W. E., Jenkins, E. J., Greene, R., and Baxter, D. "Water Refiltration: An Alternative Sample Preparation Method for the Analysis of Airborne Asbestos by TEM" National Asbestos Council, January, 1987, Chicago, Illinois.

Longo, W. E., and Goldberg, E. P. in "Drug and Enzyme Targeting" (K. Widder and R. Green Eds) Methods of Enzymology, 112, 18, 1985.

Goldberg, E. P., Iwata, H., and Longo, W. E. "Hydrophilic Albumin and Dextran Ion-Exchange Microspheres for Localized Chemotherapy" (S. Davis, L. Illium, J. McVie, and E. Tomlinson Eds) in Microspheres and Drug Therapy. Pharmaceutical Immunological and Medical Aspects, 10, 309, 1984.

Hoffmann, E. M., Longo, W. E., and Goldberg, E. P. "Macrophage Uptake of Albumin Microsphere Drug Carriers" Proceedings of the 11th International Symposium on Controlled Release of Bioactive Materials, 11, 27, 1984.

Longo, W.E., "Albumin Microspheres for the Controlled Release of Therapeutic Agents" Doctor of Philosophy Dissertation, University of Florida, 1983.

Longo, W. E., and Goldberg, E. P. "Novel Albumin-Polypeptide-Drug Microspheres: Synthesis and Ion Exchange Drug Release Properties" Proceedings of the 10th International Symposium on Controlled Release of Bioactive Materials, 10, 245, 1983.

Longo, W. E., Iwata, H., Lindheimer, T., and Goldberg, E. P. "Preparation and Drug Release Properties of Albumin-Polyglutamic Acid-Adriamycin Microspheres" American Chemical Society, 24, 56, 1983.

Longo, W. E., Iwata, H., Lindheimer, T., and Goldberg, E. P. "Preparation of Hydrophilic Albumin Microspheres Using Polymeric Dispersing Agents" *J. Pharm. Sci.*, 71, 1323, 1982.

Goldberg, E. P., Iwata, H., Terry, R. W., Longo, W. E., Levy, M., and Cantrell, J. L. in "Affinity Chromatography and Related Techniques" (Visser, Visser and Nivard Eds), Elsevier, Amsterdam, 375, 1982.

Longo, W. E., Iwata, H., and Goldberg, E. P. "Hydrophilic Albumin-Polyglutamic Acid-Adriamycin Microspheres for Localized Chemotherapy" 8th Annual Meeting of the Society of Biomaterials, 10, 60, 1982.

#### **ACTIVITIES AND ORGANIZATIONS**

- \* Member of Environmental Protection Agency Workshop on Sampling and Analysis of Asbestos in Settled Dusts, July 1989.
- \* Member of Environmental Protection Agency Peer Review Group for the Asbestos Engineering Program, 1987 to present.
- \* Vice-Chairman of the National Asbestos Council Analytical Subcommittee on Transmission Electron Microscopy 1987-1988.
- \* Chairman of National Asbestos Council Analytical Subcommittee on Transmission Electron Microscopy 1988-1989.
- \* Member of ASTM D-22-05 Subcommittee for Indoor Air Pollution.

### **LECTURES AND COURSES INSTRUCTED**

Longo, W.E. "Electron Microscopy for Industrial Hygiene Applications" American Industrial Hygiene Conference Professional Development Course, Atlanta GA, May 2004.

Longo, W. E. "Settled Dust: Asbestos and Other Particulates" Georgia Institute of Technology Seminar, August 1991.

Longo, W. E. "The Role of the Laboratory Manager, Quality Assurance Officer and the Analyst for NIST Accreditation" Georgia Institute of Technology, Transmission Electron Microscopy Asbestos Accreditation Seminar, August 1989.

Longo, W. E. 24th Annual Meeting of the Microbeam Analysis Society, "Asbestos Analysis Session" Asheville, North Carolina, July 1989 (Session Co-Chairman).

Longo, W. E. "Fundamentals of Asbestos Analysis by TEM" Institute in Materials Science State University of New York. New Paltz, New York, October 1988 (Course Director).

Longo, W. E. "TEM Imaging/Photography" Georgia Institute of Technology, Transmission Electron Microscopy Asbestos Analysis Course, June 1988.

Longo, W. E. "Laboratory Preparation of Polycarbonate Filters for TEM Analysis" Georgia Institute of Technology, Advanced Transmission Electron Microscopy Asbestos Analysis Course, February 1988.

Longo, W. E. "Transmission Electron Microscopy Laboratory Set-Up" Georgia Institute of Technology, Advanced Transmission Electron Microscopy Asbestos Analysis Course, February 1988.

Longo, W. E. "Laboratory Analysis of Asbestos" Hall-Kimbrell Seminar in Asbestos Abatement in the State of Florida, January 1988.

Longo, W. E. "Air Sample Preparation and Analysis by TEM" Georgia Institute of Technology, Clearance Testing for Asbestos: AHERA Regulations, October 1987.

Longo, W. E. "Asbestos Air Sample Analysis by Transmission Electron Microscopy" American Industrial Hygiene Conference Professional Development Course, Montreal, Canada, May 1987.

Longo, W.E. "Asbestos Air Sample Analysis by Transmission Electron Microscopy" American Industrial Hygiene Conference Professional Development Course, Dallas, TX May 1986.

**PROFESSIONAL MEMBERSHIPS**

American Industrial Hygiene Association	1985, 1999 to Present
American Society for the Testing of Materials	1986 to Present
American Society of Materials	1994, 2009-Present
National Asbestos Council	1984 to 1993
Environmental Information Association	1993, 2008-Present
Materials Research Society	1988, 2010-2014
Electron Microscopy Society Association	1988 to Present
Micro Analysis Society formerly known as Microbeam Society	1988, 2009-2012, 2018
New York Academy of Science	1985 to 1987 1989 to 1994
Air Pollution Control Association	1985 to 1987
National Institute of Building Sciences	1991 to Present
The Society for Ultrastructural Pathology	1996
American Society of Heating, Refrigerating and Air-Conditioning Engineers	1996 to Present
The American College of Forensic Examiners – Fellow of Forensic Engineering Technology (IN. 17825)	1999 to 2017
American Conference of Governmental Industrial Hygienist (ACGIH) Associate Member	2006 to Present, 2007-2009
American Chemical Society	2012-Present

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